



Product Catalog 2018 - 2019

# Intelligent Systems and Platforms

## Transforming the Industrial Cloud Era

- Industrial I/O
- Intelligent Video Solutions
- Intelligent Transportation Platforms
- Intelligent Inspection Systems
- Modular IPCs
- Slot SBC & Passive Backplanes
- Industrial Motherboards
- Industrial Chassis
- Industrial Server Motherboards
- Industrial Server Chassis
- Industrial Storages
- GPU Servers
- CompactPCI Platforms
- Industrial Computer Peripherals
- Industrial Ethernet Solutions

**ADVANTECH**

*Enabling an Intelligent Planet*

[www.advantech.com](http://www.advantech.com)

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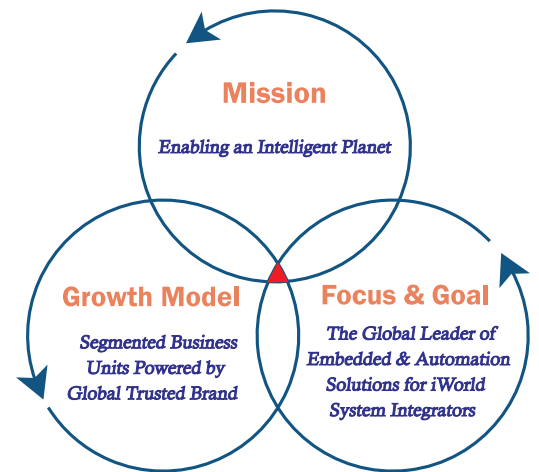
# About Advantech

## Advantech: Partnering for Smart City & IoT Solutions

Founded in 1983, Advantech is a leader in providing trusted innovative embedded and automation products and solutions. Advantech offers comprehensive system integration, hardware, software, customer-centric design services, and global logistics support; all backed by industry-leading front and back office e-business solutions. Advantech has always been an innovator in the development and manufacture of high-quality, high-performance computing platforms. We cooperate closely with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries. To realize our corporate vision of Enabling an Intelligent Planet, Advantech will continue collaborating and partnering for smart city and IoT solutions.

## Advantech's Good-to-Great 3-Circle Principle

The Advantech 3-Circle Principle is based on the book "Good to Great," by Jim Collins. According to the book, a company looking for long-term success should clearly address these three fundamental principles, and commit to their continuing, solid execution. Advantech is fully committed to this approach and has defined the Advantech "Good to Great 3-Circle Principle" as a means of adhering to it.



## World-Class Recognition

Advantech is an authorized alliance partner of both Intel® and Microsoft®. Our customers find the technologies we use inside our products to be widely compatible with other products in the global marketplace. Interbrand, the world renowned brand consulting firm, recognized Advantech as one of the Top 20 Taiwanese Global Brands for many years. Advantech appreciates this recognition of our efforts to build a trusted, global brand; it also symbolizes a promise we give to our business partners, which is to keep building a trustworthy brand that is recognized everywhere and improves the lives of all.

## Quality and Environmental Compliance

As a member of the global village, Advantech understands the importance of preserving the environment. Our environmental programs focus on reducing, reusing, and recycling materials used in our manufacturing operations. Advantech's quality and environmental compliance efforts include the following:

- SO 9001 Certification
- ISO 14001 Certification
- ISO 13485 Certification
- OHSAS 18001 Certification
- TL9000 Certification
- ISO 17025 Certification
- RoHS Directive Compliance
- WEEE Directive Compliance
- Authorized Sony Green Partner
- REACH SVHC Directive Compliance
- EICC Conflict Minerals Declaration



## Timely Support at Your Convenience

Advantech has over 20 regional hotlines and offices throughout 92 cities, in 21 countries, with over 7,300 employees to provide efficient, professional services for customer care, product selection, technical support, and order handling. Through our call centers and online stores, customers worldwide enjoy the convenience of Advantech's multi-service channels to reduce business turnaround time. Together with the four customer service centers in Taiwan, China, Europe and the United States, our global service network offers an extensive spectrum of services that includes warehousing, logistics, peripheral certification, sourcing & purchasing, and RMA & value-added services, and technical support & training.

## Advantech.com Website

Through [www.advantech.com](http://www.advantech.com), we not only offer comprehensive products, but also real-time updated information to our customers. In addition to product information, you also can find case studies of proven applications from diverse sectors. Furthermore, registered MyAdvantech members, can access the RMA service center, updated price lists, and various promotion programs.



## Online Store



### Buy.Advantech.com

To extend Advantech's services, we launched the Buy.Advantech online store which offers one-stop shopping for Human Machine Interfaces, Industrial Ethernet networking, Controller & I/O products, plus computing platforms. This eStore offers comprehensive product information to build systems easily, with live expert support to solve problems, online configuration providing easy system customization options, instant quotations, an extensive library of FAQs and all the latest up-to-date downloads and firmware.

## Online Support

Providing superior self-support mechanisms is one of the most essential parts of being a top-tier automation company, and we take pride in the outstanding level of service that we offer. To best support our customers, we've created a suite of useful interactive online tools, including:

- Technical Documents: Manuals, datasheets, updated drivers and utilities-all available for download through the support portal.
- 3D Product Models: Simulated products in 3D format to provide detailed visualizations for evaluation.
- Online Training: Self-training documents and videos to provide trainees with integrated information.
- Online Catalog: A comprehensive online catalog with extensive product information.



## 24/7 Online Service



To effectively respond to customers' questions, our regional call centers support inquiries about: purchasing, shipping, technical, RMA issues and more. Contact your regional call center to get the support you need today.

### Global Hotlines

US /Canada	1-888-576-9668	China	800-810-0345/8389	Russia	8-800-555-01-50 (Moscow) 8-800-555-81-20 (St. Petersburg)
Mexico	52-01-800-467-2415	Taiwan	0800-777-111	India	1-800-425-5070/71
Colombia	57-1381-2858	Japan	0800-500-1055	Thailand	66-2-248-3140
Brazil	0800-770-5355	Korea	080-363-9494/9495	Indonesia	62-21-7511939
Europe	00800-2426-8080/8081	Singapore	65-6442-1000	Malaysia (KL)	60-3-7725-4188
		Australia/ New Zealand	1300-308-531	Malaysia (Penang)	60-4-537-9188

# Intelligent Systems and Platforms

## Transforming the Industrial Cloud Era

With innovative technologies from cloud computing (industrial server, video server), edge computing (fanless, slim & portable devices), to high performance embedded systems. Advantech transforms embedded systems into intelligent systems with smart, secure, energy-saving features, built with Industrial Cloud Services and professional System Design-To-Order Services (System DTOS). Advantech's intelligent systems are designed to target vertical markets in intelligent transportation, factory automation/machine automation, cloud infrastructure, intelligent video application.

Overview

## Intelligent Systems

Pursuing IoT Evolution with I-Cloud and Intelligent Systems



Intelligent Video



Industrial Cloud



Equipment Builder



Intelligent Transportation



Industrial Server & Storage



Industrial Cloud



Intelligent Vision Systems



Intelligent Video Systems



Intelligent Systems



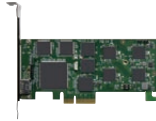
Data Acquisition Modules



Intelligent Transportation Systems

# Star Products

## Intelligent Video Solution



### DVP-7011UHE

1-ch H.264 4K HDMI 2.0 PCIe Video Capture Card with SDK

- 1-channel 4K HDMI 2.0 video input with H.264 software compression
- 60/50 fps (NTSC/PAL) at up to 4096 x 2160p resolution for recording and display
- PCIe x 4 host interface



### DVP-7011MHE

1-ch Full HD H.264 M.2 Video Capture Card with SDK

- 1 channel HDMI/DVI-D/DVI-A/YpPr channel video inputs with H.264 software compression
- 30/25 fps (NTSC/PAL) at up to full HD resolution for recording and display
- PCIe M.2 (B/M) host interface



### DVP-7017HE

1-ch Full HD H.264 Mini PCIe Video Capture Card with SDK

- 1 channel SDI channel video inputs with H.264 software compression
- 30/25 fps (NTSC/PAL) at up to full HD resolution for recording and display
- Mini PCIe x1 (Gen2) host interface
- Windows/Linux OS supported



### DVP-5311D

Video (DVI-DVI), Control and Data Transmission Extender

- Supports High Resolution 1920x1200 @ 60Hz WUXGA
- Zero pixel loss with TMD5 signal correction
- DVI loop-through for supporting local display and monitoring

## Intelligent Transportation Systems

Fully Certified with EN 50155



### ITA-5831

Intel® 6th Generation Core™ i Processor Fanless System; EN 50155 certified for Railway Applications

- Fanless computer for railway vehicle applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mount class B
- Supports 2 ITA-EM modules for storage, battery and I/O expansion

Fully Certified with EN 50155



### ITA-5231

Intel® 6th Generation Core™ i Processor 2U Fanless System; EN 50155 certified for Railway Applications

- Fanless computer for railway vehicle applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mount class B
- Supports 4 ITA-EM modules for storage, battery and I/O expansion



### ITA-2231

Intel® 6th Generation Core™ i Processor 2U Fanless System; EN 50121-4 Compliant for Railway Applications

- Built-in Intel® Core™ i7-6822EQ quad-core processor, 2.0GHz
- 16GB of DDR4 memory onboard
- 2U fanless rackmount system
- Supports 3 ITA-EM modules for I/O expansion



### ITA-1711

Intel® Celeron™ J1900 Fanless Compact System with Multiple COM Ports and Dual Displays

- Built-in Intel® Celeron™ J1900 quad-core processor, 2.0 GHz
- Fanless, compact system design
- 4 GB of DDR3 memory onboard with optional NVRAM
- 2 x LAN, 6 x USB, 14 x COM, and 1 x USB 3.0 ports

## Intelligent Inspection Systems



### AIIS-1200P/U

Fanless Machine System, Braswell CPU, 2-CH GigE PoE or 2-CH USB 3.0 Camera Interface

- Intel® Braswell N3160/N3710 SoC CPU
- 2-CH GbE(Power over Ethernet), IEEE 802.3af compliant for GigE Camera/2-CH dedicated controller for USB 3.0 Camera
- Compact size and volume less than 0.9 Lite



### AIIS-3400P/U

Machine Vision System, Intel® 6th/7th Gen Core i CPU, 4-CH GigE PoE or 4-CH USB 3.0 Camera Interface

- Intel® 6th/7th generation Core i CPU (LGA1151)
- 4-CH GbE PoE (Power over Ethernet), IEEE 802.3af compliant for GigE Camera/4-CH USB 3.0 with dedicated controller for USB 3.0 Camera
- Isolated 8-CH Digital I/O



### AIIS-3410P/U

Compact Vision System, Intel® 6th/7th Gen Core i CPU, 4-CH Camera Interface for GigE PoE/USB 3.0, PCIe expansion slot

- Intel® 6th/7th generation Core i CPU (LGA1151)
- 4-CH GbE PoE (Power over Ethernet), IEEE 802.3af compliant for GigE Camera/4-CH USB 3.0 with dedicated controller for USB 3.0 Camera
- Isolated Digital I/O
- PCIe or PCI extension compatibility



### AIIS-5410P

Fanless Vision System, Intel® Core™ i7/i5/i3, 4-CH GigE PoE Camera Interface, One PCI or PCIe Expansion Slot

- Intel® 6th Core™ Skylake i7/i5/i3 CPU (BGA1440)
- 4-CH GbE PoE (Power over Ethernet)
- Powered device auto detection and classification

## Modular IPCs



### MIC-7900

Intel® Xeon Processor Broadwell-DE SoC Compact Fanless System

- Intel® Xeon Processor Broadwell-DE D-1539/D-1559 SoC CPU
- 4 x GigaLAN
- Supports Advantech i-module, isolation COM and 32-bit GPIO module



### MIC-7700

Intel® 6th/7th Generation Core i Socket CPU Compact Fanless System

- Intel® 6th/7th Generation Core i Socket CPU (LGA1151) with Q170/H110 chipset
- 2 x GigaLAN and 8 x USB 3.0
- Supports Advantech i-module, isolation COM and 32-bit GPIO module



### MIC-7500

Intel® 6th Generation Core i Processor Compact Fanless System

- Intel® 6th Generation Core i7/i5/i3 BGA type CPU with QM170 chipset
- 2 x GigaLAN and 8 x USB 3.0
- Supports Advantech i-module, isolation COM and 32-bit GPIO module



### MIC-7300

Intel® Celeron N3350/Atom x7 E3950 Processor Compact Fanless System

- Intel Celeron N3350/Atom x7 E3950 Processor
- Remote power on/off control and 8-bit GPIO
- Supports Advantech i-module, isolation COM and 32-bit GPIO module



# Star Products

## Industrial Rackmount Enclosures



### ACP-2020

2U Rackmount Short Depth Chassis for ATX/MicroATX Motherboards

- 398mm Short-depth chassis
- 350W single or 500W redundant power supply
- 2 internal 2.5" and 2 internal or hot-swap drive bays
- Intelligent System Module for smart fan, self-diagnosis and remote manageability



### ACP-4020

Compact 4U Rackmount Chassis for Half-size SBC or ATX/MicroATX Motherboard

- 348mm short depth chassis
- Shock-resistant disk drive bay holds one internal 2.5", and two front-accessible 3.5" drives, plus one slim optical disk drive
- Intelligent System Module for smart fan, self-diagnosis and remote manageability



### IPC-631

4U Front I/O Short Depth Rackmount Chassis for ATX/MicroATX Motherboards

- 350mm Short-depth chassis
- Supporting MB CPU TDP up to 120W
- 500W single or redundant power supply
- PWM-controlled smart fan for minimal noise



### ACP-4D00

Dual-Node 350mm Depth 4U Chassis for Half-Sized Slot SBC

- Dual nodes, 350mm depth design for easy maintenance and space saving
- Supports PICMG 1.3 or PCI half-sized slot SBC with Core i7 CPU
- Supports 6-slot backplane, 3 available slots per node

## Industrial Wallmount Enclosures



### IPC-3012

Compact Chassis for PICMG 1.3 Half Size SHB

- Compact chassis with two front expansion slots
- Shockproof drive bay for two 2.5" HDDs
- Equipped 80 plus FLEX 250W power supply



### IPC-6025

5-Slot Desktop/Wallmount Chassis with Scalability as 5U Quad-System Solution

- Front handle for easy withdraw in rackmount carrier
- Lockable front door prevent unauthorized access
- Shockproof drive bay for two 3.5" HDDs



### IPC-7130

Desktop/Wallmount Chassis for ATX/MicroATX Motherboard with Dual Hot-Swap 3.5" Drive Bays

- Shockproof drive bays - One 5.25", one internal 3.5", and two hot-swap 3.5" trays
- Lockable front door prevent unauthorized access



### IPC-7120

Desktop/Wallmount Chassis with front I/O Interfaces for ATX/mATX Motherboard

- With front I/O interface and four to seven expansion slots
- Shockproof drive bay for one 5.25" ODD and two 3.5" HDDs
- LED indicators for power status and HDD activity

## Industrial Server Chassis



### HPC-7120

1U Short Depth Server Chassis for MicroATX/ATX/EATX Server board with 2 x 2.5" Hot-swap Drive Bays and 1 full-height/half-length PCIe x16 Expansion Slot

- 1U short depth server chassis supports MicroATX/ATX/EATX motherboard
- Two hot swap 2.5" SATA/SSD drive bays
- Anti-vibration FAN design



### HPC-7242

2U Rackmount Chassis for ATX Motherboard with 4 Hot-Swap SAS/SATA HDD Trays and RPS

- Supports ATX motherboard with dual processors
- Four shock-resistant hot-swap disk trays supporting 3.5" or 2.5" SAS/SATA drives for RAID 5/10 application, one slim ODD, and two 2.5" internal drives
- Dual front USB 3.0 ports



### HPC-5000

Small Tower Chassis for microATX/Mini-ITX Motherboard

- Supports microATX / Mini-ITX motherboard
- Supports up to internal two 3.5" or one 3.5" + one 2.5" HDD
- Two USB 2.0 and two USB 3.0 ports in the front side



### HPC-7000

Server Tower Chassis for EATX/ATX/MicroATX Motherboard

- Supports EATX/ATX/MicroATX motherboard with dual processors
- Three internal 3.5" HDD bays and one slim ODD drive bay
- Dual front USB 3.0 ports
- System fan easy maintenance design

## Industrial Storages



### ASR-3100

1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server with 16 x 2.5" NVMe SSDs and 2 x PCIe Gen III x8 Slots

- Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 processors
- 16 DDR4-2133 RDIMMs for a maximum of 512 GB
- Up to 16 x hot-swappable 2.5" NVMe/SAS/SATA drives



### HPC-8212

2U Storage Chassis for ATX/EATX Serverboard with 12 Hot-swap Drive Bays

- 2U rackmount chassis supports EATX/ATX/uATX motherboard
- 12-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Default 7x slots (low profile) rear panel, 3x slots (full height) optional



### HPC-8316

3U Storage Chassis for ATX/EATX Serverboard with 16 Hot-swap Drive Bays

- 3U rackmount chassis supports EATX/ATX/uATX motherboard
- 16-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- Supports 2 hot-swappable 2.5" drive bays at the rear for SAS SKUs
- Eliminates the need for an additional HBA card for SATA SKUs



### HPC-8424

4U Storage Chassis for ATX/EATX Serverboard with 24 Hot-swap Drive Bays

- 4U rackmount chassis supports EATX/ATX/uATX motherboard
- 24-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Supports 2 hot-swappable 2.5" drive bays at the rear

# Star Products

## Industrial Motherboards



### AIMB-705

LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Pentium ATX with DVI/VGA, DDR4, SATA III, USB 3.0 & 6 COMs

- Intel® 6th/7th generation Core i7/i5/i3/pentium processor
- Dual channel (Non-ECC) DDR4 1866/2133 up to 32GB
- Supports VGA and DVI display



### AIMB-785

LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Celeron/ Pentium ATX with Triple Display, DDR4, SATA III

- Supports Intel® Core™ i7/i5/i3/Celeron/ Pentium processor with Q170 chipset
- Four DIMM sockets support up to 64 GB DDR4 1866/2133
- Supports triple display VGA/2 DVI-D and dual GbE LAN

## GPU Servers



### AGS-923

2U Rackmount Intel® Xeon® E5-2600 v4/v3 GPU Server, Supporting 4 x PCIe x16 Double-depth Cards and 1 x PCIe x8 Single-depth FH/HL Card

- Processor: Dual Intel® Xeon® E5-2600 v4/v3 series
- Memory: DDR4 1600/1866/2133 MHz ECC-REG type up to 256GB
- Remote Management: IPMI function support



### AGS-913

1U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU Server, Supporting 3 x PCIe x16 Double-depth Cards and 1 x PCIe x8 Single-depth FH/HL Card

- Processor: Dual Intel® Xeon® E5-2600 v3/v4 series, up to 20 cores/40 threads
- Memory: DDR4 1600/1866/2133 MHz ECC-REG type up to 256GB
- Remote Management: IPMI function support

## Slot Single Board Computer



### PCE-3029

LGA 1151 6th and 7th Gen Intel® Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/ Dual Independent Display/Dual GbE LAN/SATA III/m-SATA/USB 3.0

- Complies with PICMG 1.3
- Supports Intel® Core™ i7/i5/i3/Celeron®/ Pentium® processor with H110 chipset
- Dual Channel (Non-ECC) DDR4 1866/2133 up to 32 GB



### PCE-5029

LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, Dual GbE, and Dual Displays

- Intel® Core™ i7/i5/i3 LGA1151 processor with H110 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 1866/2133 MHz
- PCIe 3.0, USB 3.0, and SATA 3.0 slots



### PCE-5129

LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, M.2, Dual GbE, and Triple Displays

- Intel® Core™ i7/i5/i3 LGA1151 processor with Q170 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 1866/2133 MHz
- PCIe 3.0, M.2, USB 3.0, SATA 3.0, and SW Raid 0, 1, 5, 10



### PCE-9228

Dual LGA 2011-R3 Intel Xeon® E5-2600v3 SHB Server Board with C612, DDR4/SATA3.0/USB3.0/Dual GbE

- Supports Dual Intel Xeon E5-2600v3 series processors with C612
- Supports DDR4 2133MHz RDIMM up to 256GB
- Supports PCIe3.0,USB3.0,SW raid 0, 1, 5, 10

## Industrial Server Motherboards



### ASMB-815

LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 5 PCIe x8 or 2 PCIe x16 and 1 PCIe x8, 8 SATA3, 6 USB 3.0, Dual 10GbE, IPMI

- ATX Server Board with Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 192 GB (6 DIMMs)
- 8 SATA, 1 M.2 (SATA/PCIe Compatible)



### ASMB-825

Dual LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 4 PCIe x16 + 2 PCIe x8, 8 SATA3, 6 USB 3.0, Dual 10GbE, IPMI

- ATX Server Board with dual Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 192 GB (6 DIMMs)
- 8 SATA, 1 M.2 (SATA/PCIe Compatible)



### ASMB-925

Dual LGA3647-P0 Intel® Xeon® Scalable EATX Server Board with 12 DDR4, 5 PCIe x16 + 1 PCIe x8 + 1 PCI, 8 SATA3, 6 USB 3.0, Dual 10GbE, IPMI

- EATX Server Board with dual Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- Five PCIe x16, one PCIe x8, and one PCI slots



### ASMB-975

Dual LGA 3647-P0 Intel® Xeon® Scalable Proprietary Server Board with 12 DDR4, 4 PCIe x16 + 1 PCIe x8 + 4 PCIe x4, 14 SATA3, 8 USB 3.0, Dual 10GbE, IPMI

- Proprietary Server Board with dual Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- 14 SATA3 connectors (including 2 SATA M.2)

## Data Acquisition Modules



### MIC-1810

12-bit Data Acquisition Platform with Intel® Core™ i3/Celeron® Processor

- 16 x analog inputs, up to 500 Ks/s, 12-bit resolution
- 2 x analog outputs, up to 500 Ks/s, 12-bit resolution
- Intel® Celeron® 1047UE/Core™ i3-3217UE processor, 1.4 GHz
- 2 x 10/100/1000 Base-T RJ45 LAN ports
- 2 x USB 2.0 and 2 x USB 3.0 ports



### MIC-1816

16-bit Data Acquisition Platform with Intel® Core™ i3/Celeron® Processor

- 16 x analog inputs, up to 1 Ms/s, 16-bit resolution
- 2 x analog outputs, up to 3 Ms/s, 16-bit resolution
- Intel® Celeron® 1047UE/Core™ i3-3217UE processor, 1.6 GHz
- 2 x 10/100/1000 Base-T RJ45 LAN ports
- 2 x USB 2.0 and 2 x USB 3.0 ports



### PCIE-1812

16-Bit, 8-Ch Simultaneous Sampling Multi-Function PCI Express Card

- 8 x differential simultaneous sampling analog inputs, up to 250 Ks/s, 16-bit resolution
- 2 analog outputs, up to 3 Ms/s, 16-bit resolution
- Four 32-bit programmable counters/timers/ encoders
- 32 x programmable D/I/O with interrupt function



### PCIE-1813

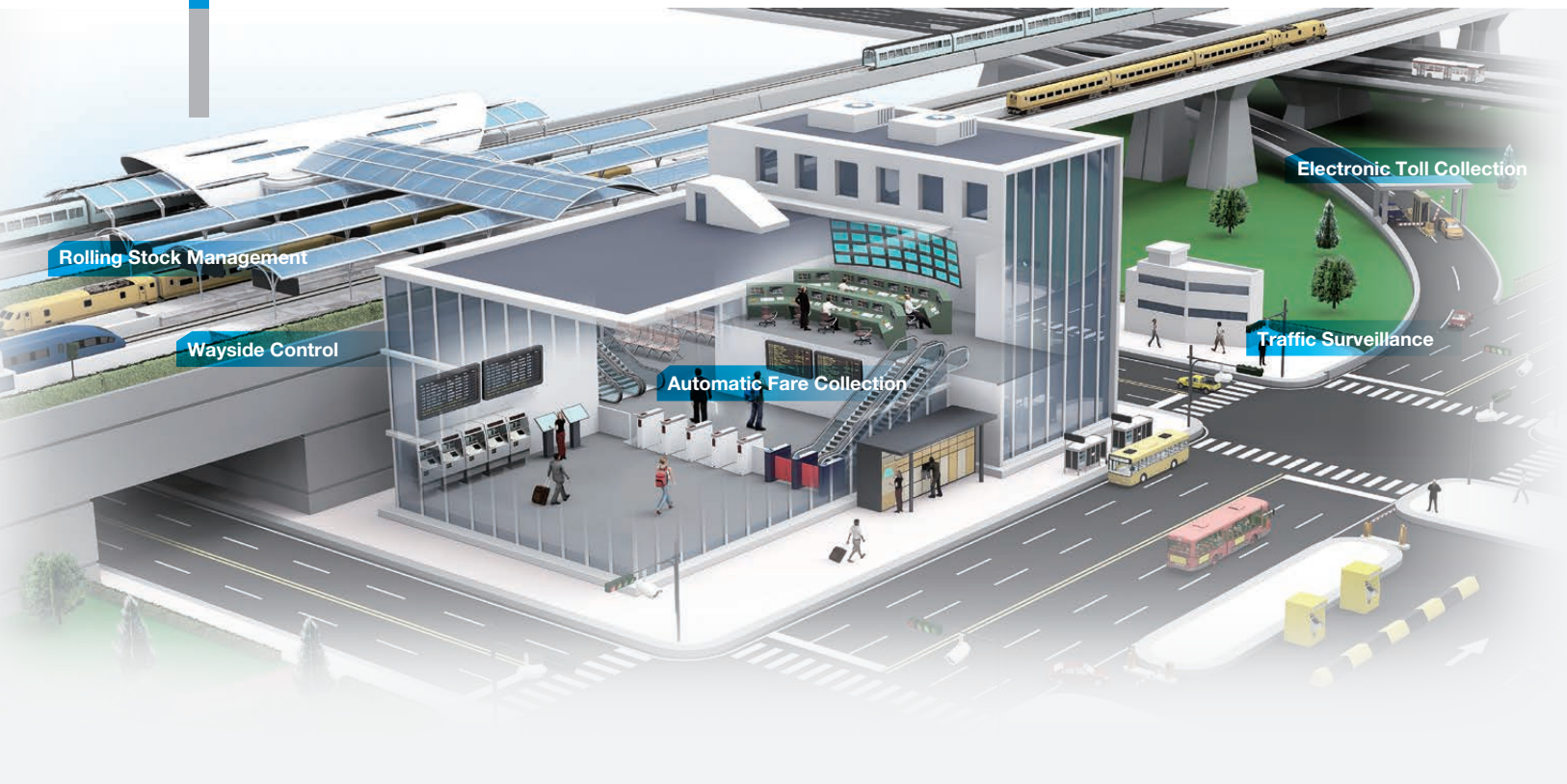
38.4 Ks/s, 26-bit, 4-ch, Simultaneous Sampling, Universal Bridge Input, Multi-function PCI Express Card

- 4 x simultaneous sampling analog inputs, up to 38.4 Ks/s, 26-bit resolution
- Full, half, and quarter-bridge sensor input with built-in anti-aliasing filter
- 2 analog outputs, up to 3 Ms/s, 16-bit resolution
- Four 32-bit programmable counters/timers/ encoders
- 32 x programmable D/I/O with interrupt function

# Intelligent Transportation

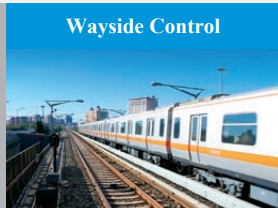
## Comprehensive Solutions for Modernizing Infrastructure

Advantech collaborates with partners to provide reliable platform solutions that facilitate intelligent transportation in cities worldwide. Leveraging over a decade of experience, Advantech has invested resources into designing and developing innovative product offerings aimed specifically at the transportation industry. These products include automatic fare collection systems, wayside control equipment, rolling stock management solutions, and traffic surveillance systems. By enabling intelligent transportation systems, Advantech hopes to achieve its vision of realizing smart city technologies.



**Automatic Fare Collection**

Automatic fare collection systems are designed to perform ticket vending/checking, fare calculation/collection, and access management tasks using communication networks and automatic control technology. Such systems can improve transportation by streamlining operations and reducing resource costs.



**Wayside Control**

Advantech provides industrial-grade, fanless systems with EN50121-4 certification for diverse wayside control operations, including interlocking, signaling, and train control tasks. Designed for quick installation and flexible use, these systems feature multiple I/O and reliable fail-safe technology.



**Rolling Stock Management**

Advantech's rolling stock management systems include cameras, switches, driver interfaces, onboard displays, and controllers, as well as M12 connectors for superior shock and vibration tolerance. Designed to support various railway transportation applications, these systems are certified to EN50155 and EN50121-3-2 railway standards.



**Traffic Surveillance/ETC**

As the number of vehicles on roads continues to rise, demand for enhanced surveillance and traffic flow management is increasing. Advantech's rugged traffic surveillance solutions feature intelligent video analytics technology that enables license plate recognition, and its electronic toll collection systems streamline traffic flows for improved road safety.

### Product Offerings



**ITA-1711**  
Compact Intel® Celeron® J1900 System with Dual GigaLANs, 10 x COM Ports, and Dual Displays



**ITA-2231**  
Intel® Core™ i7 Fanless 2U Rackmount System with 3 x ITAM Modules



**ITA-5831**  
6th Gen Intel® Core™ i Fanless System with EN50155 Certification for Railway Applications



**EKI-9516P/9512P**  
EN50155 M12 Managed Ethernet PoE Switch



**EKI-7712G-4FI**  
8G+4SFP Port Gigabit Managed Redundant Industrial Switch



**ITA-3630**  
Compact 3rd Gen Intel® Core™ i Fanless System



# Intelligent Video Solution

## Innovative Video Platform with Intelligent Video Analytics

Advantech offers an extensive range of video products, including video capture cards (PCIe, mini PCIe, and M.2) and industrial-grade video processing systems, to meet various market needs. From lecture recording, to medical imaging, event broadcasting, live video streaming, and 24-hour surveillance, Advantech's intelligent video platforms are capable of supporting diverse video-related applications. These integrated hardware and software solutions are also pre-installed with intelligent video analysis software and equipped with a powerful software development kit that enables developers to more efficiently implement unique application software, thereby shortening overall development time.



**Medical Imaging**  
Advantech's video capture cards are designed to deliver precise imaging for medical applications. The inclusion of a powerful software development kit and support for various programming languages allows system integrators to easily develop unique applications.



**Video Recording/Streaming**  
Advantech's video capture cards also support video streaming, specifically multi-stream channel recording and file exporting/merging. This allows hospitals to record and stream video in various formats for medical education and training.



**Multi-Platform Broadcasting**  
Equipped with transcoding and multi-streaming protocols, Advantech's video card solutions can be used to broadcast multimedia content to a wide variety of client devices and facilitate multi-platform streaming operations.



**Video Surveillance**  
Advantech provides a full range of capture card solutions for the video surveillance market. These high-performance cards support diverse video output interfaces to enable flexible support for diverse applications.

### Product Offerings



**DVP-7021HE**  
2-Channel HDMI/DVI/VGA/YbPr/CVBS/S-Video Software Compression PCIe Video Capture Card



**DVP-7011UHE**  
Single-Channel 4K HDMI 2.0 Software Compression PCIe Video Capture Card



**DVP-7033HE**  
4-Channel Full HD SDI Software Compression PCIe Video Capture Card



**DVP-7012MHE**  
Single-Channel HDMI/DVI/VGA Software Compression M.2 Video Capture Card



**DVP-7635HE**  
4-Channel TVI/CVI/AHD/CVBS Hardware Compression PCIe Video Capture Card

# Machine Automation

## Intelligent Motion Control and Machine Vision

Advantech offers a wide range of Ethernet-based solutions integrated with motion control and machine vision capabilities for machine automation applications. These solutions include embedded PC-based motion controllers, centralized motion control systems, multi-axis motion control cards, and DIN-rail terminal boards that are compatible with ARM/DSP/FPGA processors. By integrating various platforms with motion control and machine vision modules, Advantech provides solution-ready packages (SRPs) that satisfy diverse industry demands, establishing itself as a leading PC-based machine automation solutions provider.



### Production Automation



Advantech's intelligent control systems enable diverse production operations, equipment, machinery, processes, and applications to be automated. This not only reduces labor, time, and resources, but also improves accuracy and overall production quality.

### Automated Inspection



Aimed at the manufacturing industry, Advantech's machine vision solutions enable automated inspection and analysis for quality control applications. Integrated with industrial-grade image processing software, these solutions optimize the inspection process to increase efficiency and productivity.

### Process Control



Advantech offers high-performance computing systems with scalable architectures and information processing and networking capabilities to enable real-time monitoring and process control. The collection and subsequent analysis of production data facilitates production scheduling and process optimization.

### Packaging Automation



Advantech's automated packaging systems comprise human machine interfaces (HMIs), sensors and motion-control devices, and programmable logic controllers (PLCs) to facilitate the control and monitoring of packaging production lines for increased efficiency.

## Product Offerings



### EtherCAT Solutions

Includes the PCI-1203 EtherCAT Master Control Card, AMAX-3285 Motion Slaves, and ADAM-5000/ECAT and AMAX-4800 Series I/O Modules



### Machine Vision Solutions

Intelligent PCI Express GigE Vision Frame Grabbers and 0.3 ~ 15MP Power over Ethernet Industrial Cameras



### MIC-7500

Compact Fanless System with 6th Gen Intel® Core™ i CPU, Intel® QM170 chipset, and 4 x Expansion Slots



### MIC-7900

Compact Fanless Modularized System with Intel® Xeon® D-1539/D-1559 SoC, 4 x GigaLAN, and 4 x USB 3.0



### AHS-1440

Machine Vision System with Intel® Core™ i7/i5/i3 CPU and 4-Channel USB 3.0 Controller



### AHS-1200

Palm-Sized Vision System with Intel® Celeron® N3160/N3710 SoC and 2-Channel Camera Interface for GigE PoE or USB 3.0



# Industrial Server and Storage Solutions

## Flexible, High-Performance Products with a Long Lifecycle

With the arrival of Industry 4.0, and the resulting trend for increased automation and data communication in manufacturing, technology solutions that can centralize management and streamline machine control have become essential. Advantech's industrial server and storage solutions include server motherboards, server chassis, pre-configured server systems, GPU servers, workstations, JBOD and RAID arrays, and external disk drives. These solutions are designed to facilitate data and application synchronization, storage optimization, equipment monitoring and management, and centralized deployment to support even the most demanding industrial applications.

### Industrial Server and Storage Solution

Easy Installation  
High Availability

Scalable Solution  
Flexible Integration

  
Industrial Applications

  
Cloud Computing

  
IoT Server

  
Configurable Workstations

  
Highly Confidential

  
Expandable Computing

  
Workgroup Deployment

  
Unified Interface



Equipment Monitoring

Advantech's industrial server and storage solutions are designed to facilitate automatic detection on production lines. By enabling real-time equipment monitoring, overall production efficiency, yield rate, and output quality can be controlled and optimized for increased productivity.



Medical Imaging

To ensure efficient testing and diagnosis, hospitals require high-performance medical imaging capabilities. Advantech's GPU servers accelerate image processing by streamlining transcoding and content assembly operations, optimizing the video output quality.



Content Broadcasting

The provision of Intelligent Platform Management Interface technology facilitates remote cloud-based management operations, including out-of-band and cross-platform management, remote troubleshooting, and KVM-over-IP switching.



Video Surveillance

Advantech offers total surveillance solutions that include front-end IP-cameras, networking capabilities, host servers, and back-end storage to ensure easy deployment and integration. The provision of high bandwidth ensures high availability and flexible expansion for diverse applications.

### Product Offerings



#### SKY-2000

Optimized design for IoT server



#### SKY-4000

High density storage capacity server



#### SKY-5000

Multi-node design computing server



#### SKY-6000

Multi-GPU server



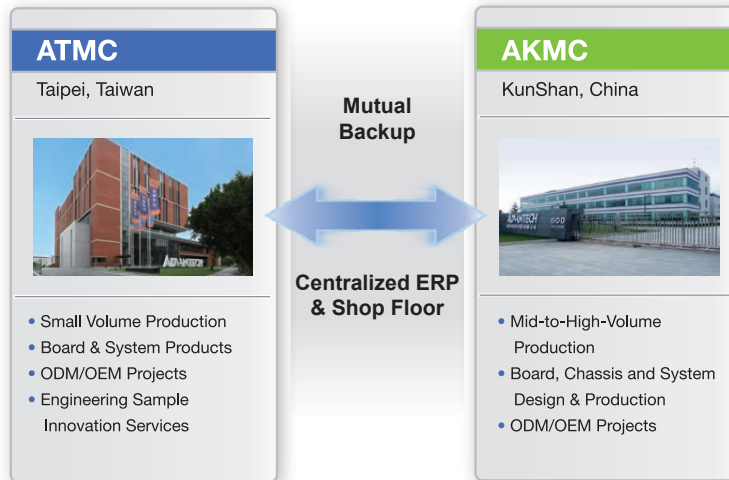
#### ASMB-975

Dual LGA 3647-P0 Intel® Xeon® Scalable Proprietary Server Board with 12 DDR4, 4 PCIe x16 + 1 PCIe x8+4 PCIe x4, 14 SATA3, 8 USB3.0, Dual 10GbE, IPMI

# Advantech iPlanet Care

## Manufacturing

Our dual, world-class manufacturing centers in Taiwan and China maintain precise quality control, and offer a full range of production in a timely and cost-effective manner. To maximize the efficiency of operational procedures, we have implemented a cluster manufacturing system within our segmented manufacturing service units. This unique approach enables a direct, simplified, and highly streamlined design-to-manufacturing process.



- In-house board, chassis, and system production
- Dual world-class manufacturing centers minimize business risks
- Advanced production capabilities and customizable processes
- Rigid quality assurance system
- Most complete ISO standard coverage

## Configure To Order Services

Advantech's Configure To Order Services (CTOS) makes industrial computing solutions more accessible by offering web-based configuration tools, comprehensive, complex assembly services with high-mix, low-volume box build and customized assembly, modification, system integration and functional testing services.

- Online intelligent configuration
- Comprehensive approach to complex configuration solutions
- Local customized configuration services
- 2 year global warranty covering system & peripherals integrated

**ADVANTECH CTOS**  
Configure To Order Services

## Certified Quality Assurance System

Advantech has been designing and manufacturing industrial PCs according to our 3C Quality Statement:

- Always strive for overall customer satisfaction
- Continuous improvement
- Apply closed-loop mechanisms to resolve problems

At Advantech, quality is our main priority. A complete line of safety, EMC and reliability measures such as ESD, vibration, drop testing, temperature, humidity and HALT chambers are available to ensure our products meet the strictest standards. All facilities are at least ISO 9001 and 14001 certified while others hold additional certifications such as ISO 13485, 17025, TL9000 and OHSAS18001. An environmental program that focuses on reducing, reusing and recycling of materials throughout the manufacturing process is also applied at Advantech. All our products are 100% RoHS compliant and hazardous substance management system are applied to meet worldwide environmental requests. Advantech's efforts towards environmental protection have been recognized by Sony since 2004 (Sony Green Partner).

- Complete ISO coverage
- Green policies
- Constant quality and reliability monitoring
- Ease of access to quality contacts



# One-Stop Global Services



Advantech iPlanet Care combines exceptional business expertise, powerful design capacities, and a thorough global service network to provide one-stop global services and total solutions. Our broad range of global support packages adds maximum flexibility and efficiency to your projects.

## Global Logistics Services

With strong integrated ERP and SAP supply chain solutions, our worldwide logistics network offers a wide range of options for different delivery models including local and global solutions that meet your unique needs and budget requirements. Advantech's Logistics Service gives you the flexibility to simplify your logistical networks, bring your products to market on time, and enjoy a timely return on your investment.

- Optimized and flexible shipping solutions
- Integrated ERP and SAP supply chain solution with global distribution network
- Centralized plants with local delivery

## Global Peripheral Procurement Services

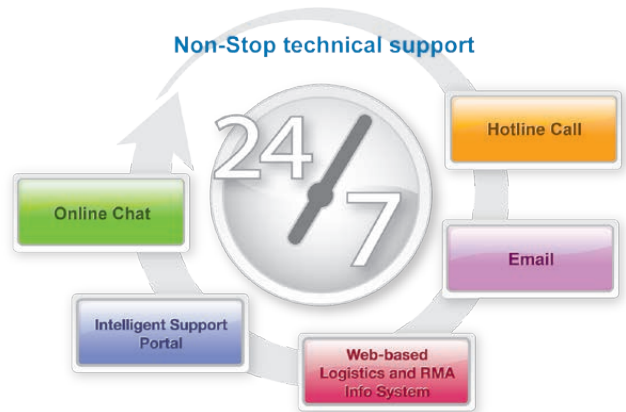
Advantech global peripheral procurement network consists of local teams that leverage strong, worldwide supplier relationships and strict vendor and product management to offer quality-guaranteed, compatible peripherals with short lead times and competitive prices.

- Localized procurement with worldwide network support
- Global standardization management; 100% compatible peripherals
- Trusted quality with revision control
- Short lead time and competitive price

## Global Customer Support Services

Our global presence provides localized reliable customer support services. We can create an optimized maintenance and support plan, leveraging the full power of our service portfolio to help reduce costs and proactively mitigate business risks to best meet your needs. In addition to our complete technical and repair support, we provide a variety of customizable after-sales services, including extended warranty, advance replacement, upgrade, fast repair, etc. With our knowledgeable local support groups, we enable a consistent support experience around the world and help keep your investment at peak performance and within your budget.

- 24/7 technical support: hotline AE & online chat support
- Global deployment with local full-line repair capability
- Easy-to-use web-based repair and tracking system (eRMA)
- Various value-added, after-sales service packages





# System Design to Order Service

## Build Your Dream System in 30 Days

With an increasingly diverse market and multiple vertical applications, the needs of customized systems for specific applications are in high growth. Advantech is the dream system provider, supplying quality assurance and integrated services to worldwide customers. With customization, integration, validation, and certification, we are committed to providing a one-stop solution to customers who require a trusted partner to maximize their applications.



### System Engineering Expert Group

System design should always start from the customer's perspective. To build up a system that precisely matches a customer's application, the Advantech professional engineering team always puts the customer first, from system working environment, ergonomics, to maintenance. The professional engineering team and rich experience from over 100 successful cases make Advantech the dream system builder for your business.



### Worldwide Orders, Local Services

Our global presence provides reliable, localized customer support service, with customizable after-sales services, including extended warranty, advance replacement, and upgrade. We provide an optimized, within-budget, maintenance and support plan around the world to keep your investment at peak performance.

- 24/7 hotline AE
- Global RMA System



### Certified Quality Assurance Systems

At Advantech, quality is our main priority. A complete line of safety, EMC, and reliability test equipment, such as hi-pot, ESD, vibration, drop test, temperature, humidity and HALT chambers are available to ensure our products meet the strictest standards. Also Advantech has an applied environmental program that focuses on reducing, reusing and recycling of materials throughout the manufacturing process. All our products are 100% RoHS compliant and Environmental Management Systems such as QC080000 are applied to meet worldwide environmental requirements.

## World-class Manufacturing Center

Our dual, world-class manufacturing centers in Taiwan and China both maintain precise quality control, and offer a full range of production in a timely and cost-effective manner. To maximize efficiency of operational procedures, we have implemented a cluster manufacturing system within our segmented manufacturing service units. This unique approach enables a direct, simplified, and highly streamlined design-to-manufacturing process.

**ATMC**

Taipei, Taiwan Area 17,488 m<sup>2</sup>



- Small Volume Production
- Board & System Products
- ODM/OEM Projects
- Engineering Samples & Innovation Services



**AKMC**

KunShan, China Area 18,000 m<sup>2</sup>



- Mid-to-high Volume Production
- Board, Chassis and System Design & Production
- ODM/OEM Projects

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# Data Acquisition and Control Hardware/Software Tutorial

## PC-Based Data Acquisition (DAQ) System Overview

Because industrial PC I/O interface products have become increasingly reliable, accurate, and affordable over the last few years, PC-based data acquisition and control systems are now widely used in industrial and laboratory applications such as monitoring, control, data acquisition and automated testing.

Knowledge of electrical and computer engineering is necessary for selecting and building a data acquisition (DAQ) and control system that functions as intended. This tutorial provides a brief explanation of the function and operation of DAQ and control systems, and their configuration. The content covered is as follows:

- Transducers and Actuators
- Signal Conditioning
- Data Acquisition and Control Hardware
- Getting Started

## Transducers and Actuators

A transducer converts temperature, pressure, level, length, and position data into voltage, current, frequency, pulses, and/or other signals.

Thermocouples, thermistors, and resistance temperature detectors (RTDs) are common transducers for temperature measurements. Other types of transducers include flow sensors, pressure sensors, strain gauges, load cells, and LVDTs, which measure flow rate, pressure variances, force, or displacement.

Actuators are devices that activate process control equipment using pneumatic, hydraulic, or electrical power. Valve actuators, for example, can be used to open/close valves to control fluid rates.

## Signal Conditioning

Signal conditioning circuits improve the quality of signals generated by transducers before conversion into digital signals by PC-based data-acquisition hardware. Examples of signal conditioning include signal scaling, amplification, linearization, cold-junction compensation, filtering, attenuation, excitation, and common-mode rejection.

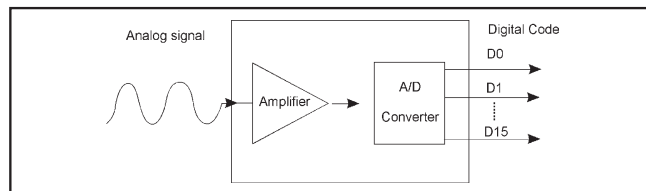
One of the most common signal conditioning functions is amplification. For maximum resolution, the input signal voltage range should be approximately equal to the maximum input range of the A/D converter. Amplification expands the range of transducer signals to match the input range of the A/D converter. For example, an X10 amplifier maps transducer signals ranging from 0 to 1 V into a range of 0 to 10 V before transmission to the A/D converter.

## Data Acquisition and Control Hardware

Data acquisition and control hardware is typically employed for one or more of the following functions: analog input, analog output, digital input, digital output, and counter/timer functions. This section provides an explanation of each function and a list of important considerations when selecting a data acquisition and control system.

### Analog Inputs (A/D)

Analog-to-digital (A/D) conversion transforms analog current or signals into digital signals. This conversion is necessary for enabling the signals to be processed and stored on a computer.

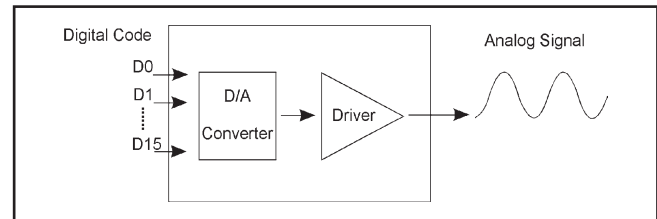


The most significant criteria for selecting A/D hardware are

1. Number of input channels
2. Single-ended or differential input signals
3. Sampling rate (in samples per second)
4. Resolution (usually measured in bits of resolution)
5. Input range (specified in full-scale volts)
6. Noise and nonlinearity

### Analog Outputs (D/A)

The opposite of A/D conversion is digital-to-analog (D/A) conversion, which involves converting a digital signal into an analog signal or current. D/A devices allow a computer to be used to control real-world events.



Analog output signals can be used to directly control process equipment. The process can provide feedback in the form of analog input signals. This is referred to as a closed loop control system with proportional-integral-derivative (PID) control. Analog outputs can also be used to generate waveforms. In this case, the device behaves as a function generator.

### Digital Inputs and Outputs

Digital input/output functions are useful for applications such as contact closure and switch status monitoring, industrial on/off control, and digital communications.

### Counters/Timers

Counters/timers can be used for event counting, flow meter monitoring, frequency counting, pulse width measuring, and time period measuring.

## Getting Started

### Advantech Offers Ideal Hardware/Software Solutions

Advantech manufactures data acquisition hardware and software specifically designed for measurement, monitoring, and control applications. The following guide is provided to ensure customers select the ideal components for DAQ systems.

#### Step 1: Identify Fundamental Requirements

Determine whether the DAQ system will be used primarily for measurement, monitoring, control, or analysis. Identify the data requirements of applications and the number of data collection points supported by the system. Determine the required data collection speed, sampling rate, measurement type, generated voltage or current, desired accuracy, and output resolution for each data collection point. Finally, assess the system event timing and whether any special environmental conditions exist.

#### Step 2: Select Appropriate Hardware

Select the necessary hardware to achieve your fundamental requirements. Advantech offers plug-in boards for diverse A/D, D/A, and digital I/O needs, as well as both ISA and PCI bus products. The selection of hardware should be based on the following five main criteria:

1. Number and types of channels
2. Differential or single-ended inputs
3. Resolution
4. Speed
5. Software compatibility with hardware

#### Step 3: Select Necessary Accessories

Most applications require additional accessories that are available as separate items. Such accessories include

1. Expansion peripherals for adding system channels
2. Cables, signal conditioners, and external boxes, such as screw terminals or BNC accessories

#### Step 4: Select Suitable Software

Software, more than any other factor, determines the system start-up time, ease of modification, effectiveness, and suitability for the specific application. The three main criteria for selecting software are as follows:

1. Operating system installed
2. User programming expertise
3. Software compatibility with hardware

# DAQNavi Introduction

## What is DAQNavi?

DAQNavi is an Advantech next-generation driver package that enables programmers to develop application programs using Advantech DAQ boards and devices. This integrated driver package includes device drivers, an SDK, tutorial, and utility. The user-friendly design allows even beginners to quickly understand how to utilize DAQ hardware and write programs via the intuitive "Advantech Navigator" utility environment. Additionally, the provision of numerous example codes for various development environments dramatically reduces programming time and effort.

For more information about Advantech DAQNavi, visit [www.advantech.com/DAQNavi](http://www.advantech.com/DAQNavi).

### Multiple Operating Systems

DAQNavi supports most of the popular operating systems (OS) employed for automation applications. Because API functions are the same for different OS, users only need to install the driver without modifying the program when migrating between two OS. DAQNavi supports Microsoft's Windows 10/7 and Windows CE OS (both 32 and 64 bit). For an alternative to Windows, the DAQNavi software package also supports Linux OS including the Ubuntu, Fedora, Debian, and SUSE distributions. For other distributions, please contact your local Advantech branch or customer sales representative.

### LabVIEW and MATLAB Support

LabVIEW is popular graphical development environment for measurement and automation applications. For LabVIEW users, DAQNavi offers two options for programming: Express VI and Polymorphic VIs. Express VI enables user to program quickly without additional wiring. To perform configurations, simply drag the Express VI icon to the LabVIEW block diagram and the DAQNavi Wizard pop-up window will appear. DAQNavi Wizard is similar to the .NET Component DAQ Wizard used in the Microsoft Visual Studio environment and also streamlines programming. With Polymorphic VI, users can build more complex programs using several VIs and wiring. In addition to LabVIEW, DAQNavi also supports MATLAB programming.

### .NET Support

DAQNavi offers a series of .NET component objects with the latest .NET technology that allow users to benefit from platform-unified features. To begin programming, simply drag and drop .NET components into a .NET programming environment, such as Microsoft Visual C# or VB .NET. The DAQNavi Wizard pop-up window will appear to guide users through performing configurations in sequence. This is also known as "Configure & Run programming". Programmers can also write code manually using .NET components for more object calling flexibility. Using Advantech CACL technology, engineers can perform similar programming in a native environment such as Visual C++.

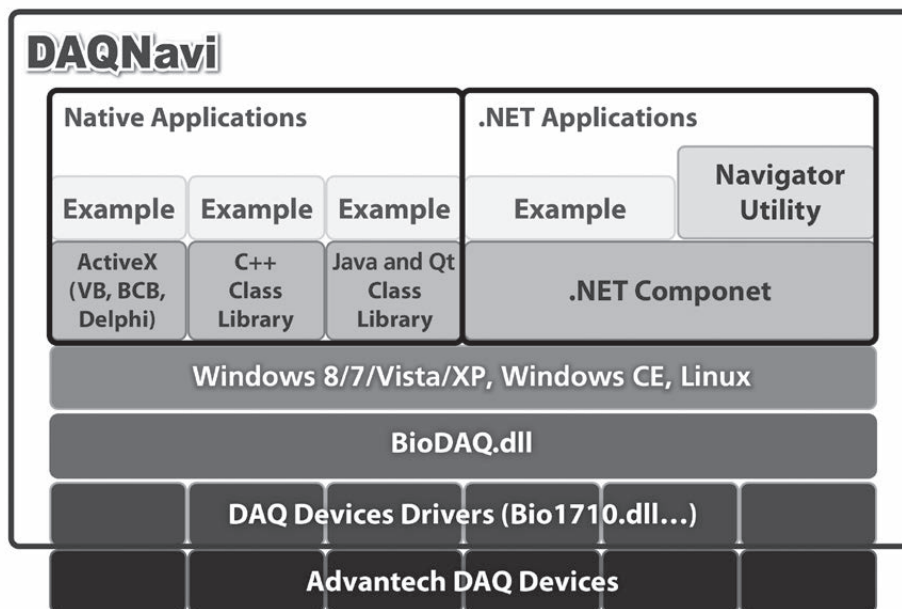
### C++, Delphi, VB, BCB, Java, and Qt Support

DAQNavi provides a C++ class library (for VC++ and Borland C++ Builder) and ActiveX (for Visual Basic, Delphi, and BCB) for native programming environments with the same calling interface as the .NET Framework Class Library. With the DAQNavi Java class library and Qt class library, users can develop Java and Qt programs that support migration between various OS (including Windows and Linux).

### Additional Modules

DAQNavi supports all PCI Express, PCI, PC/104, and PCI-104 cards, as well as all USB DAQ devices.

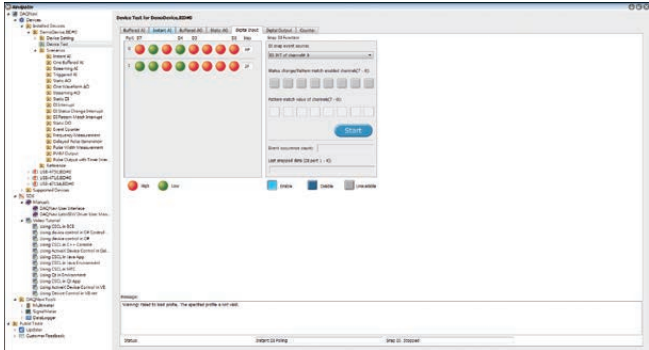
## DAQNavi Driver Package Architecture



The DAQNavi SDK and individual DAQNavi drivers for specific hardware are available on the Advantech DAQNavi website ([www.advantech.com/DAQNavi](http://www.advantech.com/DAQNavi)). These offerings need to be installed to use the hardware.

- Industrial I/O **1**
- Intelligent Video Solution **2**
- Intelligent Transportation Platforms **3**
- Intelligent Inspection Systems **4**
- Modular-IPCs **5**
- Slot SBC & Passive Backplanes **6**
- Industrial Motherboards **7**
- Industrial Chassis **8**
- Industrial Server Motherboards **9**
- Industrial Server Chassis **10**
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- CompactPCI Platforms **13**
- Industrial Computer Peripherals **14**
- Industrial Ethernet Solutions **15**

# Advantech Navigator – A Powerful Intuitive Utility



### Devices

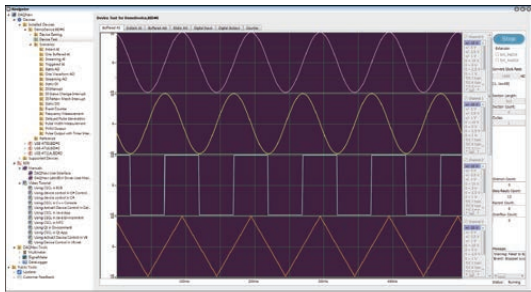
All installed Advantech DAQ devices are listed here, including a virtual DAQ device named "Demo Device". This allows programmers to run examples and test operations within DAQnavi without installing hardware. For every device listed, there are four selectable options.

#### 1. Device Setting

This option allows users to configure the hardware of the selected device.

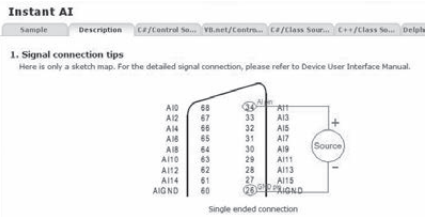
#### 2. Device Test

This option allows users to test the hardware functionality without programming.



### 3. Scenarios

Advantech has defined common measurement and automation applications as "scenarios" for user reference. For each scenario, one example program is embedded in Advantech Navigator for direct execution. The corresponding source code for each scenario is provided and written in various languages (C#, VB.NET, C++, Delphi, Qt, VB6, and Java). A wiring diagram is also included for each scenario.



### 4. Reference

This option allows users to reference the user manual of the selected device.

### SDKs

#### 1. DAQ User Interface Manual

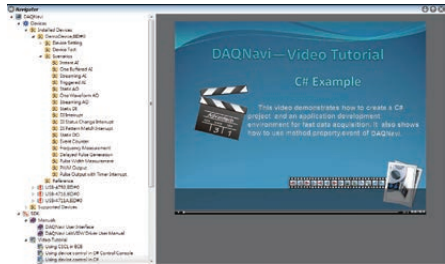
To reduce development time, Advantech offers a wealth of tutorial and reference documentation for both Class Library and Device Control programming methods. The programming instructions not only explain how to create an application project, but also how to write a program using a programming chart and example code.

```

Instant AI
Instant AI
Collapse All Code: All
Instant AI
Example See Also
Example
C#
public static void InstantAI()
{
    // Open device with write access
    IDaqDevice device = null;
    ErrorCode ret = IDaqDevice.Open(0, AccessMode.NodeWrite, out device);
    // Get AI Module
    IDaqAI ai;
    ret = device.GetModule(0, out ai);
    // Get the parameters (not necessary)
    int chCount;
    ret = ai.GetProperty(Property.Is_Cfg_FeatureChangeIsBuffered, out chCount);
    chCount = 1;
    int[] chVg = new int[chCount];
    for (int i = 0; i < chCount; ++i)
    {
        chVg[i] = 1;
    }
    ret = ai.GetProperty(Property.Is_Cfg_VrgTypeOfChannel, chCount, chVg);
    short[] raw = new short[chCount];
    double[] scaled = new double[chCount];
    int count = 0;
    while (count < 100)
    {
        ret = ai.Read(0, chCount, raw, scaled); // read data
        for (int i = 0; i < chCount; ++i)
        {
            Console.WriteLine("DM[0]: {1},{2}", i, raw[i].ToString("M"), scaled[i]);
        }
    }
}
    
```

#### 2. Tutorial Video

Advantech also offers a tutorial video for reference when creating a project.

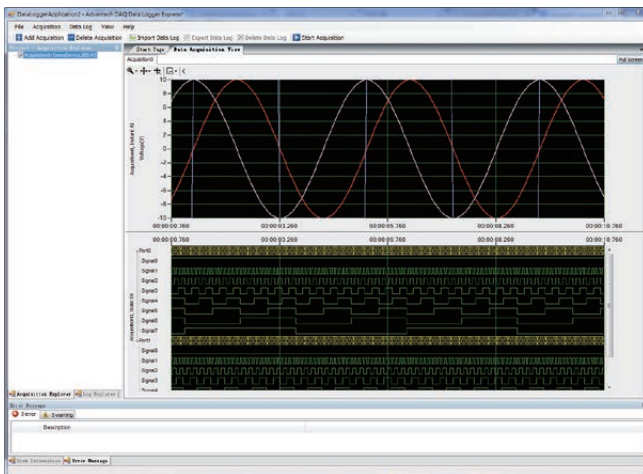


### Common Scenarios for Measurement and Automation Applications

Category	Scenario	Description
Analog Input	Instant AI	Read single AI value once
	Asynchronous One Buffered AI	Read a buffer of AI values once (Don't need to wait the acquisition is done to run other program)
	Synchronous One Buffered AI	Read a buffer of AI values once (Need to wait the acquisition is done to run other program)
	Streaming AI	Continuously read a buffer of AI values
Analog Output	Static AO	Change AO values once
	Asynchronous One Waveform AO	Change AO value based on a pre-defined waveform once (Don't need to wait the generation is done to run other program)
	Synchronous One Waveform AO	Change AO value based on a pre-defined waveform once (Need to wait the generation is done to run other program)
	Streaming AO	Continuously change AO value based on a pre-defined waveform
Digital Input	Static DI	Read the selected DI port value once
	DI Interrupt	When DI bit meets a pre-defined edge change (rising or falling), an interrupt is generated
	DI Pattern Match Interrupt	When selected DI port meets pre-defined pattern, an interrupt is generated
	DI Status Change Interrupt	When the status of certain selected channel of DI port changes, an interrupt is generated
Digital Output	Static DO	Change DO values once
Timer/Counter	Delayed Pulse Generation	When a trigger from counter gate is met, a pulse is generated after a specific period
	Pulse Output with Timer Interrupt	Continuously generate a periodic pulse train (using counter internal clock), and an event will be sent out at the same time.
	Event Counter	Continuously count the pulse number of signal from counter input
	Frequency Measurement	Measure frequency of signal from counter input
	Pulse Width Measurement	Measure pulse width of signal from counter input
	PWM Output	Generate PWM (Pulse Width Modulation) signal

# DataLogger

## Configurable Data Logging Software



### Features

- Data logging, display, and recording without programming
- Instant AI, buffered AI, and static DI data logging
- Intuitive wizard for hardware channel configuration
- Supports device simulation operations
- Configurations can be saved into a project file for future use
- Real-time display with zoom and pan capabilities
- Supports data recording and storage to local disk
- Playback function enables viewing of historical data
- Supports both analog graph and digital graph displays

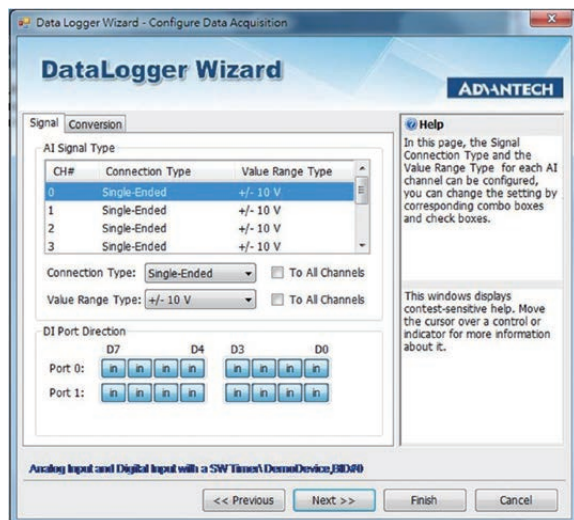
### Introduction

Advantech DataLogger is a ready-to-use application software with a user-friendly interface that engineers can leverage to perform data logging, display, and recording. This software enables engineers to flexibly collect and store data from various Advantech data acquisition devices for relevant data logging tasks without time-consuming programming.

### Feature Details

#### Data Acquisition Device Configuration

Before data logging measurement, engineers can configure all necessary analog and digital input channels using the built-in DAQnavi Wizard. A pop-up window displays step-by-step instructions to ensure settings can be easily configured. Besides DAQ devices, DataLogger also supports device simulation, enabling engineers to perform operations without hardware installation.



#### Configuration Management via Project Files

Engineers can create and edit projects to include one or more data logging tasks. A single project can display data acquired from one or multiple DAQ devices. The input channel configurations and logging settings can be saved as specific project files. Engineers can then open these project files to load all saved configurations and perform data logging tasks immediately.

#### Real-Time Data Logging, Display, and Recording

After DAQ configuration, data collection can be immediately initiated, with the collected data displayed on a real-time graph. Engineers can zoom in, zoom out, or dynamically pan across the graph during data logging, and can decide whether to record the collected data (save data into a pre-defined file).

#### Historical Data Playback

Previously recorded data can be loaded into the DataLogger software and viewed using the Playback function. Zoom in, zoom out, and pan operations are also possible for historical data displays.

### Specifications

#### Supported Hardware

- PCI Express multifunction, analog input, and digital input cards
- PCI multifunction, analog input, and digital input cards
- USB multifunction, analog input, and digital input modules
- PC/104 and PCI-104 multifunction, analog input, and digital input cards

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

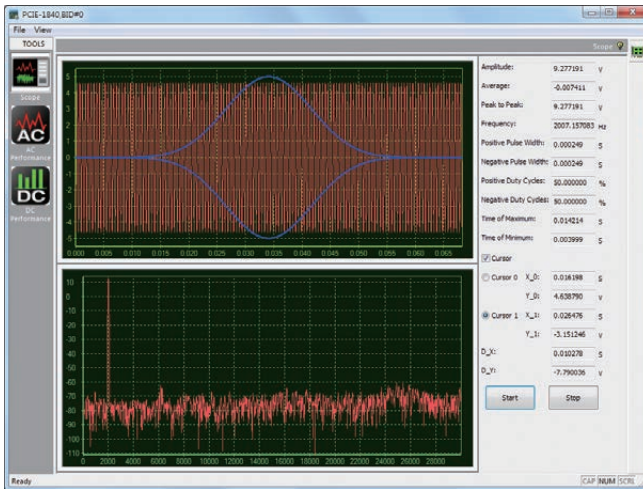
Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15



# SignalMeter

## Signal Analysis Software



## Features

- Easy to use, no programming required
- Provides DC and AC performance measurements
- Provides cursor measurements for signal analysis
- Enables Windows function for AC signals
- Real-time frequency displays based on zoom and pan operations in the time domain
- Automatic amplitude, average, peak-to-peak, and frequency measurements
- Cost-free tool

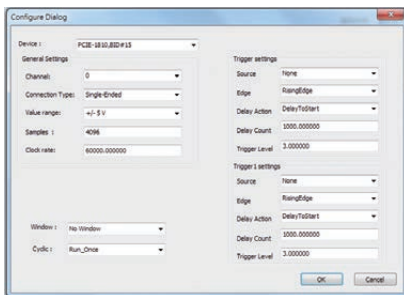
## Introduction

SignalMeter is ready-to-use application software designed for Advantech's DAQ devices that enables scope, AC performance, and DC performance functions to facilitate signal analysis. Using the simple, user-friendly interface, engineers can control the settings for the three functions with a single configuration.

## Feature Details

### Data Acquisition Device Configuration

Before using SignalMeter, the necessary data acquisition parameters can be set via the configuration dialog interface. The configuration interface includes device selection, general settings, trigger settings, and start mode settings. Engineers can set the three function modes to follow the same configuration settings.



### Scope Mode

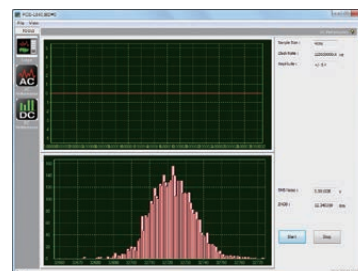
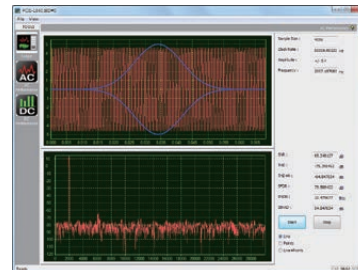
The Scope mode offers the following simple oscilloscope features:

- Amplitude: Returns the difference between the signal highs and lows
- Average: The mean vertical level of the entire captured waveform
- Peak-to-Peak: Returns the difference between the extreme maximum and minimum values
- Frequency: Frequency is the inverse of period, where period is the average completion time for a cycle using the entire waveform in the capture window.

The Scope mode function not only supports simultaneous displays of the time and frequency domains, but also synchronous zoom.

### AC and DC Performance Mode

The AC Performance function enables automatic calculation of the SNR, THD, and SIMAD—important information for data acquisition. For DC signals, the DC Performance function can be used to display RMS noise and plot a histogram. Overall, the interface is simple and easy to navigate.



## Specifications

### Supported Hardware

- PCI Express multifunction, analog input, and digital input cards
- PCI multifunction, analog input, and digital input cards
- USB multifunction, analog input, and digital input modules
- PC/104 and PCI-104 multifunction, analog input, and digital input cards



# Analog I/O and Multifunction Card Selection Guide



Category		Multifunction							
Bus		PCI							
Part Number		PCI-1710U/ 1710UL	PCI-1710HGU	PCI-1711U/ 1711UL	PCI-1712/ 1712L	PCI-1716/ 1716L	PCI-1706U	PCI-1718HDU	
Analog Input	Resolution	12 bits	12 bits	12 bits	12 bits	16 bits	16 bits	12 bits	
	Channels	16 SE/8 diff.	16 SE/8 diff.	16 SE	16 SE/8 diff.	16 SE/8 diff.	8 diff.	16 SE/8 diff.	
	Onboard FIFO	4,096 samples	4,096 samples	1,024 samples	1,024 samples	1,024 samples	8,192 samples	1,024 samples	
	Sampling Rate	100 kS/s	100 kS/s	100 kS/s	1 MS/s	250 kS/s	250 kS/s	100 kS/s	
	Input Ranges	Unipolar Inputs (V)	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25
		Bipolar Inputs (V)	±10, 5, 2.5, 1.25, 0.625	±10, 5, 1, 0.5, 0.1, 0.05, 0.01, 0.005	±10, 5, 2.5, 1.25, 0.625	±10, 5, 2.5, 1.25, 0.625	±10, 5, 2.5, 1.25, 0.625	±10, 5, 2.5, 1.25	±10, 5, 2.5, 1.25, 0.625
		Configurable Per Channel	✓	✓	✓	✓	✓	✓	✓
	Trigger Modes	Pacer/Software/External Pulse	✓	✓	✓	✓	✓	✓	✓
		Analog Slope	-	-	-	✓	-	✓	-
		Advanced Trigger	-	-	-	✓	-	✓	-
	Data Transfer Modes	Software	✓	✓	✓	✓	✓	✓	✓
		DMA	-	-	-	Bus mastering	Bus mastering	✓	-
Analog Output	Resolution	12 bits	12 bits	12 bits	12 bits	16 bits	12 bits	12 bits	
	Channels	2 (PCI-1710U only)	2	2 (PCI-1711U only)	2 (PCI-1712 only)	2 (PCI-1716 only)	2	1	
	Onboard FIFO	-	-	-	32,768 samples	-	-	-	
	Output Range (V)	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10, 0 ~ 20 mA, 4 ~ 20 mA	0 ~ 5, 0 ~ 10	
	Output Rate	Static update	Static update	Static update	1 MS/s	Static update	Static update	Static update	
	DMA Transfer	-	-	-	✓	-	-	-	
Digital I/O	Input Channels	16	16	16	16 (shared)	16	16 (shared)	16	
	Output Channels	16	16	16	-	16	-	16	
Timer/Counter	Channels	1	1	1	3	1	2	1	
	Resolution	16 bits	16 bits	16 bits	16 bits	16 bits	32 bits	16 bits	
	Max. Input Frequency	10 MHz	10 MHz	10 MHz	10 MHz	10 MHz	10 MHz	10 MHz	
Isolation Voltage		-	-	-	-	-	-	-	
Auto Calibration		-	-	-	✓	✓	✓	-	
Board ID Switch		✓	✓	✓	-	✓	✓	✓	
Dimensions (L x H)		175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	
Connector		68-pin SCSI	68-pin SCSI	68-pin SCSI	68-pin SCSI	68-pin SCSI	68-pin SCSI	DB37	
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	✓	
	WinCE	✓	-	-	-	-	-	-	
	Linux	✓	✓	✓	✓	✓	✓	✓	
DAQNAVI Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	✓	✓	✓	
	WinCE	✓	-	-	-	-	-	-	
	Linux	-	-	✓	-	-	-	-	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	✓	
Page		online	online	online	online	online	online	online	

\* All channels should be set to the same range.

\*\* SS: Single DMA channel, single A/D channel scan; SM: Single DMA channel, multiple A/D channel scan.

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
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- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
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# Analog I/O and Multifunction Card Selection Guide



Category		Multifunction							
Bus		PCI			ISA				
Part Number		PCI-1741U	PCI-1742U	PCL-711B	PCL-812PG	PCL-818L	PCL-818HD	PCL-818HG	
Analog Input	Resolution	16 bits	16 bits	12 bits	12 bits	12 bits	12 bits	12 bits	
	Channels	16 SE/8 diff.	16 SE/8 diff.	8 SE	16 SE	16 SE/8 diff.	16 SE/8 diff.	16 SE/8 diff.	
	Onboard FIFO	1,024 samples	1,024 samples	-	-	-	1,024 samples	1,024 samples	
	Sampling Rate	200 kS/s	1 MS/s	40 kS/s	30 kS/s	40 kS/s	100 kS/s	100 kS/s	
	Input Ranges	Unipolar Inputs (V)	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25*	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	-	-	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01
		Bipolar Inputs (V)	±10, 5, 2.5, 1.25, 0.625*	±10, 5, 2.5, 1.25, 0.625	±5, 2.5, 1.25, 0.625, 0.3125	±10, 5, 2.5, 1.25, 0.625, 0.3125	±10, 5, 2.5, 1.25, 0.625	±10, 5, 2.5, 1.25, 0.625	±10, 5, 1, 0.5, 0.1, 0.05, 0.01, 0.005
		Configurable Per Channel	-	✓	✓	✓	✓	✓	✓
	Trigger Modes	Pacer/Software/External Pulse	✓	✓	✓	✓	✓	✓	✓
		Analog Slope	-	-	-	-	-	-	-
		Advanced Trigger	-	-	-	-	-	-	-
Data Transfer Modes	Software	✓	✓	✓	✓	✓	✓	✓	
	DMA	-	Bus mastering	-	SS**	SM**	SM**	SM**	
Analog Output	Resolution	16 bits	16 bits	12 bits	12 bits	12 bits	12 bits	12 bits	
	Channels	1	2	1	2	1	1	1	
	Onboard FIFO	-	-	-	-	-	-	-	
	Output Range (V)	±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10, ±10	0 ~ 5, 0 ~ 10, ±10	
	Output Rate	Static update	Static update	Static update	Static update	Static update	Static update	Static update	
	DMA Transfer	-	-	-	-	-	-	-	
Digital I/O	Input Channels	16	16	16	16	16	16	16	
	Output Channels	16	16	16	16	16	16	16	
Timer/Counter	Channels	1	1	-	1	1	1	1	
	Resolution	16 bits	16 bits	-	16 bits	16 bits	16 bits	16 bits	
	Max. Input Frequency	10 MHz	10 MHz	-	2 MHz	10 MHz	10 MHz	10 MHz	
Isolation Voltage		-	-	-	-	-	-	-	
Auto Calibration		✓	✓	-	-	-	-	-	
Board ID Switch		✓	✓	-	-	-	-	-	
Dimensions (L x H)		175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	185 x 100 mm (7.3" x 3.9")	155 x 100 mm (6.1" x 3.9")	185 x 100 mm (7.3" x 3.9")	185 x 100 mm (7.3" x 3.9")	
Connector		68-pin SCSI	68-pin SCSI	3 x 20-pin	5 x 20-pin	DB37	DB37	DB37	
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	-	-	-	
	Linux	✓	✓	-	-	-	-	-	
DAQ/Analog Driver	Windows 8/7/Vista/XP/2000	✓	✓	-	-	✓	✓	✓	
	WinCE	-	-	-	-	-	-	-	
	Linux	✓	-	-	-	-	-	-	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	✓	
Page		online	online	online	online	online	online	online	

\* All channels should be set to the same range.

\*\* SS: Single DMA channel, single A/D channel scan; SM: Single DMA channel, multiple A/D channel scan.

# Selection Guide



**NEW**



**NEW**



**NEW**



Category		Multifunction						
Bus		PCI-104	PCI Express					
Part Number		PCM-3810I	PCIE-1810	PCIE-1816/H	PCIE-1812	PCIE-1802/L	PCIE-1840/L	
Analog Input	Resolution	12 bits	12 bits	16 bits	16 bits	24 bits	16 bits	
	Channels	16 SE/8 diff.	16 SE/8 diff.	16 SE/8 diff.	8 diff. (simultaneous)	8 diff./ 4 diff.	4 SE	
	Onboard FIFO	4,096 samples	4,096 samples	4,096 samples	4,096 samples	4,096 samples	1 G samples	
	Sampling Rate	250 kS/s	500 kS/s	500 KSPS/ 1MSPS	250 kS/s	216 kS/s	125 MSPS/ 80MSPS	
	Input Ranges	Unipolar Inputs (V)	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	-	-
		Bipolar Inputs (V)	±10, 5, 2.5, 1.25, 0.625	±10, ±5, 2.5, 1.25, 0.625	±10, ±5, 2.5, 1.25, 0.625	±10, ±5, 2.5, 1.25, 0.625	±0.2, ±0.5, ±1, ±2, ±5, ±10 V	0.2 / 0.4 / 1 / 2 / 4 / 10 / 20 Vpp
	Trigger Modes	Configurable Per Channel	✓	✓	✓	✓	✓	✓
		Pacer/ Software/ External Pulse	✓	✓	✓	✓	✓	✓
		Analog Slope	-	✓	✓	✓	✓	✓
	Data Transfer Modes	Advanced Trigger	✓	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop	Start/Stop/Delayed Start/Delayed Stop
Software		✓	✓	✓	✓	✓	✓	
	DMA	-	Bus mastering	Bus mastering	Bus mastering	Bus mastering	Bus mastering	
Analog Output	Resolution	12 bits	12 bits	16 bits	16 bits	-	-	
	Channels	2	2 (waveform output)	2 (waveform output)	2 (waveform output)	-	-	
	Onboard FIFO	-	4,096 samples	4,096 samples	4,096 samples	-	-	
	Output Range (V)	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	0 ~ 5, 0 ~ 10, ±5, ±10	-	-	
	Output Rate	250 kS/s	500 kS/s/s	3 MS/s	3 MS/s	-	-	
	DMA Transfer	-	Bus mastering	Bus mastering	Bus mastering	-	-	
Digital I/O	Input Channels	16 (shared)	24 (shared)	24 (shared)	32 (shared)	1	-	
	Output Channels	-	-	-	-	2	-	
Timer/ Counter	Channels	3	2	2	4 (encoder included)	-	-	
	Resolution	16 bits	32 bits	32 bits	32 bits	-	-	
	Max. Input Frequency	10 MHz	10 MHz	10 MHz	10 MHz	-	-	
Isolation Voltage	-	-	-	-	-	-	-	
Auto Calibration	✓	✓	✓	✓	✓	✓	✓	
Board ID Switch	-	✓	✓	✓	✓	✓	✓	
Dimensions (L x H)		96 x 90 mm (3.8" x 3.5")	167 x 100 mm (6.6" x 3.9")	167 x 100 mm (6.6" x 3.9")	167 x 100 mm (6.6" x 3.9")	168 x 99 mm (6.6" x 3.9")	175 x 100 mm (6.9" x 3.9")	
Connector		50-pin/26-pin box header	68-pin SCSI	68-pin SCSI	100-pin SCSI (female)	1 x 19-pin MINI SCSI (for AI) 1 x HDMI (for Ext. clock and trigger)	4 x BNC (for AI) 1 x HDMI (for Ext. clock and trigger)	
Legacy Driver	Windows XP/2000	✓	-	-	-	-	-	
	WinCE	-	-	-	-	-	-	
	Linux	-	-	-	-	-	-	
DAQ/Navit Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	-	-	
	WinCE	-	-	-	-	-	-	
	Linux	✓	-	-	-	-	-	
LabVIEW Driver		✓	✓	✓	✓	-	-	
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\* 80 kHz on Pentium® 4-based (or higher) systems.  
 \*\* SS: Single DMA channel, single A/D channel scan.

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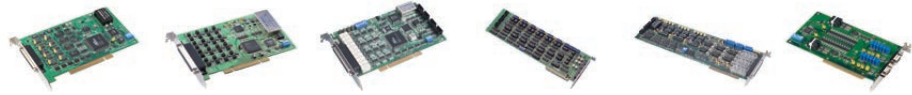
# Analog I/O and Multifunction Card Selection Guide



Category		Analog Input				Multifunction		Analog Output		
Bus		PCI				PC/104		PCI		
Part Number		PCI-1713U	PCI-1714U/ 1714UL	PCI-1715U	PCI-1747U	PCM-3718HG	PCM-3718H/ HO	PCI-1720U	PCI-1721	
Analog Input	Resolution	12 bits	12 bits	12 bits	16 bits	12 bits	12 bits	-	-	
	Channels	32 SE/16 diff.	4 SE	32 SE/16 diff.	64 SE/32 diff.	16 SE/8 diff.	16 SE/8 diff.	-	-	
	Onboard FIFO	4,096 samples	32,768/8,192 samples	1,024 samples	1,024 samples	-	1,024 samples (3718HO only)	-	-	
	Sampling Rate	100 kS/s	30/10 MS/s	500 kS/s	250 kS/s	100 kS/s	100 kS/s*	-	-	
	Input Ranges	Unipolar Inputs (V)	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	-	-
		Bipolar Inputs (V)	±10, 5, 2.5, 1.25, 0.625	±5, 2.5, 1, 0.5	±10, 5, 2.5, 1.25, 0.625	±10, 5, 2.5, 1.25, 0.625	±10, 5, 1, 0.5, 0.1, 0.05, 0.01, 0.005	±10, 5, 2.5, 1.25, 0.625	-	-
	Trigger Modes	Configurable Per Channel	✓	✓	✓	✓	✓	✓	-	-
		Pacer/ Software/ External Pulse	✓	✓	✓	Pacer/software	✓	✓	-	-
		Analog Slope	-	✓	-	-	-	-	-	-
	Data Transfer Modes	Advanced Trigger	-	✓	-	-	-	-	-	-
Software		✓	✓	✓	✓	✓	✓	-	-	
DMA	-	Bus mastering	Bus mastering	Bus mastering	SS**	SS**	-	-		
Analog Output	Resolution	-	-	-	-	-	12 bits	12 bits	12 bits	
	Channels	-	-	-	-	-	1 (3718H only)	4	4 (waveform output)	
	Onboard FIFO	-	-	-	-	-	-	-	1,024 samples	
	Output Range (V)	-	-	-	-	-	0 ~ 5, 0 ~ 10	0 ~ 5, 0 ~ 10, ±5, ±10, 0 ~ 20 mA, 4 ~ 20 mA	0 ~ 5, 0 ~ 10, ±5, ±10, 0 ~ 20 mA, 4 ~ 20 mA	
	Output Rate	-	-	-	-	-	Static update	Static update	10 MS/s	
	DMA Transfer	-	-	-	-	-	-	-	Bus mastering	
Digital I/O	Input Channels	-	-	-	-	16 (shared)	16 (shared)	-	16 (shared)	
	Output Channels	-	-	-	-	-	-	-	-	
Timer/ Counter	Channels	-	-	-	-	1	1	-	1	
	Resolution	-	-	-	-	16 bits	16 bits	-	16 bits	
	Max. Input Frequency	-	-	-	-	10 MHz	10 MHz	-	10 MHz	
Isolation Voltage	2,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>	-	-	-	2,500 V <sub>DC</sub>	-		
Auto Calibration	-	✓	-	✓	-	-	-	✓		
Board ID Switch	-	✓	✓	✓	-	-	✓	✓		
Dimensions (L x H)	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")		
Connector	DB37	4 x BNC	DB37	68-pin SCSI	2 x 20-pin	2 x 20-pin	DB37	68-pin SCSI		
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	✓	✓	
	WinCE	✓	-	-	✓	✓	✓	✓	-	
	Linux	✓	✓	-	✓	✓	✓	✓	✓	
DAQ/Analog Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	-	-	✓	-	
	Linux	-	✓	✓	✓	-	-	-	✓	
LabVIEW Driver	✓	✓	✓	✓	✓	✓	✓	✓		
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\* 80 kHz on Pentium® 4-based (or higher) systems.  
 \*\* SS: Single DMA channel, single A/D channel scan.

# Digital I/O and Counter Card Selection Guide



Category			Analog Output					
Bus			PCI			ISA		
Part Number			PCI-1723	PCI-1724U	PCI-1727U	PCL-726	PCL-727	PCL-728
Analog Input	General Spec.	Resolution	-	-	-	-	-	-
		Channels	-	-	-	-	-	-
		Onboard FIFO	-	-	-	-	-	-
		Sampling Rate	-	-	-	-	-	-
	Input Ranges	Unipolar Inputs (V)	-	-	-	-	-	-
		Bipolar Inputs (V)	-	-	-	-	-	-
		Configurable Per Channel	-	-	-	-	-	-
	Trigger Modes	Pacer/Software/External Pulse	-	-	-	-	-	-
		Analog Slope	-	-	-	-	-	-
		Advanced Trigger	-	-	-	-	-	-
Data Transfer Modes	Software	-	-	-	-	-	-	
	DMA	-	-	-	-	-	-	
Analog Output	Resolution		16 bits	14 bits	14 bits	12 bits	12 bits	12 bits
	Channels		8	32	12	6	12	2
	Onboard FIFO		-	-	-	-	-	-
	Output Range (V)		±10, 0 ~ 20 mA, 4 ~ 20 mA	±10, 0 ~ 20 mA	±10, 0~20 mA	0 ~ 5, 0 ~ 10, ±5, ±10, 4 ~ 20 mA	0 ~ 5, 0 ~ 10, ±5, 4 ~ 20 mA	0 ~ 5, 0 ~ 10, ±5, ±10, 0 ~ 20 mA, 4 ~ 20 mA
	Output Rate		Static update	Static update	Static update	Static update	Static update	Static update
	DMA Transfer		-	-	-	-	-	-
Digital I/O	Input Channels		16	-	16	16	16	-
	Output Channels		(shared)	-	16	16	16	-
Timer/Counter	Channels		-	-	-	-	-	-
	Resolution		-	-	-	-	-	-
	Max. Input Frequency		-	-	-	-	-	-
Isolation Voltage			-	1,500 V <sub>DC</sub>	-	-	-	2,500 V <sub>DC</sub>
Auto Calibration			✓	-	-	-	-	-
Board ID Switch			✓	✓	✓	-	-	-
Dimensions (L x H)			175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	340 x 100 mm (13.4" x 3.9")	340 x 100 mm (13.4" x 3.9")	184 x 119 mm (7.25" x 4.7")
Connector			68-pin SCSI	DB62	2 x 2-pin DB37	4 x 20-pin	2 x 2-pin DB37	2 x DB9
Legacy Driver	Windows XP/2000		✓	✓	✓	✓	✓	✓
	WinCE		-	✓	-	-	-	-
	Linux		✓	✓	✓	-	-	-
DAQnavi Driver	Windows 8/7/Vista/XP/2000		✓	✓	✓	-	-	-
	WinCE		-	-	-	-	-	-
	Linux		-	✓	✓	-	-	-
LabVIEW Driver			✓	✓	✓	✓	✓	✓
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# Digital I/O and Counter Card Selection Guide



Category		Non-Isolated Digital I/O							
Bus		PCI							
Part Number		PCI-1735U	PCI-1737U	PCI-1739U	PCI-1751	PCI-1753	PCI-1755	PCI-1757UP	
TTL DI/O	Input Channels	32	24	48	48	96	32	24	
	Output Channels	32	(shared)	(shared)	(shared)	(shared)	(shared)	(shared)	
	Output Channel	Sink Current	24 mA @ 0.5 V	24 mA @ 0.4 V	24 mA @ 0.4 V	24 mA @ 0.4 V	24 mA @ 0.44 V	24 mA @ 0.5 V	24 mA @ 0.5 V
		Source Current	15 mA @ 2.0 V	15 mA @ 2.4 V	15 mA @ 2.4 V	15 mA @ 2.4 V	24 mA @ 3.76 V	15 mA @ 2.0 V	24 mA @ 3.7 V
Isolated DI/O	Input	Channels	-	-	-	-	-	-	
		Isolation Voltage	-	-	-	-	-	-	
		Input Range	-	-	-	-	-	-	
	Output	Channels	-	-	-	-	-	-	
		Isolation Voltage	-	-	-	-	-	-	
		Output Range	-	-	-	-	-	-	
		Max. Sink Current	-	-	-	-	-	-	
	Timer/Counter	Channels	3	-	-	3	-	3	-
Resolution		16 bits	-	-	16 bits	-	16 bits	-	
Max. Input Frequency		10 MHz	-	-	10 MHz	-	10 MHz	-	
Advanced Function	Pattern Match	-	-	-	-	✓	✓	-	
	Change of State	-	-	-	-	✓	✓	-	
	Board ID Switch	✓	✓	✓	✓	✓	✓	✓	
	Channel-Freeze Function	-	-	-	-	-	✓	-	
	Output Status Read Back	✓	✓	✓	✓	✓	-	✓	
	Dry/Wet Contact*	-	✓	✓	✓	✓	-	✓	
Dimensions (L x H)		175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	120 x 65 mm (4.7" x 2.5")	
Connector		5 x 20-pin	1 x 50-pin	2 x 50-pin	68-pin SCSI	100-pin SCSI	100-pin SCSI-II	1 x DB25	
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	-	-	-	
	Linux	✓	✓	✓	✓	✓	-	✓	
DAQnavi Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	✓	-	✓	
	WinCE	-	-	-	-	-	-	-	
	Linux	-	-	-	✓	-	-	-	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	✓	
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\* Simultaneous dry/wet contact within a group is acceptable.



# Selection Guide



Category		Non-Isolated Digital I/O						
Bus		ISA				PC/104	PCI-104	
Part Number		PCL-720+	PCL-722	PCL-724	PCL-731	PCM-3724	PCM-3753I	
TTL D/I/O	Input Channels	32	144	24 (shared)	48 (shared)	48 (shared)	96 (shared)	
	Output Channels	32	(shared)					
	Output Channel	Sink Current	24 mA @ 0.5 V	24 mA @ 0.4 V	24 mA @ 0.4 V	24 mA @ 0.4 V	24 mA @ 0.5 V	24 mA @ 0.4 V
		Source Current	15 mA @ 2.0 V	-15 mA @ 2.4 V	15 mA @ 2.4 V	15 mA @ 2.4 V	15 mA @ 2.0 V	15 mA @ 2.4 V
Isolated D/I/O	Input	Channels	-	-	-	-	-	-
		Isolation Voltage	-	-	-	-	-	-
		Input Range	-	-	-	-	-	-
		Channels	-	-	-	-	-	-
	Output	Isolation Voltage	-	-	-	-	-	-
		Output Range	-	-	-	-	-	-
		Max. Sink Current	-	-	-	-	-	-
		Channels	3	-	-	-	-	-
Timer/Counter	Resolution	16 bits	-	-	-	-	-	
	Max. Input Frequency	1 MHz	-	-	-	-	-	
	Pattern Match	-	-	-	-	-	✓	
Advanced Function	Change of State	-	-	-	-	-	✓	
	Board ID Switch	-	-	-	-	-	-	
	Channel-Freeze Function	-	-	-	-	-	-	
	Output Status Read Back	-	✓	✓	✓	✓	✓	
	Dry/Wet Contact*	-	-	-	-	-	-	
Dimensions (L x H)		185 x 100 mm (7.3" x 4")	334 x 100 mm (13.2" x 3.9")	125 x 100 mm (4.9" x 3.9")	185 x 100 mm (7.3" x 4")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	
Connector		5 x 20-pin	6 x 50-pin	1 x 50-pin	2 x 50-pin	2 x 50-pin	4 x 50-pin	
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	✓	✓	
	Linux	-	-	-	-	✓	✓	
DAQnavi Driver	Windows 8/7/Vista/XP/2000	-	-	-	-	✓	✓	
	WinCE	-	-	-	-	-	-	
	Linux	-	-	-	-	-	-	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	
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\* Simultaneous dry/wet contact within a group is acceptable.

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# Digital I/O and Counter Card Selection Guide

NEW

NEW



Category		Isolated Digital I/O					Non-Isolated Digital I/O		
Bus		PCI Express							
Part Number		PCIE-1730/ 1730H	PCIE-1752	PCIE-1754	PCIE-1756/ 1756H	PCIE-1760	PCIE-1751	PCIE-1753	
TTL DI/O	Input Channels	16	-	-	-	-	48 (shared)	96 (shared)	
	Output Channels	16	-	-	-	-	-	-	
	Output Channel	Sink Current	24 mA @ 0.5 V	-	-	-	-	15 mA @ 0.8 V	15 mA @ 0.8 V
		Source Current	15 mA @ 2.4 V	-	-	-	-	15 mA @ 2.0 V	15 mA @ 2.0 V
Isolated DI/O	Input	Channels	16	-	64	32	8	-	-
		Isolation Voltage	2,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	-	-
		Input Range	10 ~ 30 V <sub>DC</sub>	-	10 ~ 30 V <sub>DC</sub>	10 ~ 30 V <sub>DC</sub>	4.5 ~ 12 V <sub>DC</sub>	-	-
	Output	Channels	16 (sink)	64 (sink)	-	32 (sink)	6 x Form A 2 x Form C	-	-
		Isolation Voltage	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	-	-
		Output Range	5 ~ 40 V <sub>DC</sub>	5 ~ 40 V <sub>DC</sub>	-	5 ~ 40 V <sub>DC</sub>	-	-	-
		Max. Sink Current	500 mA	500 mA	-	500 mA	1 A @ 125 V <sub>AC</sub> 2 A @ 30 V <sub>AC</sub>	-	-
	Timer/ Counter	Channels	-	-	-	-	8 x UP CTR 2 x PWM	3	-
Resolution		-	-	-	-	16 bits	32 bits	-	
Max. Input Frequency		-	-	-	-	500 Hz	10 MHz	-	
Advanced Function	Pattern Match	-	-	-	-	✓	✓	✓	
	Change of State	-	-	-	-	✓	✓	✓	
	Board ID Switch	✓	✓	✓	✓	✓	✓	✓	
	Channel-Freeze Function	✓	✓	-	✓	-	-	-	
	Output Status Read Back	✓	✓	-	✓	✓	✓	✓	
	Dry/Wet Contact*	✓	-	-	-	-	✓	✓	
Dimensions (L x H)		168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")	168 x 100 mm (6.6" x 3.9")	
Connector		1 x DB37 4 x 20-pin	100-pin SCSI	100-pin SCSI	100-pin SCSI	1 x DB37	68-pin SCSI	68-pin SCSI	
Legacy Driver	Windows XP/2000	-	-	-	-	-	-	-	
	WinCE	-	-	-	-	-	-	-	
	Linux	-	-	-	-	-	-	-	
DAQNavi Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	-	-	-	
	Linux	-	-	-	-	✓	-	-	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	✓	
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\* Simultaneous dry/wet contact within a group is acceptable.

# Selection Guide



Category		Isolated Digital I/O						
Bus		PCI						
Part Number		PCI-1730U	PCI-1733	PCI-1734	PCI-1750/ 1750SO	PCI-1752U/ 1752USO	PCI-1754	
TTL D/I/O	Input Channels	16	-	-	-	-	-	
	Output Channels	16	-	-	-	-	-	
	Output Channel	Sink Current	24 mA @ 0.5 V	-	-	-	-	-
		Source Current	15 mA @ 2.4 V	-	-	-	-	-
Isolated D/I/O	Input	Channels	16	32	-	16	-	64
		Isolation Voltage	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>
		Input Range	5 ~ 30 V <sub>DC</sub>	5 ~ 30 V <sub>DC</sub>	-	5 ~ 50 V <sub>DC</sub>	-	10 ~ 50 V <sub>DC</sub>
	Output	Channels	16 (sink)	-	32 (sink)	16 (sink/source)	64 (sink/source)	-
		Isolation Voltage	2,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	-
		Output Range	5 ~ 40 V <sub>DC</sub>	-	5 ~ 40 V <sub>DC</sub>	5 ~ 40 V <sub>DC</sub>	5 ~ 40 V <sub>DC</sub>	-
	Max. Current	300 mA	-	200 mA	200 mA	200 mA	-	
Timer/ Counter	Channels	-	-	-	1	-	-	
	Resolution	-	-	-	16 bits	-	-	
	Max. Input Frequency	-	-	-	1 MHz	-	-	
Advanced Function	Pattern Match	-	-	-	-	-	-	
	Change of State	-	-	-	-	-	-	
	Board ID Switch	✓	✓	✓	-	✓	✓	
	Channel-Freeze Function	✓	-	-	-	✓	-	
	Output Status Read Back	✓	-	✓	-	✓	-	
	Dry/Wet Contact*	✓	✓	-	✓	-	-	
	Dimensions (L x H)	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	
Connector	1 x DB37 4 x 20-pin	1 x DB37	1 x DB37	1 x DB37	100-pin SCSI	100-pin SCSI		
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	
	WinCE	✓	-	✓	✓	✓	✓	
	Linux	✓	✓	✓	✓	✓	✓	
DAQnavi Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	-	-	
	Linux	✓	-	-	✓	✓	-	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	
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\* Simultaneous dry/wet contact within a group is acceptable.

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# Digital I/O and Counter Card Selection Guide



Category		Isolated Digital I/O							
Bus		PCI							
Part Number		PCI-1756	PCI-1758UDI	PCI-1758UDO	PCI-1758UDIO	PCI-1760U	PCI-1761	PCI-1762	
TTL D/I/O	Input Channels	-	-	-	-	-	-	-	
	Output Channels	-	-	-	-	-	-	-	
	Output Channel	Sink Current	-	-	-	-	-	-	
		Source Current	-	-	-	-	-	-	
Isolated D/I/O	Input	Channels	32	128	-	64	8	8	16
		Isolation Voltage	2,500 V <sub>DC</sub>	2,500 V <sub>RMS</sub>	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	3,750 V <sub>DC</sub>	2,500 V <sub>DC</sub>
		Input Range	10 ~ 50 V <sub>DC</sub>	5 ~ 25 V <sub>DC</sub>	-	5 ~ 25 V <sub>DC</sub>	4.5 ~ 12 V <sub>DC</sub>	5 ~ 50 V <sub>DC</sub>	10 ~ 50 V <sub>DC</sub>
	Output	Channels	32 (Sink)	-	128	64	6 x Form A 2 x Form C	4 x Form A 4 x Form C	16**
		Isolation Voltage	2,500 V <sub>DC</sub>	-	2,500 V <sub>RMS</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>
		Output Range	5 ~ 40 V <sub>DC</sub>	-	5 ~ 40 V <sub>DC</sub>	5 ~ 40 V <sub>DC</sub>	1 A @ 125 V <sub>AC</sub> 2 A @ 30 V <sub>DC</sub>	8 A @ 250 V <sub>AC</sub> 2 A @ 30 V <sub>DC</sub>	0.25 A @ 250 V <sub>AC</sub> 2 A @ 30 V <sub>DC</sub>
Timer/Counter	Channels	-	-	-	-	8 x CTR 2 x PWM	-	-	
	Resolution	-	-	-	-	16 bits (2,500 isolation)	-	-	
	Max. Input Frequency	-	-	-	-	500 Hz for CTR	-	-	
Advanced Function	Pattern Match	-	-	-	-	✓	-	-	
	Change of State	-	-	-	-	✓	-	-	
	Board ID Switch	✓	✓	✓	✓	✓	✓	✓	
	Channel-Freeze Function	✓	-	-	-	-	-	✓	
	Output Status Read Back	✓	-	✓	✓	✓	✓	✓	
Dry/Wet Contact*	-	-	-	-	-	-	-		
Dimensions (L x H)		175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	175 x 100 mm (6.9" x 3.9")	
Connector		100-pin SCSI	Dual 100-pin mini SCSI	Dual 100-pin mini SCSI	Dual 100-pin mini SCSI	1 x DB37	1 x DB37	1 x DB62	
Legacy Driver	Windows XP/2000	-	✓	✓	✓	-	✓	✓	
	WinCE	✓	✓	✓	✓	✓	✓	✓	
	Linux	-	✓	✓	✓	-	✓	✓	
DAQnavi Driver	Windows 8/7/Vista/XP/2000	✓	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	-	-	-	-	-	
	Linux	-	✓	✓	✓	-	✓	✓	
LabVIEW Driver		✓	✓	✓	✓	✓	✓	✓	
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\* Simultaneous dry/wet contact within a group is acceptable.

# Selection Guide



Category		Isolated Digital I/O						Counter			
Bus		ISA		PC/104		PCI-104		PCI	ISA	PC/104	
Part Number		PCL-725	PCL-735	PCM-3725	PCM-3730	PCM-3730I	PCM-3761I	PCI-1780U	PCL-836	PCM-3780	
TTL DI/O	Input Channels	-	-	8	16	-	-	8	16	24	
	Output Channels	-	-	8	16	-	-	8	16	(shared)	
	Output Channel	Sink Current	-	-	-	0.5 V @ 8 mA	-	-	24 mA @ 0.5 V	8 mA @ 0.5 V	24 mA @ 0.5 V
		Source Current	-	-	-	0.4 mA @ 2.4 V	-	-	15 mA @ 2.4 V	0.4 mA @ 2.4 V	15 mA @ 2.0 V
Isolated DI/O	Input	Channels	8	-	8	8	16	8	-	-	-
		Isolation Voltage	1,500 V <sub>DC</sub>	-	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	-	-	-
		Input Range	5 ~ 24 V <sub>DC</sub>	-	10 ~ 50 V <sub>DC</sub>	5 ~ 24 V <sub>DC</sub>	5 ~ 30 V <sub>DC</sub>	5 ~ 30 V <sub>DC</sub>	-	-	-
	Output	Channels	4 x Form A 4 x Form C	12 x Form C	8 x Form C	8	16	8 x Form C	-	-	-
		Isolation Voltage	1,000 V <sub>DC</sub>	1,000 V <sub>DC</sub>	2,000 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub>	2,000 V <sub>DC</sub>	-	-	-
		Output Range	0.5A @ 120 V <sub>AC</sub> 1A @ 30 V <sub>DC</sub>	1A @ 125 V <sub>AC</sub> 2A @ 30 V <sub>DC</sub>	0.25A @ 240 V <sub>DC</sub> 1A @ 30 V <sub>DC</sub>	5 ~ 40 V <sub>DC</sub>	5 ~ 30 V <sub>DC</sub>	0.25 A @ 250 V <sub>AC</sub> 2 A @ 30 V <sub>DC</sub>	-	-	-
		Max. Sink Current	-	-	-	200 mA	300 mA	-	-	-	-
		Channels	-	-	-	-	-	-	8 x CTR	6 x CTR 3 x PWM	2
Resolution	-	-	-	-	-	-	16 bits	16 bits	16 bits		
Max. Input Frequency	-	-	-	-	-	-	20 MHz	10 MHz	20 MHz		
Advanced Function	Pattern Match	-	-	-	-	-	-	-	-	-	
	Change of State	-	-	-	-	-	-	-	-	-	
	Board ID Switch	-	-	-	-	-	✓	✓	-	-	
	Channel-Freeze Function	-	-	-	-	-	-	-	-	-	
	Output Status Read Back	-	-	-	-	-	✓	-	-	-	
	Dry/Wet Contact*	-	-	-	-	-	-	-	-	-	
Dimensions (L x H)		147 x 95 mm (5.75" x 3.9")	155 x 100 mm (6.1" x 3.9")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	175 x 100 mm (6.9" x 3.9")	185 x 100 mm (7.3" x 3.9")	96 x 90 mm (3.8" x 3.5")	
Connector		1 x DB37	1 x DB37	1 x 20-pin 1 x 50-pin	3 x 20-pin	2 x 20-pin	1 x 20-pin 1 x 50-pin	68-pin SCSI	1 x DB37 2 x 20-pin	1 x 50-pin 1 x 20-pin	
Legacy Driver	Windows XP/2000	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	WinCE	-	-	✓	✓	✓	✓	-	-	✓	
	Linux	-	-	✓	✓	✓	✓	✓	-	-	
DAQNavi Driver	Windows 8/7/Vista/XP/2000	-	-	✓	✓	✓	✓	✓	-	✓	
	WinCE	-	-	-	-	-	-	-	-	-	
	Linux	-	-	-	-	-	✓	-	-	-	
LabVIEW I/O Driver		✓	✓	✓	✓	✓	✓	✓	✓	✓	
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\* Simultaneous dry/wet contact within a group is acceptable.

\*\* Jumper-selectable Form A/B-type relay output.

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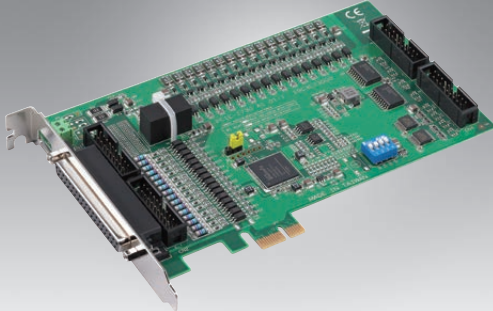
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# PCIE-1730 PCIE-1730H

## 32-Ch TTL, 32-Ch Isolated Digital I/O PCIe Card

## 32-Ch TTL, 32-Ch Isolated Digital I/O PCIe Card with Digital Filter and Interrupt Function

NEW



### Features

- 32-ch isolated DI/O (16-ch digital input, 16-ch digital output)
- 32-ch TTL DI/O (16-ch digital input, 16-ch digital output)
- High output driving capacity
- Interrupt handling capability
- Selectable digital filter time
- D-type connector for isolated input and output channels
- High-voltage isolation on output channels (2,500 V<sub>DC</sub>)

### Introduction

PCIE-1730/1730H feature 32 TTL digital I/O channels and 32 digital I/O channels with up to 2,500 V<sub>DC</sub> isolation protection, making them ideal for industrial applications that require high-voltage isolation. For PCIE-1730H, all signals can be used as interrupt request signals and to disable/enable the interrupt function for every channel, as well as to support the input signal edge, which generates interrupts. All PCIE-1730 digital input channels have a digital filter to prevent inaccurate recognition of input signals that contain noise or chattering.

### Specifications

#### Digital Input

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- **Interruptible Channels** PCIE-1730: 2 (IDIO, IDI8)  
PCIE-1730H: 16

#### Isolated Digital Input

- **Channels** 16
- **Input Voltage** Logic 0: 3 V max.  
Logic 1: 10 V min. (30 V max.)
- **Interruptible Channels** PCIE-1730: 2 (IDIO, IDI8)  
PCIE-1730H: 16
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 50 μs
- **Input Resistance** 2.7 kΩ @ 1 W
- **Digital Filter Time (PCIE-1730H only)**

Setting Data (n)	Digital Filter Time	Setting Data (n)	Digital Filter Time	Setting Data (n)	Digital Filter Time
0 (00h)	The filter function is not used.	7 (07h)	16μsec	14 (0Eh)	2.048msec
1 (01h)	0.25μsec	8 (08h)	32μsec	15 (0Fh)	4.096msec
2 (02h)	0.5μsec	9 (09h)	64μsec	16 (10h)	8.192msec
3 (03h)	1μsec	10 (0Ah)	128μsec	17 (11h)	16.384msec
4 (04h)	2μsec	11 (0Bh)	256μsec	18 (12h)	32.768msec
5 (05h)	4μsec	12 (0Ch)	512μsec	19 (13h)	65.536msec
6 (06h)	8μsec	13 (0Dh)	1.024msec	20 (14h)	131.072msec

#### Digital Output

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.5V max.  
Logic 1: 2.4V min.
- **Output Capability** Sink: 24mA @ 0.5V  
Source: 15mA @ 2.4V

#### Isolated Digital Output

- **Channels** 16
- **Output Type** Sink type (NPN)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Output Voltage** 5 ~ 40 V<sub>DC</sub>
- **Sink Current** 500 mA max./channel
- **Opto-Isolator Response** 50 μs

#### General

- **Bus Type** PCI Express V1.0
- **I/O Connectors** 1 x DB37, female  
4 x 20-pin box header
- **Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- **Power Consumption** Typical: 3.3 V @ 280 mA, 12 V @ 330 mA  
Max.: 3.3 V @ 420 mA, 12 V @ 400 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- **PCIE-1730-AE** 32-ch TTL and 32-ch isolated digital I/O PCIe card
- **PCIE-1730H-AE** 32-ch TTL and 32-ch isolated digital I/O PCIe card with digital filter and interrupt function

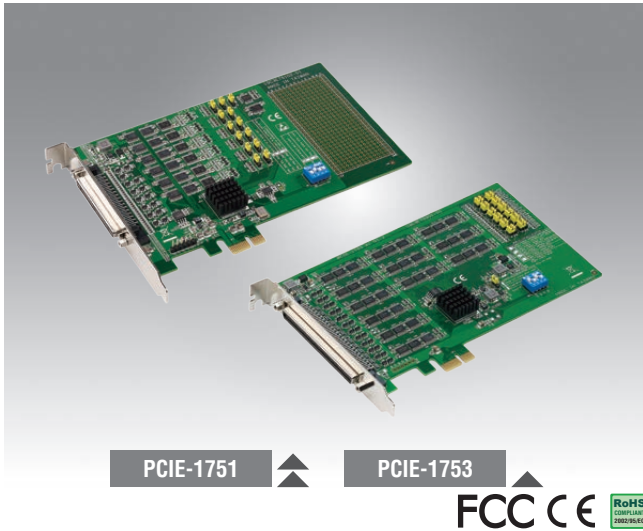
#### Accessories

- **PCL-10120-1E** 20-pin flat cable, 1 m
- **PCL-10120-2E** 20-pin flat cable, 2 m
- **ADAM-3920-AE** 20-pin DIN rail flat cable wiring board
- **PCLD-782-BE** 16-ch isolated DI board w/1 m, 20-pin flat cable
- **PCLD-885-AE** 16-ch power relay board w/20-pin and 50-pin flat cables
- **PCLD-785-BE** 16-ch relay board w/1 m, 20-pin flat cable
- **ADAM-3937-BE** DB37 DIN rail wiring board
- **PCL-10137-1E** DB37 cable, 1 m
- **PCL-10137-2E** DB37 cable, 2 m
- **PCL-10137-3E** DB37 cable, 3 m

# PCIE-1751 PCIE-1753

## 48-Ch Digital I/O, 3-Ch Counter PCI Express Card

## 96-Ch Digital I/O PCI Express Card



### Features

- Emulates Mode 0 of the Intel® 8255 PPI chip (every port with nibbles)
- Buffered circuits for a higher driving capacity compared to the Intel® 8255 PPI chip
- Interrupt handling capability
- Timer/counter interrupt capability
- Supports both dry and wet contact
- Retains I/O port settings and DO configuration after system reset
- Board ID switch
- Pattern match interrupt function for DI
- Change-of-state interrupt function for DI
- Programmable digital filter function for DI
- Output status read back

### Introduction

PCIE-1751 is a 48-channel digital I/O card for the PCI Express bus. The channels are divided into six 8-bit I/O ports. Users can configure 4 channels per port (nibbles) to serve as input or output channels via software. PCIE-1751 also provides three 32-bit counters. PCIE-1753 is a 96-channel digital I/O card that emulates Mode 0 of the Intel® 8255 PPI chip. However, the buffered circuits offer a higher driving capability than that of the 8255 PPI chip. The 96 I/O channels are divided into twelve 8-bit I/O ports: A0, B0, C0, A1, B1, C1, A2, B2, C2, A3, B3 and C3. Users can configure every port to serve as input or output ports via software.

### Specifications

#### Digital Input

- **Channels** PCIE-1751: 48 (shared with output)  
PCIE-1753: 96 (shared with output)
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2 V min.
- **Interruptible Channels** PCIE-1751: 6  
PCIE-1753: 12

#### Digital Output

- **Channels** PCIE-1751: 48 (shared with input)  
PCIE-1753: 96 (shared with input)
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.4 V max.  
Logic 1: 2.4 V min.
- **Output Capability** Sink: 24mA @ 0.4 V  
Source: 15mA @ 2.4 V

#### Counter/Timer (PCIE-1751 only)

- **Channels** 3
- **Resolution** 3 x 32-bit counter
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Reference Clock** Internal: 20K / 200K / 2M / 20MHz  
External Clock Frequency: 10 MHz  
External Voltage Range: 5 V/TTL

#### General

- **Bus Type** Universal PCI Express
- **I/O Connectors** PCIE-1751: 1 x 68-pin SCSI, female  
PCIE-1753: 1 x 100-pin SCSI, female
- **Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- **Power Consumption** Typical: PCIE-1751: 5 V @ 400 mA  
PCIE-1753: 3.3 V @ 850 mA  
Max.: PCIE-1751: 5 V @ 2.63 A  
PCIE-1753: 3.3V @ 2.7 A

Note: Maximum power consumption includes the consumption for a +5 V output.

- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- **PCIE-1751-AE** 48-ch digital I/O and 3-ch counter PCI Express card
- **PCIE-1753-AE** 96-ch digital I/O PCI card

#### Accessories

- **PCL-10168-1E** 68-pin SCSI shielded cable, 1 m
- **PCL-10168-2E** 68-pin SCSI shielded cable, 2 m
- **PCL-10268-1E** 100-pin to 2 x 68-pin SCSI cables, 1 m
- **PCL-10168-2E** 100-pin to 2 x 68-pin SCSI cables, 2 m
- **ADAM-3968-AE** 68-pin DIN rail SCSI wiring board
- **ADAM-3968/20-AE** 68-pin SCSI to 3 x 20-pin box header board
- **ADAM-3968/50-AE** 68-pin SCSI to 2 x 50-pin box header board
- **PCLD-8751-AE** 48-ch isolated digital input board
- **PCLD-8761-AE** 24-ch replay/ isolated digital input board
- **PCLD-8762-AE** 48-ch relay board

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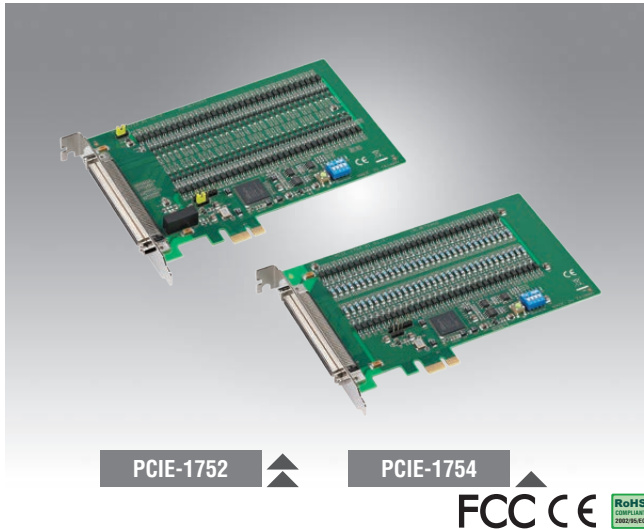


# PCIE-1752

# PCIE-1754

## 64-Ch Isolated Digital Output PCI Express Card

## 64-Ch Isolated Digital Input PCI Express Card



### Features

#### PCIE-1752

- Wide output range (5 ~ 40 V<sub>DC</sub>)
- High sink current on isolated output channels (500mA max./ch)
- 2,000 V<sub>DC</sub> ESD protection
- High-voltage isolation (2,500 V<sub>DC</sub>)
- Interrupt handling capability

#### PCIE-1754

- Wide input range (10 ~ 30 V<sub>DC</sub>)
- Either +/- voltage input for DI by group
- High overvoltage protection (70 V<sub>DC</sub>)
- High-voltage isolation (2,500 V<sub>DC</sub>)
- Output status read back
- Retains the output settings and values after system hot reset
- Channel-freeze function

### Introduction

PCIE-1752 and PCIE-1754 are isolated DI/O cards that offer 64 isolated digital input/output channels with up to 2,500 V<sub>DC</sub> isolation protection. Featuring a wide input (10 ~ 30 V<sub>DC</sub>)/output (5 ~ 40 V<sub>DC</sub>) range and high sink current (500mA max./channel), PCIE-1752 and PCIE-1754 are ideal for use in industrial automation control systems. With Advantech's DAQNav driver package, users can adjust the configuration settings easily and efficiently.

### Specifications

#### Isolated Digital Input

- **Channels** PCIE-1754: 64
- **Input Voltage** Logic 0: 3 V max.  
Logic 1: 10 V min. (30 V<sub>DC</sub> max.)
- **Input Current** 10 V<sub>DC</sub> @ 2.97 mA  
20 V<sub>DC</sub> @ 6.35 mA  
30 V<sub>DC</sub> @ 9.73 mA
- **Interruptible Channels** PCIE-1754: 4
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Overvoltage Protection** 70 V<sub>DC</sub>
- **ESD Protection** 2,000 V<sub>DC</sub>
- **Opto-Isolator Response** 50 μs

#### Isolated Digital Output

- **Channels** PCIE-1752: 64
- **Output Type** Sink (NPN)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Output Voltage** 5 ~ 40 V<sub>DC</sub>
- **Sink Current** 500 mA max./channel
- **Opto-isolator Response** 50 μs

#### General

- **Bus Type** PCI Express V1.0
- **I/O Connectors** 1 x 100-pin SCSI, female
- **Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- **Power Consumption**
  - PCIE-1752**  
Typical: 3.3 V @ 485 mA  
Max.: 3.3 V @ 530 mA; 12V @ 90 mA
  - PCIE-1754**  
Typical: 3.3 V @ 285 mA  
Max.: 3.3 V @ 330 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- **PCIE-1752-AE** 64-ch isolated digital output PCI Express card
- **PCIE-1754-AE** 64-ch isolated digital input PCI Express card

#### Accessories

- **PCL-10250-1E** 100-pin SCSI to 2 x 50-pin SCSI cable, 1 m
- **PCL-10250-2E** 100-pin SCSI to 2 x 50-pin SCSI cable, 2 m
- **ADAM-3951-BE** 50-pin DIN rail wiring board w/LED indicators
- **PCL-101100M-3E** 100-pin SCSI to 100-pin SCSI cable, 3 m
- **ADAM-39100-BE** 100-pin DIN rail wiring board

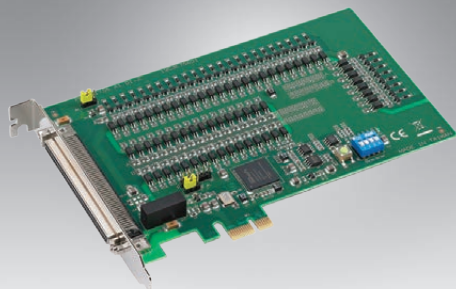
# PCIE-1756

# PCIE-1756H

## 64-Ch Isolated Digital I/O PCIe Card

## 64-Ch Isolated Digital I/O PCIe Card with Digital Filter and Interrupt Function

**NEW**



FCC CE RoHS COMPLIANT

### Features

- 32-ch isolated digital input
- 32-ch isolated digital output with wide output range (5 ~ 40 V<sub>DC</sub>)
- Interrupt handling capability
- Software-selectable digital filter time for all DI channels (PCIE-1756H only)
- Output status read back
- Retains the output settings and values after system hot reset

### Introduction

PCIE-1756 and PCIE-1756H are isolated DI/O cards that offer 64 isolated digital input/output channels with up to 2,500 V<sub>DC</sub> isolation protection. Featuring a wide input (10 ~ 30 V<sub>DC</sub>)/output (5 ~ 40 V<sub>DC</sub>) range and high sink current (500mA max./channel), PCIE-1756 and PCIE-1756H are ideal for use in industrial automation control systems. For PCIE-1756, all signals can be used as interrupt request signals and to disable/enable the interrupt function for every channel, as well as to support the input signal edge, which generates interrupts. All PCIE-1756H digital input channels have a digital filter to prevent inaccurate recognition of input signals that contain noise or chattering.

### Specifications

#### Isolated Digital Input

- **Channels** 32
- **Input Voltage** Logic 0: 3 V max.  
Logic 1: 10 V min. (30 V<sub>DC</sub> max.)
- **Input Current** 10 V<sub>DC</sub> @ 2.97 mA  
20 V<sub>DC</sub> @ 6.35 mA  
30 V<sub>DC</sub> @ 9.73 mA
- **Interruptible Channels** PCIE-1756: 2 (IDIO, IDI16)  
PCIE-1756H: 32
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Overvoltage Protection** 70 V<sub>DC</sub>
- **ESD Protection** 2,000 V<sub>DC</sub>
- **Opto-Isolator Response** 50 μs
- **Digital Filter Time (PCIE-1756H only)**

Setting Data (n)	Digital Filter Time	Setting Data (n)	Digital Filter Time	Setting Data (n)	Digital Filter Time
0 (00h)	The filter function is not used.	7 (07h)	16μsec	14 (0Eh)	2.048msec
1 (01h)	0.25μsec	8 (08h)	32μsec	15 (0Fh)	4.096msec
2 (02h)	0.5μsec	9 (09h)	64μsec	16 (10h)	8.192msec
3 (03h)	1μsec	10 (0Ah)	128μsec	17 (11h)	16.384msec
4 (04h)	2μsec	11 (0Bh)	256μsec	18 (12h)	32.768msec
5 (05h)	4μsec	12 (0Ch)	512μsec	19 (13h)	65.536msec
6 (06h)	8μsec	13 (0Dh)	1.024msec	20 (14h)	131.072msec

#### Isolated Digital Output

- **Channels** 32
- **Output Type** Sink (NPN)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Output Voltage** 5 ~ 40 V<sub>DC</sub>
- **Sink Current** 500 mA max./channel
- **Opto-isolator Response** 50 μs

#### General

- **Bus Type** PCI Express V1.0
- **I/O Connectors** 1 x 100-pin SCSI, female
- **Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- **Power Consumption** Typical: 3.3 V @ 385 mA  
Max.: 3.3 V @ 430 mA; 12V @ 55 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- **PCIE-1756-AE** 64-ch isolated digital I/O PCIe card
- **PCIE-1756H-AE** 64-ch isolated digital I/O PCIe card with digital filter and interrupt function

#### Accessories

- **PCL-10250-1E** 100-pin SCSI to 2 x 50-pin SCSI cable, 1 m
- **PCL-10250-2E** 100-pin SCSI to 2 x 50-pin SCSI cable, 2 m
- **ADAM-3951-BE** 50-pin DIN rail wiring board w/ LED indicators
- **PCL-101100M-3E** 100-pin SCSI to 100-pin SCSI cable, 3 m
- **ADAM-39100-BE** 100-pin DIN rail wiring board

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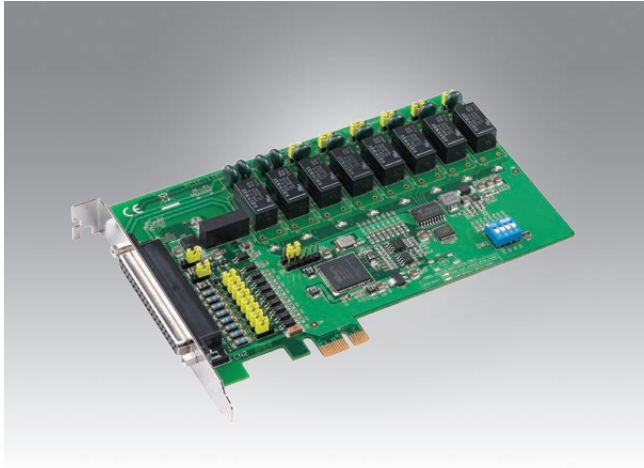
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# PCIE-1760

## 8-Ch Relay and 8-Ch Isolated Digital Input PCI Express Card



### Features

- 8 opto-isolated digital input channels with counter/timer function
- 8 relay actuator output channels
- 2 opto-isolated PWM outputs
- LED indicators to show activated relays
- Jumper-selectable dry/wet-contact input signals
- Up event counters for DI
- Programmable digital filter function for DI
- Pattern match interrupt function for DI
- Change-of-state interrupt function for DI
- Board ID switch

### Introduction

The PCIE-1760 relay actuator and isolated digital input card is a PC add-on card for the PCI Express bus that satisfies the PCI Express (Revision 1.0) standard. PCIE-1760 features 8 opto-isolated digital inputs with up to 2,500 V<sub>DC</sub> isolation protection for collecting digital inputs in noisy environments, 8 relay actuators that can be used as on/off control devices or small power switches, and 2 isolated PWM (pulse width modulation) outputs for custom applications.

For easy monitoring, each relay is equipped with a single red LED that indicates the on/off status. Each isolated input supports both dry and wet contact to enable easy interfacing with other devices when no voltage is present in the external circuit.

### Specifications

#### Isolated Digital Input

- **Channels** 8
- **Input Voltage** Logic 0: 1.0 V max.  
Logic 1: 4.5 V min. (12 V max.)
- **Interruptible Channels** 8
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 25 μs
- **Input Resistance** 2 kΩ 1/4 W

#### Counter/Timer

- **Channels** 8
- **Resolution** 16 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 500 Hz
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **PWM Channels** 2
- **Digital Noise Filter** Min. effective high input period ≥ [(2 ~ 65535) x 5 ms] + 5 ms  
Min. effective low input period ≥ [(2 ~ 65535) x 5 ms] + 5 ms

#### Relay Output

- **Channels** 8
- **Relay Type** 2 x Form C, and 6 x Form A
- **Contact Rating** 1 A @ 125 V<sub>AC</sub>, 2 A @ 30 V<sub>DC</sub>
- **Max. Switching Power** 125 VA, 60 W
- **Max. Switching Voltage** 250 V<sub>AC</sub>, 220 V<sub>DC</sub>
- **Max. Switching Current** 2 A
- **Operate/Release Time** 5 / 3.5 ms max
- **Resistance** Contact: 50 mΩ max.  
Insulation: 100 MΩ min. @ 500 V<sub>DC</sub>
- **Life Expectancy (Electrical)** 3 x 10<sup>6</sup> cycles min.: 2 A @ 30 V<sub>DC</sub>, 1 A @ 125 V<sub>AC</sub>  
10<sup>6</sup> cycles min.: 1 A @ 30 V<sub>DC</sub>, 0.5 A @ 125 V<sub>AC</sub>

#### General

- **Bus Type** PCI Express V1.0
- **I/O Connectors** 1 x DB37, female
- **Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- **Power Consumption** Typical: 5 V @ 450 mA  
Max.: 5 V @ 850 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95 % RH, non-condensing

### Ordering Information

- **PCIE-1760-AE** 8-ch relay/IDI PCIe card w/10-ch counter/timer

#### Accessories

- **PCL-10137-1E** DB37 cable, 1 m
- **PCL-10137-2E** DB37 cable, 2 m
- **PCL-10137-3E** DB37 cable, 3 m
- **ADAM-3937-AE** DB37 DIN rail wiring board

# PCIE-1810

## 800 kS/s, 12-Bit, 16-Ch PCI Express Multifunction DAQ Card



FCC CE RoHS COMPLIANT

### Features

- 16 analog inputs, up to 800 kS/s, 12-bit resolution
- 2 analog outputs, up to 500 kS/s, 12-bit resolution
- Supports digital and analog triggers
- 24 programmable digital I/O lines
- Two 32-bit programmable counter/timers
- Onboard FIFO memory (4,000 samples)
- Automatic channel/gain scanning

### Introduction

PCIE-1810 is a multifunction PCI Express card that includes digital I/O, analog I/O, and counter functions. The card also features a 800 kS/s 12-bit A/D converter and supports analog triggers for A/D data acquisition.

### Specifications

#### Analog Input

- Channels** Single end 16  
Differential 8
- Resolution** 12 bits
- Sample Rate** Single channel 800 kS/s max.  
Multiple channels 500 kS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $500k/4 = 125$  kS/s per channel.

- Trigger Reference** Digital and analog triggers
- Trigger Mode** Start, Delayed Start  
Stop, Delayed Stop
- FIFO Size** 4,000 samples
- Overvoltage Protection** 30 Vp-p
- Input Impedance** 1 GΩ
- Sampling Modes** Software and external clock
- Input Range** Software programmable

Gain	0.5	1	2	4	8
<b>Bipolar</b>	±10V	±5	±2.5	±1.25	±0.625
<b>Unipolar</b>	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
<b>Absolute Accuracy (% of FSR)*</b>	0.1	0.1	0.2	0.2	0.4

#### Analog Output

- Channels** 2
- Resolution** 12 bits
- Output Rate** Static software polling  
500 KS/s max.
- Output Range** Software programmable

Internal Reference	Unipolar	0 ~ 5 V 0 ~ 10 V
	Bipolar	-5 V ~ 5 V -10 V ~ 10 V
External Reference	0 ~ +x V @ -x V (-10 ≤ x ≤ 10)	

- Slew Rate** 20 V/μs
- Driving Capability** 5 mA
- Operation Mode** Static update, waveform generation
- Accuracy** INLE: ±1 LSB, DNLE: ±1 LSB

#### Digital I/O

- Channels** 24
- Compatibility** 5 V/TTL
- Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- Output Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- Output Capability** Sink: 15 mA @ 0.8 V  
Source: 15 mA @ 2.0 V

#### Counter

- Channels** 2
- Resolution** 32 bits
- Compatibility** 5 V/TTL
- Max. Input Frequency** 10 MHz
- Pulse Generation** Yes
- Timebase Stability** 50 ppm

#### General

- Form Factor** PCI Express x1
- Triggering** 2 x Analog/2 x digital (12 bits)
- I/O Connector** 68-pin SCSI, female
- Dimensions (L x W)** 167 x 100 mm (6.6" x 3.9")
- Power Consumption** Typical: 3.3 V @ 488 mA  
12 V @ 112 mA  
Max.: 3.3 V @ 2.25 A  
12 V @ 390 mA
- Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 60068-2-1, 2)
- Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 60068-2-3)

### Ordering Information

- PCIE-1810-AE** 800 kS/s, 12-bit multifunction card

#### Accessories

- PCL-10168H-1E** 68-pin SCSI shielded cable with noise rejection, 1 m
- PCL-10168H-2E** 68-pin SCSI shielded cable with noise rejection, 2 m
- PCL-10168-1E** 68-pin SCSI shielded cable, 1 m
- PCL-10168-2E** 68-pin SCSI shielded cable, 2 m
- ADAM-3968-AE** 68-pin DIN rail SCSI wiring board

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# PCIE-1816

# PCIE-1816H

**500 KS/s, 16-Bit, 16-Ch PCI Express Multifunction DAQ Card**

**1 MS/s, 16-Bit, 16-Ch PCI Express Multifunction DAQ Card**



## Features

### PCIE-1816

- 16 analog inputs, up to 1 MS/s, 16-bit resolution

### PCIE-1816H

- 16 analog inputs, up to 5 MS/s, 16-bit resolution

### PCIE-1816/1816H

- 2 analog outputs, up to 3 MS/s, 16-bit resolution
- Supports analog and digital triggers for analog I/O
- Supports waveform generation for analog output
- 24 programmable digital I/O lines
- Two 32-bit programmable counter/timers
- Onboard FIFO memory (4,000 samples)

## Introduction

PCIE-1816/1816H is a 16-ch (up to 5 MS/s) multifunction DAQ card with integrated digital I/O, analog I/O, and counter functions. PCIE-1816/1816H also features analog and digital triggering support, 2-ch 16-bit analog outputs with waveform generation capability, 24-ch programmable digital I/O lines, and two 32-bit general purpose timer/counters.

## Specifications

### Analog Input

- Channels**
  - Single end 16
  - Differential 8
- Resolution** 16 bits
- Sample Rate**
  - PCIE-1816 Single channel 1 MS/s max. Multiple channels 500 kS/s max.
  - PCIE-1816H Single channel 5 MS/s max. Multiple channels 1 MS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $1M/4 = 250$  kS/s per channel.

- Trigger Reference** Digital and analog triggers
- FIFO Size** 4,000 samples
- Overvoltage Protection** 30 Vp-p
- Input Impedance** 1 G $\Omega$
- Sampling Mode** Software and external clock
- Input Range** Software programmable

PCIE-1816					
Gain	0.5	1	2	4	8
Bipolar	$\pm 10V$	$\pm 5$	$\pm 2.5$	$\pm 1.25$	$\pm 0.625$
Unipolar	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
Absolute Accuracy (% of FSR)*	0.0075	0.0075	0.0075	0.008	0.008

### Analog Output

- Channels** 2
- Resolution** 16 bits
- Output Rate** 3 MS/s max.
- Output Range** Software programmable

Internal Reference	Unipolar	0 ~ 5 V 0 ~ 10 V
	Bipolar	-5 V ~ 5 V -10 V ~ 10 V
External Reference		0 ~ +x V @ -x V (-10 $\leq$ x $\leq$ 10)

- Slew Rate** 20 V/ $\mu$ s
- Driving Capability** 5 mA
- Operation Mode** Static update, waveform generation
- Accuracy** INLE:  $\pm 4$  LSB, DNLE:  $\pm 1$  LSB

### Digital I/O

- Channels** 24
- Compatibility** 5 V/TTL
- Input Voltage**
  - Logic 0: 0.8 V max.
  - Logic 1: 2.0 V min.
- Output Voltage**
  - Logic 0: 0.8 V max.
  - Logic 1: 2.0 V min.
- Output Capability**
  - Sink: 15 mA @ 0.8 V
  - Source: 15 mA @ 2.0 V

### Counter

- Channels** 2
- Resolution** 32 bits
- Compatibility** 5 V/TTL
- Max. Input Frequency** 10 MHz
- Pulse Generation** Yes
- Timebase Stability** 50 ppm

### General

- Form Factor** PCI Express x1
- Triggering** 2 x Analog/2 x digital (16 bits)
- I/O Connector** 68-pin SCSI, female
- Dimensions (L x W)** 167 x 100 mm (6.6" x 3.9")
- Power Consumption**
  - Typical: 3.3 V @ 488 mA
  - 12 V @ 112 mA
  - Max.: 3.3 V @ 2.25 A
  - 12 V @ 390 mA
- Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- PCIE-1816-AE** 1 MS/s, 16-bit multifunction card
- PCIE-1816H-AE** 5 MS/s, 16-bit multifunction card

### Accessories

- PCL-10168H-1E** 68-pin SCSI shielded cable with noise rejection, 1 m
- PCL-10168H-2E** 68-pin SCSI shielded cable with noise rejection, 2 m
- PCL-10168-1E** 68-pin SCSI shielded cable, 1 m
- PCL-10168-2E** 68-pin SCSI shielded cable, 2 m
- ADAM-3968-AE** 68-pin DIN rail SCSI wiring board

# PCIE-1802

# PCIE-1802L

**8-Ch, 24-Bit, 216 kS/s Dynamic Signal Acquisition PCI Express Card**

**4-Ch, 24-Bit, 216 kS/s Dynamic Signal Acquisition PCI Express Card**

**NEW**



## Features

- 8/4 simultaneously sampled analog inputs, up to 216 kS/s
- 24-bit resolution ADCs with 115 dB dynamic range
- Wide input range of  $\pm 0.2 \sim 10$  V
- Built-in anti-aliasing filter
- Software-configurable 4/10 mA integrated electronic piezoelectric (IEPE) excitation currents
- Software-selectable AC/DC coupling
- Full automatic calibration
- Multiple card synchronization

## Introduction

PCIE-1802/1802L is a 24-bit, high-accuracy data acquisition PCI Express module specifically designed for sound and vibration-related applications. This module features built-in 4/10 mA excitation currents for IEPE sensors, such as accelerometers and microphones.

## Specifications

### Analog Input

- **Channels**
  - PCIE-1802: 8
  - PCIE-1802L: 4 (simultaneous sampling differential or 50  $\Omega$  pseudo-differential)
  - 24 bits (delta sigma)
  - 100 S/s to 216 kS/s (with resolution  $\leq 363.80$   $\mu$ S/s)
  - AC/DC, selectable per channel
  - 0.727 Hz (-3 dB)
- **Resolution**
- **Max. Sampling Rate**
- **Input Coupling**
- **AG Cut-Off Frequency**
- **Trigger Modes**
  - Start, Delayed Start, Stop, Delayed Stop
- **Input Range**  $\pm 0.2, \pm 0.5, \pm 1, \pm 2, \pm 5, \pm 10$  V
- **Offset Error**  $< \pm 1$  mV
- **Gain Error**  $< \pm 0.2$  %
- **Total Harmonic Distortion (THD)** -100 dB
- **Total Harmonic Distortion Plus Noise (THD+N)** -98 dB
- **Dynamic Range** 115 dB
- **IEPE Excitation** 0, 4, or 10 mA, selectable per channel
- **Data Transfer** Direct memory access (DMA)
- **Multi-Card Support** For synchronizing more than 8 analog input channels

### Digital Input/Output

- **DI Channels** 1 (interrupt)
- **DO Channels** 2

### General

- **Bus Type** PCI Express x1
- **I/O Connectors**
  - CN600 36-pin mini SCSI (for analog input)
  - CN601 HDMI (for clock, trigger, and DI/DOs)
- **Dimensions (L x H)** 168 x 100 mm (6.6" x 3.9")
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- **Storage Humidity** 5 ~ 95 % RH, non-condensing

## Ordering Information

- **PCIE-1802-AE** 8-ch, 24-bit, 216 kS/s dynamic signal acquisition PCI Express card
- **PCIE-1802L-AE** 4-ch, 24-bit, 216 kS/s dynamic signal acquisition PCI Express card
- **PCLD-8840-AE** 20-pin DIN rail HDMI cable wiring board for PCIE-1802 and PCIE-1840
- **PCL-108BNC-50E** Mini SCSI to 8-BNC cable
- **PCL-104BNC-50E** Mini SCSI to 4-BNC cable
- **PCL-10119-1E** HDMI cable

## Pin Assignments

### Mini SCSI

AGND	36	18	AGND
AI0-	35	17	AI0+
AGND	34	16	AGND
AI1-	33	15	AI1+
AGND	32	14	AGND
AI2-	31	13	AI2+
AGND	30	12	AGND
AI3-	29	11	AI3+
AGND	28	10	AGND
AGND	27	9	AGND
AI4-	26	8	AI4+
AGND	25	7	AGND
AI5-	24	6	AI5+
AGND	23	5	AGND
AI6-	22	4	AI6+
AGND	21	3	AGND
AI7-	20	2	AI7+
AGND	19	1	AGND

\* AI4 to AI7 (PCIE-1802 only)

### HDMI

DGND	2	1	REF_CLK_IN
REF_CLK_OUT	4	3	DGND
DGND	6	5	DGND
DGND	8	7	DTRG0
TRIGOUT0	10	9	DTRG1
TRIGOUT1	12	11	DGND
DO1	14	13	DO0
SYNC_OUT	16	15	SYNC_IN
RESERVED	18	17	DGND
		19	DIO

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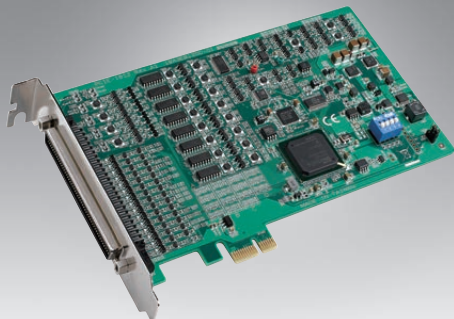
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# PCIE-1812

## 250 kS/s, 16-Bit, 8-Ch, Simultaneous Sampling Multifunction PCI Express DAQ Card

NEW



FCC CE RoHS COMPLIANT

### Features

- 8 differential simultaneous sampling analog inputs, up to 250 kS/s, 16-bit resolution
- 2 analog outputs, up to 3 MS/s, 16-bit resolution
- Full automatic calibration
- 2 analog triggers and 2 digital triggers for analog I/O
- 32 programmable DI/Os with interrupt functions
- Four 32-bit programmable counters/ timers/ encoders
- Board ID switch

### Introduction

PCIE-1812 is a simultaneous-sampling multifunction DAQ card designed to meet a wide range of application requirements. PCIE-1812 supports simultaneous sampling of 8 analog input channels with differential input configuration for maximum noise elimination. In addition to providing 2-ch, 16-bit analog outputs with waveform generation capabilities, PCIE-1812 supports simultaneous waveform generation and analog input functions.

### Specifications

#### Analog Input

- **Channels** 8
- **Mode** Differential input
- **Resolution** 16 bits
- **Sample Rate** 250 kS/s max.
- **Input Impedance** 100GΩ/350pF
- **Sampling Mode** Software and external clock
- **Input Range** Software programmable

Gain	0.5	1	2	4	8
<b>Bipolar</b>	±10V	±5	±2.5	±1.25	±0.625
<b>Unipolar</b>	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
<b>Absolute Accuracy (% of FSR)*</b>	0.01	0.01	0.01	0.01	0.01

#### Analog Output

- **Channels** 2
- **Resolution** 16 bits
- **Output Rate** 3 M max.
- **Output Range** Software programmable

Internal Reference	Unipolar	0 ~ 5 V, 0 ~ 10 V
	Bipolar	-5 V ~ 5 V, -10 V ~ 10 V
External Reference	0 ~ +xV @ -xV (-10 ≤ x ≤ 10)	

- **Slew Rate** 20 V/μs
- **Driving Capability** 5 mA
- **Operation Mode** Static update, waveform generation
- **Accuracy** 0.01%

#### Analog Trigger

- **Channels** 2
- **Resolution** 16 bits
- **Input Range** -10 ~ 10 V
- **Hysteresis** Yes. Hysteresis range is configurable
- **Trigger Edge** Rising edge or falling edge, selected by software

#### Digital Trigger

- **Channels** 2
- **Input Voltage** Logic 0: 1.5 V max.  
Logic 1: 3.5 V min.
- **Trigger Edge** Rising edge or falling edge, selected by software

#### Digital I/O

- **Channels** 32 (shared)
- **Input Voltage** Logic 0: 1.5 V max.  
Logic 1: 3.5 V min.
- **Output Voltage** Low 0.5 V max. @ +20 mA (sink)  
High 4.5 V min. @ -20 mA (source)

#### Counter/ Timer/ Encoder

- **Channels** 4
- **Resolution** 32 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Counter/Timer Functions** Frequency measurement, pulse width measurement, pulse output, PWM output
- **Encoder Functions** Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR)

#### General

- **Form Factor** PCI Express x1
- **I/O Connector** 100-pin SCSI, female
- **Dimensions (L x W)** 167 x 100 mm (6.6" x 3.9")
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 68-2-1, 2)
- **Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **Board ID** TM switch

### Ordering Information

- **PCIE-1812-AE** 250 kS/s, 16-bit, 8-ch simultaneous sampling multifunction card

#### Accessories

- **PCL-101100R-1E** 100-pin SCSI shielded cable, female to male, 1 m
- **PCL-101100R-2E** 100-pin SCSI shielded cable, female to male, 2 m
- **ADAM-39100-BE** 100-pin DIN rail SCSI wiring board

# PCIE-1813

## 38.4 kS/s, 26-Bit, 4-Ch, Simultaneous Sampling, Universal Bridge Input, Multifunction PCI Express Card

Preliminary



### Introduction

PCIE-1813 is a 26-bit high-resolution multifunction data acquisition PCI Express card specifically designed for bridge sensor inputs, such as strain gauges, load cells, pressure sensors, and torque sensors. PCIE-1813 also features 2-ch, 16-bit analog outputs with waveform generation capability and supports simultaneous waveform generation and analog input functions.

### Specifications

#### Analog Input Overview

- Channels 4
- Resolution 26 bits
- Sample Rate 38.4 kS/s max. simultaneous

#### Voltage Input

- Input Ranges  $\pm 10\text{ V}$ ,  $\pm 5\text{ V}$ ,  $\pm 2.5\text{ V}$ ,  $\pm 1.25\text{ V}$ ,  $\pm 625\text{ mV}$ ,  $\pm 312.5\text{ mV}$
- Accuracy  $\pm 0.01\%$  of FSR

#### Bridge Input

- Input Ranges  $\pm 31.25\text{ mV/V}$ ,  $\pm 62.5\text{ mV/V}$ ,  $\pm 125\text{ mV/V}$ ,  $\pm 250\text{ mV/V}$ ,  $\pm 500\text{ mV/V}$ , and  $\pm 1\text{ V/V}$
- Bridge Mode Full, half, quarter
- Bridge Resistance  $120\ \Omega$ ,  $350\ \Omega$ ,  $1\text{ k}\Omega$
- Shunt Calibration  $33.333\text{ k}\Omega$ ,  $50\text{ k}\Omega$ ,  $100\text{ k}\Omega$
- Excitation Voltage  $0\text{ -- }10\text{ V}$
- Remote Sensing Yes

#### Analog Output

- Channels 2
- Resolution 16 bits
- Output Rate 3 MSPS max.
- Output Range Software programmable

Internal Reference	Unipolar	$0\text{ -- }5\text{ V}$ , $0\text{ -- }10\text{ V}$
	Bipolar	$-5\text{ V -- }5\text{ V}$ , $-10\text{ V -- }10\text{ V}$
External Reference		$0\text{ -- }+x\text{ V @ -x V}$ ( $-10 \leq x \leq 10$ )

- Slew Rate  $20\text{ V}/\mu\text{s}$
- Driving Capability 5 mA
- Operation Mode Static update, waveform generation
- Accuracy  $\pm 0.01\%$  of FSR

#### Analog Trigger

- Channels 2
- Resolution 16 bits
- Input Range  $-10\text{ V -- }+10\text{ V}$
- Hysteresis Yes. Hysteresis range is configurable
- Trigger Edge Rising edge or falling edge, selected by software

### Features

- 4 simultaneous sampling analog inputs, up to 38.4 kS/s, 26-bit resolution
- Full, half, and quarter-bridge sensor input with built-in anti-aliasing filter
- 2 analog outputs, up to 3 MS/s, 16-bit resolution
- Four 32-bit programmable encoder counters/ timers/ encoder counters
- 32 programmable DI/Os with interrupt functions
- Board ID switch
- Full automatic calibration

#### Digital Trigger

- Channels 2
- Input Voltage Logic 0: 1.5 V max.  
Logic 1: 3.5 V min.
- Trigger Edge Rising edge or falling edge, selected by software

#### Digital I/O

- Channels 32 (shared)
- Input Voltage Logic 0: 1.5 V max.  
Logic 1: 3.5 V min.
- Output Voltage Low 0.5 V max. @ +20 mA (sink)  
High 4.5 V min. @ -20 mA (source)

#### Counter/ Timer/ Encoder Counter

- Channels 4
- Resolution 32 bits
- Input/Output Voltage Same as that for digital I/O
- Max. Input Frequency 10 MHz
- Counter/Timer Functions Frequency measurement, pulse width measurement, pulse output, PWM output
- Encoder Functions Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR)

#### General

- Form Factor PCI Express x1
- I/O Connector 100-pin SCSI female ribbon-type connector
- Dimensions (L x W)  $167 \times 100\text{ mm}$  ( $6.6" \times 3.9"$ )
- Operating Temperature  $0\text{ -- }60\text{ }^\circ\text{C}$  ( $32\text{ -- }140\text{ }^\circ\text{F}$ ) (refer to IEC 68-2-1, 2)
- Storage Temperature  $-40\text{ -- }70\text{ }^\circ\text{C}$  ( $-40\text{ -- }158\text{ }^\circ\text{F}$ )
- Storage Humidity  $5\text{ -- }95\%$  RH non-condensing (refer to IEC 68-2-3)
- Board ID TM switch

### Ordering Information

- PCIE-1813-AE 38.4 kS/s, 26-bit, 4-ch, simultaneous sampling, universal bridge input, multifunction PCI Express card

#### Accessories

- PCL-101100R-1E 100-pin SCSI shielded cable, 1 m
- PCL-101100R-2E 100-pin SCSI shielded cable, 2 m
- ADAM-39100-BE 100-pin DIN rail SCSI wiring board

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# PCIE-1840 PCIE-1840L

4-Ch, 16-Bit, 125 MS/s Digitizer

4-Ch, 16-Bit, 80 MS/s Digitizer

NEW



## Features

### PCIE-1840

- 4 simultaneous analog inputs, up to 125 MHz, 16-bit resolution
- 500 MHz time-interleaved sampling

### PCIE-1840L

- 4 simultaneous analog inputs, up to 80 MHz, 16-bit resolution
- 320 MHz time-interleaved sampling

### PCIE-1840/PCIE-1840L

- Non-stop data streaming capabilities
- 2 GB of onboard memory
- 1M or 50 Ohm selectable input impedance
- Built-in tunable anti-aliasing filter
- AC/DC coupling support

## Introduction

PCIE-1840/1840L is a 16-bit resolution digitizer that provides up to 2 GB of onboard sample memory, true ENOBs of up to 11.4 bits, and sampling rates of up to 125 per second. PCIE-1840/1840L divides the input voltage range into 65,536 digitization levels and can support 1 or 2 digitizing channels (up to 250/500 MSPS).

## Specifications

### Analog Input

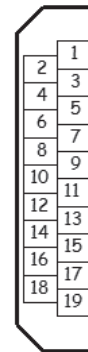
- Channels** 4 x single ended, simultaneous
- Resolution** 16 bits
- Max. Sampling Rate** 125 MS/s (PCIE-1840)  
80 MS/s (PCIE-1840L)
- Memory Size** 2 GB
- Overvoltage Protection** 30 V<sub>p-p</sub>
- Input Impedance** 50 Ω / 1M Ω  
For 1 MΩ: AC/DC coupling
- Sampling Modes** Software and external clock
- Trigger Modes** Start, Delayed Start  
Stop, Delayed Stop
- Input Range** 0.2 / 0.4 / 1 / 2 / 4 / 10 /  
20 V<sub>pp</sub> (input Impedance must be 1 MΩ)
- Time Interleaved Sampling** - 4 channels combined,  
500 MPS max. (PCIE-1840)  
320 MPS max. (PCIE-1840L)  
- 2 channels combined,  
250 MPS max. (PCIE-1840)  
160 MPS max. (PCIE-1840L)  
- Configured automatically by setting sampling rate

### General

- Bus Type** PCI Express Gen2 x4
- I/O Connectors** 4 x BNC (for analog input)  
1 x HDMI (for external clock and trigger)
- Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- Power Consumption** Under test
- Operating Temperature** 0 ~ 50 °C (32 ~ 122 °F)
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH, non-condensing

## Pin Assignments

DGND  
REF\_CLK\_OUT+  
REF\_CLK\_OUT-  
DGND  
TRIGOUT0  
TRIGOUT1  
N/A  
N/A  
N/A



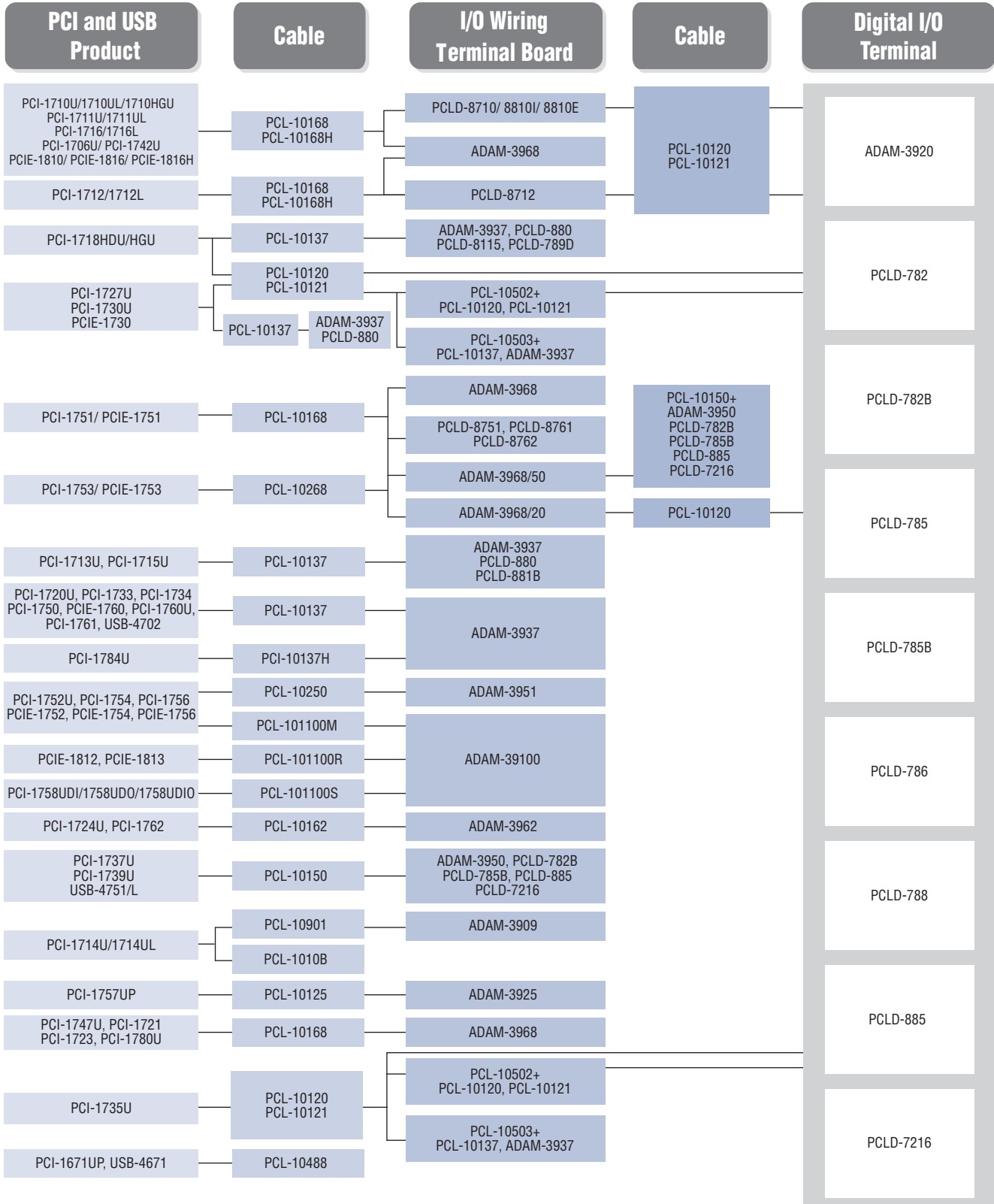
REF\_CLK\_IN+  
REF\_CLK\_IN-  
DGND  
DTRG0  
DTRG1  
DGND  
N/A  
N/A  
DGND  
N/A

## Ordering Information

- PCIE-1840-AE** 4-ch, 16-bit, 125 MS/s digitizer
- PCIE-1840L-AE** 4-ch, 16-bit, 80 MS/s digitizer
- PCLD-8840-AE** 20-pin DIN rail HDMI cable wiring board for PCIE-1802 and PCIE-1840
- PCL-10119-1E** HDMI cable
- PCL-1010B-1E** BNC coaxial cable, 1 m

# Terminal Board Selection Guide

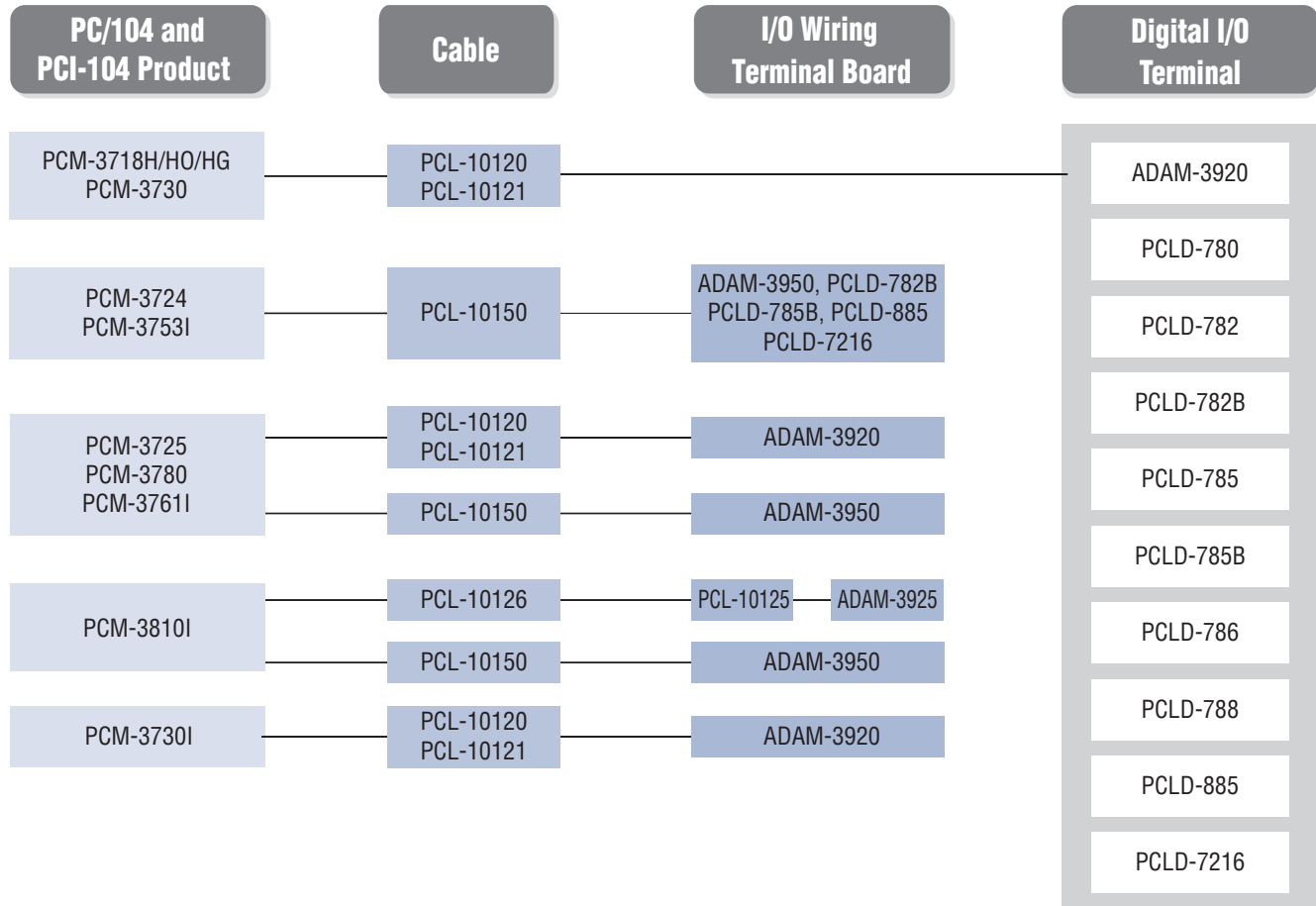
## Recommended Cables, I/O Wiring Terminal Boards, and Isolated Digital I/O Terminals for Connecting to PC/104 and PCI-104 DAQ Products



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- Intelligent Video Solution **2**
- Intelligent Transportation Platforms **3**
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# Terminal Board Selection Guide

## Recommended Cables, I/O Wiring Terminal Boards, and Isolated Digital I/O Terminals for Connecting to PC/104 and PCI-104 DAQ Products

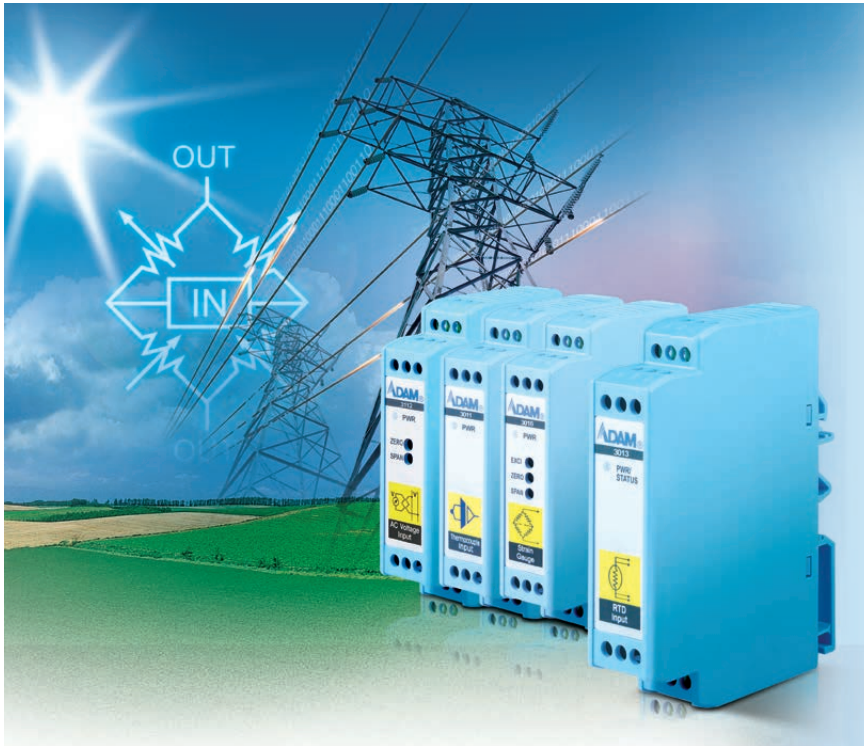


## Cable Accessories

Part Number	Description
PCL-1010B-1E	BNC to BNC wiring cable, 1 m
PCL-101100-1E	100-pin SCSI high-speed cable, 1 m
PCL-101100R-1E	100-pin SCSI shielded cable, 1 m
PCL-101100R-2E	100-pin SCSI shielded cable, 2 m
PCL-101100S-1E	100-pin mini SCSI cable, 1 m
PCL-101100S-2E	100-pin mini SCSI cable, 2 m
PCL-101100S-3E	100-pin mini SCSI cable, 3 m
PCL-101100M-3E	100-pin SCSI shielded cable, 3 m
PCL-10120-0.4E	20-pin flat cable, 0.4 m
PCL-10120-1E	20-pin flat cable, 1 m
PCL-10120-2E	20-pin flat cable, 2 m
PCL-10121-2E	20-pin shielded cable, 2 m
PCL-10125-1E	DB25 cable, 1 m
PCL-10125-3E	DB25 cable, 3 m
PCL-10126-0.2E	26-pin to DB25(f) flat cable, 0.2 m
PCL-10137-1E	DB37 cable, 1 m
PCL-10137-2E	DB37 cable, 2 m
PCL-10137-3E	DB37 cable, 3 m
PCL-10137H-1E	DB37 high-speed cable, 1 m

Part Number	Description
PCL-10137H-3E	DB37 high-speed cable, 3 m
PCL-10141-0.2E	40-pin to DB37(f) flat cable, 0.2 m
PCL-10150-1.2E	50-pin flat cable, 1.2 m
PCL-10162-1E	DB62 cable, 1 m
PCL-10162-3E	DB62 cable, 3 m
PCL-10168-1E	68-pin SCSI shielded cable, 1 m
PCL-10168-2E	68-pin SCSI shielded cable, 2 m
PCL-10168H-1E	68-pin SCSI shielded cable with noise rejection, 1 m
PCL-10168H-2E	68-pin SCSI shielded cable with noise rejection, 2 m
PCL-10250-1E	100-pin SCSI to 2 x 50-pin SCSI cable, 1 m
PCL-10250-2E	100-pin SCSI to 2 x 50-pin SCSI cable, 2 m
PCL-10268-1E	100-pin SCSI to 2 x 68-pin SCSI cable, 1 m
PCL-10268-2E	100-pin SCSI to 2 x 68-pin SCSI cable, 2 m
PCL-10488-2	IEEE-488 cable, 2 m
PCL-10502-AE	Dual 20-pin to PC slot plate extender
PCL-10503-AE	Dual 20-pin to DB37 adapter
PCL-10901-3E	DB9 to PS/2 cable, 3 m

# ADAM-3000 Series



## Features

- 1,000 V<sub>DC</sub> three-way isolation
- Easy input/output range configuration
- Flexible DIN rail mounting
- Linearized thermocouple/RTD measurement
- Low power consumption
- Wide input bandwidth

## Introduction

Advantech's ADAM-3000 series modules are the most cost-efficient, field-configurable, isolation-based, signal conditioners available on the market today. Easy to install, these modules are designed to protect instruments and process signals from damage resulting from ground loops, motor noise, and other electrical interferences.

### Affordable Signal Isolation Solution

Featuring optical isolation technology, ADAM-3000 modules offer three-way (input/output/power) 1,000 V<sub>DC</sub> isolation. Optical isolation provides pin-point accuracy and stability for a wide range of operations with minimal power consumption.

### Flexible Analog Data Conversion

The input/output range for ADAM-3000 modules can be configured using internal switches. The modules accept voltage, current, thermocouple, and RTD inputs, as well as pass voltage or current outputs. Thermocouple input is handled by the built-in input thermocouple linearization circuitry and a cold junction compensation function that ensure accurate temperature measurement and conversion into voltage or current output.

## Configuration

ADAM-3000 modules accept 24 V<sub>DC</sub> power, which can be acquired from adjacent modules, greatly simplifying wiring and maintenance. The I/O configuration switches are located inside the modules. To access these switches, simply remove the modules from the DIN rail bracket by sliding the modules downward.

## Modular Industrial Design

ADAM-3000 modules can be easily mounted on a DIN rail, with the signal wires connected through screw terminals. The screw terminals and input/output configuration switches are located inside the industrial-grade plastic casing. Using two-wire input/output cables, these modules can be easily integrated to provide reliable solutions for harsh industrial environments.

## Applications

- Signal isolation
- Signal transmitters
- Thermocouple/RTD/strain gauge measurements
- Signal amplifiers
- Noise filter

## Common Specifications

- **Isolation** 1,000 V<sub>DC</sub>
- **Indicators** Power LED indicator
- **Power Requirement** 24 V<sub>DC</sub> ± 10%
- **Case** ABS
- **Screw Terminal** Accepts 0.5 mm<sup>2</sup> ~ 2.5 mm<sup>2</sup>  
1- #12 or 2- #14 ~ #22 AWG
- **Operating Temperature** 0 ~ 70 °C (32 ~ 158 °F)  
ADAM-3011: 0 ~ 50 °C (32 ~ 122 °F)
- **Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

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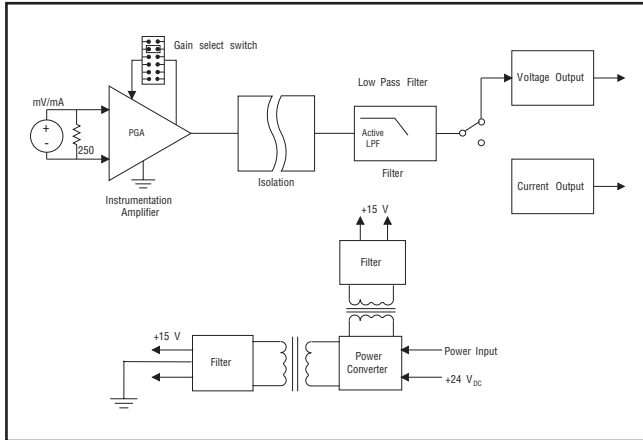
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# Isolated Signal Conditioning Modules

## Block Diagram

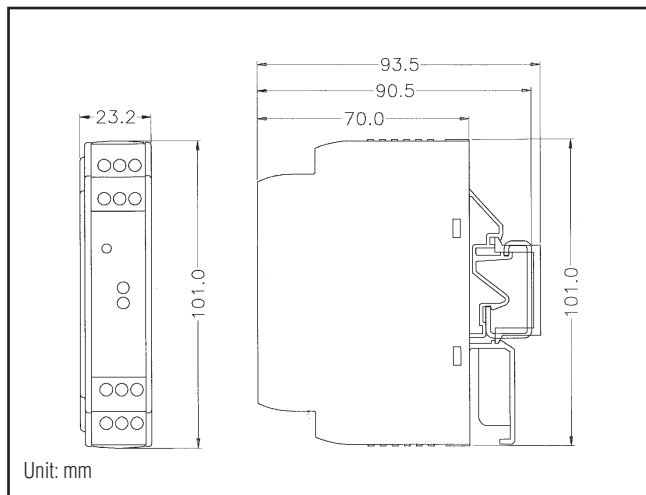


Block Diagram of ADAM-3014

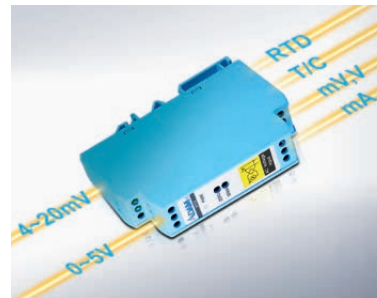


**Three-Way Signal Isolation**  
Three-way (input/output/power)  
1,000 V<sub>DC</sub> isolation.

## Dimensions



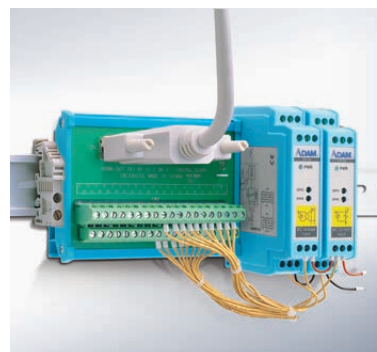
ADAM-3000 Series Modules



**Field Configurable I/O Range**  
The I/O range can be configured on site via internal switches.



**Easy Daisy Chain Power Wiring**  
Adjacent modules can be linked in a daisy chain and connected to a single power source.



**Interfacing with DAQ Cards**  
A wiring adapter can be used to connect modules to a data acquisition card.

# ADAM-3011 ADAM-3013 ADAM-3014

## Isolated Thermocouple Input Module

## Isolated RTD Input Module

## Isolated DC Input/Output Module



ADAM-3011



ADAM-3013



ADAM-3014



### Specifications

#### Thermocouple Input

- Common Mode Rejection 115 dB min
- Input Type

T/C Type	Temperature Range (°C)	Accuracy at 25 °C
J	-40 ~ 760	±2
K	0 ~ 1,000	±2
T	-100 ~ 400	±2
E	0 ~ 1,000	±2
S	500 ~ 1,750	±4
R	500 ~ 1,750	±4
B	500 ~ 1,800	±4

- Isolation 1,000 V<sub>DC</sub> (three way)
- Output Impedance 0.5 Ω
- Stability (Temperature Drift) ±2 °C
- Voltage Output 0 ~ 10 V

#### General

- Connectors Screw terminal
- Enclosure ABS
- Indicators Power LED indicator
- Isolation 1,000 V<sub>DC</sub>
- Power Consumption 1.4 W
- Power Input 24 V<sub>DC</sub> ± 10%
- Dimensions (W x H x D) 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- Operating Temperature 0 ~ 50 °C (32 ~ 122 °F)
- Storage Temperature -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- ADAM-3011 Isolated thermocouple input module

### Specifications

#### RTD Input

- Accuracy ± 0.1% of full range (voltage) or ± 0.15 °C (voltage) ± 0.2% of full range (current)
- Bandwidth 4 Hz
- Input CMR at DC 92 dB min.
- Input Connections 2/3/4 wires
- Input Type

RTD Type	α	Temperature Range (°C)
Pt	0.00385	-100 ~ 100
Pt	0.00385	0 ~ 100
Pt	0.00385	0 ~ 200
Pt	0.00385	0 ~ 600
Pt	0.00385	-100 ~ 0
Pt	0.00385	-100 ~ 200
Pt	0.00385	-50 ~ 50
Pt	0.00385	-50 ~ 150
Pt	0.00392	-100 ~ 100
Pt	0.00392	0 ~ 100
Pt	0.00392	0 ~ 200
Pt	0.00392	0 ~ 600
Ni	N/A	0 ~ 100
Ni	N/A	-80 ~ 100

- Output Range 0 ~ 5 V, 0 ~ 10 V, 0 ~ 20 mA
- Output Resistance < 5 Ω
- Temperature Drift ± 30 ppm of full range

#### General

- Connectors Screw terminal
- Enclosure ABS
- Indicators Power LED indicator
- Isolation 1,000 V<sub>DC</sub>
- Power Consumption < 0.95 W
- Power Input 24 V<sub>DC</sub> ± 10%
- Dimensions (W x H x D) 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- Operating Temperature 0 ~ 70 °C (32 ~ 158 °F)
- Storage Temperature -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- ADAM-3013 Isolated RTD input module

### Specifications

#### I/O

- Accuracy ± 0.1% of full range (typical)
- Common Mode Rejection > 100 dB @ 50 Hz/60 Hz
- Current Input Bipolar: ±20 mA Unipolar: 0 ~ 20 mA Input impedance: 250 Ω
- Current Output 0 ~ 20 mA
- Stability (Temperature Drift) 150 ppm (typical)
- Voltage Input Bipolar input: ±10 mV, ±50 mV, ±100 mV, ±0.5 V, ±1.0 V, ±5 V, ±10 V Unipolar input: 0 ~ 10 mV, 0 ~ 50 mV, 0 ~ 100 mV, 0 ~ 0.5 V, 0 ~ 1 V, 0 ~ 5 V, 0 ~ 10 V Input impedance: 2 MΩ Input bandwidth: 2.4 kHz (typical)
- Voltage Output Bipolar: ±5 V, ±10 V Unipolar: 0 ~ 10 V Impedance: < 50 Ω Drive: 10 mA max.

#### General

- Connectors Screw terminal
- Enclosure ABS
- Indicators Power LED indicator
- Isolation 1,000 V<sub>DC</sub> (three way)
- Power Consumption 1.2 W (current output) 0.85 W (voltage output)
- Power Input 24 V<sub>DC</sub> ± 10%
- Dimensions (W x H x D) 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- Operating Temperature -10 ~ 70 °C (-14 ~ 158 °F)
- Storage Temperature -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- ADAM-3014 Isolated DC input/output module

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# ADAM-3016

# ADAM-3017

## Isolated Strain Gauge Input Module

## External Powered IEPE Signal Conditioner



ADAM-3016



### Specifications

#### I/O

- **Accuracy**  $\pm 0.1\%$  of full range
- **Bandwidth** 2.4 kHz (typical)
- **Isolation Mode Rejection**  $> 100$  dB @ 50 Hz/60 Hz
- **Current Output** Current: 0 ~ 20 mA  
Current load resistor: 0 ~ 500  $\Omega$  (Source)
- **Stability (Temperature Drift)** 150 ppm (typical)
- **Voltage Specifications** Electrical input:  $\pm 10$  mV,  $\pm 20$  mV,  $\pm 30$  mV,  $\pm 100$  mV  
Excitation voltage: 1 ~ 10 V<sub>DC</sub> (60 mA max)
- **Voltage Output** Bipolar:  $\pm 5$  V,  $\pm 10$  V  
Unipolar: 0 ~ 10 V  
Impedance:  $< 50$   $\Omega$

#### General

- **Connectors** Screw terminal
- **Enclosure** ABS
- **Indicators** Power LED indicator
- **Isolation** 1,000 V<sub>DC</sub> (Three-way)
- **Power Consumption**  $\leq 1.85$  W (voltage output)  
 $\leq 2.15$  W (current output)
- **Power Input** 24 V<sub>DC</sub>  $\pm 10\%$
- **Dimensions (W x H x D)** 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- **Operating Temperature** -10 ~ 70 °C (14 ~ 158 °F)
- **Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- **ADAM-3016** Isolated strain gauge input module



ADAM-3017



### Specifications

#### Integrated Electronic Piezoelectric (IEPE) Excitation

- **Channels** 1
- **Upper Cut-Off Frequency (for all couple settings)**
  - x1, x10 gain (-5%) 100 kHz
  - x100 gain (-1%) 50 kHz
- **Lower Cut-Off Frequency (-3dB, 1 M $\Omega$  load, for all gain settings)**
  - DC Couple DC
  - AC Couple (1  $\mu$ F) 0.58 Hz
  - AC Couple (47  $\mu$ F) 0.012 Hz
- **Accuracy**  $< \pm 2\%$  for all gain settings
- **Compliance**  $> 24$  V
- **Current** 0, 4, 6, or 10 mA  $\pm 5\%$
- **Discharge Time Constant (1 M $\Omega$  load, for all gain settings)**
  - DC Couple 0 second
  - AC Couple (1  $\mu$ F)  $> 0.3$  seconds
  - AC Couple (47  $\mu$ F)  $> 13$  seconds
- **DC Offset**  $< 30$  mV

#### Isolation Protection

- **Input/Output to Power** 1,000 V<sub>DC</sub>

#### General

- **I/O Connectors** Screw terminal  
(Including a female BNC to terminal block adaptor)
- **Dimensions (W x H x D)** 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- **ADAM-3017-AE** Externally powered IEPE signal conditioner

# ADAM-3112

# ADAM-3114

Isolated AC Voltage Input Module

Isolated AC Current Input Module



ADAM-3112



## Specifications

### Voltage Input

Full Range Mode		400 V	250 V	120 V
Input Voltage	AC (V <sub>RMS</sub> )	0 ~ 400	0 ~ 250	0 ~ 120
	DC (V)	0 ~ 400	0 ~ 250	0 ~ 120
Input Impedance		48 k	30 k	14.4 k

### Voltage Output

- Output Signal 0 ~ 5 V<sub>DC</sub>
- Accuracy < ±1.0 % for full range
- Output Impedance < 10 Ω @ operating frequency < 60 Hz
- Load > 10 k Ω
- Ripple < 120mVp-p
- Temperature Coefficient 400 ppm/°C
- Input Bandwidth 6 kHz

### Power Consumption

- Supply Voltage 24 V<sub>DC</sub> ± 10%
- Current Consumption 40 mA

### General

- Isolation Protection 1,000 V<sub>DC</sub> (output to power)  
2,500 V<sub>RMS</sub> (input to output, input to power)
- Dimensions (W x H x D) 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- Operating Temperature 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity 5 ~ 95%

## Ordering Information

- ADAM-3112-AE Isolated AC voltage input module



ADAM-3114



## Specifications

### Current Input

- AC Current Input 0 ~ 5 A<sub>RMS</sub>
- DC Current Input 0 ~ 5 A

### Voltage Output

- Output Signal 0 ~ 5 V<sub>DC</sub>
- Accuracy < ±1.0 % for full range
- Output Impedance < 10 Ω @ operating frequency < 60 Hz
- Load > 10 k Ω
- Ripple < 120 mVp-p
- Temperature Coefficient 400 ppm/°C
- Input Bandwidth 10 kHz

### Power Consumption

- Supply Voltage 24 V<sub>DC</sub> ± 10%
- Current Consumption 40 mA

### General

- Isolation Protection 1,000 V<sub>DC</sub> (output to power)  
2,500 V<sub>RMS</sub> (input to output, input to power)
- Dimensions (W x H x D) 23.2 x 101 x 93.5 mm (0.91" x 3.97" x 3.68")
- Operating Temperature 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity 5 ~ 95%

## Ordering Information

- ADAM-3114-AE Isolated AC current input module

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# USB-4620 USB-4622 USB-4630

## 5-Port Isolated USB 2.0 Full-Speed Hub

## 5-Port USB 2.0 High-Speed Hub

## 4-Port Isolated USB 3.0 SuperSpeed™ Hub



USB-4620

FCC CE RoHS COMPLIANT



USB-4622

FCC CE RoHS COMPLIANT



USB-4630

FCC CE RoHS COMPLIANT

### Features

- 5 downstream USB 2.0 ports
- Supports USB 2.0 full speed
- 3,000 V<sub>DC</sub> voltage isolation for each downstream port
- Suitable for DIN rail mounting
- One lockable USB cable included
- 10 ~ 30 V<sub>DC</sub> power input (power adapter not included)

### Specifications

#### Connectivity

- Ports** 1 x Upstream (Type B)  
5 x Downstream (Type A)  
USB 2.0 full speed
- Compatibility** USB 2.0 full speed
- Transfer Speed** 12 Mbps
- Supply Current** 500 mA max. per channel

#### General

- Housing** Plastic (ABS+PC)
- Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- DC Input** 10 ~ 30 V<sub>DC</sub>
- Power Consumption** 24 V @ 36 mA
- Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH non-condensing

#### Protection

- Isolation Protection** 3,000 V<sub>DC</sub>

### Ordering Information

- USB-4620-AE** 5-port isolated USB 2.0 full-speed hub

#### Accessories

- 96PS-A40WDIN** DIN rail power supply, 40 W, 24 V
- 1960004544** Wall mount bracket
- 1960005788** VESA mount bracket
- USB-LOCKCABLE-AE** Lockable USB 2.0 cable, 1 m, with screw kit

### Features

- 5 downstream USB 2.0 ports
- Supports USB 2.0 high speed, USB 2.0 full speed, and USB 1.0
- 480 Mbps high-speed data transfer
- LED indicator
- Suitable for DIN rail mounting
- Lockable USB cable included
- 10 ~ 30 V<sub>DC</sub> power input (power adapter not included)

### Specifications

#### Connectivity

- Ports** 1 x Upstream (Type B)  
5 x Downstream (Type A)  
USB 2.0 high speed, USB 2.0 full speed, USB 1.0
- Compatibility** USB 2.0 high speed, USB 2.0 full speed, USB 1.0
- Transfer Speed** 480 Mbps/12 Mbps/1.5 Mbps
- Supply Current** 500 mA max. per channel

#### General

- Housing** Plastic (ABS+PC)
- Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- DC Input** 10 ~ 30 V<sub>DC</sub>
- Power Consumption** 24 V @ 36 mA
- Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH non-condensing

### Ordering Information

- USB-4622-BE** 5-port USB 2.0 high-speed hub

#### Accessories

- 96PS-A40WDIN** DIN rail power supply, 40 W, 24 V
- 1960004544** Wall mount bracket
- 1960005788** VESA mount bracket
- USB-LOCKCABLE-AE** Lockable USB 2.0 cable, 1 m, with screw kit

### Features

- 2,500 V<sub>DC</sub> voltage isolation for upstream ports
- 4 x downstream USB 3.0 SuperSpeed™ ports
- Can be powered via a USB bus or 10 ~ 30 V<sub>DC</sub> external power source
- ESD protection up to ±8 kV (Level 3)
- Power status and downstream port speed LED indicators
- The world's first isolated USB 3.0 SuperSpeed Hub
- Up to 5 Gbps transfer speed
- Lockable USB 3.0 cable is included

### Specifications

#### Connectivity

- Ports** 1 x Upstream (Type B)  
4 x Downstream (Type A)  
USB 3.0 SuperSpeed (1)
- Compatibility** USB 3.0 SuperSpeed (1)
- Transfer Speed** 5 Gbps shared by all downstream ports
- Load Current** External power: 900 mA max. per port  
USB bus power: 700 mA max. shared by all ports (2)

#### General

- Housing** Plastic (ABS + PC)
- Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- Power Input** 10 ~ 30 V<sub>DC</sub>
- Power Consumption** 760 mW (no load)
- Operating Temperature** 0 ~ 70 °C (32 ~ 158 °F) with external power  
0 ~ 60 °C (32 ~ 140 °F) with USB bus power
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH (non-condensing)

#### Protection

- Isolation Protection** 2,500 V<sub>DC</sub>
- ESD Protection** Contact discharge: ±4 kV (Level 2)  
Air discharge: ±8 kV (Level 3)

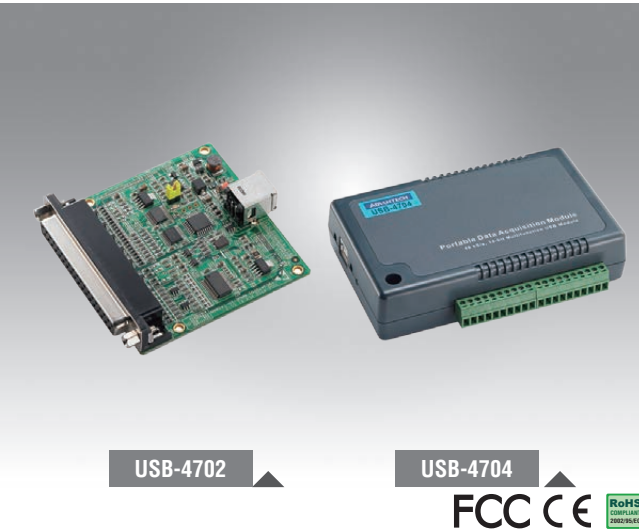
### Ordering Information

- USB-4630-AE** 4-port isolated USB 3.0 SuperSpeed™ hub
- 96PS-A40WDIN** DIN rail power supply, 40 W, 24 V

# USB-4702 USB-4704

10 kS/s, 12-Bit, 8-Ch Multifunction DAQ  
USB Module

48 kS/s, 14-Bit, 8-Ch Multifunction DAQ  
USB Module



USB-4702

USB-4704



## Features

- Supports USB 2.0
- Portable
- Bus powered
- 8 x Analog input channels
- 12-bit (USB-4702), 14-bit (USB-4704) resolution AI
- Sampling rates of up to 10 kS/s (USB-4702), 48 kS/s (USB-4704)
- 8-ch Digital input/8-ch digital output, 2-ch analog output, and 1 x 32-bit counter

## Introduction

USB-4702 and USB-4704 are low-cost USB data acquisition modules that can be installed without opening the chassis; simply plug in the modules to access collected data. Reliable and rugged enough for industrial applications, yet sufficiently affordable for home systems, USB-4702 and USB-4704 DAQ modules provide an easy and efficient means of adding measurement and control capabilities to USB-capable computers. Additionally, because USB-4702 and USB-4704 draw power from the computer via the USB port, no external power connection is required, making these modules the most cost-effective solution for testing and measurement applications.

## Specifications

### Analog Input

- Channels** 8 single ended/4 differential (software programmable)
- Resolution** USB-4702: single ended: 11 bits  
Differential: 12 bits  
USB-4704: single ended: 13 bits  
Differential: 14 bits
- Max. Sampling Rate** USB-4702: 10 kS/s max.  
USB-4704: 48 kS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $10k/4 = 2.5$  kS/s per channel.

- FIFO Size** 512 samples
- Overvoltage Protection** 30 V<sub>p-p</sub>
- Input Impedance** 127 k $\Omega$
- Sampling Modes** Software, onboard programmable pacer, and external
- Input Range and Absolute Accuracy**

Single Ended	$\pm 10$	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Differential	N/A	$\pm 1$	$\pm 1.25$	$\pm 2$	$\pm 2.5$	$\pm 4$	$\pm 5$	$\pm 10$	$\pm 20$
Absolute Accuracy (% of FSR)*	USB-4702	0.2	0.15	0.15	0.15	0.15	0.15	0.15	0.15
	USB-4704	0.15	0.1	0.1	0.1	0.1	0.1	0.15	0.15

\*  $\pm 1$  LSB is added as the derivative for absolute accuracy

### Analog Output

- Channels** 2
- Resolution** 12 bits
- Output Rate** Static update
- Output Range** 0 ~ 5 V (software programmable)
- Slew Rate** 0.7 V/ $\mu$ s
- Driving Capability** 5 mA
- Output Impedance** 51  $\Omega$
- Operation Mode** Single output
- Accuracy** Relative:  $\pm 12$  LSB  
Differential non-linearity:  $\pm 5$  LSB

### Digital Input

- Channels** 8
- Compatibility** 3.3 V/5 V/TTL
- Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.

### Digital Output

- Channels** 8
- Compatibility** TTL
- Output Voltage** Logic 0: 0.4 V max @ 4 mA (sink)  
Logic 1: 3.5 V min @ 4 mA (source)

### Counter

- Channels** 1
- Resolution** 32 bits
- Compatibility** 3.3 V/TTL
- Max. Input Frequency** 5 MHz

### General

- Bus Type** USB 2.0
- I/O Connector** USB-4702: 1 x DB37, female  
USB-4704: Onboard screw terminal
- Dimensions (L x W x H)** USB-4702: 70 x 70 mm (2.76" x 2.76")  
USB-4704: 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- Power Consumption** Typical: 5 V @ 100 mA  
Max.: 5 V @ 500 mA
- Operating Temperature** 0 ~ 55 °C (32 ~ 131 °F)
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH non-condensing

## Ordering Information

- USB-4702-AE** 10 kS/s, 12-bit, 8-ch multifunction DAQ USB module
- USB-4704-AE** 48 kS/s, 14-bit, 8-ch multifunction DAQ USB module

### Accessories

- PCL-10137-1E** DB37 cable, 1 m
- PCL-10137-2E** DB37 cable, 2 m
- PCL-10137-3E** DB37 cable, 3 m
- ADAM-3937-BE** DB37 DIN rail wiring board
- 1960004544** Wall mount bracket
- 1960005788** VESA mount bracket

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# USB-4711A

## 150 kS/s, 12-Bit, 16-Ch Multifunction DAQ USB Module



### Features

- Supports USB 2.0
- Portable
- Bus powered
- 16 x Analog input channels
- 12-bit resolution analog input
- Up to 150 kS/s sampling rate
- 8-ch Digital input/8-ch digital output, 2-ch analog output, and 1 x 32-bit counter
- Detachable screw terminal on modules
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

### Introduction

The USB-4700 series comprises plug-and-play DAQ modules that can be installed without opening the chassis; simply plug in the modules to access collected data. Reliable and rugged enough for industrial applications, yet sufficiently affordable for home systems, USB-4700 series modules provide an easy and efficient means of adding measurement and control capabilities to USB-capable computers.

USB-4711A is equipped with an onboard terminal block, 16-ch analog input, 2-ch analog output, 16-ch digital I/O, and a counter channel capable of outputting a constant frequency square wave. Additionally, because USB-4711A draws power from the computer via the USB port, no external power connection is required, making this module a most cost-effective solution for diverse testing and measurement applications.

### Specifications

#### Analog Input

- **Channels** 16 Single ended/8 differential (software programmable)
- **Resolution** 12 bits
- **Max. Sampling Rate** 150 kS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $150k/4 = 37.5$  kS/s per channel.

- **FIFO Size** 1,024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software, onboard programmable pacer, and external
- **Input Range and Absolute Accuracy**

Bipolar	±10	±5	±2.5	±1.25	±0.625
<b>Absolute Accuracy (% of FSR)*</b>	0.1	0.1	0.2	0.2	0.4

\* ±1 LSB is added as the derivative for absolute accuracy

#### Analog Output

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

Internal Reference	Unipolar	0 ~ 5, 0 ~ 10
	Bipolar	±5, ±10

- **Slew Rate** 0.125 V/us
- **Driving Capability** 5 mA
- **Output Impedance** 0.1 Ω
- **Operation Mode** Single output
- **Accuracy** Relative: ±1 LSB  
Differential non-linearity: ±1 LSB

#### Digital Input

- **Channels** 8
- **Compatibility** 3.3 V/5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.

#### Digital Output

- **Channels** 8
- **Compatibility** 3.3 V/TTL
- **Output Voltage** Logic 0: 0.4 V max.@ 6 mA  
Logic 1: 2.6 V min.@ 6 mA

#### Event Counter

- **Channels** 1
- **Compatibility** 3.3 V/TTL
- **Max. Input Frequency** 1 kHz

#### General

- **Bus Type** USB 2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 360 mA  
Max.: 5 V @ 450 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

### Ordering Information

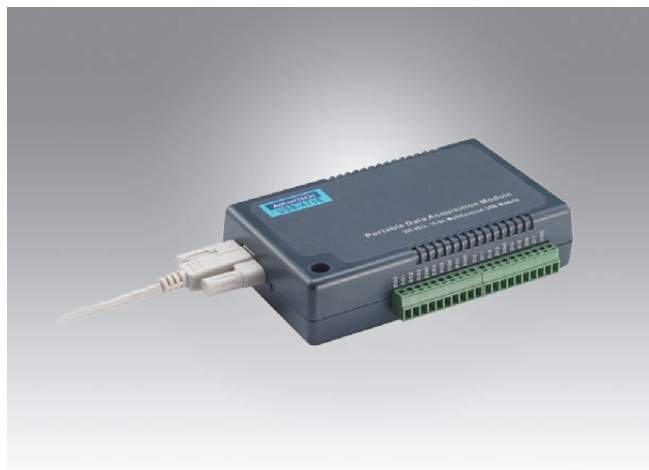
- **USB-4711A-AE** 150 kS/s, 12-bit, 16-ch multifunction DAQ USB module

#### Accessories

- **1960004544** Wall mount bracket
- **1960005788** VESA mount bracket

# USB-4716

## 200 kS/s, 16-Bit, 16-Ch Multifunction DAQ USB Module



### Features

- Supports USB 2.0
- Portable
- Bus powered
- 16 x Analog input channels
- 16-bit resolution analog input
- Up to 200 kS/s sampling rate
- 8-ch Digital input/8-ch digital output, 2-ch analog output, and 1 x 32-bit counter
- Detachable screw terminal on modules
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

### Introduction

The USB-4700 series comprises plug-and-play DAQ modules that can be installed without opening the chassis; simply plug in the modules to access collected data. Reliable and rugged enough for industrial applications, yet sufficiently affordable for home systems, USB-4700 series modules provide an easy and efficient means of adding measurement and control capabilities to USB-capable computers.

USB-4716 offers 16 single-ended/8 differential analog inputs with 16-bit resolution, up to 200 kS/s throughput, 16 digital I/Os, 1 user counter, and 2 16-bit analog outputs. Additionally, because USB-4716 draws power from the computer via the USB port, no external power connection is required, making this module a most cost-effective solution for diverse testing and measurement applications.

### Specifications

#### Analog Input

- **Channels** 16 Single ended/ 8 differential (software programmable)
- **Resolution** 16 bits
- **Max. Sampling Rate** 200 kS/s (for USB 2.0)

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $200k/4 = 50$  kS/s per channel.

- **FIFO Size** 1,024 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software, onboard programmable pacer, or external
- **Input Range and Absolute Accuracy**

Single Ended	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
Differential	±10	±5	±2.5	±1.25	±0.625
Absolute Accuracy (% of FSR)*	0.015	0.03	0.03	0.05	0.1

\* ±1 LSB is added as the derivative for absolute accuracy

#### Analog Output

- **Channels** 2
- **Resolution** 16 bits
- **Output Rate** Static update
- **Output Range** (V, software programmable)

Internal Reference	Unipolar	0 ~ 5, 0 ~ 10
	Bipolar	±5, ±10

- **Slew Rate** 0.125 V/μs
- **Driving Capability** 5 mA
- **Output Impedance** 0.1 Ω max.
- **Operation Mode** Single output
- **Accuracy** Relative: ±1 LSB

#### Digital Input

- **Channels** 8
- **Compatibility** 3.3 V/5 V/TTL
- **Input Voltage** Logic 0: 1.0 V max.  
Logic 1: 2.0 V min.

#### Digital Output

- **Channels** 8
- **Compatibility** 3.3 V/TTL
- **Output Voltage** Logic 0: 0.4 V max.  
Logic 1: 2.4 V min.
- **Output Capability** Sink: 6 mA (sink)  
Source: 6 mA (source)

#### Event Counter

- **Channels** 1
- **Compatibility** 3.3V/TTL
- **Max. Input Frequency** 1 kHz

#### General

- **Bus Type** USB 2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 360 mA  
Max.: 5 V @ 450 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 158 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Operating Humidity** 5 ~ 85% RH non-condensing
- **Storage Humidity** 5 ~ 95% RH non-condensing

### Ordering Information

- **USB-4716-AE** 200 kS/s, 16-bit, 16-ch multifunction DAQ USB module

#### Accessories

- **1960004544** Wall mount bracket
- **1960005788** VESA mount bracket

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# USB-4718

## 8-Ch Thermocouple Input USB Module with 8-Ch Isolated Digital Input



FCC CE RoHS

### Features

- Supports USB 2.0
- Supports voltage, current, and thermocouple inputs
- Bus powered
- 8 x Thermocouple input channels
- 2,500 V<sub>DC</sub> isolation
- Supports 4 ~ 20 mA current input
- Detachable screw terminal on modules
- 8-ch isolated digital input and 8-ch isolated digital output
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

### Introduction

The USB-4700 series comprises plug-and-play DAQ modules that can be installed without opening the chassis; simply plug in the modules to access collected data. Reliable and rugged enough for industrial applications, yet sufficiently affordable for home systems, USB-4700 series modules provide an easy and efficient means of adding measurement and control capabilities to USB-capable computers.

USB-4718 offers 8 thermocouple inputs with 16-bit resolution and up to 0.1% input range accuracy. With its compact and portable design, USB-4718 is ideal for field-based applications. Additionally, the module's input channels can be individually configured to enable handling of multiple sensor types.

### Specifications

#### Analog Input

- **Accuracy** ±0.1% for voltage input
- **Bandwidth** 13.1 Hz @ 50 Hz,  
15.72 Hz @ 60 Hz
- **Channels** 8 differential
- **Independent Channel Configuration** Yes
- **CMR @ 50/60 Hz** 92 dB min.
- **Resolution** 16 bits
- **Input Impedance** 1.8 MΩ
- **Input Range** 0 ~ 15 mV, 0 ~ 50 mV, 0 ~ 100 mV,  
0 ~ 500 mV, 0 ~ 1 V, 0 ~ 2.5 V,  
0 ~ 20 mA, 4 ~ 20 mA
- **Input Types** Thermocouple, mV, V, mA
- **Sampling Rate** 10 S/s (shared for all channels)

Note: Because of the hardware design, the sampling rate for each channel is fixed at 10/8 = 1.25 S/s per channel regardless of the number of channels used.

- **Span Drift** ±25 ppm/°C
- **T/C Type and Temperature Ranges**

<b>J</b>	0 ~ 760 °C	<b>R</b>	500 ~ 1750 °C
<b>K</b>	0 ~ 1370 °C	<b>S</b>	500 ~ 1750 °C
<b>T</b>	-100 ~ 400 °C	<b>B</b>	500 ~ 1800 °C
<b>E</b>	0 ~ 1000 °C		

- **TVS/ESD Protection** Built in
- **Zero Drift** ±0.3 μV/°C

#### Isolated Digital Input

- **Channels** 8
- **Input Voltage** Logic 0: 3 V max.  
Logic 1: 5 V min. (30 V max.)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Opto-Isolator Response** 25 μs

#### Isolated Digital Output

- **Channels** 8
- **Output Type** Sink (NPN)
- **Isolation Protection** 2,500 V<sub>DC</sub>
- **Output Voltage** 5 ~ 30 V<sub>DC</sub>, 1.1 A max./total
- **Sink Current** 200 mA max./channel
- **Opto-Isolator Response** 25 μs

#### General

- **Bus Type** USB 2.0
- **I/O Connector** Onboard screw terminal
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** 100 mA @ 5 V
- **Watchdog Timer** 1.6 sec. (system)
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

### Ordering Information

- **USB-4718-AE** 8-ch thermocouple input USB module

#### Accessories

- **1960004544** Wall mount bracket
- **1960005788** VESA mount bracket

# USB-4750

# USB-4761

## 32-Ch Isolated Digital I/O USB Module

## 8-Ch Relay, 8-Ch Isolated Digital Input USB Module



USB-4750

FCC CE RoHS



USB-4761

FCC CE RoHS

### Features

- Compatible with USB 1.1/2.0
- Bus powered
- 16 x isolated digital input and 16 x digital output channels
- High voltage isolation on all channels (2,500 V<sub>DC</sub>)
- High sink current on isolated output channels (200 mA/channel)
- Supports 5 ~ 60 V<sub>DC</sub> isolated input channels
- Interrupt handling capability
- Timer/counter capability
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

### Specifications

#### Isolated Digital Input

- Channels** 16
- Input Voltage** Logic 0: 2 V max.  
Logic 1: 5 V min. (60 V max.) or dry contact
- Interruptible Channels** 2
- Isolation Protection** 2,500 V<sub>DC</sub>

#### Isolated Digital Output

- Channels** 16
- Output Type** Sink (NPN)
- Isolation Protection** 2,500 V<sub>DC</sub>
- Output Voltage** 5 ~ 40 V<sub>DC</sub>
- Sink Current** 200 mA max. per channel  
Total 1.1 A max.

#### Isolated Counter

- Channels** 2
- Resolution** 32 bit
- Max. Input Frequency** 1 MHz
- Isolation Protection** 2,500 V<sub>DC</sub>

#### General

- Bus Type** USB 1.1/2.0
- I/O Connector** Onboard screw terminal
- Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- Power Consumption** Typical: 5 V @ 200 mA  
Max.: 5 V @ 350 mA
- Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- USB-4750-BE** 32-ch isolated digital I/O USB module

#### Accessories

- 1960004544** Wall mount bracket
- 1960005788** VESA mount bracket

### Features

- Compatible with USB 1.1/2.0
- Portable
- Bus powered
- 8 x Relay output and 8 x isolated digital input channels
- LED indicators to show activated relays
- 8 x Form C-type relay output channels
- High-voltage isolation on input channels (2,500 V<sub>DC</sub>)
- High ESD protection (2,000 V)
- Wide input range (5 ~ 30 V<sub>DC</sub>)
- Interrupt handling capability
- Detachable screw terminal on modules
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

### Specifications

#### Isolated Digital Input

- Channels** 8
- Input Voltage** Logic 0: 2 V max.  
Logic 1: 5 V min. (30 V max.)
- Isolation Protection** 2,500 V<sub>DC</sub>
- Opto-Isolator Response** 50 μs

#### Relay Output

- Contact Rating** 0.25 A @ 240 V<sub>AC</sub>, 1 A @ 30 V<sub>DC</sub>
- Max. Switching Power** 62.5 VA, 60 W
- Max. Switching Voltage** 250 V<sub>AC</sub>, 220 V<sub>DC</sub>
- Max. Switching Current** 5 A
- Operate/Release Time** max. 5 / 4 ms
- Life Expectancy (Electrical)** 5 x 10<sup>7</sup> cycles typ. @ 10 mA/12 V  
2 x 10<sup>5</sup> cycles typ. @ 2000 mA/30 V

#### General

- Bus Type** USB 1.1/2.0
- I/O Connector** Onboard screw terminal
- Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- Power Consumption** Typical: 5 V @ 60 mA  
Max.: 5 V @ 400 mA
- Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- USB-4761-BE** 8-ch relay/isolated digital input USB module

#### Accessories

- 1960004544** Wall mount bracket
- 1960005788** VESA mount bracket

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# USB-4751 USB-4751L

## 48-Ch Digital I/O USB Module

## 24-Ch Digital I/O USB Module



### Features

- Compatible with USB 1.1/2.0
- Portable
- Bus powered
- 48/24 x TTL digital I/O
- Emulates Mode 0 of the Intel® 8255 PPI chip
- Buffered circuits offer a higher driving capacity compared to the Intel® 8255 PPI chip
- Interrupt handling capability
- Timer/Counter interrupt capability
- Supports both dry and wet contact
- 50-pin Opto-22-compatible box header
- Suitable for DIN rail mounting
- 1 x Lockable USB cable included for connection security

### Introduction

The USB-4700 series comprises plug-and-play DAQ modules that can be installed without opening the chassis; simply plug in the modules to access collected data. Reliable and rugged enough for industrial applications, yet sufficiently affordable for home systems, USB-4700 series modules provide an easy and efficient means of adding measurement and control capabilities to USB-capable computers.

USB-4751 and USB-4751L are 48/24-bit digital I/O modules that feature a USB interface, event counter, and three 16-bit timers, which can be cascaded to provide a 32-bit timer. The 48/24 bits are divided into six/three 8-bit I/O ports that can be individually configured as input or output ports using software.

### Specifications

#### Digital Input

- **Channels** USB-4751: 48 (shared with output)  
USB-4751L: 24 (shared with output)
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2 V min.

#### Digital Output

- **Channels** USB-4751: 48 (shared with input)  
USB-4751L: 24 (shared with input)
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.5 V max.  
Logic 1: 3.8 V min.
- **Output Capability** Sink: 12 mA @ 0.5 V  
Source: 12 mA @ 3.8 V for single channels  
5 mA @ 3.8 V for all channels in high status

#### Counter/Timer

- **Channels** 2
- **Resolution** 32-bit
- **Max. Input Frequency** 8 MHz

#### General

- **Bus Type** USB 1.1/2.0
- **I/O Connector** 50-pin box headers, pin assignments are fully compatible with Opto-22 I/O module racks
- **Dimensions (L x W x H)** 132 x 80 x 32 mm (5.2" x 3.15" x 1.26")
- **Power Consumption** Typical: 5 V @ 200 mA  
Max.: 5 V @ 500 mA
- **Operating Temperature** 0 ~ 60 °C (32 ~ 140 °F)
- **Storage Temperature** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing

### Ordering Information

- **USB-4751-AE** 48-ch digital I/O USB module
- **USB-4751L-AE** 24-ch digital I/O USB module

#### Accessories

- **1960004544** Wall mount bracket
- **1960005788** VESA mount bracket
- **PCL-10150-1.2E** 50-pin flat cable, 1.2 m
- **ADAM-3950-AE** 50-pin DIN rail flat cable wiring board
- **PCLD-782B-AE** 24-ch IDI board with 20-pin and 50-pin flat cables
- **PCLD-785B-AE** 24-ch relay board with 20-pin and 50-pin flat cables

# Serial Communication Card Selection Guide

## Serial Communication Cards



Bus		PCI Express								
Part Number		PCI-1602	PCI-1602UP	PCI-1604	PCI-1604L	PCI-1610	PCI-1612	PCI-1620	PCI-1622	PCI-1680U
I/O Ports		2	2	2	2	4	4	8	8	2
Communication Interfaces	RS-232	V	V	V	V	V	V	V	V	-
	RS-422	V	V	-	-	-	V	-	V	-
	RS-485	V	V	-	-	-	V	-	V	-
	CAN	-	-	-	-	-	-	-	-	V
Drivers		Windows 7/8/10 and Linux								
Protection	ESD	15KV (air), 8KV (contact)								8KV (air), 4KV (contact)
	Isolation (V <sub>DC</sub> )	3,000	3,000	3,000	-	3,000	3,000	-	3,000	1,000



Bus		PCI Express						
Part Number		PCIE-1602	PCIE-1604	PCIE-1610	PCIE-1612	PCIE-1620	PCIE-1622	PCIE-1680
I/O Ports		2	2	4	4	8	8	2
Communication Interfaces	RS-232	V	V	V	V	V	V	-
	RS-422	V	-	-	V	-	V	-
	RS-485	V	-	-	V	-	V	-
	CAN	-	-	-	-	-	-	V
Drivers		Windows 7/8/10 and Linux						
Protection	ESD	15KV (air), 8KV (contact)						
	Isolation (V <sub>DC</sub> )	3,000	3,000	-	3,000	-	3,000	2,500



Bus		PCI Express	
Part Number		PCE-USB4	PCE-USB8
Host Controller		4 x Renesas $\mu$ PD720202	
USB 3.0 Ports		4	8
Drivers		Windows 7/8/10 and Linux (in box)	
Max. Current Per Port		1,500mA	

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## PC/104 Communication Modules



Bus		PC/104						
Part Number		PCM-3680	PCM-3660	PCM-3610	PCM-3612	PCM-3614	PCM-3618	PCM-3641
I/O Ports		2	2	2	2	4	8	4
Communication Interfaces	Ethernet	-	V	-	-	-	-	-
	RS-232	-	-	V	-	-	-	V
	RS-422	-	-	V	V	V	V	-
	RS-485	-	-	V	V	V	V	-
	CAN	V	-	-	-	-	-	-
Protection	ESD	8KV (air), 4KV (contact)						
	Isolation (V <sub>oc</sub> )	2,500	-	2,500	-	-	-	-

## PCI-104 Communication Modules



Bus		PCI-104	
Part Number		PCM-36801	PCM-36121
I/O Ports		2	4
Communication Interfaces	Current Loop	-	-
	RS-232	-	V
	RS-422	-	V
	RS-485	-	V
	CAN	V	-
Protection	ESD	8KV (air), 4KV (contact)	15KV (air), 8KV (contact)
	Isolation (V <sub>oc</sub> )	2,500	-

## Accessories



Part Number		1700018791	OPT4A	OPT8C	OPT8H	OPT8J
Length		30 cm	30 cm	1 m	1 m	1 m
Communication Interfaces	Connector Type	DB37 Male	DB37 Male	DB62 Male	DB62 Male	DB78
	Qty	1	1	1	1	1
	Connector Type	DB25 Male	DB9 Male	DB25 Male	DB9 Male	DB9 Male
	Qty	4	4	8	8	8
Applications		PCI-1610B, PCI-1610C, PCI-1612B, PCI-1612C, PCIE-1610B, PCIE-1612B, PCIE-1612C	PCI-1610B, PCI-1610C, PCI-1612B, PCI-1612C, PCIE-1610B, PCIE-1612B, PCIE-1612C	PCI-1620A, PCI-1620B, PCIE-1620A, PCIE-1622B	PCI-1620A, PCI-1620B, PCIE-1620A, PCIE-1622B	PCI-1622C, PCIE-1622C
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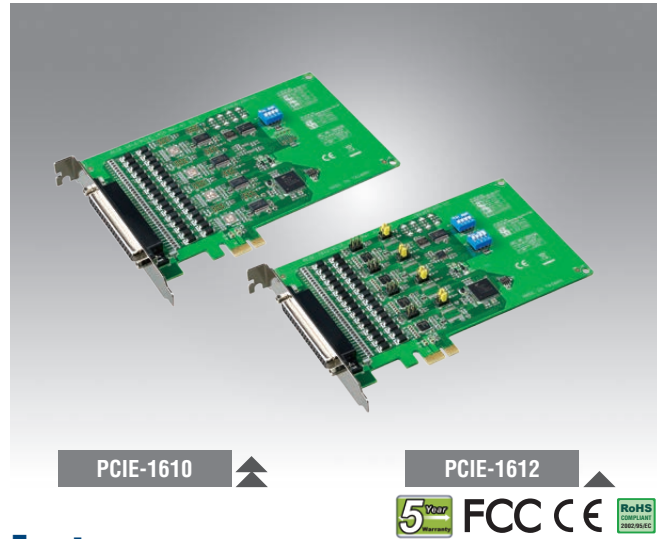
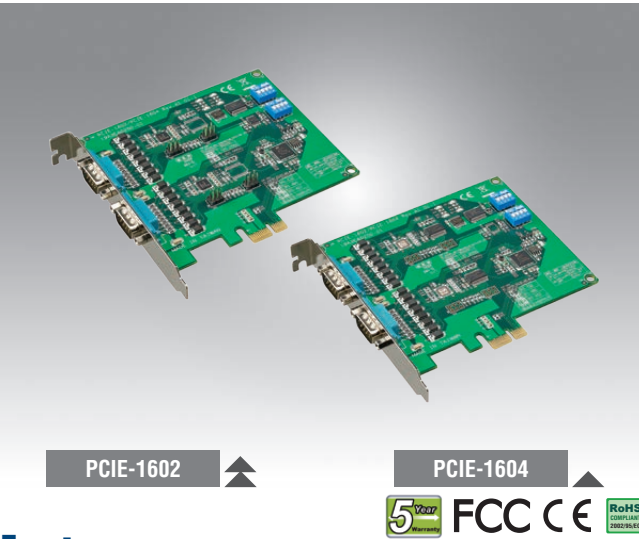
# PCIE-1602 PCIE-1604 PCIE-1610 PCIE-1612

2-Port RS-232/422/485 PCI Express Communication Card

2-Port RS-232 PCI Express Communication Card

4-Port RS-232 PCI Express Communication Card

4-Port RS-232/422/485 PCI Express Communication Card



## Features

- PCI Express bus 2.0 compliant
- Up to 921.6 kbps speed for extremely fast data transmissions
- Supports any baud rate setting
- 2 x RS-232 or RS-232/422/485 ports
- Supports Windows XP/7/8/10, and Linux operating systems
- XR17V352 UART with 256-byte FIFOs

## Specifications

### General

- Bus Type** PCI Express bus 2.0 compliant
- Bus Interface** PCI Express x1
- Certification** CE, FCC class A
- Connectors** 2 x DB9, male
- Dimensions (L x H)** 119.63 x 111 mm (4.71" x 4.4")
- Power Consumption** 260 mA @ +3.3 V (typ.)

### Communications

- Comm. Controller** XR17V352
- Data Bits** 5, 6, 7, 8
- FIFO** 256 bytes
- Parity** None, Odd, Even, Mark and Space
- Speed** 50 bps ~ 921.6 kbps
- Stop Bits** 1, 1.5, 2

### Software

- Bundled Software** ICOM tools
- OS Support** Windows XP/7/8/10 and Linux (check the software release note for versions supported)

### Environment

- Operating Humidity** 5 ~ 95% RH, non-condensing
- Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

### Protection

Part Number	ESD Protection	EFT Protection	Surge Protection	Isolation Protection
PCIE-1602B	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	
PCIE-1602C	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	3000 V <sub>oc</sub>
PCIE-1604B	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	
PCIE-1604C	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	3000 V <sub>oc</sub>

## Ordering Information

- PCIE-1602B-AE** 2-port RS-232/422/485 PCI Express comm. card w/surge
- PCIE-1602C-AE** 2-port RS-232/422/485 PCI Express comm. card w/surge and isolation
- PCIE-1604B-AE** 2-port RS-232 PCI Express comm. card w/surge
- PCIE-1604C-AE** 2-port RS-232 PCI Express comm. card w/surge and isolation

## Features

- PCI Express bus 2.0 compliant
- Up to 921.6 kbps speed for extremely fast data transmissions
- Supports any baud rate setting
- 4 x RS-232 or RS-232/422/485 ports
- Supports Windows XP/7/8/10, and Linux operating systems
- XR17V354 UART with 256-byte FIFOs

## Specifications

### General

- Bus Type** PCI Express bus 2.0 compliant
- Bus Interface** PCI Express x1
- Certification** CE, FCC class A
- Connectors** 1 x DB37, female
- Dimensions (L x H)** 168 x 111 mm (6.6" x 4.4")
- Power Consumption** 260 mA @ +3.3 V (typ.)

### Communications

- Comm. Controller** XR17V354
- Data Bits** 5, 6, 7, 8
- FIFO** 256 bytes
- Parity** None, Odd, Even, Mark and Space
- Speed** 50 bps ~ 921.6 kbps
- Stop Bits** 1, 1.5, 2

### Software

- Bundled Software** ICOM tools
- OS Support** Windows XP/7/8/10 and Linux (check the software release note for versions supported)

### Environment

- Operating Humidity** 5 ~ 95% RH, non-condensing
- Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

### Protection

Part Number	ESD Protection	EFT Protection	Surge Protection	Isolation Protection
PCIE-1610B	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	
PCIE-1612B	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	
PCIE-1612C	15KV (air), 8KV (contact)	1000 V	1000 V <sub>oc</sub>	3000 V <sub>oc</sub>

## Ordering Information

- PCIE-1610B-AE** 4-port RS-232 PCI Express comm. card w/surge
- PCIE-1612B-AE** 4-port RS-232/422/485 PCI Express comm. card w/surge
- PCIE-1612C-AE** 4-port RS-232/422/485 PCI Express comm. card w/surge and isolation

Note: This series includes an OPT4A cable.

### Accessories

- OPT4A-AE** 1 x DB37 to 4 x DB9 cable, 30 cm
- 1700018791** 1 x DB37 to 4 x DB25 cable, 30 cm

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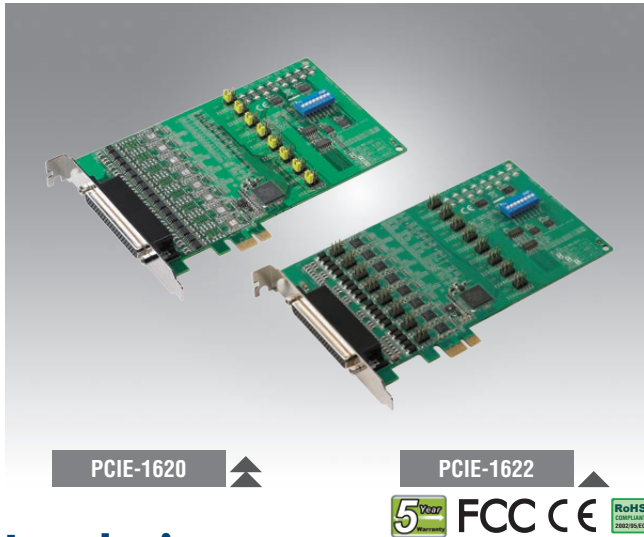
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# PCIE-1620 PCIE-1622

## 8-Port RS-232 PCI Express Communication Card

## 8-Port RS-232/422/485 PCI Express Communication Card



### Features

- PCI Express bus 2.0 compliant
- Up to 921.6 kbps speed for extremely fast data transmissions
- Supports any baud rate setting
- 8 x RS-232 or RS-232/422/485 ports
- XR17V358 UART with 256-byte FIFOs
- Supports Windows XP/7/8/10, and Linux operating systems
- Board ID function for fixed COM ports

### Introduction

PCIE-1620 and PCIE-1622 are 8-port RS-232/RS-232/422/485 PCI Express communication cards, compatible with the PCI Express x1 specification. Featuring 8 EFT protected ports (up to 1,000 V) with high data transmission speeds (up to 921.6 kbps) and high-performance XR17V358 UARTs with 256-byte FIFOs to reduce CPU load, PCIE-1620 and PCIE-1622 are ideal for diverse applications in multitasking environments.

### Specifications

#### General

- **Bus Type** PCI Express bus 2.0 compliant
- **Bus Interface** PCI Express x1
- **Certification** CE, FCC class A
- **Connectors** 1 x DB62, female (PCIE-1620A/22A/22B)  
1 x DB78, female (PCIE-1622C)
- **Dimensions (L x H)** 168 x 111 mm (6.6" x 4.4")
- **Power Consumption** 260 mA @ +3.3 V (typ.)

#### Communications

- **Comm. Controller** XR17V358
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD (PCIE-1620A/22B) TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI (PCIE-1622C) RS-422: Tx+, Tx-, Rx+, Rx- (PCIE-1620A/22A/22B) CTS+, CTS-, RTS+, RTS-, Tx+, Tx-, Rx+, Rx- (PCIE-1622C) RS-485: Data+, Data- (PCIE-1622)
- **FIFO** 256 bytes
- **Flow Control** DTR/DSR, RTS/CTS, Xon/Xoff
- **Parity** None, Odd, Even, Mark, or Space
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

#### Protection

Part Number	ESD Protection	EFT Protection	Surge Protection	Isolation Protection
PCIE-1620A	15KV (air), 8KV (contact)	1000 V		
PCIE-1622B	15KV (air), 8KV (contact)	1000 V	1000 V	
PCIE-1622C	15KV (air), 8KV (contact)	1000 V	1000 V	3000 V <sub>DC</sub>

#### Software

- **Bundled Software** ICOM tools
- **OS Support** Windows XP/7/8/10 and Linux (check the software release note for versions supported)

#### Environment

- **Operating Humidity** 5 ~ 95% RH, non-condensing
- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- **Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- **PCIE-1620A-BE** 8-port RS-232 PCI Express comm. card
- **PCIE-1622B-BE** 8-port RS-232/422/485 PCI-Express comm. card w/ surge
- **PCIE-1622C-AE** 8-port RS-232/422/485 PCI-Express comm. card w/ surge and isolation protection

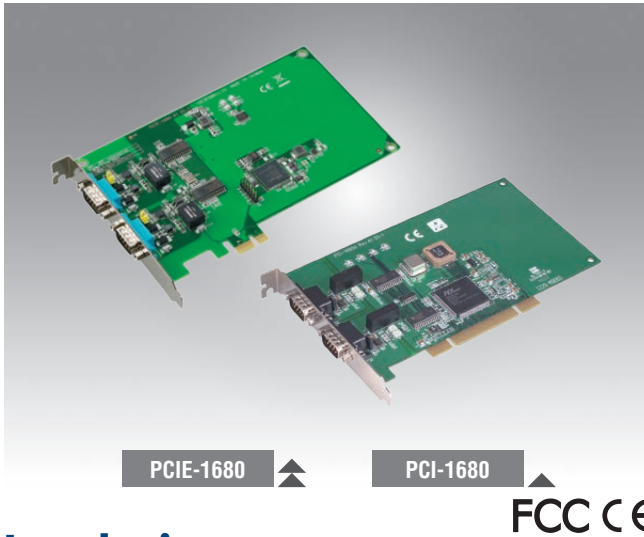
#### Accessories

- **OPT8C-AE** 1 x DB62 to 8 x DB25 cable, 1 m (for PCIE-1620A-BE and PCIE-1622B-BE)
- **OPT8H-AE** 1 x DB62 to 8 x DB9 cable, 1 m (for PCIE-1620A-BE and PCIE-1622B-BE)
- **OPT8J-AE** 1 x DB78 to 8 x DB9 cable, 1 m (for PCIE-1622C-AE)

# PCIE-1680 PCI-1680

## 2-Port CAN Bus PCIE Card with Isolation Protection

## 2-Port CAN Bus Universal PCI Card with Isolation Protection



### Features

- PCIe bus specification 1.1 compliant
- 2 x Independent CAN ports
- Up to 1 Mbps transmission speeds
- 16 MHz CAN controller frequency
- Optical isolation protection of 2,500 V<sub>DC</sub>
- I/O address automatically assigned by PCI PnP
- Transmit/Receive status LED indicators
- Windows DLL library and examples included
- Supports Windows CE5/CE6/XP/7/8.1/10 drivers and utilities
- Supports Linux 2.4.xx/2.6.xx, QNX 6.5, and Intel® x86 architecture

### Introduction

PCI-1680 and PCIE-1680 are purpose-built communication cards that ensure CAN connectivity. With 2 independent CAN controllers built in, PCI-1680 and PCIE-1680 enable bus arbitration and error detection with automatic transmission repetition, drastically reducing data loss and ensuring system reliability. Additionally, both PCI-1680 and PCIE-1680 operate at baud rates of up to 1 Mbps.

### Specifications

#### General

- **Bus Type** PCI Express V1.0/Universal PCI
- **Certification** CE, FCC
- **Connectors** 2 x DB9, male  
2 x 10 pin box wafer (optional)
- **Ports** 2
- **Power Consumption** 3.3 V @ 600 mA (typical)

#### Communication

- **CAN Controller** NXP SJA-1000
- **CAN Transceiver** NXP TJA1051T
- **Signal Support** CAN\_H, CAN\_L
- **Protocol** CAN 2.0 A/B
- **Data Transfer Rate** Programmable up to 1 Mbps
- **CAN Frequency** 16MHz

#### Protection

- **Isolation Protection** 2,500 V<sub>DC</sub>

#### Mechanical and Environmental

- **Operating Temperature** 0 ~ 70 °C (32 ~ 158 °F) (refer to IEC 60068-2-1, 2)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 5 ~ 95% relative humidity, non-condensing
- **Dimensions (L x H)** 168 x 111 mm (6.6" x 4.4")

### Ordering Information

- **PCIE-1680-AE** 2-port CAN bus PCIE card with isolation protection
- **PCI-1680-BE** 2-port CAN bus PCI card with isolation protection

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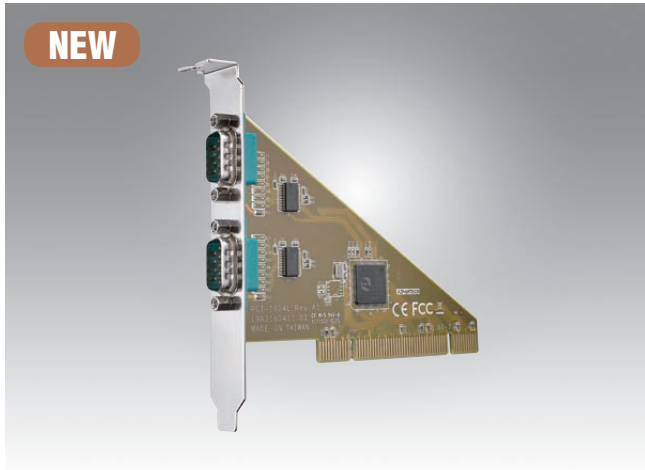
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# PCI-1604L PCI-1602UP

## 2-Port RS-232 PCI Communication Card 2-Port RS-232/422/485 Low-Profile Universal PCI Communication Card with Isolation Protection



**NEW**

PCI-1604L

FCC CE 

### Features

- PCI bus 2.2 compliant
- Up to 921.6 kbps speed for extremely fast data transmissions
- Level 4 ESD protection (air 15 KV, contact 8 KV)
- 2 x RS-232 ports
- 128-byte FIFO
- Supports Windows XP/7/8/10 and Linux operating systems
- -20 ~ 60 °C operating temperature

### Specifications

#### General

- **Bus Type** Universal PCI v2.2
- **Certification** CE, FCC class A
- **Connectors** 2 x DB9, male
- **Dimensions (L x H)** 119.91 x 83.06 mm (4.72" x 3.27")
- **Power Consumption** 200mA @ +3.3V (typ.)

#### Communications

- **Comm. Controller** PI7C8952
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI
- **FIFO** 128 bytes
- **Flow Control** DTR/DSR, RTS/CTS, Xon/Xoff
- **Parity** None, Odd, Even, Mark, or Space
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

#### Protection

- **ESD Protection** 15 KV (air), 8 KV (contact)
- **EFT Protection** 1 KV

#### Software

- **Bundled Software** ICOM tools
- **OS Support** Windows XP/7/8/10, and Linux

#### Environment

- **Operating Humidity** 5 ~ 95% RH, non-condensing
- **Operating Temperature** -20 ~ 60 °C (-4 ~ 140 °F)
- **Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- **PCI-1604L-AE** 2-port RS-232 PCI comm. card



PCI-1602UP

### Features

- PCI bus 2.2 compliant
- Up to 921.6 kbps speed for extremely fast data transmissions
- 2 x RS-232/422/485 ports
- Supports Windows XP/7/8/10 and Linux operating systems
- 3,000 V<sub>DC</sub> isolation protection
- Automatic RS-485 data flow control
- Powerful and easy-to-use utility (ICOM tools)
- Supports any baud rate setting

### Specifications

#### General

- **Bus Type** Universal PCI V 2.2
- **Certification** CE, FCC class A
- **Connectors** 1 x DB25, female
- **Dimensions (L x H)** 119.91 x 64.41 mm (4.72" x 2.5") (low-profile MD1)
- **Power Consumption** 260mA @ +3.3V (typ.)

#### Communications

- **Communication Controller** PI7C8952
- **Data Bits** 5, 6, 7, 8
- **Data Signals** RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI  
RS-422: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-  
RS-485: Data+, Data-  
128 bytes
- **FIFO** 128 bytes
- **Flow Control** CTS/RTS, Xon/Xoff
- **Parity** None, Even, Odd, Mark and Space
- **Speed** 50 bps ~ 921.6 kbps
- **Stop Bits** 1, 1.5, 2

#### Protection

- **EFT Protection** 1 KV
- **Isolation Protection** 3,000 V<sub>DC</sub>
- **ESD Protection** 15KV (air), 8KV (contact)
- **Surge Protection** 1 KV

#### Software

- **Bundled Software** ICOM tools
- **OS Support** Windows XP/7/8/10 and Linux (check the software release note for versions supported)

#### Environment

- **Operating Humidity** 5 ~ 95% RH, non-condensing
- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- **Storage Temperature** -25 ~ 85 °C (-13 ~ 185 °F)

### Ordering Information

- **PCI-1602UP-CE** 2-port RS-232/422/485 low-profile universal PCI comm card w/ isolation protection

Note: Both PCI-1602UP are equipped with a DB25 to 2 x DB9 cable.

# MIC-1810

## 12-Bit, 500 KS/s, 12-Ch DAQ Platform with Intel® Core™ i3/Celeron® Processor

**NEW**



### Features

- 16 x Analog inputs, up to 800 kS/s, 12-bit resolution
- 2 x Analog outputs, up to 500 kS/s, 12-bit resolution
- Supports digital and analog triggers
- 24 x Programmable digital I/O lines
- 2 x 32-bit programmable counter/timers
- Onboard FIFO memory (4,000 samples)
- 2 x RS-232 ports
- 2 x 10/100/1000 Base-T RJ-45 LAN ports
- 2 x USB 2.0 and 2 x USB 3.0 ports

#### MIC-1810-S4A1E

- Intel® Celeron® 1047UE processor, 1.4 GHz

#### MIC-1810-S6A1E

- Intel® Core™ i3-3217UE processor 1.6 GHz

### Introduction

MIC-1810 is a stand-alone automation controller featuring an integrated DAQ module and signal conditioning to provide digital I/O, analog I/O, and counter functions. This application-ready controller also supports serial communication ports and several other networking interfaces to enable seamless integration and rapid system development.

### Specifications

#### Analog Input

- Channels** 16-ch single ended, 8-ch differential
- Resolution** 12 bits
- Sample Rate** Single channel: 800 kS/s max.;  
Multiple channels: 500 kS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $500k/4 = 125$  kS/s per channel.

- Trigger Reference** Digital and analog triggers
- Trigger Mode** Start, Delayed Start  
Stop, Delayed Stop
- FIFO Size** 4,000 samples
- Oversampling Protection** 30 Vp-p
- Input Impedance** 1 GΩ
- Sampling Modes** Software and external clock
- Input Range** Software programmable

Gain	0.5	1	2	4	8
Unipolar	NA	0~10	0~5	0~2.5	0~1.25
Bipolar	±10	±5	±2.5	±1.25	±0.625
Gain Error (%FSR)	0.1	0.1	0.2	0.2	0.4

#### Analog Output

- Channels** 2
- Resolution** 12 bits
- Sample Rate** 500 kS/s max.
- Output Range** Software programmable

Output Range	Internal Reference	0V-5V, 0V-10V, ±5V, ±10V	
	External Reference	Reference Input	
	Unipolar	0 ~ x V	
	Bipolar	-10V ≤ x ≤ 10V	-x V ~ x V

#### Digital I/O

- Channels** 24
- Compatibility** 5 V/TTL
- Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- Output Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- Output Capability** Sink: 15 mA @ 0.8 V  
Source: 15 mA @ 2.0 V

#### Counter

- Channels** 2
- Resolution** 32 bits
- Compatibility** 5 V/TTL
- Max. Input Frequency** 10 MHz
- Pulse Generation** Yes
- Timebase Stability** 50 ppm

#### General

- Dimensions (W x H x D)** 165 x 59 x 130 mm (6.49" x 2.32" x 5.11")
- Power Consumption** 45 W (typical)
- Power Requirements** Single 12V<sub>DC</sub> power input
- Weight** 2.4 kg (typical)
- OS Support** Windows 7

#### System Hardware

- CPU** Intel® Celeron® 1047UE processor, 1.4 GHz (MIC-1810-S4A1E)  
Intel® Core™ i3-3217UE processor, 1.6 GHz (MIC-1810-S6A1E)
- Memory** 4G SODIMM DDR3-1600
- Indicators** LEDs for Power, IDE and LAN (Active, Status)
- Keyboard/Mouse** USB
- Storage** 1 x 2.5" SSD

#### Environment

- Storage Humidity** 5 ~ 95% RH, non-condensing
- Operating Temperature** 0 ~ 50 °C (14 ~ 140 °F) @ 5 ~ 85% RH with 0.7m/s air flow
- Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)

### Ordering Information

- MIC-1810-S4A1E** DAQ platform with Intel® Celeron® 1047UE processor
- MIC-1810-S6A1E** DAQ platform with Intel® Core™ i3-3217UE processor
- 2070014966** img WES7P MIC-1810 64bit 1701 10MU1

### Optional Accessories

- 1700001714** Power cord (BSMI) 3P, 7A, 125V, 18AWG, 180 cm
- 1702002600** Power cord UL/CSA (USA) 3P, 10A, 125V, 1.83 m, 180 D
- 1700023535-01** Power cord (CCC) 3P, 16A, 250V, 183 cm
- 1960077844N001** Table mount (130 x 175 mm)
- 2070014966** Image WES7P (64 bit)

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# MIC-1816

## 16-Bit, 1MS/s, 16-Ch DAQ Platform with Intel® Core™ i3/Celeron® Processor

**NEW**



### Features

- 16 x Analog inputs, up to 1 MS/s, 16-bit resolution
- 2 x Analog outputs, up to 3 MS/s, 16-bit resolution
- Supports digital and analog triggers
- 24 x Programmable digital I/O lines
- 2 x 32-bit programmable counter/timers
- Onboard FIFO memory (4,000 samples)
- 2 x RS-232 ports
- 2 x 10/100/1000 Base-T RJ-45 LAN ports
- 2 x USB 2.0 and 2 x USB 3.0 ports

#### MIC-1816-S4A1E

- Intel® Celeron® 1047UE processor, 1.4 GHz

#### MIC-1816-S6A1E

- Intel® Core™ i3-3217UE processor 1.6 GHz



## Introduction

MIC-1816 is a stand-alone automation controller featuring an integrated DAQ module and signal conditioning to provide digital I/O, analog I/O, and counter functions. This application-ready controller also supports serial communication ports and several other networking interfaces to enable seamless integration and rapid system development.

## Specifications

### Analog Input

- **Channels** 16-ch single ended, 8-ch differential
- **Resolution** 16 bits
- **Sample Rate** Single channel: 5 MS/s max.;  
Multiple channels: 1 MS/s max.

Note: The sampling rate of each channel is influenced by the number of used channels. For example, if 4 channels are used, the sampling rate will be  $1\text{MS}/4 = 250\text{ kS/s}$  per channel.

- **Trigger Reference** Digital and analog triggers
- **Trigger Mode** Start, Delayed Start  
Stop, Delayed Stop
- **FIFO Size** 4,000 samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software and external clock
- **Input Range** Software programmable

Gain	0.5	1	2	4	8
<b>Unipolar</b>	NA	0-10	0-5	0-2.5	0-1.25
<b>Bipolar</b>	±10	±5	±2.5	±1.25	±0.625
<b>Gain Error (%FSR)</b>	0.1	0.1	0.2	0.2	0.4

### Analog Output

- **Channels** 2
- **Resolution** 16 bits
- **Sample Rate** 3 MS/s max.
- **Output Range** Software programmable

Output Range	Internal Reference	0V-5V, 0V-10V, ±5V, ±10V	
	External Reference	Reference Input	Maximum Range
	Unipolar	0 ~ x V	
	Bipolar	-10V ≤ x ≤ 10V	-x V ~ x V

### Digital I/O

- **Channels** 24
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- **Output Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- **Output Capability** Sink: 15 mA @ 0.8 V  
Source: 15 mA @ 2.0 V

### Counter

- **Channels** 2
- **Resolution** 32 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Pulse Generation** Yes
- **Timebase Stability** 50 ppm

### General

- **Dimensions (W x H x D)** 165 x 59 x 130 mm (6.49" x 2.32" x 5.11")
- **Power Consumption** 45 W (typical)
- **Power Requirements** Single 12V<sub>DC</sub> power input
- **Weight** 2.4 kg (typical)
- **OS Support** Windows 10 and Windows 7

### System Hardware

- **CPU** Intel® Celeron® 1047UE processor, 1.4 GHz (MIC-1816-S4A1E)  
Intel® Core™ i3-3217UE processor, 1.6 GHz (MIC-1816-S6A1E)
- **Memory** 4G DDR3
- **Indicators** LEDs for Power, IDE and LAN (Active, Status)
- **Keyboard/Mouse** USB
- **Storage** 1 x 2.5" SSD

### Environment

- **Storage Humidity** 5 ~ 95% RH, non-condensing
- **Operating Temperature** 0 ~ 50 °C (14 ~ 140 °F) @ 5 ~ 85% RH with 0.7m/s air flow
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)

## Ordering Information

- **MIC-1816-S4A1E** DAQ platform with Intel® Celeron® 1047UE processor
- **MIC-1816-S6A1E** DAQ platform with Intel® Core™ i3-3217UE processor
- **2070015202** img WES7P MIC-1816 64bit 1701 10MU1

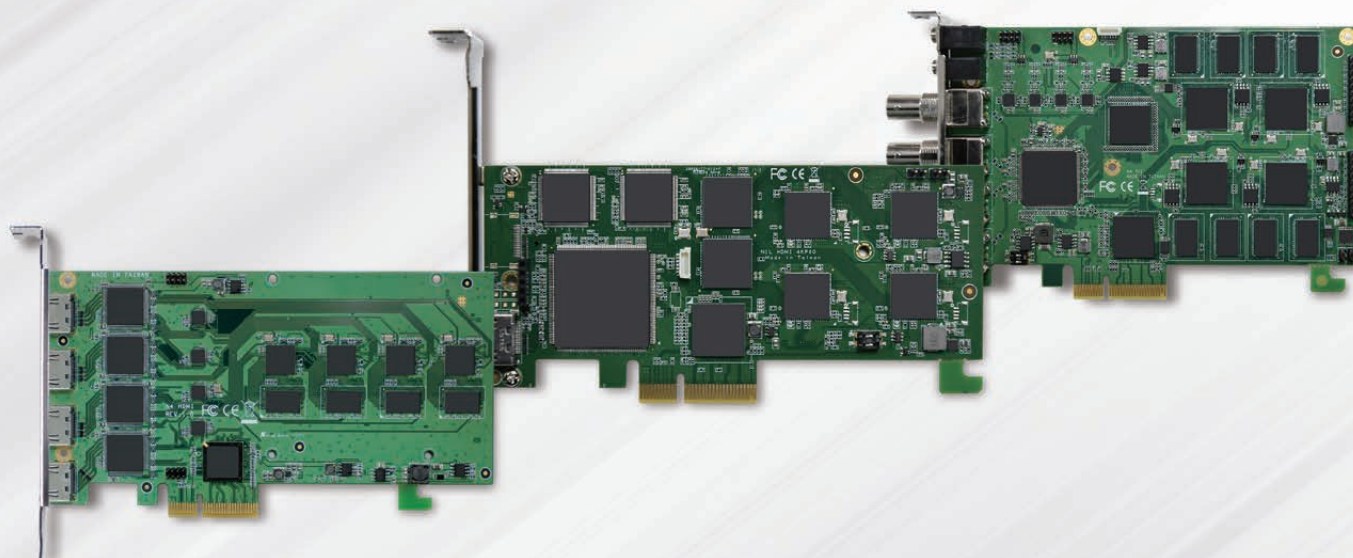
## Optional Accessories

- **1700001714** Power cord (BSMI) 3P, 7A, 125V, 18AWG, 180 cm
- **1702002600** Power cord UL/CSA (USA) 3P, 10A, 125V, 1.83 m, 180 D
- **1700023535-01** Power cord (CCC) 3P, 16A, 250V, 183 cm
- **1960077844N001** Table mount (130 x 175 mm)

## Intelligent Video Solution

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<b>DVP-7035HE</b>	4-ch Full HD H.264/MPEG4 AHD/CVI/TVI/CVBS PCIe Video Capture Card with SDK	2-12
<b>DVP-7634HE</b>	4ch Full HD H.264 PCIe Video Capture Card with SDK	2-13
<b>DVP-7635HE</b>	4-ch Full HD H.264/MPEG4 AHD/CVI/TVI PCIe Video Capture Card with SDK	2-14
<b>DVP-7011MHE</b>	1-ch Full HD H.264 M.2 Video Capture Card with SDK	2-15
<b>DVP-7012MHE</b>	1-ch Full HD H.264 M.2 Video Capture Card with SDK	2-16
<b>DVP-7011UHE</b>	1-ch H.264 4K HDMI 2.0 PCIe Video Capture Card with SDK	2-17
<b>DVP-5311D</b>	Video (DVI-DVI), Control and Data Transmission Extender	2-18

To view all of Advantech's Intelligent Video Solution, please visit [www.advantech.com/products](http://www.advantech.com/products).



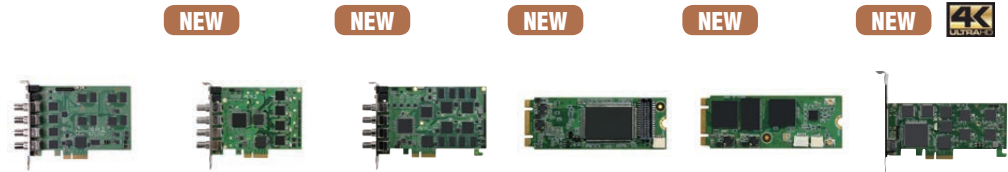
# DVP Video Capture Card



NEW

NEW

Model Name		DVP-7011HE	DVP-7013HE	DVP-7016HE	DVP-7017HE	DVP-7019HE	DVP-7021HE	DVP-7031HE
Video	Compression	SW H.264	SW H.264	S/W H.264	S/W H.264	S/W H.264	S/W H.264	SW H.264
	Channels	1	1	1	1	1	2	4
	Host Interface	PCIe x1 (Gen2)	PCIe x1 (Gen 2)	Mini PCIe x1 (Gen 2)	Mini PCIe x1 (Gen2)	PCIe x1 (Gen1)	PCIe x1 (Gen2)	PCIe x4 (Gen2)
	Input Interface	SDI/HDMI/DVI/ VGA/YPbPr/ Composite/ S-Video	HDMI/DVI/ VGA/YPbPr/ Composite/ S-Video	1 x HDMI/DVI/ YPbPr/VGA	1 x SDI	SDI/DVI/ VGA/HDMI/ Composite/ YPbPr/S-video	SDI/DVI/ VGA/HDMI/ Composite/ YPbPr/S-video/ VGA	HDMI
	Max. Display Resolution	1920 x 1080p @ 60/50	1920 x 1080p @ 60/50	1920 x 1080 @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 60/50	1920 x 1080p @ 60/50	1920 x 1080 @ 60/50
	Max. Recording Resolution	1920 x 1080p @ 60/50	1920 x 1080p @ 60/50	1920 x 1080 @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 60/50	1920 x 1080 @ 60/50
	Max. Display Rate	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Max. Recording Rate	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Video Outputs	-	HDMI/DVI/ YPbPr/ Composite/ S-Video Loop Through	-	1 x SDI (Loop Through)	-	-	-
Audio	Audio Inputs	1 x SDI, 1 x HDMI, 2 x RCA	1 x HDMI / 2 x RCA	1 x HDMI / 2 x RCA	1 x SDI + 2 x RCA	HDMI/SDI/ Audio (L/R)	2 x HDMI / Audio (L/R)	4 x HDMI
	Format	Stereo/16 bits/ 32000 ~ 48000 Hz	Stereo/16 bits/ 32000 ~ 48000 Hz	Stereo/16 bits/ 32000 ~ 48000 Hz	Stereo / 16 bits / 32000~48000 Hz	Stereo/16 bits/ 32000 ~ 48000 Hz	Stereo/16 bits/ 32000 ~ 48000 Hz	Stereo/16 bits/ 32000 ~ 48000 Hz
Watchdog		Yes	Yes	No	NO	-	-	Yes
Physical Characteristic	Operating Temperature	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)	-20 ~ 70 °C (-4~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimensions (W x H x D)	107 x 101 mm (4.21" x 3.97")	135 x 69 mm (5.31" x 2.71")	30 x 51 mm (1.18" x 2")	30 x 51 mm (1.18" x 2")	105 x 69 mm (4.13" x 2.71") PCIe Low profile	108 x 85 mm (4.25" x 3.34") PCIe Full Height	168 x 93 mm (6.64" x 3.66")
	Safety	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC
Operating System	Operating System	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/XPe/ Vista/7/8/8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/ XPe/Vista/7/ Win8/Win8.1/ Win10; Linux 2.6.14 or higher; 32/64 bits
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Model Name		DVP-7033HE	DVP-7035HE	DVP-7635HE	DVP-7011MHE	DVP-7012MHE	DVP-7011UHE
Video	Compression	SW H.264	S/W H.264	H/W H.264	S/W H.264	S/W H.264	S/W H.264
	Channels	4	4	4	1	1	1
	Host Interface	PCIe x4 (Gen2)	PCIe x4 (Gen2)	PCIe x 4	PCIeM.2	PCIeM.2	PCIe x 4
	Input Interface	3G-SDI/HD-SDI/SDI	TVI/CVI/AHD/Composite (CVBS)	TVI/CVI/AHD/Composite (CVBS)	HDMI/DVI/VGA/YpPr	SDI	HDMI 2.0
	Max. Display Resolution	1920 x 1080 @ 60/50	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 60/50	1920 x 1080p @ 60/50	4096 x 2160p @ 60/50
	Max. Recording Resolution	1920 x 1080 @ 60/50	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	1920 x 1080p @ 30/25	4096 x 2160p @ 60/50
	Max. Display Rate	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Max. Recording Rate	60/50 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	30/25 fps (NTSC/PAL)	60/50 fps (NTSC/PAL)
	Video Outputs	-	-	-	-	SDI x 1 (Loop through)	-
Audio	Audio Inputs	4 x SDI + 2 x 3.5mm Audio	2 x 3.5mm Audio	-	1 x HDMI / Audio (L/R)	1 x SDI / Audio (L/R)	HDMI/SDI/ Audio (L/R)
	Format	Stereo/16 bits/32000 ~ 48000 Hz	Stereo/16 bits/32000 ~ 48000 Hz	Stereo/16 bits/32000 ~ 48000 Hz	Stereo/16 bits/32000 ~ 48000 Hz	Stereo/16 bits/32000 ~ 48000 Hz	Stereo/16 bits/32000 ~ 48000 Hz
Watchdog		Yes	-	Yes	-	-	Yes
Physical Characteristic	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimensions (W x H x D)	140 x 101 mm (5.51" x 3.97")	128 x 101mm (5.03" x 3.97") PCIe Full Height	150 x 101 mm (5.9" x 3.97")	22 x 60 mm (0.86" x 2.36") M.2 Type B/M	22 x 60 mm (0.86" x 2.36") M.2 Type B/M	145 x 69 mm (5.7" x 2.71") PCIe Low profile
	Safety	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC
Operating System	Operating System	Windows XP/XPe/Vista/7/Win8/Win8.1/Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/XPe/Vista/7/Win8/Win8.1/Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/XPe/Vista/7/Win8/Win8.1/Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/XPe/Vista/7/Win8/Win8.1/Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/XPe/Vista/7/Win8/Win8.1/Win10; Linux 2.6.14 or higher; 32/64 bits	Windows XP/XPe/Vista/7/Win8/Win8.1/Win10; Linux 2.6.14 or higher; 32/64 bits
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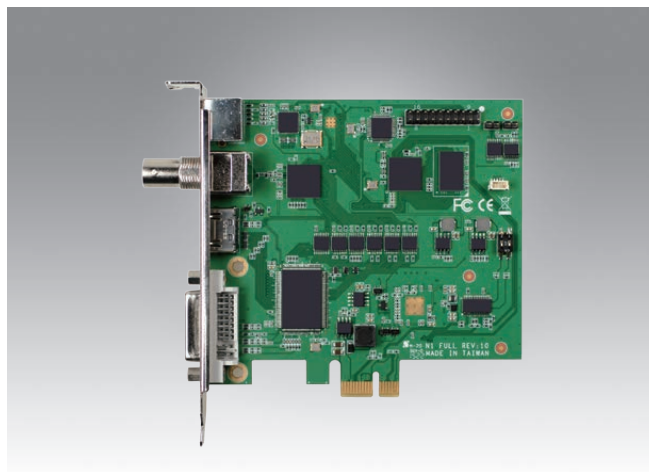
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# DVP-7011HE

## 1-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK



### Features

- 1-channel HD-SDI/HDMI/DVI-D/DVI-A/YpPr video input with H.264/MPEG4 software compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display
- PCIe x 1 host interface
- Supports Watchdog function
- Windows/Linux OS supported



### Introduction

DVP-7011HE is a PCIe-bus, software compression video capture card with 1 channel of either HD-SDI, HDMI, DVI-D, DVI-A, or YPbPr video and 1 audio input. DVP-7011HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and flexibility to stack multiple cards, DVP-7011HE is an ideal solution for various video capture applications or video surveillance.

### Specifications

Video	Video Input	1 x SDI/HDMI/DVI-D/DVI-A/YpPr
	Compression	S/W H.264 / MPEG4
	Max. Display Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p
	Max. Recording Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p
Audio	Audio Input	1 x SDI, 1 x HDMI, 2 x RCA
	Format	STEREO/16 bits/32000 ~ 48000 Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)*	Intel® Core™ 2 Quad Q9400 2.6GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x 1
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	107 x 101 mm (4.2" x 3.9")
	Safety	CE/FCC

\*For high quality full HD video recording at max. recording rate, Intel Sandy Bridge processor or above and Win7 OS are recommended

### Ordering Information

Part Number	Description
DVP-7011HE	1-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

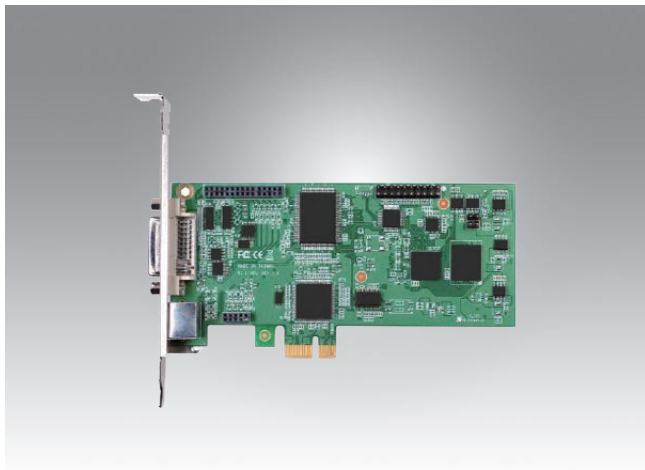
### Packing List

Item	Amount
DVP-7011HE Capture Card	1 (piece)
Audio (RCA) / Video (YPbPr) cable	1 (piece)



# DVP-7013HE

## 1-ch H.264/MPEG4 Low-Power PCIe Video Capture Card with SDK



### Features

- 1-channel HDMI/DVI-I/YPbPr/S-Video/Composite video input with H.264 software compression
- 60/50 fps (NTSC/PAL) at up to full HD resolution for recording and display
- PCIe x1 (Gen2) host interface
- Low power consumption
- Supports Watchdog function
- Windows/Linux OS supported



### Introduction

DVP-7013HE is a PCIe-bus, low-power software compression video capture card with 1 channel of either HDMI/DVI-I/YPbPr/S-Video/Composite and 2 audio inputs. DVP-7013HE supports H.264 baseline compression format at up to full HD resolution at real-time frame rate (60/50fps). With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards; DVP-7013HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Input	1 x HDMI/DVI-I/YPbPr/S-Video/Composite
	Video Output	1 x HDMI/DVI-I/YPbPr/S-Video/Composite Loop Through
	Compression	S/W H.264/MPEG4
	Max. Display Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p
	Max. Recording Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p
Audio	Audio Input	2 x RCA (Audio L/R through component cable)
	Format	Stereo/16 bits/32000-48000Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)*	Intel® Core™ 2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x1 (Gen 2)
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	135 x 69 mm (5.3" x 2.7")
	Safety	CE/FCC

\*For high quality, full HD video recording at max. recording rate, Intel® Sandy Bridge processor or above and Win7 OS are recommended

### Ordering Information

Part Number	Description
DVP-7013HE	1-ch H.264/MPEG4 Low-Power PCIe Video Capture Card with SDK

### Packing List

Item	Amount
DVP-7013HE Capture Card	1 (piece)
YPbPr Cable	2 (piece)
S/AV Cable	2 (piece)
Short bracket (One to One)	2 (piece)

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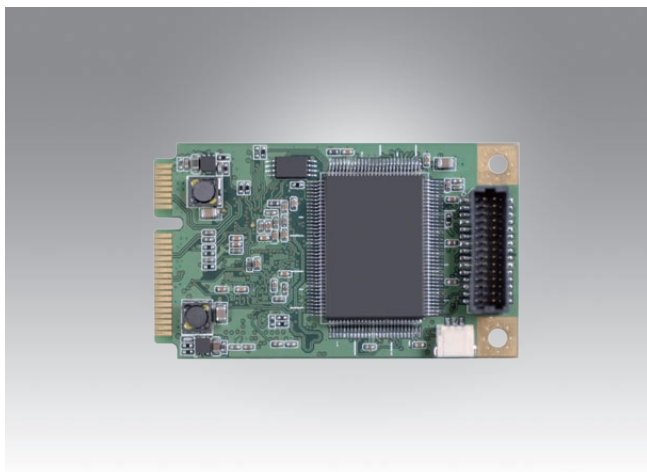
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# DVP-7016HE

## 1-ch Full HD H.264 MiniPCle Video Capture Card with SDK



### Features

- 1 channel HDMI/DVI-D/DVI-A/YPbPr channel video inputs with H.264 software compression
- 30/25 fps (NTSC/PAL) at up to full HD resolution for recording and display
- Mini PCIe x1 (Gen2) host interface
- Windows/Linux OS supported



### Introduction

DVP-7016HE is a Mini PCIe-bus, software compression video capture card with 1 video and 1 audio inputs. DVP-7016HE supports H.264 compression format at up to full HD resolution at real-time frame rate (30/25fps). With an easy-to-use software development kit (SDK), DVP-7016HE is an ideal solution for various video capture applications.

### Specifications

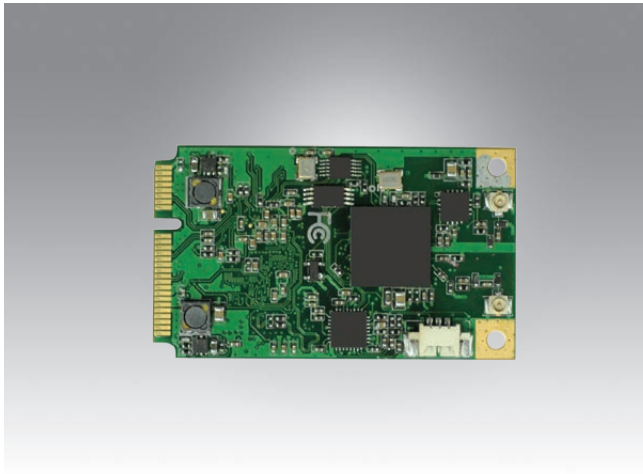
Video	Video Standard	NTSC/PAL
	Video Input	1 x HDMI/DVI-D/DVI-A/YPbPr
	Compression	S/W H.264
	Max. Resolution / FPS	1920 x 1080 @ 60/50 FPS (Input) 1920 x 1080 @ 30/25 FPS (Output)
	RAW Data Format	YV12/NV12/YUY2/RGB24/RGB32
Audio	Audio Input	HDMI Embedded Audio/ Audio L/R
	Format	Stereo / 16-bit / 32000 ~ 48000Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)	Intel® Core™ 2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	Mini PCIe x1 (Gen 2)
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	30 x 51 mm (4.2" x 3.9")
	Certification	CE/FCC

### Ordering Information

Part Number	Description
DVP-7016HE	1-ch Full HD H.264 MiniPCle Video Capture Card with SDK
XMSE1-MC-HDV-CB	HDMI/VGA Cable (optional)
XKUO-A56-A072-V126	HDMI/VGA Cable (optional)

# DVP-7017HE

## 1-ch Full HD H.264 Mini PCIe Video Capture Card with SDK



### Features

- 1 channel SDI channel video inputs with H.264 software compression
- 30/25 fps (NTSC/PAL) at up to full HD resolution for recording and display
- Mini PCIe x1 (Gen2) host interface
- Windows/Linux OS supported

FCC CE 

### Specifications

Video	Video Standard	NTSC/PAL
	Video Input	1 x SDI
	Compression	S/W H.264
	Max. Resolution /FPS	60/50 fps @ 1920 x 1080p (Input) 30/25 fps @ 1920 x 1080p (Output)
Audio	Audio Input	SDI Embedded Audio Audio L/R (2 x RCA through wafer connector to RCA cable)
	Format	Stereo / 16-bit / 32000 ~ 48000Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)	Intel® Core™ 2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	Mini PCIe x1 (Gen 2)
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	30 x 50.95 mm (1.1" x 2")
	Certification	CE/FCC

### Ordering Information

Part Number	Description
DVP-7017HE	1-ch Full HD H.264 MiniPCie Video Capture card with SDK
XKUO-A56-D009-V12	SDI Video cable (optional)

### Packing List

Item	Amount
DVP-7017HE Capture Card	1pcs

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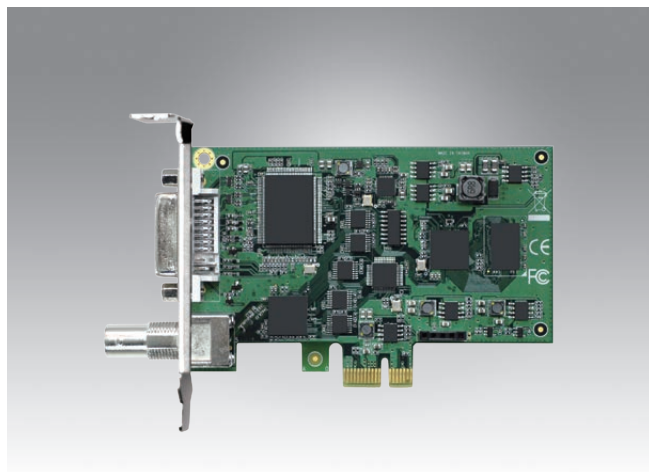
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# DVP-7019HE

## 1-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK



### Features

- 1-channel SDI/HDMI/DVI-D/DVI-A/YpPr video input with H.264/MPEG4 software compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution
- PCIe x 1 host interface
- Windows/Linux OS supported



### Introduction

DVP-7019HE is a PCIe-bus, software compression video capture card with 1 channel of either SDI, HDMI, DVI-D, DVI-A, or YpPr video and 1 audio input. DVP-7019HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and flexibility to stack multiple cards, DVP-7019HE is an ideal solution for various video capture applications or video surveillance.

### Specifications

Video	Video Input	1 x SDI/HDMI/DVI-D/DVI-A/YpPr
	Compression	S/W H.264 / MPEG4
	Max. Video input	60/50 fps (NTSC/PAL) @ 1920 x 1080p
	Max. Video Output	30/25 fps (NTSC/PAL) @ 1920 x 1080p
Audio	Audio Input	1 x SDI, 1 x HDMI, 2 x RCA
	Format	STEREO/16 bits/32000 ~ 48000 Hz
System Requirements	CPU (Display)	Intel® Core™2 Duo E2200 2.2 GHz
	CPU (Recording)*	Intel® Core™2 Quad Q9400 2.6GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x 1
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	105 x 69 mm (4.1" x 2.7")
	Safety	CE/FCC

\*For high quality full HD video recording at max. recording rate, Intel Sandy Bridge processor or above and Win7 OS are recommended.

### Ordering Information

Part Number	Description
DVP-7019HE	1-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

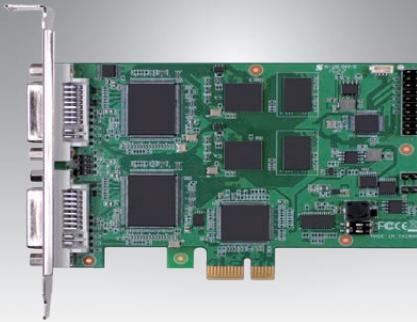
### Packing List

Item	Amount
DVP-7019HE Capture Card	1 (piece)
DVI to YpPr/AV/S-video cable	1

# DVP-7021HE

## 2-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

**NEW**



### Features

- 2-channel HDMI/DVI/VGA/S-Video/YPbPr video inputs with H.264/MPEG4 software compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- PCIe x1 host interface
- Supports Watchdog function
- Windows/Linux OS supported

FCC CE RoHS

### Introduction

DVP-7021HE is a PCIe-bus, software compression video capture card with 2ch HDMI/DVI/VGA/S-Video/YPbPr video and 2ch audio inputs. DVP-7021HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards, DVP-7021HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Standard	HDMI/DVI/VGA/S-Video/YPbPr
	Video Input	2 x HDMI/DVI/VGA/S-Video/YPbPr
	Compression	S/W H.264 / MPEG4
	Max. Display Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p/ch
	Max. Recording Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p/ch
Audio	Audio Input	2 x HDMI/ 2 x RCA
	Format	STEREO/16 bits/32000 ~ 48000 Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)*	Intel® Core™ 2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x1
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	108 x 85 mm (4.2" x 3.3")
	Safety	CE/FCC

\*For high quality full HD video recording at max. recording rate, Intel Sandy Bridge processor or above and Win7 OS are recommended.

### Ordering Information

Part Number	Description
DVP-7021HE	2-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

### Packing List

Item	Amount
DVP-7021HE Capture Card	1 (piece)
DVI to YPbPr / AV / S-video cable	2 (piece)

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Industrial Server Motherboards 9

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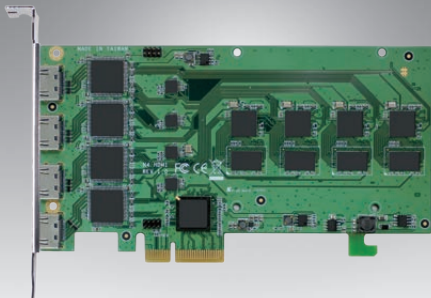
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# DVP-7031HE

## 4-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

NEW



### Features

- 4-channel HDMI video inputs with H.264/MPEG4 software compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- PCIe x4 host interface
- Supports Watchdog function
- Windows/Linux OS supported

FCC CE 

### Introduction

DVP-7031HE is a PCIe-bus, software compression video capture card with 4 HDMI video and 4 audio inputs. DVP-7031HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards, DVP-7031HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Standard	HDMI
	Video Input	4 x HDMI
	Compression	S/W H.264 / MPEG4
	Max. Display Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p/ch
	Max. Recording Rate	60/50 fps (NTSC/PAL) @ 1920 x 1080p/ch
Audio	Audio Input	4 x HDMI
	Format	STEREO/16 bits/32000 ~ 48000 Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)*	Intel® Core™ 2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x4
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	167.65 x 93.04 mm (6.6" x 3.6")
	Safety	CE/FCC

\*For high quality full HD video recording at max. recording rate, Intel Sandy Bridge processor or above and Win7 OS are recommended.

### Ordering Information

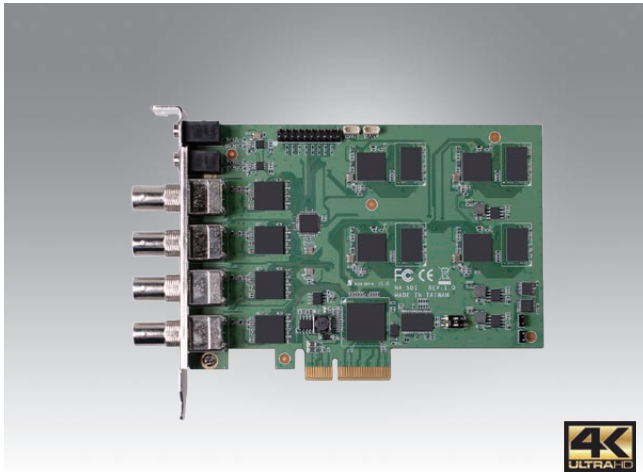
Part Number	Description
DVP-7031HE	4-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

### Packing List

Item	Amount
DVP-7031HE Capture Card	1 (piece)

# DVP-7033HE

## 4-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK



### Features

- 4-channel SDI video inputs with H.264/MPEG4 software compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- 4K (4096 x 2160) ultra HD video capture supported
- HEVC/H.265 software compression (with Intel Skylake platform)
- PCIe x4 host interface
- Supports Watchdog function
- Windows/Linux OS supported

FCC CE RoHS

### Introduction

DVP-7033HE is a PCIe-bus, software compression video capture card with 4 HD-SDI video and 4 audio inputs. DVP-7033HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards, DVP-7033HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Standard	SDI (3G-SDI / HD-SDI / SD-SDI)
	Video Input	4 x SDI
	Compression	S/W H.264 / MPEG4
	Max. Resolution / FPS	1920 x 1080 @ 60/50 FPS (Input) 1920 x 1080 @ 60/50 FPS (Output)
	Raw Data Format	YV12/NV12/YUY2/RGB24/RGB32
Audio	Audio Input	4 x SDI
	Format	Stereo/16 bits/32000-48000 Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)*	Intel® Core™ 2 Quad Q9400 2.6GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x4
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	140 x 101 mm (5.5" x 3.9")
	Safety	CE/FCC

\*For high quality full HD video recording at max. recording rate, Intel Sandy Bridge processor or above and Win7 OS are recommended.

### Ordering Information

Part Number	Description
DVP-7033HE	4-ch Full HD H.264/MPEG4 PCIe Video Capture Card with SDK

### Packing List

Item	Amount
DVP-7033HE Capture Card	1 (piece)
Audio Cable	2 (piece)

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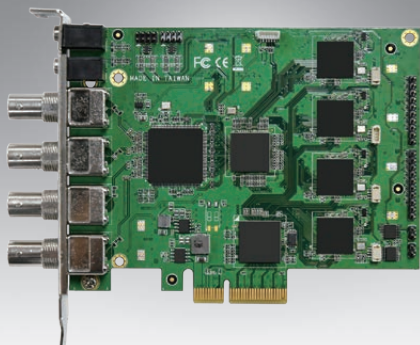
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# DVP-7035HE

## 4-ch Full HD H.264/MPEG4 AHD/CVI/TVI/ CVBS PCIe Video Capture Card with SDK

NEW



### Features

- 4-channel AHD/CVI/TVI/Composite (CVBS) software compression
- 30/25 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- PCIe x4 host interface
- Supports Watchdog function
- Windows/Linux OS supported



### Introduction

DVP-7035HE is a PCIe-bus, software compression video capture card with 4ch AHD/CVI/TVI/Composite (CVBS) video and 4 audio inputs. DVP-7035HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards, DVP-7035HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Standard	AHD/CVI/TVI
	Video Input	4 x AHD/CVI/TVI/Composite (CVBS)
	Compression	S/W H.264 / MPEG4
	Max. Resolution / FPS	1920 x 1080 @ 30/25 FPS (Input) 1920 x 1080 @ 30/25 FPS (Output)
	Raw Data Format	YV12/NV12/YUY2/RGB24/RGB32
Audio	Audio Input	4 x AHD/CVI/TVI/Composite (CVBS)
	Format	Stereo/16 bits/32000-48000 Hz
System Requirements	CPU (Display)	Intel® Core™ i3-4330
	CPU (Recording)*	Intel® Core™ i3-4330
	Memory	4 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x4
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	128 x 101 mm (5" x 3.9")
Safety	CE/FCC	

### Ordering Information

Part Number	Description
DVP-7035HE	4-ch Full HD H.264/MPEG4 AHD/CVI/TVI/Composite (CVBS) PCIe Video Capture Card with SDK

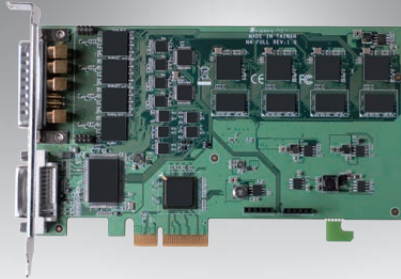
### Packing List

Item	Amount
DVP-7035HE Capture Card	1 (piece)
Audio Cable	2 (piece)

# DVP-7634HE

## 4ch Full HD H.264 PCIe Video Capture Card with SDK

NEW



### Features

- 4ch SDI + VGA/HDMI/DVI/Composite/S-Video/YPbPr video input with H.264 (High Profile) hardware compression
- 30/25 fps (NTSC/PAL) at up to 1080p resolution for display and recording
- PCIe x4 host interface
- Windows/Linux OS supported

FCC CE RoHS

### Introduction

DVP-7634HE is a PCIe-bus, hardware compression video capture card with 4ch SDI + VGA/HDMI/DVI/Composite/S-Video/YPbPr video and input. DVP-7634HE supports H.264 high profile compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and flexibility to stack multiple cards, DVP-7634HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Input	4ch SDI + VGA/HDMI/DVI/Composite/S-Video/YPbPr
	Compression	H/W H.264 High Profile
	Max. Display Rate	30/25 fps (NTSC/PAL) @ 1920 x 1080p
	Max. Recording Rate	30/25 fps (NTSC/PAL) @ 1920 x 1080p
Audio	Audio Input	SDI / HDMI / Audio L/R
	Format	STEREO/16 bits/32000~48000 Hz
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)	Intel® Core™ 2 Duo E2200 2.2 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x4
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	167.65 x 101.03 mm (6.6" x 3.9")
	Safety	CE/FCC

### Ordering Information

Part Number	Description
DVP-7634HE	4ch Full HD H.264 PCIe Video Capture Card with SDK

### Packing List

Item	Amount
DVP-7634HE Capture Card	1 (piece)
4 BNC/4 RCA cable	1 (piece)
DVI to YPbPr/AV/S-video	1 (piece)

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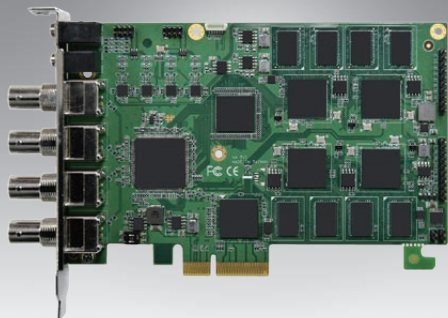
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# DVP-7635HE

## 4-ch Full HD H.264/MPEG4 AHD/CVI/TVI PCIe Video Capture Card with SDK

NEW



### Features

- 4-channel AHD/CVI/TVI/Composite (CVBS) hardware compression
- 30/25 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- PCIe x4 host interface
- Supports Watchdog function
- Windows/Linux OS supported

FCC CE RoHS

### Introduction

DVP-7635HE is a PCIe-bus, hardware compression video capture card with 4ch AHD/CVI/TVI/Composite (CVBS) video and 4 audio inputs. DVP-7635HE supports H.264/MPEG4 compression format at up to Full HD 1080p for each channel. With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards, DVP-7635HE is an ideal solution for various video capture applications.

### Specifications

Video	Video Standard	AHD/CVI/TVI
	Video Input	4 x AHD/CVI/TVI/Composite (CVBS)
	Compression	H/W H.264
	Max. Resolution / FPS	1920 x 1080 @ 30/25 FPS (Input) 1920 x 1080 @ 30/25 FPS (Output)
	Raw Data Format	YV12/NV12/YUY2/RGB24/RGB32
Audio	Audio Input	2 x 3.5mm Audio
	Format	Stereo/16 bits/32000-48000 Hz
System Requirements	CPU (Display)	Intel® Core™ i3-4330
	CPU (Recording)*	Intel® Core™ i3-4330
	Memory	4GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x4
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	150 x 101 mm (5.9" x 3.9")
	Safety	CE/FCC

### Ordering Information

Part Number	Description
DVP-7635HE	4-ch Full HD H.264/MPEG4 AHD/CVI/TVI/Composite (CVBS) PCIe Video Capture Card with SDK

### Packing List

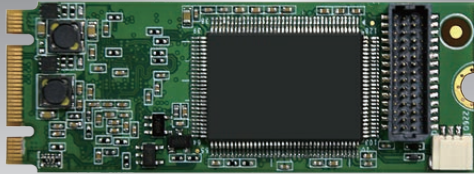
Item	Amount
DVP-7635HE Capture Card	1 (piece)
Audio Cable	2 (piece)



# DVP-7011MHE

## 1-ch Full HD H.264 M.2 Video Capture Card with SDK

**NEW**



### Features

- 1 channel HDMI/DVI-D/DVI-A/YPbPr channel video inputs with H.264 software compression
- 30/25 fps (NTSC/PAL) at up to full HD resolution for recording and display
- PCIe M.2 (B/M) host interface
- Windows/Linux OS supported

FCC CE RoHS

### Introduction

DVP-7011MHE is a PCIe M.2, software compression video capture card with 1 video and 1 audio inputs. DVP-7011MHE supports H.264 compression format at up to full HD resolution at real-time frame rate (30/25fps). With an easy-to-use software development kit (SDK), DVP-7011MHE is an ideal solution for various video capture applications.

### Specifications

Video	Video Standard	NTSC/PAL
	Video Input	1 x HDMI/DVI-D/DVI-A/YPbPr
	Compression	S/W H.264
	Max. Resolution / FPS	1920 x 1080 @ 60/50 FPS (Input) 1920 x 1080 @ 30/25 FPS (Output)
Audio	RAW Data Format	YV12/NV12/YUY2/RGB24/RGB32
	Audio Input	HDMI Embedded Audio/ Audio L/R
	Format	Stereo / 16-bit / 32000 ~ 48000Hz
System Requirements	CPU (Display)	Intel® Core™2 Duo E2200 2.2 GHz
	CPU (Recording)	Intel® Core™2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe M.2 (B/M)
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storing Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	60 x 22 mm (2.3" x 0.8")
	Certification	CE/FCC

### Ordering Information

Part Number	Description
DVP-7011MHE	1-ch Full HD H.264 PCIe M.2 Video Capture Card with SDK
XMSE1-MC-HDV-CB	HDMI/VGA Cable (optional)
XKUO-A56-A072-V126	HDMI/VGA Cable (optional)

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# DVP-7012MHE

## 1-ch Full HD H.264 M.2 Video Capture Card with SDK

NEW



### Features

- 1 channel SDI channel video inputs with H.264 software compression
- 30/25 fps (NTSC/PAL) at up to full HD resolution for recording and display
- PCIe M.2 (B/M) host interface
- Windows/Linux OS supported

FCC CE 

### Specifications

Video	Video Standard	NTSC/PAL
	Video Input	1 x SDI
	Compression	S/W H.264
	Max. Resolution /FPS	60/50 fps @ 1920 x 1080p (Input) 30/25 fps @ 1920 x 1080p (Output)
Audio	Audio Input	SDI Embedded Audio Audio L/R (2 x RCA through wafer connector to RCA cable)
	Format	Stereo / 16-bit / 32000 ~ 48000Hz
	Operating System	Windows XP/XPe/Vista/7/8/8.1; Linux 2.6.14 or higher; 32/64 bits
System Requirements	CPU (Display)	Intel® Core™ 2 Duo E2200 2.2 GHz
	CPU (Recording)	Intel® Core™ 2 Quad Q9400 2.6 GHz
	Memory	2 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe M.2 (B/M)
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	22 x 60 mm (0.8" x 2.3")
	Certification	CE/FCC

### Ordering Information

Part Number	Description
DVP-7012MHE	1-ch Full HD H.264 PCIe M.2(B/N) Video Capture card with SDK
XKUO-A56-D009-V12	SDI Video cable (optional)

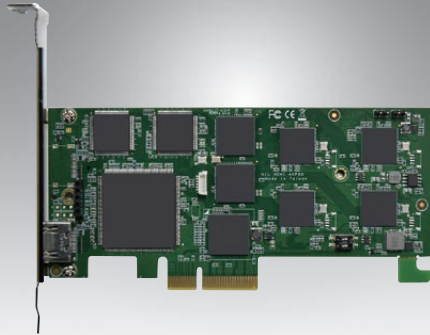
### Packing List

Item	Amount
DVP-7012MHE Capture Card	1pcs

# DVP-7011UHE

## 1-ch H.264 4K HDMI 2.0 PCIe Video Capture Card with SDK

NEW



### Features

- 1-channel 4K HDMI 2.0 video input with H.264 software compression
- 60/50 fps (NTSC/PAL) at up to 4096 x 2160p resolution for recording and display
- PCIe x 4 host interface
- Low profile size
- Windows/Linux OS supported



### Introduction

DVP-7011UHE is a PCIe-bus, hardware compression video capture card with 1 channel 4K HDMI 2.0 inputs. DVP-7011UHE supports H.264 software compression format at up to 4K resolution at real-time frame rate (60/50fps). With an easy-to-use software development kit (SDK) and the flexibility to stack multiple cards; DVP-7011UHE is an ideal solution for various video capture applications.

### Specifications

Video	Video Input	1 x 4K HDMI 2.0
	Compression	S/W H.264
	Max. Display Rate	60/50 fps (NTSC/PAL) @ 4096 x 2160p
	Max. Recording Rate	60/50 fps (NTSC/PAL) @ 4096 x 2160p
Audio	Audio Input	1 x HDMI Embedded audio
	Format	Stereo/16 bits/32000~48000Hz
System Requirements	CPU (Display)	Intel® Core™ i5-6500
	CPU (Recording)*	Intel® Core™ i5-6500
	Memory	8 GB
	VGA	1024 x 768, DirectX 9.0c
	Operating System	Windows XP/XPe/Vista/7/8/8.1/10; Linux 2.6.14 or higher; 32/64 bits
Physical Characteristics	Host Interface	PCIe x 4
	Operating Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Dimension (L x H)	145 x 69 mm (5.7" x 2.7")
	Safety	CE/FCC

### Ordering Information

Part Number	Description
DVP-7011UHE	1-ch HDMI 2.0 4K Software compression PCIe Video Capture Card with SDK

### Packing List

Item	Amount
DVP-7011UHE Capture Card	1 (piece)
Low Profile bracket	1 (piece)

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# DVP-5311D

## Video (DVI-DVI), Control and Data Transmission Extender



### Features

- Supports High Resolution 1920x1200 @ 60Hz WUXGA
- Zero pixel loss with TMDS signal correction
- DVI loop-through for supporting local display and monitoring
- Extremely low latency(<3 ms) for video, control and data transmission
- Full re-locking for the receiver regenerates digital signal producing top signal quality
- Supports 4 USB 2.0 devices in the remote location (keyboard, mouse, touch panel, storage...)
- Support RS-232 serial communication transmission interface
- Power Over Ethernet Cable. Only one power supply supports both transmitter and receiver
- Strong and mountable design for Industry application scenario
- Extends up to 100 meter (330 ft)

### Introduction

The DVP-5311D video and control extender Let you control a PC from up to 100m \*33ft) away from a single Cat 5e or Cat 6 cable connection, with uncompressed 1920 x 1200 DVI-D video, with 24-bit color depth, and access to up to four connected USB devices (keyboard, mouse, touch panel, storage or other peripherals) and RS-232 control interface, with less than 3 milliseconds latency.

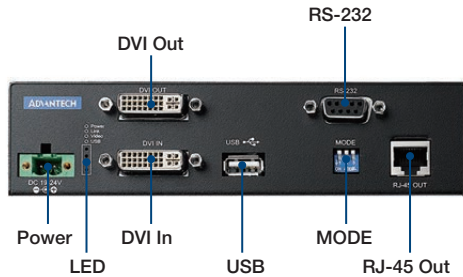
DVP-5311D enable users to install critical industry PC in a secure and controlled environment away from work station or control room. And with Power-Over-Cable feature, users just need to supply the power to one device to have the whole set working for solving the hassle of running power cables. DVP-5311D is the most suitable solution for remote display and control in industrial applications.

### Specifications

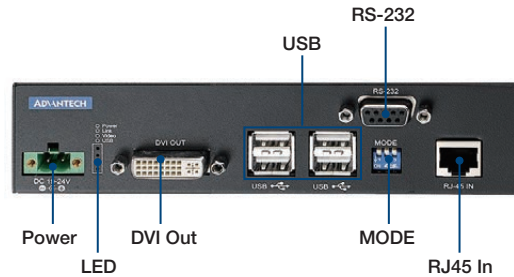
		Extender Transmitter (Tx)	Extender Receiver (Rx)	
Electronic	Video Interface	DVI-D (29 pins female) DVI-D (29 pins female) - Loop Through	DVI-D (29 pins female)	
	Video Transmission Cable	CAT 5/6	CAT 5/6	
	Video Bandwidth	340 MHz (10.2Gbps)	340 MHz (10.2Gbps)	
	Video Resolution	480p / 720p / 1080p@60 / 1920x1200@60	480p / 720p / 1080p@60 / 1920x1200@60	
	Transmission Distance	100 meters (328 ft)	100 meters (328 ft)	
	USB Port(s)	1 USB port for connecting to IPC, comply with USB 2.0	4 x USB 2.0 ports, for keyboard, mouse, touch panel and data transmission (client)	
	RS232	Supported	Supported	
	Dimension (W x H x D)	80 x 50 x 160 mm (3.1" x 1.9" x 6.2")	80 x 50 x 160 mm (3.1" x 1.9" x 6.2")	
	Input Power	19 - 24 V <sub>DC</sub> ± 20%	19 - 24 V <sub>DC</sub> ± 20%	
	ESD Protection	8KV (contact) / 15KV (air)	8KV (contact) / 15KV (air)	
	Power Connector	Phoenix-type (2 pins) The power can also be transferred to Rx side via CAT5/6 cable (power over cable)	Phoenix-type (2 pins) The power can also be transferred to Tx side via CAT5/6 cable (power over cable)	
	HDCP Compliance	Yes (1.4)	Yes (1.4)	
	Indicator Light	Power, Link, USB, Video	Power, Link, USB, Video	
	Grounding	grounding screw for the better noise immunity	grounding screw for the better noise immunity	
	DIP Switch	RS-232 Configuration & Firmware Update	RS-232 Configuration & Firmware Update	
	Mechanical	Housing	Metal	Metal
		Mounted design	Support DIN-Rail, Pole and VESA mount installation	Support DIN-Rail, Pole and VESA mount installation
Environmental	Operation Temperature	0 ~ 60 °C	0 ~ 60 °C	
	Storage Temperature	-20 ~ 70 °C	-20 ~ 70 °C	
	Humidity	95% RH@ 40 °C	95% RH@ 40 °C	

## Connector

### Extender Transmitter (Tx)



### Extender Receiver (Rx)



## Switch Mode

DIP Switch Pin 1	RS-232 Mode
On (down)	DTE mode
Off (up)	DCE mode

Pin 3 On (down) Pin 3 Off (up)	Pin 2 On (down) FW update for MCU 1 FW update for MCU 2	Pin 2 Off (up) FW update disabled FW update disabled

## Ordering Information

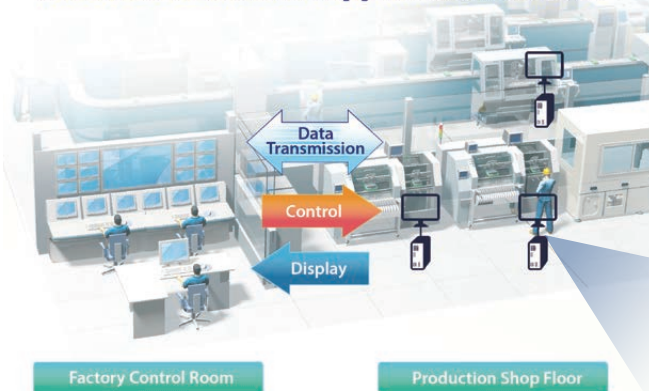
Part Number	Description
DVP-5311D	DVI Extender : Extender Transmitter (TX) & Extender Receiver(RX)

## Packing List

Part Number	Description	Quantity
DVP-5311D	DVI Extender : Extender Transmitter (TX) & Extender Receiver(RX)	TX x 1 / RX x 1
Power Adaptor	ADP A/D 100-240V 65W 19V C6	1
DIN-Rail Bracket	1950016395T101	1

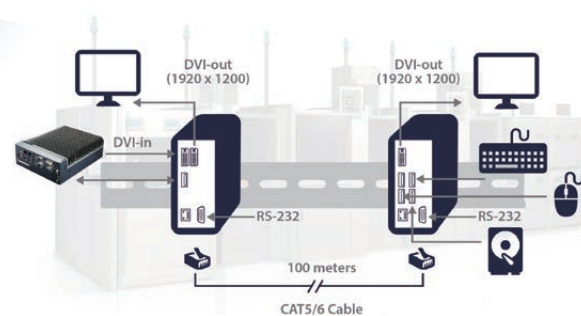
## Extender Scenario

### Video/Data Extender Application Scenario



### Video / Data Extender – Scenario Diagram

Advantech focuses on industrial application and provides industry grade product. Mountable design for industrial application scenario. Easy to use for multiple equipment alignments.



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# Advanced Video Cards Fulfill Industrial Applications

Well-developed Capture Cards Well-prepared SDKs



Completed Architecture



Efficient Development



Professional Service



Multi-Applications Supported



Stability Performance



High Efficiency Video Coding



High Compatibility

## ADVANTECH

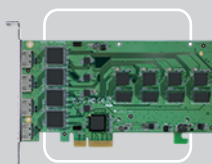
*Enabling an Intelligent Planet*

Advantech provides the completed solution which includes video capture card and the industry-grade video process system, capable of supporting all possible video-related applications. From lecture recording, medical imaging, event broadcasting, live video streaming, surveillance to in-time video analysis. Furthermore, with Advantech Software Development Kit (SDK), developers could implement the application software more efficiently and, effectively to fulfill all types of requirements from end-customers.



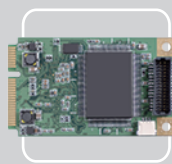
### DVP-7011HE

- HDMI/VGA/DVI/YPb Pr-CVBS/S-Video
- 1080p/60
- PCIe x 1
- Windows/Linux
- SDK Supported



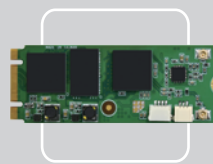
### DVP-7031HE

- HDMI (x4 channels)
- 1080p/60
- PCIe x 4
- Windows/Linux
- SDK Supported



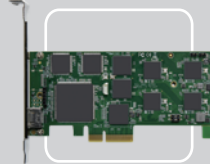
### DVP-7016HE

- HDMI/VGA/DVI
- 1080p/30
- MiniPCIe
- Windows/Linux
- SDK Supported



### DVP-7012MHE

- HDMI/VGA/DVI
- 1080p/30
- M.2 B/M
- Windows/Linux
- SDK Supported



### DVP-7011UHE

- HDMI 2.0
- 4Kp/60
- PCIe x 4
- Windows/Linux
- SDK Supported

## Intelligent Transportation Platforms

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ITA-2231	Intel® 6th Generation Core™ i Processor 2U Fanless System; EN 50121-4 Compliant for Railway Applications	3-14
ITA-5612	Intel® Atom™ E3950 Fanless Compact System; EN 50155 Compliant for Railway Applications	3-16
ITA-5831	Intel® 6th Generation Core™ i Processor Fanless System; EN 50155 Compliant for Railway Applications	3-18
ITA-5231	Intel® 6th Generation Core™ i Processor 2U Fanless System; EN 50155 Compliant for Railway Applications	3-20

To view all of Advantech's Intelligent Transportation Platforms, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Intelligent Transportation Platforms



Model Name		ITA-1501	ITA-1611	ITA-1711	ITA-2111
Processor System	CPU	i.MX6 Quad Cortex-A9	Intel® Celeron™ J1900	Intel® Celeron™ J1900	Intel® Atom™ E3845
	CPU TDP	5W	10W	10W	10W
	Frequency	1.0 GHz	2.0 GHz	2.0 GHz	1.91 GHz
	Core Number	4	4	4	4
	L2 Cache	1MB	2MB	2MB	2MB
	BIOS	-	AMI SPI 64Mbit	AMI SPI 64Mbit	AMI SPI 64Mbit
Memory	Chipset	-	-	-	-
	Technology	Single channel DDR3 1066	Dual channel DDR3 1333	Dual channel DDR3 1333	Dual channel DDR3 1333
	Capacity	Up to 2GB	Up to 8GB	Up to 8GB	Up to 8GB
	Onboard Memory	2GB	4GB	4GB	4GB
Display	DIMM Slot	-	1	1	1
	Graphic Memory	Freescaler i.MX6 integrated Hardware accelerators	Shared with system memory up to 256MB	Shared with system memory up to 256MB	Shared with system memory up to 256MB
	Multiple Display	Dual	Dual	Dual	Dual
Display	Display Interface	VGA +HDMI or 2 x VGA Single channel: 1920 x 1080 @ 60 Hz Dual channel: 1920 x 1080 @ 60 Hz	2 x VGA or VGA + DVI-D or VGA + LVDS Single channel max: 1920 x 1080 @ 60Hz Dual channel max: 1920 x 1080 @ 60Hz	2 x VGA or VGA + DVI-D or VGA + LVDS Single channel max: 1920 x 1080 @ 60Hz Dual channel max: 1920 x 1080 @ 60Hz	VGA + DVI-D Single channel max: 1920 x 1080 @ 60Hz Dual channel max: 1920 x 1080 @ 60Hz
	Ethernet	Controller	1 x RTL8211E	2 x Intel® I211	2 x Intel® I211
Ethernet	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Connector	1 x RJ45	2 x RJ45	2 x RJ45	4 x RJ45
Storage	Onboard Slot	1 x SD	1 x mSATA	1 x mSATA	1 x mSATA
	HDD/SSD	1 x 2.5" SSD	1 x 2.5" HDD/SSD	1 x 2.5" HDD/SSD	1 x 3.5" or 2 x 2.5" HDD/SSD
	Easy Swap Module	-	-	1	-
Expansion Interface	Mini PCIe	1	1	1	1
	PCIe	-	-	-	-
	PCI	-	-	-	-
	PCI104	-	-	-	1
	ITA-EM	-	-	-	-
I/O	Display	VGA +HDMI or 2 x VGA	2 x VGA or VGA + DVI-D or VGA + LVDS	2 x VGA or VGA + DVI-D or VGA + LVDS	VGA + DVI-D
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in
	Ethernet	1	2	2	4
	USB3.0	-	1	1	1
	USB2.0	6	5	5	6
	COM	Up to 6 ports	Up to 6 ports	Up to 14 ports	10
Power	Digital I/O	-	8 GPIO	Up to 24 DI and 24 DO	-
	Input Range	DC 12V	DC 9V~36V	DC 9V~36V	AC 100V~240V or DC 110V
Physical Characteristics	Dimensions (W x H x D)	188 x 66 x 129 mm (7.28" x 2.59" x 5.11")	200 x 70 x 190 mm (7.87" x 2.75" x 7.48")	200 x 100 x 190 mm (7.87" x 3.93" x 7.48")	427 x 44 x 325 mm (19.0" x 1.73" x 12.79")
Environment	Operating Temperature	0 ~ 60 °C (With SSD)	-25 ~ 60 °C (With SSD) 0 ~ 40 °C (With HDD)	-25 ~ 60 °C (With SSD) 0 ~ 40 °C (With HDD)	-25 ~ 60 °C (With SSD) 0 ~ 40 °C (With HDD)
Certification	EMC	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC
	Safety Certifications	UL, CB, CCC	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC
	Other	-	-	-	EN 50121-4
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ITA-2211	ITA-2231	ITA-5231	ITA-5612	ITA-5831
Intel® Atom™ E3845	Intel® Core™ i7-6822EQ	Intel® 6th Gen. Core™ i7/i5/i3	Intel® Atom™ X7-E3950	Intel® 6th Gen. Core™ i7/i5/i3
10W	25W	25W	12W	25W
1.91 GHz	2.0 GHz	Up to 2.0 GHz	Up to 2.0 GHz	Up to 2.0 GHz
4	4	4/2	4	4/2
2MB	8MB	8/6/3MB	2MB	8/6/3MB
AMI SPI 64Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit
-	Intel® QM170	Intel® QM170	-	Intel® QM170
Dual channel DDR3 1333	Dual channel DDR4 2133	Dual channel DDR4 2133	Dual channel DDR3L 1600	Dual channel DDR4 2133
Up to 8GB	Up to 32GB	Up to 16GB	Up to 8GB	Up to 16GB
4GB	16GB	8GB	4GB	8GB
1	1	1	1	1
Share with system memory up to 256MB	Share with system memory up to 512MB	Share with system memory up to 512MB	Share with system memory up to 256MB	Share with system memory up to 512MB
Dual	Dual	Dual	Dual	Dual
VGA + DVI-D Single channel max: 1920 x 1080 @ 60Hz Dual channel max: 1920 x 1080 @ 60Hz	DVI-I + DVI-D Single channel max: 1920 x 1200 @ 60Hz Dual channel max: 1920 x 1200 @ 60Hz	DVI-I + DVI-D Single channel max: 1920 x 1200 @ 60Hz Dual channel max: 1920 x 1200 @ 60Hz	DVI-I + DVI-D (Optional) Single channel max: 1920 x 1200 @ 60Hz Dual channel max: 1920 x 1200 @ 60Hz	DVI-I + DVI-D (Optional) Single channel max: 1920 x 1200 @ 60Hz Dual channel max: 1920 x 1200 @ 60Hz
2 x Intel® I210-IT	1 x Intel® i219LM and 1 x Intel® i210-IT	1 x Intel® i219LM and 2 x Intel® i210-IT	3 x Intel® i210-IT	3 x Intel® i210-IT
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
2 x RJ45	2 x RJ45	3 x M12 X-coded(F)	3 x M12 X-coded(F)	3 x M12 X-coded(F)
1 x mSATA	1 x M.2 (with SATA interface)	1 x mSATA	1 x mSATA	1 x mSATA
1 x 3.5" or 2 x 2.5" HDD/SSD	2 x 3.5" or 3 x 2.5" HDD/SSD	-	-	-
-	-	Max to 4 x 2.5" SSD or 3 x 2.5" HDD	2 x 2.5" SSD	Max to 3 x 2.5" SSD or 2 x 2.5" HDD
1	1	3	1 (Shared Slot with mSATA)	3
-	-	-	-	-
-	-	-	-	-
1	1	-	-	-
3	3	4	-	2
VGA + DVI-D	DVI-I + DVI-D	DVI-I + DVI-D	1 x DVI-I	1 x DVI-I
1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in
2	2	3	3	3
1	4	2	2	2
6	3	1 x USB2.0 with M12 A-coded(F) 4-pin	-	1 x USB2.0 with M12 A-coded(F) 4-pin
2	2	2	1	2
-	-	4 DI and 4 DO	8 GPIO	4 DI and 4 DO
AC 100V~240V or DC 110V	AC 100V~240V or DC 110V	Optional DC 24/48/72/110V input compliant with EN50155 class S2/C2	Optional DC 24/48/72/110V input compliant with EN50155 class S2/C1	Optional DC 24/48/72/110V input compliant with EN50155 class S2/C1
483 x 88 x 325 mm (19.0" x 3.46" x 12.79")	483 x 88 x 325 mm (19.0" x 3.46" x 12.79")	427 x 88 x 200 mm (19.0" x 3.46" x 7.87")	205 x 72 x 210 mm (8.07" x 2.83" x 8.26")	220 x 88 x 200 mm (8.66" x 3.46" x 7.87")
-25 ~ 60 °C (With SSD) 0 ~ 40 °C (With HDD)	-25 ~ 60 °C (With SSD) 0 ~ 40 °C (With HDD)	EN 50155 TX -40 ~ 70 °C (With SSD)	EN 50155 TX -40 ~ 70 °C (With SSD)	EN 50155 TX -40 ~ 70 °C (With SSD)
CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC
UL, CB, CCC	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI
EN 50121-4	EN 50121-4	EN 50155, EN 50121-3-2, EN 50121-4, EN 45545	EN 50155, EN 50121-3-2, EN 45545	EN 50155, EN 50121-3-2, EN 50121-4, EN 45545
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# ITA-1501

## Freescal<sup>®</sup> i.MX6 Quad Fanless Compact System with Multiple COM Ports and Dual Displays



### Features

- Built-in i.MX6 Quad - 4x Cortex-A9 processor
- Onboard 2G DDR3L memory design
- Supports 8G/16G EMMC NAND Flash for OS
- Supports 6 x USB 2.0
- Supports 2 x DB9(RS232/422/485 ), 4 x DB9(RS232)
- Supports Dual Displays
  - Optional 2 x VGA Display
  - Optional VGA + HDMI Display
- Supports 1 x GbE

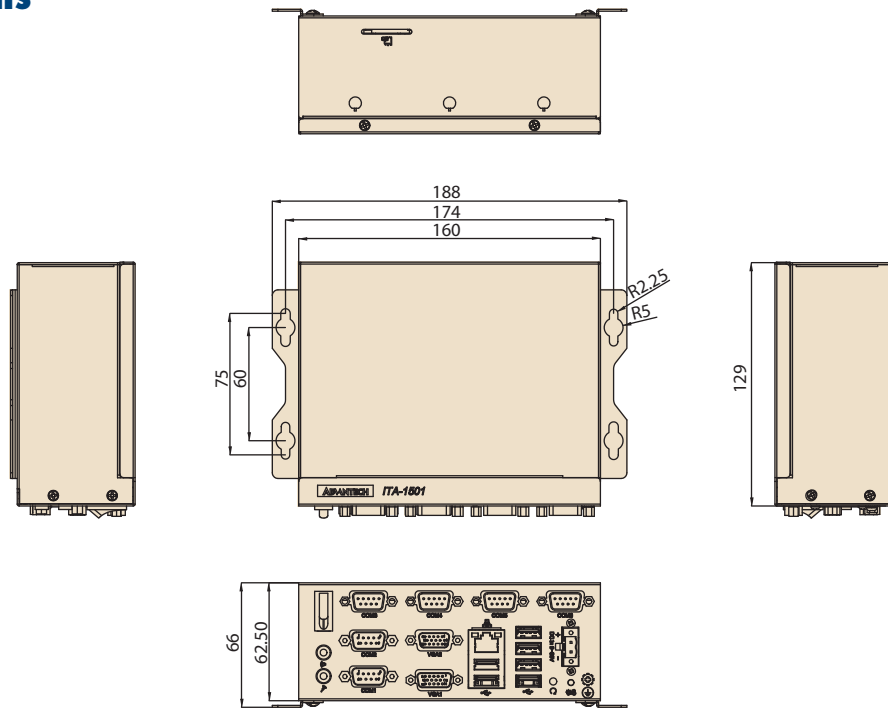
### Specifications

Processor System	CPU	Freescal i.MX6 Quad - 4x Cortex-A9	
	Processor Base Frequency	1.0 GHz ( Burst Frequency 1.2GHz )	
	L2 Cache	1 MB	
	Core Number	4	
Memory	Technology	Single channel DDR3L 1066 MHz SDRAM on board	
	Capacity	2GB	
Graphics	Controller	Freescal i.MX6 integrated hardware accelerators	
	Dual display	VGA +HDMI or 2 x VGA Single channel :1920 x 1080 @ 60 Hz Dual channel :1920 x 1080 @ 60 Hz	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	RTL8211E	
	Connector	1 x RJ-45	
Storage	Internal	8GB EMMC NAND Flash for O.S & 4MB SPI NOR Flash for ADV Loader	
	External	1 x 2.5" SDD bay or CF module	
I/O	Main Display	VGA1	
	Second Display	HDMI or VGA2 (optional)	
	SATA	1 x SATA 2.0	
	USB	6 x USB2.0	
	SD	1 x SD	
	Serial Port	2 x DB9, RS232/422/485 with automatic flow control 4 x DB9, RS232(only support TX/RX) (pinhead)	
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	
	Mini PCIe	1 x Mini PCIe with SIM slot	
Power	Input Voltage	12 V <sub>DC</sub>	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1~255 sec/min	
Environment	Operating Temperature	Operating	Non-operating
	Temperature	0 ~ 60 °C	-40 ~ 85 °C
Mechanical Features	Dimension (W x H x D)	160 x 62.5 x 129 mm (6.3" x 2.46" x 5.08")/188 x 66 x 129 mm (7.4" x 2.6" x 5.08") with mounting kits	
	Install	Desktop/Wall-mounting	
Certifications	EMC	CCC/CE/FCC	
	Safety	CCC/UL/CB	

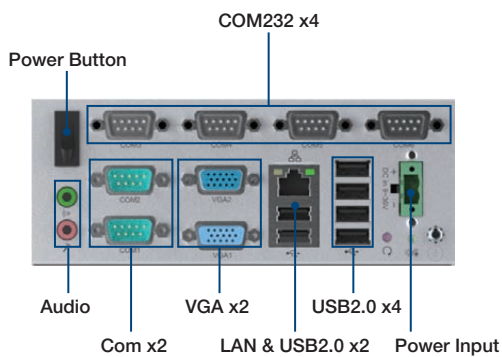


## Dimensions

Unit: mm



## Front View



## Rear View



## Ordering Information

Part Number	CPU	Onboard Memory	Display	LAN	USB	SD	COM (RS232/422/485)	COM (Only RS232)
ITA-1501-00A1	Cortex A9	2GB DDR3	VGA x 2	1	6	1	2	4
ITA-1501-01A1	Cortex A9	2GB DDR3	VGA + HDMI	1	6	1	2	4

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Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

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# ITA-1611

## Intel® Celeron™ J1900 Fanless Compact System with Dual Gigabit Ethernet LAN and Dual Displays



### Features

- Built-in Intel® Celeron™ J1900 quad-core processor, 2.0 GHz
- Fanless, compact system design
- 4 GB of DDR3 memory onboard with optional NVRAM
- 2 x LAN, 6 x USB, 6 x COM, and 1 x USB 3.0 ports
- Replaceable secondary display (VGA 2/DVI-D/LVDS)
- Supports dual outputs of full HD resolution video

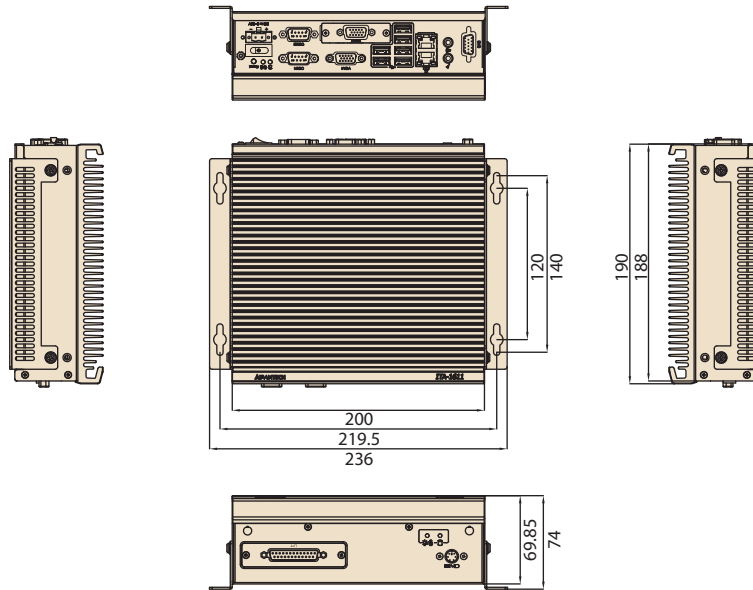


### System Specifications

Processor System	CPU	Intel® Celeron™ J1900		
	Max Speed	2.0 GHz		
	L2 Cache	2 MB		
	Core Quantity	4		
	BIOS	AMI® SPI 64 Mb		
Memory	Technology	Dual-channel DDR3 1333		
	Capacity	Onboard 4 GB (up to 8 GB with SODIMM)		
Graphics	Chipset	Embedded Intel® Gen 7 Graphics		
	VRAM	Shared system memory up to 256 MB SDRAM		
	Dual Display	2 x VGA/VGA + DVI-D/VGA + LVDS		
		Single channel maximum: 1920 x 1080 @ 60 Hz Dual channel maximum: 1920 x 1080 @ 60 Hz		
LVDS (optional)	Supports 18/24-bit dual channel, up to 1920 x 1080 @ 60 Hz			
Ethernet	Interface	10/100/1000 Mbps		
	Controller	2 x Intel® I211		
	Connector	2 x RJ-45		
Storage	NVRAM	1 Mb FRAM (optional)		
	Internal	1 x mSATA socket		
	External	Supports 1 x 2.5" HDD/SSD (optional)		
I/O Interface	Main Display	VGA 1		
	Secondary Display	VGA 2/DVI-D/LVDS		
	LAN	2		
	USB	6 (5 x USB 2.0, 1 x USB 3.0)		
	COM	2 x RS 232/422/485 ports with automatic flow control (up to 6 ports, supports 4 additional optional RS-232 serial ports)		
	Digital I/O	1 x 8-channel GPIO		
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
	PS/2 (front panel)	1		
	Reserved Area (front panel)	1 (1 x LPT port as default; 2 x VGA with PCA-5650 optional)		
Expansion Slots	Mini PCIe	1		
Power	Input Voltage	9 ~ 36 V DC		
	Output	System reset		
Watchdog Timer	Interval	Programmable 1~255 sec/min		
	Environment	Operating (w/o HDD)	Operating (with HDD)	Non-Operating
Physical Characteristics	Temperature	-25 ~ 60 °C	0 ~ 40 °C	-40 ~ 85 °C
	Dimensions (W x H x D)	200 x 69.85 x 190 mm (7.87" x 2.75" x 7.47")/236 x 74 x 190 mm (9.28" x 2.91" x 7.47") with mounting kits		

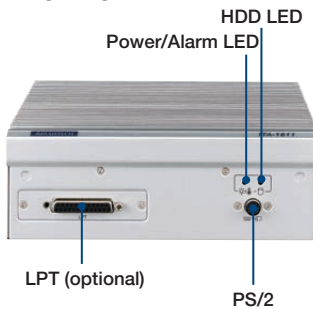
## Dimensions

Unit: mm

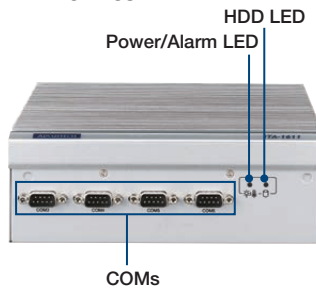


## Front View

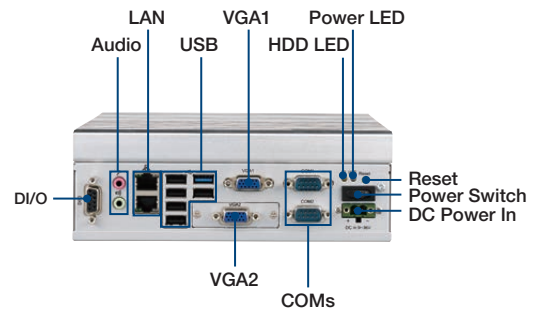
ITA-1611-10A1E



ITA-1611-S0A1E



## Rear View



## Ordering Information

Part Number	CPU	Onboard Memory	Display	COM	D/O	GbE LAN	USB
ITA-1611-00A1E	J1900	4 GB DDR3	VGA+DVI	2	8 bit	2	6
ITA-1611-10A1E	J1900	4 GB DDR3	VGA*2	2	8 bit	2	6
ITA-1611-20A1E	J1900	4 GB DDR3	VGA+LVDS	2	8 bit	2	6
ITA-1611-S0A1E	J1900	4 GB DDR3	VGA+DVI	6	8 bit	2	6

## Packing List

Part Number	Description	Quantity
2001161100	Startup menu (CH)	1
2001161110	Startup menu (CH)	1
2062171010	CD-ROM	1
1960054855N001	HDD bracket part 1	1
1960057417N301	HDD bracket part 2	1
1700009409	HDD SATA cable	1
1700017839	HDD power cable	1
1990021361N000	HDD thermal pad 1	1
1990021362N000	HDD thermal pad 2	1
1960052263T001	Mounting bracket	2
1652002205	Plug-in connector	1

## Optional Accessories

Part Number	Description
PCA-5650-00A1E	Mini PCIe VGA card
96PSA-A60W12P2-1	Adapter 100-240V 60W 12V
1700000596-11	Power cord (China) CCC, 10A 250V, 3P, 1.83 M
1702002600-01	Power cord UL/CSA (USA) 125V 10A, 3P, 1.83 M
1700023534-01	Power cord (UK) 13A, 250V, 3P, 1.83 M
1702002605-01	Power cord (EU) 10A/16A, 250V, 3P, 1.83 M
1700019592	LPT Cable (front panel)
1960057418N001	VGA bracket (front panel)

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# ITA-1711

## Intel® Celeron™ J1900 Fanless Compact System with Multiple COM Ports and Dual Displays



### Features

- Built-in Intel® Celeron™ J1900 quad-core processor, 2.0 GHz
- Fanless, compact system design
- 4 GB of DDR3 memory onboard with optional NVRAM
- 2 x LAN, 6 x USB, 14 x COM, and 1 x USB 3.0 ports
- Replaceable secondary display (VGA 2/DVI-D/LVDS)
- Supports dual outputs of full HD resolution video
- Serial ports support RS-232/422/485 with automatic flow control
- Supports up to 48 digital I/O (24 inputs and 24 outputs)

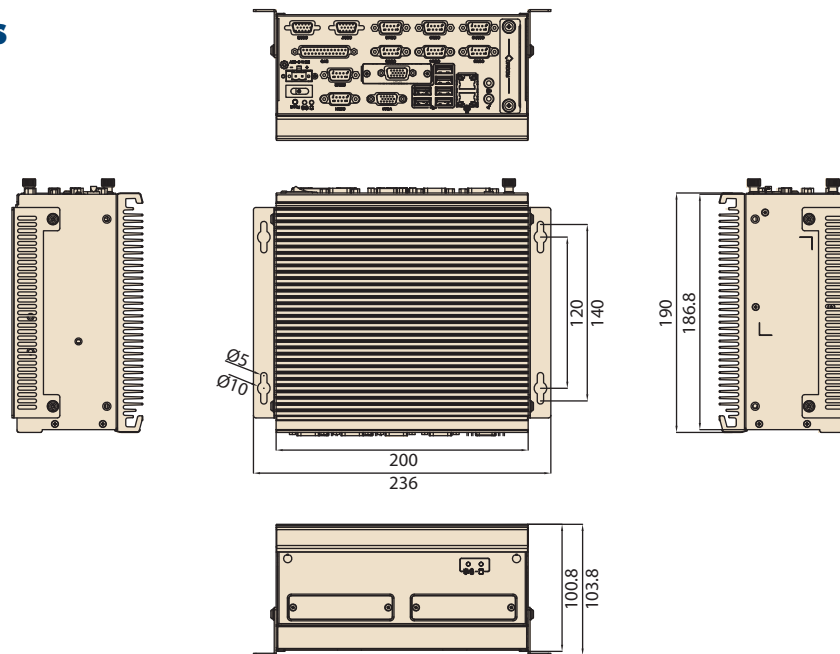


### System Specifications

Processor System	CPU	Intel® Celeron™ J1900		
	Max Speed	2.0 GHz		
	L2 Cache	2 MB		
	Core Quantity	4		
	BIOS	AMI® SPI 64 Mb		
Memory	Technology	Dual-channel DDR3 1333		
	Capacity	Onboard 4 GB (up to 8 GB with SODIMM)		
Graphics	Chipset	Embedded Intel® Gen 7 Graphics		
	VRAM	Shared system memory up to 256 MB SDRAM		
	Dual Display	2 x VGA/VGA + DVI-D/VGA + LVDS		
		Single channel maximum: 1920 x 1080 @ 60 Hz Dual channel maximum: 1920 x 1080 @ 60 Hz		
LVDS (optional)	Supports 18/24-bit dual channel, up to 1920 x 1080 @ 60 Hz			
Ethernet	Interface	10/100/1000 Mbps		
	Controller	2 x Intel® I211		
	Connector	2 x RJ-45		
Storage	NVRAM	1 Mb FRAM (optional)		
	Internal	1 x mSATA socket Supports 1 x 2.5" HDD/SSD (optional)		
	External	1 x Easy swap SATA slim/CompactFlash module		
I/O Interface	Main Display	VGA 1		
	Secondary Display	VGA 2/DVI-D/LVDS		
	LAN	2		
	USB	6 (5 x USB 2.0, 1 x USB 3.0)		
	COM	10 x RS 232/422/485 ports with automatic flow control (up to 14 ports, supports 4 additional optional RS-232 serial ports)		
	Digital I/O	1 x 24-bit GPIO (48-bit GPIO optional)		
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
Reserved Area (front panel)	1 (LPT, DIO2, PS/2 optional)			
Expansion Slots	Mini PCIe	1		
Power	Input Voltage	9 ~ 36 V DC		
	Output	System reset		
Watchdog Timer	Interval	Programmable 1~255 sec/min		
	Environment	Temperature	Operating (w/o HDD)	Operating (with HDD)
-25 ~ 60 °C			0 ~ 40 °C	-40 ~ 85 °C
Physical Characteristics	Dimensions (W x H x D)	200 x 100.8 x 190 mm (7.87" x 3.96" x 7.47")/236 x 103.8 x 190 mm (9.28" x 4.08" x 7.47") with mounting kits		

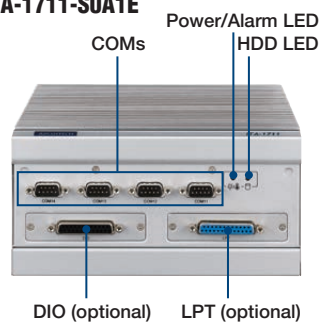
## Dimensions

Unit: mm

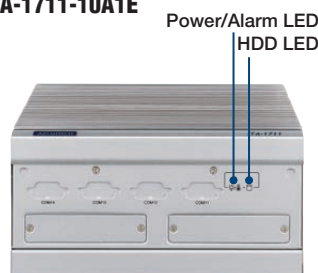


## Front View

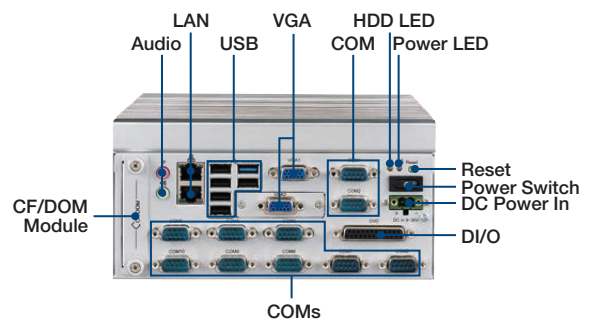
ITA-1711-S0A1E



ITA-1711-10A1E



## Rear View



## Ordering Information

Part Number	CPU	Onboard Memory	Display	COM	D/O	GbE LAN	USB	CF Tray
ITA-1711-00A1E	J1900	4 GB DDR3	VGA+DVI	10	24 bit	2	6	Yes
ITA-1711-10A1E	J1900	4 GB DDR3	VGA*2	10	24 bit	2	6	Yes
ITA-1711-20A1E	J1900	4 GB DDR3	VGA+LVDS	10	24 bit	2	6	Yes
ITA-1711-S0A1E	J1900	4 GB DDR3	VGA+DVI	14	48 bit	2	6	Yes

## Packing List

Part Number	Description	Quantity
2001171100	Startup menu (CH)	1
2001171110	Startup menu (CH)	1
2062171010	CD-ROM	1
1960054855N001	HDD bracket part 1	1
1960065108N001	HDD bracket part 2	1
1700009409	HDD SATA cable	1
1700017839	HDD power cable	1
1990021361N000	HDD thermal pad 1	1
1990021362N000	HDD thermal pad 2	1
1960052263T001	Mounting bracket	2
1652002205	Plug-in connector	1

## Optional Accessories

Part Number	Description
PCA-5650-00A1E	Mini PCIe VGA card
96PSA-A60W12P2-1	Adapter 100-240V 60W 12V
1700000596-11	Power cord (China) CCC, 10A 250V, 3P, 1.83 M
1702002600-01	Power cord UL/CSA (USA) 125V 10A, 3P, 1.83 M
1700023534-01	Power cord (UK) 13A, 250V, 3P, 1.83 M
1702002605-01	Power cord (EU) 10A/16A, 250V, 3P, 1.83 M
1700020061-11	PS/2 Cable (front panel)
1960057419N011	DI/O bracket (front panel)
1960057419N001	LPT bracket (front panel)
1960057418N001	VGA bracket (front panel)

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15



# ITA-2111

## Intel® Atom™ E3845 1U Fanless System; EN 50121-4 Compliant for Railway Applications



### Features

- Built-in Intel® Atom™ E3845 quad-core processor, 1.91 GHz
- 4 GB of DDR3 memory onboard
- 1U fanless rackmount system
- 4 x GbE and 10 x RS-232/422/485 ports with isolation design
- 6 x USB 2.0 and 1 x USB 3.0 slots
- 1 x VGA and 1 x DVI-D display outputs
- Compliant with EN 50121-4 for railway applications

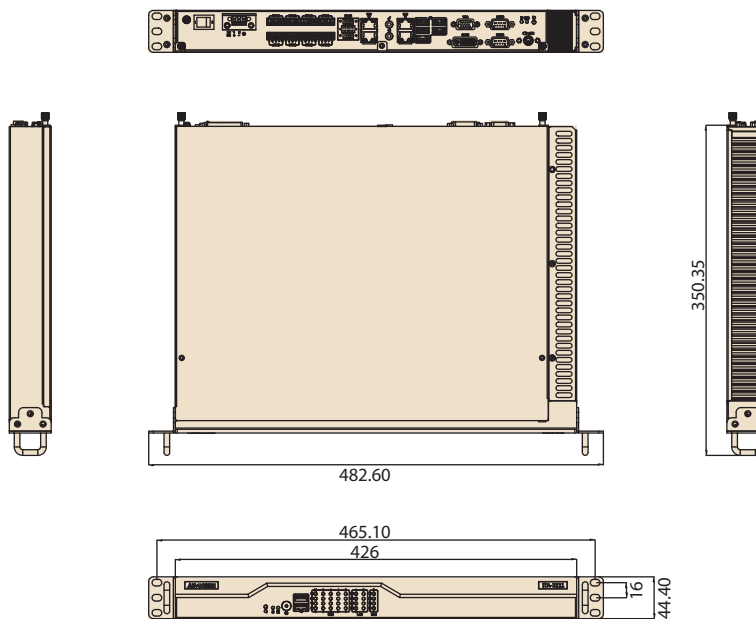


### System Specifications

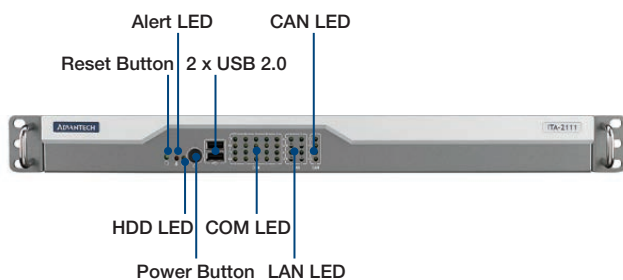
Processor System	CPU	Intel® Atom™ E3845 quad-core processor		
	Max Speed	1.91 GHz		
	L2 Cache	1 MB		
	BIOS	AMI® SPI 64 Mb		
Memory	Technology	Dual-channel DDR3 1333		
	Max. Capacity	Onboard 4 GB (up to 8 GB with SODIMM)		
Graphics	Chipset	Intel® Gen 7 Graphics (542 MHz)		
	VRAM	Shared system memory of up to 256 MB SDRAM		
	Dual Display	1 x VGA and 1 x DVI-D Single channel maximum: 1920 x 1080 @ 60 Hz Dual channel maximum: 1920 x 1080 @ 60 Hz		
Ethernet	Interface	10/100/1000 Mbps		
	Controller	4 x Intel® I210-IT		
	Connector	4 x RJ-45		
Storage	SSD	1 x mSATA socket (optional with SATA2)		
	HDD	1 x 3.5" or 2 x 2.5" HDD bay		
I/O Interface	VGA	1		
	DVI-D	1		
	LAN	4		
	USB	6 x USB 2.0, 1 x USB 3.0		
	Serial	2 x DB9 (RS-232/422/485) and 8 x RS-232/422/485 with 2 x 20-pin terminal block		
	CAN	2		
	PS/2	1		
Expansion Slots	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
	PCI104	1		
Power Module	Mini PCIe	1		
	Input Range	100 ~ 240 V <sub>AC</sub> /110 V <sub>DC</sub>		
	Connector	1 x 3-pin terminal block (5.08 mm)		
Watchdog Timer	Wattage (60 °C)	110 W		
	Output	System Reset		
Environment	Interval	Programmable 1 ~ 255 sec/min		
	Temperature	Operating (with SSD)	Operating (with HDD)	Non-Operating
Physical Characteristics		-25 ~ 60 °C	0 ~ 40 °C	-40 ~ 85 °C
	Dimensions (W x H x D)	426 x 44.4 x 326.65 mm (16.77" x 1.75" x 12.86")/482.6 x 44.4 x 350.35 mm (19" x 1.75" x 13.8") with mounting kits		
Certification	EMC	CE/FCC Class A		
	Safety	UL, CB, CCC		
	Compliance	EN 50121-4, Level 4 EMS		

## Dimensions

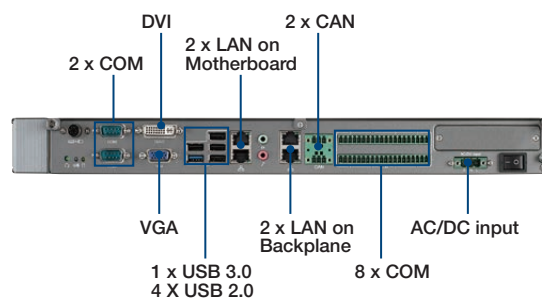
Unit: mm



## Front View



## Rear View



## Packing List

Part Number	Description	Quantity
2001211100	Startup manual	1
2061221100	Driver CD	1
1700020513-01	SATA cable*7P	2
1700017929	SATA power cable*4P	1
1700022322-01	SATA power cable*5P	1
1990001365	HDD rubber	4
1960018229N100	2.5" HDD bracket	2
1656303100	Terminal block*3P	1
1652006700-01	Terminal block*20P	2
1652007247-01	Terminal block*3P	2
1960066407T000	1U rackmount ear	2
1960040525N003	Handle bracket	2

## Ordering Information

Part Number	Description
ITA-2111-00A1E	Intel Atom E3845 CPU, 4G onboard memory, single AC/DC power input, 1U rackmount

## Optional Accessories

Part Number	Description
1700025366-01	Power cable: 3P terminal block -> AC-IN Jack, 10cm

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ITA-2211

## Intel® Atom™ E3845 2U Fanless System; EN 50121-4 Compliant for Railway Applications



### Features

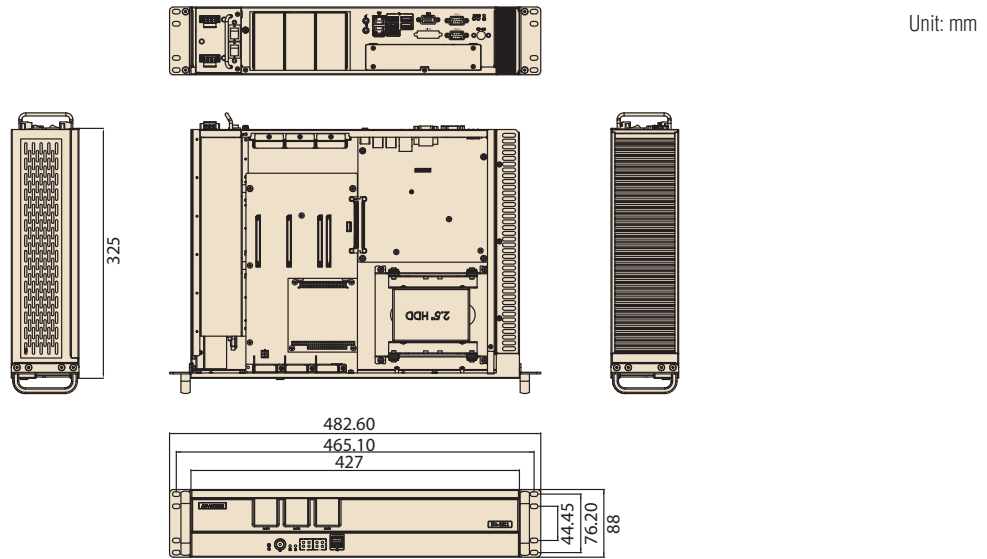
- Built-in Intel® Atom™ E3845 quad-core processor, 1.91 GHz
- 4 GB of DDR3 memory onboard
- 2U fanless rackmount system
- Supports 3 x ITA-EM modules for I/O expansion
- Supports Easy-Swap power module
- Up to 26 GbE or 26 Serial ports with ITA-EM modules
- Compliant with EN 50121-4 for railway applications



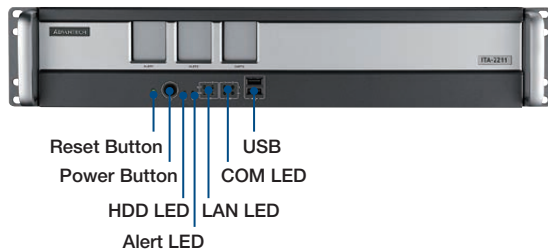
### System Specifications

Processor System	CPU	Intel® Atom™ E3845 quad-core processor		
	Max. Speed	1.91 GHz		
	L2 Cache	2 MB		
	BIOS	AMI® SPI 64 Mb		
Memory	Technology	Dual-channel DDR3 1333		
	Max. Capacity	Onboard 4 GB (up to 8 GB with SODIMM)		
Graphics	Chipset	Intel® Gen 7 Graphics (542 MHz)		
	VRAM	Shared system memory up to 256 MB SDRAM		
	Dual Display	1 x VGA and 1 x DVI-D		
		Single channel maximum: 1920 x 1080 @ 60 Hz Dual channel maximum: 1920 x 1080 @ 60 Hz		
Ethernet	Interface	10/100/1000 Mbps		
	Controller	2 x Intel® I210-IT		
	Connector	2 x RJ-45		
Storage	SSD	1 x mSATA slot (optional with SATA2)		
	HDD	1 x 3.5" or 2 x 2.5" HDD bay		
I/O Interface	VGA	1		
	DVI-D	1		
	LAN	2		
	USB	6 x USB 2.0 and 1 x USB 3.0		
	Serial	2 x DB9 (RS-232/422/485)		
	PS/2	1		
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
Expansion Slots	ITA-EM	3		
	PCI104	1		
	Mini PCIe	1		
Power Module	Input Range	Single Power Module 100 ~ 240 V <sub>AC</sub> /110 V <sub>DC</sub>	Dual Power Module Dual 100 ~ 240 V <sub>AC</sub> /110 V <sub>DC</sub>	
	Connector	1 x 3-pin terminal block (5.08 mm)	2 x 3-pin terminal block (5.08 mm)	
	Wattage (60 °C)	110 W	110 W (load balance)	
	Output	System Reset		
Watchdog Timer	Interval	Programmable 1 ~ 255 sec/min		
	Temperature	Operating (with SSD) -25 ~ 60 °C	Operating (with HDD) 0 ~ 40 °C	Non-Operating -40 ~ 85 °C
Physical Characteristics	Dimensions (W x H x D)	427 x 88 x 325 mm (16.81" x 3.46" x 12.79")/482.6 x 88 x 344.77 mm (19" x 3.46" x 13.57") with mounting kits		
	EMC	CE/FCC Class A		
Certification	Safety	UL, CB, CCC		
	Compliance	EN 50121-4, Level-4 EMS		

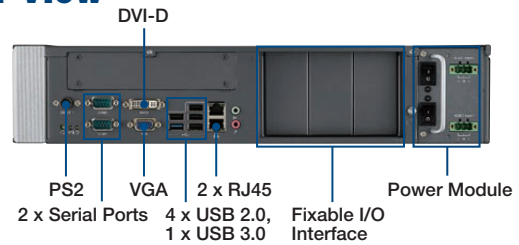
## Dimensions



## Front View

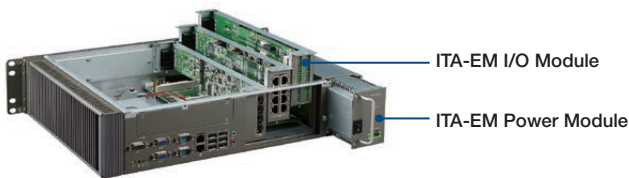


## Rear View



## ITA-EM I/O Module and Power Module

ITA-EM I/O modules provide optional LAN, CAN & Serial port expansion, see below:



## Packing List

Part Number	Description	Quantity
200K221000	Startup manual	1
206K221000	Driver CD	1
1700020513-01	SATA cable, 7 pin	2
1700017929	SATA power cable, 4 pin	1
1700022322-01	SATA power cable, 5 pin	1
1990001365	HDD rubber	4
1960018229N100	2.5" HDD bracket	2
1656303100	Terminal block, 3 pin	2
1960000406T004	2U rackmount ear	2
1960021557S000	Handle bracket	2

## Ordering Information

Part Number	Description
ITA-2211-00A1E	Intel Atom E3845, 4G onboard memory, single AC/DC power input, 2U rackmount
ITA-2211-10A1E	Intel Atom E3845, 4G onboard memory, dual AC/DC power input, 2U rackmount
ITA-2211-20A1E	Intel Atom E3845, 4G on board memory, single AC-IN jack, 2U rackmount
ITA-2211-30A1E	Intel Atom E3845, 4G on board memory, dual AC-IN jack, 2U rackmount

## Optional Accessories

Part Number	Description
ITA-EM-SR21-10A1E	8-port RS-232/422/485 ITA-EM module
ITA-EM-SR21-00A1E	8-port RS-232/422/485 ITA-EM module with 2.5KV isolation
ITA-EM-NC21-C0A1E	8-port GbE ITA-EM module with RJ45 connector
ITA-EM-NC22-C0A1E	4-port GbE ITA-EM module with RJ45 connector
ITA-EM-NC22-F0A1E	4-port GbE ITA-EM module with SFP connector
ITA-EM-NC23-00A1E	2-port GbE and 2-port CAN ITA-EM module
1700025366-01	Power cable: 3P terminal block -> AC-IN Jack, 10cm

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ITA-2231

## Intel® 6th Generation Core™ i Processor 2U Fanless System; EN 50121-4 Compliant for Railway Applications

**NEW**

Fully Compliant with  
**EN 50121-4**



### Features

- Built-in Intel® Core™ i7-6822EQ quad-core processor, 2.0GHz
- 16GB of DDR4 memory onboard
- 2U fanless rackmount system
- Supports 3 ITA-EM modules for I/O expansion
- Supports Easy-Swap power module
- Up to 26 GbE or 26 Serial ports with ITA-EM modules
- Compliant with EN 50121-4 for railway applications



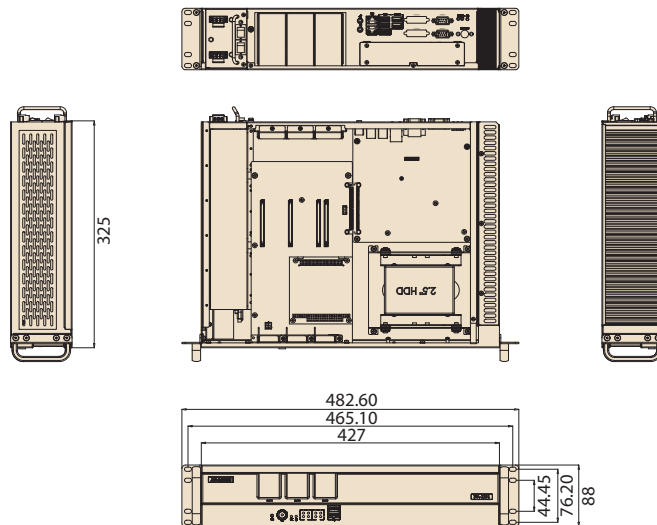
### System Specifications

Processor System	CPU	Intel® Core™ i7-6822EQ quad-core processor		
	Max Speed/Turbo Boost	2.0/2.8 GHz		
	L3 Cache	8 MB		
	Chipset	QM170		
	BIOS	AMI® SPI 128 Mb		
Memory	Technology	Dual-channel DDR4 2133		
	Max. Capacity	Onboard 16 GB (Up to 32 GB with SODIMM)		
Graphics	Chipset	Intel® HD Graphics 530		
	VRAM	Shared system memory up to 512 MB SDRAM		
		1 x DVI-I and 1 x DVI-D		
	Dual display	Single channel maximum: 1920 x 1200 @ 60 Hz Dual channel maximum: 1920 x 1200 @ 60 Hz		
Ethernet	Interface	10/100/1000 Mbps		
	Controller	1 x Intel® I219IT, 1 x Intel® I210IT		
	Connector	2 x RJ-45		
Storage	SSD	1 x M.2 (with SATA interface)		
	HDD	2 x 3.5" or 3 x 2.5" HDD bay		
I/O Interface	DVI-I	1		
	DVI-D	1		
	LAN	2		
	USB	4 x USB 3.0, 3 x USB 2.0		
	Serial	2 x DB9 (RS-232/422/485) with 2.5KV Isolation		
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
Expansion Slots	ITA-EM	3		
	PCI104	1		
	Mini PCIe	1		
Power module		Single Power Module	Dual Power Module	
	Input Range	100 ~ 240 V <sub>AC</sub> /110 V <sub>DC</sub>	Dual 100 ~ 240 V <sub>AC</sub> /110 V <sub>DC</sub>	
	Connector	1 x 3pin 5.08mm Terminal Block	2 x 3pin 5.08mm Terminal Block	
	Wattage (60 °C)	110 W	110W (Load Balance)	
Watchdog Timer	Output	System Reset		
	Interval	Programmable 1~255 sec/min		
Environment		Operating (With SSD)	Operating (With HDD)	Non-Operating
	Temperature	-25 ~ 60 °C	0 ~ 40 °C	-40 ~ 85 °C
Physical Characteristics	Dimensions (W x H x D)	427 x 88 x 325 mm (16.81" x 3.46" x 12.79")/482.6 x 88 x 344.77 mm (19" x 3.46" x 13.57") with mounting kits		
Certification	EMC	CE/FCC Class A		
	Safety	UL, CB, CCC, BSMI		
	Compliance	EN 50121-4, Level 4 EMS		

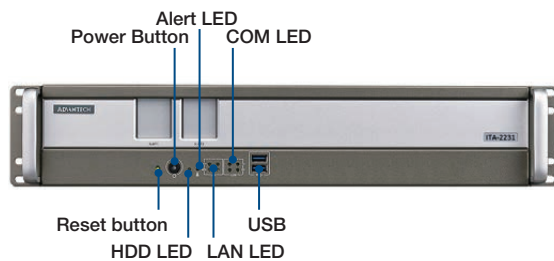


## Dimensions

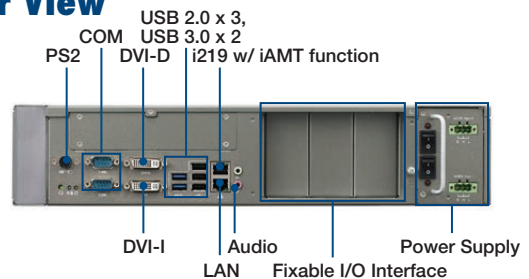
Unit: mm



## Front View

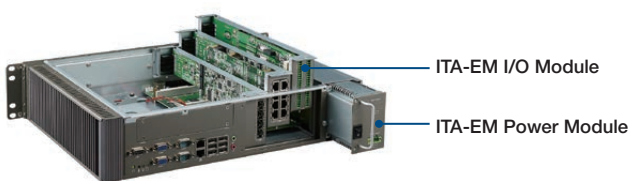


## Rear View



## ITA-EM I/O Module & Power Module

ITA-EM I/O modules provide optional LAN & Serial port expansion, see below:



## Packing List

Part No.	Description	Quantity
2001223100	Startup manual	1
206K223100	Driver CD	1
1700008941	SATA cable*7P	2
1700017929	SATA power cable*4P	1
1700022322-01	SATA power cable*5P	1
1990001365	HDD rubber	4
1960018229N100	2.5" HDD bracket	2
1656303100	Terminal block*3P	2
1960018229N100	2U Rack mount ear	2
1960021557S000	Handle bracket	2

## Ordering Information

Part No.	Description
ITA-2231-00A1E	Intel Core i7, 16G on board DDR, Single AC/DC power input, 2U Rackmount RAID Q/1/5
ITA-2231-10A1E	Intel Core i7, 16G on board DDR, Dual AC/DC power input, 2U Rackmount RAID Q/1/5
ITA-2231-20A1E	Intel Core i7, 16G on board DDR, Single AC-IN jack input, 2U Rackmount RAID Q/1/5
ITA-2231-30A1E	Intel Core i7, 16G on board DDR, Dual AC-IN jack input, 2U Rackmount RAID Q/1/5

## Optional Accessories

Part No.	Description
ITA-EM-SR21-10A1E	8-port RS-232/422/485 ITA-EM module
ITA-EM-SR21-00A1E	8-port RS-232/422/485 ITA-EM module with 2.5KV isolation
ITA-EM-NC21-C0A1E	8-port GbE ITA-EM module with RJ45 connector
ITA-EM-NC22-C0A1E	4-port GbE ITA-EM module with RJ45 connector
ITA-EM-NC22-F0A1E	4-port GbE ITA-EM module with SFP connector
ITA-EM-NC23-00A1E	2-port GbE and 2-port CAN ITA-EM module
1700025366-01	Power cable: 3P terminal block -> AC-IN Jack, 10cm

# ITA-5612

## Intel® Atom™ E3950 Fanless Compact System; EN 50155 Compliant for Railway Applications

**NEW**

Fully Compliant with  
**EN 50155**



### Features

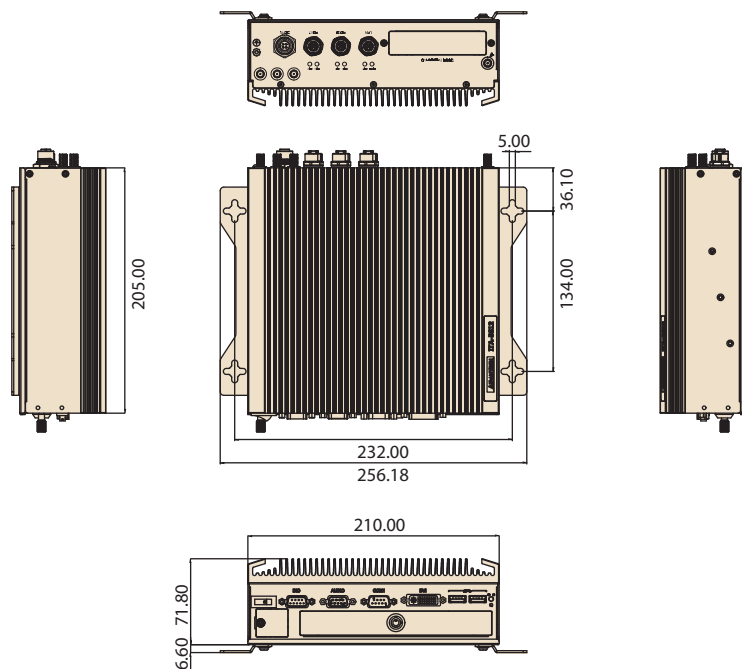
- Built-in Intel® Atom™ X7-E3950 quad-core processor
- Fanless computer for railway vehicle compact system for rolling stock applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mount class B
- Compliant with EN 50121-3-2 EMC test standard
- Ruggedized connectors (M12) used for communication and power ports
- Supports Easy-swap SSD module

### Specifications

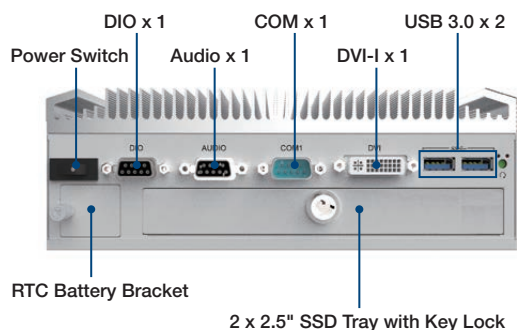
Processor System	CPU	Intel® Atom™ X7-E3950 quad-core processor, TDP 12W		
	Max Speed	Up to 2.0 GHz		
	L2 Cache	2MB		
	BIOS	AMIR SPI 64 Mb		
Memory	Technology	on board 4G memory, DDR3L 1600MHz		
	Capacity	Onboard 4 GB (up to 8 GB with SODIMM)		
Graphics	Chipset	Intel® HD Graphics 505		
	Display ports	1 x DVI-I		
Ethernet	Controller	3 x Intel® I210-IT		
	Interface	10/100/1000 Mbps		
	Connector	Up to 3 x M12 X-coded(F)		
Storage	SSD/SSD	2 x 2.5" SSD		
	mSATA	1 x mSATA socket (optional with SATA2)		
Others	GPS	1 (optional)		
Front I/O	USB3.0	2 x USB3.0 with Type A		
	Serial Port	1 x DB9, RS-232/422/485 with 2KV Isolation, supports auto-flow control		
	Display	1 x DVI-I (Optional to DVI-D+VGA via Y cable)		
	Audio	1 x DB9, 1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
	Digital I/O	1 x 8 bit GPIO		
Rear I/O	LAN	2x LAN or 1 x LAN+2 x POE with M12 X-coded(F)		
	Expansion	1 x iDoor bracket		
Expansion Slots	Mini PCIe	1 x Mini PCIe with 1 x SIM slot		
Power Input	Input Voltage	DC 24V input compliant with EN50155 class S2/C1 (Optional DC 48/72/110V input)		
	Connector	1 x M12 S-coded(M) 4-pin		
Watch Dog	Output	System reset		
	Interval	Programmable 1 ~ 255 sec/min		
Environment	Operating Temperature	-40 ~ 70 °C	Storage Temperature	-40 ~ 85 °C
	Relative Humidity	5~ 95% @ 40 °C non-condensing		0 ~ 95% @ 40 °C non-condensing
	Maximum vibration	2Grms (5-500Hz), 1Grms (5-500Hz)		2Grms
	Maximum shock	20G w/ SSD, DOM; 10G w/ HDD		30G
	Dimensions (W x H x D)	210 x 71.8 x 205 mm (8.27" x 2.83" x 8.07")/256.18 x 78.4 x 205 mm (10.08" x 3.09" x 8.07") with mounting kits		
Mechanical	Installation	Wall-mount by mounting bracket		
	EMC	CE/FCC Class A, CCC, BSMI		
Certification	Safety	UL, CB, CCC, BSMI		
	Ambient Temperature	EN 50155 Tx (-40 ~ 70 °C)		
EN50155 Compliance	Shock and Vibration	IEC 61373 body mount class B		
	Interruptions of Voltage Supply	Class S2		
	Supply Change Over	Class C1		
	EMC	EN 50121-3-2		

## Dimensions

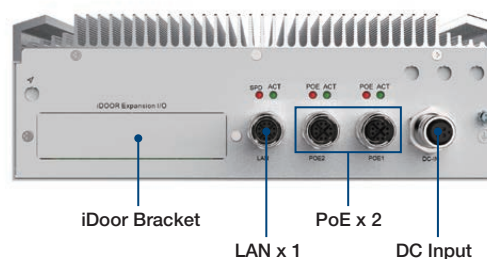
Unit: mm



## Front View



## Rear View



## Ordering Information

Part Number	CPU	Memory	Ethernet (M12/x-code/8-pin/Female)	POE (M12/x-code/8-pin/Female)	USB3.0 (Type A)	mini-PCIe	Storage	mSATA	COM	DVI-I	GPS
ITA-5612-00A1	X7-E3950	4GB on board + 1 SODIMM socket	2	0	2	1	2 x 2.5" SSD	optional	1	1	Yes
ITA-5612P-00A1	X7-E3950	4GB on board + 1 SODIMM socket	1	2	2	0	2 x 2.5" SSD	optional	1	1	No

## Optional Accessories

### M12 Connector (Must purchase separately)

Part Number	Description
1700026952-01	M12 S-coded, 4-pin, female, for power input
1700026951-01	M12 X-coded, 8-pin Male, LAN

### M12 Cable (Must purchase separately)

Part Number	Description
1700025857-21	Power cable: M12 S-code-> 2pin Terminal Block, 10cm
1700026432-21	LAN cable: M12 x-code-> RJ45, 10cm

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ITA-5831

## Intel® 6th Generation Core™ i Processor Fanless System; EN 50155 Compliant for Railway Applications



### Features

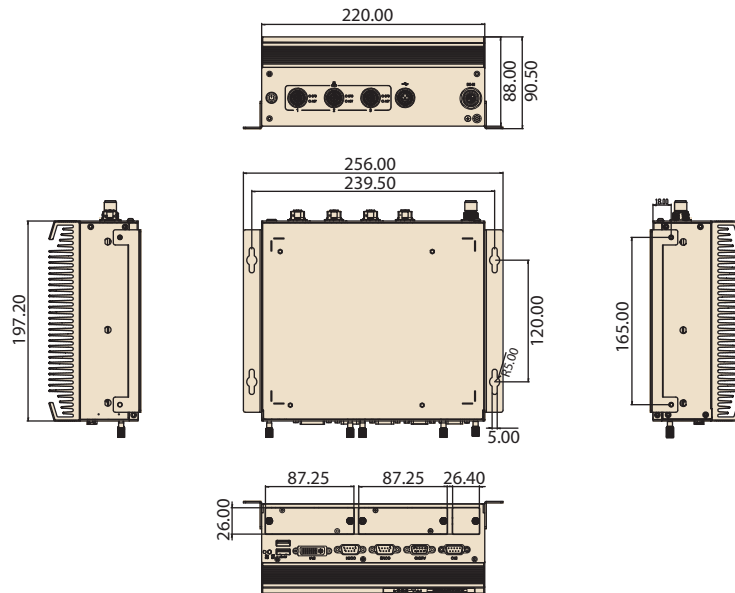
- Intel® Core™ i7-6822EQ platform with QM170
- Fanless computer for railway vehicle applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mount class B
- Compliant with EN 50121-3-2/ EN 50121-4 EMC test standard
- Ruggedized connectors (M12) used for communication and power ports
- Supports easy-swap storage module and I/O module

### Specifications

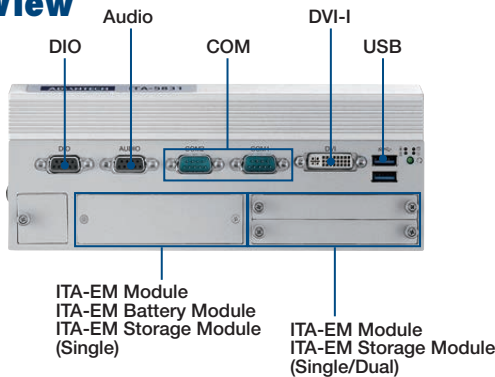
System Chipset	CPU	Intel® Core™ i7-6822EQ	i5-6442EQ	Celeron G3902E
	Base frequency/Turbo Boost	2.0/2.8 GHz	1.9/2.7GHz	1.6 GHz/ NA
	L3 Cache	8M	6M	2M
	Cores/Threads	4C/8T	4C/4T	2C/2T
	Chipset	QM170		
Memory	BIOS	AMI SPI 16M byte		
	Technology	8GB on board memory, DDR4 2133MHz		
	SODIMM slot	1		
Graphics	Max. Capacity	Up to 16G		
	Chipset	Intel Integrated Graphics GT2, Celeron with GT1		
	VRAM	Shared with system memory to 512MB (Default setting)		
I/O	Display	DVI-I: 1920 x 1200 @ 60Hz		
	USB	2 x USB3.0 with Type A 1 x USB2.0 with M12 A-coded(F) 4-pin		
	Serial Port	2 x DB9, RS-232/422/485 with 2KV Isolation, supports auto-flow control		
	DIO	1 x DB9, 4-bit DI/ 4-bit DO with 2KV Isolation		
	Display	1 x DVI-I (Optional to DVI-D+VGA via Y cable)		
	Audio	1 x DB9, 1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
Ethernet	Controller	Intel i210-IT (Industrial)		
	Interface	10/100/1000 Mbps		
	Connector	Up to 3 x M12 X-coded(F)		
Storage	HDD/SSD easy-swap module	1 x ITA-EM-ST61-00A1E, supports 2 x 7mm/2.5" SSD (Default) Max to 3 x 2.5" SSD, 2 of 7mm SSD and 1 of 7mm/9.5mm SSD		
	mSATA	1 x mSATA slot on board		
Others	Mini PCIe	3 x Mini PCIe Socket (Full size)		
	SIM card	2 x SIM slot		
LED & Button	LED	1 x power, 1 x storage, 1 x alert, 1 x BATT		
	Button	1 x power on/off switch 1 x reset button		
Power	Input Voltage	DC 24V input compliant with EN50155 class S2/C1(Optional DC 48/72/110V input)		
	Connector	1 x M12 S-coded(M) 4-pin		
Watchdog Timer	Output	System reset		
	Interval	Programmable 1~255 sec/min		
Environment	Temperature	Operating (with Industrial SSD/CF) -40 ~ 70 °C		Non-operating -40 ~ 85 °C
	Humidity	5% ~ 95% @ 40 °C (Non-Condensing)		
Mechanical	Dimension (W x H x D)	220 x 88 x 198.8 mm (8.65" x 3.46" x 7.83")/256 x 92 x 198.8 mm (10.08" x 3.62" x 7.83") with mounting kits		
	Install	Wall-mount by mounting bracket		
	Ingress Protection	IP40 rating, IP50 with I/O caps		
Certification	EMC	CE/FCC Class A, CCC		
	Safety	UL, CB, CCC		
EN 50155 Compliance	Ambient Temperature	EN 50155 TX (-40 ~ 70 °C)		
	Shock and Vibration	IEC 61373 body mount class B		
	Interruptions of Voltage Supply	Class S2: 10 ms interruptions		
	Supply Change Over	Class C1: at 0,6 Un during 100 ms without interruptions		
	EMC	EN 50121-3-2/EN 50121-4		

Dimensions

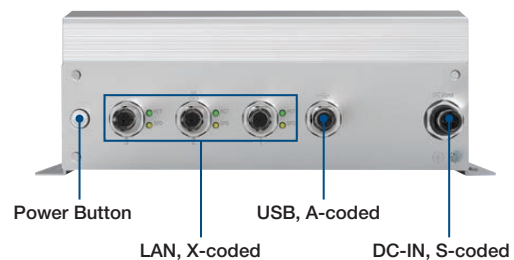
Unit: mm



Front View



Rear View



Ordering Information

Voltage (M12-S-Male)	Part Number	Processor	Ethernet (M12-X-Female)	USB2.0 (M12-A-Female)	USB3.0 (Type A)	mini-PCIe	2.5" SSD	mSATA slot	COM	Digital I/O	Display
24V <sub>DC</sub>	ITA-5831-L7A1E	i7-6822EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-L5A1E	i5-6442EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-L0A1E	G3902E	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
48V <sub>DC</sub>	ITA-5831-M7A1E	i7-6822EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-M5A1E	i5-6442EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-H7A1E	i7-6822EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
72V <sub>DC</sub>	ITA-5831-H5A1E	i5-6442EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-H0A1E	G3902E	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-S7A1E	i7-6822EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
110V <sub>DC</sub>	ITA-5831-S5A1E	i5-6442EQ	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I
	ITA-5831-S0A1E	G3902E	3	1	2	3	Up to 3	1	2 (Default)	4DI/4DO	DVI-I

ITA-5831 Series supports various I/O expansion. For more specifications, please contact your distributor or sales representative.

Optional List

Part Number	Description
ITA-EM-SR61-00A1E	Easy-swap module, 4 x RS232/422/485 with 2KV Isolation
ITA-EM-CN61-00A1E	Easy-swap module, 2 x CAN ports with 2KV Isolation
ITA-EM-PE61-00A1E <sup>Note1</sup>	2 PoE: Each port max to 7.5W @ 52V <sub>DC</sub> 1 PoE: Up to 15.4W @ 52V <sub>DC</sub>
ITA-EM-ST61-00A1E	Dual Easy-swap storage tray, support 2 x 2.5" SSD (7mm)
ITA-EM-ST61-10A1E	Single Easy-swap storage tray, support 1 x 2.5" SSD (7mm/9.5mm)

Note1: Only supports EN 50155 T2 class: -40 ~ 55 °C

Part Number	Description
1700025295-31	USB cable: M12 A-code-> USB Type A,10cm
1700026432-21	LAN cable: M12 x-code-> RJ45,10cm
1700025857-21	Power cable: M12 S-code-> 2pin Terminal Block,10cm
1700004713	Y cable: DVI 29P(M) -> DVI 29P(F)+D-SUB 15P(F), 18cm



# ITA-5231

## Intel® 6th Generation Core™ i Processor Fanless System; EN 50155 Compliant for Railway Applications



### Features

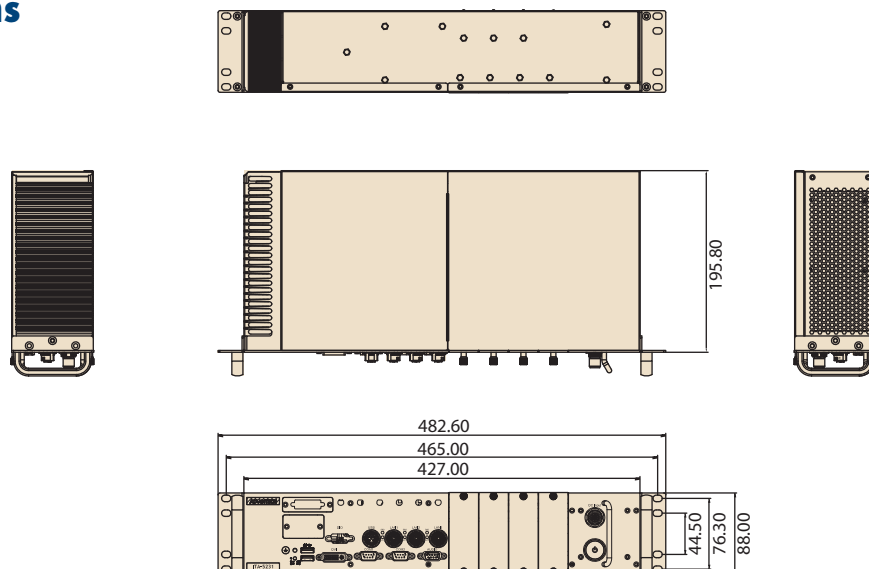
- H-series, 6th generation Intel® Core™ i3/i5/i7 platform with QM170
- Fanless computer for railway vehicle applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mount class B
- Compliant with EN 50121-3-2/ EN 50121-4 EMC test standard
- Ruggedized connectors (M12) used for communication and power ports
- Supports easy-swap storage module and I/O module

### Specifications

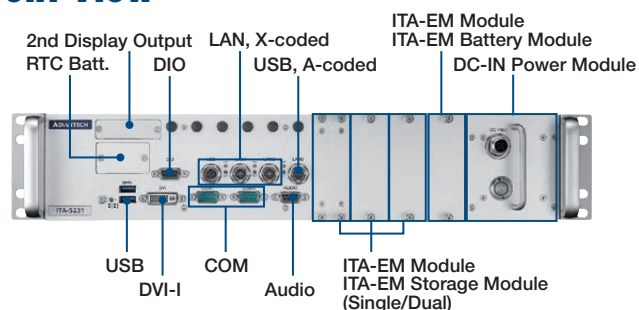
System Chipset	CPU	Intel® Core™ i7-6822EQ	i5-6442EQ	Celeron® G3902E
	Base Frequency/Turbo Boost	2.0/2.8 GHz	1.9/2.7GHz	1.6GHz/NA
	L3 Cache	8M	6M	2M
	Cores/Threads	4C/8T	4C/4T	2C/2T
	Chipset	QM170		
	BIOS	AMI SPI 128Mb		
Memory	Technology	8GB on board memory, DDR4 2133MHz		
	SODIMM slot	1		
	Max. Capacity	Up to 16GB		
Graphics	Chipset	Intel® HD Graphics 530, Celeron with Intel® HD Graphics 510		
	VRAM	Shared with system memory up to 512MB		
	Display	DVI-I: 1920x1200 @ 60Hz		
I/O	USB	2 x USB3.0 with Type A 1 x USB2.0 with M12 A-coded(F) 4-pin		
	Serial Port	2 x DB9, RS-232/422/485 with 2KV Isolation, supports auto-flow control		
	DIO	1 x DB9, 4-bit DI/ 4-bit DO with 2KV Isolation		
	Main Display	1 x DVI-I (Optional to DVI-D+VGA via Y cable)		
	Audio	1 x DB9, 1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
Ethernet	Controller	Intel i210-IT /i219LM (Industrial)		
	Interface	10/100/1000 Mbps		
	Connector	3 x M12 X-coded(F), LAN1 with i219LM and LAN2/LAN3 with i210-IT		
Storage	HDD/SSD easy-swap module	1 x ITA-EM-ST51-00A1E, supports 2 x 2.5" SSD (Default setting) Max to 4 x 2.5" SSD (7mm/9.5mm)		
	mSATA	1 x mSATA slot on board		
Others	Mini PCIe	3 x Mini PCIe Socket (Full size)		
	SIM card	2 x SIM slot		
LED & Button	LED	1 x power, 1 x storage, 1 x alert, 1 x BATT		
	Button	1 x power on/off switch 1 x reset button		
Power	Input Voltage	DC 24V input compliant with EN50155 class S2/C2 (optional DC 48/72/110V input)		
	Connector	1 x M12 S-coded(M) 4-pin		
Watchdog Timer	Output	System reset		
	Interval	Programmable 1~255 sec/min		
Environment	Temperature	Operating (with Industrial/Wide-temperature SSD/mSATA) -40 ~ 70 °C		Non-operating -40 ~ 85 °C
	Humidity	5% ~ 95% @ 40 °C (Non-condensing)		
Mechanical	Dimension (W x H x D)	427 x 88 x 195.8 mm (16.81" x 3.46" x 7.71")/482.6 x 88 x 221.3 mm (19" x 3.46" x 8.71") with mounting kits		
	Install	Rack-mounting		
Certification	EMC	CE/FCC Class A, CCC		
	Safety	UL, CB, CCC		
EN 50155 Compliance	Ambient Temperature	EN 50155 TX (-40 ~ 70 °C)		
	Shock and Vibration	IEC 61373 body mount class B		
	Interruptions of Voltage Supply	Class S2		
	Supply Change Over	Class C2		
	EMC	EN 50121-4		

## Dimensions

Unit: mm



## Front View



## Ordering Information

Voltage (M12-S-Male)	Part Number	Processor	Ethernet (M12-X-Female)	USB2.0 (M12-A-Female)	USB3.0 (Type A)	mini-PCIe	2.5" SSD	mSATA slot	COM	DIO	Display
24V <sub>DC</sub>	ITA-5231-L7A1E	i7-6822EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
	ITA-5231-L5A1E	i5-6442EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
	ITA-5231-L0A1E	G3902E	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
48V <sub>DC</sub>	ITA-5231-M7A1E	i7-6822EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
	ITA-5231-S7A1E	i7-6822EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
72/110V <sub>DC</sub>	ITA-5231-S5A1E	i5-6442EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I

ITA-5231 Series supports various I/O expansion. For more specifications, please contact your distributor or sales representative.

## Optional List

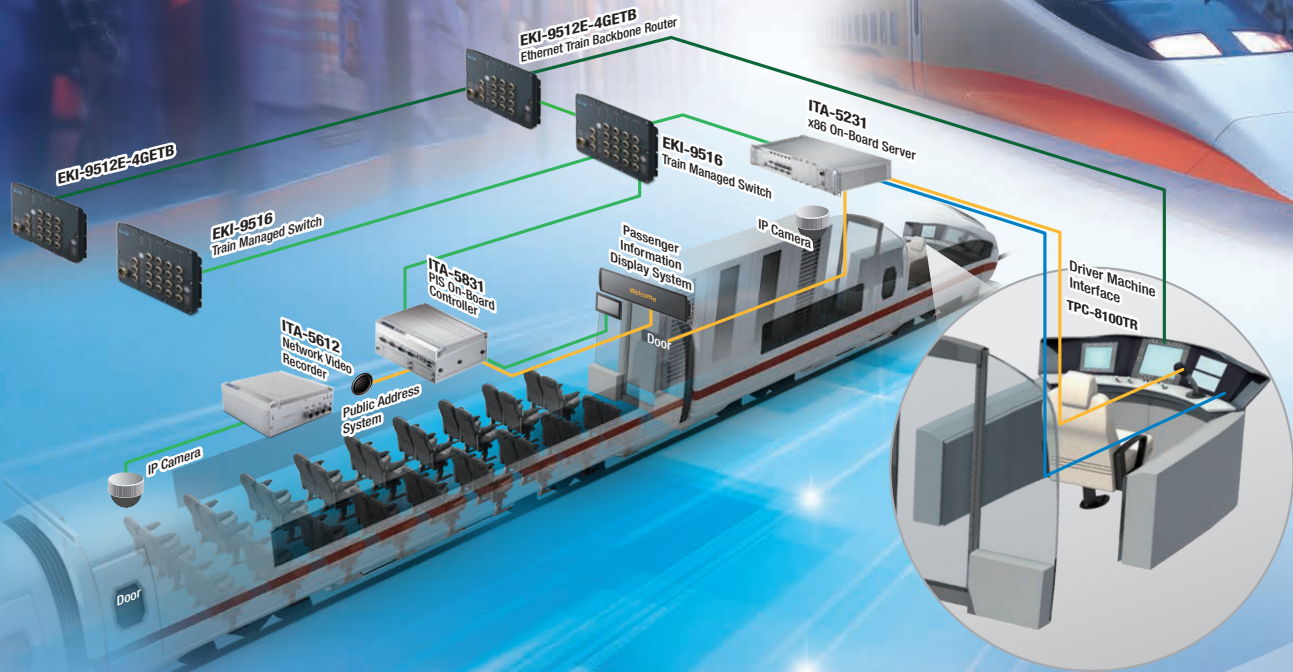
Part Number	Description
ITA-EM-SR51-00A1E	Easy-swap module, 4 x RS232/422/485 with 2KV Isolation
ITA-EM-CN51-00A1E	Easy-swap module, 2 x CAN ports with 2KV Isolation
ITA-EM-PE51-00A1E <sup>Note1</sup>	2 PoE: Each port max to 7.5W @ 52V <sub>DC</sub> 1 PoE: Up to 15.4W @ 52V <sub>DC</sub>
ITA-EM-ST51-00A1E	Easy-swap storage tray, support 2 x 2.5" SSD (7mm/9.5mm)
ITA-EM-ST51-10A1E	Easy-swap storage tray, support 1 x 2.5" SSD (7mm/9.5mm/15mm)

Note1: Only supports EN 50155 T2 class: -40 ~ 55 °C

P/N	Description
1700025295-31	USB cable: M12 A-code-> USB Type A, 10cm
1700026432-21	LAN cable: M12 x-code-> RJ45, 10cm
1700025857-21	Power cable: M12 S-code-> 2pin Terminal Block, 10cm
1700004713	Y cable: DVI 29P(M) -> DVI 29P(F)+D-SUB 15P(F), 18cm

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# Advantech Rolling Stock Solutions



## ADVANTECH

*Enabling an Intelligent Planet*

Advantech's Rolling Stock solution provides fully customization and CTOS service to fulfill a wide range of applications as it guarantee reliable performance under railway harsh environment for passenger information and display system, train WLAN/WWAN connectivity, on-board infotainment and CCTV surveillance systems.



**ITA-5231**  
Intel 6<sup>th</sup> Generation  
On Board Server



**ITA-5831**  
Intel® 6<sup>th</sup> Generation  
Core™ i Processor EN  
50155 Fanless System



**ITA-5612**  
Intel® Atom™ E3950  
Modular Rail Computer



**ARS-P3800**  
38" Stretched EN  
50155 Panel  
Computer



**TPC-8100TR**  
10.4" EN50155 DMI  
Railway Panel Computer



**EKI-9512/16 Series**  
EN50155 Managed  
Ethernet Switch and  
train router

## Intelligent Inspection Systems

<b>Selection Guide</b>		<b>4-2</b>
<b>AIIS-1200P (GigE PoE)</b> <b>AIIS-1200U (USB 3.0)</b>	Palm Size Vision System, Supports Intel® Braswell SoC, 2-CH Camera Interface for GigE PoE or USB 3.0	<b>4-4</b>
<b>AIIS-3400P (PoE)</b> <b>AIIS-3400U (USB 3.0)</b>	Compact Vision System, Intel® 6th/7th Gen Core i CPU, 4-CH Camera Interface for GigE PoE or USB 3.0	<b>4-6</b>
<b>AIIS-3410P (PoE)</b> <b>AIIS-3410U (USB 3.0)</b>	Compact Vision System, Intel® 6th/7th Gen Core i CPU, 4-CH Camera Interface for GigE PoE or USB 3.0, PCIe expansion slot	<b>4-8</b>
<b>AIIS-5410P</b>	Fanless Vision System with Intel® Core™ i Processor, 4-Channel GigE PoE Camera Interface, and PCIe expansion slot	<b>4-10</b>
<b>PCE-USB4 (4 ports)</b> <b>PCE-USB8 (8 ports)</b>	PCI Express x4, 4/8-Port USB 3.0 Expansion Card	<b>4-11</b>
<b>PCE-GIGE2 (2 ports)</b> <b>PCE-GIGE4 (4 ports)</b>	PCI Express x4, 2/4-Port GbE Expansion Card	<b>4-12</b>

To view all of Advantech's Intelligent Inspection Systems, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Intelligent Inspection Systems



Model name		AIIS-1200P	AIIS-1200U	AIIS-5410
Form Factor		Compact	Compact	Compact
Processor System	Chipset	-	-	QM170
	CPU	Intel Braswell N3160/N3710 SoC	Intel Braswell N3160/N3710 SoC	Intel 6th Generation Core i7/i5 BGA1440 processor
	Core	4	4	4
	Cache	2 MB	2 MB	8MB
	Memory	DDR3L 1600 On board 8GB	DDR3L 1600 On board 8GB	Dual Channel DDR4 1866/2133 MHz (non-ECC) Max 32GB
Graphic	Graphics controller	Integrated Intel HD Graphics	Integrated Intel HD Graphics	Integrated Intel HD Graphics
	VRAM	Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS
Expansion	PCIe x16	-	-	-
	PCIe x8	-	-	1
	PCIe x4	-	-	-
	PCIe x1	-	-	-
	PCI*	-	-	1x riser card
Storage	mini PCIe	1	1	1
	HDD Bay	1 x Internal 2.5" HDD Bay	1 x Internal 2.5" HDD Bay	2 x Internal 2.5 HDD Bay
	mSATA	1	1	1
	CFast	-	-	1
Ethernet	RAID	-	-	RAID 0/1
	Ethernet interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	1 x Intel I210	1 x Intel I210	2 x Intel I210
Machine vision connector	interface	2 x channel PoE	2 x channel USB3.0	4x channel PoE
	Controller	Intel I210	Renesas uPD720202	Intel I210
Front I/O	Display	VGA	VGA	VGA + DVI-D
	LAN	1	1	2
	USB	2 x USB3.0	2 x USB3.0	8 x USB3.0
	COM	1 x RS-232/422/485 1 x RS-232	1 x RS-232/422/485 1 x RS-232	-
	PS/2	-	-	-
	Audio	-	-	Line-out/Mic-in
	Display	1 x DP	1 x DP	-
Rear I/O	LAN	-	-	-
	USB	2 x USB3.0	2 x USB3.0	-
	COM	-	-	2 x RS-232/422/485
	PS/2	-	-	-
	Audio	Line-out & Mic-in	Line-out & Mic-in	-
	DIO	8 Channels (isolated)	8 Channels (isolated)	8 Channels (isolated)
	Output	System reset	System reset	System reset
Watchdog timer output	Interval	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
	Interval	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
Power Supply	Output Wattage	-	-	-
	Input range	DC 9-36V	DC 9-36V	DC 9-36V
	Remote power switch	1	1	1
Cooling	System fan	-	-	-
	Air filter	-	-	-
Physical Characteristics	Dimensions (W x H x D)	137 x 58 x 118 mm (5.39" x 2.28" x 4.65")	137 x 58 x 118 mm (5.39" x 2.28" x 4.65")	235 x 88 x 188 mm (9.25" x 3.46" x 7.4")
	Weight	1.1Kg	1.1Kg	2.9 kg
Page		4-4	4-4	4-10





AIIS-3400P	AIIS-3400U	AIIS-3410P	AIIS-3410U
Compact	Compact	Compact	Compact
H110	H110	H110	H110
Intel 6th/7th generation Core i CPU (LGA1151)	Intel 6th/7th generation Core i CPU (LGA1151)	Intel 6th/7th generation Core i CPU (LGA1151)	Intel 6th/7th generation Core i CPU (LGA1151)
Max.4	Max.4	Max.4	Max.4
Max. 8 MB	Max. 8 MB	Max. 8 MB	Max. 8 MB
Dual Channel DDR4 1866/2133 MHz (non-ECC) Max 32GB	Dual Channel DDR4 1866/2133 MHz (non-ECC) Max 32GB	Dual Channel DDR4 1866/2133 MHz (non-ECC) Max 32GB	Dual Channel DDR4 1866/2133 MHz (non-ECC) Max 32GB
Integrated Intel HD Graphics	Integrated Intel HD Graphics	Integrated Intel HD Graphics	Integrated Intel HD Graphics
Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS
-	-	-	-
-	-	1	1
-	-	-	-
-	-	-	-
-	-	1x riser card (optional)	1x riser card (optional)
-	-	1	1
1 x Internal 2.5 HDD Bay	1 x Internal 2.5 HDD Bay	1 x Internal 2.5 HDD Bay	1 x Internal 2.5 HDD Bay
-	-	-	-
1	1	1	1
-	-	-	-
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
LAN1: Intel i219LM LAN2: Intel i210	LAN1: Intel i219LM LAN2: Intel i210	LAN1: Intel i219LM LAN2: Intel i210	LAN1: Intel i219LM LAN2: Intel i210
4 x channel PoE	4 x channel USB	4 x channel PoE	4 x channel USB
Intel I210	Renesas μPD720202	Intel I210	Renesas μPD720202
VGA + DVI-D	VGA + DVI-D	VGA + DVI-D	VGA + DVI-D
2	2	2	2
4 x USB3.0	4 x USB3.0	4 x USB3.0	4 x USB3.0
2 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485
-	-	-	-
Line-in/Line-out/Mic-in	Line-in/Line-out/Mic-in	Line-in/Line-out/Mic-in	Line-in/Line-out/Mic-in
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
8 Channels (isolated)	8 Channels (isolated)	8 Channels (isolated)	8 Channels (isolated)
System reset	System reset	System reset	System reset
Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
-	-	-	-
DC 19-24V	DC 19-24V	DC 19-24V	DC 19-24V
1	1	1	1
1 (6cm / 27.7 CFM)	1 (6cm / 27.7 CFM)	1 (8cm / 57 CFM)	1 (8cm / 57 CFM)
-	-	-	-
230 x 70 x 175 mm (9.06" x 2.76" x 6.89")	230 x 70 x 175 mm (9.06" x 2.76" x 6.89")	240 x 97 x 190 mm (9.45" x 3.82" x 7.48")	240 x 97 x 190 mm (9.45" x 3.82" x 7.48")
1.8 kg	1.8 kg	2.4 kg	2.4 kg
4-6	4-6	4-8	4-8

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# AIIS-1200P (GigE PoE) AIIS-1200U (USB 3.0)

**Palm Size Vision System, Supports Intel® Braswell SoC, 2-CH Camera Interface for GigE PoE or USB 3.0**



## Features

- Intel® Braswell Celeron N3160/Pentium N3710 SoC
- AIIS-1200P: 2-CH GbE PoE (Power over Ethernet)
  - Powered device auto detection and classification
  - IEEE 802.3af compliant and supports IEEE 1588
  - Compatible with GigE Cameras
- AIIS-1200U: 2-CH USB 3.0 with dedicated controller
  - Maximize the USB3.0 bandwidth for multi-cameras
  - Compatible with USB 3.0 Cameras
- Compact & thoughtful design
  - Volume less than 0.9 Liter
  - Isolated Digital I/O
  - Wall or DIN-Rail mounting kit (optional)



## Specifications

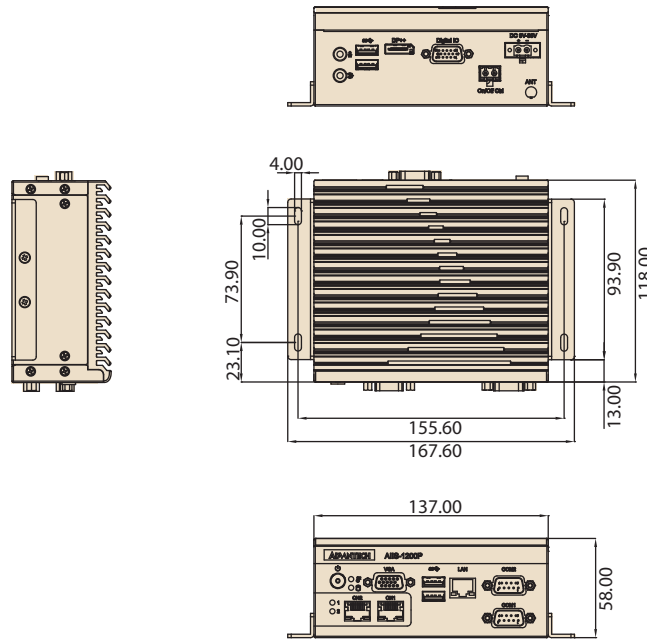
		Intel Celeron N3160	Intel Pentium N3710	
Processor System	CPU	Intel Celeron N3160	Intel Pentium N3710	
	Core	4	4	
	Base Frequency	1.6GHz	1.6GHz	
	L2 Cache	2MB	2MB	
	Chipset	N/A	N/A	
Memory	BIOS	AMI 64Mb SPI Flash		
	Technology	Dual Channel DDR3L 1600 MHz (Non ECC)		
Graphics	Max. Capacity	On board 8GB		
	Chipset Integrated	Integrated Intel HD Graphics		
Camera Interface PoE (AIIS-1200P)	Controller	CH1 ~ CH2: Intel i210		
	Compliant	IEEE 802.3af		
	Power Output	15.4W per Channel		
Camera Interface USB 3.0 (AIIS-1200U)	Controller	CH1 ~ CH2: uPD720202		
	Compliant	USB 3.0		
	Power Output	4.5W per Channel		
Ethernet	Interface	10/100/1000 Mbps		
	Controller	Intel i210		
Expansion	Mini PCIe	1 x Full-size (Supports mSATA)		
Storage	Internal 2.5" HDD Bay	1 (max. 9.5 mm height)		
	mSATA	1 (via mini PCIe slot)		
Front I/O	Display	VGA		
	USB	2 USB3.0		
	Serial	COM 1 (RS-232/422/485 via BIOS setting; RS-485 with auto-flow control) COM 2 (RS-232)		
Rear I/O	Audio	Line-out & Mic-in		
	Display	DP++		
	USB	2 USB 3.0		
	DIO	8 Channels (4 isolated DI and 4 isolated DO channels)		
Watchdog Timer	Output	System reset		
	Interval	Programmable 1 ~ 255 sec/min		
Power Requirement	Power Type	AT/ATX		
	Power Input Voltage	9 V <sub>DC</sub> ~ 36 V <sub>DC</sub>		
Miscellaneous	LED Indicators	Power, HDD, temperature		
	Control	Power on/off switch		
Environment		Operating	Non-operating	
	Temperature	HDD: 0 ~ 40 °C (32 ~ 104 °F) with 0.7m/s air flow SSD: -10 ~ 60 °C (-4 ~ 140 °F) with 0.7m/s air flow	-40 ~ 70 °C (-40 ~ 158 °F)	
	Humidity	10 ~ 95% @ 40 °C, non-condensing		
	Vibration	HDD: 0.5G, random, 5-500Hz, 3 axes, 1 hr/axis SSD: 3G, random, 5-500Hz, 3 axes, 1 hr/axis	2G, sine wave, 5-500Hz, 3 axes, 1 hr/axis	
	Shock	HDD: 10G, half sine wave, 11 ms duration SSD: 50G, half sine wave, 11 ms duration		
Physical Characteristics	Dimension (W x H x D)	137 x 58 x 118 mm (5.39" x 2.28" x 4.65")		
	Weight	1.1Kg (2.425lb)		

\* Depends on CPU

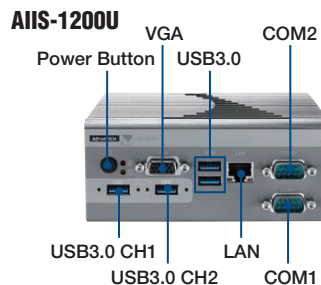
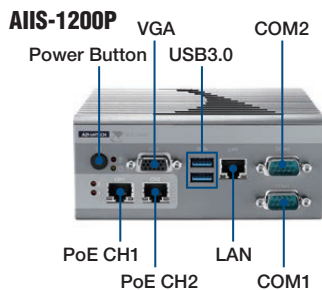
- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

## Dimensions

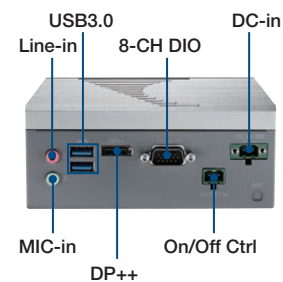
Unit: mm



## Front View



## Rear View



## Ordering Information

Part Number	CPU	Camera Interface	Display	USB 3.0	Isolated DIO	COM1 (RS-232/422/485)	COM2 (RS-232)
AIIS-1200P-S6A1E	Intel Celeron N3160	2-CH GigE PoE	VGA + DP++	4	8-CH	1	1
AIIS-1200U-S6A1E	Intel Celeron N3160	2-CH USB 3.0	VGA + DP++	4	8-CH	1	1
AIIS-1200P-16A1E	Intel Pentium N3710	2-CH GigE PoE	VGA + DP++	4	8-CH	1	1
AIIS-1200U-16A1E	Intel Pentium N3710	2-CH USB 3.0	VGA + DP++	4	8-CH	1	1

## Packing List

Items	Part Number	Quantity
Bare System	AIIS-1200	1
Startup Manual	2001120001	1
Driver CD	2061120001	1
Wallmount Bracket	1960052226N002	2
2-pin Phoenix DC power connector	1652002205	1
DIN-Rail Bracket	1950016395T102	1
2-Pin PW on/off Ctrl connector	1652002207	1

## Optional Accessories

Part Number	Description
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	POWER Cord 3P Europe (WS-010+WS-083)183cm
1700021376-01	Power Cord 3P PSE 7A 125V 250cm(IEC60320-C5)
96PSA-A65W19P2-2	DC19 Adapter 65Watt
1700023217-01	8-CH DIO Cable for Wiring Board
ADAM-3925-AE	8-CH DIO DB-25 Wiring Terminal, DIN-rail Mount

Note: If there is no 9-36V<sub>DC</sub> source in your facility, this adapter is required to power on the system

## Embedded OS

Part Number	Description
2070014323	img Win10Ent AIIS-1200 x64 V10.0.10240.0 10MU1
2070014481	Img WES7P AIIS-1200 x64 V5.8.0 10MU1

# AIIS-3400P (PoE) AIIS-3400U (USB 3.0)

Compact Vision System, Intel® 6th/7th Gen Core i CPU, 4-CH Camera Interface for GigE PoE or USB 3.0



## Features

- Intel 6th/7th generation Core i CPU (LGA1151)
- AIIS-3400P: 4-CH GbE PoE (Power over Ethernet)
  - Powered device auto detection and classification
  - IEEE 802.3af compliant, supports IEEE 1588
  - Compatible with GigE cameras
- AIIS-3400U: 4-CH USB 3.0 with dedicated controller
  - Maximize the USB3.0 bandwidth for multi-cameras
  - Compatible with USB 3.0 cameras
- Compact & thoughtful design
  - Volume less than 3 Liter
  - Isolated Digital I/O
  - Internal USB 2.0 connector

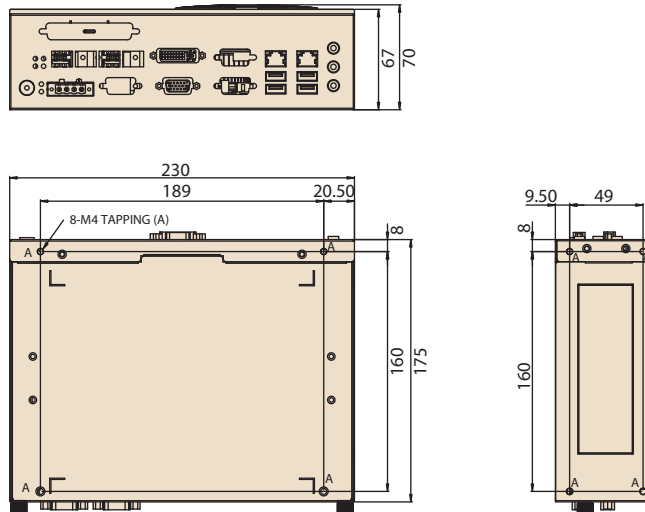
## Specifications

		6th generation CPU				7th generation Core i CPU			
Processor System	CPU	i7-6700	i5-6500	i3-6100	G4400	G3900	i7-7700	i5-7500	i3-7101E
	Core	4	4	2	2	2	4	4	2
	Base Frequency	3.4 GHz	3.2 GHz	3.7 GHz	3.3 GHz	2.8 GHz	3.6GHz	3.5GHz	3.9GHz
	L3 Cache	8 MB	6 MB	4 MB	3 MB	2 MB	8MB	6MB	3MB
	Chipset	H110							
BIOS	AMI 128Mb SPI Flash								
Memory	Technology	Dual Channel DDR4 1866/2133 MHz (non-ECC)							
	Max. Capacity	32 GB (16 GB per DIMM)							
	Socket	260-pin SO-DIMM							
Graphics	Chipset Integrated	Integrated Intel HD Graphics							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	LAN1: Intel i219LM, LAN2: Intel i210AT (Both support Wake on LAN)							
Camera Interface PoE (AIIS-3400P)	Controller	CH1 ~ CH4: Intel i210							
	Compliant	IEEE 802.3af							
	Power Output	15W per channel / 30W for 1 & 2 channel (Note: selected by BIOS)							
Camera Interface USB 3.0 (AIIS-3400U)	Controller	CH1 ~ CH4: $\mu$ PD720202							
	Compliant	USB 3.0							
	Power Output	4.5W per Channel							
Storage	Internal 2.5" HDD Bay	1 (max. 9.5 mm height)							
	CFast	1							
Front I/O	Display	VGA + DVI-D							
	USB	4 USB3.0							
	Serial	2 (RS-232/422/485, via BIOS setting ; RS-485 support auto-flow control)							
	Isolated DIO (Default)	4 DI and 4 DO Channels AIIS-E730-AE (16-CH DI, 16-CH DO) High output driving capacity (500 mA max./channel)							
	Isolated DIO (Optional)	Interrupt capable for all 16 DI channel Supports 3-30 V <sub>DC</sub> isolated input channel Dry/Wet contact support High-voltage isolation on output channels (2,500 V <sub>DC</sub> )							
	Internal Connector	USB	1 USB 2.0 connector						
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirement	Power Type	ATX/AT							
	Power Input Voltage	19 V <sub>DC</sub> ~ 24 V <sub>DC</sub> ( $\pm$ 10%)							
	Minimum Power Input	DC 19-24V @ 8-6.3A							
	Power Adapter	AC to DC, DC24V/9.16A, 220W (Optional)							
Cooling	System Fan	1 (6cm / 27.7 CFM)							
Miscellaneous	LED Indicators	Power, HDD, temperature							
	Control	Power on/off switch							
Environment	Temperature	Operating 0 ~ 45 °C (32 ~ 113 °F)*				Non-operating -40 ~ 70 °C (-40 ~ 158 °F)			
	Humidity	10 ~ 95% @ 40 °C, non-condensing							
	Vibration	0.5Grms, random, 5-500Hz, 3 axes, 1 hr/axis				2G, sine wave, 5-500Hz, 3 axes, 1 hr/axis			
	Shock	10G, half sine wave, 11 ms duration							
Physical Characteristics	Dimension (W x H x D)	230 x 70 x 175 mm (9.06" x 2.76" x 6.89")							
	Weight	1.8 kg (3.97 lb) (w/o CPU cooler)							

\* Depends on CPU

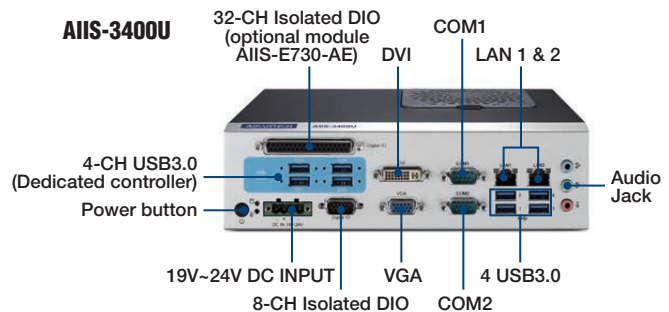
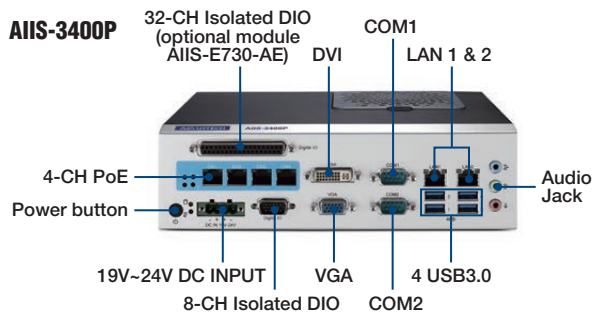
# AIIS-3400P (PoE) AIIS-3400U (USB 3.0)

## Dimensions



Unit: mm

## Front View



## Ordering Information

Part Number	Camera Interface	Display	USB 3.0	Isolated DIO	COM 232/422/485
AIIS-3400P-00A1E	4-CH GigE PoE	VGA+DVI-D	4	8-CH	2
AIIS-3400U-00A1E	4-CH USB 3.0	VGA+DVI-D	4	8-CH	2

## Packing List

Items	Part Number	Quantity
Bare System	AIIS-3400	1
Startup manual (EN/CN)	2001340000	1
Startup manual (TC)	2001340010	1
Driver CD	2061340011	1
Wallmount Bracket	1960014487T006	2
Rubber Foot	1990006571S000	4
CPU Cooler	1960060620N001	1
4-pin Phoenix DC power connector	1652003234	1
2-pin Phoenix DC power connector	1652002205	1

## Optional Accessories

Part Number	Description
98R2124000E	DIN-Rail Bracket
96PSA-A220W24P4-1	220Watt DC24 Adapter
1702002600	Power cord 3-pin UL/CSA (USA) 125 V 10A 1.83 M 180D
1700022940-01	Power cord PSE 7A 125 V 3P 3 m DAC-ST01
1702002605	Power cord 2P (France) 10A/16A 220 V 1.83 M 90D
1700023217-01	8-CH DIO Cable for Wiring Board
ADAM-3925-AE	8-CH DIO DB-25 Wiring Terminal, DIN-rail Mount
AIIS-DIO32-00A1E	Isolated DIO module, 32-CH, 9-pin USB interface
AIISE7301701-T	Isolated DIO module, 32-CH, MIO with PCIe1x interface
PCL-10137-1E	32-CH DIO Cable 1M for Wiring Terminal
ADAM-3937-BE	32-CH DIO DB-37 Wiring Terminal, DIN-rail Mount

Note: If there is no 19~24V<sub>DC</sub> source in your facility, this adapter is required to power on the system

## Embedded OS

Part Number	Description
2070014568	img WES7P AIIS-3400/3410 x64 V5.8.0 10MUI

\*7th generation CPU only supports Win10 OS

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15



# AIIS-3410P (PoE) AIIS-3410U (USB 3.0)

Compact Vision System, Intel® 6th/7th Gen Core i CPU, 4-CH Camera Interface for GigE PoE or USB 3.0, PCIe expansion slot



## Features

- Intel 6th/7th generation Core i CPU (LGA1151)
- AIIS-3410P: 4-CH GbE PoE (Power over Ethernet)
  - Powered device auto detection and classification
  - IEEE 802.3af compliant, supports IEEE 1588
  - Compatible with GigE cameras
- AIIS-3410U: 4-CH USB 3.0 with dedicated controller
  - Maximize the USB3.0 bandwidth for multi-cameras
  - Compatible with USB 3.0 cameras
- Compact & thoughtful design
  - PCIe or PCI extension compatibility
  - Isolated Digital I/O
  - Internal USB 2.0 connector

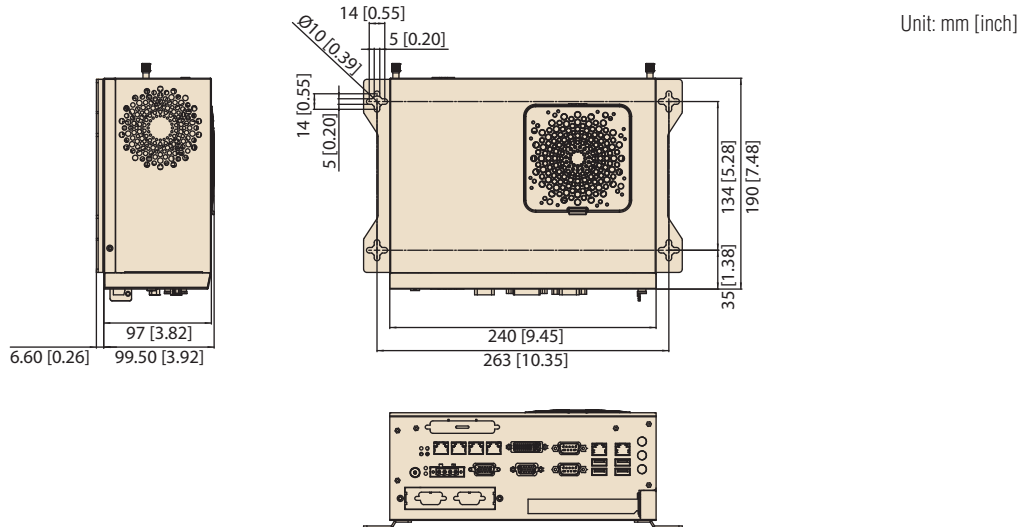
## Specifications

		6th generation CPU				7th generation Core i CPU			
Processor System	CPU	i7-6700	i5-6500	i3-6100	G4400	G3900	i7-7700	i5-7500	i3-7101E
	Core	4	4	2	2	2	4	4	2
	Base Frequency	3.4 GHz	3.2 GHz	3.7 GHz	3.3 GHz	2.8 GHz	3.6GHz	3.5GHz	3.9GHz
	L3 Cache	8 MB	6 MB	4 MB	3 MB	2 MB	8MB	6MB	3MB
	Chipset	H110							
	BIOS	AMI 128Mb SPI Flash							
Memory	Technology	Dual Channel DDR4 1866/2133 MHz (non-ECC)							
	Max. Capacity	32 GB (16 GB per DIMM)							
	Socket	260-pin SO-DIMM							
Graphics	Chipset Integrated	Integrated Intel HD Graphics							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	LAN1: Intel i219LM, LAN2: Intel i210AT (Both support Wake on LAN)							
Camera Interface PoE (AIIS-3410P)	Controller	CH1 - CH4: Intel i210							
	Compliant	IEEE 802.3af							
	Power Output	15W per channel / 30W for 1 & 2 channel (Note: selected by BIOS)							
Camera Interface USB 3.0 (AIIS-3410U)	Controller	CH1 - CH4: $\mu$ PD720202							
	Compliant	USB 3.0							
	Power Output	4.5W per Channel							
Storage	Internal 2.5" HDD Bay	1 (max. 9.5 mm height)							
	CFast	1							
Expansions	PCIe	1 (PCIe x16 slot with x8 signal), full height: 111.15 mm, length: max. 172 mm							
	miniPCIe	1 (USB2.0/SATA)							
	i-door	1							
Front I/O	Display	VGA + DVI-D							
	USB	4 USB3.0							
	Serial	2 (RS-232/422/485, via BIOS setting ; RS-485 support auto-flow control)							
	Isolated DIO (Default)	4 DI and 4 DO Channels AIIS-E730-AE (16-CH DI, 16-CH DO) High output driving capacity (500 mA max./channel) Interrupt capable for all 16 DI channel Supports 3-30 V <sub>DC</sub> isolated input channel Dry/Wet contact support High-voltage isolation on output channels (2,500 V <sub>DC</sub> )							
	Isolated DIO (Optional)								
	Internal Connector	USB	1 USB 2.0 connector						
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirement	Power Type	ATX/AT							
	Power Input Voltage	19 V <sub>DC</sub> ~ 24 V <sub>DC</sub> ( $\pm$ 10%)							
	Minimum Power Input	DC 19-24V @ 8-6.3A							
	Power Adapter	AC to DC, DC24V/9.16A, 220W (Optional)							
Cooling	System Fan	1 (8 cm/57 CFM)							
Miscellaneous	LED Indicators	Power, HDD, temperature							
	Control	Power on/off switch							
Environment	Temperature	Operating 0 ~ 45 °C (32 ~ 113 °F)*				Non-operating -40 ~ 70 °C (-40 ~ 158 °F)			
	Humidity	10 ~ 95% @ 40 °C, non-condensing							
	Vibration	0.5Grms, random, 5-500Hz, 3 axes, 1 hr/axis				2G, sine wave, 5-500Hz, 3 axes, 1 hr/axis			
	Shock	10G, half sine wave, 11 ms duration							
	Physical Characteristics	Dimension (W x H x D)	240 x 97 x 190 mm (9.45" x 3.82" x 7.48")						
	Weight	2.4 kg (5.29 lb) (w/o CPU cooler)							

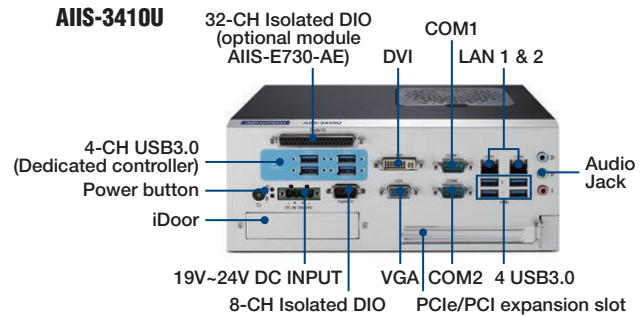
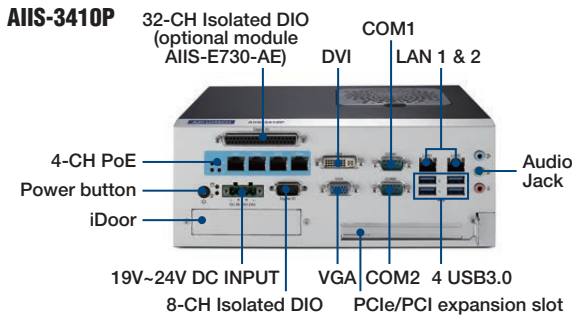
\* Depends on CPU

# AIIS-3410P (PoE) AIIS-3410U (USB 3.0)

## Dimensions



## Front View



## Ordering Information

Part Number	Camera Interface	Display	USB 3.0	Isolated DIO	COM 232/422/485	Expansion slot
AIIS-3410P-00A1E	4-CH GigE PoE	VGA+DVI-D	4	8-CH	2	1 PCIe x8 or 1 PCI*
AIIS-3410U-00A1E	4-CH USB 3.0	VGA+DVI-D	4	8-CH	2	1 PCIe x8 or 1 PCI*

\* Optional PCI riser card

## Packing List

Items	Part Number	Quantity
Bare System	AIIS-3410	1
Startup manual (EN/CN)	2001341000	1
Startup manual (TC)	2001341010	1
Driver CD	2061340011	1
Wallmount Bracket	1960014487T006	2
Hole Protector	1990022908S000	4
CPU Cooler	1960060620N001	1
4-pin Phoenix DC power connector	1652003234	1
2-pin Phoenix DC power connector	1652002205	1

## Embedded OS

Part Number	Description
2070014568	img WES7P AIIS-3400/3410 x64 V5.8.0 10MUI

\*7th generation CPU only supports Win10 OS

## Optional Accessories

Part Number	Description
96PSA-A220W24P4-1	220Watt DC24 Adapter
1702002600	Power cord 3-pin UL/CSA (USA) 125 V 10A 1.83 M 180D
1700022940-01	Power cord PSE 7A 125 V 3P 3 m DAC-ST01
1702002605	Power cord 2P (France) 10A/16A 220 V 1.83 M 90D
1700023217-01	8-CH DIO Cable for Wiring Board
ADAM-3925-AE	8-CH DIO DB-25 Wiring Terminal, DIN-rail Mount
AIIS-DIO32-00A1E	Isolated DIO module, 32-CH, 9-pin USB interface
AIIS-E7301701-T	Isolated DIO module, 32-CH, MIO with PCIe1 interface
PCL-10137-1E	32-CH DIO Cable 1M for Wiring Terminal
ADAM-3937-BE	32-CH DIO DB-37 Wiring Terminal, DIN-rail Mount
9891341010E	PCI riser module for additional PCI card

Note:

- AIIS-3410 supports the i-door module (both MOS and PCM series). Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

# AIIS-5410P

## Fanless Vision System with Intel® Core™ i Processor, 4-Channel GigE PoE Camera Interface, and PCIe Slot



### Features

- Intel® 6th Generation Core™ i7/i5 BGA1440 processor
- Four-channel Gigabit Power over Ethernet (GbE PoE)
- Powered device auto detection and classification
- Compliant with IEEE 1588 and IEEE 802.3af standards
- Compatible with Gigabit Ethernet (GigE) cameras
- Wide input power range (9 ~ 36 V DC)
- Wide operating temperature range (-20 ~ 60 °C)
- Isolated digital I/O
- Internal USB dongle space with lock design
- Desk/wall mounting kit



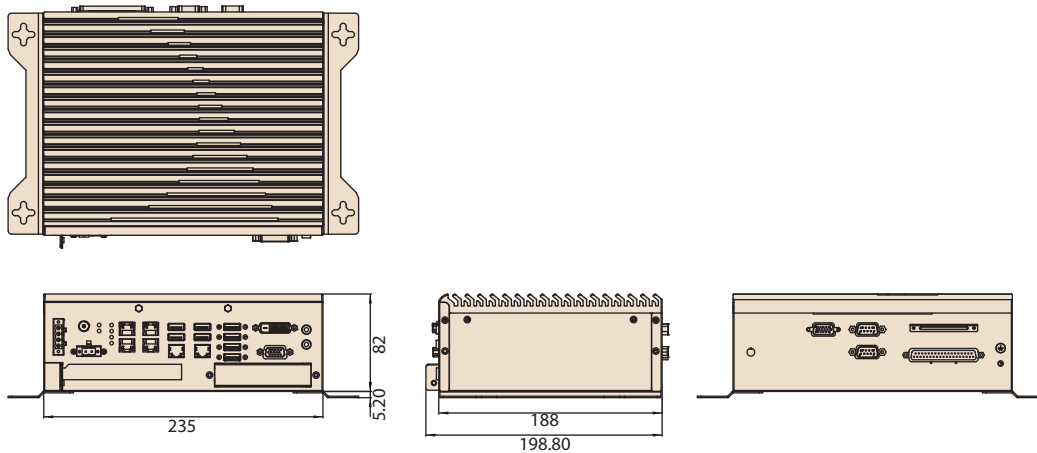
### Specifications

Processor System	CPU	i7-6822EQ	i5-6442EQ	
	Core	4	4	
	Base Frequency	2 GHz	1.9 GHz	
	L3 Cache	8 MB	6 MB	
	Chipset	QM170		
Memory	BIOS	AMI 64 Mb SPI Flash		
	Technology	Dual-channel DDR4 at 1866/2133 MHz (non ECC)		
	Max. Capacity	Equipped with 4 GB, can be expanded to a maximum of 32 GB		
Graphics	Socket	2 x 260-pin DDR4 SODIMM sockets (4 GB minimum and 16 GB maximum per socket)		
	Chipset	Integrated Intel® HD Graphics		
PoE	Controller	Intel® I210 Ethernet controller		
	Compliant	IEEE 802.3af		
	Power Output	15.4 W per channel		
Storage	Internal 2.5" HDD Bay	2 (1 with a maximum height of 9.5 mm and 1 with a maximum height of 15 mm)		
	CFast	1		
	mSATA	1 (via mini PCIe socket)		
Expansions	PCIe x8	1, full height: 111.15 mm, length: max. 167.65 mm		
	mini PCIe	1		
Ethernet	Interface	10/100/1000 Mbps		
	Controller	2 x Intel® I210 Ethernet controller		
Front I/O	Display	VGA and DVI-D		
	USB	8 x USB 3.0		
	Audio	1 x line-out, 1 x mic-in		
Rear I/O	Serial	2 x RS-232/422/485 via BIOS setup; RS-485 with auto-flow control		
	DI/O (Default)	Digital IO		
	Isolated DI/O (Optional)	AIIS-DIO32-00A1E (16 x DI/16 x DO)		
		High-voltage isolation, up to 2,500 V <sub>DC</sub> on all channels Dry/wet contact support Supports 5 ~ 60 V DC isolated input channels High-sink current for isolated output channels (100mA max. per channel) Interrupt handling and timer/counter capabilities		
Watchdog Timer	Output	System reset		
	Intervals	Programmable 1 ~ 255 sec/min		
Power Requirement	Power Type	ATX/AT		
	Input Voltage	9 ~ 36 V <sub>DC</sub>		
	Power Adapter	150W (optional)		
Miscellaneous	LED Indicators	Power, HDD, Temperature		
	Controls	Power On/Off switch		
Environment	Temperature	Operating	Non-operating	
		HDD: 0 ~ 40 °C with 0.7 m/s air flow SSD: -20 ~ 60 °C with 0.7 m/s air flow	-40 ~ 70 °C	
	Humidity	10 ~ 95% @ 40 °C, non-condensing		
	Vibration	HDD: 1G, random, 5 ~ 500 Hz, 3 axes, 1 hr/axis SSD: 3G, random, 5 ~ 500 Hz, 3 axes, 1 hr/axis	10 ~ 95% @ 60 °C, non-condensing	
		2G, sine wave, 5 ~ 500 Hz, 3 axes, 1 hr/axis		
Physical Characteristics	Shock	HDD: 10G, half sine wave, 11 ms duration SSD: 50G, half sine wave, 11 ms duration		
		Dimensions (W x H x D)	235 x 82 x 188 mm (9.25" x 3.22" x 7.4")	
	Weight	2.9 kg (6.39 lbs)		

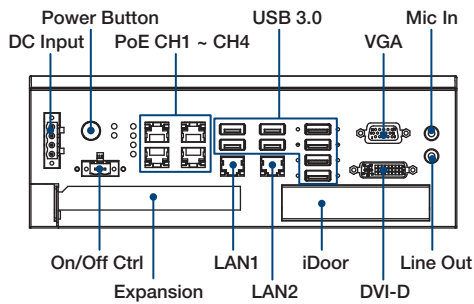
- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
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## Dimensions

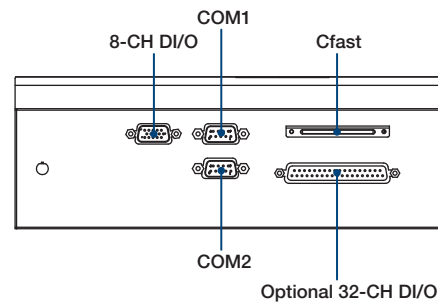
Unit: mm



## Front View



## Rear View



## Ordering Information

Part Number	CPU	PoE Port	Display	USB 3.0	DI/DO	COM 232/422/485	Expansion Slot
AIIS-5410P-U0A1E	i7-6822EQ	4-channel	VGA+DVI	8	8-channel	2	1 PCIe8; 1 PCI*
AIIS-5410P-S9A1E	i5-6442EQ	4-channel	VGA+DVI	8	8-channel	2	1 PCIe8; 1 PCI*

Note : System default expansion slot is PCIe8. PCI needs to change the riser card and it is in accessory box.

## Packing List

Items	Part Number	Quantity
Bare system	AIIS-5410P	1
Start-up manual (EN/CN/TC)	2001541000	1
Driver CD	2061750000	1
Wall mount bracket	1960070543N002	2
4-pin Phoenix DC power connector	1652003234	1
2-pin Phoenix DC power connector	1652005203	1
SATA cable	1700018971	2
SATA power cable	1700024372-01	2
PCI riser card	9691541010E	1

## Optional Accessories

Part Number	Description
96PSA-A150W19P4-1	Adaptor AD 100 ~ 240 V 150 W 19 V
1702002600	Power cord 3-pin UL/CSA (USA) 125 V 10A 1.83 M 180D
1700022940-01	Power cord PSE 7A 125 V 3P 3 m DAC-ST01
1702002605	Power cord 2P (France) 10A/16A 220 V 1.83 M 90D
AIIS-DIO32-00A1E	Isolated D I/O module, 32-channel, 9-pin USB interface
PCL-10137-1E	32-channel D I/O cable (1 M) for wiring terminal
ADAM-3937-BE	32-channel DI/O DB-37 wiring terminal, DIN-rail mount
1700023217-01	8-CH DIO Cable for Wiring Board
ADAM-3925-AE	8-CH DIO DB-25 Wiring Terminal, DIN-rail Mount

Note:

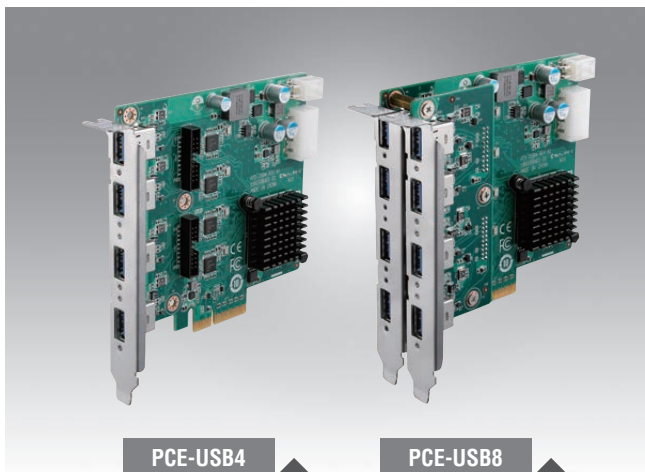
- MIC-7500 supports the i-door module (both MOS and PCM series). Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

## Embedded OS

Part Number	Description
2070014222	img WES7P AIIS-5410P x64 V5.6.6 10MUI

# PCE-USB4 (4 ports) PCE-USB8 (8 ports)

## PCI Express x4, 4/8-Port USB 3.0 Expansion Card



### Features

- Four USB 3.0 host controllers
- Supports 1500mA Max. current per port
- Supports four or eight USB 3.0 ports
- Compliant with USB 3.0 specification and Intel® xHCI specification, revision 1.0
- PCI Express x4 interface
- Supports Microsoft Windows 7/8.1/10 and Linux operating systems

### Introduction

PCE-USB4 is a 4-port PCIe x4 expansion card aimed at industrial imaging applications. Featuring four independent Renesas  $\mu$ PD720202 USB 3.0 host controllers, a Gen 2 PCI Express® x4 interface, and a per-port bandwidth of 5 Gbps when operating four ports simultaneously, PCE-USB4 delivers maximal per-port performance. PCE-USB4 features four USB 3.0 ports (for expansion, PCE-USB8 features eight USB 3.0 ports) with 1500 mA current to ensure stable power for external USB devices. PCE-USB4 is a high-bandwidth industrial-power expansion card designed for machine vision, factory automation, and medical applications, as well as any other applications that require high data transfer speeds.

### Specifications

USB	Interface	PCI Express x4
	Connector	4 x USB 3.0 Type A (PCE-USB4-00A1E) 8 x USB 3.0 Type A (PCE-USB8-00A1E)
	Host Bus	4-lane Gen 2 PCIe interface, compliant with PCI Express Base Specification, Revision 2.0
	Controller	4 x Renesas $\mu$ PD720202 host controllers Compliant with Universal Serial Bus 3.0 Specification and Intel® xHCI Specification, Revision 1.0
	Max. current	1500 mA maximum per port
	Data Transfer Rate	Super speed (5.0 Gbps)/high speed (480.0 Mbps)/full speed (12.0 Mbps)/low speed (1.5 Mbps)
Environment	Operating Temperature	0 – 60 °C
	Storage Temperature	-40 – 85 °C
	Dimensions (L x H)	118 x 111 mm (4.64" x 4.37")
	Certifications	CE/FCC

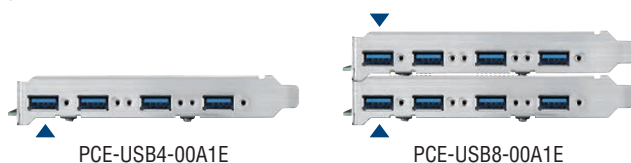
### Ordering Information

Part Number	Description
PCE-USB4-00A1E	PCIe x4, 4-port USB 3.0 expansion card
PCE-USB8-00A1E	PCIe x4, 8-port USB 3.0 expansion card

### Optional USB3.0 Cable

Part Number	Description
1700025427-01	USB 3.0 cable, 5 m, Micro B (locking) to Type A
1700025428-01	USB 3.0 cable, 3 m, Micro B (locking) to Type A
1700025429-01	USB 3.0 cable, 5 m, Micro B (locking) to Type A (locking)
1700025430-01	USB 3.0 cable, 3 m, Micro B (locking) to Type A (locking)

### I/O View

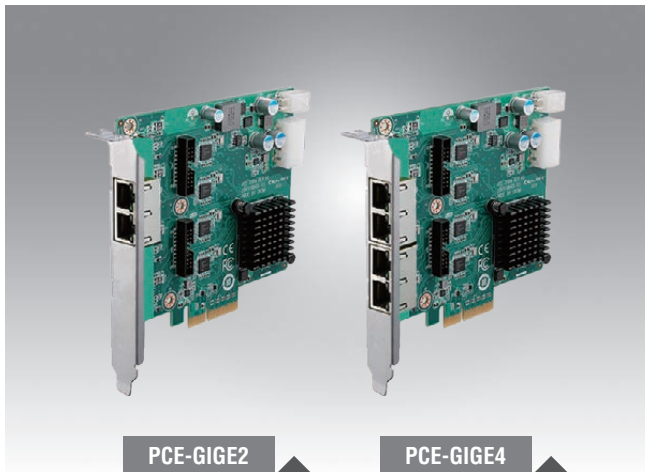


Note: Indicated USB3.0 port cannot support USB3.0 type A locking cable.



# PCE-GIGE2 (2 ports) PCE-GIGE4 (4 ports)

## PCI Express x4, 2/4-Port GbE Expansion Card



PCE-GIGE2

PCE-GIGE4



### Features

- Intel Ethernet Controller i210
- Supports Wake-on-LAN function
- Supports two or four GbE LAN ports
- Supports PXE function
- PCI Express x4 interface
- Supports Microsoft Windows 7/8.1/10 and Linux operating systems

### Introduction

PCE-GIGE4 is a 4-port PCIe x4 expansion card compliant with industrial cameras for machine vision applications. With powerful Intel Ethernet controller i210, PCE-GIGE2/4 can support Wake-on-LAN and PXE functions. PCE-GIGE2/4 is a multi ports GbE expansion card designed for machine vision, factory automation, surveillance or any other applications that require fast and stable data transmission.

### Specifications

GIGE	Interface	PCI Express x4
	Connector	2 x RJ45 LAN ports (PCE-GIGE2-00A1E) 4 x RJ45 LAN ports (PCE-GIGE4-00A1E)
	Host Bus	4-lane Gen 2 PCIe interface, compliant with PCI Express Base Specification, Revision 2.0
	Controller	4 x Intel i210 Ethernet Controller
	Data Transfer Rate	10/100/1000MB/s
Environment	Operating Temperature	0 – 60 °C
	Storage Temperature	-40 – 85 °C
	Dimensions (L x H)	118 x 111 mm (4.64" x 4.37")
	Certifications	CE/FCC

### Ordering Information

Part Number	Description
PCE-GIGE2-00A1E	PCIe x4, 2-port GbE expansion card
PCE-GIGE4-00A1E	PCIe x4, 4-port GbE expansion card

### I/O View



PCE-GIGE2-00A1E



PCE-GIGE4-00A1E

Industrial I/O 1

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Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# Advantech AIIS, Your Intelligent Eyes Full Range Machine Vision System



## ADVANTECH

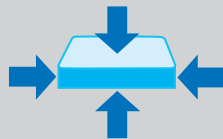
*Enabling an Intelligent Planet*

Advantech AIIS Series are closely aligned with Machine Automation applications such as Automated Optical Inspection (AOI), Wafer Inspection, and alignment inspection which heavily rely on machine vision. With PoE/USB3.0 Vision and rich I/O Interface, AIIS Series are characterized with performance computing and low power consumption, intelligent management, and extended product longevity. Our machine vision controllers, AIIS Series, save on space and make installation economical and easy—perfect for vision inspection applications. With a powerful CPU and built-in PoE/USB3.0 channels, AIIS Series enhance overall application by outstanding machine vision performance. With the latest Intel Core processors, Advantech deliver state-of-art computing and graphics performance.

### AIIS Series Product Features



Support main stream  
camera interface



Compact size for  
limited spaces



Compliant vision camera partners



Speed & reliable  
transmission for image  
acquisition and analysis

## Modular IPCs

<b>Selection Guide</b>		<b>5-2</b>
<b>AiMC-3202</b>	Micro Computer, Intel® Core™ i7/i5/i3 CPU, H110, 2 Expansions, 250W 80Plus PSU	<b>5-4</b>
<b>AiMC-3422</b>	Micro Computer, Intel® Core™ i7/i5/i3 CPU, H110, 4 Expansions, 300W 80Plus PSU	<b>5-6</b>
<b>MIC-7300</b>	Intel® Celeron N3350/ Atom x7 E3950 Processor	<b>5-8</b>
<b>MIC-7500</b>	Intel® 6th Generation Core™ i Compact Fanless System	<b>5-10</b>
<b>MIC-7700</b>	Intel® 6th/7th Generation Core i Socket Compact Fanless System	<b>5-12</b>
<b>MIC-7900</b>	Intel Xeon Processor Broadwell-DE SoC Compact Fanless System	<b>5-14</b>
<b>i-Modules for MIC-7 Series</b>		<b>5-16</b>
<b>MIC-7420</b>	Intel 6th Generation Core i Processor Compact Fanless System	<b>5-17</b>
<b>ARK-5261</b>	Intel® Celeron® Processor J1900 Fanless Embedded BOX PC with PCI/PCIe Expansion and Dual Mobile HDDs/SSDs	<b>5-19</b>

To view all of Advantech's Modular IPCs, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Modular IPCs



Model name		AiMC-3202	AiMC-3422	MIC-7900
Form Factor		Compact	Compact	Compact
Processor System	Chipset	H110	H110	-
	CPU	Intel® 6th/7th Gen Core™ i (LGA1151)	Intel® 6th/7th Gen Core™ i (LGA1151)	Intel® Xeon® D-1559/D-1539 BGA type
	Core	Max.4	Max.4	Max.12
	Cache	Max. 8M	Max. 8M	12M/18M
	Memory	DDR4 1866/2133 MHz (non-ECC) max. 32 GB	DDR4 1866/2133 MHz (non-ECC) max. 32 GB	Dual DDR4 2133 MHz (supports ECC) max. 32 GB
Graphic	Graphics Controller	Intel® HD Graphics	Intel® HD Graphics	ASPEED AST1400 with 256 MB VGA memory provides basic 2D VGA function
	VRAM	Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS
Expansion	PCIe x16	AiMC-3202-00A1E 1 x PCIe x16, 1 x PCIe x4 AiMC-3202-01A1E 1 x PCIe x16, 1 x PCI	AiMC-3422-00A1E 1 x PCIe x16, 1 x PCIe x1, 2 x PCI AiMC-3422-01A1E 1 x PCIe x16, 3 x PCI	Supported via i-Module
	PCIe x8	-	-	-
	PCIe x4	-	-	-
	PCIe x1	-	-	-
	PCI	-	-	-
	Mini PCIe	-	-	1
Storage	HDD Bay	2 x 2.5" internal HDD bay	1 x 3.5" or 2 x 2.5" internal HDD bay	1 x 2.5" internal HDD bay
	mSATA	1	1	1
	CFast	-	-	1
	RAID	-	-	-
Ethernet	Ethernet Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN 1: Intel® I219V LAN 2: Intel® I211AT	LAN 1: Intel® I219V LAN 2: Intel® I211AT	4 x Intel® i210IT
Front I/O	Display	VGA+DVI-D	VGA	VGA
	LAN	2	2	4
	USB	3 x USB 3.0	1 x USB 3.0	4 x USB 3.0
	COM	2 x RS-232	2 x RS-232	2 x RS-232/422/485
	PS/2	1	1	-
	Audio	-	-	Line-Out/Mic-In
Rear I/O	Display	-	-	-
	LAN	-	-	-
	USB	-	2 x USB 2.0	-
	COM	-	-	-
	PS/2	-	-	-
	Audio	-	-	-
Watchdog Timer	Output	System reset	System reset	System reset
	Interval	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
Power Supply	Output Wattage	250W	300W	-
	Input Range	100 ~ 240 V <sub>AC</sub>	100 ~ 240 V <sub>AC</sub>	9 ~ 36 V <sub>DC</sub>
	Remote Power Switch	-	-	-
Cooling	System Fan	2 (6 cm/14.1 CFM)	1 (9 cm/53 CFM)	-
	Air Filter	Yes	Yes	-
Physical Characteristics	Dimensions (W x H x D)	232 x 90 x 232 mm (9.13" x 3.54" x 9.13")	150 x 222 x 270 mm (5.9" x 8.74" x 10.62")	74 x 192 x 230 mm (2.91" x 7.55" x 9.05")
	Weight	4.5 kg	5 kg	2.9 kg
Page		5-4	5-6	5-14



**NEW**



**NEW**



**NEW**



MIC-7500	MIC-7700	MIC-7300	MIC-7420	ARK-5261
Compact QM170	Compact Q170/H110	Compact -	Compact QM170	Compact -
Intel® Core™ i (BGA) with QM170 chipset	Intel® 6th/7th Gen Core™ i (LGA1151)	Intel® Celeron® N3350/Atom™ x7-E3950	Intel® Core™ i (BGA) with QM170 chipset	Intel® Celeron® J1900
Max.4	Max.4	Max.4	Max.4	4
8M/6M/3M/2M	8M/6M/4M/3M	2M	8M/3M	2M
Dual DDR4 2133MHz Max 32GB	Dual DDR4 2133MHz Max 32GB	Dual DDR3L 1867MHz Max 8GB	Dual DDR4 2133MHz Max 32GB	DDR3L-1333 MHz Max 8GB
Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS
Supported via i-Module	Supported via i-Module	Supported via i-Module	-	ARK-5261S-J0A1E 1 x PCIe x1, 2 x PCI ARK-5261P-J0A1E 3 x PCI ARK-5261I-J0A1E 1 x PCIe x1, 2 x PCI
-	-	-	-	-
-	-	-	2	-
-	-	-	-	-
-	-	-	2	-
2	2	1	1	1 (only ARK-5261P-J0A1E)
1 x 2.5" internal HDD bay	1 x 2.5" internal HDD bay	1 x 2.5" internal HDD bay	2 x 3.5" internal HDD bay	2 x 2.5" internal HDD bay
1	1	1	1	1
1	1	-	-	-
0/1/5/10	0/1/5/10 (Q SKU only)	-	0/1	-
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Intel® i219LM Intel® i210IT	Intel® i219LM Intel® i210IT	2 x Intel® i210AT	LAN 1: Intel® i219LM LAN 2: Intel® i210	LAN 1: Intel® i211AT LAN 2: Intel® i211AT
VGA+DVI-D	VGA+DVI-D	VGA+DVI-D	-	VGA
2	2	2	-	2
8 x USB 3.0	Q170: 8 x USB 3.0 H110: 4 x USB 3.0, 4 x USB 2.0	2 x USB 3.0 6 x USB 2.0	2 x USB 2.0	1 x USB 3.0 4 x USB 2.0
2 x RS-232/422/485 2 x RS-232	2 x RS-232/422/485 2 x RS-232	2 x RS-232/422/485 2 x RS-232	-	ARK-5261S & ARK-5261P 4 x RS-232/422/485 ARK-5261I 4 x RS-422/485 with isolation
-	-	-	-	1
Line-Out/Mic-In	Line-Out/Mic-In	Line-Out/Mic-In	-	Line-Out/Mic-In
-	-	-	DVI-I + DVI-D	-
-	-	-	2	-
-	-	-	2 x USB 3.0 4 x USB 2.0	-
-	-	-	2 x RS-232/422/485	-
-	-	-	1	-
-	-	-	Line-Out/Mic-In	-
System reset	System reset	System reset	System reset	System reset
Programmable 1~ 255 sec/min	Programmable 1~ 255 sec/min	Programmable 1~ 255 sec/min	Programmable 1~ 255 sec/min	Programmable 1~ 255 sec/min
-	-	-	150W	-
9 ~ 36 V <sub>DC</sub>	9 ~ 36 V <sub>DC</sub>	9 ~ 36 V <sub>DC</sub>	100 ~ 240 V <sub>AC</sub>	9 ~ 36 V <sub>DC</sub>
-	-	1	-	-
-	-	-	-	-
-	-	-	-	-
74 x 192 x 230 mm (2.91" x 7.55" x 9.05")	78 x 192 x 230 mm (3.07" x 7.55" x 9.05")	74 x 192 x 230 mm (2.91" x 7.55" x 9.05")	427 x 88 x 325 mm (16.81" x 3.46" x 12.79")	137 x 189 x 221 mm (5.39" x 7.44" x 8.70")
2.9 kg	2.8 kg	2.8 kg	5 kg	4.2 kg
5-10	5-12	5-8	5-17	5-19

Industrial I/O 1

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Industrial Storage 11

GPU Servers 12

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# AiMC-3202

**Micro Computer with  
Intel® Core™ i7/i5/i3 Processor,  
Intel® H110 Chipset, 2 x Expansion  
Slots, and 250W 80PLUS PSU**



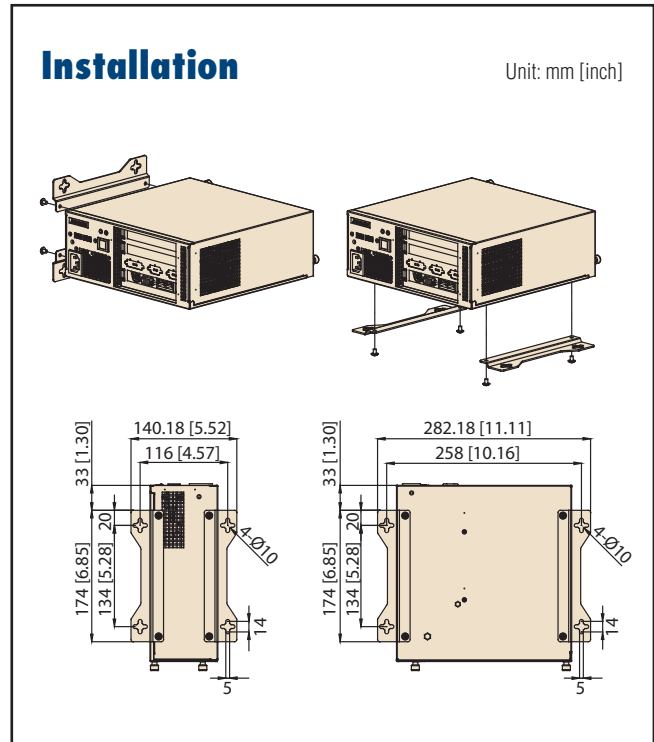
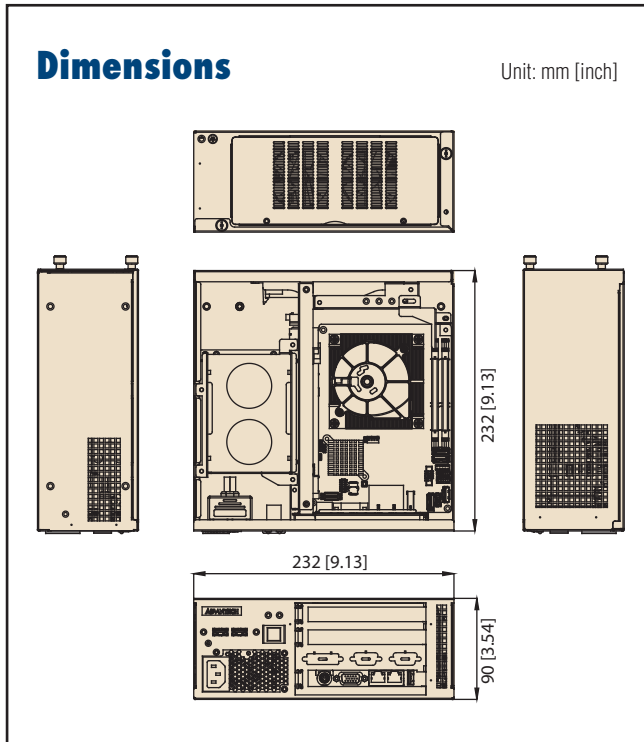
## Features

- Intel® 6<sup>th</sup>/7<sup>th</sup> Gen Core™ i7/i5/i3/Celeron® processor with Intel® H110 chipset
- 1 x PCIe x16 (1 x PCI for AIMC-3202-01) and 1 x PCIe x4 expansion slots
- Compact design with front-accessible I/O
- 1 x VGA+DVI-D, 2 x GbE LAN, 3 x USB 3.0, 2 x COM
- 2 x 2.5" internal, shock-resistant SATA HDD bays
- Supports chassis intrusion alerts
- 250W 80PLUS PSU offers energy savings

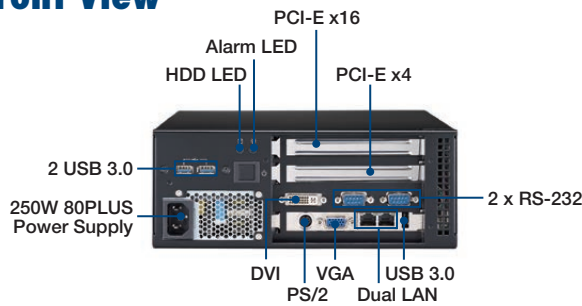
## Specifications

	CPU	i7-7700	i5-7500	i3-7100E	i7-7700T	i5-7500T	i3-7101TE	i7-6700	i5-6500	i3-6100	i7-6700TE	i5-6500TE	i3-6100TE	G4400TE	G3900TE	
Processor	Core	4	4	2	4	4	2	4	4	2	4	4	2	2	2	
	Base Frequency	3.6 GHz	3.4 GHz	3.9 GHz	2.9 GHz	2.7 GHz	3.4 GHz	3.4 GHz	3.2 GHz	3.7 GHz	2.4 GHz	2.3 GHz	2.7 GHz	2.9 GHz	2.6 GHz	
	L3 Cache	8 MB	6 MB	3 MB	8 MB	6 MB	3 MB	8 MB	6 MB	4 MB	8 MB	6 MB	4 MB	3 MB	2 MB	
	TDP	65W	65W	65W	35W	35W	35W	65W	65W	65W	35W	35W	35W	35W	35W	
	Chipset	Intel® H110														
	BIOS	AMI 128Mb SPI Flash														
Memory	Technology	Dual-channel DDR4 1866/2133 MHz (non-ECC)														
	Max. Capacity	32 GB (16 GB per DIMM)														
	Socket	2 x 260-pin SODIMM														
Graphics	Integrated Chipset	Intel® HD Graphics														
	Interface	2 x RJ45, 10/100/1000 Mbps														
Ethernet	Controller	LAN 1: Intel® i219V LAN 2: Intel® i211AT														
Expansion Slots (AIMC-3202-00)	PCI Express x16	1 (Upper-layer slot); full height: 111.15 mm, length: max. 180 mm														
	PCI Express x4	1 (lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
Expansion Slots (AIMC-3202-01)	PCI Express x16	1 (lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
	PCI	1 (Upper-layer slot); full height: 111.15 mm, length: max. 180 mm														
SATA	Data Transfer Rate	600 MB/s (SATA 3.0)														
	HDD Bay	2 x 2.5" internal SATA HD (height: max. 15 mm)														
I/O Interface	Display	VGA+DVI-D (1920 x 1200 pixel @ 60Hz)														
	USB	3 x USB 3.0, 1 x USB 2.0 internal type-A for software key														
	Serial	2 x RS-232														
	PS/2	1														
Watchdog Timer	Output	System reset														
	Interval	Programmable 1 ~ 255 sec/min														
Power Supply	Output Rating	AC 250W, ATX														
	Input Voltage	100 ~ 240 V <sub>AC</sub>														
Cooling	System Fan	2 (6 cm/14.1CFM)														
	Air Fan	Yes														
Miscellaneous	Chassis Intrusion Alert	Yes														
	LED Indicators	Power, HDD, temperature														
	Control	Power on/off switch														
Environment		Operating										Non-operating				
	Temperature	0 ~ 40 °C (32 ~ 104 °F)										-20 ~ 60 °C (-4 ~ 140 °F)				
	Humidity	10-85% @ 40 °C non-condensing														
	Vibration	1Gms, random, 5 ~ 500 Hz, 3 axes, 1 hr/axis										2Gms, random, 5 ~ 500 Hz, 3 axes, 1 hr/axis				
	Shock	10G, half sine wave, 11ms duration														
	EMC	CE/FCC, CCC, BSMI														
Physical Characteristics	Safety	UL/CB, CCC, BSMI														
	Dimensions (W x H x D)	232 x 90 x 232 mm (9.13" x 3.54" x 9.13")														
	Weight	4.5 kg														

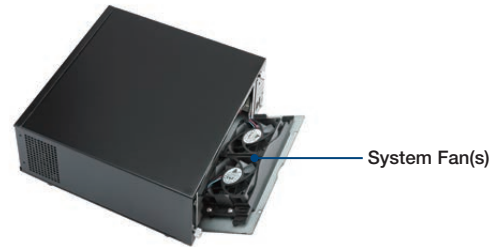
Industrial I/O	1
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### Front View



### Rear cover for easy fan replacement



### Ordering information

Part Number	VGA	DVI	USB 3.0	GbE	RS-232	PS/2	PSU	PCIe	PCI	Cooler
AIMC-3202-00A1E	1	1	3	2	2	1	250W	2 (x16/x4)	-	1.5U/1U
AIMC-3202-01A1E	1	1	3	2	2	1	250W	1 (x16)	1	1.5U/1U

### Packing List

Part Number	Description	Quantity
AIMC-3202-0xA1E	AIMC-3202 bare system	1
2061302902	Driver CD	1
1700002223	LPT cable	1
1700014398-11	4-port USB 2.0 cable with bracket	1
1700020277-01	2 port USB 3.0 cable wit bracket	1
1700060202	PS/2 cable	1

### Optional Accessories

Part Number	Description
1960053207N001	1.5U cooler for all CPUs, supports 1 expansion slot
1960053065N001	1U cooler for CPU iX-XXXXTX and GXXXXXX, supports 2 expansion slots
PCIE-1674PC-AE	4-port PCI express GbE PoE card
PCIE-1672PC-AE	2-port PCI express GbE PoE card
PCA-COM485-00A1E	4-port RS-485/422 module by LPC
PCA-COM232-00A1E	4-port RS-232 module by LPC
PCA-AUDIO-HDA1E	Audio extension module with HD audio interface
PCA-TPM-00A1E	Trusted platform module compliant with TCG 1.2
98R1320210E	6025 fan module

Note: Customers must use the Advantech proprietary CPU cooler. Other brands of CPU coolers are NOT compatible.

# AiMC-3422

**Micro Computer with  
Intel® Core™ i7/i5/i3 Processor,  
Intel® H110 Chipset, 4 x Expansion  
Slots, and 300W 80PLUS PSU**



## Features

- Intel® 6<sup>th</sup>/7<sup>th</sup> Gen Core™ i7/i5/i3/Celeron® processor with Intel® H110 chipset
- Two PCIe (x16/x1) & two PCI expansion slots
- Compact design with front-accessible I/O
- 1 x VGA, 2 x GbE LAN, 2 x USB 2.0, 1 x USB 3.0, 2 x COM
- 1 x 3.5" shock-resistant HDD bay
- Reusable filter and system fan for easy maintenance
- 300W 80PLUS PSU offers energy savings

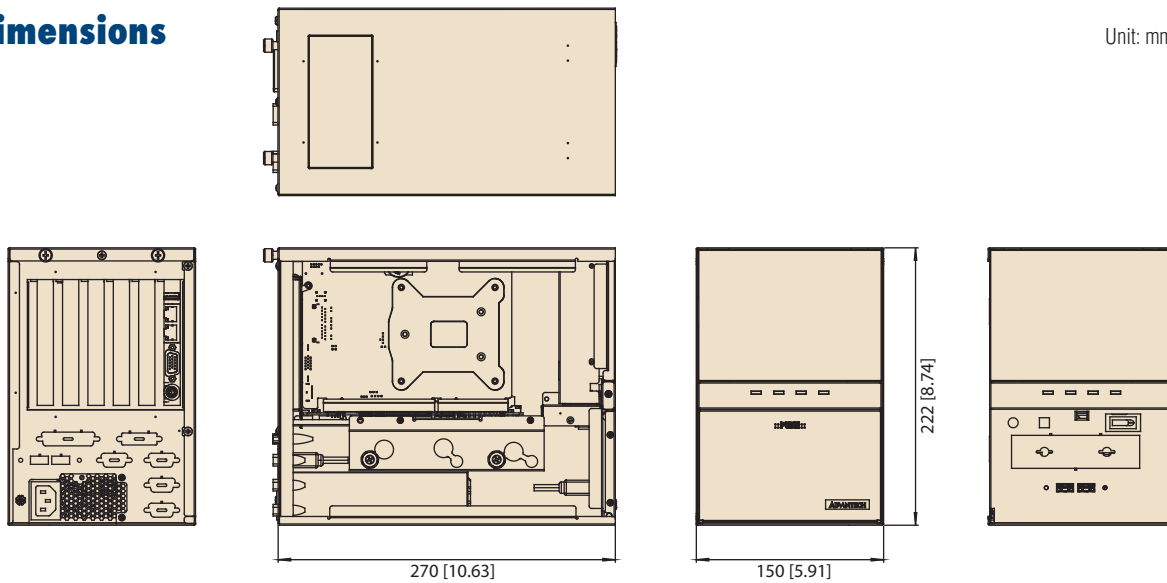
## Specifications

Processor	CPU	i7-7700	i5-7500	i3-7100E	i7-7700T	i5-7500T	i3-7101TE	i7-6700	i5-6500	i3-6100	i7-6700TE	i5-6500TE	i3-6100TE	G4400TE	G3900TE	
	Core	4	4	2	4	4	2	4	4	2	4	4	2	2	2	
	Base Frequency	3.6 GHz	3.4 GHz	3.9 GHz	2.9 GHz	2.7 GHz	3.4 GHz	3.4 GHz	3.2 GHz	3.7 GHz	2.4 GHz	2.4 GHz	2.3 GHz	2.7 GHz	2.9 GHz	2.6 GHz
	L3 Cache	8 MB	6 MB	3 MB	8 MB	6 MB	3 MB	8 MB	6 MB	4 MB	8 MB	6 MB	4 MB	3 MB	2 MB	2 MB
	TDP	65W	65W	65W	35W	35W	35W	65W	65W	65W	35W	35W	35W	35W	35W	35W
	Chipset	Intel® H110														
Memory	BIOS	AMI 128Mb SPI Flash														
	Technology	Dual-channel DDR4 1866/2133 MHz (non-ECC)														
	Max. Capacity	32 GB (16 GB per DIMM)														
Graphics	Socket	2 x 260-pin SODIMM														
	Integrated Chipset	Intel® HD Graphics														
Ethernet	Interface	2 x RJ45, 10/100/1000 Mbps														
	Controller	LAN 1: Intel® i219V LAN 2: Intel® i211AT														
Expansion Slots (AiMC-3422-00)	PCI Express x16	1 (Lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
	PCI Express x1	1 (Lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
Expansion Slots (AiMC-3422-01)	PCI	2 (Lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
	PCI Express x16	1 (Lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
SATA	PCI	3 (Lower-layer slot); full height: 111.15 mm, length: max. 180 mm														
	Data Transfer Rate	600 MB/s (SATA 3.0)														
I/O Interface	HDD Bay	1 x 3.5" internal HDD														
	Display	VGA+DVI-D (1920 x 1200 pixel @ 60Hz)														
	USB	1 x USB 3.0, 2 x USB 2.0 (front accessible)														
	Serial	2 x RS-232														
	PS/2	1														
Watchdog Timer	Output	System reset														
	Interval	Programmable 1 ~ 255 sec/min														
Power Supply	Output Rating	AC 300W, ATX														
	Input Voltage	100 ~ 240 V <sub>AC</sub>														
Cooling	System Fan	1 (9 cm/53CFM)														
	Air Fan	Yes														
Miscellaneous	Chassis Intrusion Alert	Yes														
	LED Indicators	Power, fan, temperature, HDD														
	Control	Power on/off switch, Reset button														
Environment	Operating	Non-operating														
	Temperature	0 ~ 40 °C (32 ~ 104 °F)														
	Humidity	10-85% @ 40 °C non-condensing														
	Vibration	10-95% @ 40 °C non-condensing														
	Shock	1Gms, random, 5 ~ 500 Hz, 3 axes, 1 hr/axis														
	EMC	2Gms, random, 5 ~ 500 Hz, 3 axes, 1 hr/axis														
Physical Characteristics	Safety	CE/FCC, CCC, BSMI														
	Dimensions (W x H x D)	UL/CB, CCC, BSMI														
Physical Characteristics	Weight	5 kg														
	Weight	150 x 222 x 270 mm (5.9" x 8.74" x 10.62")														

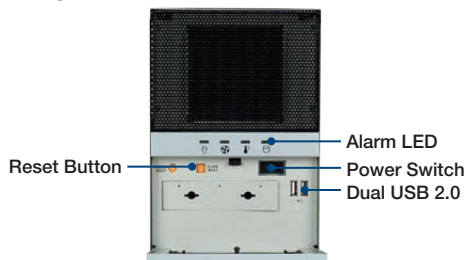
Industrial I/O	1
Intelligent Video Solution	2
Intelligent Transportation Platforms	3
Intelligent Inspection Systems	4
Modular-IPCs	5
Slot SBC & Passive Backplanes	6
Industrial Motherboards	7
Industrial Chassis	8
Industrial Server Motherboards	9
Industrial Server Chassis	10
Industrial Storage	11
GPU Servers	12
CompactPCI Platforms	13
Industrial Computer Peripherals	14
Industrial Ethernet Solutions	15

**Dimensions**

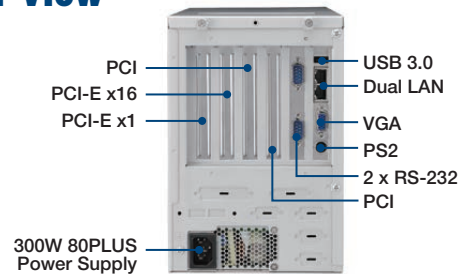
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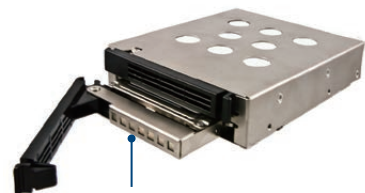
**Front View**



**Rear View**



**IDT-3120E**



Optional mobile rack for dual 2.5" SATA HDDs with a 3.5" drive bay occupancy

**Ordering Information**

Part Number	PCIe x16	PCIe x1	PCI
AIMC-3422-00A1E	1	1	2
AIMC-3422-01A1E	1	0	3

**Packing List**

Part Number	Description	Quantity
AIMC-3422	AIMC-3422 bare system	1
2061302902	Driver CD	1
1700014398-11	4-port USB 2.0 cable with bracket	1
1700002223	LPT cable	1
1960048518N001	Mounting bracket	1
1990012452S000	Rubber foot	4
1700020277-01	2 port USB 3.0 cable wit bracket	1

**Optional Accessories**

Part Number	Description
1960053207N001	1.5U cooler for all CPUs, supports 3 expansion slots
1960053065N001	1U cooler for CPU iX-XXXXTX and GXXXXXX, supports 4 expansion slots
PCIE-1674PC-AE	4-port PCI express GbE PoE card
PCIE-1672PC-AE	2-port PCI express GbE PoE card
1700021831-01	DP to DVI-D cable w/ BKT
IDT-3120E	Dual removable 2.5" HDD trays
PCA-COM485-00A1E	4-port RS-485/422 module by LPC
PCA-COM232-00A1E	4-port RS-232 module by LPC
PCA-AUDIO-HDA1E	Audio extension module with HD audio interface
PCA-TPM-00A1E	Trusted platform module compliant with TCG 1.2

Note: Customers must use the Advantech proprietary CPU cooler. Other brands of CPU coolers are NOT compatible.

# MIC-7300

## Compact Fanless System with Intel® Celeron® N3350/Atom™ x7-E3950 Processor

**NEW**



### Features

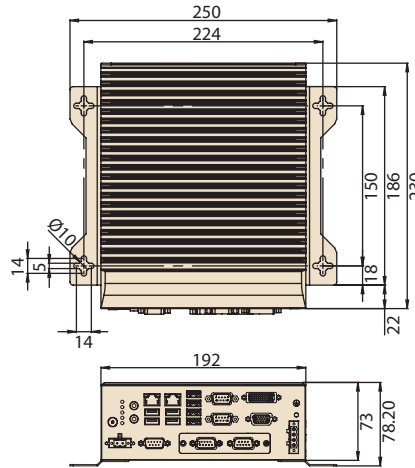
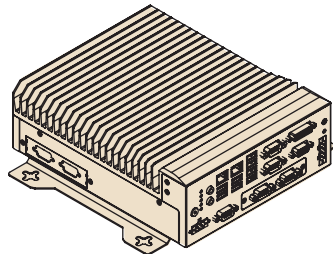
- Intel® Celeron® N3350/Atom™ x7-E3950 processor
- 2 x RS-232/422/485 and 4 x RS232 serial ports (with expansion cable)
- 1 x 2.5" HDD and 1 x mSATA
- Supports 1 x 6-bit GPIO module
- 6 x USB 2.0 and 2 x USB 3.0
- VGA and DVI output
- Supports Advantech i-Modules, SUSIAccess, and embedded software APIs
- 9 ~ 36V<sub>DC</sub> input power
- Wide operating temperature N3350 (-10 ~ 60 °C)
- Wide operating temperature E3950 (-20 ~ 60 °C)

### Specifications

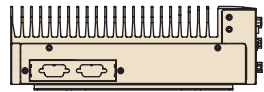
System Chipset	CPU	Intel® Celeron® N3350	Intel® Atom™ x7-E3950	
	Maximum Speed	2.4 GHz	2.0 GHz	
	L3 Cache	2M	2M	
	BIOS	128Mb SPI ROM		
Memory	Technology	Dual channel DDR3L (up to 1867 MT/s) (without ECC)		
	Socket	2 x SODIMM DDR3L (up to 4GB per socket)		
	Maximum Capacity	8GB		
Display	Chipset	Low-power Gen9 graphics with up to 18EUs		
	VGA	1 x DB15, up to 1920 x 1080 resolution		
	DVI	1 x DVI, up to 1920 x 1080 resolution (with optional cable expansion for second DVI connector)		
	Multiple Display	Supports 3 x independent displays		
Ethernet	Controller	LAN1: Intel® i210AT (supports wake-on-LAN) LAN2: Intel® i210AT (supports wake-on-LAN)		
	Interface	2 x RJ45		
Storage	HDD	1 x 2.5" HDD		
	USB	2 x front USB 3.0, 6 x front USB 2.0, 1 x internal USB 2.0		
I/O	Serial Port	2 x DB9, RS232/422/485 with automatic flow control and 4 x RS-232 (with optional cable expansion)		
	Audio	2 (1 x line out and 1 x mic in)		
	Module	Supports Advantech i-Modules (MIC-73M13, MIC-73M11, MIC-73M20)		
Expansion	Mini PCIe	1 x mini PCIe or mSATA		
	LED	2 x TX, 2 x RX, and 1 x Storage		
LED and Switch	Button	1 x Power on/off switch		
	Type	ATX/AT		
Power	Input Voltage	9 ~ 36 V <sub>DC</sub>		
	Output	System reset		
Watchdog Timer	Interval	Programmable 1 ~ 255 sec/min		
	Temperature	Operating (with industrial SSD)	Operating (with HDD)	Non-operating
Environment		N3350: -10 ~ 60 °C with 0.7 m/s air flow	0 ~ 40 °C	-40 ~ 85 °C
		E3950: -20 ~ 60 °C with 0.7 m/s air flow		
	Humidity	95% @ 40 °C (non-condensing)		
	Vibration	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis With 2.5" HDD: 1 Grms @ 5 ~ 500 Hz, random, 1 hr/axis		
Mechanical	Shock	With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration		
	Dimensions (W x H x D)	74 x 192 x 230 mm (2.91" x 7.55" x 9.05")		
	Weight	2.9 kg (6.39 lbs)		
	Installation	Desktop/wall mount		
Certifications	EMC	CE/FCC Class A, CCC, BSMI		
	Safety	UL, CCC, BSMI		



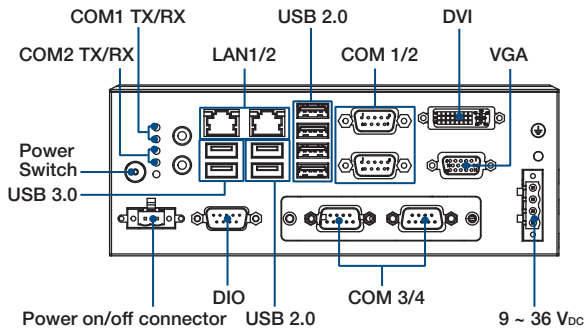
**Dimensions**



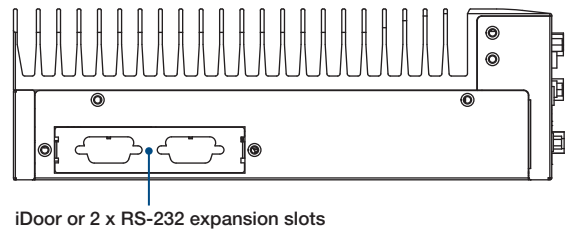
Unit: mm



**Front View**



**Side View**



**Ordering Information**

Part Number	CPU	VGA	DVI	2.5" HDD	USB2.0	USB3.0	GbE	COM	PCIe	Power
MIC-7300-S6A1E	Intel® Atom™ x7-E3950	1	1	1	6	2	2	4	i-Module (optional)	9 ~ 36V <sub>DC</sub>
MIC-7300-S1A1E	Intel® Celeron® N3350	1	1	1	6	2	2	4	i-Module (optional)	9 ~ 36V <sub>DC</sub>

**Packing List**

Part Number	Description
MIC-7300	Intel® Celeron® N3350/Atom™ x7-E3950 processor
2061730000	CD-ROM
2001730000	MIC-7300 startup manual (ENG+CN)
2001730010	MIC-7300 startup manual (TC)
1652003234	4-pin Phoenix power connector
1960070543N001	2 x Mounting bracket
1700013095	SATA cable
1700024372-01	SATA power cable
1701200220	Dual DB9 port cable

**Optional Accessories**

Part Number	Description
96PSA-A150W19P4-1	Adaptor A/D, 100-240V, 150W, 19V
1702002600	Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83 M, 180 D
1700022940-01	Power cord PSE, 3-pin, 7A, 125V, 3 m, DAC-ST01
1702002605	Power cord (EU) 2-pin, 10/16A, 220V, 1.83 M, 90 D
AIIS-DIO32-00A1E	AIIS GPIO module (32 bit)
98R2C48510E	Isolation COM module
PCA-TPM-00B1E	TPM 2.0 module
98R1750000E	Secondary DVI cable accessory kit
98R1750010E	Secondary HDMI cable/Remote power connector accessory kit
1701200220	DP9 2 port cable

Note:

- MIC-7300 supports Advantech iDoor modules (both MOS and PCM series). Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

**Optional i-Modules\***

Part Number	Description
MIC-73M13	4-slot expansion module (1x PCIe and 3x PCI slots)
MIC-73M20	2-slot expansion module (2x PCIe slots)
MIC-73M11	2-slot expansion module (1x PCIe and 1x PCI slots)

\*Additional i-Module information is provided on page 5-16.

**Embedded OS**

Part Number	Description
TBD	WES7P MIC-7300 x64 image

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# MIC-7500

## Compact Fanless System with 6<sup>th</sup> Gen Intel® Core™ i Processor



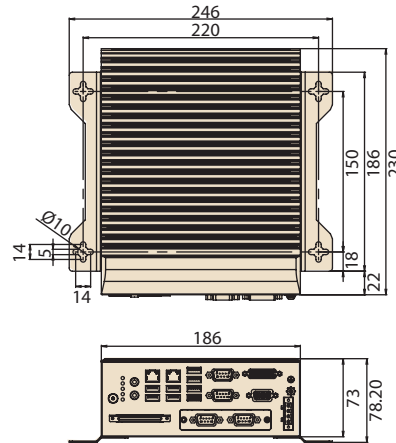
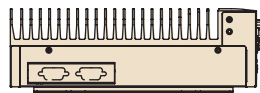
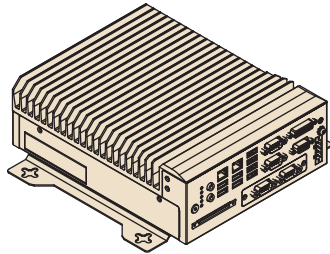
### Features

- Intel® 6<sup>th</sup> Gen Core™ i7/i5/i3/Celeron® (BGA-type) processor with Intel® QM170 chipset
- Wide operating temperature (-20 ~ 60 °C)
- 9 ~ 36 V DC input power range
- 2 x RS-232/422/485 and 4 x RS232 serial ports (with expansion cable)
- 1 x 2.5" HDD, 1 x CFast, and 1 x mSATA
- Supports isolation COM and 32-bit GPIO modules
- 2 x GigaLAN and 8 x USB 3.0
- VGA and DVI output
- Supports Advantech i-Modules, SUSIAccess, and embedded software APIs

### Specifications

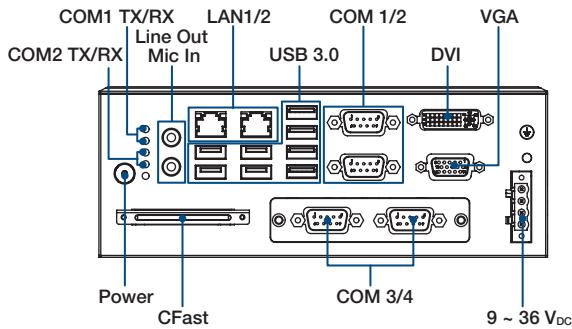
System Chipset	CPU	Intel® Core™ i7-6820EQ	Intel® Core™ i7-6822EQ	Intel® Core™ i5-6442EQ	Intel® Core™ i3-6102E	Intel® Celeron® G3900E
	Maximum Speed	2.8 GHz	2.0 GHz	1.9GHz	1.9 GHz	2.4 GHz
	L3 Cache	8M	8 MB	6 MB	3 MB	2 MB
	Chipset	Intel® QM170				
	BIOS	AMI® SPI 64 Mb				
Memory	Technology	Dual-channel DDR4 2133 MHz (without ECC)				
	Socket	2 x 260-pin DDR4 SODIMM (up to 16 GB per socket)				
Display	Chipset	Intel® HD Graphics 530, supports DirectX 12				
	VGA	1 x DB15, up to 2048 x 1536 maximum resolution				
	DVI	1 x DVI, up to 1920 x 1200 maximum resolution @ 30Mhz (with optional cable expansion for second DVI connector)				
	Multiple Display	Supports 3 x independent displays				
Ethernet	Controller	LAN1: Intel® i219-LM LAN2: Intel® i210 (supports wake-on-LAN)				
	Interface	2 x RJ45				
Storage	HDD	1 x 2.5" HDD				
	CFast	1				
	RAID	0/1/5/10				
I/O	USB	8 x USB 3.0 and 1 x internal USB 2.0				
	Serial Port	2 x DB9, RS232/422/485 with automatic flow control and 4 x RS-232 (with optional cable expansion)				
	Audio	2 (1 x line out and 1 x mic in)				
Expansion	Module	Supports Advantech i-Modules				
	Mini PCIe	2 x Mini PCIe, One for USIM, One for m-SATA				
LED and Switch	LED	2 x TX, 2 x RX, and 1 x Storage				
	Button	1 x Power on/off switch				
Power	Type	ATX/AT				
	Input Voltage	9 ~ 36 V <sub>DC</sub>				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Environment	Temperature	i7-6820EQ Operating (with industrial SSD only)		Operating (with industrial SSD)	Operating (with HDD)	Non-operating
		-20 ~ 50 °C with 0.7 m/s air flow Note: MIC-7500 i7-6820EQ system support SSD only.		-20 ~ 60 °C with 0.7 m/s air flow	0 ~ 40 °C	-40 ~ 85 °C
	Humidity	95% @ 40 °C (non-condensing)				
	Vibration	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis			2G	
		With 2.5" HDD: 1 Grms @ 5 ~ 500 Hz, random, 1 hr/axis				
Shock	With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration			50G 11 ms		
Mechanical	Dimensions (W x H x D)	74 x 192 x 230 mm (2.91" x 7.55" x 9.05")				
	Weight	2.9 kg (6.39 lbs)				
	Installation	Desktop/wall mount				
Certifications	EMC	CE/FCC Class A, CCC, BSMI				
	Safety	UL, CCC, BSMI				

## Dimensions

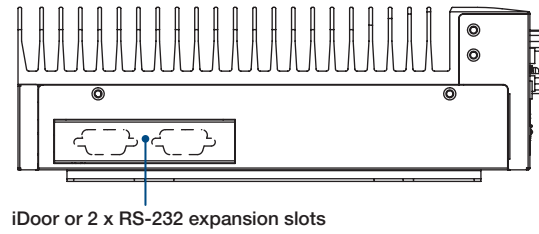


Unit: mm

## Front View



## Side View



## Ordering Information

Part Number	CPU	Memory	VGA	DVI	2.5" HDD	CFast	USB 3.0	GbE	COM	PCIe	Power
MIC-7500B-U8A1E	i7-6820EQ (45W)	4G (Socket type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V <sub>dc</sub>
MIC-7500B-U0A1E	i7-6822EQ	4G (Socket type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V <sub>dc</sub>
MIC-7500B-S9A1E	i5-6442EQ	4G (Socket type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V <sub>dc</sub>
MIC-7500B-19A1E	i3-6102E	4G (Socket type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V <sub>dc</sub>
MIC-7500B-U4A1E	G3900E (45W)	4G (Socket type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V <sub>dc</sub>

## Packing List

Part Number	Description
MIC-7500	Fanless system with 6 <sup>th</sup> Gen Intel® Core™ i processor
2061750000	CD-ROM
2001750000	Startup manual
1652003234	4-pin Phoenix power connector
1960070543N001	2 x Mounting bracket
1700019445	SATA cable
1700024372-01	SATA power cable
1701200220	Dual DP9 port cable

## Optional i-Modules\*

Part Number	Description
MIC-75M40	4-slot expansion module (4 x PCIe slots)
MIC-75M13	4-slot expansion module (1 x PCIe and 3 x PCI slots)
MIC-75M20	2-slot expansion module (2 x PCIe slots)
MIC-75M20-01	2-slot expansion module (2xPCIe slots)
MIC-75M11	2-slot expansion module (1 x PCIe and 1 x PCI slots)
MIC-75M10	1-slot expansion module (1xPCIe16)
MIC-75S20	2-slot expansion and storage module (2 x PCIe and 2 x 2.5 hot swappable HDDs)

\*Additional i-Module information is provided on page 5-16.

## Optional Accessories

Part Number	Description
96PSA-A220W24P4-1	Adaptor A/D, 100-240V, 220W, 24V
96PSA-A150W19P4-1	Adaptor A/D, 100-240V, 150W, 19V
1702002600	Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83 M, 180 D
1700022940-01	Power cord PSE, 3-pin, 7A, 125V, 3 m, DAC-ST01
1702002605	Power cord (EU) 2-pin, 10/16A, 220V, 1.83 M, 90 D
AIS-DIO32-00A1E	AIS GPIO module (32 bit)
98R1C48500E	Isolation COM module
PCA-TPM-00B1E	TPM 2.0 module
98R1750000E	Secondary DVI cable accessory kit
98R1750010E	Secondary HDMI cable/Remote power connector accessory kit
98R1750020E	MIC-7000 series DIN rail accessory

Note:

- MIC-7500 supports Advantech's iDoor modules (both MOS and PCM series). Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

## Embedded OS

Part Number	Description
2070014106	WES7P MIC-7500 x64 V5.6.6 10MUI image
2070014584	WES7P MIC-7500 x32 V5.3.0 10MUI image

# MIC-7700

## Compact Fanless System with 6<sup>th</sup>/7<sup>th</sup> Gen Intel® Core™ i CPU Socket (LGA 1151)

**NEW**



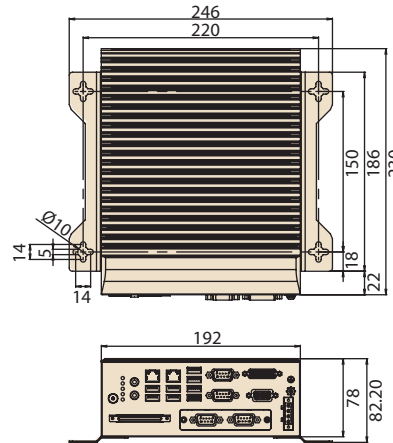
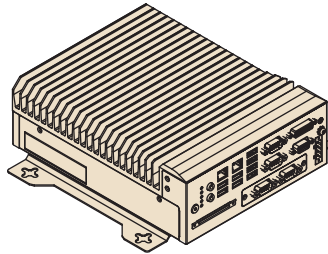
### Features

- Intel® 6<sup>th</sup>/7<sup>th</sup> Gen Core™ i CPU socket (LGA1151) with Intel® Q170/H110 chipset
- VGA and DVI output
- 2 x GigaLAN and 8 x USB 3.0
- 2 x RS-232/422/485 and 4 x RS232 serial ports
- 1 x 2.5" HDD, 1 x CFast, and 1 x mSATA
- 9 ~ 36 V<sub>DC</sub> input power range
- Supports 2 x LAN, isolation COMs, and 32-bit GPIO modules
- Supports Advantech i-Modules
- Supports Advantech SUSIAccess and embedded software APIs

### Specifications

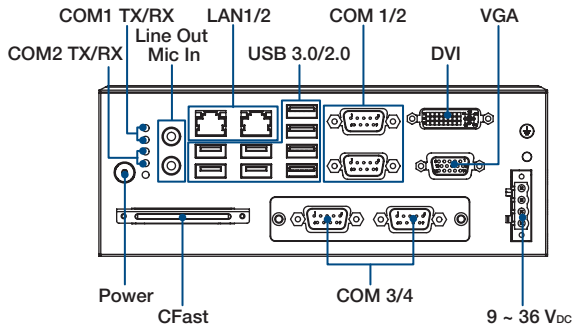
		i7-6700TE	i5-6500TE	i3-6100TE	G4400TE	
6 <sup>th</sup> Generation Processor (TDP 35W)	CPU	i7-6700TE	i5-6500TE	i3-6100TE	G4400TE	
	Core	4	4	2	2	
	Base Frequency	2.4 GHz	2.3 GHz	2.7 GHz	2.9 GHz	
	L3 Cache	8 MB	6 MB	4 MB	3 MB	
	Temperature	-10 ~ 50 °C (with SSD)				
	Chipset	Q170/H110				
6 <sup>th</sup> /7 <sup>th</sup> Generation Processor (TDP 65W)	CPU	i5-7500	i3-7101E	i5-6500	i3-6100	
	Core	4	2	4	2	
	Base Frequency	3.4 GHz	3.9 GHz	3.2 GHz	3.7 GHz	
	L3 Cache	6 MB	3 MB	6 MB	4 MB	
	Temperature	-10 ~ 40 °C (with SSD)				
	Chipset	Q170/H110				
Memory	BIOS	AMI 128Mb SPI Flash				
	Technology	Dual-channel DDR4 2133 MHz (without ECC)				
	Socket	2 x 260-pin DDR4 SODIMM (up to 16 GB per socket)				
Display	Maximum Capacity	32GB (16GB per DIMM)				
	Chipset	Q170: Intel® HD Graphics 530, supports DirectX 12 H110: Intel® HD Graphics 510, supports DirectX 12				
	VGA	1 x DB15, up to 2048 x 1152 maximum resolution				
	DVI	1 x DVI, up to 1920 x 1080 maximum resolution @ 30MHz				
	Multiple Display	Q170: 3 x independent displays (third display output via optional cable) H110: 2 x independent displays				
Ethernet	Controller	Q170 LAN1: Intel® i219LM, LAN2: Intel® i210IT H110 LAN1: Intel® i219V, LAN2: Intel® i210IT				
	Interface	2 x RJ45				
Storage	HDD	1 x 2.5" HDD				
	CFast	1				
	mSATA	1				
	RAID	0/1/5/10 (MIC-7700Q only)				
I/O	USB	Q170: 8 x USB 3.0 and 1 x internal USB 2.0 H110: 4 x USB 3.0 and 4 x USB 2.0				
	Serial Port	2 x RS-232/422/485 support auto flow control; 4 x RS-232				
	Audio	2 (1 x line out and 1 x mic in)				
Expansion	Module	Supports Advantech i-Modules				
	Mini PCIe	Q170: 2 x mini PCIe (1 x via USIM and 1 x mini PCIe/mSATA) H110: 2 x mini PCIe (1 x via USIM and 1 x mSATA)				
LED and Switch	LED	2 (1 x Storage and 1 x Power)				
	Button	1 x Power on/off switch				
Power	Type	ATX/AT				
	Input Voltage	9 ~ 36 V <sub>DC</sub>				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Environment	Temperature	65W CPU w/ industrial SSD	35W CPU w/ industrial SSD	Non-operating		
		-10 ~ 40 °C		-40 ~ 85 °C		
	Humidity	95% @ 40 °C (non-condensing)				
	Vibration	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis With 2.5" HDD: 1 Grms @ 5 ~ 500 Hz, random, 1 hr/axis			2G	
Mechanical	Shock	With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration			50G 11 ms	
	Dimensions (W x H x D)	78 x 192 x 230 mm (3.07" x 7.55" x 9.05")				
Certifications	Weight	2.8 kg (6.17 lbs)				
	Installation	Desktop/wall mount				
Certifications	EMC	CE/FCC Class A, CCC, BSMI				
	Safety	UL, CCC, BSMI				

Dimensions

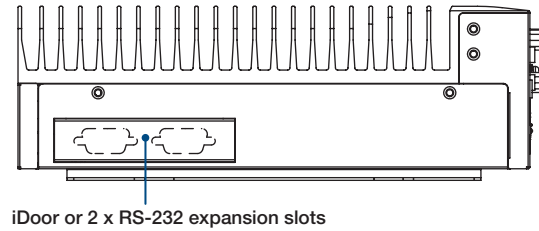


Unit: mm

Front View



Side View



Ordering Information

Part Number	VGA	DVI	2.5" HDD	CFast	USB 3.0	USB 2.0	GbE	COM	PCIe	Power
MIC-7700Q-00A1	1	1	1	1	8	0	2	4	i-Module (optional)	9 ~ 36V <sub>DC</sub>
MIC-7700H-00A1	1	1	1	1	4	4	2	4	i-Module (optional)*	9 ~ 36V <sub>DC</sub>

\*MIC-7700H does not support MIC-75M40 or MIC-75M20-01

Packing List

Part Number	Description
MIC-7700	MIC-7700 bare system
2061770010	Driver CD
2001770000	MIC-7700 startup manual (ENG+CN)
2001770010	MIC-7700 startup manual (TC)
1652003234	4-pin Phoenix power connector
1960070543N001	2 x Mounting bracket
1700013095	SATA cable
1700024372-01	SATA power cable
1701200220	Dual DB9 port cable

Optional i-Modules\*\*

Part Number	Description
MIC-75M40 (Q170 only)	4-slot expansion module (4 x PCIe slots)
MIC-75M13	4-slot expansion module (1 x PCIe and 3 x PCI slots)
MIC-75M20	2-slot expansion module (2 x PCIe slots)
MIC-75M20-01 (Q170 only)	2-slot expansion module (2 x PCIe slots)
MIC-75M11	2-slot expansion module (1 x PCIe and 1 x PCI slots)
MIC-75M10	1-slot expansion module (1 x PCIe)
MIC-75S20	2-slot expansion and storage module (2 x PCIe and 2 x 2.5 hot swappable HDDs)

\*\*Additional i-Module information is provided on page 5-16.

Optional Accessories

Part Number	Description
96PSA-A220W24P4-1	Adaptor A/D, 100-240V, 220W, 24V
96PSA-A150W19P4-1	Adaptor A/D, 100-240V, 150W, 19V
1702002600	Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83 M, 180 D
1700022940-01	Power cord PSE, 3-pin, 7A, 125V, 3 m, DAC-ST01
1702002605	Power cord (EU) 2-pin, 10/16A, 220V, 1.83 M, 90 D
AIIS-DI032-00A1E	AIIS GPIO module (32 bit)
98R1C48500E	Isolation COM module
PCA-TPM-00B1E	TPM 2.0 module
98R1750000E	Secondary DVI cable accessory kit
98R1750010E	Secondary HDMI cable/Remote power connector accessory kit
98R1770000E	Dual LAN module

Note:

- MIC-7700 supports Advantech iDoor modules (both MOS and PCM series), excluding the PoE model.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

Embedded OS

Part Number	Description
TBD	WES7P MIC-7700 x64 image

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15



# MIC-7900

## Compact Fanless System with Intel® Xeon® SoC Processor



### Features

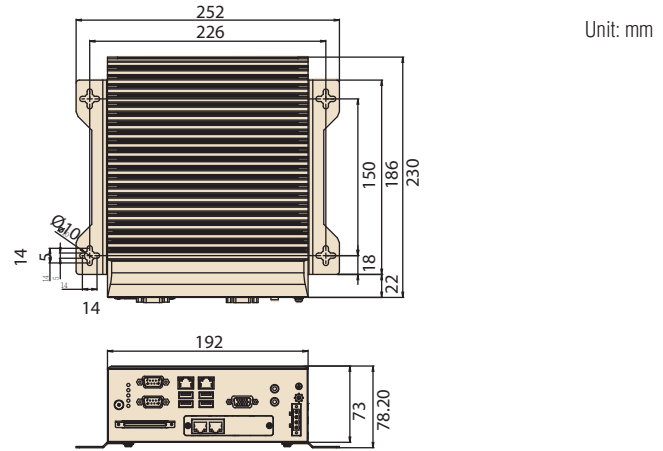
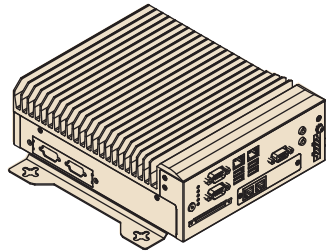
- Intel® Xeon® D-1539/D-1559 SoC processor
- Wide operating temperature (-20 ~ 50 °C)
- 9 ~ 36 V<sub>DC</sub> input power range
- 2 x RS-232/422/485 and 4 x RS232 serial ports (with expansion cable)
- 1 x 2.5" HDD, 1 x CFAST, 1 x M.2
- 4 x GigaLAN and 4 x USB 3.0
- Supports Advantech i-Modules, SUSIAccess, and embedded software APIs



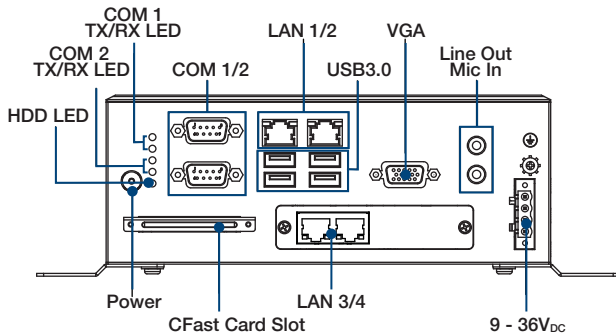
### Specifications

System Chipset	CPU	D-1539	D-1559	
	Maximum Speed	1.6GHz	1.5GHz	
	L3 Cache	12M	18M	
	Core	8	12	
	BIOS	AMI® SPI 64 Mb		
Memory	Technology	Dual-channel DDR4 2133 MHz (supports ECC)		
	Socket	2 x 260-pin SODIMM (up to 16 GB per socket)		
	Maximum Capacity	Up to 32 GB		
Display	Chipset	ASPEED 1400 with 256MB VGA memory provides basic 2D VGA function		
	VGA	1 x DP15, up to 1920 x 1200 maximum resolution		
Ethernet	Controller	LAN1: Intel® i210IT (supports wake-on-LAN) LAN2: Intel® i210IT (supports wake-on-LAN) LAN3: Intel® i210IT LAN4: Intel® i210IT		
	Interface	4 x RJ45		
Storage	HDD	1 x 2.5" HDD (with MIC-75S20 i-Module, total storage room up to 5 x 2.5" HDD)		
	CFAST	1		
	M.2	1 (Supports PCIe signals)		
I/O	USB	4 x USB 3.0 and 1 x internal USB 2.0		
	Serial Port	2 x DB9, RS232/422/485 with automatic flow control and 4 x RS-232 (with optional cable expansion)		
	Audio	2 (1 x line out and 1 x mic in)		
Security	TPM	Supports TPM 2.0 (Infineon SLB9665XQ2.0)		
Expansion	Module	Supports Advantech i-Modules (MIC-75M13/MIC-75M40/MIC-75M20/MIC-75M20-01/MIC-75M11/MIC-75S20)		
	Mini PCIe	1 x mini PCIe (does not support m-SATA)		
LED and Switch	LED	2 x TX, 2 x RX, and 1 x Storage		
	Button	1 x Power on/off switch		
Power	Type	ATX/AT		
	Input Voltage	9 ~ 36 V <sub>DC</sub>		
	Power Consumption	180W (with i-Modules)		
Watchdog Timer	Output	System reset		
	Interval	Programmable 1 ~ 255 sec/min		
Environment	Temperature	Operating (with industrial SSD)	Operating (with HDD)	
		-20 ~ 50 °C with 0.7 m/s air flow	0 ~ 40 °C	
	Humidity	95% @ 40 °C (non-condensing)		
	Vibration	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis		
		With MIC-75S20/5xSSD: 1 Grms @ 5 ~ 500Hz, random, 1 hr/axis		
Shock	With SSD: 50G, IEC 60068-2-27, half-sine wave, 11 ms duration			
Mechanical	Dimensions (W x H x D)	74 x 192 x 230 mm (2.91" x 7.55" x 9.05")		
	Weight	2.9 kg (6.39 lbs)		
	Installation	Desktop/wall mount		
Certifications	EMC	CE/FCC Class B, CCC, BSMI		
	Safety	UL, CCC, BSMI		

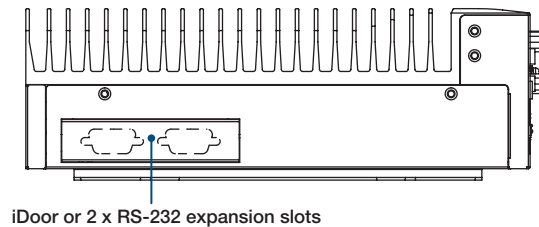
**Dimensions**



**Front View**



**Side View**



**Ordering Information**

Part Number	CPU	VGA	2.5" HDD	CFast	USB 3.0	GbE	COM	PCIe
MIC-7900-S5A1E	D-1559	1	1	1	4	4	2	i-Module (optional)
MIC-7900-S6A1E	D-1539	1	1	1	4	4	2	i-Module (optional)

**Packing List**

Part Number	Description
MIC-7900	Fanless system with Intel® Xeon® SoC processor
1652003234	4-pin Phoenix power connector
1700013095	SATA cable
1700024372-01	SATA power cable
1701200220	Dual DP9 port cable
1960070543N001	2 x Mounting bracket
2061790000	CD-ROM
2001790000	MIC-7900 startup manual (ENG+CN)
2001790010	MIC-7900 startup manual (TC)

**Optional i-Modules\***

Part Number	Description
MIC-75M40	4-slot expansion module (4 x PCIe slots)
MIC-75M13	4-slot expansion module (1 x PCIe and 3 x PCI slots)
MIC-75M20	2-slot expansion module (2 x PCIe slots)
MIC-75M20-01	2-slot expansion module (2 x PCIe x 8 slots)
MIC-75M11	2-slot expansion module (1 x PCIe and 1 x PCI slots)
MIC-75M10	1-slot expansion module (1 x PCIe x16 slot)
MIC-75S20	2-slot expansion and storage module (2 x PCIe and 2 x 2.5 hot swappable HDDs)

\*Additional i-Module information is provided on page 5-16.

**Optional Accessories**

Part Number	Description
96PSA-A220W24P4-1	Adaptor A/D, 100-240V, 220W, 24V
96PSA-A150W19P4-1	Adaptor A/D, 100-240V, 150W, 19V
1702002600	Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83 M, 180 D
1700022940-01	Power cord PSE, 3-pin, 7A, 125V, 3 m, DAC-ST01
1702002605	Power cord (EU) 2-pin, 10/16A, 220V, 1.83 M, 90 D
1700018704	Power Cord UK BSI 2P 10A 250V 180cm 18AWG
AIIS-DIO32-00A1E	AIIS GPIO module (32 bit)
98R2C48510E	Isolation COM module
98R1750020E	MIC-7000 series DIN rail accessory

Note:

- MIC-7900 supports Advantech iDoor modules (both MOS and PCM series). Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

**Embedded OS**

Part Number	Description
2070014719	WES7P MIC-7900 x64 V5.8.0 10MUI image

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
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- Industrial Ethernet Solutions 15

# i-Modules for MIC-7 Series

## Compatible with MIC-7 Series Fanless Systems

### 4-Slot Expansion Modules

#### MIC-75M40

- 1 x PCIe x8
- 3 x PCIe x4
- 1 x SATA (2 x 2.5" HDD bays)
- Supports 1 x 8-cm fan (optional)
- Dimensions (W x H x D): 163 x 192 x 230 mm (6.41" x 7.55" x 9.05")

#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- MIC-75M40 does not support MIC-73 series systems or MIC-7700H.



#### MIC-75M13

- 1 x PCIe x16
- 3 x PCI
- 1 x SATA (2 x 2.5" HDD bays)
- Supports 1 x 8-cm fan (optional)
- Dimensions (W x H x D): 163 x 192 x 230 mm (6.41" x 7.55" x 9.05")

#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- For MIC-73 series systems (with Intel® Atom™ CPU), only 1 PCIe x4 is supported.



### 2-Slot Expansion Modules

#### MIC-75M20 MIC-75M20-01

- MIC-75M20: 1 x PCIe x16/1 x PCIe x4
- MIC-75M20-01: 2 x PCIe x8
- Supports 2 x 4-cm fans (optional)
- Dimensions (W x H x D): 123 x 192 x 230 mm (4.84" x 7.55" x 9.05")

#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- MIC-75M20 does not support MIC-73 series systems.
- MIC-75M20-01 does not support MIC-7700H.



#### MIC-75M11

- 1 x PCIe x16
- 1 x PCI
- Supports 2 x 4-cm fans (optional)
- Dimensions (W x H x D): 123 x 192 x 230 mm (4.84" x 7.55" x 9.05")

#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- MIC-73 series systems (with Intel® Atom™ CPU) support 1 PCIe x4 or 3 PCI sockets.



#### MIC-75S20

- 1 x PCIe x16
- 1 x PCIe x4
- 2 x Hot-swappable HDD trays (15 mm)
- Supports 1 x 8-cm fan (optional)
- Dimensions (W x H x D): 163 x 192 x 230 mm (6.41" x 7.55" x 9.05")

#### Note

- Install an SSD for wide temperature range. If the system does not feature an SSD, a fan should be added for thermal management.
- MIC-75S20 does not support high-power consumption expansion cards (i.e., graphics cards).
- MIC-75S20 does not support MIC-73 series systems.



#### MIC-75M10

- 1 x PCIe x16
- Dimensions (W x H x D): 97 x 192 x 230 mm (3.81" x 7.55" x 9.05")

#### Note

- MIC-75M10 does not support fan modules.
- MIC-75M10 does not support high-power consumption expansion cards (i.e., graphics cards).



### Optional Accessories

Part Number	Description
98R1751300E	8-cm fan for 4-slot i-Modules
98R1752000E	2 x 4-cm fan for 2-slot i-Modules
98R1752010E	Secondary HDD bracket (for 2-slot i-Modules)

### Ordering Information

Part Number	Description
MIC-75M13-00A1E	4-slot expansion i-Module with 1 PCIe x16, 3 PCI
MIC-75M40-00A1E	4-slot expansion i-Module with 1 PCIe x8, 3 PCIe x4
MIC-75M11-00A1E	2-slot expansion i-Module with 1 PCIe x16, 1 PCI
MIC-75M20-00A1E	2-slot expansion i-Module with 1 PCIe x16, 1 PCIe x4
MIC-75M10-00A1	1-slot expansion i-Module with 1 PCIe x16
MIC-75M20-01A1E	2-slot expansion i-Module with 2 PCIe x8
MIC-75S20-00A1E	2-slot expansion i-Module with 1 PCIe x16, 1 PCIe x4, 2 2.5" HDD bay

# MIC-7420

## Compact Fanless System with Intel® 6th Gen Core™ i Processor

**NEW**



### Features

- Intel® 6th Gen Core™ i7/i3 (BGA type) processor with Intel® QM170 chipset
- 8 GB of DDR4 memory, up to 24 GB
- 2 x DVI
- 2 x GbE LAN/8 x USB ports
- 2 x PCIe x4/ 2 x PCI expansion slots
- 2 x 3.5" HDD and 1 x M.2
- Supports RAID 0/1
- Wide operating temperature (-20 ~ 60 °C)
- 100 ~ 240V<sub>AC</sub> input power

### Specifications

Processor	CPU	Intel® Core™ i7-6822EQ	Intel® Core™ i3-6100E
	Max Speed	2.0 GHz	2.8 GHz
	L2 Cache	8 MB	3 MB
	Chipset	Intel® QM170	
	BIOS	AMI SPI 128Mb	
Memory	Technology	8 GB of DDR4, 2133 MHz (without ECC)	
	Socket	1 x 260-pin DDR4 SODIMM socket, up to 16 GB	
	Maximum Capacity	24GB	
Graphics	Chipset	Intel® HD Graphics 530, supports DirectX 12	
	Dual Display	1 x DVI-I, 1 x DVI-D	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	LAN 1: Intel® i219-LM; LAN 2: Intel® i210IT	
	Connector	2 x RJ45	
Storage	SSD	1 x M.2 (2260 M-Key, with SATA interface)	
	HDD	2 x 3.5" HDD or 2 x 2.5" HDD bay	
I/O Interface	DVI	1 x DVI-I, 1 x DVI-D	
	LAN	2	
	USB	8 (2 x USB 3.0, 6 x USB 2.0)	
	Serial	2 x DB9 (RS-232/422/485) with 2.5KV Isolation protection	
	PS/2	1	
	Audio	1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in	
Expansion Slots	PCIe	2 x PCIe x4	
	PCI	2 x PCI	
	Mini PCIe	1 (PCIe & USB)	
Power Module	Input Range	100 ~ 240V <sub>AC</sub> or 110V <sub>DC</sub>	
	Connector	1 x 3-pin terminal block (5.08 mm)	
	Wattage (60 °C)	110 W	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1~255 sec/min	
Environment	Storage	Operating (w/o add-on card) SSD	Operating (with add-on card) SSD
	Temperature	Operating (w/o add-on card) -20 ~ 60 °C	Operating (with add-on card) -20 ~ 40 °C
Physical Characteristics	Dimensions (W x H x D)	427 x 88 x 325 mm (16.81" x 3.46" x 12.79")	
	EMC	CE/FCC Class A, CCC, BSMI	
Certification	Safety	CB/UL, CCC, BSMI	

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

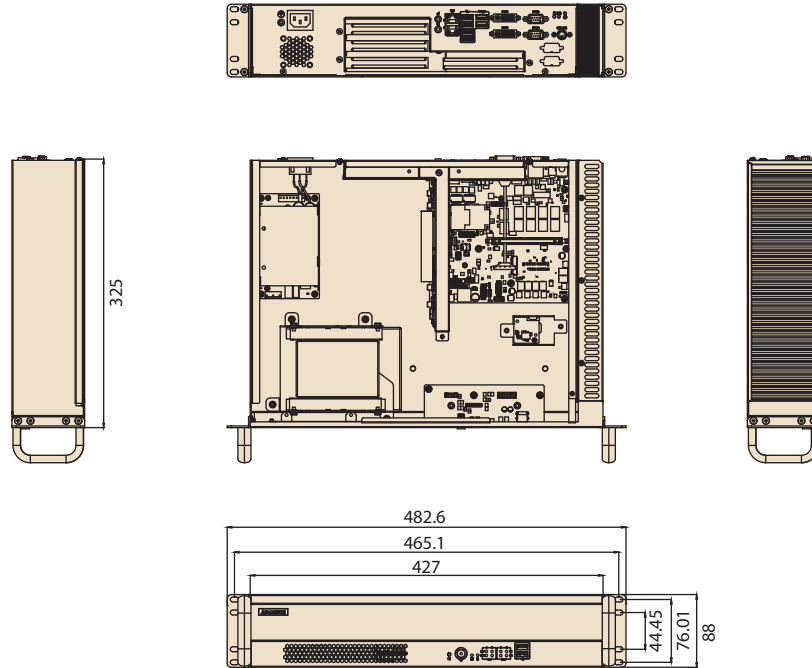
CompactPCI Platforms 13

Industrial Computer Peripherals 14

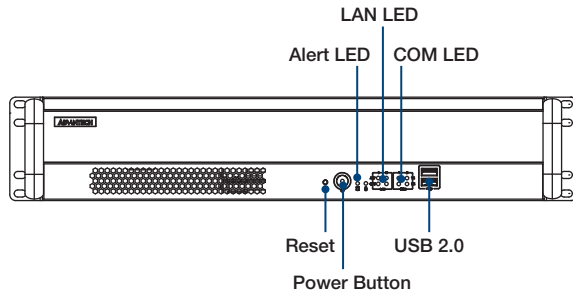
Industrial Ethernet Solutions 15

## Dimensions

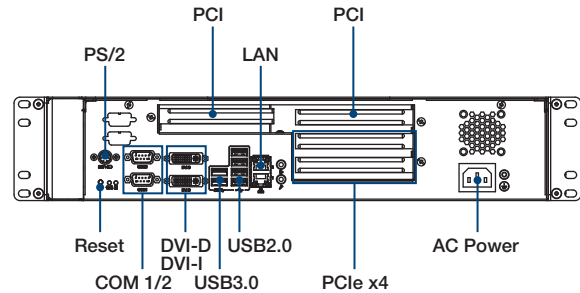
Unit: mm



## Front View



## Rear View



## Packing List

Part Number	Description	Quantity
2001742000	Startup manual En\CN for MIC-7420	1
206K223100	Driver CD	1
1700008941	SATA cable 7P	2
1700017929	SATA power cable 4P	1
1700022322-01	SATA power cable 5P	1
1990001365	HDD rubber	4
1960018229N100	2.5" HDD bracket	2
1656303100	3-pin terminal block	2
1960018229N100	2U rackmount ear	2
1960021557S000	Handle bracket	2

## Ordering Information

Part Number	Description
MIC-7420-U0A1	Intel® Core™ i7-6822EQ processor with 8 GB onboard memory, 2U
MIC-7420-19A1	Intel® Core™ i3-6100E processor with 8 GB onboard memory, 2U

## Optional Accessories

Part Number	Description
1700023045-01	Power cable, 3 pin (F), 10 cm, for ITA-2210



# ARK-5261

## Fanless Embedded Box PC with Intel® Celeron® J1900 Processor, PCI/PCIe Expansion Slots, and Dual Mobile HDDs/SSDs



ARK-5261S  
ARK-5261P



### Features

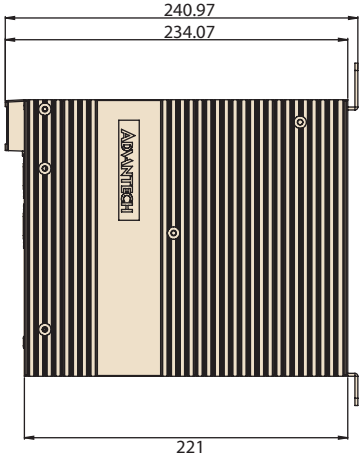
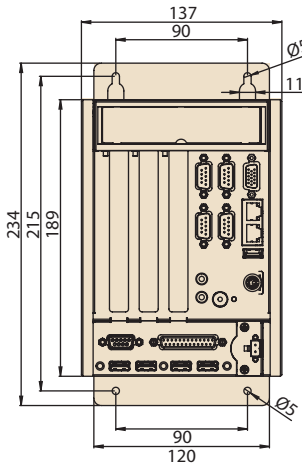
- Fanless embedded box PC with Intel® Celeron® J1900 processor, 2.0 GHz
- 2 x Giga LAN, 1 x USB 3.0, and 5 x USB 2.0
- 4 x RS-232/422/485 with auto-flow control, 1 x COM1, and 1 x COM2 ports with 5V/12V power
- 1 x PCIe and 2 x PCI or 3 x PCI expansion slots
- 4 x RS-422/485 (isolation type)
- Rubber anti-vibration card holder for PC expansion boards
- 9 ~ 30V<sub>DC</sub> input power range
- Wide operating temperature (-20 ~ 60 °C)
- Supports Advantech SUSIAccess and embedded software APIs

### Specifications

System	CPU	Intel® Celeron® J1900 processor, 2.0 GHz		
	Max. Speed	2.41 GHz		
	BIOS	AMI 16 Mbit SPI BIOS		
Memory	Technology	Dual channel DDR3L-1333 (low power 1.35V)		
	Max. Capacity	4 GB memory built in, supports up to 8 GB		
	Socket	2 x 204-pin SODIMM		
Graphics	Integrated Chipset	Intel® HD Graphics		
	VRAM	Up to 224 MB SDRAM of shared system memory		
	Interface	VGA: 2560 x 1600 @ 60Hz		
Ethernet	LAN1	10/100/1000 Mbps Intel® I211GigaLAN controller, supports Wake-on-LAN		
	LAN2	10/100/1000 Mbps Intel® I211GigaLAN controller, supports Wake-on-LAN		
Audio	Interface	Line-Out, Mic-in		
I/O	Serial Ports	Standard type: 4 x RS-232/422/485, 1 x COM1, and 1 x COM2 with 5V/12V power, supports auto-flow control (ARK-5261S-J0A1E) Isolation type: 4 x RS-422/485 with 15kV ESD protection, 2kV surge protection, and 2kV electrical isolation (ARK-5261I-J0A1E)		
	USB	6 (1 x USB 3.0, 4 x USB 2.0, 1 x internal USB 2.0 type A)		
	PS/2 Port	1 supports PS/2 mouse and keyboard		
	Parallel Port	D-sub 25-pin connector		
	Digital I/O	8-bit digital IO (DB9 connector)		
Other	Watchdog Timer	255-level timer intervals, setup via software		
Storage	HDD/SSD	2 x 2.5" SATA HDD/SSD bays (9.5 mm height)		
	mSATA	1 x mSATA or SATAII		
Expansion	PCI/PCIe	2 x PCI, 1 x PCIe x1 (AKR-5261S-J0A1E and ARK-5261I-J0A1E) 3 x PCI, 1 x full-size mini PCIe (ARK-5261P-J0A1E) Supports 15W max. power and 99 x 186 mm max. dimensions (W x L) for PC expansion board		
Software	OS Support	Microsoft Windows 7/8.1/Embedded and Linux Fedora 19		
Power	Type	ATX / AT		
	Input Voltage	9 ~ 30 V <sub>DC</sub>		
	Minimum Voltage	9V @ 6.6A ~ 30V @ 2A		
	Power Adapter	AC-to-DC, 65 W DC19 V/3.4 A		
Power Consumption	Idle	9.9 W (with Intel® Celeron® J1900, 2.0 GHz processor, memory, and SATA HDD)		
	Maximum	12.9 W (with Intel® Celeron® J1900, 2.0 GHz processor, memory, and SATA HDD)		
Mechanical	Construction	Aluminum housing		
	Mount Options	Desk/wall mounting		
	Dimensions (W x H x D)	137 x 189 x 221 mm (5.39" x 7.44" x 8.70")		
	Weight	4.2 kg (9.24 lbs)		
Environment	Temperature	Operating (with 2 x industrial SSDs without PC expansion boards)	Operating (with 1 x 2.5" HDD or mSATA without PC expansion boards)	Non-operating
	Storage Temperature	-20 ~ 60 °C with 0.7m/sec air flow	0 ~ 40 °C with 0.7m/sec air flow	-40 ~ 85 °C (-40 ~185 °F)
	Relative Humidity	-40 ~ 85 °C (-40 ~185 °F) 95% @ 40 °C (non-condensing)		
	Vibration	With 2.5" HDD: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis With SSD disk: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis		
Certifications	EMC	CE/FCC, CCC, BSMI		
	Safety	CCC, BSMI		

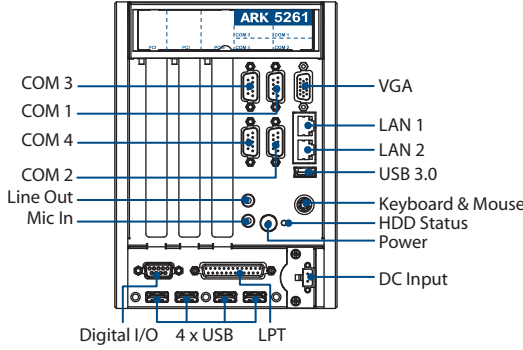
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**Dimensions**

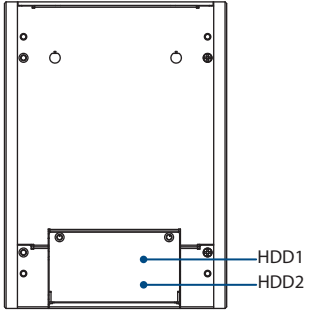


Unit: mm

**Front View**



**Rear View**



**Ordering Information**

Part Number	VGA	USB	GbE	RS-232	RS-422/485	PS/2	PCIe	PCI	Power
ARK-5261S-J0A1E	1	1 USB 3.0, 5 USB 2.0	2	4	4	1	1 x PCIe x1	2	9 ~ 30V <sub>DC</sub>
ARK-5261P-J0A1E	1	1 USB 3.0, 4 USB 2.0	2	4	4	1	1 x Mini PCIe	3	9 ~ 30V <sub>DC</sub>
ARK-5261I-J0A1E	1	1 USB 3.0, 5 USB 2.0	2	4	4	1	1 x PCIe x1	2	9 ~ 30V <sub>DC</sub>

**Packing List**

Part Number	Description	Quantity
ARK-5261	ARK-5261 Unit	1
2061526100	Driver/utility CD	1
2001526110	ARK-5261 startup manual (Eng+CN)	1
1960049826N001	Upper mount bracket	1
1960049827N001	Lower mount bracket	1
1990000505	Shock-proof rubber boot	3
2001526120	ARK-5261 startup manual (TC)	1

**Optional Accessories**

Part Number	Description
1700021831-01	DP to DVI-D cable with BKT
PCA-TPM-00A1E	TPM module
96PSA-A120W24T2	Adaptor 100 ~ 240V <sub>AC</sub> 120W 24V
96PSA-A65W19P2-2	Adaptor 100 ~ 240V <sub>AC</sub> 65W 19V without PFC
1702002600	Power cord UL/CSA (USA) 3P, 125V, 10A, 1.83 M, 180 D (for 120W)
1700001524	Power cord UL 3P, 125V, 10A, 1.80 cm (for 165W)
1700022940-01	Power cord (PSE) 3P, 125V, 7A, 3 M, DAC-ST01 (for 120W)
1700021376-01	Power cord (PSE) 3P, 125V, 7A, 250 cm, IEC60320-C5 (for 65W)
1702002605	Power cord (EU) 2P, 220V, 10A/16A, 1.83 M, 90 D (for 120W)
170203183C	Power cord (EU) 3P, (WS-010+WS-083), 1.83 M (for 165W)

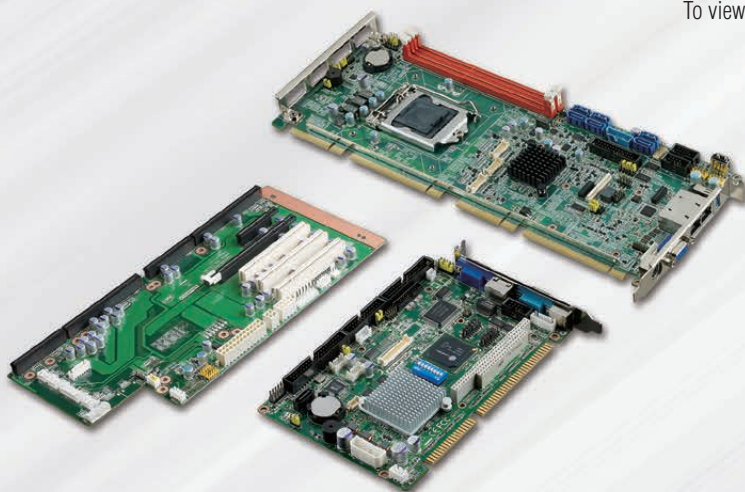
**Embedded OS**

Part Number	Description
2070013108	WE8S ARK-5261 x64 V6.5.2 10MUI; SAP image
2070013109	WES7P ARK-5261 x64 V5.6.6 10MUI ;SAP image

## Slot SBC & Passive Backplanes

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<b>PICMG 1.3 System Host Boards</b>		
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<b>PCE-5029</b>	LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, Dual GbE, and Dual Displays	<b>6-14</b>
<b>PCE-5129</b>	LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, M.2, Dual GbE, and Triple Displays	<b>6-16</b>
<b>PCE-7128</b>	LGA1150 Intel® Xeon®/Core™i3/Pentium® SHB DDR3/SATA 3.0/USB3.0/Dual GbE /3 Displays	<b>6-18</b>
<b>PCE-7129</b>	6th Generation Intel® Xeon®/Core™ i7/i5/i3/Pentium® LGA1151 System Host Board with DDR4, SATA 3.0, USB 3.0, M.2, Dual GbE, and Triple Displays	<b>6-20</b>
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<b>PCE-3029</b>	LGA 1151 6th and 7th Gen Intel® Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/ Dual Independent Display/Dual GbE LAN/SATA III/m-SATA/ USB 3.0	<b>6-30</b>
<b>PCE-4128</b>	LGA 1150 4th Gen Intel® Xeon® and Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/ Triple independent display/Dual GbE LAN/SATA 3.0/m-SATA/ USB 3.0	<b>6-32</b>
<b>PCE-4129</b>	LGA 1151 6th and 7th Gen Intel® Xeon® and Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/Triple Independent Display/Dual GbE LAN/SATA III/m-SATA/ USB 3.0	<b>6-34</b>
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To view all of Advantech's Slot SBC & Passive Backplanes, please visit [www.advantech.com/products](http://www.advantech.com/products).



# PICMG 1.3 System Host Boards



Model Name		LGA1150 PICMG 1.3 SHB	LGA1151 PICMG 1.3 SHB	LGA1151 PICMG 1.3 SHB
		PCE-5128	PCE-5029	PCE-5129
Processor System	CPU	Intel® Core™ i7/Core™ i5/Core™ i3 LGA1150 Processors	Intel® Core™ i7/Core™ i5/ Core™ i3 LGA1151 Processors	Intel® Core™ i7/Core™ i5/Core™ i3 LGA1151 Processors
	Max. Speed	3.1 GHz	3.4 GHz	3.4 GHz
	Cache	Up to 8 MB (Depends on CPU)	Up to 8 MB (Depends on CPU)	Up to 8 MB (Depends on CPU)
	Chipset	Intel® Q87	Intel® H110	Intel Q170
	BIOS	AMI 128 Mbit SPI Flash	AMI 128 Mbit SPI Flash	AMI 128 Mbit SPI Flash
Backplane Bus	PCIe	PICMG1.3: One x16 & Four x1	PICMG1.3: One x16 & Four x1	PICMG1.3: One x16 & Four x1
	PCI (32bit/33 MHz)	4	4	4
Memory	Technology	Dual-channel (Non-ECC) DDR3 1333/1600	Dual-channels (Non-ECC) DDR4 1866/2133	Dual-channels (Non-ECC) DDR4 1866/2133
	Max. Capacity	16 GB	32 GB	32 GB
	Socket	240-pin DIMM x 2	2 x 288-pin DIMM	2 x 288-pin DIMM
Graphics	Controller	Chipset integrated Intel® HD Graphics	Chipset integrated Intel® HD Graphics	Chipset integrated Intel® HD Graphics
	VRAM	Shared system memory is subject to OS	Shared system memory is subject to OS	Shared system memory is subject to OS
	Video Out	VGA/DVI-D/DVI-D (Optional DVI-D cable)	G2: VGA+DP/DVI (Optional DVI-D/DP cable) VG: VGA	VGA+DP/DVI-D+DP/DVI-D
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	LAN1/LAN2 Controller	Intel® I217LM/I211AT	LAN1: I219-V LAN2: I211-AT (G2 only)	Intel I219LM/I211
	Connector	RJ45 X 2	G2: 2 VG: 1	RJ45 x 2
	Disable in BIOS	Yes	Yes	Yes
SATA	Max. Data Transfer Rate	600 MB/s SATA3.0	600 MB/s SATA3.0	600 MB/s SATA3.0
	Channel	6 x SATA3.0	4 x SATA3.0	5 x SATA3.0
	S/W Raid	0, 1, 5, 10	-	0, 1, 5, 10
Rear I/O	VGA	1	1	1
	Ethernet	2	G2: 2 VG: 1	2
	USB2.0	-	-	0
	USB3.0	1	G2: 1 VG: -	1
	PS/2	1	1	1
	Serial	-	G2: - VG: 1	-
Internal I/O	USB 2.0	9 USB 2.0 (Pin-Header x 4 + USB Type A x 1 + 4 on backplane)	7 USB 2.0 (Pin-header x 2+USB Type A x 1 + 4 on backplane)	7 USB2.0 (Pin-header x 2+USB Type A x 1 + 4 on backplane)
	USB 3.0	2 USB3.0 (Pin-Header)	2 USB3.0 (Pin header)	4 USB3.0 (Pin header)
	SATA	6	4	5
	M.2 (2280 Type M)	-	-	1 (Shared w/ SATA0 port)
	Serial	2 RS-232(Pin-Header)	G2: 2 VG: 1	2 RS-232(Pin-Header)
	Parallel	1(SPP/EPP/ECP)	1	1
	PS/2	1	1	1
OBS(Onboard Security Hardware Monitor)	Yes	Yes	Yes	
Watchdog Timer	Output	System reset	System reset	System reset
	Interval	Programmable, 1~255 sec/min	Programmable, 1~255 sec	Programmable, 1~255 sec/min
Miscellaneous	Advantech Audio Module	PCA-AUDIO-HDA1E	PCA-AUDIO-HDB1E	PCA-AUDIO-HDB1E
	Advantech SNMP-1000	Yes	No	Yes
	Advantech SAB-2000	Yes	G2: Yes VG: -	Yes
	Advantech IPMI Module	-	-	-
	AMT	Yes	-	Yes
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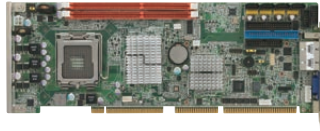


LGA1150 PICMG 1.3 SHB	LGA1151 PICMG 1.3 SHB	LGA2011 PICMG 1.3 SHB
<b>PCE-7128</b>	<b>PCE-7129</b>	<b>PCE-9228</b>
Intel® Xeon® and Core™ i7/Core™ i5/Core™ i3 LGA1150 Processors	Intel® Xeon and Core™ i7/Core™ i5/Core™ i3 LGA1151 Processors	Intel Xeon E5-2600 v3 series LGA2011 Processors
3.5 GHz	3.6 GHz	2.5 GHz
Up to 8 MB (Depends on CPU)	Up to 8 MB (Depends on CPU)	Up to 30 MB (Depends on CPU)
Intel® C226	Intel C236	Intel C612
AMI 128 Mbit SPI Flash	AMI 128 Mbit SPI Flash	AMI 128 Mbit SPI Flash
One x16/ Two x8 & Four x1	PICMG1.3: One x16 / Two x8 & Four x1	PICMG1.3: One x16/ Two x8 & Four x1 Expansion (ODM optional): 64 lanes
4	4	4
Dual-channel (ECC) DDR3 1333/1600	Dual-channels (ECC) DDR4 1600/1866/2133	Quard-channels ECC-Register DDR4 1600/1866/2133
16 GB	32 GB	256 GB
240-pins DIMM x 2	2 x 288-pins DIMM	288-pins DIMM x 8
Chipset integrated Intel® HD Graphics	Chipset integrated Intel® HD Graphics	AST1400/AST2400
Shared system memory is subject to OS	Shared system memory is subject to OS	DDR3 64MB
VGA/DVI-D/DVI-D (Optional DVI-D cable)	VGA+DP/DVI-D+DP/DVI-D	VGA
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Intel® I217LM/I210AT	Intel I219LM/I210AT	Intel I210AT/I210AT
RJ45 x 2	RJ45 x 2	RJ45 x 2
Yes	Yes	Lan1: No; Lan2: Yes
600 MB/s SATA3.0	600 MB/s SATA3.0	600 MB/s SATA3.0
6 x SATA3.0	5 x SATA3.0	8 x SATA3.0
0, 1, 5, 10	0, 1, 5, 10	0, 1, 5, 10
1	1	1
2	2	3(IPMI occupy 1 LAN)
1	0	2
1	1	2
1	1	1
-	-	-
9 USB 2.0 (Pin-Header x 4 + USB Type A x 1 + 4 on backplane)	7 USB2.0 (Pin-header x 2+USB Type A x 1 + 4 on backplane)	4 USB 2.0 (On backplane)
2 USB3.0 (Pin-Header)	4 USB3.0 (Pin header)	2 USB3.0 (Pin-Header)
6	5	8
2 RS-232(Pin-Header)	1 (Shared w/ SATA0 port)	
2 RS-232(Pin-Header)	2 RS-232(Pin-Header)	1 RS-232(Pin-Header)
1(SPP/EPP/ECP)	1	-
1	1	-
Yes	Yes	Yes
System reset	System reset	System reset
Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min
PCA-AUDIO-HDA1E	PCA-AUDIO-HDB1E	PCA-AUDIO-HDA1E
Yes	Yes	Yes
Yes	Yes	Yes
Yes	-	Yes
Yes	Yes	-
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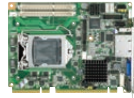


# PICMG 1.0 Single Board Computers



Model Name		Core™ 2 Quad PICMG 1.0 SBC	LGA1150 PICMG 1.0 SBC
		PCA-6011	PCA-6028
Processor System	CPU	Intel® Core™ 2 Quad/Core™ 2 Duo/ Pentium dual-Core™/Celeron LGA775 processors	Intel Core i7/i5/i3/Pentium LGA 1150 Processors
	Max. Speed	3.16 GHz	3.2GHz
	Max. L2 Cache	Up to 12 MB (Depend on CPU)	Up to 8MB
	Chipset	Intel® G41 + ICH7 (VG version only) Intel® G41 + ICH7R (G2 version only)	Intel H81
	BIOS	AMI 16 Mb SPI Flash	AMI 128Mbit SPI Flash
Bus	FSB	1333/1066/800 MHz	-
	PCI	32-bit/33 MHz PCI	32 bit/33 MHz PCI
	ISA	HISA (ISA High Drive)	HISA (ISA High Driver)
Graphics	Controller	Chipset integrated Intel® Graphics Media Accelerator X4500	Chipset integrated Intel HD Graphics
	VRAM	Shared with system memory up to 352 MB	Shared system memory is subject to OS
	LCD/DVI	DVI (Optional)	DVI (G2 version only)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel® 82583V LAN2: Intel® 82583V	LAN 1: Intel I217V LAN 2: Intel I211 (Only in G2 Sku)
	Connector	RJ-45 x 2	RJ45 x 1 (VG sku); RJ45 x 2 (G2 sku)
	Disabled in BIOS	Yes	Yes
Memory	Technology	Dual-channel DDR3 1066/800 MHz	Dual channel (Non-ECC) DDR3 1333/1600 MHz
	Max. Capacity	8 GB	16 GB (8 GB per DIMM)
	Socket	240-pin DIMM x 2	DDR3 240-pin DIMM x 2
SATA	Max. Data Transfer Rate	300 MB/s	600 MB/s
	Channel	4	4 (1x SATA2.0, 2x SATA3.0, 1x mSATA)
EIDE	RAID	0, 1, 5, 10 (G2 version only)	-
	Mode	ATA 100/66/33	-
	Channel	1 (Max. two devices)	-
I/O Interface	USB	8 (USB 2.0, for VG version) 7 (USB 2.0, for G2 version)	Up to 8 x USB2.0 (6x pin header, 1x type A, 1x rear in G2 sku only) 2x USB3.0 (Pin header)
	Serial	2 (RS-232)	2 RS-232 (Pin-Header)
	Parallel	1 (SPP/EPP/ECP)	1
	FDD	1	-
	PS/2	1	1
	LAN	1 (for VG version) 2 (for G2 version)	1 (for VG version) 2 (for G2 version)
	OBS (Hardware Monitor)	Yes	Yes
Watchdog Timer	Output	System reset	System reset
	Interval	Programmable, 1~255 sec	Programmable, 1~255 sec
Miscellaneous	Audio	PCA-AUDIO-HDA1E	PCA-AUDIO-HDA1E
	Advantech SNMP-1000-B	Yes	Yes
	Advantech SAB-2000	Yes	Yes
	Solid State Disk	(Optional)	mSATA
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# Half-Size Single Board Computers



Specifications		PCIe Half-Size SBC	
		PCE-3026	PCE-3028
Processor System	CPU	Intel® Core™ i7/i5/i3/Pentium/Celeron LGA1155 processor	Intel Core i7/i5/i3/Pentium LGA 1150 Processor
	Speed	up to 3.4 GHz	Up to 3.5 GHz
	L2 Cache	up to 8 MB	Up to 8MB
	Chipset	Intel® H61	Intel H81
	BIOS	AMI 64 Mbit SPI Flash	AMI 128 Mbit SPI Flash
Bus	FSB	-	-
	PCIe	One PCIe x16, Four PCIe x1	One PCIe16, Four PCIe1
	PCI	-	-
Graphics	ISA	-	-
	Controller	Chipset integrated graphics with Intel® HD	Chipset integrated graphics with Intel HD
	VRAM	Shared with system memory is subject to OS	Shared with system memory is subject to OS
Ethernet	Video output	D-sub VGA port, DVI	D-sub VGA port, DVI
	Interface	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel® 82579V LAN2: Intel® 82583V	LAN1: Intel® I217V LAN2: Intel® I211AT
	Connector	RJ-45 x 2	RJ-45 x2
	Disabled in BIOS	Yes	Yes
Memory	Technology	Dual-Chnnel DDR3 1066/1333 MHz	Dual-channel DDR3 1066/1333/1600 MHz
	Max. Capacity	16 GB	16 GB
	Socket	204-pin SODIMM x 2	204-pin SODIMM x2
SATA	Max. Data Transfer Rate	300 MB/s	600 MB/s, 300 MB/s
	Channel	3	4
EIDE	RAID	-	-
	Mode	-	-
I/O Interface	Channel	-	-
	USB	8 USB 2.0	2 USB 3.0 + 8 USB 2.0
	Serial	2 x RS-232 Optional: 4 x RS-422/485 w/Auto-flow or 4 RS-232 by COM module	2 x RS-232 Optional: 4x RS-422/485 w/Auto-flow or 4 x RS-232 by COM module
	Parallel	1	1
	FDD	-	-
	PS/2	1	1
	LAN	2	2
Watchdog Timer	OBS (Onboard Security Hardware Monitor)	-	-
	Output	System reset	System reset
Miscellaneous	Interval	Programmable 1-255 sec/min	Programmable 1-255 sec
	Audio	PCA-AUDIO-HDA1E	PCA-AUDIO-HDA1E
	Advantech SNMP-1000	-	-
	IPMI	-	-
	Solid State Disk	-	-
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# Half-Size Single Board Computers



Specifications		PCIe Half-Size SBC		PCI Half-Size SBC
		PCE-3029	PCE-4129	PCI-7032
Processor System	CPU	Intel Core i7/i5/i3/Pentium LGA 1151 Processor	Intel Xeon E3-1200v5 series, Core i7/i5/i3 LGA1151 processors	Intel Celeron J1900/N2930
	Speed	Up to 3.7 GHz	Up to 3.7 GHz	2.00/1.83 GHz
	L2 Cache	Up to 8 MB	Up to 8 MB	2MB/2MB
	Chipset	Intel H110	Intel C236	Intel Celeron J1900/N2930 SOC
	BIOS	AMI 128 Mbit SPI Flash	AMI 128 Mbit SPI Flash	AMI 64 Mbit SPI Flash
Bus	FSB	-	-	-
	PCIe	One PCIe x16, Four PCIe x1	One PCIe x16 or Two PCIe x8, Four PCIe x1	One PCIe x 1 (F SKU) Only
	PCI	-	-	32-bit/33 MHz PCI
Graphics	ISA	-	-	-
	Controller	Chipset integrated graphics with Intel HD	Chipset integrated graphics with Intel HD	Chipset integrated graphics with Intel® HD
	VRAM	Shared with system memory is subject to OS	Shared with system memory is subject to OS	Shared with system memory is subject to OS
Ethernet	Video output	VGA, DVI, DP	VGA, DVI, DP	D-sub VGA port, 48-bit LVDS, DVI
	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel® I219V LAN2: Intel® I211AT	LAN1: Intel® I219LM LAN2: Intel® I210AT	LAN1: Intel® I211 LAN2: Intel® I211
Memory	Connector	RJ-45 x2	RJ-45 x2	RJ-45 x 2
	Disabled in BIOS	Yes	Yes	Yes
	Technology	Dual-channel DDR4 1866/2133 MHz	Dual channel DDR4 ECC 1866/2133 MHz (ECC function enable depends on processor support)	Dual-Chnnel DDR3L 1333
SATA	Max. Capacity	32 GB	32GB	8GB (for G2/F SKU) 4GB (for VG SKU)
	Socket	260-pin SODIMM x2	260-pin SO-DIMM X2	204-pin SODIMM x 2 (for G2/F SKU) 204-pin SODIMM x 1 (for VG SKU)
	Max. Data Transfer Rate	600MB/s	600MB/s	300 MB/s
EIDE	Channel	4	4	2 (SATA 2 can change mSATA)
	RAID	-	0,1,5,10	-
I/O Interface	Mode	-	-	-
	Channel	-	-	-
	USB	3 USB 3.0 + 7 USB 2.0	3 USB 3.0 + 7 USB 2.0	1 USB 3.0 + 6 USB 2.0 (for G2/F SKU) 1 USB 3.0 + 5 USB 2.0 (for VG SKU)
	Serial	2 x RS-232 Optional: 4x RS-422/485 w/Auto-flow or 4 x RS-232 by COM module	2 x RS-232 Optional: 4x RS-422/485 w/auto-flow or 4 x RS232 by COM module	4 x RS-232/422/485 (for G2/F SKU) 2 x RS-232/422/485 (for VG SKU) Optional: 4 x RS-422/485 w/Auto-flow or 4 RS-232 by COM module
	Parallel	1	1	1
	FDD	-	-	-
	PS/2	1	1	1
	LAN	2	2	2 (for G2/F SKU) 1 (for VG SKU)
Watchdog Timer	OBS (Onboard Security Hardware Monitor)	Yes	Yes	Yes (G2 SKU only)
	Output	System reset	System reset	System reset
Miscellaneous	Interval	Programmable 1-255 sec	Programmable 1-255 sec	Programmable, 1~255 sec/min
	Audio	PCA-AUDIO-HDB1E	PCA-AUDIO-HDA1E	PCA-AUDIO-HDB1E
	Advantech SNMP-1000	-	-	-
	IPMI	-	-	-
Page	Solid State Disk	mSATA x 1	mSATA x 1	mSATA x 1
		6-30	6-34	6-36



**ISA Half-Size SBC**

PCA-6782	PCA-6763	PCA-6742	PCA-6743
Intel® Atom™ D525/N455	AMD G-Series APU T16R	Advantech EVA-X4300	DM&P Vortex86DX
D525 1.8 GHz/N455 1.66 GHz	615 MHz	300 MHz	800 MHz
512 KB (N455)/1 MB (D525)	512 KB	L1 Cache 32 KB	256 KB
Intel® Atom™ D525/N455+ICH8M	AMD T16R+A55E	Advantech EVA-X4300	DM&P Vortex86DX
AMI 16 Mbit SPI Flash	AMI 64 Mbit SPI Flash	Award integrated 256 KB ROM in EVA-X4300	Award integrated 256 KB ROM in Vortex86DX
-	-	-	-
-	-	-	-
-	-	-	-
16-bit ISA Bus	16-bit ISA Bus	8/16-bit 8 MHz ISA	16-bit ISA Bus
Embedded Gen3.5+ GFX Core™ technology	Radeon HD 6250	SMI 712 graphic controller	SMI 712 graphic controller
Shared with system memory up to 224 MB	Shared with system memory up to 384MB	4 MB display memory	4 MB display memory
D-sub VGA port, 18 bit LVDS	D-sub VGA port, LVDS (48-bit for G2 SKU, 18-bit for VG SKU), DVI	D-Sub VGA port, 18/24 bit TTL or 18/24 bit LVDS (optional)	D-Sub VGA port, up to 24 bit TTL or 18 bit LVDS (optional)
10/100/1000 Mbps	10/100/1000 Mbps	10/100 Mbps	10/100 Mbps
Intel® 82567V	LAN1: Intel® I211 LAN2: Intel® I211	Realtek RTL8100C (VE)	LAN on Vortex86DX
RJ-45 x 1	RJ-45 x 2	RJ-45 x 1	RJ-45 x 1
Yes	Yes	Yes	Yes
Single-Channel DDR2 667 MHz (for PCA-6782N) Single-Channel DDR2 667/800 MHz (for PCA-6782D)	Onboard 1GB DDR3 1066 MHz SODIMM DDR3 1066 MHz up to 4GB	Default onboard DDR 2 166MHz	Default onboard DDR2 (for VE SKU) Default onboard DDR2 (for F SKU)
2 GB	5GB	64 MB	256 MB (for VE SKU) 512 MB (for F SKU)
200-pin SODIMM x 1	204-pin SODIMM x 1	-	-
300 MB/s	300 MB/s	-	150 MB/s
3	2 (SATA 2 can change mSATA)	-	1 (for F SKU)
-	-	-	-
ATA 100/66/33	-	UDMA 100	UDMA 100
1 (Max. 2 devices)	-	1 (Max. 2 devices)	1 (Max. 2 devices)
8 USB 2.0	7 USB 2.0 (for G2 SKU) 6 USB 2.0 (for VG SKU)	4 USB 2.0	4 USB 2.0
2 x RS-232 Optional: 4 x RS-422/485 w/Auto-flow by COM module	2 x RS-232 Optional: 4 x RS-422/485 w/Auto-flow by COM module	1 x RS-232/422/485 3 x RS-232	F SKU: 2 x RS-232/422/485 & 2 x RS-232 VE SKU: 2 x RS-232
1	1	1	1
1	1	-	1
1	1	1	1
1	2 (for G2/F SKU) 1 (for VG SKU)	1 (VE)	1
-	-	-	-
System reset	System reset	System reset/IRQ11	System reset/IRQ11
Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min
PCA-AUDIO-HDA1E	PCA-AUDIO-HDA1E	-	-
-	-	-	-
-	-	-	-
CompactFlash Type I/II	mSATA x 1	CompactFlash Type I/II	CompactFlash Type I/II
online	6-42	6-38	6-40

- Industrial I/O **1**
- Intelligent Video Solution **2**
- Intelligent Transportation Platforms **3**
- Intelligent Inspection Systems **4**
- Modular-IPCs **5**
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- Industrial Storage **11**
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# PICMG1.3 Full-Size SHB Backplanes

## Server Grade: Compatible with PCE-7000 Series CPU Boards

Category	Model Name	PCIe				PCI-X			PCI	Category	Model Name	Wallmount/Desktop Chassis			
		x16	x8	x4	x1	64/66	64/100	64/133	32/33			IPC-6025	IPC-6606	IPC-6806(W)	IPC-6608
2U Butterfly BP	PCE-7B06V-04A1E	-	1	-	-	-	-	-	4	2U Butterfly BP	PCE-7B06V-04A1E	-	-	-	-
8 slots BP	PCE-7B08-04A1E	-	2	1	-	-	-	-	4	8 slots BP	PCE-7B08-04A1E	-	-	-	V
14 slots BP	PCE-7B09R-04A1E	-	1	3	-	-	-	-	4	14 slots BP	PCE-7B09R-04A1E	-	-	-	-
	PCE-7B10-04A1E	-	-	5	-	-	-	-	4		PCE-7B10-04A1E	-	-	-	-
	PCE-7B13-64C1E	-	2	-	-	4	2	-	4		PCE-7B13-64C1E	-	-	-	-
	PCE-7B13-07A1E	-	2	3	-	-	-	-	7		PCE-7B13-07A1E	-	-	-	-
PCE-7B13D-04A1E	-	1, 2	-	-	-	-	-	4	PCE-7B13D-04A1E		-	-	-	-	
20 slots BP	PCE-7B17-00A1E	-	5	11	-	-	-	-	-	20 slots BP	PCE-7B17-00A1E	-	-	-	-

Category	Model Name	Rackmount Chassis															
		ACP-1010	ACP-1320	ACP-2000EBP	IPC-602EBP	IPC-510	IPC-610	IPC-611	ACP-4000	ACP-4010	ACP-4320	ACP-4340	ACP-4360	IPC-623	IPC-622		
		2-slot / 1U		6-slot / 2U		15-slot / 4U										20-slot / 4U	20-slot / 6U
2U Butterfly BP	PCE-7B06V-04A1E	-	-	V	V	-	-	-	-	-	-	-	-	-	-	-	-
8 slots BP	PCE-7B08-04A1E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14 slots BP	PCE-7B09R-04A1E	-	-	-	-	V	V	V	V	V	V	V	V	-	-	-	-
	PCE-7B10-04A1E	-	-	-	-	V	V	V	V	V	V	V	V	-	-	-	-
	PCE-7B13-64C1E	-	-	-	-	V	V	V	V	V	V	V	V	-	-	-	-
	PCE-7B13-07A1E	-	-	-	-	V	V	V	V	V	V	V	V	-	-	-	-
20 slots BP	PCE-7B17-00A1E	-	-	-	-	-	-	-	-	-	-	-	-	V	V	-	

## Desktop: Compatible with PCE-5000 Series CPU Boards

Category	Model Name	PCIe				PCI-X			PCI	Category	Model Name	Wallmount/Desktop Chassis					
		x16	x8	x4	x1	64/66	64/100	64/133	32/33			IPC-6025	IPC-6606	IPC-6806	IPC-6806W	IPC-6608	IPC-7132
1U Butterfly BP	PCE-5B03V-01A1E	1	-	-	-	-	-	-	1	1U Butterfly BP	PCE-5B03V-01A1E	-	-	-	-	-	-
	PCE-5B03V-00A1E	1	1	-	-	-	-	-	-		PCE-5B03V-00A1E	-	-	-	-	-	-
2U Butterfly BP	PCE-5B05V-30B1E	1	-	-	-	-	2	1	-	2U Butterfly BP	PCE-5B05V-30B1E	-	-	-	-	-	-
	PCE-5B06V-00A1E	1	-	-	4	-	-	-	-		PCE-5B06V-00A1E	-	-	-	-	-	-
	PCE-5B06V-04A1E	1	-	-	-	-	-	-	4		PCE-5B06V-04A1E	-	-	-	-	-	-
5 slot BP	PCE-5B04-20B1E	1	-	-	-	-	-	2	-	5 slot BP	PCE-5B04-20B1E	V	-	-	-	-	-
	PCE-5B05-02A1E	1	-	1	-	-	-	-	2		PCE-5B05-02A1E	V	-	-	-	-	-
	PCE-5B05-03A1E	1	-	-	-	-	-	-	3		PCE-5B05-03A1E	V	-	-	-	-	-
	PCE-5B05-04A1E	-	-	-	-	-	-	-	4		PCE-5B05-04A1E	V	-	-	-	-	-
6 slot BP	PCE-5B06-00A1E	1	-	-	4	-	-	-	-	6 slot BP	PCE-5B06-00A1E	-	V	-	V	-	-
	PCE-5B06-03A1E	1	-	1	-	-	-	-	3		PCE-5B06-03A1E	-	V	-	V	-	-
	PCE-5B06-04A1E	1	-	-	-	-	-	-	4		PCE-5B06-04A1E	-	V	-	V	-	-
8 slot BP	PCE-5B07-04A1E	1	-	1	-	-	-	-	4	8 slot BP	PCE-5B07-04A1E	-	-	-	-	V	-
	PCE-5B08-02A1E	1	-	-	4	-	-	-	2		PCE-5B08-02A1E	-	-	-	-	V	-
10 slot BP	PCE-5B09-04A1E	1	-	3	-	-	-	-	4	10 slot BP	PCE-5B09-04A1E	-	-	-	-	-	V
	PCE-5B09-06A1E	1	-	1	-	-	-	-	6		PCE-5B09-06A1E	-	-	-	-	-	V
14 slot BP	PCE-5B10-04A1E	1	-	-	4	-	-	-	4	14 slot BP	PCE-5B10-04A1E	-	-	-	-	-	-
	PCE-5B12-07A1E	1	-	3	-	-	-	-	7		PCE-5B12-07A1E	-	-	-	-	-	-
	PCE-5B12-64C1E	1	-	-	-	4	2	-	4		PCE-5B12-64C1E	-	-	-	-	-	-
	PCE-5B13-08A1E	1	-	-	3	-	-	-	8		PCE-5B13-08A1E	-	-	-	-	-	-
PCE-5B12D-04A1E	1	-	-	-	-	-	-	4	PCE-5B12D-04A1E		-	-	-	-	-	-	
20 slot BP	PCE-5B12-00A1E	10	-	1	-	-	-	-	-	20 slot BP	PCE-5B12-00A1E	-	-	-	-	-	-
	PCE-5B16Q-02A1E	1	-	-	-	-	-	-	2		PCE-5B16Q-02A1E	-	-	-	-	-	-
	PCE-5B18-88B1E	1	-	-	-	8	-	-	8		PCE-5B18-88B1E	-	-	-	-	-	-
	PCE-5B19-00A1E	17	-	1	-	-	-	-	-		PCE-5B19-00A1E	-	-	-	-	-	-



# PCI/ISA Backplanes

## Selection Guide

Yes: supported/- : not supported/Δ : optional

Category	Model Name	Slot per segment					Segment	AT	ATX	1U Chassis		2U Chassis		4U Chassis		
		ISA	PCI	PICMG	PICMG/PCI	ISA/PCI				ACP-1010	ACP-1320	ACP-2000	IPC-602	IPC-510	IPC-610	IPC-611
										2-slot	2-slot	6-slot	6-slot	15-slot	15-slot	15-slot
1U Butterfly BP	PCA-6103P2V-0A2E*	-	2	1	-	-	1	-	Yes	Yes	Yes	-	-	-	-	-
2U Butterfly BP	PCA-6105P4V-0B3E*	-	4	1	-	-	1	-	Yes	-	-	Yes	Yes	-	-	-
	PCA-6106P3V-0B2E*	1	3	2	-	-	1	Yes	Yes	-	-	Yes	Yes	-	-	-
5 Slot BP	PCA-6105P3-5A1E	1	2	1	-	-	1	-	Yes	-	-	-	-	-	-	-
6/8 Slot BP	PCA-6106P4-0A2E	-	4	2	-	-	1	Yes	Yes	-	-	-	-	-	-	-
	PCA-6106P3-0D2E	2	2	1	1	-	1	Yes	Yes	-	-	-	-	-	-	-
	PCA-6108P6-0C1E	1	5	1	1	-	1	Yes	Yes	-	-	-	-	-	-	-
	PCA-6108P4-0C2E	3	3	1	1	-	1	Yes	Yes	-	-	-	-	-	-	-
	PCA-6108-0B2E	8	-	-	-	-	1	Yes	Yes	-	-	-	-	Yes	Yes	Yes
14/15 Slot BP	PCA-6114P12-0B3E	1	11	1	1	-	1	Yes	Yes	-	-	-	-	Yes	Yes	Yes
	PCA-6114P10-0B2E	2	10	2	-	-	1	Yes	Yes	-	-	-	-	Yes	Yes	Yes
	PCA-6114P7-0E1E	4	6	3	-	-	1	Yes	Yes	-	-	-	-	Yes	Yes	Yes
	PCA-6114P4-0C2E	8	4	2	-	-	1	Yes	Yes	-	-	-	-	Yes	Yes	Yes
	PCA-6113P4R-0C2E	7	4	2	-	-	1	Yes	Yes	-	-	-	-	Yes	Yes	Yes
	PCA-6114-0B2E	14	-	-	-	-	1	Yes	Yes	-	-	-	-	-	-	-
	PCA-6113DP4-0A2E	1	3,4	1,2	1,0	-	2	Yes	Yes	-	-	-	-	-	-	-
20 Slot BP	PCA-6120P18-0A2E	1	17	1	1	-	1	Yes	Δ	-	-	-	-	-	-	-
	PCA-6120P4-0B2E	14	4	2	-	-	1	Yes	Δ	-	-	-	-	-	-	-
	PCA-6120P12-0A2E	7	11	1	1	-	1	Yes	Δ	-	-	-	-	-	-	-
	PCA-6119P7-0C1E	10	7	2	-	-	1	Yes	Δ	-	-	-	-	-	-	-
	PCA-6120Q-0B2E	5	-	-	-	-	4	Yes	Δ	-	-	-	-	-	-	-

Category	Model Name	4U Chassis						6U Chassis	Wallmount/Desktop Chassis				Cage	
		ACP-4000	ACP-4010	ACP-4320	ACP-4340	ACP-4360	IPC-623	IPC-622	IPC-6608	IPC-6606	IPC-6806/IPC-6806W	IPC-6025	IPC-6006	
		15-slot	15-slot	15-slot	15-slot	15-slot	20-slot	20-slot	8-slot	6-slot	6-slot	5-slot	6-slot	
1U Butterfly BP	PCA-6103P2V-0A2E*	-	-	-	-	-	-	-	-	-	-	-	-	-
2U Butterfly BP	PCA-6105P4V-0B3E*	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCA-6106P3V-0B2E*	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Slot BP	PCA-6105P3-5A1E	-	-	-	-	-	-	-	-	-	-	Yes	-	
6/8 Slot BP	PCA-6106P4-0A2E	-	-	-	-	-	-	-	-	Yes	Yes	-	Yes	
	PCA-6106P3-0D2E	-	-	-	-	-	-	-	-	Yes	Yes	-	Yes	
	PCA-6108P6-0C1E	-	-	-	-	-	-	-	Yes	-	-	-	-	
	PCA-6108P4-0C2E	-	-	-	-	-	-	-	Yes	-	-	-	-	
14/15 Slot BP	PCA-6114P12-0B3E	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	
	PCA-6114P10-0B2E	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	
	PCA-6114P7-0E1E	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	
	PCA-6114P4-0C2E	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	
	PCA-6113P4R-0C2E	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	
	PCA-6114-0B2E	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	
20 Slot BP	PCA-6113DP4-0A2E	-	Yes	-	-	-	-	-	-	-	-	-	-	
	PCA-6120P18-0A2E	-	-	-	-	-	Yes	Yes	-	-	-	-	-	
	PCA-6120P4-0B2E	-	-	-	-	-	Yes	Yes	-	-	-	-	-	
	PCA-6119P7-0C1E	-	-	-	-	-	Yes	Yes	-	-	-	-	-	
	PCA-6119P7-0B3E	-	-	-	-	-	Yes	Yes	-	-	-	-	-	
PCA-6120Q-0B2E	-	-	-	-	-	Yes	Yes	-	-	-	-	-		

Remarks:  
\* : only Compatible with Advantech's 1U/2U chassis

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
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- Industrial Storage 11
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- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# Backplanes Compatible with Half-Size SBCs

## Selection Guide

Yes : supported /- : not supported

Interface	Category	Model Name	Slots per segment							Segment
			ISA	PCI	PCIe x16	PCIe x 8	PCIe x4	PCIe x1	PICMG	
Pure ISA Backplane	-	PCA-6104-0C2E	3	-	-	-	-	-	1	1
	6-slot	PCA-6106-0B2E	5	-	-	-	-	-	1	1
	-	PCA-6108-0B2E *	7	-	-	-	-	-	1	1
	8-slot	PCA-6108E-0C2E	7	-	-	-	-	-	1	1
Pure PCI Backplane	-	PCA-6104P4-0B2E	-	3	-	-	-	-	1	1
	6-slot	PCA-6105P5-0B2E	-	4	-	-	-	-	1	1
	8-slot	PCA-6108P8-0A2E	-	7	-	-	-	-	1	1
PCI/PCIe Backplane	1U	PCI-7103P1V-01A1E	-	1	-	-	1	-	1	1
PICMG1.3 Half-Size Backplanes	6-slot	PCE-3B03-00A1E	-	-	1	-	1	-	1	1
	6-slot	PCE-3B06-00A1E	-	-	1	-	-	4	1	1
	6-slot	PCE-3B06-03A1E	-	3	1	-	-	1	1	1
	6-slot	PCE-3B06-02A1E	-	2	1	-	-	2	1	1
	3-slot	PCE-3B03A-00A1E	-	-	1	-	1	-	1	1
	3-slot	PCE-3B03-01A1E	-	1	1	-	-	-	1	1
	14-slot	PCE-3B12-08A1E	-	8	1	-	-	2	1	1
	14-slot	PCE-4B13-08A1E	-	8	-	2	-	2	1	1
	14-slot	PCE-4B12-03A1E	-	3	-	1	4	3	1	1
	14-slot	PCE-4B13-00A1E	-	-	-	1	11	-	-	-

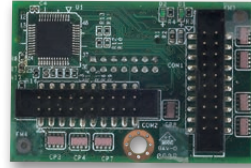
Interface	Model Name	AT	ATX	IPC-120	ACP-4020	ACP-4D00	IPC-6806S*	IPC-6006S	IPC-3026	IPC-3012
				Rackmount	Rackmount	Rackmount	Wallmount	Wallmount	Wallmount	Wallmount
				3-slot	14-slot	6-slot	6-slot	6-slot	6-slot	3-slot
Pure ISA Backplane	PCA-6104-0C2E	Yes	Yes	-	-	-	-	-	-	-
	PCA-6106-0B2E	Yes	Yes	-	-	-	Yes	Yes	Yes	-
	PCA-6108-0B2E	Yes	Yes	-	-	-	-	-	-	-
	PCA-6108E-0C2E	Yes	Yes	-	-	-	-	-	-	-
Pure PCI Backplane	PCA-6104P4-0B2E	Yes	Yes	-	-	-	-	-	-	-
	PCA-6105P5-0B2E	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-
	PCA-6108P8-0A2E	Yes	Yes	-	-	-	-	-	-	-
PCI/PCIe Backplane	PCI-7103P1V-01A1E	-	Yes	Yes	-	-	-	-	-	
Half-Size Backplanes	PCE-3B03-00A1E	-	Yes	-	-	Yes	Yes	-	Yes	-
	PCE-3B06-00A1E	-	Yes	-	-	Yes	Yes	-	Yes	-
	PCE-3B06-03A1E	-	Yes	-	-	Yes	Yes	-	Yes	-
	PCE-3B06-02A1E	-	Yes	-	-	Yes	Yes	-	Yes	-
	PCE-3B03A-00A1E	-	Yes	-	-	-	-	-	-	Yes
	PCE-3B03-01A1E	-	Yes	-	-	-	-	-	-	Yes
	PCE-3B12-08A1E	-	Yes	-	Yes	-	-	-	-	-
	PCE-4B13-08A1E	-	Yes	-	Yes	-	-	-	-	-
	PCE-4B12-03A1E	-	Yes	-	Yes	-	-	-	-	-
	PCE-4B13-00A1E	-	Yes	-	Yes	-	-	-	-	-

# Extension Modules for Slot SBCs



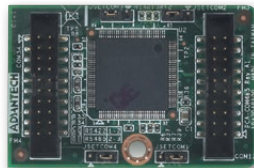
## PCA-AUDIO-HDA1E

- 7.1 Channel HD Audio Extension Module
- Line-in, Mic-in, Lin-out, Front-out, Speaker-out, Rear-out, Subcen-out, Side-out
- Dimensions (L x H) : 47.5 x 80.74 mm (1.87" x 3.17")



## PCA-COM232-00A1E

- 4 RS-232 series ports extension module by LPC connector on CPU card.
- Dimensions (L x H) : 31.5 x 48 mm (1.24" x 1.88")



## PCA-COM485-00A1E

- 4 RS-422/485 series ports extension module by LPC connector on CPU card.
- With Auto-flow control function
- Dimensions (L x H) : 31.5 x 48 mm (1.24" x 1.88")



## PCE-SA01-00A1E

- I/O extension stack board
- 1 DP, 2 USB 3.0, MIC-in, LINE-out
- Dimensions (L x H) : 68 x 125 mm (2.67" x 4.92")
- Supports Model: PCE-3029, PCE-4128, PCE-4129



## PCA-5650-00A1E

- 2 VGA output Mini PCI Express Graphic card
- GPU: Silicon Motion SM750
- VGA output: 1920 x 1080, up to 75Hz vertical rate
- 16 Mb of embedded DDR memory



## PCA-TPM-00A1E

- Trusted platform module compliant with TCG 1.2 specification and TCG software stack 1.2 via LPC connector on CPU card
- Hardware based data protection solution for storage device encryption and decryption
- Dimensions (L x H) : 31.5 x 30.5 mm (1.24" x 1.2")



## IPMI-1000-00A1E

- IPMI2.0 Server-grade remote control solution
- OS independent hardware-based solution
- Real-time and centralized management
- KVM over IP remote control function
- User friendly UI and utility
- Supports Model: PCE-5126WG2, PCE-7127, PCE-5128



## PCA-TPM-00B1E

- Trusted platform module compliant with TCG 2.0 specification and TCG software stack 2.0 via LPC connector on CPU card
- Hardware based data protection solution for storage device encryption and decryption
- Dimensions (L x H) : 31.5 x 30.5 mm (1.24" x 1.2")

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Intelligent Inspection Systems 4

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Industrial Chassis 8

Industrial Server Motherboards 9

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Industrial Storage 11

GPU Servers 12

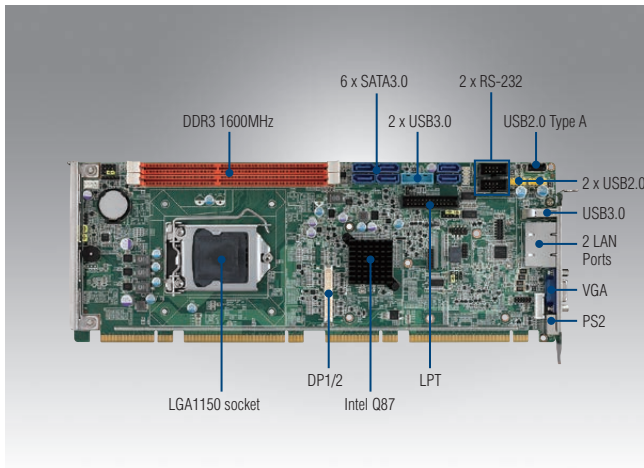
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# PCE-5128

**LGA1150 Intel® Core™i7/i5/i3/Pentium® SHB DDR3/SATA 3.0/USB3.0/Dual GbE/ 3 Displays**



## Features

- Supports Intel® Core™ i7/i5/i3 LGA1150 processors with Q87
- Dual Channel (Non-ECC) DDR3 1333/1600 up to 16 GB
- Supports PCIe 3.0, USB 3.0, SATA3.0, SW Raid 0, 1, 5, 10
- Supports CRT and 2 x DP/DVI-D (optional) display
- Supports out-of-band remote management with AMT9.0
- Supports Advantech TPM module (LPC I/O)
- Supports SUSIAccess and Embedded Software APIs

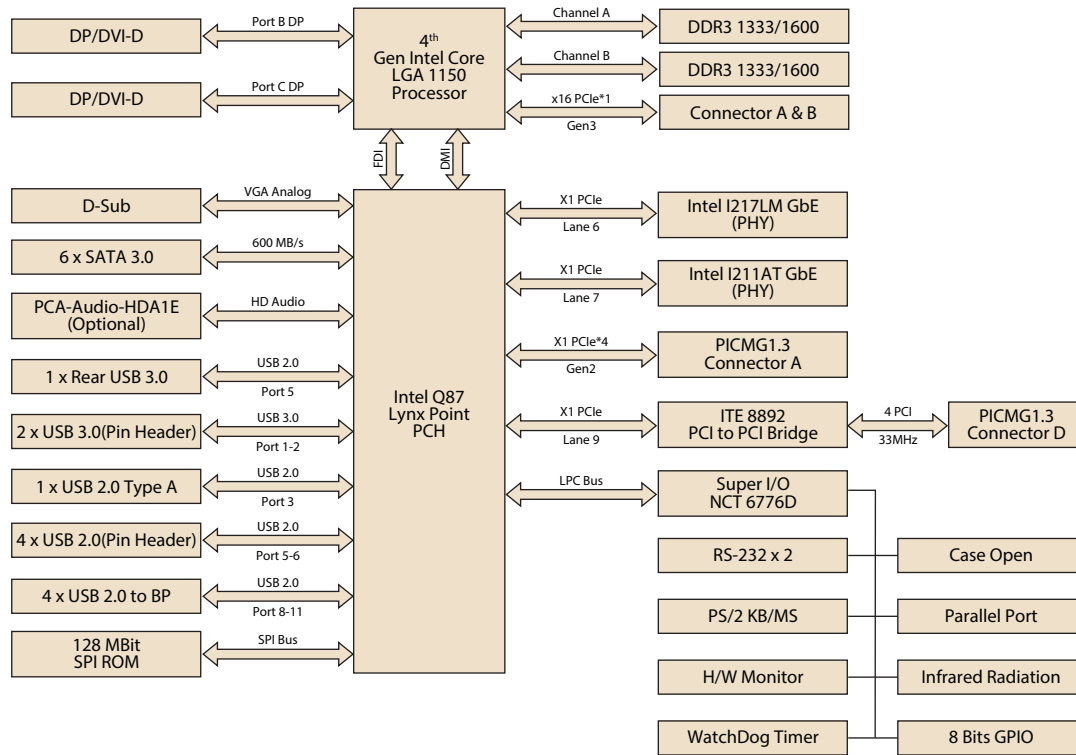
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## Specifications

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Processor System		Haswell refresh CPUs are supported from BIOS V2.xx						
	CPU	i7-4790S	i5-4590S	i5-4590T	i3-4360	i3-4350T	i3-4340TE	
	Base Frequency	3.2GHz	3.0GHz	2.0GHz	3.7GHz	3.1GHz	2.6GHz	
	L3 Cache	8MB	6MB	6MB	4MB	4MB	4MB	
Processor System		Haswell CPUs are supported by both BIOS V1.xx and V2.xx						
	CPU	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	G3420 G3320TE
	Base Frequency	3.1GHz	2.3GHz	2.9GHz	2.7GHz	3.5GHz	2.4GHz	3.2GHz 2.3GHz
	L3 Cache	8MB	8MB	6MB	4MB	3MB	3MB	3MB 3MB
	SKU/Chipset	Intel Q87						
	BIOS	AMI 128Mbit SPI Flash						
Bus		PCI-Express One x16 plus four x1 to backplane						
	PCI	Four 32-bit 33 MHz PCI Masters to backplane						
Memory		Technology Dual channel (Non-ECC) DDR3 1333/1600 UDIMM						
	Max. Cap.	16 GB (8 GB per DIMM)						
	Socket	DDR3 240-pin DIMM x 2						
Graphics		Controller Chipset integrated Intel HD Graphics						
	VRAM	Shared system memory is subject to OS						
	CRT	Supports resolution up to 1920 x 2000 pixel at 60Hz						
	DVI-D	Supports resolution up to 1920 x 1200 pixel at 60Hz						
	Triple Display	CRT+DP/DVI-D+DP/DVI-D						
Ethernet		Interface 10/100/1000 Mbps						
	Controller	LAN 1: Intel I217LM LAN 2: Intel I211AT						
	Connector with LED	RJ-45 x 2						
SATA		S/W Raid 0, 1, 5, 10 SATA 3.0 x 6 (600 MB/sec)						
Rear I/O		USB 3.0 1						
	Ethernet	2						
	VGA	1						
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)						
Internal Connector		USB Night USB2.0 (Pin-header*4+USB Type A*1+ 4 on backplane); Two USB3.0 (Pin header)						
	SATA	6						
	DP/DVI-D	2 (Pin header)						
	COM	2						
	Parallel	1						
	IrDA	1						
	GPIO	8-bit						
Watchdog Timer		Output System reset						
	Interval	Programmable 1-255 sec						
Miscellaneous		Audio Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDA1E)						
	Test Environment	Core i7-4770S DDR3 1600 8GB x 2						
Power Requirement		Operating					Non-operating	
	Voltage	+12V	+5V	+3.3V	+5Vsb	-12V	-5V	
	Current	4.02A	1.36A	0.81A	0.09A	0A	0A	
Environment		Operating					Non-operating	
	Temperature/Humidity	0 ~ 60 °C (32~140 °F); Depends on CPU frequency and cooler solution					-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing	
		Operating humidity: 40 °C @ 85% RH Non-Condensing						
Physical		Dimensions (L x H) 338 x 122 mm (13.3" x 4.8")						

## Block Diagram



## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP/ DVI-D	COM	SATA III	USB 2.0	USB 3.0	S/W Raid	AMT
PCE-5128G2-00A1E	Q87	Non-ECC	PCE-5BXX	2	Yes	2*	2	6	10	3	Yes	Yes

Note: Both DP and DVI-D cable are optional.

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700008461	4-port USB cable kit	x1
9689000068	Jumper package	x1
2190000902	Warranty Card	x1
2006512800	Startup manual	x1
2066512802	Utility CD	x1

## Optional Accessories

Part Number	Description
1960047831N001	PCE-5128 optimized CPU Cooler (2U)
PCA-AUDIO-HDA1E	Audio module
PCA-TPM-00A1E	TPM module(Trust Platform management)
PCA-COM232-00A1E	4 Ports RS-232 Module by LPC
PCA-COM485-00A1E	4 Ports RS-485/422 Module by LPC
1700020277-01	2 ports USB 3.0 cable w/ BKT(30cm)
1700021831-01	DP to DVI-D cable w/ BKT
PCE-DP10-00A1E	DP to DP cable w/ BKT

## I/O View



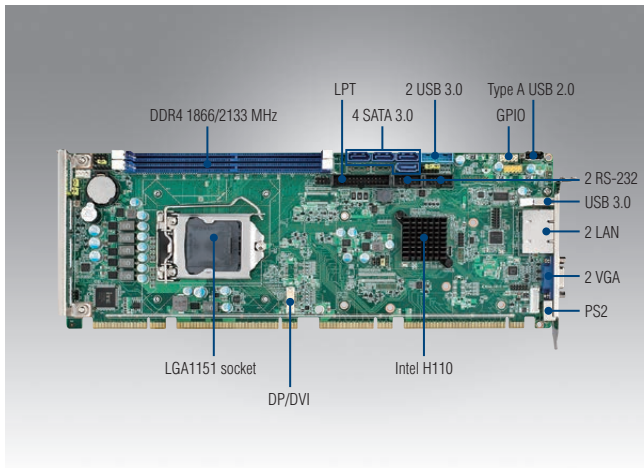
PCE-5128G2-00A1E

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# PCE-5029

## LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, Dual GbE, and Dual Displays



CE FCC

### Features

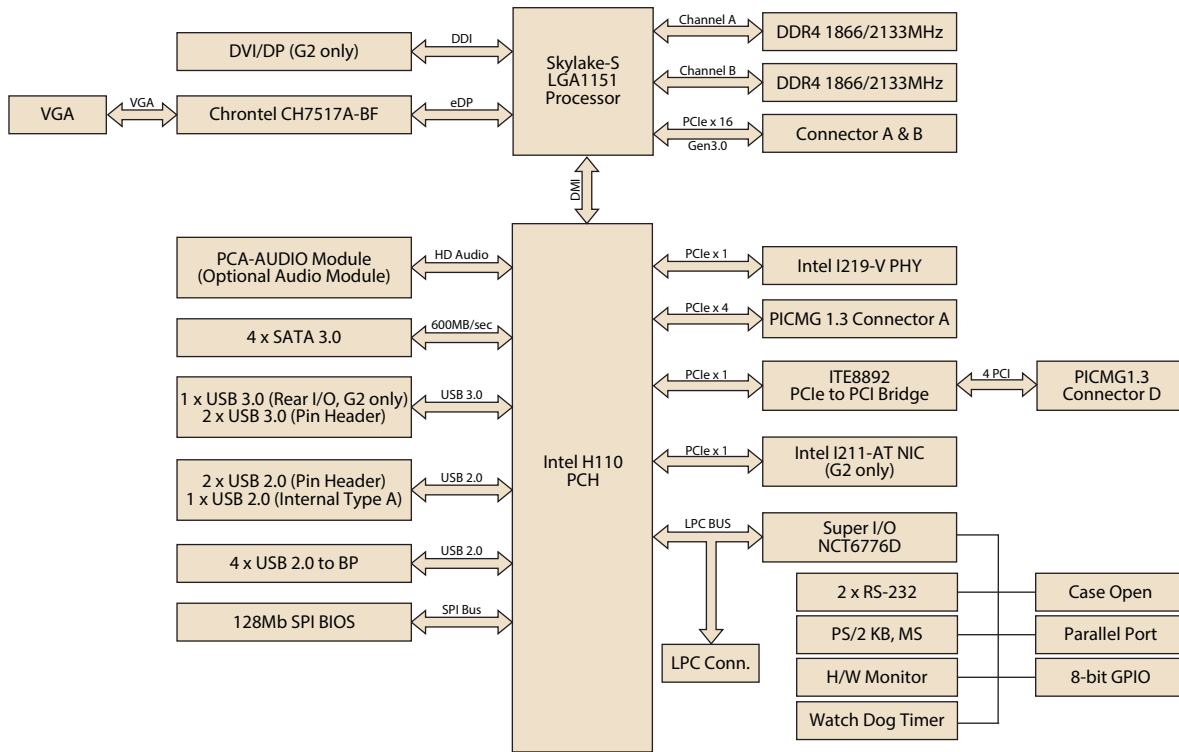
- Intel® Core™ i7/i5/i3 LGA1151 processor with H110 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 1866/2133 MHz
- PCIe 3.0, USB 3.0, and SATA 3.0 slots
- Supports CRT and DVI-D/DP display (with optional cable)
- Supports Advantech's LPC modules, SUSIAccess, and embedded software APIs

Note 1: Intel 7th generation processors only support Windows 10 (64-bit).

### Specifications

	CPU	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE	
Processor System	Speed	3.6GHz	2.9GHz	3.4 GHz	2.4 GHz	3.4GHz	2.7GHz	3.2 GHz	2.3 GHz	3.9GHz	3.4GHz	3.7 GHz	2.7 GHz	3.3 GHz	2.9 GHz	2.8 GHz	2.6 GHz	
	Cache	8MB	8MB	8 MB	8 MB	6MB	6MB	6 MB	6 MB	3MB	3MB	4 MB	4 MB	3 MB	3 MB	2 MB	2 MB	
	Socket	LGA 1151																
	Chipset	Intel H110																
	BIOS	AMI 128Mbit SPI Flash																
Bus	PCI-Express	1 x PCIe x16 and 1 x PCIe x4 to backplane																
	PCI	4 x PCI master to backplane, 32-bit, 33 MHz																
Memory	Technology	Dual-channel (non-ECC) U-DIMM DDR4 1866/2133 MHz																
	Max. Capacity	32 GB (16 GB per DIMM)																
	Socket	2 x DDR4 288-pin DIMM																
Graphics	Controller	Chipset integrated with Intel® HD Graphics																
	VRAM	Shared system memory is subject to OS																
	CRT	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz																
	DVI-D	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz																
	Display Port	Supports resolutions of up to 1920 x 1080 pixel @ 60 Hz																
Ethernet	Interface	10/100/1000 Mbps																
	Controller	LAN 1: Intel® I219-V LAN 2: Intel® I211-AT																
Rear I/O	Connector with LED	RJ45 x 2																
	USB 3.0	1 (G2 SKU)																
	Ethernet	1 (VG SKU); 2 (G2 SKU)																
	VGA	1																
	Serial	1 (VG SKU)																
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)																
	Internal Connector	USB	7 x USB 2.0 (pin header*2 + USB Type A*1 + 4 on backplane) 2 x USB 3.0 (pin header)															
DP/DVI-D	1 (Pin header)																	
COM	2 (G2 SKU) 1 (VG SKU)																	
Parallel	1																	
GPIO	8 bits																	
Watchdog Timer	Output	System reset																
	Interval	Programmable 1-255 sec																
Miscellaneous	Audio	Intel® High Definition audio interface (requires audio extension module PCA-AUDIO-HDB1E)																
Power Requirement	Test Environment	i7-6700, 3.4 GHz, 65 W, with 2 x 8-GB DDR4 2133																
	Voltage	+12V				+5V				+3.3V				+5Vsb				
	Current	2.64A				1.23A				0.19A				0.09A				
Environment	Operating	Non-operating																
	Temperature	0 ~ 60 °C (dependent on CPU and cooler solution) -40 ~ 85 °C																
	Humidity	40 °C @ 85% relative humidity (non-condensing) 60 °C @ 95% relative humidity (non-condensing)																
Physical	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")																

## Block Diagram



## Ordering Information

Part Number	Chipset	Memory	Backplane	Display	USB 3.0	USB 2.0	COM	GbE LAN	AMT	SATA	SW RAID	Intelligent System Module Support
PCE-5029G2-00A1E	H110	Non-ECC	PCE-5BXX	VGA + DVI/DP*	3	7	2	2	No	4	No	Yes
PCE-5029VG-00A1E	H110	Non-ECC	PCE-5BXX	VGA	2	7	2	1	No	4	No	No

\*Note: DP cable (P/N: PCE-DP10-00A1E) and DVI-D

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700002204	2-port USB cable kit	x1
9689000068	Jumper package	x1
2190000902	Warranty card	x1
2001512910	Startup manual	x1
2061512900	Utility CD	x1

## Optional Accessories

Part Number	Description
1700020277-01	2-port USB 3.0 cable w/ BKT (30 cm)
1700002204	2-port USB 2.0 cable w/ BKT (27 cm)
1700021831-01	DP to DVI-D cable w/ BKT for G2 SKU
1701090401	Single COM cable (40 cm)
1701092300	Dual COM cable (28.5 cm)
1960052651N021	CPU cooler for 2U, 4U, and wallmount chassis
1960049408N001	CPU cooler for 1U chassis
PCA-TPM-00A1E	TPM module
PCA-COM485-00A1E	4-port RS-422/485 LPC module
PCA-COM232-00A1E	4-port RS-232 LPC module
PCE-DP10-00A1E	DP redriver board (25 cm) for G2 SKU
PCA-AUDIO-HDB1E	Extension module for HD audio
PCA-TPM-00B1E	TPM 2.0 Module

## I/O View



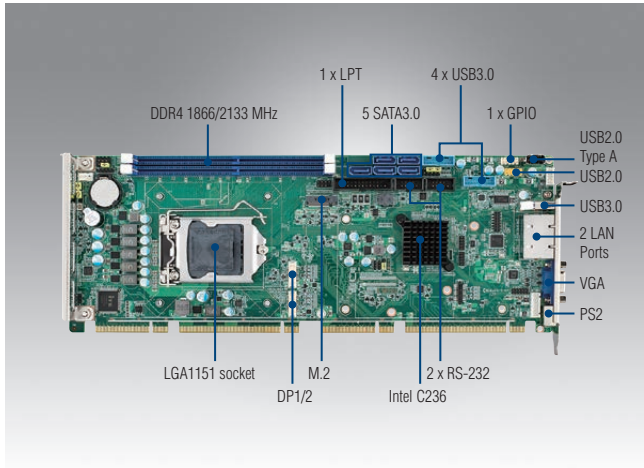
PCE-5029G2-00A1E



PCE-5029VG-00A1E

# PCE-5129

## LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, M.2, Dual GbE, and Triple Displays



### Features

- Intel® Core™ i7/i5/i3 LGA1151 processor with Q170 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 1866/2133 MHz
- PCIe 3.0, M.2, USB 3.0, SATA 3.0, and SW Raid 0, 1, 5, 10
- Supports out-of-band remote management with AMT 11.0
- Supports Advantech's LPC modules, SUSIAccess, and embedded software APIs

Note 1: Intel 7th generation processors only support Windows 10 (64-bit).

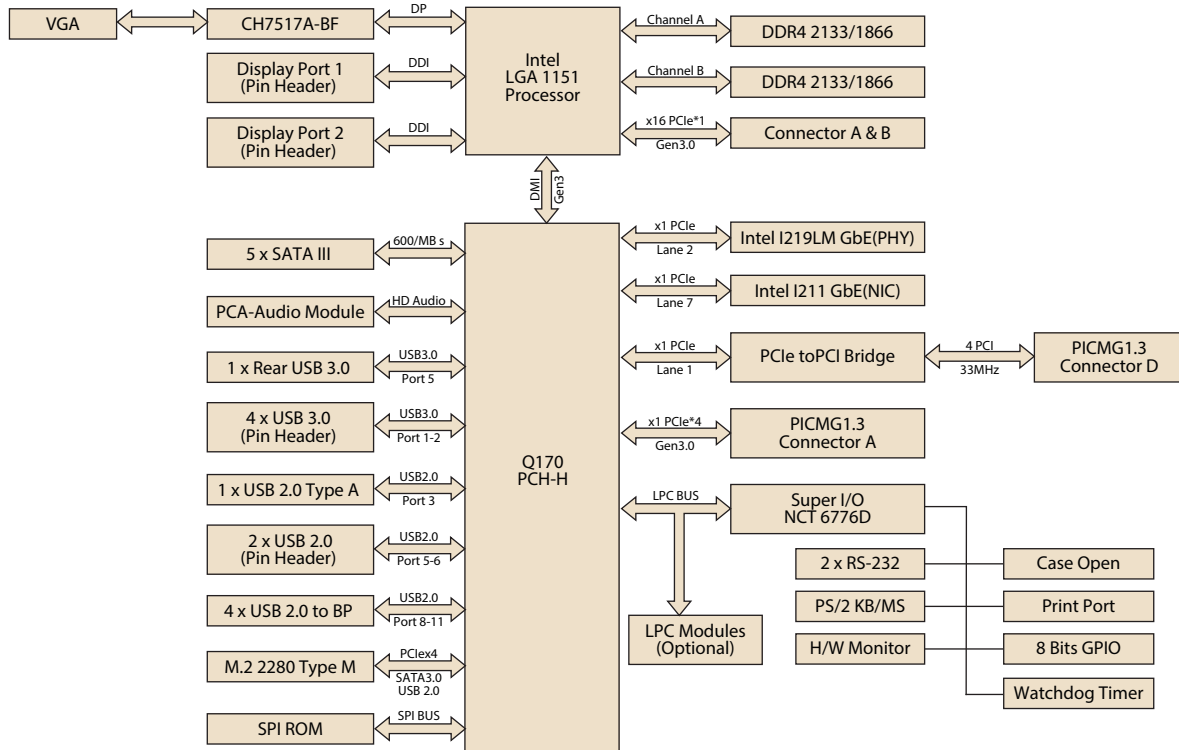
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### Specifications

Processor System	CPU	i7-	i7-	i7-	i7-	i5-	i5-	i5-	i5-	i3-	i3-	i3-	i3-	G4400	G4400TE	G3900	G3900TE	
	Speed	7700	7700T	6700	6700TE	7500	7500T	6500	6500TE	7101E	7101TE	6100	6100TE	3.6GHz	2.9GHz	3.4GHz	2.8GHz	2.6GHz
	L3 Cache	8MB	8MB	8MB	8MB	6MB	6MB	6MB	6MB	3MB	3MB	4MB	4MB	3MB	3MB	2MB	2MB	
	Socket	LGA1151																
	Chipset	Q170																
BIOS	AMI 128 Mbit SPI																	
Bus	PCI-Express	1 x PCIe x16 and 1 x PCIe x4 to backplane																
	PCI	4 x PCI master to backplane, 32-bit, 33 MHz																
Memory	Technology	Dual-channel (non-ECC) U-DIMM DDR4 1866/2133 MHz (supports x8 DDR4 1024 M)																
	Max. Capacity	32 GB (16 GB per DIMM)																
	Socket	2 x DDR4 288-pin DIMM																
Graphics	Controller	Chipset integrated with Intel® HD Graphics																
	VRAM	Shared system memory is subject to OS																
	CRT	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz																
	DVI-D	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz																
	Display Port	Supports resolutions of up to 1920 x 1080 pixel @ 60 Hz																
Triple Display	CRT+DP/DVI-D+DP/DVI-D																	
Ethernet	Interface	10/100/1000 Mbps																
	Controller	LAN 1: Intel® I219-LM LAN 2: Intel® I211																
	Connector with LED	2 x RJ45																
Rear I/O	USB 3.0	1																
	Ethernet	2																
	VGA	1																
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)																
Internal Connector	USB	7 x USB 2.0 (pin header*2 + USB Type A*1 + 4 on backplane) 4 x USB 3.0 (pin header)																
	SATA (SW Raid 0,1,5,10)	5																
	M.2 (2280 Type M)	1 (supports SATA 3.0 or PCIe x4)																
	DP/DVI-D	2 (Pin header)																
	COM	2																
	Parallel	1																
	IrDA	1																
GPIO	8bit																	
Watchdog Timer	Output	System reset																
	Interval	Programmable 1-255 sec																
Miscellaneous	Audio	Intel® High Definition audio interface (requires audio extension module PCA-AUDIO-HDB1E)																
Power Requirement	Test Environment	i7-6700, 3.4 GHz, 65 W, with 2 x 8-GB DDR4 2133																
	Voltage	+12V					+5V					+3.3V					+5Vsb	
	Current	2.64A					1.23A					0.19A					0.09A	
Environment	Operating	Non-Operating																
	Temperature	0 - 60 °C (dependent on CPU and cooler solution)										-40 - 85 °C						
	Humidity	40 °C @ 85% relative humidity (non-condensing)										60 °C @ 95% relative humidity (non-condensing)						
Physical	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")																

## Block Diagram



## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP/DVI-D	COM	SATA III	M.2	USB 2.0	USB 3.0	S/W Raid	AMT
PCE-5129G2-00A1E	Q170	Non-ECC	PCE-5BXX	2	Yes	2*	2	5	1	7	5	Yes	Yes

Note: DP/DVI-D cable is optional

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700002204	2-port USB cable kit	x1
9689000068	Jumper package	x1
2190000902	Warranty card	x1
2001512910	Startup manual	x1
2061512900	Utility CD	x1

## Optional Accessories

Part Number	Description
1960052651N021	2U CPU cooler (PWM ran)
1960049408N001	CPU cooler for 1U chassis
PCA-AUDIO-HDB1E	Audio module
PCA-TPM-00A1E	TPM module
PCA-COM232-00A1E	4-port RS-232 LPC module
PCA-COM485-00A1E	4-port RS-422/485 LPC module
1700020277-01	2-port USB 3.0 cable w/ BKT (30 cm)
1700021831-01	DP to DVI-D cable w/ BKT
PCE-DP10-00A1E	DP to DP cable w/ BKT
PCA-TPM-00B1E	TPM 2.0 Module

## I/O View

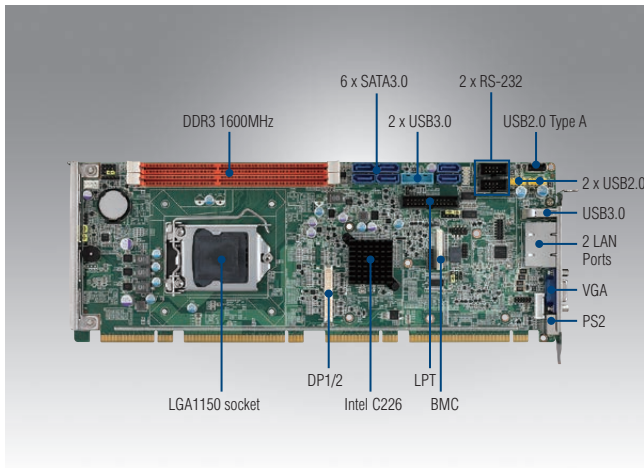


PCE-5129G2-00A1E

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# PCE-7128

## LGA1150 Intel® Xeon®/Core™i3/ Pentium® SHB DDR3/SATA 3.0/USB3.0/ Dual GbE /3 Displays



### Features

- Supports Intel® Xeon® E3 1200v3 series, Core™ i7/i5/i3 LGA1150 processors with C226
- Dual Channel (ECC/Non-ECC) DDR3 1333/1600 up to 16 GB
- Supports PCIE 3.0, USB 3.0, SATA3.0, SW Raid 0, 1, 5, 10
- Supports CRT and 2 x DP/DVI-D (optional) display
- Supports out-of-band remote management with AMT9.0 and IPMI
- Supports Advantech TPM module (LPC I/O)
- Supports SUSIAccess and Embedded Software APIs

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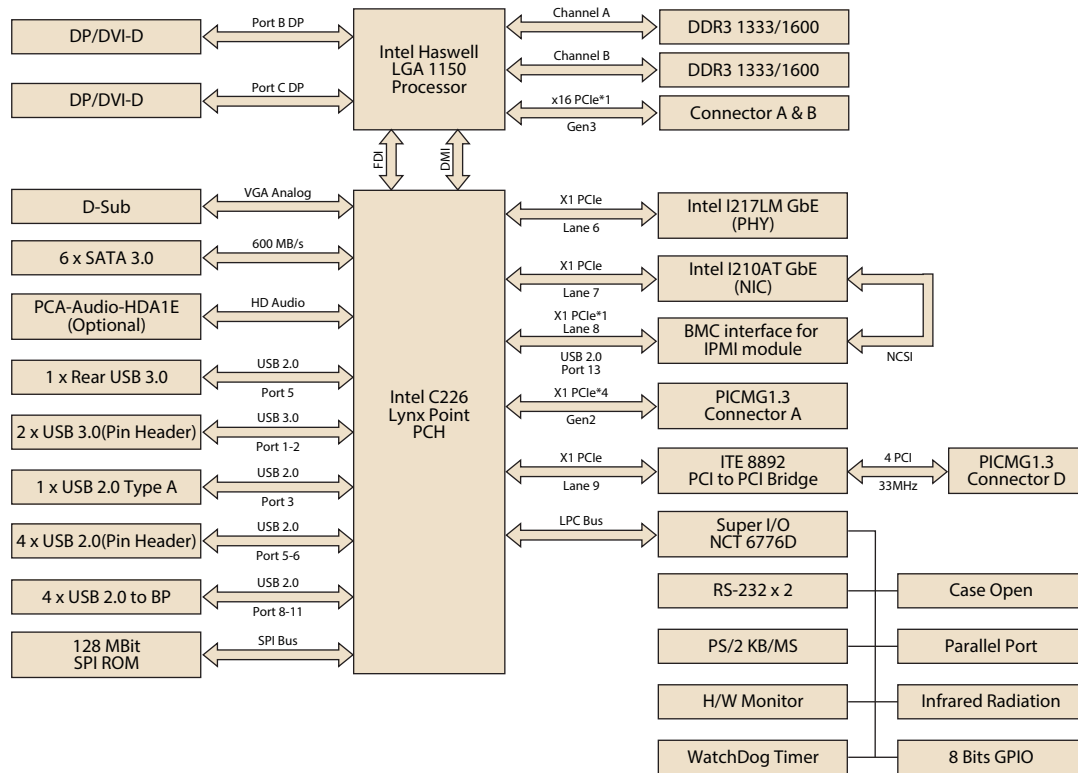
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### Specifications

<b>Haswell refresh CPUs are supported from BIOS V2.xx</b>		
CPU	i7-4790S i5-4590S i5-4590T i3-4360 i3-4350T i3-4340TE	
Base Frequency	3.2GHz 3.0GHz 2.0GHz 3.7GHz 3.1GHz 2.6GHz	
L3 Cache	8MB 6MB 6MB 4MB 4MB 4MB	
<b>Haswell CPUs are supported by both BIOS V1.xx and V2.xx</b>		
CPU	E3-1275v3 E3-1225v3 E3-1268v3 i7-4770S i7-4770TE i5-4570S i5-4570TE i3-4330 i3-4330TE G4320 G4320TE	
Base Frequency	3.5GHz 3.2GHz 2.3GHz 3.1GHz 2.3GHz 2.9GHz 2.7GHz 3.5GHz 2.4GHz 3.2GHz 2.3GHz	
L3 Cache	8MB 8MB 8MB 8MB 8M 6MB 4MB 3M 3M 3MB 3MB	
ECC Memory Supported	Yes Yes Yes N/A N/A N/A Yes Yes Yes Yes	
SKU/Chipset	Intel C226	
BIOS	AMI 128Mbit SPI Flash	
<b>Bus</b>		
PCI-Express	One x16 or Two x8 plus four x1 to backplane	
PCI	Four 32-bit 33 MHz PCI Masters to backplane	
<b>Memory</b>		
Technology	Dual channel (ECC/Non-ECC) DDR3 1333/1600 UDIMM (Note: Please select Intel ECC supported processor to enable ECC function)	
Max. Cap.	16 GB (8 GB per DIMM)	
Socket	DDR3 240-pin DIMM x 2	
<b>Graphics</b>		
Controller	Chipset integrated Intel HD Graphics	
VRAM	Shared system memory is subject to OS	
CRT	Supports resolution up to 1920 x 2000 pixel at 60Hz	
DVI-D	Supports resolution up to 1920 x 1200 pixel at 60Hz	
Triple Display	CRT+DP/DVI-D+DP/DVI-D	
<b>Ethernet</b>		
Interface	10/100/1000 Mbps	
Controller	LAN 1: Intel I217LM LAN 2: Intel I210AT	
Connector with LED	RJ45 x 2	
<b>SATA</b>		
S/W Raid 0, 1, 5, 10	SATA 3.0 x 6 (600 MB/sec)	
<b>Rear I/O</b>		
USB 3.0	1	
Ethernet	2	
VGA	1	
PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)	
<b>Internal Connector</b>		
USB	Night USB2.0 (Pin-header*4+USB Type A*1+ 4 on backplane); Two USB3.0 (Pin header)	
SATA	6	
DP/DVI-D	2 (Pin header)	
COM	2	
Parallel	1	
IrDA	1	
GPIO	8bit	
<b>Watchdog Timer</b>		
Output	System reset	
Interval	Programmable 1-255 sec	
<b>Miscellaneous</b>		
Audio	Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDA1E)	
<b>Power Requirement</b>		
Test environment	Core i7-4770S DDR3 1600 8GB x 2	
Voltage	+12V +5V +3.3V +5Vsb -12V -5V	
Current	4.02A 1.36A 0.81A 0.09A 0A 0A	
<b>Environment</b>		
Temperature/Humidity	Operating	0 ~ 60 °C (32~140 °F); Depends on CPU frequency and cooler solution
	Non-operating	-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing
Operating humidity: 40 °C @ 85% RH Non-Condensing		
<b>Physical</b>		
Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")	



## Block Diagram



## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP/ DVI-D	COM	SATA III	USB 2.0	USB 3.0	S/W Raid	AMT	IPMI
PCE-7128G2-00A1E	C226	ECC	PCE-5BXX PCE-7BXX	2	Yes	2*	2	6	10	3	Yes	Yes	Yes

Note: Both DP and DVI-D cable are optional.

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700008461	4-port USB cable kit	x1
9689000068	Jumper package	x1
2190000902	Warranty Card	x1
2006512800	Startup manual	x1
2066512802	Utility CD	x1

## Optional Accessories

Part Number	Description
1960047831N001	PCE-7128 optimized CPU Cooler (2U)
PCA-AUDIO-HDA1E	Audio module
PCA-TPM-00A1E	TPM module (Trust Platform management)
PCA-COM232-00A1E	4 Ports RS-232 Module by LPC
PCA-COM485-00A1E	4 Ports RS-485/422 Module by LPC
IPMI-1000-00A1E	IPMI2.0 module(Remote control management)
1700020277-01	2 ports USB 3.0 cable W/ BKT(30cm)
1700021831-01	DP to DVI-D cable w/ BKT
PCE-DP10-00A1E	DP to DP cable w/ BKT

## I/O View

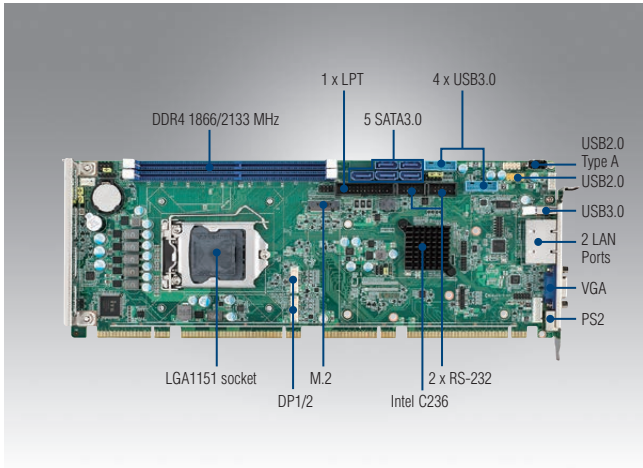


PCE-7128G2-00A1E

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# PCE-7129

## LGA1151 6th and 7th Generation Intel® Xeon®/Core™ i7/i5/i3/Pentium® LGA1151 System Host Board with DDR4, SATA 3.0, USB 3.0, M.2, Dual GbE, and Triple Displays



### Features

- Intel® Xeon® E3-1200v5/Core™ i7/i5/i3 LGA1151 processor with C236 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 1866/2133 MHz
- PCIe 3.0, M.2, USB 3.0, SATA 3.0, and SW Raid 0, 1, 5, 10
- Supports CRT and 2 x DVI-D/DP display (with optional cable)
- Supports out-of-band remote management with AMT 11.0
- Supports Advantech's LPC modules, SUSIAccess, and embedded software APIs

Note: Intel 7th generation processors only support Windows 10 (64-bit)

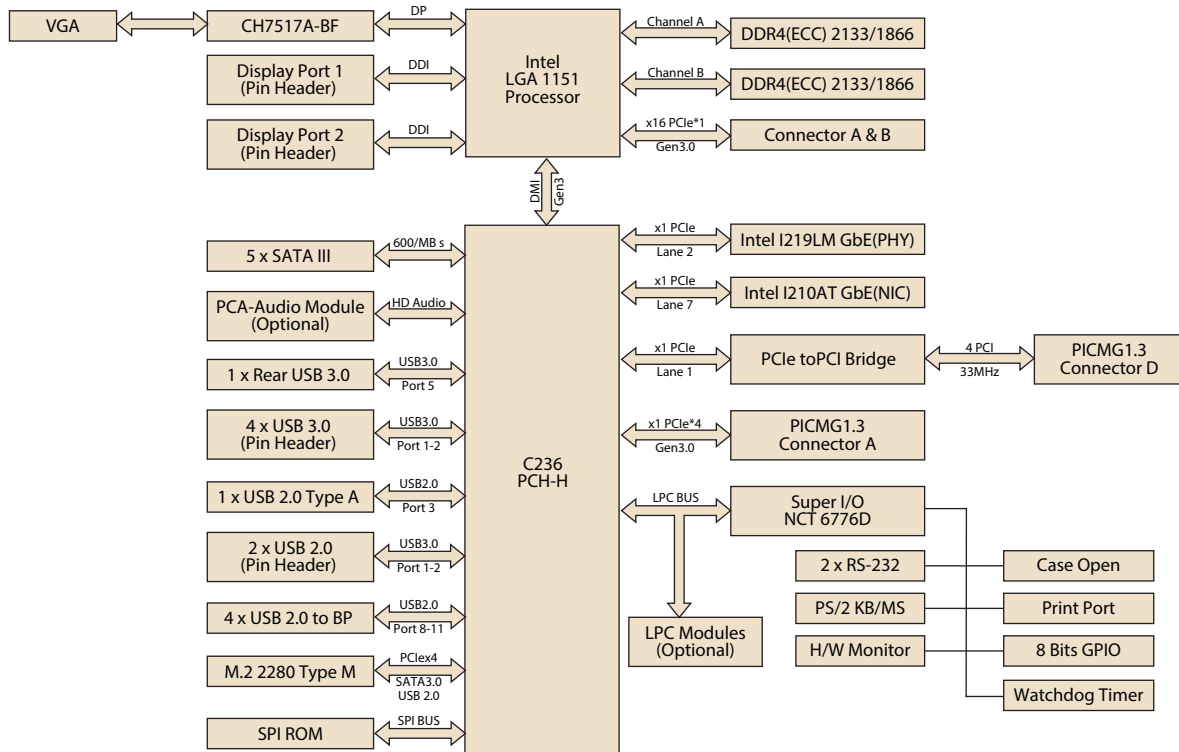
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CE FCC

### Specifications

Processor System	CPU	E3-1275v6	E3-1275v5	E3-1225v5	E3-1268Lv5	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE
	Base Frequency	3.8 GHz	3.6GHz	3.3GHz	2.4GHz	3.6 GHz	2.9 GHz	3.4GHz	2.4GHz	3.4 GHz	2.7 GHz	3.2GHz	2.3GHz	3.9 GHz	3.4 GHz	3.7GHz	2.7GHz	3.3GHz	2.9GHz	2.8GHz	2.6GHz
L3 Cache	8 MB	8MB	6MB	8MB	8MB	8 MB	8MB	8MB	8MB	6 MB	6 MB	6MB	6MB	3 MB	3 MB	4MB	4MB	3MB	3MB	2MB	2MB
SKU/Chipset	Intel® C236																				
BIOS	AMI® SPI Flash 128 Mbit																				
Bus	PCI-Express	1 x PCIe x16/2 x PCIe x8 and 1 x PCIe x4 to backplane																			
	PCI	4 x PCI master to backplane, 32-bit, 33 MHz																			
Memory	Technology	Dual-channel (non-ECC) U-DIMM DDR4 1866/2133 MHz (supports x8 DDR4 1024 M) (Note: Intel ECC-supported processor must be selected to enable ECC function)																			
	Max. Capacity	32 GB (16 GB per DIMM)																			
	Socket	2 x DDR4 288-pin DIMM																			
Graphics	Controller	Chipset integrated with Intel® HD Graphics																			
	VRAM	Shared system memory is subject to OS																			
	CRT	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz																			
	DVI-D	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz																			
	Display Port	Supports resolutions of up to 1920 x 1080 pixel @ 60 Hz																			
Ethernet	Triple Display	CRT+DP/DVI-D+DP/DVI-D																			
	Interface	10/100/1000 Mbps																			
	Controller	LAN 1: Intel® I219-LM LAN 2: Intel® I210-AT																			
Rear I/O	Connector with LED	2 x RJ45																			
	USB 3.0	1																			
	Ethernet	2																			
	VGA	1																			
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)																			
Internal Connector	USB	7 x USB 2.0 (pin header*2 + USB Type A*1 + 4 on backplane) 4 x USB 3.0 (pin header)																			
	SATA (SW Raid 0,1,5,10)	5																			
	M.2 (2280 Type M)	1 (supports SATA 3.0 or PCIe x4)																			
	DP/DVI-D	2 (Pin header)																			
	COM	2																			
	Parallel	1																			
	IrDA	1																			
GPIO	8bit																				
Watchdog Timer	Output	System reset																			
	Interval	Programmable 1-255 sec																			
Miscellaneous	Audio	Intel® High Definition audio interface (requires audio extension module PCA-AUDIO-HDB1E)																			
Power Requirement	Test Environment	i7-6700, 3.4 GHz, 65 W, with 2 x 8-GB DDR4 2133																			
	Voltage	+12V				+5V				+3.3V				+5Vsb							
	Current	2.64A				1.23A				0.19A				0.09A							
Environment	Operating															Non-Operating					
	Temperature	0 ~ 60 °C (dependent on CPU and cooler solution)														-40 ~ 85 °C					
Physical	Humidity	40 °C @ 85% relative humidity (non-condensing)																			
	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")																			

## Block Diagram



## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP/DVI-D	COM	SATA III	M.2	USB 2.0	USB 3.0	S/W Raid	AMT
PCE-7129G2-00A1E	C236	ECC/Non-ECC	PCE-5BXX PCE-7BXX	2	Yes	2*	2	5	1	7	5	Yes	Yes

Note: DP/DVI-D cable is optional

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700002204	2-port USB cable kit	x1
9689000068	Jumper package	x1
2190000902	Warranty card	x1
2001512910	Startup manual	x1
2061512900	Utility CD	x1

## Optional Accessories

Part Number	Description
1960052651N021	2U CPU cooler (PWM fan)
1960049408N001	CPU cooler for 1U chassis
PCA-AUDIO-HDB1E	Audio module
PCA-TPM-00A1E	TPM 1.2 module
PCA-COM232-00A1E	4-port RS-232 LPC module
PCA-COM485-00A1E	4-port RS-422/485 LPC module
1700020277-01	2-port USB 3.0 cable w/ BKT (30 cm)
1700021831-01	DP to DVI-D cable w/ BKT
PCE-DP10-00A1E	DP to DP cable w/ BKT
PCA-TPM-00B1E	TPM 2.0 module

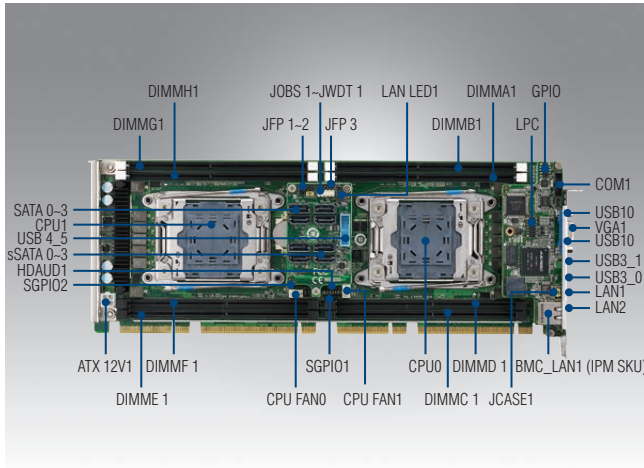
## I/O View



PCE-7129G2-00A1E

# PCE-9228

**Dual LGA 2011-R3 Intel Xeon®  
E5-2600v3 SHB Server Board with C612,  
DDR4/SATA3.0/USB3.0/Dual GbE**



CE FCC

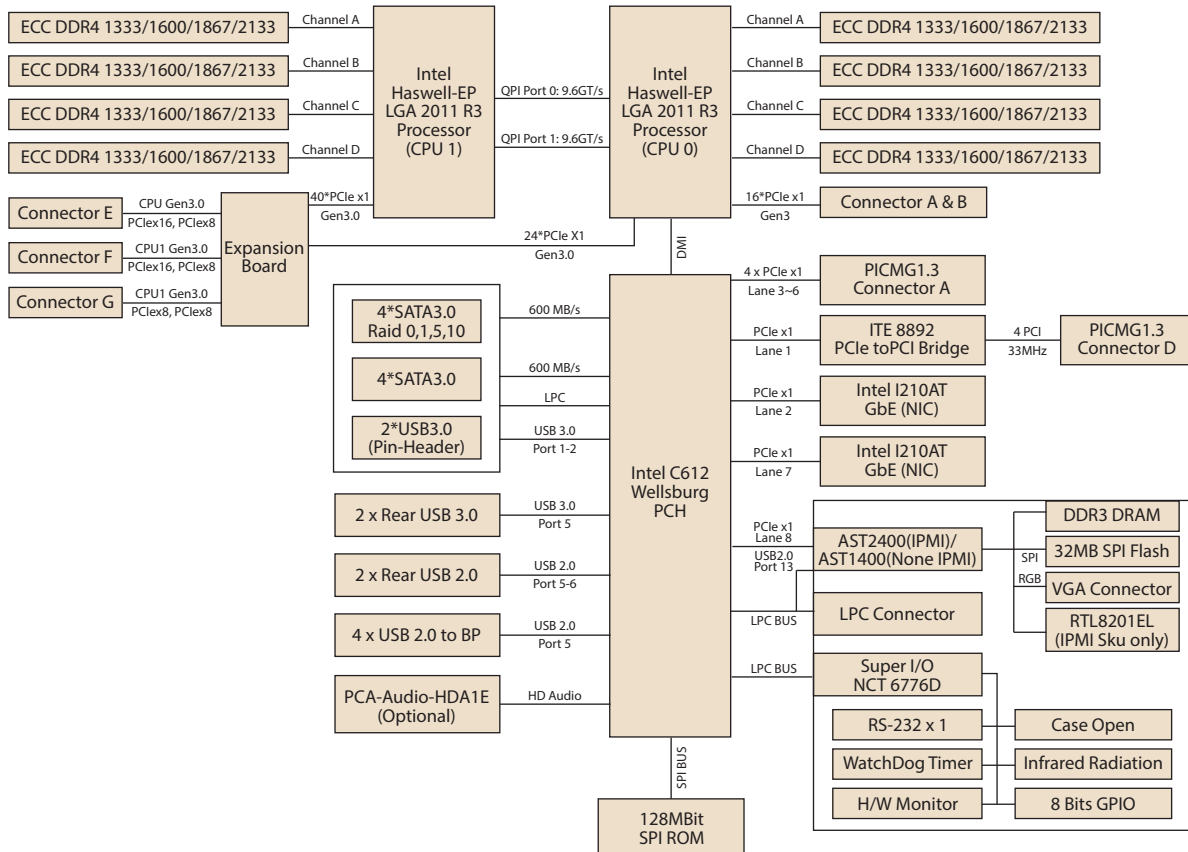
## Features

- Supports Dual Intel Xeon E5-2600v3 series processors with C612
- Supports DDR4 2133MHz RDIMM up to 256GB
- Supports PCIe3.0,USB3.0,SW raid 0, 1, 5, 10
- Supports out-of-band remote management with IPMI
- 0 ~ 40 °C ambient operation temperature range

## Specifications

Processor System	Socket	Intel LGA 2011-R3			
	CPU type	Intel Xeon E5-2600(v3) dual processor (TDP up to 120W per CPU)			
Core Logic	Chipset	Intel C612 chipset			
	Total slots	8 (Quad Channel)			
Memory	Capacity	Maximum 256 GB ECC RDIMM			
	Memory type	DDR4 ECC-REG 2133/1866/1600/1333 MHz DIMM			
	Memory size	1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB			
Bus	PCI-Express	PICMG1.3: One PCIe x16 or Two PCIe x8, PCIe x4 from PCH			
	PCI	Four PCI 32bit/33MHz			
Graphics	VGA	Aspeed AST2400/1400 64 MB			
Storage	SATA controller	8 SATA 3.0 ports support software raid 0, 1, 5, 10			
Networking	GbE LAN	2 x Intel I210AT			
	USB connector	2 USB 3.0 ports in one pin header			
Onboard I/O Connectors	CPU Fan header	2 x 4pin			
	GPIO	1			
	LAN LED	1			
	Audio Header	1			
	Serial port header	1 (Pin header 2.0 pitch)			
Rear I/O Connectors	External USB port	4 (2*USB2.0 + 2*USB3.0)			
	VGA port	1			
	RJ-45	3 (1 port dedicated for IPMI function)			
Management Solution	Software	SUSIAccess			
	Out of band remote management	IPMI (PCE-9228G2I sku only)			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirement	Power On	3.3V	5V	12V	-12V
	E5-2680v3 x2				
	DDR4 RDIMM 16GB x8	2.61A	1.07A	26.73A	0.07A 0.01A
Environment	Temperature	Operating 0 ~ 40 °C, depends on CPU speed and cooler solution		Non-operating -40 ~ 85 °C	
	Humidity	10% ~ 95%		10% ~ 95% (Non condensing)	
	Physical Characteristics	Dimensions (L x H)		338 x 122 mm (13.3" x 4.8")	

## Block Diagram



## Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
PCE-9228G2-00A1E	C612	DDR4 RDIMM	2	-	AST 1400
PCE-9228G2I-00A1E	C612	DDR4 RDIMM	2	Yes	AST 2400

Note: "I" sku features a dedicated LAN for IPMI function only.

## Packing List

Part Number	Description	Quantity
2066922800	Driver CD	x 1
2006922810	Startup manual	x 1
1700003194	SATA data cables	x 2
1703150102	SATA power cables	x 1

## Optional Accessories

Part Number	Description
PCA-AUDIO-HDA1E	HD Audio-card
PCA-TPM-00A1E	TPM Module
1960063011N011	Cooler IGA-2011 narrow cooler 107 x 70 x 64 for 4U chassis (120W; Puller fan)
1700020277-01	2 ports USB3.0 cable w/ BKT(30cm)
1700100250	COM port cable w/o bracket
PCA-COM232-00A1E	4 ports RS-232 module
PCA-COM485-00A1E	4 ports RS-422/485 module

## I/O View



PCE-9228G2I-00A1E

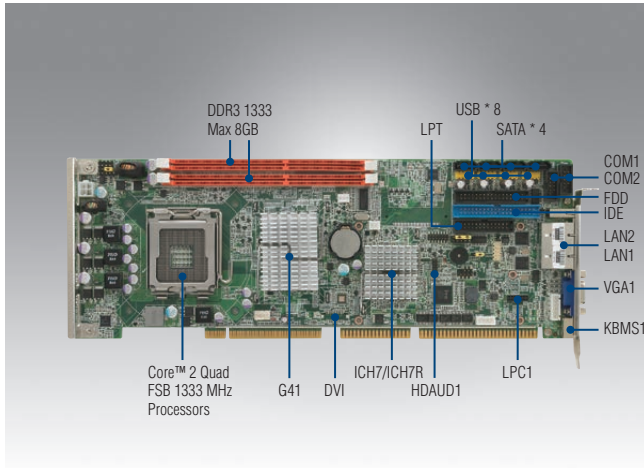


PCE-9228G2-00A1E



# PCA-6011

## LGA775 Intel® Core™2 Quad SBC with VGA/DVI/Dual GbE LAN



### Features

- Compliant with PICMG 1.0
- Supports LGA 775 Intel® Core™2 Quad FSB 1333 MHz processors
- Supports Dual Channel DDR3 1333 SDRAM up to 8 GB
- Dual GbE LAN via two PCIe x1 lane
- 2 COM ports, 4 SATA ports, 8 USB ports
- Dual display with VGA and DVI-D (G2 only)

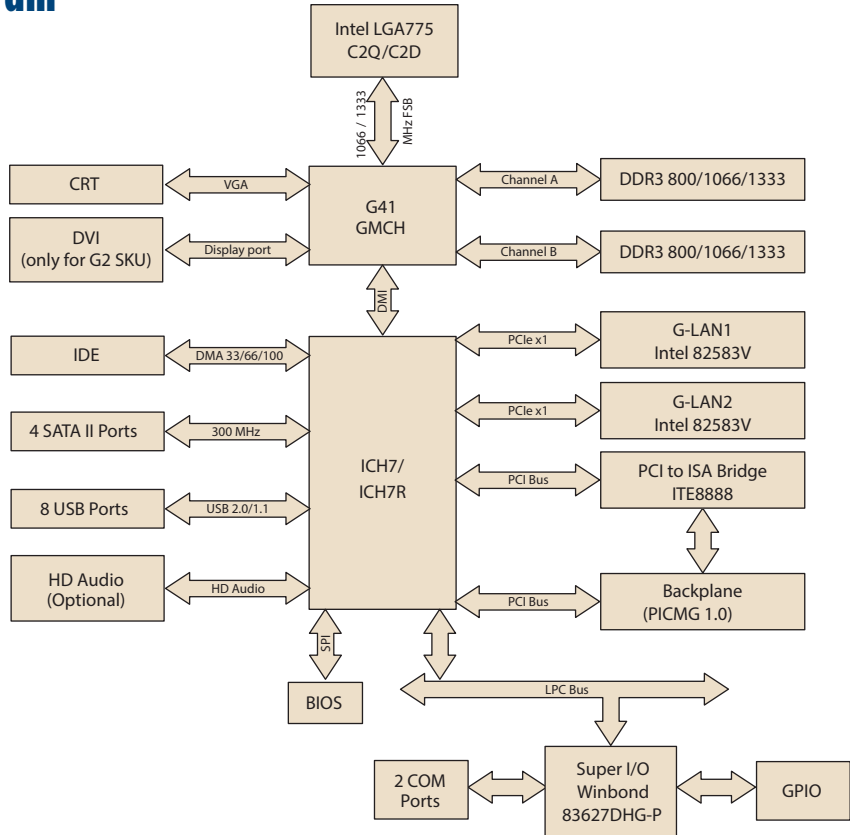
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CE FCC

### Specifications

Processor System	CPU (45nm/65nm)	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium	Intel Celeron	
	Max Speed	Q9650 3.0 GHz	E8500 3.16 GHz	E6500 2.93 GHz	E1500 2.2 GHz	
	L2 Cache	12 MB	6 M	8 M	512 KB	
	Chipset	Intel G41 + ICH7/ICH7R (only for G2 SKU)				
	BIOS	AMI 16 Mb SPI Flash				
	FSB	800/1066/1333 MHz				
Bus	PCI	32 bit/33 MHz PCI				
	ISA	HISA (ISA High Driver)				
Memory	Technology	Dual-channel DDR3 800/1066/1333 DIMMs				
	Max. Cap.	8 GB				
	Socket	240-pin DIMM x 2				
Graphics	Controller	Intel Graphics Media Accelerator X4500				
	VRAM	Shared with system memory up to 352 MB				
	Video Output	15-Pin VGA D-sub Connector x1/DVI connector x1 (only for G2 SKU)				
Ethernet	Interface	10/100/1000 Mbps				
	Controller	Intel 82583 V				
	Connector	RJ-45 with LED Connector x 2 (G2 SKU), x1 (VG SKU)				
SATA	Bandwidth	300 MB/s				
	Channel	4 ports				
	RAID	0, 1, 5, 10 (only for G2 SKU)				
EIDE	Mode	ATA 100/66/33				
	Channel	1 (Supports up to 2 IDE devices; Master device is alternative for CF socket)				
	CF	(Optional)				
I/O Interface	USB 2.0	8 ports by pin header (VG SKU); 6 ports by pin header/1 port on bracket I/O (G2 SKU)				
	Serial	2 RS-232 on board pin-headers, plus for ports of RS-485 with auto-flow control by module (optional, Advantech P/N: PCA-COM485-00A1E)				
	Parallel	1 (EPP/ECP/SPP)				
	FDD	1				
	PS/2	1 (for mouse and keyboard, Y cable is included in the package)				
Watchdog Timer	Output	System reset				
	Interval	Programmable, 1~255 sec				
Miscellaneous	Audio Output	Intel High Definition audio interface (requires an audio extension module P/N: PCA-AUDIO-HDA1E)				
Power Requirement	CPU	Configuration1: Core 2 Quad Q9400 (3.0 G, 95 W) + DDR3 1066 2 G x2				
	Voltage	+12 V	+5 V	+3.3 V	+5 VSB	-12 V -5 V
	Curent	5.14 A	4.04 A	0 A	0.17 A	0 A 0 A
	CPU	Configuration 2: Core2 Duo E8400 (3.0G, 65W) + DDR3 1066 2 GB x2				
Environment	Voltage	+12 V	+5 V	+3.3 V	+5 VSB	-12 V -5 V
	Curent	3.63 A	3.4 A	0 A	0.15 A	0 A 0 A
	Temperature	Operating 0 ~ 60 °C (32 ~ 140 °F) (operating humidity: 40 °C @ 85% RH Non-Condensing)			Non-Operating -40 °C ~ 85 °C and 60 °C @ 95% RH Non-Condensing	
Physical	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")				

### Block Diagram



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Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

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Industrial Computer Peripherals 14

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### Ordering Information

Part Number	LAN	VGA	COM	SATA	S/W RAID	USB	DVI	CF
PCA-6011VG-00A1E	Single GbE	Yes	2	4	-	8	No (Optional)	No (Optional)
PCA-6011G2-00A1E	Dual GbE	Yes	2	4	Yes	7	Yes	No (Optional)

### Packing List

Part Number	Description	Quantity
1701400452	IDE HDD cable	x 1
1700008461-11	USB cable with 4 ports	x 1
1700022749	Serial ATA HDD power cable	x 1
1700003194	Serial ATA HDD data cable	x 2
1700060202	Y-cable for PS/2 mouse & keyboard	x 1
1701260305	Printer + COM cable	x 1
9689000068	Jumper pack	x 1
2190000902	Warranty card	x 1
2002601110	Startup manual	x 1
2062601100	Utility CD	x 1

### Optional Accessories

Part Number	Description
1750000332	LGA 775 CPU cooler for 115 W TDP CPUs
PCA-AUDIO-HDA1E	Audio extension module
1701090401	Single COM cable kit
PCA-COM485-00A1E	4 x 422/485 COM module
1700008822-11	DVI-D cable

### I/O View



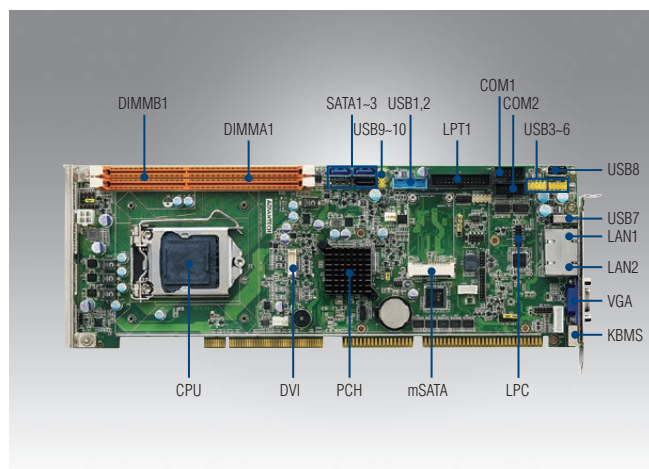
PCA-6011G2-00A1E



PCA-6011VG-00A1E

# PCA-6028

LGA1150 Intel® Core™ i7/i5/i3/Pentium SBC with VGA/DVI/Dual GbE LAN



## Features

- Supports Intel® Core™ i7/i5/i3/Pentium LGA1150 processors with H81
- Dual Channel (Non-ECC) DDR3 1333/1600 up to 16 GB
- Supports USB 3.0, SATA3.0
- Dual display with VGA and DVI-D (optional)
- Supports Advantech LPC modules.
- Supports SUSIAccess and Embedded Software APIs

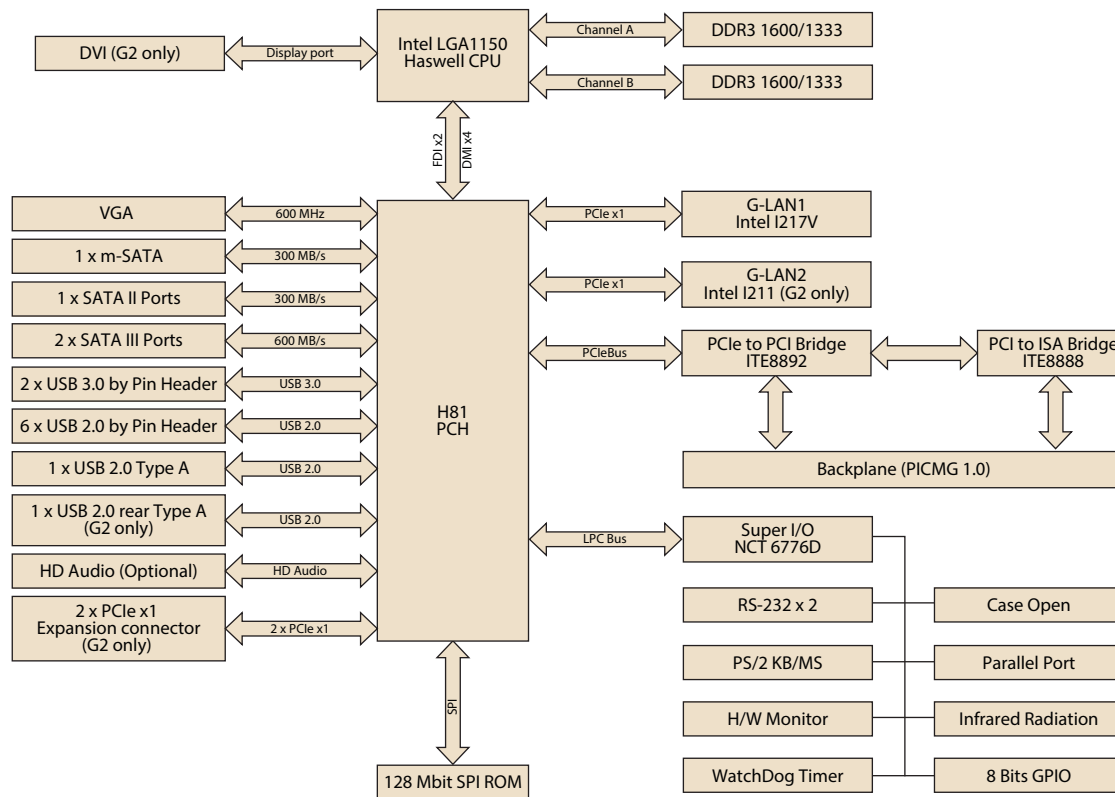
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CE FCC

## Specifications

		Haswell refresh CPUs are supported from BIOS V2.xx							
Processor System	CPU	i7-4790S	i5-4590S	i5-4590T	i3-4360	i3-4350T	i3-4340TE		
	Base Frequency	3.2GHz	3.0GHz	2.0GHz	3.7GHz	3.1GHz	2.6GHz		
	L3 Cache	8MB	6MB	6MB	4MB	4MB	4MB		
	Haswell CPUs are supported by both BIOS V1.xx and V2.xx								
Processor System	CPU	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	G3420	G3320TE
	Base Frequency	3.1GHz	2.3GHz	2.9GHz	2.7GHz	3.5GHz	2.4GHz	3.2GHz	2.3GHz
	L3 Cache	8MB	8M	6MB	4MB	4MB	3MB	3MB	3MB
	SKU/Chipset	Intel H81							
Bus	BIOS	AMI 128Mbit SPI Flash							
	ISA	HISA (ISA High Driver)							
	PCI	32 bit/ 33 MHz PCI							
Memory	Technology	Dual channel (Non-ECC) DDR3 1333/1600							
	Max. Cap.	16 GB (8 GB per DIMM)							
	Socket	DDR3 240-pin DIMM x 2							
Graphics	Controller	Chipset integrated Intel HD Graphics							
	VRAM	Shared system memory is subject to OS							
	CRT	Supports resolution up to 2048 x 1536 pixel at 60Hz							
	DVI-D	Supports resolution up to 1920 x 1200 pixel at 60Hz (G2 only)							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	LAN 1: Intel I21V LAN 2: Intel I211 (Only in G2 Sku)							
	Connector with LED	RJ45 x 1 (VG sku); RJ45 x 2(G2 sku)							
SATA	Channel	SATA 3.0 x 2 (600 MB/sec), SATA2.0 x 1 (300MB/sec), mSATA x1 (300 MB/sec)							
Rear I/O	USB 2.0	1 (Only in G2 sku)							
	Ethernet	1 (VG sku); 2 (G2 sku)							
	VGA	1							
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)							
Internal Connector	USB	Up to 8x USB2.0 (6x Pin header, 1x Type A, 1x Rear in G2 sku only) 2x USB3.0 (Pin header)							
	SATA	4(1x SATA2.0, 2x SATA3.0, 1x mSATA)							
	DVI-D	1 (Pin header)							
	COM	2							
	Parallel	1							
	IrDA	1							
	GPIO	8-bit							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1-255 sec							
Miscellaneous	Audio	Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDA1E)							
Power Requirement	Test Environment	Core i7-4790S@3.20GHz; 8GB DDR3 1600 2Rx8*2; SATA HDD*1							
	Voltage	+12V	+5V	+3.3V	+5Vsb	-12V	-5V		
	Current	4.94A	1.83A	0A	0.01A	0A	0A		
Environment	Temperature/Humidity	Operating					Non-operating		
		0 ~ 60 °C (32~140 °F); Depends on CPU frequency and cooler solution					-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing		
Physical	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")							

### Block Diagram



### Ordering Information

Part Number	LAN	VGA	DVI-D	COM	SATA	USB	m-SATA
PCA-6028VG-00A1E	1	Yes	-	2	3 (1 x 2.0 + 2 x 3.0)	9 (2 x 3.0 + 7 x 2.0)	1
PCA-6028G2-00A1E	2	Yes	1*	2	3 (1 x 2.0 + 2 x 3.0)	10 (2 x 3.0 + 8 x 2.0)	1

\*Note: Output DVI-D signal only (Required DVI-D cable: 1700021831-01)

### Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700008461-11	4-port USB cable kit	x1
9689000068	Jumper package	x1
2190000902	Warranty Card	x1
-	Startup manual	x1
-	Utility CD	x1

### Optional Accessories

Part Number	Description
1701090401	Single COM cable
1701092300	Dual COM cable
1700020277-01	2-port USB 3.0 cable w/ BKT (30cm)
1700021831-01	DP to DVI-D cable w/ BKT (digital signal only)
1960047831N001	PCA-6028 optimized CPU cooler (2U)
PCA-AUDIO-HDA1E	Extension module for 7.1 Channel High Definition Audio
PCA-COM232-00A1E	4 x RS-232 module
PCA-COM485-00A1E	4 x RS-244/485 module
PCA-TPM-00A1E	Trusted platform module compliant with TCG 1.2

### I/O View



PCA-6028G2-00A1E

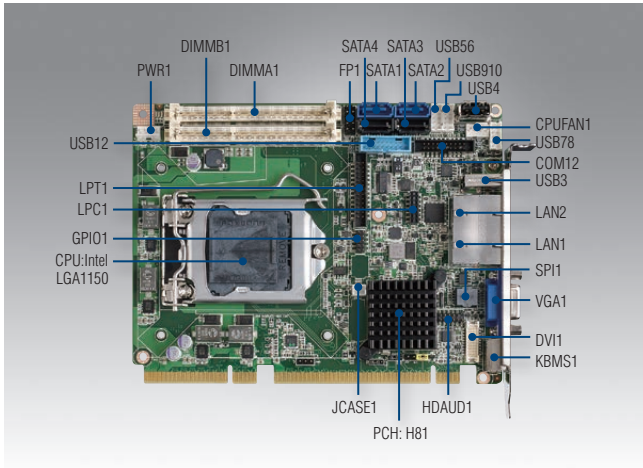


PCA-6028VG-00A1E

- Industrial I/O 1
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- Intelligent Transportation Platforms 3
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# PCE-3028

## LGA 1150 4th Generation Intel® Core™ i7/i5/i3 Half-size SHB with PCIe/VGA/DVI/Dual GbE LAN



### Features

- Complies with PICMG 1.3
- Supports Intel Core i7/i5/i3 LGA1150 processors with H81
- Dual Channel (Non-ECC) DDR3 1066/1333/1600 up to 16 GB
- Supports USB 3.0, SATA3.0
- Supports CRT and DVI-D (optional) display
- Support dual 10/100/1000 Mbps Ethernet
- Supports Advantech TPM module (LPC I/O)
- Supports SUSIAccess and Embedded Software APIs

Quiet

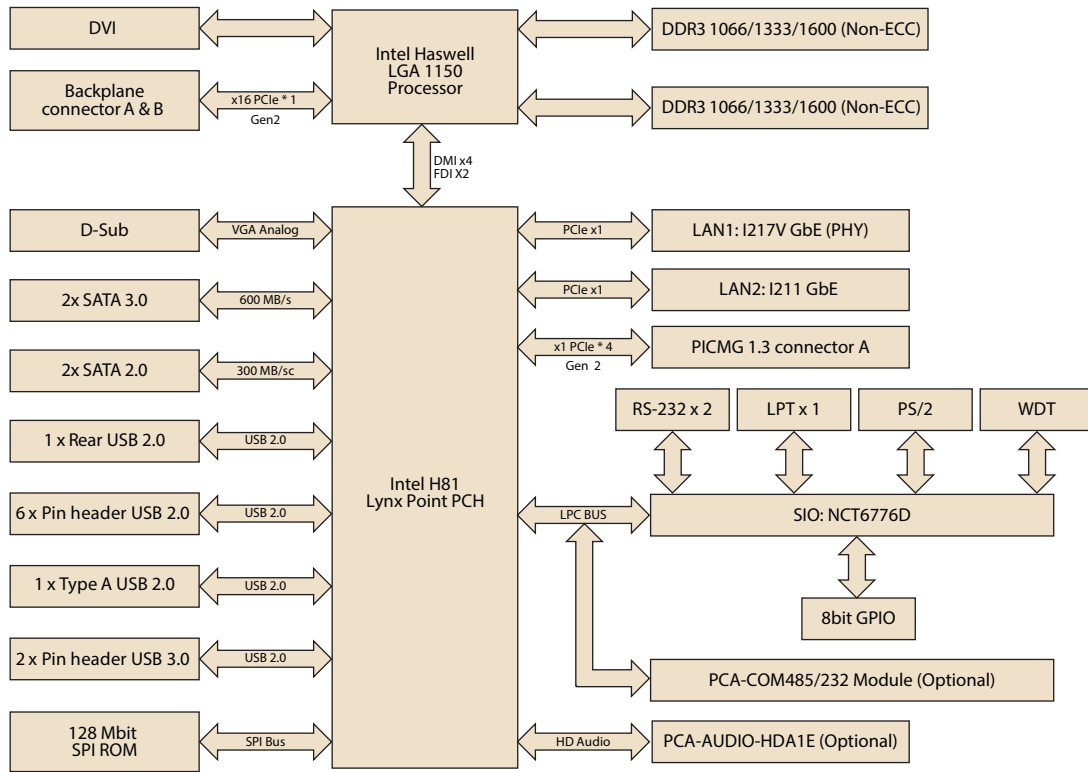
CE FCC

### Specifications

Processor System	CPU	i7-4790S	i7-4790T	i7-4770S	i7-4770TE	i5-4590S	i5-4590T	i5-4570S	i5-4570TE	i3-4360	i3-4350T	i3-4330	i3-4330TE	G3420	G3320TE	G1820	G1820TE	
	Base Frequency		3.2GHz	2.7GHz	3.1GHz	2.3GHz	3.0GHz	2.0GHz	2.9GHz	2.7GHz	3.7GHz	3.1GHz	3.5GHz	2.4GHz	3.2 GHz	2.3 GHz	2.7 GHz	2.2 GHz
L3 Cache		8MB	8MB	8MB	8MB	6MB	6MB	6MB	4MB	4MB	4MB	4MB	4MB	3MB	3MB	2MB	2MB	
SKU/Chipset		Intel H81																
BIOS		AMI 128Mbit SPI Flash																
Bus	PCI-Express	One x16 plus four x1 to backplane																
	Technology	Dual channel (Non-ECC) DDR3 1066/1333/1600																
Memory	Max. Cap.	16 GB (8 GB per DIMM)																
	Socket	DDR3 204-pin SO-DIMM x2																
	Controller	Chipset integrated Intel GT2 4600 or GT1 HD graphics (Depends on CPU support)																
Graphics	VRAM	Shared system memory is subject to OS																
	CRT	Supports resolution up to 1920 x 1200 pixel at 60Hz																
	DVI-D	Supports resolution up to 1920 x 1200 pixel at 60Hz																
	Dual Independent Display	VGA+DVI-D																
	Interface	10/100/1000 Mbps																
Ethernet	Controller	LAN 1: Intel I217V LAN 2: Intel I211AT																
	Connector with LED	RJ-45 x 2																
	Max. Data Transfer Rate	SATA 3.0 x 2 (600 MB/sec), SATA 2.0 x 2 (300 MB/sec)																
Rear I/O	USB 2.0	1																
	Ethernet	2																
	VGA	1																
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)																
Internal Connector	USB	Seven USB 2.0 (Pin-header x 6 + USB Type A x 1); Two USB 3.0 (Pin header)																
	SATA	4																
	DVI-D	1																
	COM	2																
	Parallel	1																
	GPIO	8-bit																
Watchdog Timer	Output	System reset																
	Interval	Programmable 1-255 sec																
Miscellaneous	Audio	Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDA1E)																
Power Requirement	Test Environment	Intel Core i7-4770S (3.1GHz), DDR3 1600 8GB*2																
	Voltage	12V	5V	3.3V	5VSB	-5V	-12V											
	Current	7.26	1.06	0.42	0	0	0											
Environment	Operating											Non-operating						
	Temperature/Humidity	0 ~ 60 °C (32-140 °F); Depends on CPU frequency and cooler solution										-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing						
Physical	Operating humidity:	40 °C @ 85% RH Non-Condensing																
	Dimensions (L x H)	167.64 x 126.39 mm (6.6" x 4.98")																



### Block Diagram



### Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DVI-D	COM	SATA III	SATA II	USB 2.0	USB 3.0	S/W Raid	AMT
PCE-3028G2-00A1E	H81	Non-ECC	PCE-3XXX	2	1	1	RS-232 x 2 onboard Optional RS-422/485 x 4 or RS-232 x 4 via module	2	2	8	2	No	No

Note: DVI-D cable is optional

### Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x1
1703150102	Serial ATA HDD power cable	x1
1700008762	2-port COM cable	x1
1700002223	1-port LPT cable	x1
1700060202	Keyboard and mouse Y-cable	x1
1700020277-01	2 ports USB 3.0 cable W/BKT	x1
1700014398	4-port USB cable kit	x1
1703040100	Power Converter	x1
9689000002	Jumper package	x1
2190000902	Warranty Card	x1
2006302800	Startup manual	x1
2066302800	Utility CD	x1

### Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4 x RS-244/485 module
PCA-COM232-00A1E	4 x RS-232 module
PCA-AUDIO-HDA1E	Audio module
PCA-TPM-00A1E	TPM module (Trust Platform management)
1700008822-11	DVI-DVI cable with bracket
1960047831N001	2U cooler for Intel Core i7-4770S, i7-4770TE, i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE
1960053207N001	1.5 U cooler for Intel Core i7-4770S, i7-4770TE, i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE
1960053065N001	1U blower for Intel Core i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE

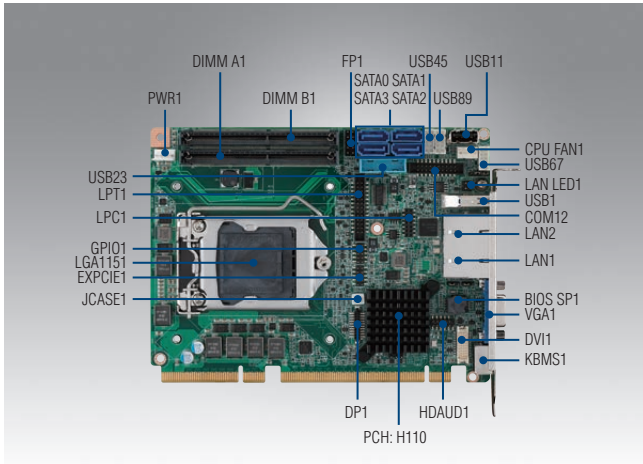
### I/O View



- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# PCE-3029

**LGA 1151 6th and 7th Gen Intel® Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/ Dual Independent Display/Dual GbE LAN/ SATA III/m-SATA/ USB 3.0**



CE FCC

## Features

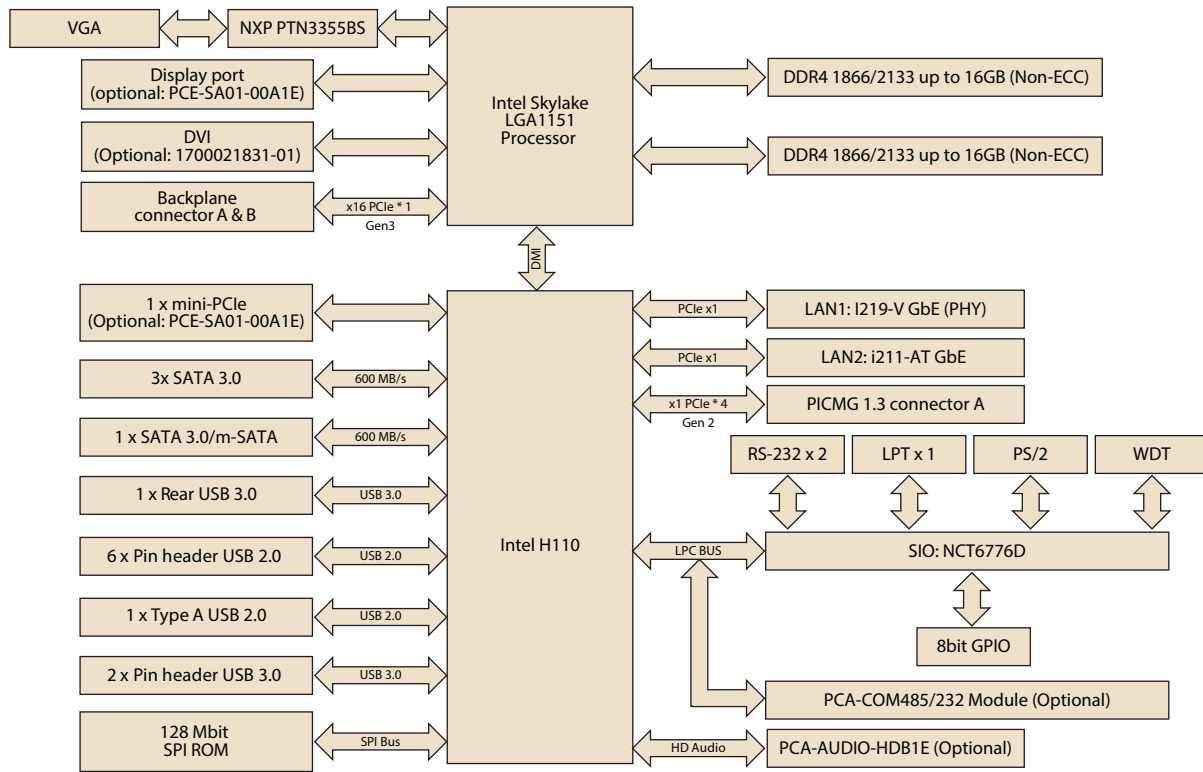
- Complies with PICMG 1.3
- Supports Intel® Core™ i7/i5/i3/Celeron®/Pentium® processor with H110 chipset
- Dual Channel (Non-ECC) DDR4 1866/2133 up to 32 GB
- Supports USB 3.0, SATA III, PCIe 3.0
- Supports CRT and DVI-D/DP (optional) display
- Supports Advantech TPM module (optional)
- Supports SUSIAccess and embedded software APIs

Note: Intel 7th generation processor only support Windows 10 (64-bit)

## Specifications

		i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE	
Processor System	CPU	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE	
	Base Frequency	3.6 GHz	2.9 GHz	3.4 GHz	2.4 GHz	3.4 GHz	2.7 GHz	3.2 GHz	2.3 GHz	3.9 GHz	3.4 GHz	3.7 GHz	2.7 GHz	3.3 GHz	2.9 GHz	2.8 GHz	2.6 GHz	
	L3 Cache	8 MB	8 MB	8 MB	8 MB	6 MB	6 MB	6 MB	6 MB	3 MB	3 MB	4 MB	4 MB	3 MB	3 MB	2 MB	2 MB	
	SKU/Chipset	Intel H110																
	BIOS	AMI 128 Mbit SPI Flash																
Bus	PCI-Express	One x16 (Gen 3) plus four x1 (Gen 3) to backplane																
Memory	Technology	Dual channel (Non-ECC) DDR4 1866/2133 up to 32 GB																
	Max. Cap.	32 GB (16 GB per DIMM)																
	Socket	DDR4 260-pin SO-DIMM x2																
Graphics	Controller	Chipset integrated Intel HD Graphics																
	VRAM	Shared system memory is subject to OS																
	CRT	Supports resolution up to 1920 x 1200 pixel at 60Hz																
	Display Port	Supports resolution up to 4096 x 2304 pixel at 60Hz																
	DVI-D	Supports resolution up to 1920 x 1200 pixel at 60Hz																
	Dual Independent Display	VGA+ DVI-D/DP (Optional)																
Ethernet	Interface	10/100/1000 Mbps																
	Controller	LAN 1: Intel I219V LAN 2: Intel I211AT																
	Connector with LED	RJ-45 x 2																
Rear I/O	USB 3.0	1																
	Ethernet	2																
	VGA	1																
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)																
Internal Connector	USB	7 USB 2.0 (Pin-header *6 + USB Type A *1); 2 USB 3.0 (Pin header)																
	SATA/m-SATA	SATA III x4 (600MB/sec) or SATA III x3 (600MB/sec)+m-SATA x1																
	mini-PCIe	(Optional: PCE-SA01-00A1E, PCIe Gen 2.0)																
	DVI-D	1																
	DP	1																
	COM	2 (RS-232)																
Watchdog Timer	Parallel	1 (SPP/EPP)																
	GPIO	8 bits																
	Output	System reset																
	Interval	Programmable 1-255 sec																
Miscellaneous	Audio	Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDB1E)																
Power Requirement	Test Environment	Intel Core i7-6700 (3.4GHz), DDR4 2133 8GB *2																
	Voltage	12V	5V	3.3V	5VSB	-12V	-5V											
	Current	4.6	0.01	0.32	0.08	0	0											
Environment	Operating	0 ~ 60 °C (32~140 °F); Depends on CPU frequency and cooler solution											Non-operating					
	Temperature/Humidity	Operating humidity: 40 °C @ 85% RH Non-Condensing											-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing					
Physical	Dimensions (L x H)	167.64 x 126.39 mm (6.6" x 4.98")																

## Board Diagram



## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DVI-D	DP	COM	SATA III/ m-SATA	mini-PCIe	USB 2.0	USB 3.0	S/W RAID	AMT
PCE-3029G2-00A1E	H110	Non-ECC	PCE-3BXX	2	1	1*	1**	2 RS-232 4 RS-422/485 or 4 RS-232 (optional)***	4/0 3/1	1**	7	3	No	No

\* DVI-D cable (1700021831-01) is optional.

\*\* PCE-SA01-00A1E is required. PCE-SA01-00A1E is compatible with IPC-3026/IPC-6806S/ACP-4D00/ACP-4020, but not compatible with IPC-3012.

\*\*\*PCA-COM485-00A1E is required for additional 4 RS422/485; PCA-COM232-00A1E is required for additional 4 RS232.

## Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4 x RS-422/485 module
PCA-COM232-00A1E	4 x RS-232 module
PCA-AUDIO-HDB1E	Audio module with Realtek ACL892
PCA-TPM-00A1E	TPM 1.2 module
PCA-TPM-00B1E	TPM 2.0 module
PCE-SA01-00A1E	IO extension module
1700021831-01	DP to DVI-D cable w/ BKT
1960052651N021	2U cooler for Intel Core i7-6700, i7-6700TE, i5-6500, i5-6500TE, i3-6100, i3-6100TE, G4400, G4400TE, G3900, G3900TE
1960053207N001	1.5U cooler for Intel Core i7-6700, i7-6700TE, i5-6500, i5-6500TE, i3-6100, i3-6100TE, G4400, G4400TE, G3900, G3900TE
1960053065N001	1U cooler for Intel Core i7-6700TE, i5-6500TE, i3-6100TE, G4400TE, G3900TE

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x1
1700022749-11	Serial ATA HDD power cable	x1
1700008762	2-port COM cable	x1
1700002223	1-port LPT cable	x1
1700060202	Keyboard and mouse Y-cable	x1
1700020277-01	2 ports USB 3.0 cable W/BKT	x1
1700014398-11	4-port USB cable kit	x1
1703040100	Power Converter	x1
9689000002	Jumper package	x1
2001302910	Startup manual	x1
2061302900	Utility CD	x1

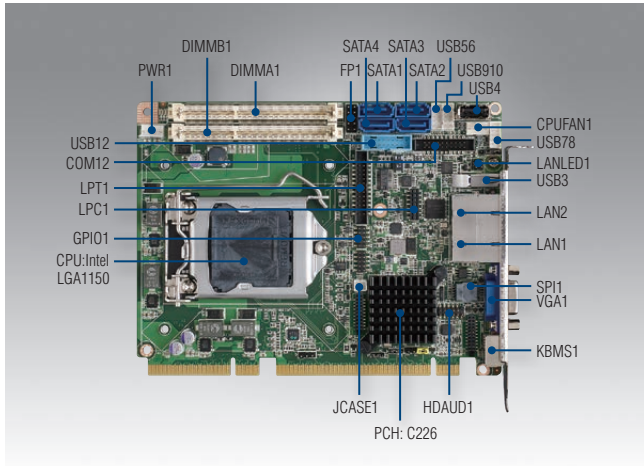
## Bracket View



PCE-3029G2-00A1E

# PCE-4128

**LGA 1150 4th Gen Intel® Xeon® and Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/Triple independent display/Dual GbE LAN/SATA 3.0/m-SATA/ USB 3.0**



## Features

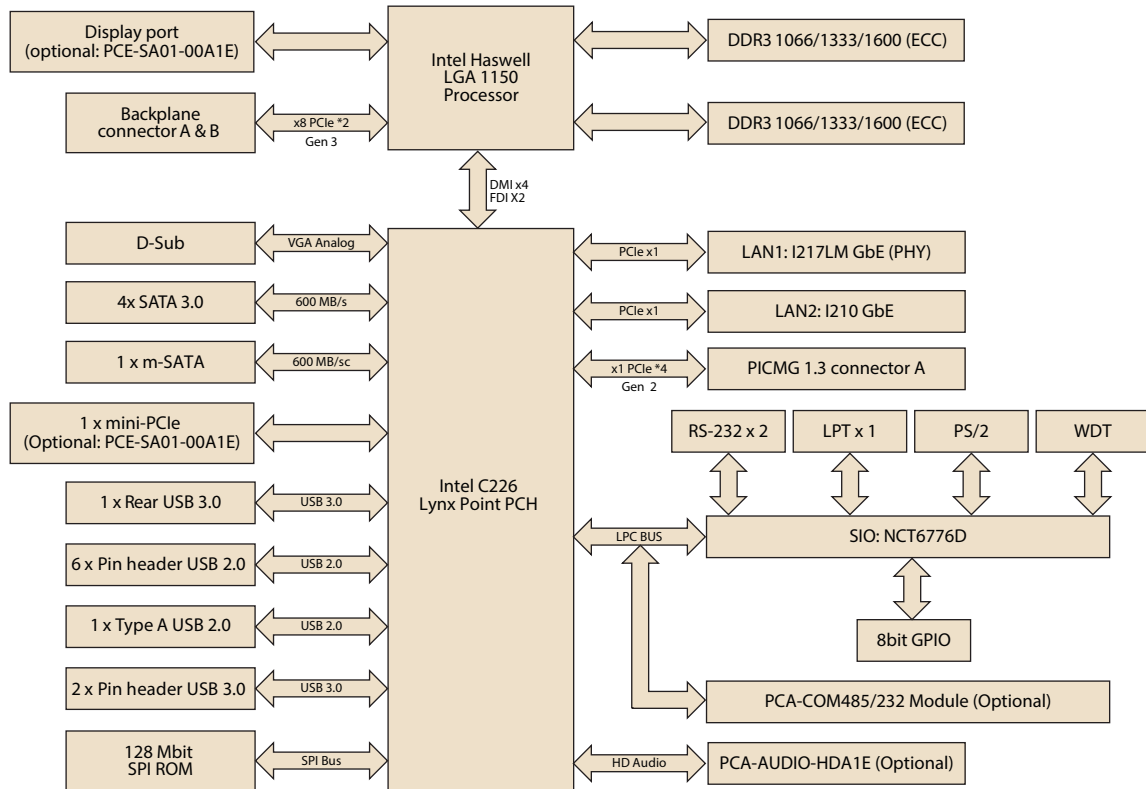
- Complies with PICMG 1.3
- Supports Intel Xeon E3 1200v3 series, Core i7/i5/i3 LGA1150 processors with C226
- Dual Channel DDR3 1066/1333/1600 up to 16 GB
- Supports PCIE 3.0, USB 3.0, SATA3.0, SW Raid 0, 1, 5, 10
- Supports triple displays
- Support dual 10/100/1000 Mbps Ethernet
- Supports out-of-band remote management with AMT9.0
- Supports Advantech TPM module (LPC I/O)
- Supports SUSIAccess and Embedded Software APIs

CE FCC

## Specifications

Processor System	CPU	E3-1275v3	E3-1225v3	E3-1268v3	i5-4570TE	i3-4360	i3-4330	i3-4330TE	G3420	G3320TE	G1820	G1820TE	
	Base Frequency	3.5GHz	3.2GHz	2.3GHz	2.7GHz		3.5GHz	2.4GHz	3.2 GHz	2.3 GHz	2.7 GHz	2.2 GHz	
	L3 Cache	8MB	8MB	8MB	4MB		4MB	4MB	3MB	3MB	2MB	2MB	
	SKU/Chipset	Intel C226											
	BIOS	AMI 128Mbit SPI Flash											
Bus	PCI-Express	Two x8 or one x16, plus four x1 to backplane											
Memory	Technology	Dual channel DDR3 ECC 1066/1333/1600 MHz (ECC function enable depends on processor support)											
	Max. Cap.	16 GB (8 GB per DIMM)											
	Socket	DDR3 204-pin SO-DIMM X2											
Graphics	Controller	Chipset integrated Intel GT2 P4600 or GT2 4600 or GT1 HD graphics (Depends on CPU support)											
	VRAM	Shared system memory is subject to OS											
	CRT	Supports resolution up to 1920 x 1200 pixel at 60MHz											
	DP	Supports resolution up to 3840 x 2160 @ 60Hz											
Ethernet	Triple Display	CRT + DP (Optional: PCE-SA01-00A1E)											
	Interface	10/100/1000 Mbps											
	Controller	LAN 1: Intel I217LM LAN 2: Intel I210AT											
Rear I/O	Connector with LED	RJ45 x 2											
	USB 3.0	1											
	Ethernet	2											
	VGA	1											
Internal Connector	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)											
	USB	Seven USB2.0 (6 pin headers + 1 USB Type A); Three USB3.0 (1 on rear IO + 2 pin header)											
	SATA 3.0	4 (600 MB/sec, supports S/W RAID 0,1, 5, 10)											
	COM	2											
	Parallel	1											
Watchdog Timer	GPIO	8 bit											
	Output	System reset											
	Interval	Programmable 1-255 sec											
Miscellaneous	Audio	Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDA1E)											
Power Requirement	Test environment	Intel Xeon E3-1275 v3 (3.5GHz), DDR3 1600 8GB *2											
	Voltage	12V	5V	3.3V	5VSB		-5V	-12V					
	Current	7.36	0.96	0.83	0.13		0	0					
Environment	Operating											Non-operating	
	Temperature/Humidity	0 ~ 60 °C (32~140 °F); Depends on CPU frequency and cooler solution										-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing	
Physical	Dimensions (L x H)	167.64 x 126.39 mm (6.6" x 4.98")											

## Board Diagram



\*Display type depends on optional stack board

## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP	COM	SATA III	USB 2.0	USB 3.0	m-SATA	mini-PCIe	S/W Raid	AMT
PCE-4128G2-00A1E	C226	ECC	PCE-3BXX PCE-4BXX	2	1	1*	RS-232 x2 onboard Optional RS-422/485 x4, or RS-232 x4 via module	4	7	3	1	1*	Yes	Yes

\*Optional: PCE-SA01-00A1E. PCE-SA01-00A1E is compatible with IPC-3026/IPC-6806S/ACP-4D00/ACP-4Q20, but not compatible with IPC-3012.

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x1
1703150102	Serial ATA HDD power cable	x1
1700008762	2-port COM cable	x1
1700002223	1-port LPT cable	x1
1700060202	Keyboard and mouse Y-cable	x1
1700014398	4-port USB cable kit	x1
1700020277-01	2 ports USB3.0 cable W/BKT	x1
1703040100	Power converter	x1
9689000002	Jumper package	x1
2190000902	Warranty Card	x1
2006302800	Startup manual	x1
2066302800	Utility CD	x1

## Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4 x RS-244/485 module
PCA-COM232-00A1E	4 x RS-232 module
PCA-AUDIO-HDA1E	Audio module with Realtek ALC-888
PCA-AUDIO-HDB1E	Audio module with Realtek ALC-892
PCA-TPM-00A1E	TPM module (Trust Platform management)
PCE-SA01-00A1E	I/O extension stack board
1960047831N001	2U cooler for Xeon E3-1275v3, E3-1225v3, E3-1268v3, i7-4770S, i7-4770TE, i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE
1960053207N001	1.5U cooler for i7-4770S, i7-4770TE, i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE
1960053065N001	1U blower for i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE

## I/O View

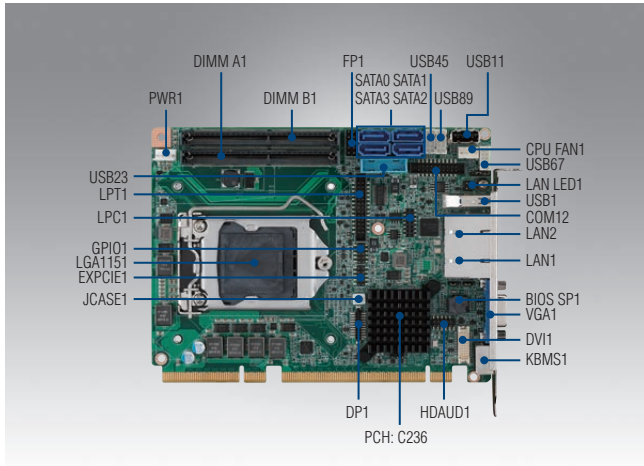


PCE-4128G2-00A1E



# PCE-4129

## LGA 1151 6th and 7th Gen Intel® Xeon® and Core™ i7/i5/i3 Half-size SHB with PCIe 3.0/Triple Independent Display/ Dual GbE LAN/SATA III/m-SATA/ USB 3.0



CE FCC

### Features

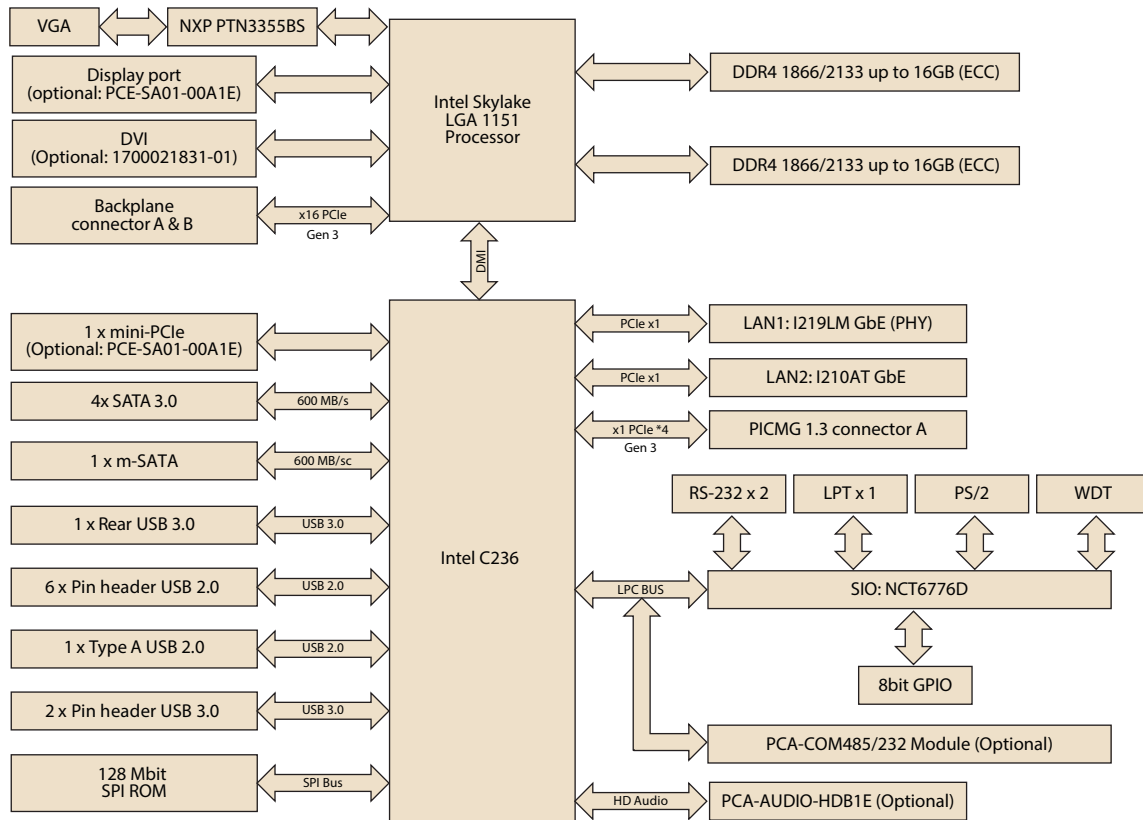
- Complies with PICMG 1.3
- Supports Intel Xeon E3 1200v5 series, Core i7/i5/i3 LGA1151 processors with C236
- Dual Channel DDR4 1866/2133 (ECC) up to 32 GB
- Supports PCIe 3.0, USB 3.0, SATA3.0, SW RAID 0, 1, 5, 10
- Supports triple displays: VGA+DVI-D (optional) + DP (optional)
- Supports out-of-band remote management with AMT9.0
- Supports Advantech TPM module (optional)
- Supports SUSIAccess and embedded software APIs

Note: Intel 7th generation processors only support Windows 10 (64-bit)

### Specifications

		E3-1275v6	E3-1275v5	E3-1225v5	E3-1268Lv5	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE	
Processor System	CPU	E3-1275v6	E3-1275v5	E3-1225v5	E3-1268Lv5	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE	
	Base Frequency	3.8 GHz	3.6 GHz	3.3 GHz	2.4 GHz	3.6 GHz	2.9 GHz	3.4 GHz	2.4 GHz	3.4 GHz	2.7 GHz	3.2 GHz	2.3 GHz	3.9 GHz	3.4 GHz	3.7 GHz	2.7 GHz	3.3 GHz	2.9 GHz	2.8 GHz	2.6 GHz	
	L3 Cache	8 MB	8 MB	6 MB	8 MB	8 MB	8 MB	8 MB	8 MB	6 MB	6 MB	6 MB	6 MB	3 MB	3 MB	4 MB	4 MB	3 MB	3 MB	2 MB	2 MB	
	SKU/Chipset	Intel C236																				
	BIOS	AMI 128 Mbit SPI Flash																				
Bus	PCI-Express	Two x8 or one x16, plus four x1 to backplane (PCIe Gen 3.0)																				
Memory	Technology	Dual channel DDR4 ECC 1866/2133 MHz (ECC function enable depends on processor support)																				
	Max. Cap.	32 GB (16 GB per DIMM)																				
	Socket	DDR4 260-pin SO-DIMM X2																				
Graphics	Controller	Chipset integrated Intel HD Graphics																				
	VRAM	Shared system memory is subject to OS																				
	CRT	Supports resolution up to 1920 x 1200 pixel at 60MHz																				
	DVI-D	Supports resolution up to 1920 x 1200 pixel at 60MHz																				
	DP	Supports resolution up to 4096 x 2304 @ 60Hz																				
	Triple Display	CRT + DP (Optional: PCE-SA01-00A1E) + DVI-D (Optional: 1700021831-01)																				
Ethernet	Interface	10/100/1000 Mbps																				
	Controller	LAN 1: Intel I219LM LAN 2: Intel I210AT																				
	Connector with LED	RJ45 x 2																				
Rear I/O	USB 3.0	1																				
	Ethernet	2																				
	VGA	1																				
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)																				
Internal Connector	USB	7 USB2.0 (Pin headers*6 + USB Type A*1); 2 USB3.0 (Pin header)																				
	SATA 3.0	4 (600 MB/sec, supports S/W RAID 0, 1, 5, 10)																				
	m-SATA	1 (600 MB/sec)																				
	mini-PCIe	1 (Optional: PCE-SA01-00A1E, PCIe Gen 2.0)																				
	COM	2 (RS-232)																				
	Parallel	1 (SPP/EPP)																				
	GPIO	8 bits																				
Watchdog Timer	Output	System reset																				
	Interval	Programmable 1-255 sec																				
Miscellaneous	Audio	Intel High Definition audio interface (requires an audio extension module P/N: PCA-AUDIO-HDB1E)																				
	Test environment	Intel Xeon E3-1225 v5 (3.30GHz), DDR4 2133 8GB *2																				
Power Requirement	Voltage	12V	5V	3.3V				5VSB	-12V			-5V	-5V									
	Current	4.6	0.01	0.32				0.08	0			0	0									
Environment		Operating															Non-operating					
	Temperature/Humidity	0 ~ 60 °C (32~140 °F); depends on CPU frequency and cooler solution															-40 ~ 85 °C and 60 °C @ 95% RH non-condensing					
Physical		Operating humidity: 40 °C @ 85% RH non-condensing																				
	Dimensions (L x H)	167.64 x 126.39 mm (6.6" x 4.98")																				

## Board Diagram



## Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DVI-D	DP	COM	SATA III	USB 2.0	USB 3.0	m-SATA	mini-PCIe	S/W RAID	AMT
PCE-4129G2-00A1E	C236	ECC/ Non-ECC	PCE-3BXX PCE-4BXX	2	1	1*	1**	2 RS-232 4 RS-422/485 or 4 RS-232 (optional)***	4	7	3	1	1**	Yes	Yes

\* DVI-D cable (1700021831-01) is optional.

\*\* PCE-SA01-00A1E is required. PCE-SA01-00A1E is compatible with IPC-3026/IPC-6806S/ACP-4D00/ACP-4020, but not compatible with IPC-3012.

\*\*\*PCA-COM485-00A1E is required for additional 4 RS422/485; PCA-COM232-00A1E is required for additional 4 RS232.

## Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4 x RS-422/485 module
PCA-COM232-00A1E	4 x RS-232 module
PCA-AUDIO-HDB1E	Audio module with Realtek ACL892
PCA-TPM-00A1E	TPM 1.2 module
PCA-TPM-00B1E	TPM 2.0 module
PCE-SA01-00A1E	IO extension module
1700021831-01	DP to DVI-D cable w/ BKT
1960052651N021	2U cooler for Intel Xeon E3-1275v5, E3-1225v5, E3-1268Lv5, i7-6700, i7-6700TE, i5-6500, i5-6500TE, i3-6100, i3-6100TE, G4400, G4400TE, G3900, G3900TE
1960053207N001	1.5U cooler for Intel E3-1268Lv5, i7-6700, i7-6700TE, i5-6500, i5-6500TE, i3-6100, i3-6100TE, G4400, G4400TE, G3900, G3900TE
1960053065N001	1U cooler for Intel E3-1268Lv5, i7-6700TE, i5-6500TE, i3-6100TE, G4400TE, G3900TE

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x1
1700022749-11	Serial ATA HDD power cable	x1
1700008762	2-port COM cable	x1
1700002223	1-port LPT cable	x1
1700060202	Keyboard and mouse Y-cable	x1
1700014398-11	4-port USB cable kit	x1
1700020277-01	2 ports USB3.0 cable W/BKT	x1
1703040100	Power converter	x1
9689000002	Jumper package	x1
2001302910	Startup manual	x1
2061302900	Utility CD	x1

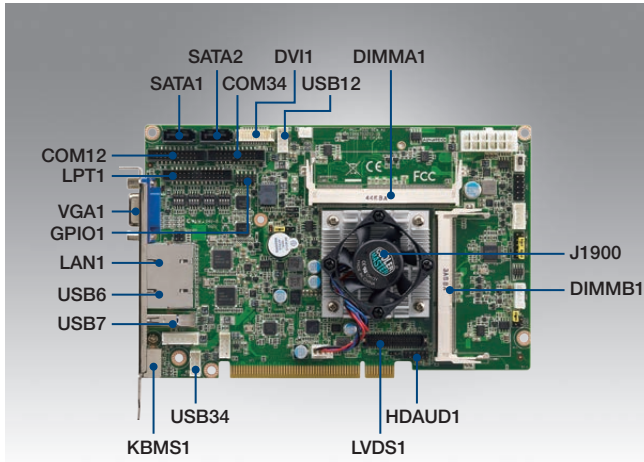
## Bracket View



PCE-4129G2-00A1E

# PCI-7032

## Intel® Celeron J1900/N2930 PCI Half-size SBC with DDR3L 1333/Dual GbE/ m-SATA/4 RS-232/422/485



### Features

- Ultra low power Intel® Celeron processor J1900/N2930, VG SKU is fanless design
- Dual channel DDR3L 1066/1333 on 204-pin SO-DIMM socket
- Dual independent display
- Up to 2 GbE LAN
- 2 SATA 2.0 (300 MB/s), one of them can be configured as m-SATA
- Legacy I/O: 4 RS-232/422/485, and 1 LPT support

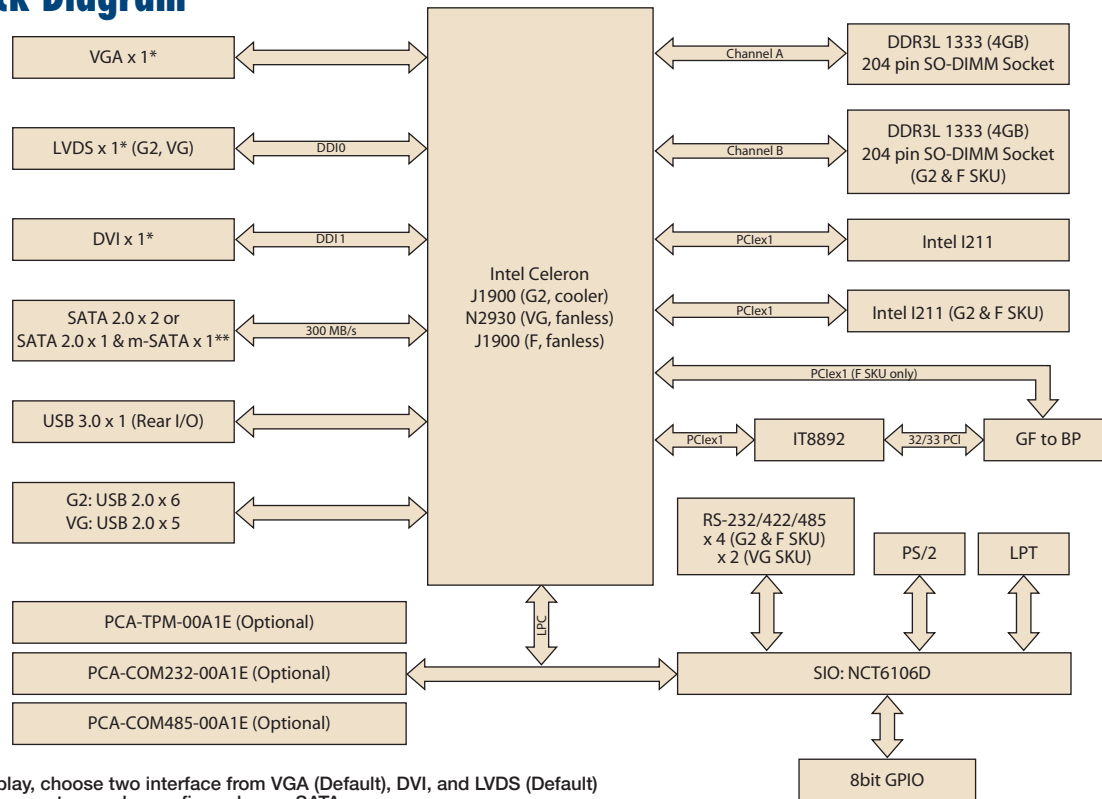
Quiet

### Specifications

CE FCC

Processor System	CPU	Intel Celeron N2930	Intel Celeron J1900
	Speed	1.83 GHz	2.0 GHz
	L2 Cache	2 MB	2 MB
	BIOS	AMI 64Mb SPI Flash	
Bus	PCI-Express	PCIe x 1 (F SKU only)	
	PCI	Four 32 bit/33 MHz PCI Masters to Backplane	
Memory	Technology	G2: Dual channel DDR3L-1333 VG: DDR3L-1333 F: Dual channel DDR3L-1333	
	Max. Cap.	8 GB (4GB per DIMM)	
	Socket	DDR3 204-pin SO-DIMM x1 (VG); x2 (G2, F)	
Graphics	Onboard	Chipset integrated Intel® HD Graphics	
	VRAM	Shared system memory. It subjects to the OS.	
	Video Interface	Dual independent display: choosing two interfaces from VGA (default), LVDS (default), and DVI VGA: Supports up to 2560 x 1600 @ 60 Hz LVDS: 48 bit (Dual channel 24 bit) LVDS up to 1920 x 1200 @ 60 Hz DVI: Supports up to 2560 x 1600 @ 60 Hz	
	Video Output	Dual independent display: choosing two interface from VGA (Default), DVI and LVDS (Default)	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	LAN1: Intel I211 LAN2: Intel I211 (G2, F)	
	Connector	RJ-45 with LED Connector x 2	
SATA	Max. Transfer Rate	300 MB/s (SATA 2.0)	
	Channel	2 (SATA2 can be configured as m-SATA)	
I/O Interface	USB 2.0	G2: one USB 3.0 (5Gbps, rear I/O), six USB 2.0 (480Mbps, pin-header x6) VG: one USB 3.0 (5Gbps, rear I/O), five USB 2.0 (480Mbps, pin-header x4, rear I/O x1) F: one USB 3.0 (5Gbps, rear I/O), six USB 2.0 (480Mbps, pin-header x6)	
	Serial	Four RS-232/422/485 for G2 & F; Two RS-232/422/485 for VG	
	Parallel	1 (EPP/ECP)	
	PS/2	1 (for mouse and keyboard, a Y cable is included in the package)	
Watchdog Timer	Output	System reset	
	Interval	Programmable, 1~255 sec/min	
Miscellaneous	Audio Output	Intel High Definition audio interface (requires a audio extension module)	
		Operating	Non-Operating
Environment	Temperature	0 ~ 60 °C (32 ~ 140 °F) (operating humidity: 40 °C @ 85% RH Non-Condensing)	-40 ~ 85 °C and 60 °C @ 95% RH Non-Condensing
	Test Environment	Intel Celeron J1900 (2GHz), DDR3L 1333, 4GB SO-DIMM module*2	
Power Requirement	Voltage	12V	5V 5VSB
	Current	0.737A	0.298A 0.044A
Physical	Dimensions (L x H)	185 x 122 mm (7.3" x 4.8")	

### Block Diagram



\* Dual display, choose two interface from VGA (Default), DVI, and LVDS (Default)  
 \*\* SATA2 connector can be configured as m-SATA.

### Ordering Information

Model Name	SoC	Memory	DIMM Slot	Fanless	USB	COM Port	PCIe x 1	LPT	LAN	VGA	LVDS	DVI	m-SATA	HW Monitor
PCI-7032G2-00A1E	J1900	Dual channel DDR3L-1333 up to 8GB (204-pin SO-DIMM socket x2)	2	No	1 x USB 3.0 6 x USB 2.0	4	No	1	2	Yes	Yes	Yes	Yes	Yes
PCI-7032VG-00A1E	N2930	DDR3L-1333 up to 4GB (204-pin SO-DIMM socket x1)	1	Yes	1 x USB 3.0 5 x USB 2.0	2	No	1	1	Yes	Yes	Yes	Yes	No
PCI-7032F-00A1E	J1900	Dual channel DDR3L-1333 up to 8GB (204-pin SO-DIMM socket x2)	2	Yes	1 x USB 3.0 6 x USB 2.0	4	Yes	1	2	Yes	No	Yes	No	No

\*PCI-7032F-00A1E is only compatible with Advantech IPC-120 chassis which has special thermal design and can NOT be used with other enclosures.

### Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4x RS-422/485 module
PCA-COM232-00A1E	4 x RS-232 module
PCA-TPM-00A1E	TPM module (Trusted platform management)
1700021831-01	DVI cable
1700000265	12 pin-12 pin ATX power cable kit
1703100261	2-port USB cable kit

### Packing List

Part Number	Description	Quantity
1960046526N001	CPU cooler for Celeron J1900 SoC (only available for G2 SKU)	x 1
1700003194	Serial ATA HDD data cable	x 1
1700022749-11	Serial ATA HDD power cable	x 1
1700002223	Printer (parallel) port cable kit	x 1
1700008762	Dual COM ports cable kit	x2 (G2,F) x1 (VG)
1700002343	ATX feature cable	x 1
1700014398-11	4-port USB cable kit	x 1
1700060202	Y cable for PS/2 keyboard and PS/2 mouse	x 1
9689000068	Jumper pack	x 1
2001703200	PCI-7032 startup manual	x 1
2061703200	DVD with driver utility and manual (in PDF format)	x 1

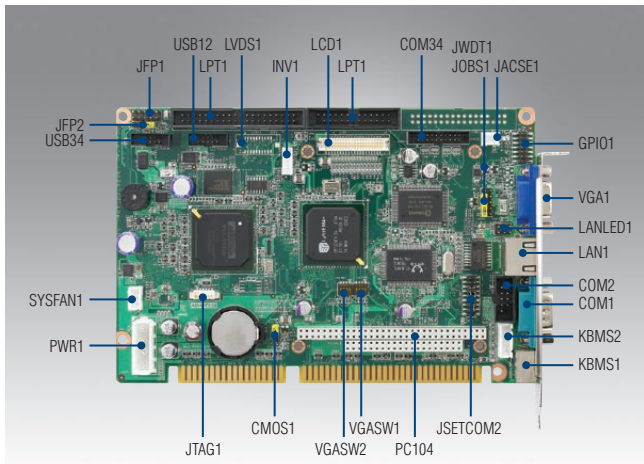
### I/O View



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- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
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# PCA-6742

Advantech EVA-X4300 ISA Half-size SBC with VGA/LCD/LAN/CFC/USB and PC/104



## Features

- Low power fanless EVA-X4300
- Onboard 128/64 DDR2 RAM
- 10/100 Mbps Ethernet
- 1024 x 768 @ 18/24-bit TTL/LVDS support

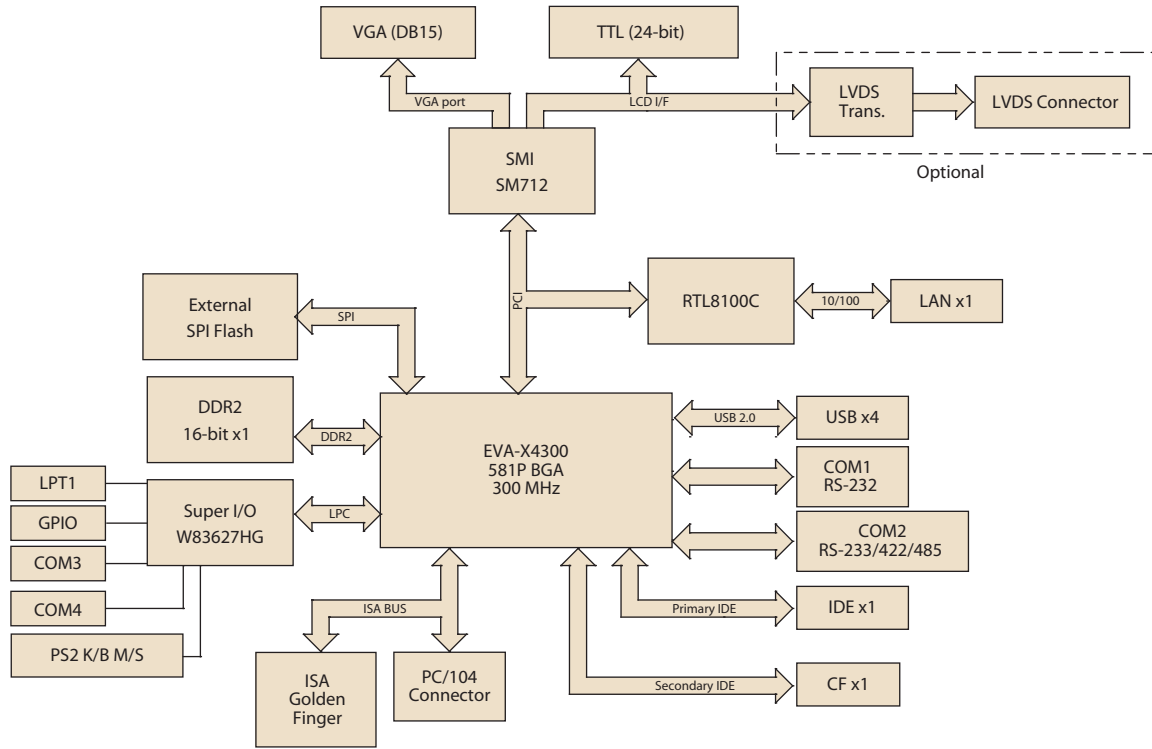
CE FCC

## Specifications

Processor System	CPU	Advantech EVA-X4300 up to 300 MHz
	Max. Speed	300 MHz
	L1 Cache	32 KB
	Chipset	Advantech EVA-X4300 up to 300 MHz
	BIOS	Award integrated 256 KB ROM in Advantech EVA-X4300
Bus	PCI	32-bit/33 MHz
	ISA	8/16-bit 8 MHz
Memory	Technology	Default onboard DDR2 128 MB
	Socket	-
Graphics	Controller	Chipset integrated VGA controller VGA mode: SM712 graphics chip supports 1024 x 768 @ 24-bit true color LCD mode: SMI SM712 2D graphics chip supports 1024 x 768 @ 18/24-bit TFT
	VRAM	4 MB display memory
	LVDS	Yes (Optional)
	TTL	Up to 24-bit TTL for TFT LCD
	Dual Display	Supports CRT+LCD simultaneously display
Ethernet	Interface	10/100 Mbps
	Controller	Realtek RTL8100CL
	Connector	RJ-45 x 1
EIDE	Mode	PIO 4
	Channel	1
SATA (150 MB/s)	Port	-
I/O Interface	USB	4 ports (USB 2.0 and USB1.1 under DOS)
	Serial	4 COM (1 x RS-232/422/485 on one 2.54 mm pitch wafer box, 1 x RS-232 on rear I/O, 2 x RS-232 on one 2.0 mm pitch wafer box)
	Parallel	1 (via super I/O)
	FDD	-
	GPIO	8 bit; COMS Level (0 ~ 3.3 V)
	PS/2	6-pin DIN socket on bracket for PS/2 keyboard and mouse. (via super I/O) 6-pin (2.54 mm) wafer box connector for keyboard only
	Watchdog Timer	Output
	Interval	Programmable, 1~255 sec/min
Miscellaneous	Audio Output	-
	Solid State Disk	CompactFlash socket (Type I/II), shared with secondary IDE
Power Requirement	Typical	+5 V @ 1.6 A
	Max	+5 V @ 2 A
Environment	Operating	Non-Operating (Storage)
	Temperature	0 ~ 60 °C (32 ~ 140 °F) (operating humidity: 40 °C @ 85% RH Non-Condensing)
Physical	Dimensions (L x H)	185 x 122 mm (7.3" x 4.8")
OS		DOS, Win CE 5.0



### Block Diagram



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- Intelligent Transportation Platforms 3
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- Industrial Server Chassis 10
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- CompactPCI Platforms 13
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- Industrial Ethernet Solutions 15

### Ordering Information

P/N	CPU	LVDS	TTL	USB	GPIO	FE LAN	FDD
PCA-6742LV-00A1E	EVA-X4300	-	-	4	-	-	-
PCA-6742VE-00A1E	EVA-X4300	(Optional)	24-bit	4	1	RTL 8100C	-

### Packing List

Part Number	Description	Quantity
1701260305	COM2 + LPT cable	x 1
1700060202	Y-cable for PS/2 Keyboard, PS/2 Mouse	x 1
1701400452	EIDE (HDD) cable	x 1
9689000002	Jumper pack	x 1
1700008887	USB cable with 4 ports (2.0 mm pitch)	x 1
-	Utility CD	x 1
-	Startup manual	x 1

### Optional Accessories

Part Number	Description
1703100260	USB cable with 2 ports (2.0 mm pitch)
1700008762	Dual-COM port cable kit for COM 3-4
PCA-SATAP2-00A1E	IDE/SATA Adapter for CPU cards

### I/O View



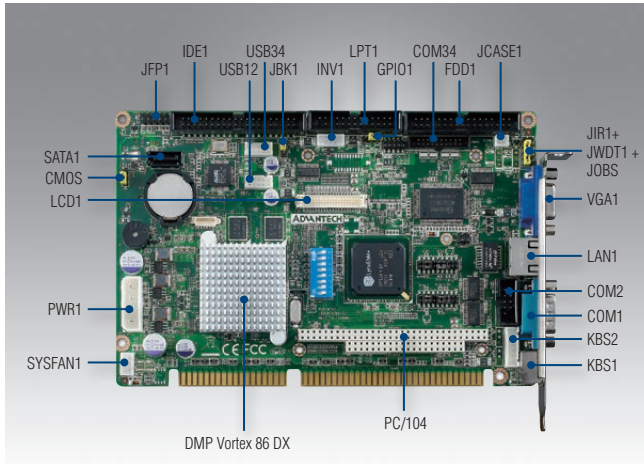
PCA-6742LV-00A1E



PCA-6742VE-00A1E

# PCA-6743

## DM&P Vortex86DX ISA Half-size SBC with VGA/TTL or LVDS/LAN/USB/PC/104/CFC/COM



### Features

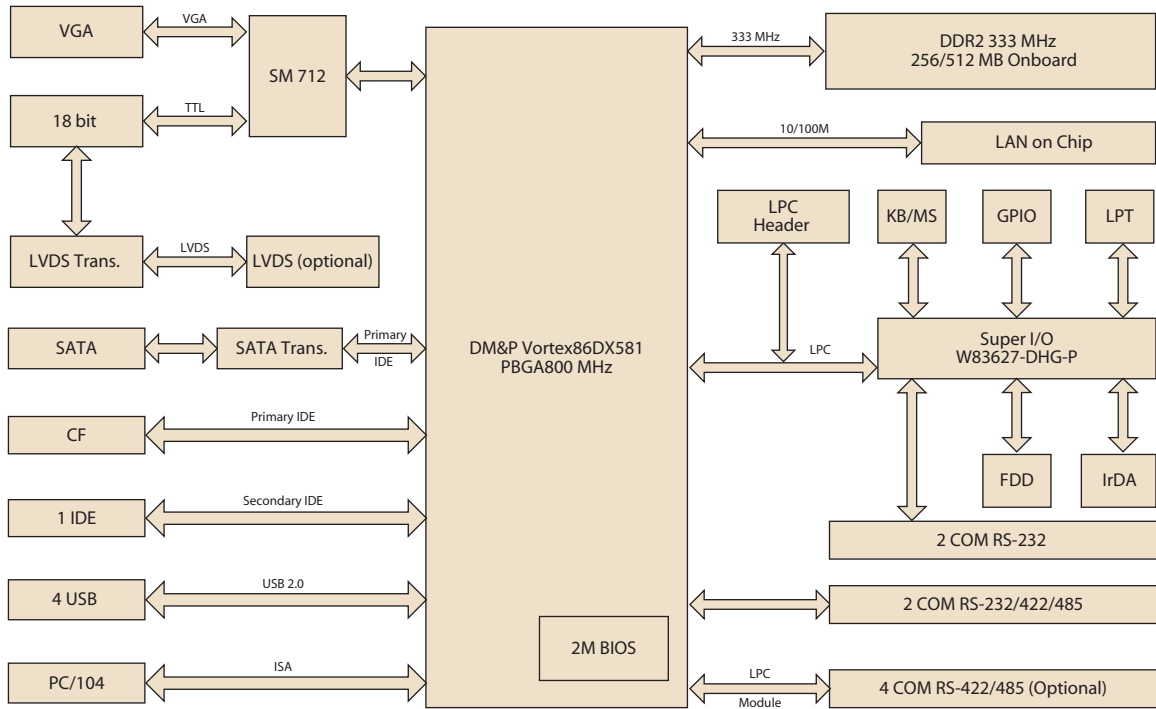
- Ultra low power, fanless DM&P Vortex86DX processor and 512/256 MB onboard DDR2 memory
- VGA+LCD dual video outputs
- FDD/ PC/104/ COM supported
- Optional module for 4 COM485 w/auto-flow control

CE FCC

### Specifications

Processor System	CPU	DM&P Vortex86DX	
	Max. Speed	800 MHz	
	L1 Cache	16 KB I/D-Cache	
	L2 Cache	256 KB	
	Chipset	DM&P Vortex86DX	
BIOS	BIOS	Award integrated in DM&P Vortex86DX	
	ISA	Full 16-bit ISA Bus signal	
Memory	Technology	Default onboard DDR2 256MB (For VE SKU) Default onboard DDR2 512MB (For F SKU)	
	Socket	-	
	Controller	Chipset integrated VGA controller VGA mode: SM712 graphics chip supports 1024 x 768 @ 24-bit true color LCD mode: SMI SM712 2D graphics chip supports 1024 x 768 @ 18-bit TFT	
Graphics	VRAM	Shared 4 MB	
	LVDS	18 bit LVDS (optional)	
	TTL	Up to 24-bit TTL for TFT LCD	
	Dual Display	Supports VGA+LCD simultaneous display	
	Interface	10/100 Mbps	
Ethernet	Controller	LAN on Vortex86DX	
	Connector	RJ-45 x 1	
	Mode	UDMA 100	
EIDE	Channel	1 (2 IDE devices from secondary IDE)	
	Port	1 (F SKU)	
I/O Interface	USB	4 (USB 2.0 ports)	
	Serial	F SKU: 2 RS-232/422/485 (1 Real I/O and 1 Pin header) + 2 RS-232 (with Pin header) VE SKU: 2 RS-232 (1 Real I/O and 1 Pin header) Optional: PCA-COM485; Add 4 RS-422/485 with Auto-Flow Control (Need to check if IRQ is available or not)	
	Parallel	1 (EPP/ECP/SPP)	
	FDD	1	
	GPIO	8-bit 4 in/4 out	
	PS/2	1 (6-pin DIN socket on bracket for PS/2 keyboard and mouse, 6-pin wafer box connector for keyboard only)	
	Watchdog Timer	Output	System reset/IRQ11
Miscellaneous	Interval	Programmable, 1~255 sec/min	
	Audio Output	-	
Power Requirement	Solid State Disk	Compact Flash socket (Type I/II) from primary master	
	Voltage	+12 V	+5 V
Environment	Current	0.04 A	1.44 A
	Temperature	Operating 0 ~ 60 °C (32 ~ 140 °F) (operating humidity: 40 °C @ 85% RH Non-Condensing)	Non-Operating -40 °C ~ 85 °C and 60 °C @ 95% RH Non-Condensing
	Dimensions (L x H)	185 x 122 mm (7.3" x 4.8")	

### Block Diagram



### Ordering Information

P/N	VGA	TTL	LVDS	SATA	COM	PC104	LPT	FDD	Onboard RAM
PCA-6743VE-Q0A2E	1	1	-	-	2 RS-232	-	1	1	256 MB
PCA-6743F-Q0A2E	1	1	-	1	2 RS-232 2 RS-232/422/485	1	1	1	512 MB
PCA-6743F-L0A2E	1	-	1	1	2 RS-232 2 RS-232/422/485	1	1	1	512 MB

### Packing List

Part Number	Description	Quantity
1700008762	Dual-COM port cable kit for COM3-4 (2.00 mm) (for F SKU)	x 1
1700014398-11	4-port USB cable kit (2.0 mm pitch)	x 1
1700060202	Y cable for PS/2 keyboard, PS/2 mouse	x 1
1701260305	COM2 (2.54 mm) +LPT (2.54 mm) cable (for F SKU)	x 1
1700003194	SATA HDD data cable	x 1
1700022749-11	SATA HDD power cable	x 1

### Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4 x RS-422/485 COM module

\* Please check the IRQ resource availability before add on the module.

### I/O View

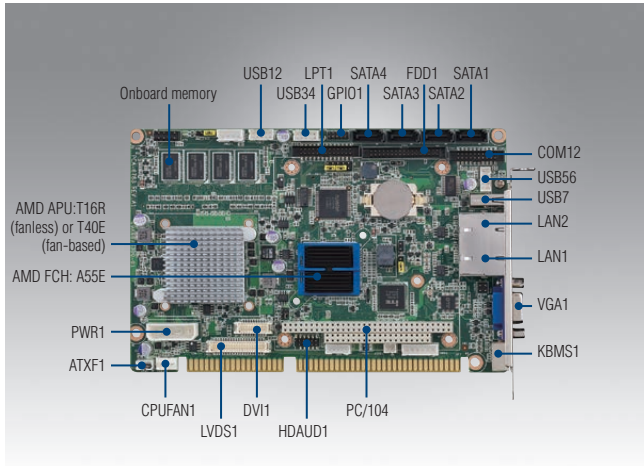


PCA-6743VE-Q0A2E  
PCA-6743F-Q0A2E  
PCA-6743F-L0A2E

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# PCA-6763

## AMD T40E/T16R ISA Half-size SBC with Dual Independent Display/Dual GbE/SATA/USB/m-SATA/COM/LPT



### Features

- Ultra low power, AMD dual-core Accelerated Processing Unit T40E or fanless T16R
- DDR3 1066 memory onboard 1GB+ DDR3 1066 SO-DIMM socket 4GB
- Dual independent display
- Up to 2 GbE LAN supported
- Up to 7 USB 2.0 (480 Mbps)
- 4 SATA 3.0 (600 MB/s) and 1 m-SATA (600 MB/s)
- Legacy I/O, such as FDD/ PC/104/ COM/ LPT supported
- Optional module for 4 RS-422/485 or 4 RS-232, TPM and HD audio

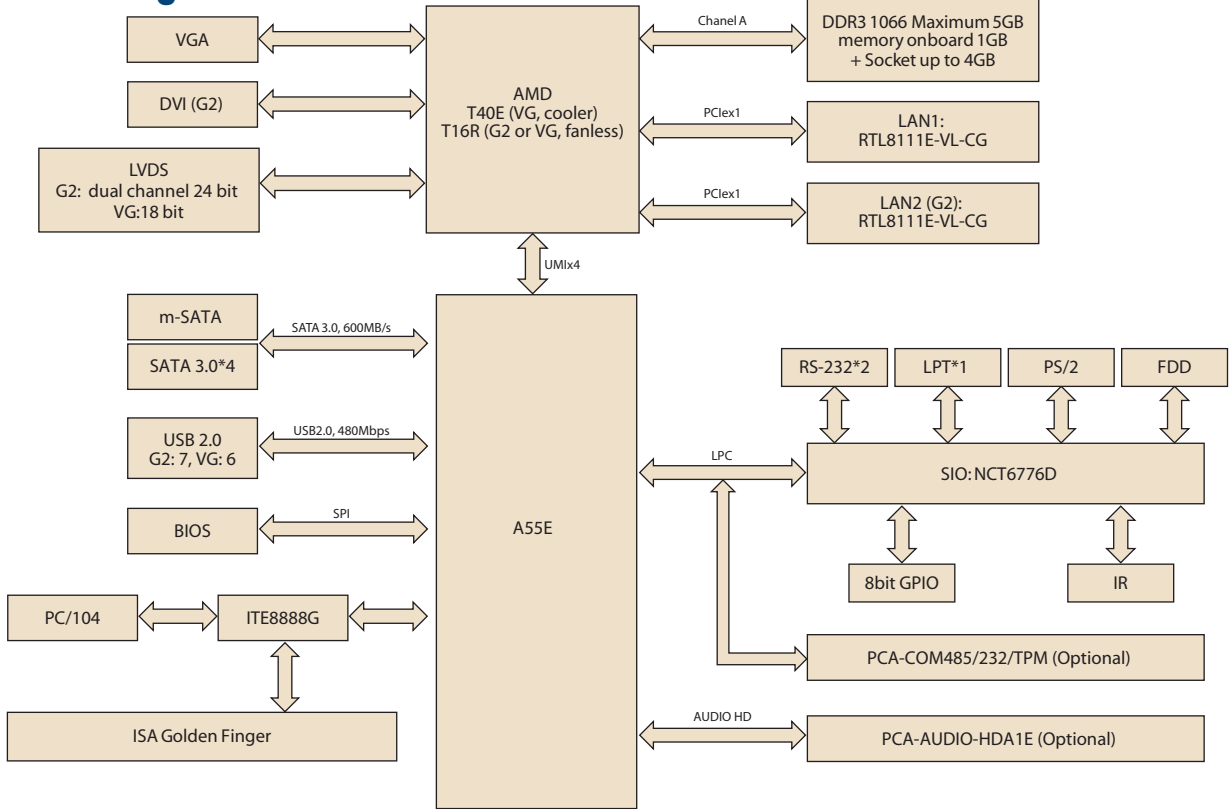
CE FCC

### Specifications

Processor System	CPU	AMD G-Series APU T16R	AMD G-Series APU T40E				
	Max. Speed	615 MHz	1 GHz				
	L2 Cache	512 KB					
	Chipset	AMD Fusion controller hub A55E					
	BIOS	AMI-EFI 32 Mbit SPI					
Bus	ISA	Full 16-bit ISA Bus signal					
Memory	Technology	DDR3 1066 1GB onboard+ DDR3 1066 up to 4GB on 1 x 204-pin SODIMM socket					
	Controller	AMD G-Series T16R or T40E (Integrated with AMD GPU Radeon HD 6250)					
Graphics	VRAM	Optimized shared memory architecture, up to 384 MB of system memory					
	Dual Display	G2: Choosing two interface from VGA (Default), LVDS, and DVI VG: VGA (Default)+LVDS					
	VGA	Up to 1920 x 1200 @ 60Hz					
	LVDS	G2: 48 bit (Dual channel 24 bit) LVDS up to 1920 x 1200 @ 60Hz VG: 18 bit LVDS up to 1024 x 768 @ 60Hz					
	DVI	Up to 1920 x 1200 @ 60Hz					
Ethernet	Interface	10/100/1000 Mbps					
	Controller	LAN1: Realtek RTL8111E-VL-CG LAN2: Realtek RTL8111E-VL-CG					
	Connector	RJ-45 x 2					
I/O Interface	USB	G2: USB2.0 x 7 (1 on bracket, 6 onboard) VG: USB2.0 x 6 (6 onboard)					
	SATA	SATA 3.0 x 4					
	m-SATA	1					
	AUDIO	HD AUDIO interface*1 for PCA-AUDIO-HDA1E (Optional)					
	Serial	RS-232 x 2 onboard Optional: RS-422/485 x 4 (PCA-COM485-00A1E) or RS-232 x 4 (PCA-COM232-00A1E) on module					
	Parallel	1 (EPP/ECP/SPP)					
	FDD	1					
	GPIO	8 bit					
	PS/2	1 (6-pin DIN socket on bracket for PS/2 keyboard and mouse, 6-pin wafer box connector)					
Watchdog Timer	Output	System reset/IRQ11					
	Interval	Programmable, 1~255 sec/min					
Power Requirement	Test Environment	AMD G-series T40E (1GHz), DDR3 1066 5GB (1GB onboard and 4 GB with DIMM)					
	Voltage	+12V	+5V	+3.3V	+5VSB	-12V	-5V
	Current	0.39A	1.93A	0A	0A	0A	0A
Environment	Temperature	Operating		Non-Operating			
		0 ~ 60 °C (32 ~ 140 °F) (operating humidity: 40 °C @ 85% RH Non-Condensing)		-40 °C ~ 85 °C and 60 °C @ 95% RH Non-Condensing			
Physical	Dimensions (L x H)	185 x 122 mm (7.3" x 4.8")					

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### Block Diagram



### Ordering Information

P/N	APU	GbE LAN	Memory	VGA	DVI	LVDS	USB	SATA	COM	LPT	PC104	FDD	mSATA
PCA-6763G2-00A1E	T16R	2	onboard 1GB+ Socket up to 4GB	1	1	48 bit	7	4	2 RS-232	1	1	1	1
PCA-6763VG-00A1E	T16R	1	onboard 1GB+ Socket up to 4GB	1	-	18 bit	6	4	2 RS-232	1	1	1	1
PCA-6763VG-S0A1E	T40E	1	onboard 1GB+ Socket up to 4GB	1	-	18 bit	6	4	2 RS-232	1	1	1	1

### Packing List

Part Number	Description	Quantity
1700008762	Dual-COM port cable kit (for G2 SKU)	x 1
1700014398-11	4-port USB cable kit (2.0 mm pitch)	x 1
1700060202	Y cable for PS/2 keyboard, PS/2 mouse	x 1
1700003194	SATA HDD data cable	x 1
1700022749-11	SATA HDD power cable	x 1
1700002343	ATX feature cable	x1
1700002223	LPT port cable kit (for G2 SKU)	x1
1700008954	LPT+COM cable kit (for VG SKU)	x1
1960046526N001	CPU cooler for AMD T40E APU (only available for PCA-6763VG-S0A1E)	x 1

### Optional Accessories

Part Number	Description
PCA-COM485-00A1E	4 x RS-422/485 COM module
PCA-COM232-00A1E	4 x RS-232 COM module
PCA-AUDIO-HDA1E	Extension module for 7.1 channel High Definition audio
PCA-TPM-00A1E	Trusted platform module compliant with TCG 1.2
1700008822	DVI cable
1701340603	FDD cable

### I/O View





# PICMG 1.3 Full-Size SHB Backplanes

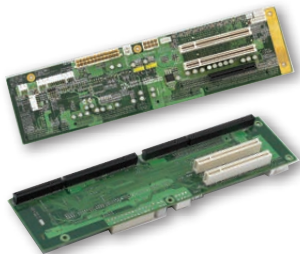
## Server Grade Backplanes

Compatible with PCE-7000 Series System Host Board

### 2U Butterfly Backplanes

#### PCE-7B06V-04A1E

- 6-slot Butterfly BP for 2U chassis
- Segment: 1
- One CPU card slot
- PCIe slot: One x8
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: ACP-2000EBP and IPC-602EBP



### 8-slot Wallmount Chassis Backplanes

#### PCE-7B08-04A1E

- 8-slot BP for 8-slot chassis
- Segment: 1
- One CPU card slot
- PCIe slot: Two x8; One x4
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-6608



### 14-slot Rackmount Chassis Backplanes

#### PCE-7B13-64C1E

- 13-slot BP for 14-slot chassis
- Segment: 1
- One CPU card slot
- PCIe slot: Two x8
- PCI-X slot: Two 64/100; Four 64/66
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320, ACP-4340, and ACP-4360



#### PCE-7B13-07A1E

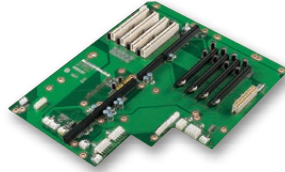
- 13-slot BP for 14-slot chassis
- Segment: 1
- One CPU card slot
- PCIe slot: Two x8, Three x4
- PCI-X slot: N/A
- PCI slot: Seven 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320, ACP-4340, and ACP-4360



## 14-slot Rackmount Chassis Backplanes

### PCE-7B09R-04A1E

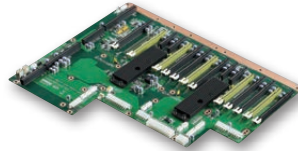
- 9-slot BP for 14-slot chassis
- Segment: 1
- One CPU card slot
- PCIe slot: One x8, Three x4
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP- 4000, ACP-4010, ACP-4320, ACP-4340, and ACP-4360



## 20-slot Rackmount Chassis Backplanes

### PCE-7B17-00A1E

- 17 slot BP for 20-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: five x8, eleven x4
- PCI-X slot: N/A
- PCI slot: N/A
- Compatible with IPC chassis: IPC-623, IPC-622



### PCE-7B19-88B1E

- 19-slot BP for 20-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: Two X8
- PCI-X slot: Eight 64/100
- PCI slot: Eight 32/33
- Compatible with IPC chassis: IPC-623, IPC-622



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# PICMG 1.3 Full-Size SHB Backplanes

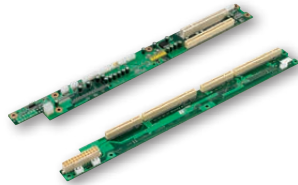
## Mainstream Backplanes

Compatible with PCE-5000 Series System Host Board

### 1U Butterfly Backplanes

#### PCE-5B03V-01A1E

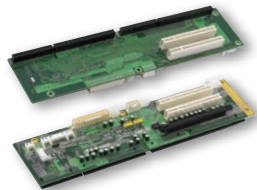
- 3-slot Butterfly BP for 1U chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: N/A
- PCI slot: One 32/33
- Compatible with IPC chassis: ACP-1010



### 2U Butterfly Backplanes

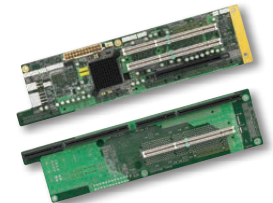
#### PCE-5B06V-04A1E

- 6-slot Butterfly BP for 2U chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: ACP-2000EBP and IPC-602EBP



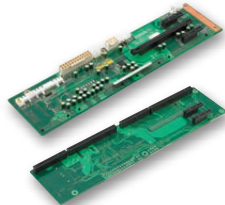
#### PCE-5B05V-30B1E

- 5-slot Butterfly BP for 2U chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: Two 64/100; one 64/133
- PCI slot: N/A
- Compatible with IPC chassis: ACP-2000EBP and IPC-602EBP



#### PCE-5B06V-00A1E

- 6-slot Butterfly BP for 2U chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; Four x1
- PCI-X slot: N/A
- PCI slot: N/A
- Compatible with IPC chassis: ACP-2000EBP and IPC-602EBP



### 5-slot Wallmount Chassis Backplanes

#### PCE-5B05-02A1E

- 5-slot BP for 5-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; One x4
- PCI-X slot: N/A
- PCI slot: Two
- Compatible with IPC chassis: IPC-6025



#### PCE-5B04-20B1E

- 4-slot BP for 5-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: Two 64/100
- PCI slot: N/A
- Compatible with IPC chassis: IPC-6025



#### PCE-5B05-04A1E

- 5-slot BP for 5-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: N/A
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC-6025



#### PCE-5B05-03A1E

- 5 slot BP for 5 slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: N/A
- PCI slot: Three PCI 32/33
- Compatible with IPC chassis: IPC-6025



## 6-slot Wallmount Chassis Backplanes

### PCE-5B06-00A1E

- 6-slot BP for 6-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; Four x1
- PCI-X slot: N/A
- PCI slot: N/A
- Compatible with IPC chassis: IPC-6606, and IPC-6806W



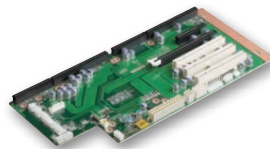
### PCE-5B06-04A1E

- 6-slot BP for 6-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-6606, and IPC-6806W



### PCE-5B06-03A1E

- 6 slot BP for 6 slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; One x4
- PCI-X slot: N/A
- PCI slot: Three PCI 32/33
- Compatible with IPC chassis: IPC-6606, and IPC-6806W



## 8-slot Wallmount Chassis Backplanes

### PCE-5B07-04A1E

- 7-slot BP for 8-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; One x4
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-6608 and IPC-6908



### PCE-5B08-02A1E

- 8-slot BP for 8-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; Four x1
- PCI-X slot: N/A
- PCI slot: Two 32/33
- Compatible with IPC chassis: IPC-6608 and IPC-6908



## 10-slot Wallmount Chassis Backplanes

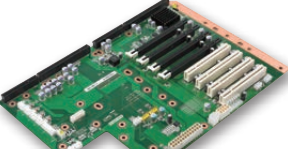
### PCE-5B09-06A1E

- 9-slot BP for 10-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; One x4
- PCI-X slot: N/A
- PCI slot: Six 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, ACP-4000, ACP-4010, ACP-4320, and ACP-4360



### PCE-5B09-04A1E

- 9-slot for 10-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16, three x4
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, ACP-4000, ACP-4010, ACP-4320, and ACP-4360



## 14-slot Rackmount Chassis Backplanes

### PCE-5B10-04A1E

- 10-slot BP for 14-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; Four x1
- PCI-X slot: N/A
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320 and ACP-4360



### PCE-5B12-64C1E

- 12-slot BP for 14-slot Chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: Two 64/100; Four 64/66
- PCI slot: Four 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320, and ACP-4360



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# PICMG 1.3 Full-Size SHB Backplanes

## 14-slot Rackmount Chassis Backplanes

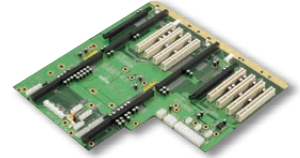
### PCE-5B13-08A1E

- 13-slot BP for 14-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16; Three x1
- PCI-X slot: N/A
- PCI slot: Eight 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320, and ACP-4360



### PCE-5B12D-04A1E

- 12-slot BP for 14-slot chassis
- Segments: 2
- Each segment:
  - One CPU card slot
  - PCIe slot: One x16
  - PCI-X slot: N/A
  - PCI slot: Four 32/33
- Compatible with IPC chassis: ACP-4010



### PCE-5B12-07A1E

- 13-slot BP for 14-slot chassis
- Segment: 1
- One CPU card slot
- PCIe slot: One x16, Three x4
- PCI-X slot: 0
- PCI slot: Seven 32/33
- Compatible with IPC chassis: IPC-510, IPC-610, IPC-611, ACP-4000, ACP-4320, ACP-4360, ACP-4010



## 20-slot Rackmount Chassis Backplanes

### PCE-5B18-88B1E

- 18-slot BP for 20-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x16
- PCI-X slot: Eight 64/66
- PCI slot: Eight 32/33
- Compatible with IPC chassis: IPC-623, IPC-622



### PCE-5B16Q-02A1E

- 16-slot BP for 20-slot chassis
- Segments: 4
- Each segment:
  - One CPU card slot
  - PCIe slot: One x16
  - PCI-X slot: N/A
  - PCI slot: Two 32/33
- Compatible with IPC chassis: IPC-623, IPC-622



### PCE-5B12-00A1E

- 12-slot BP for 20-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: Ten x16 and one x4
- PCI-X slot: N/A
- PCI slot: N/A
- Compatible with IPC chassis: IPC-623, IPC-622



### PCE-5B19-00A1E

- 19 slot BP for 20-slot chassis
- Segments: 1
- One CPU card slot
- PCIe slot: Seventeen x16 and One x4
- PCI-X slot: N/A
- PCI slot: N/A
- Compatible with IPC chassis: IPC-623, IPC-622



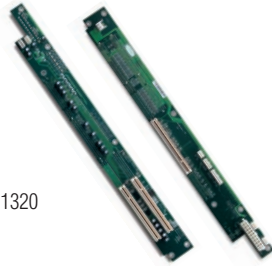


# PICMG 1.0 Full-Size SBC Backplanes

## 1U Butterfly Backplanes

### PCA-6103P2V-0A2E

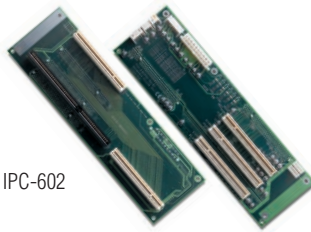
- Segments: 1
- Slots: 2 PCI, 1 CPU
- PCI bus: 32-bit/33 MHz
- Size: 40 x 400 mm (1.57" x 15.75")
- Ordering Information: 989K610303E
- Compatible with IPC chassis: ACP-1010, ACP-1320



## 2U Butterfly Backplanes

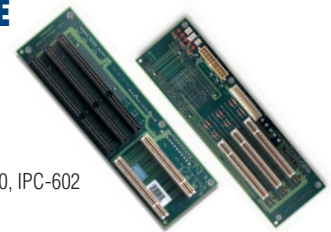
### PCA-6105P4V-0B3E

- Segments: 1
- Slots: 4 PCI, 1 PICMG
- PCI bus: 32-bit/33 MHz
- Size: 80 x 260 mm (3.15" x 10.23")
- Ordering Information: 989K610512E
- Compatible with IPC Chassis: ACP-2000, IPC-602



### PCA-6106P3V-0B2E

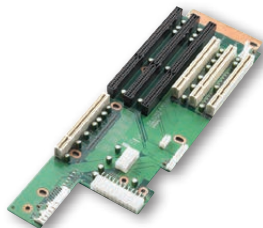
- Segments: 1
- Slots: 1 ISA, 3 PCI, 2 PICMG
- PCI bus: 32-bit/33 MHz
- Size: 80 x 260 mm (3.15" x 10.23")
- Ordering Information: 989K610622E
- Compatible with IPC Chassis: ACP-2000, IPC-602



## 5-slot PCI/ISA Backplanes

### PCA-6105P3-5A1E

- Segments: 1
- Slots: 1 ISA, 2 PCI, 1 PICMG, 1 PCI/ISA
- Size: 106.5 mm x 327.66 mm (4.19" x 12.9")
- Ordering Information: PCA-6105P3-5A1E
- Compatible with IPC Chassis: IPC-6025



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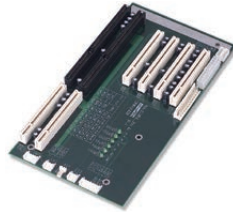


# PICMG 1.0 Full-Size SBC Backplanes

## 6-slot PCI/ISA Backplanes

### PCA-6106P4-0A2E

- Segments: 1
- Slots: 4 PCI, 2 PICMG
- Size: 142 x 270 mm (5.59" x 10.63")
- Ordering Information: PCA-6106P4-0A2E
- Compatible with IPC Chassis: IPC-6806W, IPC-6806, IPC-6606, IPC-6006



### PCA-6106P3-0D2E

- Segments: 1
- Slots: 2 ISA, 2 PCI, 1 PICMG/PCI, 1 PICMG
- Size: 142 x 270 mm (5.59" x 10.63")
- Ordering Information: PCA-6106P3-0D2E
- Compatible with IPC Chassis: IPC-6806W, IPC-6806, IPC-6606, IPC-6006



## 8-slot PCI/ISA Backplanes

### PCA-6108P6-0C1E

- Segments: 1
- Slots: 1 ISA, 5 PCI, 1 PICMG/PCI, 1 PICMG
- Size: 180 x 260 mm (7.09" x 10.24")
- PCI bridge: PI7C8152BMAE
- Primary PCI: 3 slots; Secondary PCI: 3 slots
- Ordering Information: PCA-6108P6-0C1E
- Compatible with IPC Chassis: IPC-6608



### PCA-6108P4-0C2E

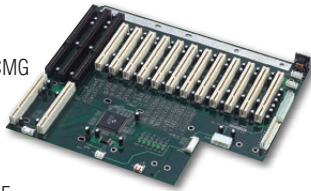
- Segments: 1
- Slots: 3 ISA, 3 PCI, 1 PICMG/PCI, 1 PICMG
- Size: 180 x 260 mm (7.09" x 10.24")
- Ordering Information: PCA-6108P4-0C2E
- Compatible with IPC Chassis: IPC-6608



# 14-slot PCI/ISA Backplanes

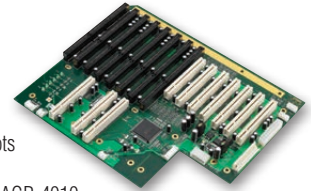
## PCA-6114P12-0B3E

- Segments: 1
- Slots: 1 ISA, 11 PCI, 1 PICMG/PCI, 1 PICMG
- Size: 315 x 300 mm (12.4" x 11.8")
- PCI bridge: Pericom PI7C8150BMAE
- Primary PCI: 3 slots; Secondary PCI: 9 slots
- Ordering Information: PCA-6114P12-0B3E
- Compatible with IPC Chassis: ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610, IPC-611



## PCA-6114P7-0E1E

- Segments: 1
- Slots: 4 ISA, 6 PCI, 3 PICMG, 1 PCI/ISA
- Size: 315 x 260 mm (12.4" x 10.24")
- PCI bridge: PI7C8152BMAE
- Primary PCI: 3 slots; Secondary PCI: 4 slots
- Ordering Information: PCA-6114P7-0E1E
- Compatible with IPC Chassis: ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610, IPC-611



## PCA-6114P4-0C2E

- Segments: 1
- Slots: 8 ISA, 4 PCI, 2 PICMG
- Size: 315 x 260 mm (12.4" x 10.24")
- Ordering Information: PCA-6114P4-0C2E
- Compatible with IPC Chassis: ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610, IPC-611
- When installing ACP-4320, ACP-4340, ACP-4360 and IPC-510 chassis, a 1U cooler is required



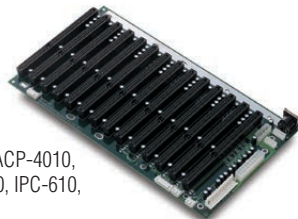
## PCA-6113P4R-0C2E

- Segments: 1
- Slots: 7 ISA, 4 PCI, 2 PICMG
- Size: 315 x 260 mm (12.4" x 10.24")
- Ordering Information: PCA-6113P4R-0C2E
- Compatible with IPC Chassis: ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610, IPC-611



## PCA-6114-0B2E

- Segments: 1
- Slots: 14 ISA
- Size: 315 x 175 mm (12.4" x 6.89")
- Ordering Information: PCA-6114-0B2E
- Compatible with IPC Chassis: ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610, IPC-611



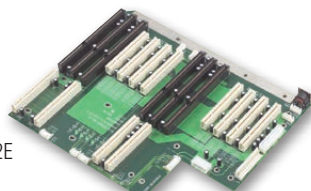
## PCA-6114P10-0B2E

- Segments: 1
- Slots: 2 ISA, 10 PCI, 2 PICMG
- Size: 315 x 260 mm (12.4" x 10.24")
- PCI bridge: Pericom PI7C8150BMAE
- Primary PCI: 3 slots; Secondary PCI: 7 slots
- Ordering Information: PCA-6114P10-0B2E
- Compatible with IPC Chassis: ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610, IPC-611



## PCA-6113DP4-0A2E

- Segments: 2
- Slots: 2 ISA, 7 PCI, 1 PICMG/PCI, 3 PICMG
- Size: 315 x 260 mm (12.4" x 10.24")
- Ordering Information: PCA-6113DP4-0A2E
- Compatible with IPC Chassis: Only for ACP-4010
- Compatible with IPC Chassis: ACP-4010



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# PICMG 1.0 Full-Size SBC Backplanes

## 20-slot PCI/ISA Backplanes

### PCA-6120P18-0A2E

- Segments: 1
- Slots: 1 ISA, 17 PCI, 1 PICMG/PCI, 1 PICMG
- Size: 417 x 260 mm (16.42" x 10.24")
- PCI bridge: Three Pericom PI7C8150BMAE
- Secondary: 6 slot/6 slot/6 slot
- Ordering Information: PCA-6120P18-0A2E
- Compatible with IPC Chassis : IPC-623, IPC-622



### PCA-6119P7-0C1E

- Segments: 1
- Slots: 10 ISA, 7 PCI, 2 PICMG
- Size: 417 x 260 mm (16.42" x 10.24")
- PCI bridge: PI7C8152BMAE
- Primary PCI: 3 slots; Secondary PCI: 4 slots
- Ordering Information: PCA-6119P7-0C1E
- Compatible with IPC Chassis : IPC-623, IPC-622



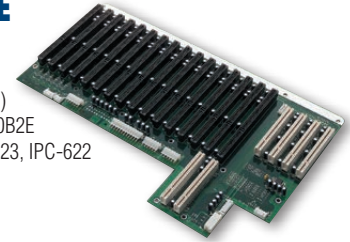
### PCA-6120P12-0A2E

- Segments: 1
- Slots: 7 ISA, 11 PCI, 1 PICMG/PCI, 1 PICMG
- Size: 417 x 260 mm (16.42" x 10.24")
- PCI bridge: Pericom PI7C8150BMAE
- Primary PCI: 3 slots; Secondary PCI: 9 slots
- Ordering Information: PCA-6120P12-0A2E
- Compatible with IPC Chassis : IPC-623, IPC-622



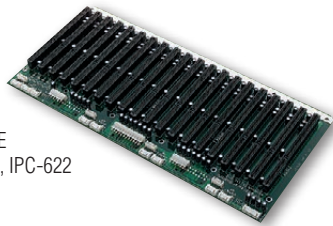
### PCA-6120P4-0B2E

- Segment: 1
- Slots: 14 ISA, 4 PCI, 2 PICMG
- Size: 417 x 260 mm (16.42" x 10.24")
- Ordering Information: PCA-6120P4-0B2E
- Compatible with IPC Chassis : IPC-623, IPC-622



### PCA-6120Q-0B2E

- Segment: 4
- Slots: 5-5-5-5 ISA
- Size: 417 x 200 mm (16.42" x 7.87")
- Ordering Information: PCA-6120Q-0B2E
- Compatible with IPC Chassis : IPC-623, IPC-622

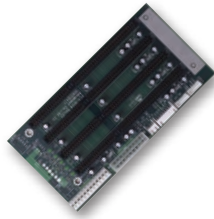


# Half-Size SBC Backplanes

## ISA Half-size SBC Backplanes

### PCA-6104-0C2E

- Segments: 1
- Slots: 4 ISA
- Size: 94.7 x 186 mm (3.7" x 7.3")
- Ordering Information: PCA-6104-0C2E



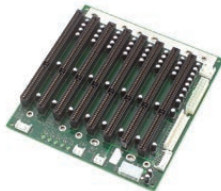
### PCA-6106-0B2E

- Segments: 1
- Slots: 6 ISA
- Size: 142 x 175 mm (5.59" x 6.89")
- Compatible with IPC-6806S, IPC-6006S, IPC-3026
- Ordering Information: PCA-6106-0B2E



### PCA-6108E-0C2E

- Segments: 1
- Slots: 8 ISA
- Size: 180 x 190 mm (7.09" x 7.48")
- Compatible with IPC-6908
- Ordering Information: PCA-6108E-0C2E



### PCA-6108-0B2E

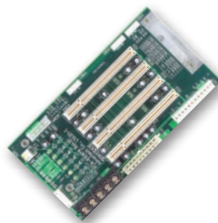
- Segments: 1
- Slots: 8 ISA
- Size: 222 x 171 mm (8.74" x 6.73")
- Only for commercial PC chassis (baby AT size)
- Ordering Information: PCA-6108-0B2E



## PCI Half-size SBC Backplanes

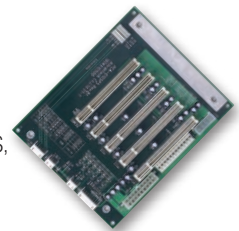
### PCA-6104P4-0B2E

- Segments: 1
- Slots: 4 PCI
- Size: 110 x 180 mm (4.3" x 7")
- Ordering Information: PCA-6104P4-0B2E



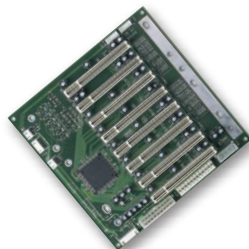
### PCA-6105P5-0B2E

- Segments: 1
- Slots: 5 PCI
- Size: 143 x 155 mm (5.6" x 6")
- Compatible with ACP-4D00, IPC-6806S, IPC-6006S, IPC-3026
- Ordering Information: PCA-6105P5-0B2E



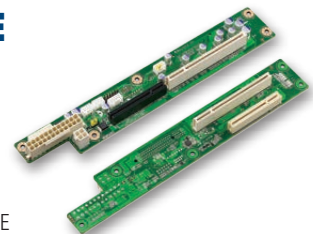
### PCA-6108P8-0A2E

- Segments: 1
- Slots: 8 PCI
- Size: 182 x 185 mm (7.2" x 7.3")
- Compatible with IPC-6908
- Ordering Information: PCA-6108P8-0A2E



### PCI-7103P1V-01A1E

- Segments: 1
- Slots: 1 PCI, 1 PCIe x 4 (in PCIe x 8 slot)
- Size: 252 x 41 mm (9.9" x 1.6")
- Compatible with IPC-120 chassis
- Compatible with PCI-7031DF and PCI-7032F CPU cards
- Ordering Information: PCI-7103P1V-01A1E



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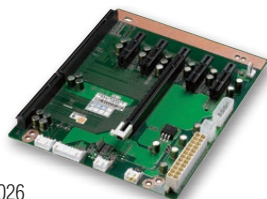


# Half-Size SBC Backplanes

## PICMG 1.3 Half-size SHB Backplanes

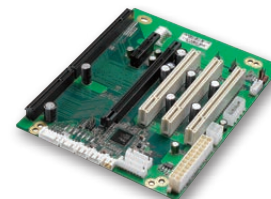
### PCE-3B06-00A1E

- 6 slot backplane for 6-slot chassis
- Segments:1
- One CPU card slot
- PCIe slot: One x16, four x1
- Size: 142 x 176 mm (5.59" x 6.92")
- Compatible with ACP-4D00, IPC-6806S, IPC-3026
- Ordering information: PCE-3B06-00A1E



### PCE-3B06-03A1E

- 6 slot backplane for 6-slot chassis
- Segments:1
- One CPU card slot
- PCIe slot: One x16, One x1
- PCI slot: Three 32/33
- Size: 142 x 176 mm (5.59" x 6.92")
- Compatible with ACP-4D00, IPC-6806S, IPC-3026
- Ordering information: PCE-3B06-03A1E



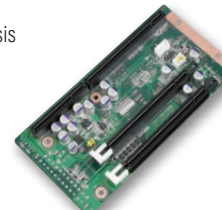
### PCE-3B06-02A1E

- 6-slot backplane for 6-slot chassis
- Segments:1
- One CPU card slot
- PCIe slot: One x16, Two x1
- PCI slot: Two 32 bit/33MHz
- Size: 142 x 176 mm (5.59" x 6.92")
- Compatible with ACP-4D00, IPC-6806S, IPC-3026
- Ordering information: PCE-3B06-02A1E



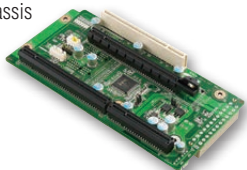
### PCE-3B03A-00A1E

- 3 slot backplane for compact-sized wall-mount chassis
- Segments:1
- One CPU card slot
- PCIe slot: One x16, One x4
- Size: 173 x 86.3 mm (6.81" x 3.39")
- Compatible with IPC-3012
- Ordering information: PCE-3B03A-00A1E



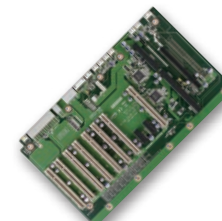
### PCE-3B03-01A1E

- 3 slot backplane for compact-sized wall-mount chassis
- Segments:1
- One CPU card slot
- PCIe slot: One x16
- PCI slot: One 32 bit/33MHz
- Size: 173 x 86.3 mm (6.81" x 3.39")
- Compatible with IPC-3012
- Ordering information: PCE-3B03-01A1E



### PCE-3B12-08A1E

- 12-slot backplane for 14-slot half-sized chassis
- Segments:1
- One CPU card slot
- PCIe slot: One x16, Two x1
- PCI slot: Eight 32 bit/33MHz
- Size: 315 x 185 mm (12.4" x 7.28")
- Compatible with IPC chassis: ACP-4020
- Ordering information: PCE-3B12-08A1E



### PCE-4B13-00A1E

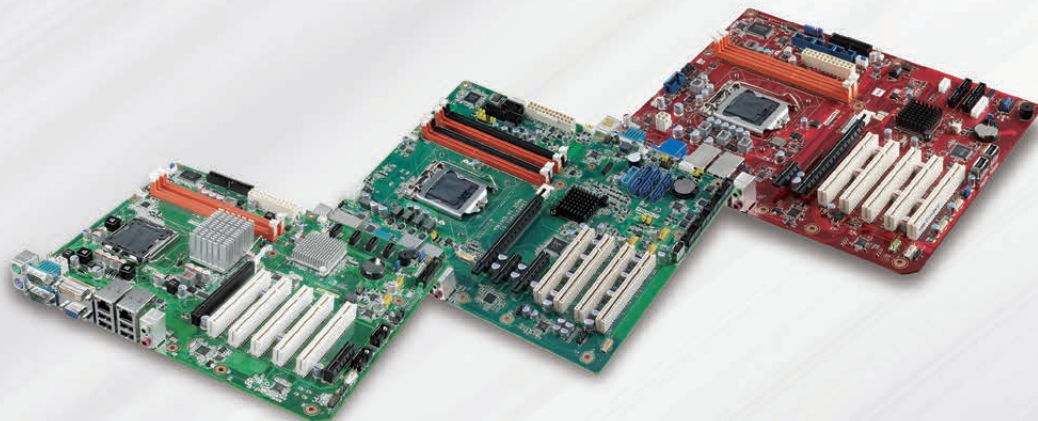
- 13-slot backplane for 14-slot half-sized chassis
- Segments: 1
- One CPU card slot
- PCIe slot: One x8, Eleven x4
- PCI slot: N/A
- Size: 315 x 243.84 mm (12.4" x 9.6")
- Compatible with IPC chassis: ACP-4020
- Ordering information: PCE-4B13-00A1E



# Industrial Motherboards

<b>Selection Guide</b>		<b>7-2</b>
<b>ATX Motherboards</b>		
<b>AIMB-784</b>	LGA1150 4th Generation Intel® Core™ i7/i5/i3/Pentium ATX with DVI/VGA, DDR3, SATA III	<b>7-4</b>
<b>AIMB-705</b>	LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron ATX with DVI/VGA, DDR4, SATA III, USB 3.0 & 6 COMs	<b>7-6</b>
<b>AIMB-785</b>	LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron ATX with Triple Display, DDR4, SATA III	<b>7-8</b>
<b>Riser Cards</b>		<b>7-10</b>

To view all of Advantech's Industrial Motherboards, please visit [www.advantech.com/products](http://www.advantech.com/products).





# ATX Motherboards



Model Name		AIMB-767	AIMB-769	AIMB-701
Processor System	CPU	Intel Core 2 Quad/Core 2 Duo/Pentium dual-core/Celeron	Intel Core 2 Quad/Core 2 Duo/Pentium dual-core/Celeron	2nd/3rd Gen Intel Core i7/i5/i3/Pentium
	Socket	LGA775	LGA775	LGA1155
	Max. Speed	3.16 GHz	3.16 GHz	3.4 GHz
	Front Side Bus	1333/1066/800 MHz	1333/1066/800 MHz	-
	Cache	L2: up to 12 MB (depends on CPU)	L2: up to 12 MB (depends on CPU)	L3: up to 8 MB (depends on CPU)
	Chipset	Intel G41 + ICH7R	Intel G41 + ICH7	Intel H61
	BIOS	AMI 16 Mbit, SPI	AMI 16 Mbit, SPI	AMI 64 Mbit SPI
Expansion Slot	PCIe x16	1 (Gen1)	1 (Gen1)	1 (Gen2)
	PCIe x4	1 (Gen1)	-	1 for VG SKU (Gen2)
	PCIe x1	-	1 (Gen1)	1 for G2 SKU (Gen2)
	PCI	5	5	5
Memory	Technology	Dual channel DDR3 800/1066 MHz	Dual channel DDR3 800/1066 MHz	Dual Channel DDR3 1066/1333/1600 (1600 is only supported by Core i7/i5/i3 3xxx series processors)
	Max. Capacity	8 GB	8 GB	16 GB
	Socket	2 x 240-pin DIMM	2 x 240-pin DIMM	2 x 240-pin DIMM
Graphics	Controller	Intel GMA X4500	Intel GMA X4500	Intel HD Graphics
	VRAM	Shared system memory up to 352 MB	Shared system memory up to 352 MB	1 GB maximum shared memory with 2 GB and above system memory installed
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	Dual Intel 82583V	GbE LAN: Realtek RTL8111DL	GbE LAN1: Intel 82579V, GbE LAN2: Intel 82583V
SATA	Max. Data Transfer Rate	300 MB/s	300 MB/s	300 MB/s
	Channel	4 (SW RAID)	4	4
EIDE	Mode	-	-	-
	Channel	-	-	-
I/O Interface	VGA	1	1	1
	DVI	1	-	1 for G2 version
	USB	8	8	10
	Serial	4	2	6 for G2 version (3 x RS-232, 1 x RS-232/422/485 with auto-flow control)
	Parallel	1	-	1
	FDD	1	1	-
	PS/2	2 (1 x rear I/O and 1 x wafer box)	2 (1 x rear I/O and 1 x wafer box)	2 (1 x rear I/O and 1 x wafer box)
	Ethernet (GbE)	2	1	2 for G2 version; 1 for VG version
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
Watchdog Timer	Output	System reset	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec	Programmable 1 ~ 255 sec
	Page	online	online	online

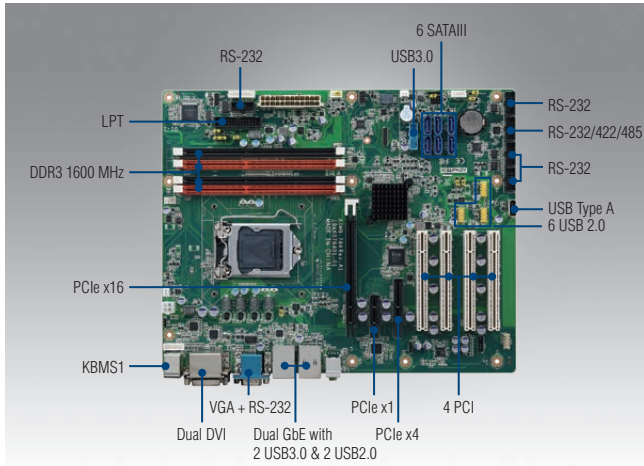


AIMB-782	AIMB-784	AIMB-705	AIMB-785
2nd/3rd Gen Intel Core i7/i5/i3/Pentium	4th Gen Intel Core i7/i5/i3/Pentium	6th/7th Gen Intel Core i7/i5/i3/Pentium	6th/7th Gen Intel Core i7/i5/i3/Pentium
LGA1155	LGA1150	LGA1151	LGA1151
3.4 GHz	3.7 GHz	3.9 GHz	3.9 GHz
-	-	-	-
L3: up to 8 MB (depends on CPU)	L3: up to 8 MB (depends on CPU)	L3: up to 8 MB (depends on CPU)	L3: up to 8 MB (depends on CPU)
Intel Q77	Intel Q87	Intel H110	Intel Q170
AMI 64 Mbit SPI	AMI 128 Mbit SPI	AMI 128 Mbit SPI	AMI 128 Mbit SPI
1 (Gen3)	1 (Gen3)	1 (Gen3)	1 (Gen3)
1 (Gen2)	1 (Gen2)	1 (Gen2)	3 (Gen3)
1 (Gen2)	1 (Gen2)	-	-
4	4	5	3
Dual Channel DDR3 1066/1333/1600 MHz	Dual Channel DDR3 1333/1600 MHz	Dual Channel DDR4 1866/2133 MHz	Dual Channel DDR4 1866/2133 MHz
32 GB	32 GB	32 GB	64 GB
4 x 240-pin DIMM	4 x 240-pin DIMM	2 x 288-pin DIMM	4 x 288-pin DIMM
Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics
Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory is subject to OS	Shared system memory is subject to OS
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
GbE LAN1: Intel 82579LM, GbE LAN2: Intel 82583V	GbE LAN1: Intel I217LM, GbE LAN2: Intel I211AT	GbE LAN1: Intel I219V GbE LAN2: Intel I211AT (for G2 version)	GbE LAN1: Intel I219LM, GbE LAN2: Intel I211AT
600 MB/s; 300 MB/s	600 MB/s	600 MB/s	600 MB/s
6 (SW RAID)	6 (SW RAID)	4	6 (SW RAID)
-	-	-	-
-	-	-	-
1	1	1	1
1	2	1(for G2 version)	2
14 (4 USB 3.0 and 10 USB 2.0)	13 ( 4 USB 3.0 and 9 USB 2.0)	9 (4 USB 3.0 and 5 USB 2.0)	13 (6 USB 3.0 and 7 USB 2.0)
6	6	6 (for G2 version) 2 (for VG version)	6
1	1	1	1
-	-	-	-
2 (1 x keyboard and 1 x mouse)	2 (1 x keyboard and 1 x mouse)	2 (1 x rear I/O and 1 x wafer box)	1 (internal wafer box)
2	2	2 for G2 version; 1 for VG version	2
Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
System reset	System reset	System reset	System reset
Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec	Programmable, 1-255 Sec	Programmable, 1-255 Sec
online	7-4	7-6	7-8

- Industrial I/O 1
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- Intelligent Transportation Platforms 3
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# AIMB-784

**LGA1150 4th Generation Intel® Core™  
i7/i5/i3/Pentium® ATX with DVI/VGA,  
DDR3, SATA III**



## Features

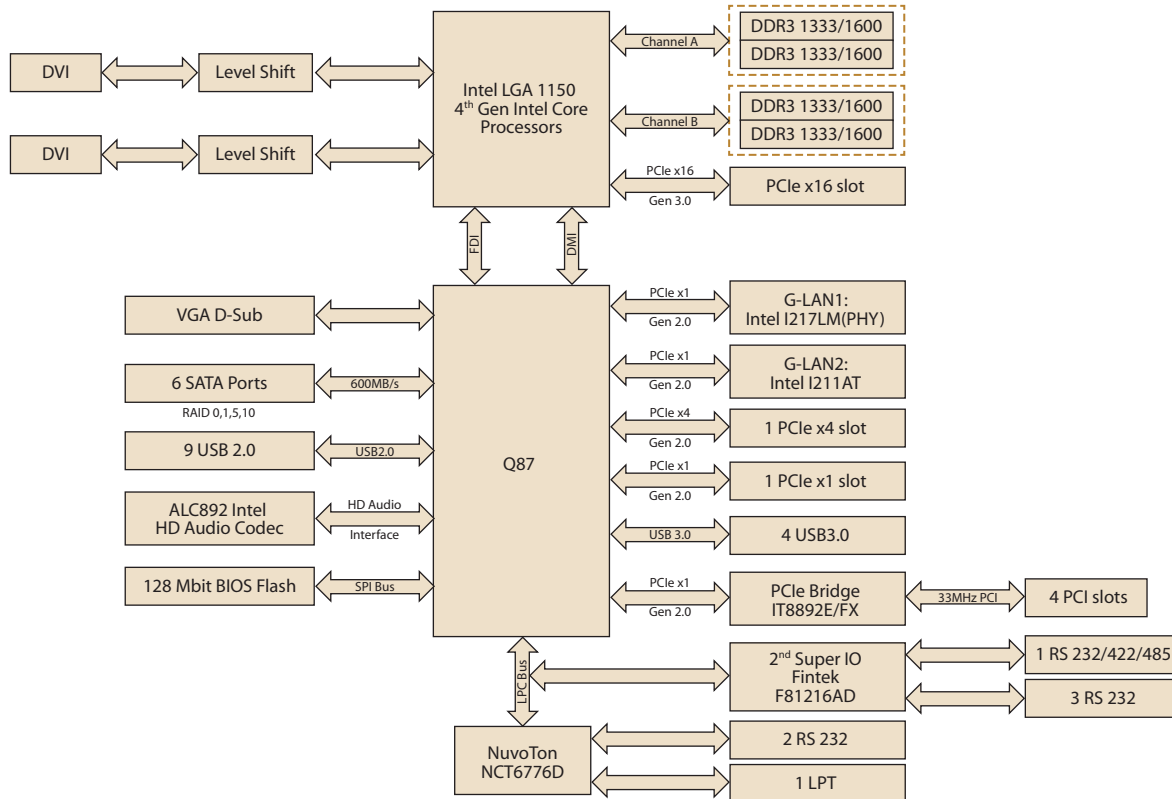
- 4th generation Intel® Core™ processor-based platform
- Supports Intel® Core™ i7/i5/i3 processor with Q87 chipset
- Four DIMM sockets support up to 32 GB DDR3 1333/1600
- Supports triple display VGA/2 DVI-D and dual GbE LAN
- Supports SATA RAID 0, 1, 5, 10, USB 3.0
- Supports Intel vPro, iAMT 9.0 & TPM technologies
- Note: PCA-TPM-00A1E module is required to enable Intel vPro and TPM technologies

## Quiet Specifications

CE FCC

Processor System	CPU	i7-	i7-	i7-	i7-	i5-	i5-	i5-	i5-	i3-	i3-	i3-	i3-	G3420	G3320TE	G1820	G1820TE				
	Speed	4790S	4790T	4770S	4770TE	4590S	4590T	4570S	4570TE	4360	4350T	4330	4330TE	3.2 GHz	2.3 GHz	2.7 GHz	2.2 GHz				
	L3 Cache	8MB	8MB	8MB	8MB	6MB	6MB	6MB	4MB	4MB	4MB	4MB	4MB	3MB	3MB	2MB	2MB				
	Socket	LGA1150																			
	Chipset	Q87																			
	BIOS	AMI 128 Mbit SPI																			
Expansion Slot	PCI	32-bit/33 MHz, 4 slots																			
	PCIe x 1 (Gen2)	500 MB/s per direction, 1 slot																			
	PCIe x 4 (Gen2)	2.0 GB/s per direction, 1 slot																			
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot																			
Memory	Technology	Dual Channel DDR3 1333/1600																			
	Max. Capacity	32 GB																			
	Socket	4 x 240-pin DIMM																			
Graphics	Controller	Intel HD Graphics (Depends on processor)																			
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed																			
Ethernet	Interface	10/100/1000 Mbps																			
	Controller	GbE LAN1: Intel I217LM, GbE LAN2: Intel I211AT																			
	Connector	RJ-45 x 2																			
SATA	Max Data Transfer Rate	600 MB/s																			
	Channel	6																			
Rear I/O	VGA	1																			
	DVI	2																			
	Ethernet	2 (GbE)																			
	USB	4 (Two USB 3.0)																			
	Audio	2 (Mic-in, Line-out)																			
	Serial	1 (RS-232)																			
	PS/2	2 (1 x keyboard and 1 x mouse)																			
Internal Connectors	USB	9 (Two USB 3.0)																			
	Serial	5 (4 x RS-232, 1x RS-232/422/485 with auto-flow control)																			
	SATA	6																			
	Parallel	1																			
	Display Port	-																			
	IrDA	-																			
	GPIO	-																			
Watchdog Timer	Output	System reset																			
	Interval	Programmable 1 ~ 255 sec																			
Power Requirement	Power On	Intel Core i7-4790S processor; DDR3 8GB x4																			
		3.3V				5V				12V				5VSB				-12V			
		1.060				1.554				4.922				0.048				0.044			
Environment		Operating																			
	Temperature	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and cooler solution										Non-Operating						-40 ~ 85 °C (-40 ~ 185 °F)			
Physical Characteristics	Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")																			

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	Display	USB 3.0	USB 2.0	COM	GbE LAN	AMT	SATA III	SW RAID
AIMB-784G2-00A1E	Q87	Non-ECC DDR3	VGA + dual DVI	4	9	6	2	Yes	6	Yes

### Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x 2
1700022749-11	SATA power cable	x 2
19Z0000454T000	I/O port bracket	x 1
2006078410	Startup manual	x 1
2066078401	Driver CD	x 1

### Optional Accessories

Part Number	Description
1700002204	Dual port USB 2.0 cable (27 cm) with bracket
1700020277-01	Dual port USB 3.0 Cable with bracket
1960047669N001	CPU cooler for 4U and wallmount chassis
1960047831N001	CPU cooler for 2U and wallmount chassis
1960049408N001	CPU passive heatsink for 1U chassis
1960069682N001	I/O port bracket for 1U chassis
1700020294-01	Printer port cable kit (42 cm)
1701092300	COM port cable kit
PCA-TPM-00A1E	TPM module to enable TPM and vPro technologies

Note: Purchasing AIMB-784's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-784.

### I/O View



AIMB-784G2-00A1E

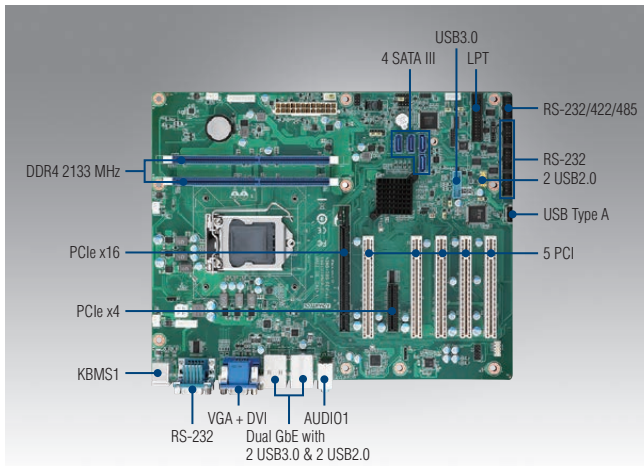
### Riser Card

Part Number	Description
AIMB-RF10F-01A1E	1U riser card with 1 PCIe x 16 expansion
AIMB-R43PF-21A1E	2U riser card with 1 PCIe x16 & 2 PCI expansion

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# AIMB-705

**LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® ATX with DVI/VGA, DDR4, SATA III, USB 3.0 & 6 COMs**



## Features

- Intel® 6th/7th generation Core™ i7/i5/i3/Pentium®/Celeron® processor
- Dual channel (Non-ECC) DDR4 1866/2133 up to 32GB
- Support VGA and DVI display
- Support SATA3.0, USB3.0, dual GbEs
- Support 5 RS-232 and 1 RS-232/422/485 serial ports
- 1 PCIe x16 (Gen3) and 1 PCIe x4 (Gen2), and 5 PCI expansion slots

Note: Intel 7th generation processors only support Windows 10 (64-bit).

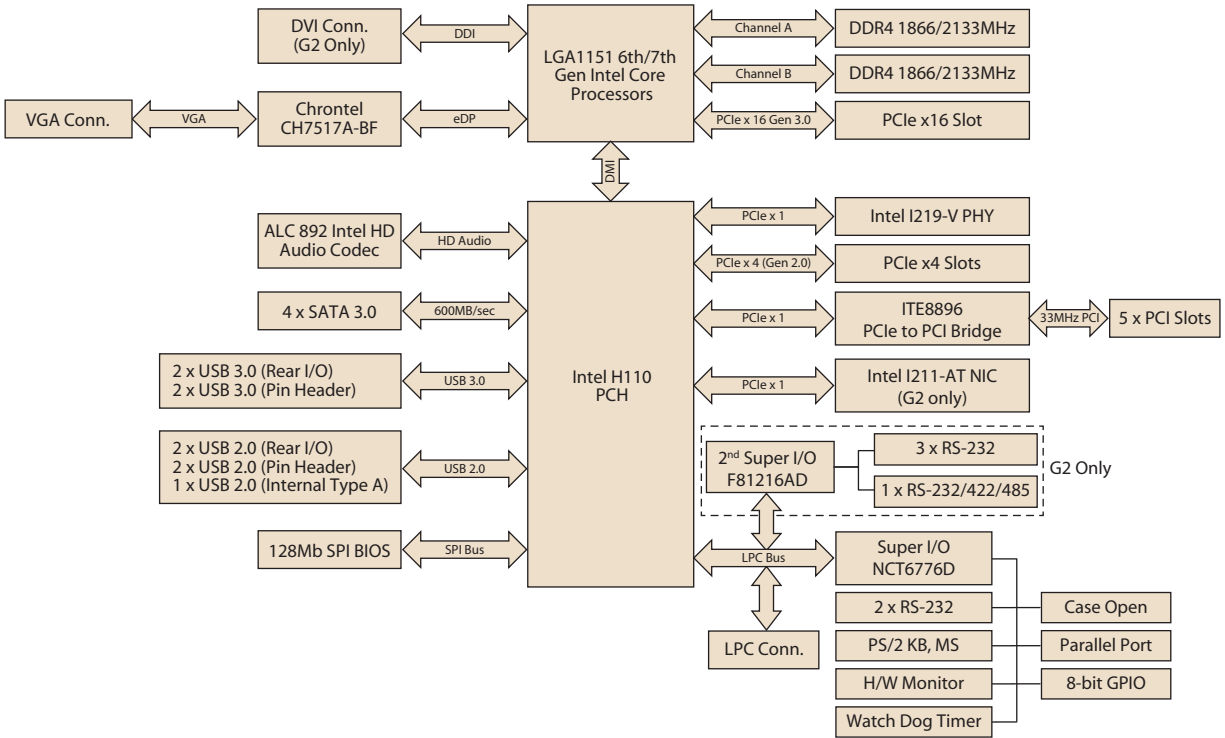
## Quiet Specifications

CE FCC

Processor System	CPU	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE	
	Speed	3.6GHz	2.9GHz	3.4 GHz	2.4 GHz	3.4GHz	2.7GHz	3.2 GHz	2.3 GHz	3.9GHz	3.4GHz	3.7 GHz	2.7 GHz	3.3 GHz	2.9 GHz	2.8 GHz	2.6 GHz	
	Cache	8MB	8MB	8 MB	8 MB	6MB	6MB	6 MB	6 MB	3MB	3MB	4 MB	4 MB	3 MB	3 MB	2 MB	2 MB	
	Socket	LGA 1151																
	Chipset	Intel H110																
	BIOS	AMI 128Mbit SPI Flash																
Expansion Slot	PCI	32-bit/33 MHz, 5 slots																
	PCIe x4 (Gen2)	2 GB/s per direction, 1 slot																
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot																
Memory	Technology	Dual Channel(Non-ECC) DDR4 1866/2133 MHz																
	Max Capacity	32 GB (16 GB per DIMM)																
	Sockets	DDR4 288-pin DIMM x2																
Graphics	Controller	Chipset integrated Intel HD Graphics																
	VRAM	Shared system memory is subject to OS																
Ethernet	Interface	10/100/1000 Mbps																
	Controller	GbE LAN1: Intel I219-V, GbE LAN2: Intel I211-AT																
	Connector	RJ-45 x2																
SATA	Max Data Transfer Rate	600 MB/s																
	Channel	4																
Rear I/O	VGA	1 (Resolution up to 1920 x 1200 @ 60Hz)																
	DVI	1 for G2 version (Resolution up to 1920 x 1200 @ 60Hz)																
	Ethernet	2 for G2 version; 1 for VG version																
	USB	4 (USB3.0 x2, USB2.0 x2)																
	Audio	Line-out, Mic-in																
	Serial	2																
	PS/2	2 (1 x keyboard and 1 x mouse)																
Internal Connectors	USB	1 (Type A); 2 (USB2.0, Pin-header); 2 (USB3.0, Box-header)																
	Serial	4 for G2 version (3 x RS-232, box-header; 1 x RS-232/422/485 with auto-flow control, box-header)																
	Parallel	1																
	GPIO	8 bits																
Watchdog Timer	Output	System reset																
	Interval	Programmable 1 - 255 sec																
Power Requirement	Test Environment	Intel Core i7-6700 3.4GHz; DDR4 2133 8GB x 2																
	Voltage	3.3V	5V	12V	5Vsb	-5V	-12V											
	Current	0.49A	3.13A	7.88A	0.08A	0.07A	0.07A											
Environment	Operating	Non-Operating																
	Temperature	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and cooler solution																
Humidity	40 °C @ 95% RH Non-condensing																	
Physical Characteristics	Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")																



**Block Diagram**



**Ordering Information**

Part Number	Chipset	Memory	Display	USB 3.0	USB 2.0	COM	GbE LAN	AMT	SATA	SW RAID	Intelligent System Module Support
AIMB-705G2-00A1E	H110	Non-ECC	VGA + DVI	4	5	6	2	No	4	No	No
AIMB-705VG-00A1E	H110	Non-ECC	VGA	4	5	2	1	No	4	No	No

**Packing List**

Part Number	Description	Quantity
1700003194	SATA HDD cable	x2
1700022749-11	SATA power cable	x1
1960050472T000	I/O port bracket	x1
2001070511	Startup manual	x1
2061070501	Driver CD	x1

**I/O View**



AIMB-705G2-00A1E



AIMB-705VG-00A1E

**Optional Accessories**

Part Number	Description
1701090401	Single COM cable(40 cm)
1701092300	Dual COM cable(28.5 cm)
1700020294-01	Printer port cable kit(42 cm)
1700020277-01	2-port USB 3.0 cable w/ BKT(30 cm)
1700002204	2-port USB 2.0 cable w/ BKT(27 cm)
1960052651N021	CPU cooler for 2U, 4U, and wallmount chassis
1960049408N001	CPU cooler for 1U chassis
1960055954T000	IO bracket for 1U chassis
PCA-COM232-00A1E	4-port RS-232 LPC module
PCA-TPM-00A1E	TPM module (for BIOS V1.XX)
PCA-TPM-00B1E	TPM2.0 module (for BIOS V2.XX)

Note: Purchasing AIMB-705's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-705.

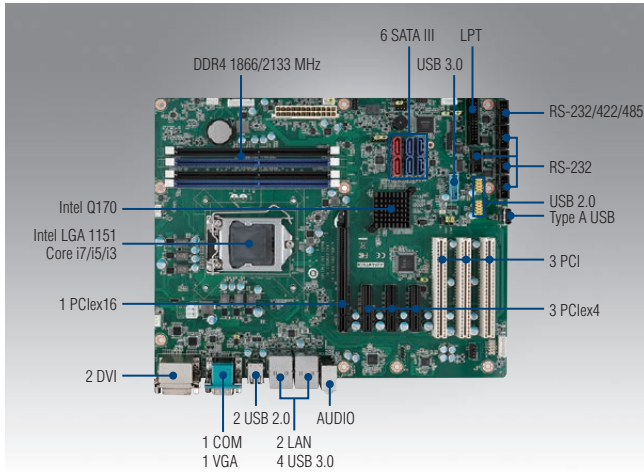
**Riser Card**

Part Number	Description
AIMB-RP10P-01A1E	1U riser card providing 1 PCI slot
AIMB-RP30P-03A1E	2U riser card providing 3 PCI slots
AIMB-RP3PF-21A1E	2U riser card providing 1 PCIe x 16 and 2 PCI slots

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# AIMB-785

**LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® ATX with Triple Display, DDR4, SATA III**



## Features

- Supports Intel® 6th/7th Core™ i7/i5/i3/Pentium®/Celeron® processor with Q170 chipset
- Four DIMM sockets support up to 64 GB DDR4 1866/2133
- Supports triple display VGA/2 DVI-D and dual GbE LAN
- Supports SATA RAID 0, 1, 5, 10, USB 3.0
- Supports Intel vPro, AMT 11.0 & TPM technologies

Note 1: TPM module is required to enable Intel vPro and TPM technologies.

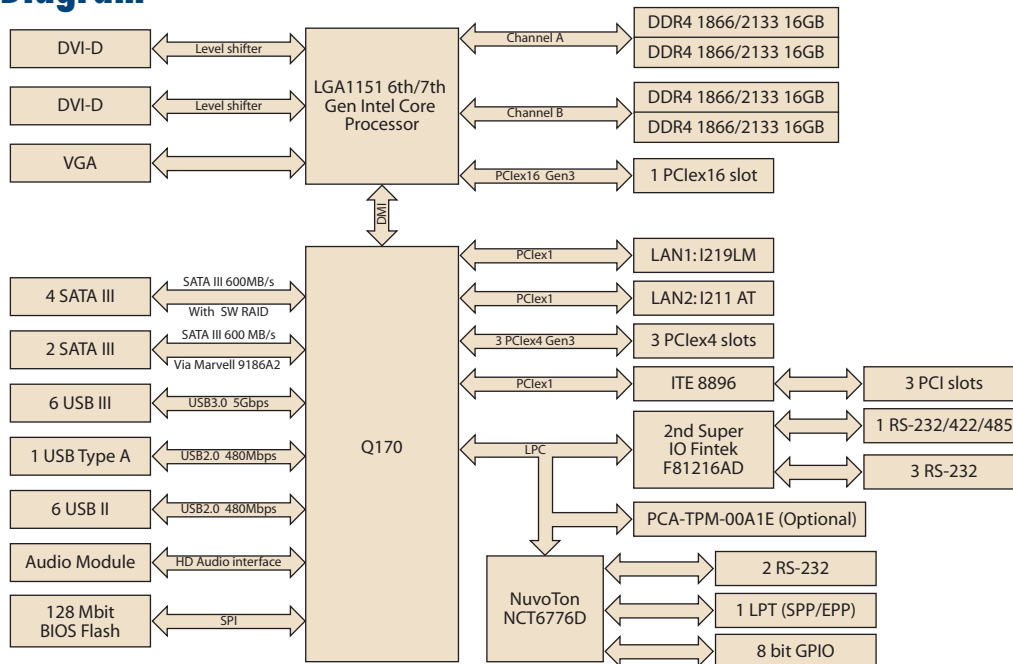
Note 2: Intel 7th generation processors only support Windows 10 (64-bit).

## Quiet Specifications

CE FCC

Processor System	CPU	i7-7700	i7-7700T	i7-6700	i7-6700TE	i5-7500	i5-7500T	i5-6500	i5-6500TE	i3-7101E	i3-7101TE	i3-6100	i3-6100TE	G4400	G4400TE	G3900	G3900TE		
	Speed	3.6GHz	2.9GHz	3.4GHz	2.4GHz	3.4GHz	2.7GHz	3.2GHz	2.3GHz	3.9GHz	3.4GHz	3.7GHz	2.7GHz	3.3GHz	2.9GHz	2.8GHz	2.6GHz		
	L3 Cache	8MB	8MB	8MB	8MB	6MB	6MB	6MB	6MB	3MB	3MB	4MB	4MB	3MB	3MB	2MB	2MB		
	Socket	LGA1151																	
	Chipset	Q170																	
Expansion Slot	PCI	32-bit/33 MHz, 3 slots																	
	PCIe x 4 (Gen3)	4 GB/s per direction, 3 slots																	
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot																	
Memory	Technology	Dual Channel DDR4 1866/2133																	
	Max. Capacity	64 GB																	
	Socket	4 x 288-pin DIMM																	
Graphics	Controller	Intel HD Graphics																	
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed																	
Ethernet	Interface	10/100/1000 Mbps																	
	Controller	GbE LAN1: Intel I219LM, GbE LAN2: Intel I211AT																	
	Connector	RJ-45 x 2																	
SATA	Max Data Transfer Rate	600 MB/s																	
	Channel	6 (4 from Intel® Q170 and 2 from Marvell 9186A2)																	
	RAID	0,1,5,10 (4 SATAIII ports from Intel®)																	
Rear I/O	VGA	1 (Up to 1920x1200@60Hz)																	
	DVI-D	2 (Up to 1920x1200@60Hz)																	
	Ethernet	2																	
	USB	6 (USB3.0 x 4, USB2.0 x 2)																	
	Audio	2 (Mic-in, Line-out)																	
	Serial	1 (RS-232)																	
	PS/2	N/A																	
Internal Connectors	USB	7 (USB 3.0 with wafer box x 2, USB 2.0 with wafer box x 4, USB 2.0 with type A connector x 1)																	
	Serial	5 (4 x RS-232, 1 x RS-232/422/485)																	
	SATA	6																	
	Parallel	1 (SPP/EPP)																	
	Display Port	N/A																	
	IrDA	N/A																	
	GPIO	8-bit																	
PS/2 KB/Mouse	1 (Optional PS/2 KB/Mouse Cable is required)																		
Watchdog Timer	Output	System reset																	
	Interval	Programmable 1 ~ 255 sec																	
Power Requirement	Power On	Intel Core i7-6700 3.4GHz; DDR4 2133 8GB x 4																	
	Voltage	+12V					+5V			+3.3V		+5Vsb		-12V		-5V			
	Current	6.78A					1.38A			1.35A		0.12A		0.05A		0.05A			
Environment	Operating	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and cooler solution											Non-Operating						
	Temperature												-40 ~ 85 °C (-40 ~ 185 °F)						
Physical Characteristics	Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")																	

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	Display	USB 3.0	USB 2.0	COM	GbE LAN	AMT	SATA III	SW RAID
AIMB-785G2-00A1E	Q170	Non-ECC DDR4 1866/2133 up to 64GB	VGA + dual DVI	6	7	6	2	Yes	6	Yes

Note: SATA0 and SATA1 (red SATA ports) don't support RAID function.

### Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x 2
1700022749-11	SATA power cable	x 2
19Z0000884T000	I/O port bracket	x 1
2006078511	Startup manual	x 1
2066078502	Driver CD	x 1

### I/O View



AIMB-785G2-00A1E

### Optional Accessories

Part Number	Description
1700002204	Dual port USB 2.0 cable (27 cm) with bracket
1700020277-01	Dual port USB 3.0 Cable with bracket
1960052651N021	CPU Cooler for 2U, 4U and wallmount chassis
1960049408N001	CPU cooler for 1U Rackmount chassis
1960069666N101	IO bracket for 1U chassis
1700020294-01	Printer port cable kit (42 cm)
1701092300	COM port cable kit
1700019268-11	PS/2 KB/Mouse Cable
1960063434N000	IO Bracket for PS/2 KB/Mouse Cable
PCA-TPM-00A1E	TPM module to enable TPM and vPro technologies (for BIOS V1.XX)
PCA-TPM-00B1E	TPM2.0 module to enable TPM and vPro technologies (for BIOS V2.XX)

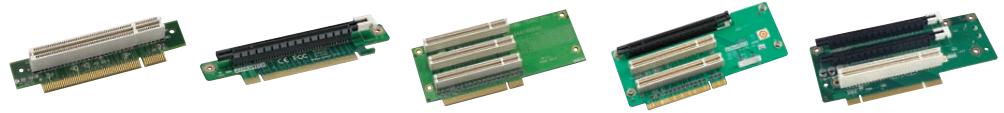
Note: Purchasing AIMB-785's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-785.

### Riser Card

Part Number	Description
AIMB-RF10F-01A1E	1U riser card with 1 PClex16 expansion
AIMB-R4104-01A1E	1U riser card with 1 PClex4 expansion
AIMB-R430P-03A2E	2U riser card with 3 PCI expansion
AIMB-R431F-21A1E	2U riser card with 1 PClex16 & 1 PClex1 expansion
AIMB-R43PF-21A1E	2U riser card with 1 PClex16 & 2 PCI expansion
AIMB-R4301-03A1E	2U riser card with 1 PClex1 expansion

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# Riser Cards



## Selection Guide

Model Name		AIMB-RP10P-01A1E	AIMB-RF10F-01A1E	AIMB-RP30P-03A1E	AIMB-RP3PF-21A1E	AIMB-RP3P8-12A1E
Interface		PCI	PCIe x 16	PCI	PCIe x16/PCI	PCIe x16/PCI
Expansion Slots		1 PCI	1 PCIe x 16	3 PCI	1 PCIe x16 + 2 PCI	2 PCIe x8 + 1 PCI
Chassis	1U	Yes	Yes	-	-	-
	2U	-	-	Yes	Yes	Yes
ATX	AIMB-785	-	Yes	-	-	-
	AIMB-784	-	Yes	-	-	-
	AIMB-782	-	-	-	-	-
	AIMB-781	-	Yes	-	-	-
	AIMB-780	Yes	Yes	Yes	Yes	Yes (WG2 Only)*
	AIMB-705	Yes	-	Yes	Yes	-
	AIMB-701	-	Yes	-	-	-
	AIMB-769	-	Yes	-	-	-
	AIMB-767	Yes	Yes	Yes	Yes	-
	AIMB-766	Yes	-	Yes	Yes	-
AIMB-763	-	Yes	-	Yes	-	

\*Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB, IPC-603MB chassis unless riser card bracket is changed to P/N: 1950014302N001.



## Selection Guide

Model Name		AIMB-R4104-01A1E	AIMB-R430P-03A2E	AIMB-R4301-03A1E	AIMB-R431F-21A1E	AIMB-R43PF-21A1E
Interface		PCIe x4	PCIe x4	PCIe x4	PCIe x16/PCIe x4	PCIe x16/PCIe x4
Expansion Slots		1 PCIe x4	3 PCI	3 PCIe x1	1 PCIe x16 + 2 PCIe x1	1 PCIe x16 + 2 PCI
Chassis	1U	Yes	-	-	-	-
	2U	-	Yes	Yes	Yes	Yes
ATX	AIMB-785	Yes	Yes	△	□	Yes
	AIMB-784	-	-	-	□	Yes
	AIMB-782	-	Yes	-	□	Yes
	AIMB-781	Yes	Yes	Yes	Yes	Yes
	AIMB-780	-	-	-	-	-
	AIMB-701	Yes	Yes	△	-	-
	AIMB-769	Yes	Yes	△	-	-
	AIMB-767	-	-	-	-	-
	AIMB-766	-	-	-	-	-
	AIMB-763	-	-	-	-	-

Yes: Fully compatible

□: Only the PCIe x 16 and PCIe x1 (bottom slot) connectors work.

△: Only one PCIe x1 connector works (bottom slot).

# Industrial Chassis

<b>Selection Guide</b>		<b>8-2</b>
<b>Wallmount</b>		
<b>ARK-6610/6620</b>	Compact Chassis for Mini-ITX Motherboard	<b>8-6</b>
<b>IPC-3012</b>	Compact Chassis for PICMG 1.3 Half Size SHB	<b>8-8</b>
<b>IPC-3026</b>	Quiet Compact Chassis for Half Size SHB/SBC	<b>8-10</b>
<b>IPC-6806</b>	6-Slot Desktop/Wallmount Compact Chassis for Full-/Half-size Slot SBC	<b>8-12</b>
<b>IPC-6806S-D</b>	6-Slot Desktop/Wallmount Compact Chassis for Half-size Slot SBC	<b>8-14</b>
<b>IPC-6606/6608</b>	6/8-Slot Desktop/Wallmount Chassis	<b>8-16</b>
<b>IPC-7132</b>	Cost-effective Wallmount Chassis for ATX/mATX Motherboard	<b>8-18</b>
<b>IPC-7220</b>	Desktop/wallmount Chassis for ATX/mATX Motherboard	<b>8-20</b>
<b>IPC-5120/7120</b>	Desktop/Wallmount Chassis with front I/O Interfaces for ATX/mATX Motherboard	<b>8-22</b>
<b>IPC-6025</b>	5-Slot Desktop/Wallmount Chassis with Scalability as 5U Quad-System Solution	<b>8-24</b>
<b>IPC-5122</b>	Desktop/Wallmount Chassis for MicroATX Motherboard	<b>8-26</b>
<b>IPC-7130/7130L</b>	Desktop/Wallmount Chassis for ATX/MicroATX Motherboard with Dual Hot-Swap 3.5" Drive Bays	<b>8-28</b>
<b>1U Rackmount Chassis</b>		
<b>ACP-1010</b>	1U Rackmount Chassis for Full-size SHB/SBC or ATX/MicroATX Motherboard	<b>8-30</b>
<b>2U Rackmount Chassis</b>		
<b>IPC-603</b>	2U 3-Slot Rackmount Chassis for ATX/MicroATX Motherboard with Front I/O	<b>8-32</b>
<b>ACP-2000/IPC-602</b>	2U 6-Slot Rackmount Chassis with Front USB and PS/2 Interfaces	<b>8-34</b>
<b>ACP-2010/2320</b>	2U Rackmount Chassis for ATX/ MicroATX Motherboard with Low-Profile Rear Bracket Option	<b>8-36</b>
<b>ACP-2020</b>	2U Rackmount Short Depth Chassis for ATX and mATX Motherboard	<b>8-38</b>
<b>4U Rackmount Chassis</b>		
<b>IPC-510</b>	Economical 4U Rackmount Chassis with Front-Accessible USB and PS/2 Interfaces	<b>8-40</b>
<b>IPC-610-L/IPC-611</b>	4U 15-Slot Rackmount Chassis with Front-Accessible Fan	<b>8-42</b>
<b>IPC-610-H</b>	4U Rackmount Chassis with Visual Alarm Notification	<b>8-44</b>
<b>IPC-631</b>	4U Front I/O Short Depth Rackmount Chassis for ATX/MicroATX Motherboard	<b>8-46</b>
<b>ACP-4020</b>	348mm Depth 4U Rackmount Chassis for Half-size SBC or ATX Motherboard	<b>8-48</b>
<b>ACP-4D00</b>	Dual-Node 350mm Depth 4U Chassis for Half-size Slot SBC	<b>8-50</b>
<b>ACP-4000</b>	Quiet 4U Rackmount Chassis with Visual & Audible Alarm Notification	<b>8-52</b>
<b>ACP-4010</b>	Quiet 4U Rackmount Chassis for ATX/CEB/EEB Motherboard or Full-size SHB/SBC with Dual System Support	<b>8-54</b>
<b>ACP-4320</b>	Quiet 4U Rackmount Chassis with Dual Hot-Swap SAS/SATA HDD Trays	<b>8-56</b>
<b>ACP-4340</b>	4U Rackmount Chassis for Full-size SHB/SBC or ATX/MicroATX Motherboard with 4 Hot Swap Drive Trays	<b>8-58</b>
<b>IPC-623</b>	4U 20-Slot Rackmount Chassis with Multi-System and Front-Accessible Redundant Power Supply	<b>8-60</b>
<b>6U Rackmount Chassis</b>		
<b>IPC-622</b>	6U 20-Slot Rack-mount Short Depth Chassis with Redundant Power Supply	<b>8-62</b>

To view all of Advantech's Industrial Chassis, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Industrial Computer Chassis



Model Name		ARK-6610 / ARK-6620	IPC-3012	IPC-3026	IPC-6806S	IPC-6806S-D	
Form Factor Support		Mini ITX	PICMG 1.3 Half-size SBC	PICMG 1.0/1.3 Half-size SBC	PICMG 1.0/1.3 Half-size SBC	PICMG 1.0/1.3 Half-size SBC	
Drive Bay	Slim Optical Drive	1 / -	-	-	-	1	
	2.5"	-	2	-	-	1 (hot-swap)	
	3.5"	External	-	-	1	1	-
		Internal	1 / 1	-	-	1	1
	5.25"	-	-	-	-	-	
Front I/O	USB	Front I/O chassis	2	2	2	2	
	PS/2		-	-	-	-	
Cooling	No. of Fans	1 / 2	2	1	1	1	
	CFM	52.5 / 27.7	27	44.6	53	53	
Power Supply	AC	180W Flex ATX	250W Flex ATX	150W Flex ATX	250W Flex ATX	250W Flex ATX	
	AC Redundant	-	-	-	-	-	
	DC	-	-	-	-	-	
No. of Slots for add-on cards		1 / 0	2	4	4	4	
No. of Full-size Cards		-	-	-	-	-	
Passive Backplane Options	PICMG 1.0	-	-	Yes	Yes	Yes	
	PICMG 1.3	-	Yes	Yes	Yes	Yes	
Intelligent System Module		-	-	Yes	-	-	
Dimensions (W x H x D)	mm	250 x 156 x 253/ 272 x 88 x 232	232 x 90 x 232	150 x 222 x 270	191 x 178 x 290	191 x 178 x 290	
	inch	9.8 x 6.1 x 10/ 10.7 x 3.5 x 9.1	9.13 x 3.54 x 9.13	5.9 x 8.74 x 10.63	7.5 x 7.01 x 11.42	7.5 x 7.01 x 11.42	
Weight	kg	4.76 / 3.49	3.24	4.4	5.6	5.6	
	lb	10.47 / 7.68	7.14	9.7	12.3	12.3	
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IPC-6806/6806W	IPC-6606/6608	IPC-7132	IPC-5120/7120	IPC-6025	IPC-5122	IPC-7130 / IPC-7130L	IPC-7220
PICMG 1.0 Full-size SBC / PICMG 1.0/1.3 Full-size SBC	PICMG 1.0/1.3 Full-size SBC	ATX / Micro ATX	Micro ATX / ATX	PICMG 1.0/1.3 Full-size SBC	Micro ATX	ATX / Micro ATX	ATX / Micro ATX
-	-	-	- / -	-	1	-	-
-	-	-	-	-	-	-	-
1 / 1	1 / 1	1	1 / 1	1	1	2 ( hot-swap ) / 2	1
1 / 1	1 / 1	2	1 / 1	1	1	1 / 1	1
0 / 1	1 / 2	1	1 / 1	-	-	1 / 1	2
2 / 2	2 / 2	2	Front I/O chassis	2	2	2 / 2	2
- / -	- / -	-	-	-	-	-	-
1 / 1	1 / 1	1	1 + 1	1	1	1 + 1	1
53 / 58	53 / 85	85	85 / 10	46.6	85	73.8 / 21.2	85
250W Flex ATX 350W Flex ATX	250W PS/2 300W PS/2 400W PS/2	300W PS/2 400W PS/2	250W Flex ATX 350W Flex ATX	270W Flex ATX 400W Flex ATX	300W PS/2 400W PS/2	300W PS/2 400W PS/2 500W PS/2	300W PS/2 400W PS/2
-	-	-	-	-	-	350W Mini RPS 500W Mini RPS	350W Mini RPS 500W Mini RPS
-	-	-	-	-	-	-	-
5 / 5	5 / 7	7	4 / 7	4	4	7	7
6 / 6	6 / 8	7	-	5	-	7	7
Yes	Yes	-	-	Yes	-	-	-
- / Yes	Yes	Yes	-	Yes	-	-	-
-	-	-	-	Yes	Yes	Yes / -	Yes
166 x 178 x 398/ 198 x 221 x 398	173 x 254 x 396/ 173 x 315 x 410	200 x 330 x 430	320 x 164 x 316.5/ 380 x 164 x 316.5	111 x 212 x 420	157 x 360 x 340	200 x 320 x 480	200 x 320 x 480
6.54 x 7.01 x 15.67/ 7.8 x 8.7 x 15.67	6.8 x 10 x 15.6 / 6.8 x 12.4 x 16.1	7.9 x 13 x 16.9	12.6 x 6.5 x 12.5/ 15 x 6.5 x 12.5	4.4 x 8.3 x 16.5	6.2 x 14.2 x 13.4	7.9 x 12.6 x 18.9	7.9 x 12.6 x 18.9
6.3 / 8	9 / 11	9.96	6.54 / 7.01	4.7	6.5	12.8	14
13.9 / 17.6	19.8 / 24.2	21.93	14.42 / 15.45	10.3	14.3	28.2	30.8
8-12	8-16	8-18	8-22	8-24	8-26	8-28	8-20

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# Industrial Computer Chassis



Model Name		1U Rackmount	2U Rackmount				4U Rackmount			
		ACP-1010	IPC-603	ACP-2000/ IPC-602	ACP-2010/2320	ACP-2020	IPC-510	IPC-610-L/ IPC-611	IPC-631	
Form Factor Support		PICMG 1.0/1.3 Full-Size SBC ATX/MicroATX	ATX/MicroATX	PICMG 1.0/1.3 Full-Size SBC	ATX/MicroATX	ATX / MicroATX	PICMG1.0/1.3 Full size SBC ATX/Micro-ATX	PICMG1.0/1.3 Full size SBC ATX/Micro-ATX	ATX/Micro-ATX	
Drive Bay	Slim Optical Drive	1	1	1 / -	- / 1	1	-	-	1	
	2.5"	1 x 3.5" or 2 x 2.5"	-	-	-	2 external (optional hot- swap module ) 2 internal	-	-	4 (2 external optional hot- swap)	
	3.5"	Hot-swap	-	-	-	- / 2 (SATA)	-	-	-	
		External	1	-	2 / 1	1 / -	-	1	1	-
		Internal	1 x 3.5" or 2 x 2.5"	1	- / 1	2	-	1	-	-
5.25"	-	-	- / 1	1 / -	-	3	3	-		
Front I/O	USB	2	Front I/O chassis	2	2	2 (USB 3.0)	2	2	Front I/O chassis	
	PS/2	-	-	1	1	-	1	-	-	
Cooling	No. of Fans	2 (MB), 4 (BP)	2	2	2 / 3	1	1	1	2	
	CFM	2 x 24 (MB) / 3 x 24 + 1 x 15 (BP)	2 x 47	2 x 47/ 2 x 40	2 x 47/ 2 x 47 + 1 x 28	41	77	85	2 x 82	
Power Supply	AC	250W Flex ATX 300W Flex ATX	350W Flex ATX	250W PS/2 300W PS/2 400W PS/2 500W PS/2	250W Flex ATX 300W Flex ATX	350W Flex ATX	250W PS/2 300W PS/2 400W PS/2	250W PS/2 300W PS/2	500W PS/2	
	AC Redundant	-	-	300W 1+1 RPS / -	250W 1+1	500W 2U redundant	-	350W Mini RPS 500W Mini RPS	500W Mini RPS	
	DC	-	-	300W 48V	-	-	-	-	-	
No. of Slots		MB: 1 BP: 3	3	6 / 6	3 / 3	7	14	15	7	
No. of Full-size Cards <sup>Note</sup>		MB: 0 BP: 2	0	4 / 4	3 / 3	7	8	11	0	
Passive Backplane Options	PICMG 1.0	Yes	-	Yes	-	-	Yes	Yes	-	
	PICMG 1.3	Yes	-	Yes	-	-	Yes	Yes	-	
Intelligent System Module		-	-	Yes (ACP-2000)	Yes	Yes	-	-	-	
Dimensions (W x H x D)	mm	480 x 44 x 497	482 x 88 x 308	482 x 88 x 451	482 x 88 x 480	482 x 177 x 348	482 x 177 x 446	482 x 177 x 480	482 x 177 x 348	
	inch	19 x 1.7 x 19.6	19 x 3.46 x 12.1	19 x 3.5 x 17.8	19 x 3.5 x 18.9	19 x 7.0 x 13.7	19 x 7 x 17.6	19 x 7 x 18.9	19 x 7.0 x 13.7	
Weight	kg	8	6.4	11.5/11.3	10.7/11.7	8	10.7	14.5	8	
	lb	17.6	14.1	25.3/24.9	23.5/25.7	17.6 lb	23.5	31.9	17.6	
Page		8-30	8-32	8-34	8-36	8-38	8-40	8-42	8-46	

Note: Depending on system configuration. Board component or CPU cooler mechanical interference might reduce supported full-size card number.



4U Rackmount								6U Rackmount
IPC-610-H	ACP-4020	ACP-4D00	ACP-4000	ACP-4010/AC P-4320	ACP-4340	ACP-4360	IPC-623	IPC-622
PICMG1.0/1.3 Full size SBC ATX/Micro-ATX	PICMG1.3 Half-size SBC ATX/Micro-ATX	PICMG 1.3/PCI Half-size SBC	PICMG1.0/1.3 Full-size SBC ATX/Micro-ATX	PICMG1.0/1.3 Full-size SBC ATX/Micro-ATX	PICMG1.0/1.3 Full size SBC ATX/Micro-ATX	PICMG1.0/1.3 Full size SBC ATX/Micro-ATX	PICMG 1.0/1.3 Full size SBC	PICMG 1.0/1.3 Full size SBC
-	1	-	-	-	1	1	-	-
-	1 (Internal)	-	-	-	1 (Internal)	-	-	-
-	-	-	-	- / 2 (SATA)	4 (SATA)	6 (SATA)	-	-
1	2	1 / each node	1	1 / -	-	1	1	-
-	-	-	-	1 / -	-	-	1	2
3	-	-	3	2	-	-	3	4
2	2 (USB 3.0)	2 (USB 2.0) + 2 (USB 3.0) / each node	2	4 / 2	2 (USB 3.0)	2	-	2
1	-	-	1	-	-	-	-	-
2	2	1 / each node	2	2 / 2	2	3	3	4
2 x 85	2 x 53	1 x 58 per node	2 x 85	2 x 85/ 1 x 74 + 1 x 28	1 x 74 + 1 x 56	1 x 114 + 2 x 47	3 x 114	4 x 58
300W PS/2 400W PS/2 500W PS/2	300W PS/2 400W PS/2 500W PS/2	250W Flex ATX 300W Flex ATX	300W PS/2 400W PS/2 500W PS/2	300W PS/2 400W PS/2 500W PS/2	400W PS/2 500W PS/2 700W PS/2	400W PS/2 500W PS/2 700W PS/2	400W 500W	400W PS/2 500W PS/2 700W PS/2
350W Mini RPS 500W Mini RPS	-	-	350W Mini RPS 500W Mini RPS	350W Mini RPS 500W Mini RPS 750W Mini RPS	500W Mini RPS	350W Mini RPS 500W Mini RPS	570W 2+1	500W Mini RPS 750W Mini RPS
300W 48V	300W 48V	-	300W 48V	-	-	-	-	-
15	15	6 / each node	15	15 / 15	15	15	20	20
11	0	0	11	15 / 10	11	8	20	20
Yes	-	Yes (PCI BP only)	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
482 x 177 x 479	482 x 177 x 348	430 x 177 x 350	482 x 177 x 479	482 x 177 x 479	482 x 177 x 478	482 x 177 x 501	482 x 177 x 657	482 x 266 x 464
19 x 7 x 18.9	19 x 7.0 x 13.7	19 x 7.0 x 13.8	19 x 7 x 18.9	19 x 7 x 18.9	19 x 7.0 x 18.8	19 x 7.0 x 19.8	19 x 7 x 26	19 x 10.5 x 18.3
15	8.5	15	15.2	16.6/17.6	12.5	19	26	30
33	18.7	33	33.5	36.5/38.7	27.5	41.8	57	66
8-44	8-48	8-50	8-52	8-54/8-56	8-58	online	8-60	8-62

Note: Depending on system configuration. Board component or CPU cooler mechanical interference might reduce supported full-size card number.

# ARK-6610/6620

## Compact Chassis for Mini-ITX Motherboard



ARK-6610

ARK-6620

CE FCC

### Features

- ARK-6610 with one front I/O expansion slot
- Various cut-outs for COM/DVI/LVDS,USB,S/C-video
- Shockproof drive bay for slim ODD and 3.5" HDD
- Bottom door to access CF card or Mini-PCle card
- Supports 180W Flex ATX power supply

### Specifications

		ARK-6610	ARK-6620
Disk Drive Bay	Slim Optical Drive	1	-
	3.5" (internal)	1	1
I/O Interface	COM	5	2
	USB	2	-
	DVI/LVDS	2	1
	S/C-Video	1	1
	WLAN Antenna	1	1
Cooling	Fan	1 (9 cm / 52.5 CFM)	2 (6 cm / 27.7 CFM, each)
	Air Filter	Yes	Yes
Miscellaneous	LED Indicators	Power, HDD, temperature	Power, HDD, temperature
	Control	Power switch	Power switch
Environment	Operating	Operating	Non-operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85%, 40 °C, non-condensing	10 ~ 95%, @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	250 x 156 x 253 mm (9.8" x 6.1" x 10")	272 x 88 x 232 mm (10.7" x 3.5" x 9.1")
	Weight	4.76 kg (10.47 lb)	3.49 kg (7.68 lb)

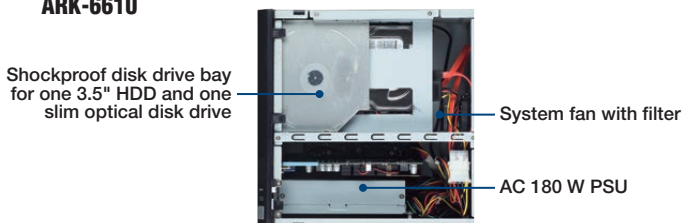
### Front View

#### ARK-6610



### Inside View

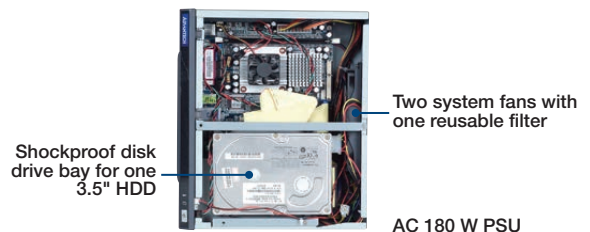
#### ARK-6610



#### ARK-6620



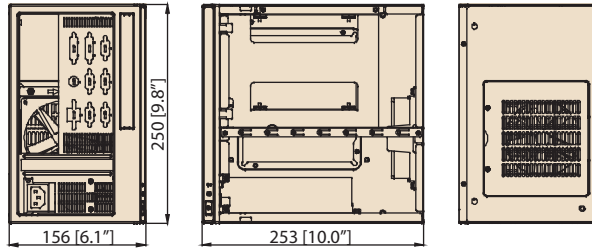
#### ARK-6620



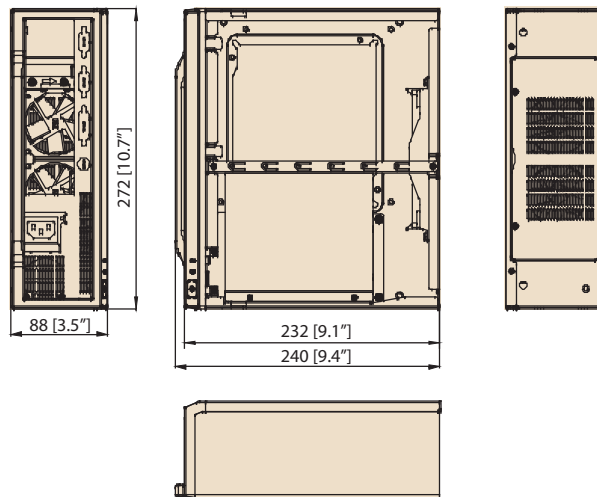
## Dimensions

Unit: mm [inch]

### ARK-6610

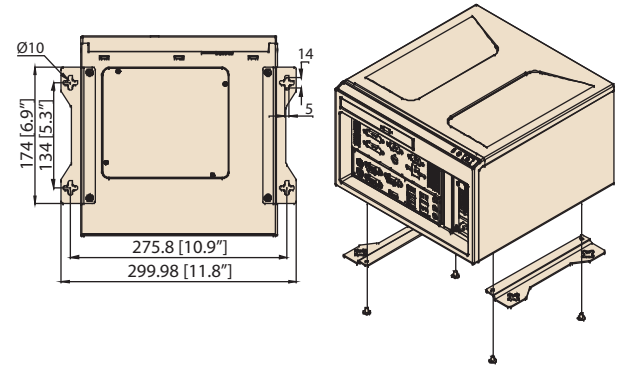


### ARK-6620

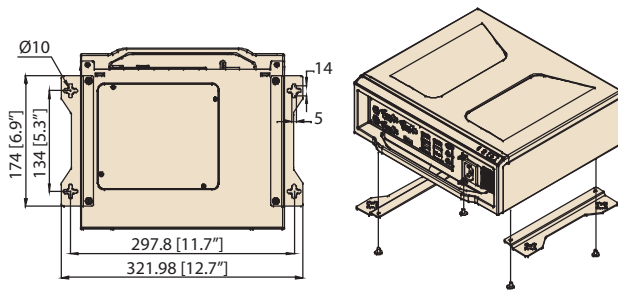


## Installation

### ARK-6610



### ARK-6620



## Chassis Ordering Information

Part Number	Power Supply	Power supply Wattage	Support Mini ITX MB type
<b>AC power Mini ITX motherboard</b>			
ARK-6610-18ZBE	96PS-A180WFX	180W	AC power Mini ITX MB
ARK-6620-18ZBE	96PS-A180WFX	180W	AC power Mini ITX MB
<b>DC Power Mini ITX motherboard (AIMB-201DS / 212 / 213 / 214 / 215 / 223 / 224 / 225 / 230)</b>			
ARK-6610-00XBE	-	-	DC power Mini ITX MB

\* For ARK-6620 chassis, the only optional cooler for Intel Corei CPU is 1960053065N001, 1U blower. and TDP Max.84W.

## Optional Accessories

Part Number	Description
1960053065N001	1U blower for LGA1155/1150/1151
1750002561	52.5 CFM, 92 x 92 x 25.4 mm system cooling fan (For ARK-6610)
1750006419	27.7 CFM, system cooling fan 60 x 60 x 13 mm (For ARK-6620)
98R2662001E	VESA mounting kit for ARK-6620
1960014495N001	PSU cover for DC Motherboard configuration

Industrial I/O	1
Intelligent Video Solution	2
Intelligent Transportation Platforms	3
Intelligent Inspection Systems	4
Modular-IPCs	5
Slot SBC & Passive Backplanes	6
Industrial Motherboards	7
Industrial Chassis	8
Industrial Server Motherboards	9
Industrial Server Chassis	10
Industrial Storage	11
GPU Servers	12
CompactPCI Platforms	13
Industrial Computer Peripherals	14
Industrial Ethernet Solutions	15

# IPC-3012

## Compact Chassis for PICMG 1.3 Half Size SHB



### Features

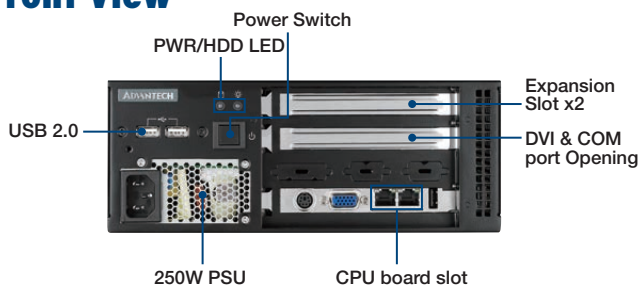
- Compact chassis with two front expansion slots
- Shockproof drive bay for two 2.5" HDDs
- Equipped with 80 plus FLEX 250W power supply
- Thumb-screw for top cover easy opening
- Built-in Intrusion switch function
- Bidirectional to mount chassis on wall or workbench

CE FCC

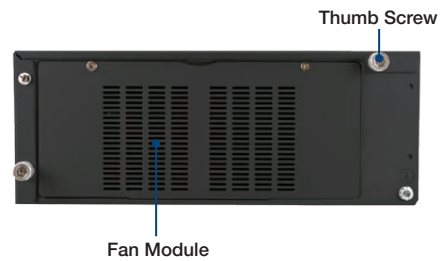
### Specifications

Disk Drive Bay	2.5"	External -	Internal 2
Cooling	Fan Air Filters	2 (6 cm/27 CFM) Yes	
Front I/O interface	USB	2	
Miscellaneous	LED Indicators Control	Power, HDD Power Switch	
System Monitoring		Chassis intrusion switch	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85 % @ 40 °C, non-condensing	10 ~ 95 % @ 40 °C, non-condensing
	Vibration (5-500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	232 x 90 x 232 mm (9.13" x 3.54" x 9.13")	
	Weight	3.24 kg (7.14 lb)	

### Front View



### Rear View



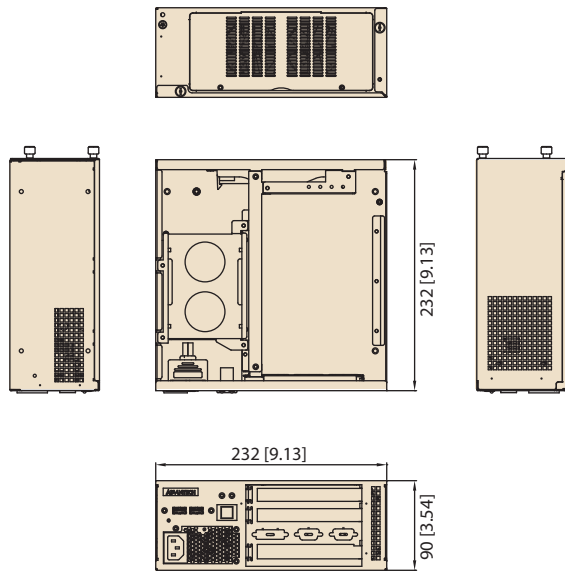
### Inside View





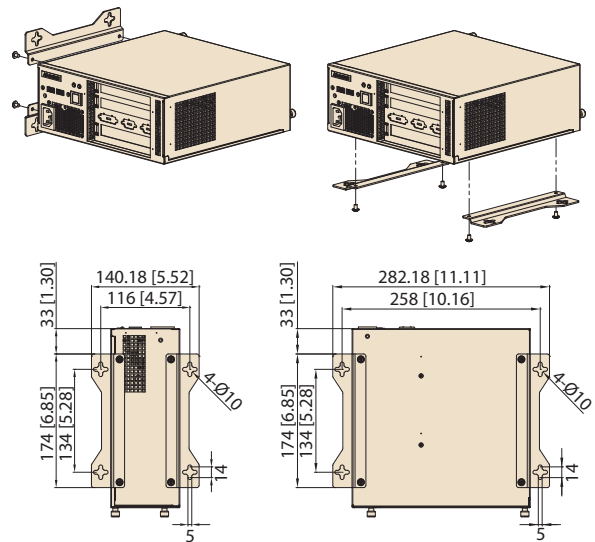
### Dimensions

Unit: mm [inch]



### Installation

Unit: mm [inch]



### Ordering Information

Part Number	Description
IPC-3012-25ZE	With 250W Power supply 96PS-A250WFX-2, with ATX switch

### Optional Accessories

Part Number	Description
1750006419	27.72 CFM, system fan 60 x 60 x 13 mm
1990005760T00B	Filter cover
1960053207N001	1.5U CPU cooler for one add-on card applied
1960053065N001	1U CPU cooler for two add-on cards applied

### Backplane Options

Part Number	Description
PCE-3B03A-00A1E	3 Slots PICMG1.3BP, PCIe x16*1, PCIe x4*1
PCE-3B03-01A1E	3 Slots PICMG1.3BP, PCIe x16*1, 32-Bit/33 MHz PCI*1

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# IPC-3026

## Quiet Compact Chassis for Half-size SHB/SBC



### Features

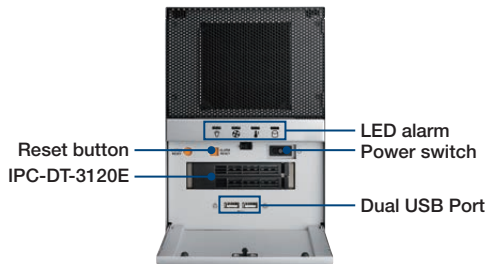
- Supports 6-slot PICMG 1.3/1.0 backplane
- Shockproof drive bay for one 3.5" HDD
- Supports two 2.5" HDDs by hot-swap tray
- LED indicators for system fault detection
- Lockable front door prevents unauthorized access
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

### Quiet Specifications

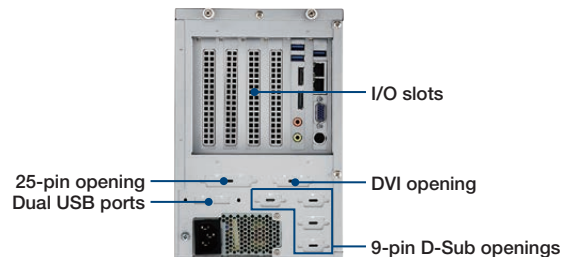
CE FCC

Disk Drive Bay	3.5"	External 1	Internal -
Cooling	Fan	1 (9 cm 44.6 CFM)	-
	Air Filters	Yes	
I/O Interface	USB	2 (Front accessible)	
Miscellaneous	LED Indicators	Power, HDD, Temp, Fan	
	Front Panel	Reset button, Power switch	
	Rear Panel	Reserved four 9-pin D-Sub openings, 25-pin opening, DVI opening, dual USB ports	
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	10 ~ 95% @ 40 °C, non-condensing
	Vibration (5-500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	150 x 222 x 270 mm ( 5.9" x 8.74" x 10.63")	
	Weight	4.4 kg (9.7 lb)	

### Front View

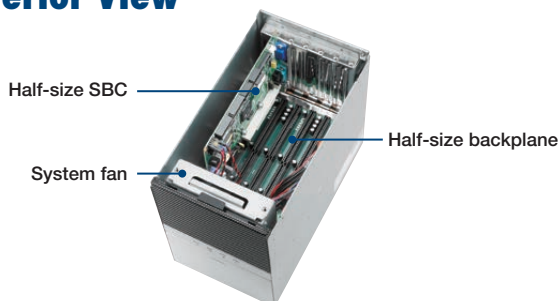


### Rear View



Note: Hot swap drive bay module should be bought separately.

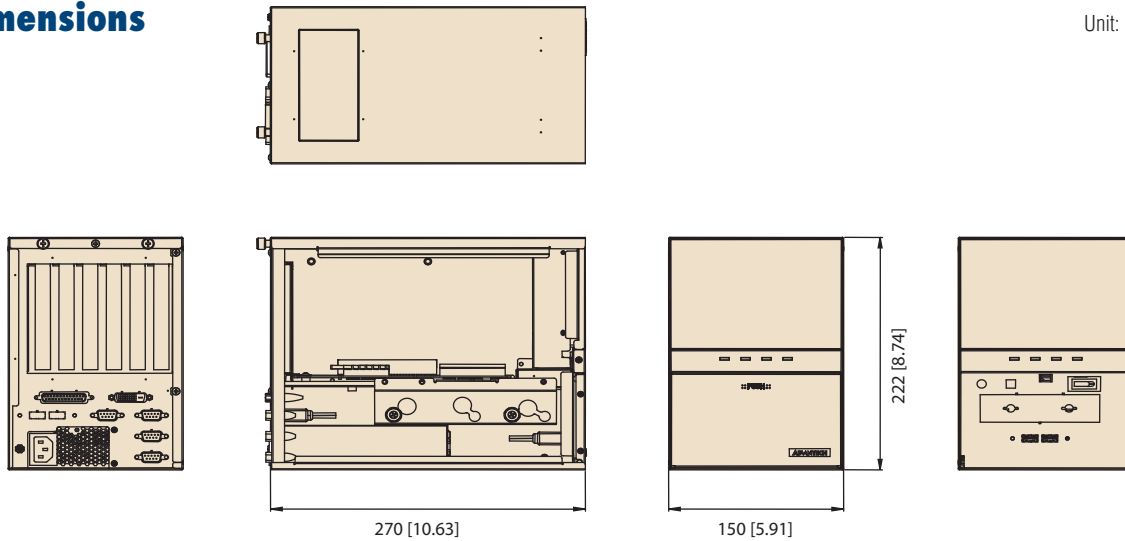
### Interior View



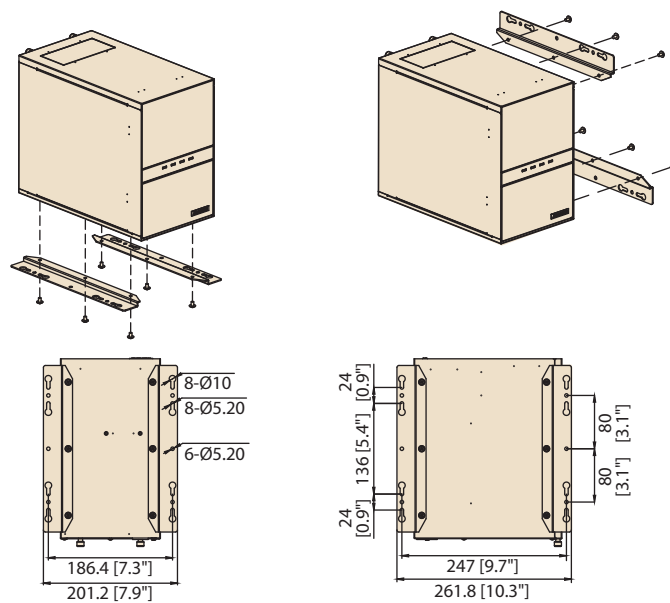
Industrial I/O	1
Intelligent Video Solution	2
Intelligent Transportation Platforms	3
Intelligent Inspection Systems	4
Modular-IPCs	5
Slot SBC & Passive Backplanes	6
Industrial Motherboards	7
Industrial Chassis	8
Industrial Server Motherboards	9
Industrial Server Chassis	10
Industrial Storage	11
GPU Servers	12
CompactPCI Platforms	13
Industrial Computer Peripherals	14
Industrial Ethernet Solutions	15

## Dimensions

Unit: mm [inch]



## Installation



## Ordering Information

Part Number	Power Supply	Wattage	Type	Input
IPC-3026BP-15ZE	96PS-A150WFX-1	150W	Single	AC 100 - 240 V ( full range )

## Optional Accessories

Ordering P/N	Description
IPC-DT-3120E	Mobile rack for dual 2.5" SATA HDDs with a 3.5" drive bay occupancy

## Backplane Options

Part Number	ISA	PCI	PClex16	PClex8	PClex4	PClex1	PICMG
<b>PICMG 1.0</b>							
PCA-6106-0B2E	5	-	-	-	-	-	1
PCA-6105P5-0B2E	-	4	-	-	-	1	-
<b>PICMG 1.3</b>							
PCE-3B03-00A1E	-	-	1	-	1	-	1
PCE-3B06-00A1E	-	-	1	-	-	4	1
PCE-3B06-02A1E	-	2	1	-	-	2	1
PCE-3B06-03A1E	-	3	1	-	-	1	1

# IPC-6806

## 6-Slot Desktop/Wallmount Compact Chassis for Full-/Half-size Slot SBC



### Features

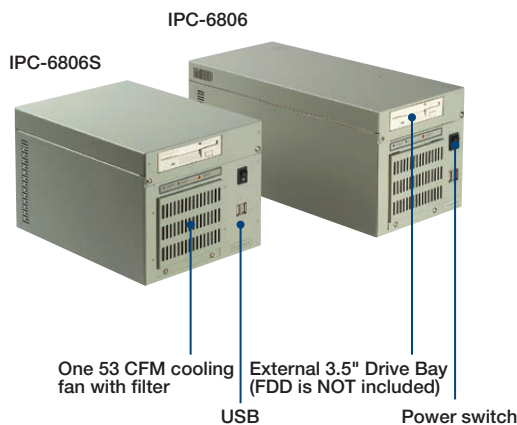
- Three models with different sizes to support various industrial applications
  - IPC-6806S supports 6-slot PICMG 1.0/1.3 backplane
  - IPC-6806 supports 6-slot PICMG 1.0 backplane
  - IPC-6806W supports 6-slot PICMG 1.0/1.3 backplane
- Supports 6-slot backplanes
- Streamlined filtered airflow

CE FCC

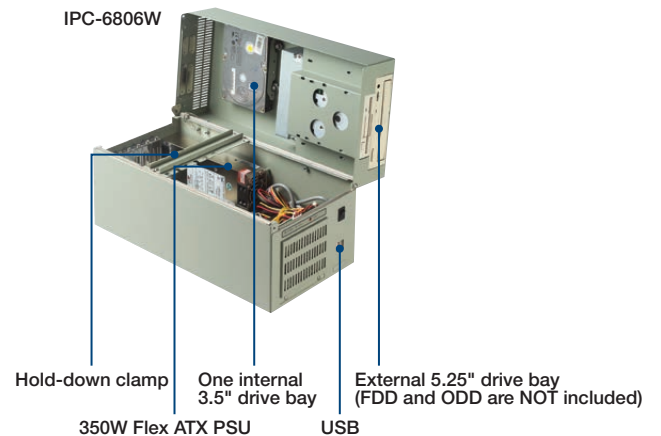
### Specifications

Model Name		IPC-6806S	IPC-6806	IPC-6806W
CPU Card Form Factor		Half-size PICMG 1.0/1.3	Full-size PICMG 1.0	Full-size PICMG 1.0/1.3
Drive Bay	5.25"	-	-	1
	External 3.5"	1 (no support for IPC-DT-3120E)	1	1
	Internal 3.5"	1	1	1
Cooling	Fan	1 (9cm / 53 CFM)	1 (9cm / 53 CFM)	1 (9cm / 58 CFM)
	Air Filter	Yes	Yes	Yes
Front I/O Interface	USB 2.0	2	2	2
Miscellaneous	LED Indicators	Power and HDD		
	Control	Power switch and system reset buttons		
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)	0.5 Grms		2 G
	Shock	10 G (with 11 ms duration, half sine wave)		
	Physical Characteristics	Dimensions (W x H x D)	191 x 178 x 290 mm (7.5" x 7.01" x 11.42")	166 x 178 x 398 mm (6.54" x 7.01" x 15.67")
	Weight	5.6 kg (12.3 lb)	6.3 kg (13.9 lb)	8 kg (17.6 lb)

### Front View



### Inside View

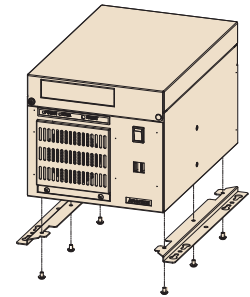
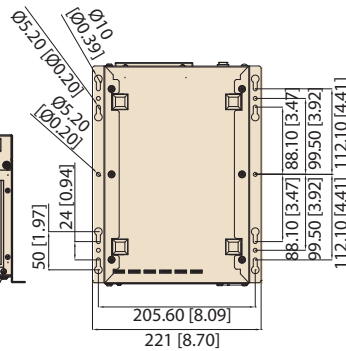
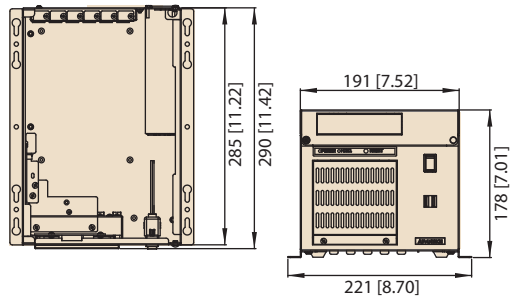


Dimensions

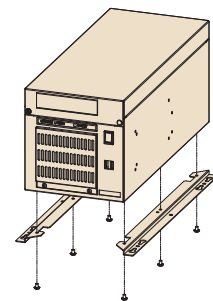
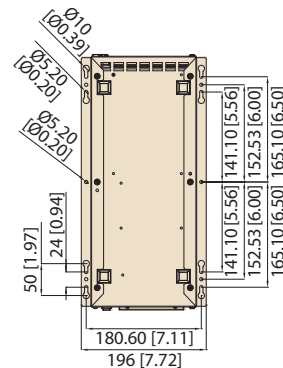
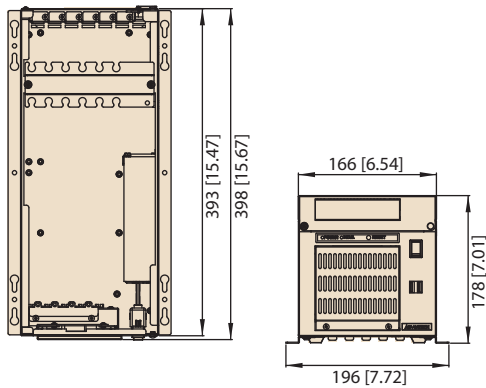
Installation

Unit: mm [inch]

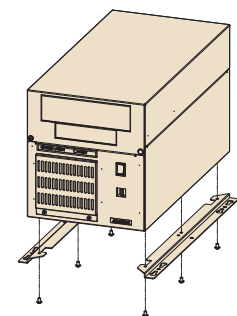
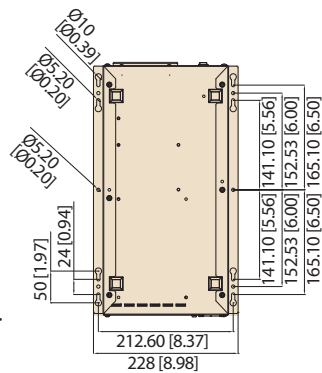
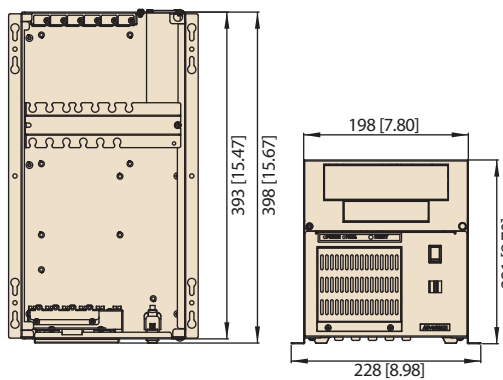
IPC-6806S



IPC-6806



IPC-6806W



Ordering Information

Part Number	Color	CPU Card Form Factor	Power Supply Wattage	Switch
<b>IPC-6806S Series</b>				
IPC-6806S-25CE	Gray	PICMG 1.0 Half-size	250W	AT
<b>IPC-6806 Series</b>				
IPC-6806-25DE	Gray	PICMG 1.0 Full-size	250W	ATX
<b>IPC-6806W Series</b>				
IPC-6806W-35CE	Gray	PICMG 1.0/1.3 Full-size	350W	AT

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# IPC-6806S-D

## 6-Slot Desktop/Wallmount Compact Chassis for Half-size Slot SBC



### Features

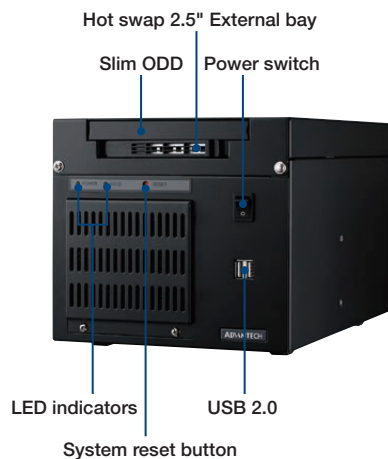
- One Hot-swap 2.5" drive bay
- Two front-accessible USB 2.0 ports
- Supports 6-slot PICMG 1.3/1.0 backplane
- Easily maintained system fan and filter

CE FCC

### Specifications

Model Name	IPC-6806S		
CPU Card Form Factor	Half-size		
Drive Bay	External Slim ODD port	1	
	Internal 3.5"	1	
	Hot-Swap drive bay	1 (only for HDD thickness with 9.6 mm / SAS not supported)	
Cooling	Fan	1 (9cm / 53 CFM)	
	Air Filter	Yes	
Front I/O Interface	USB 2.0	2	
Miscellaneous	LED Indicators	Power and HDD	
	Control	Power switch and system reset buttons	
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	10 ~ 95% @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)	0.5 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
	Physical Characteristics	Dimensions (W x H x D)	191 x 178 x 290 mm (7.5" x 7.01" x 11.42")
	Weight	5.6 kg (12.3 lb)	

### Front View



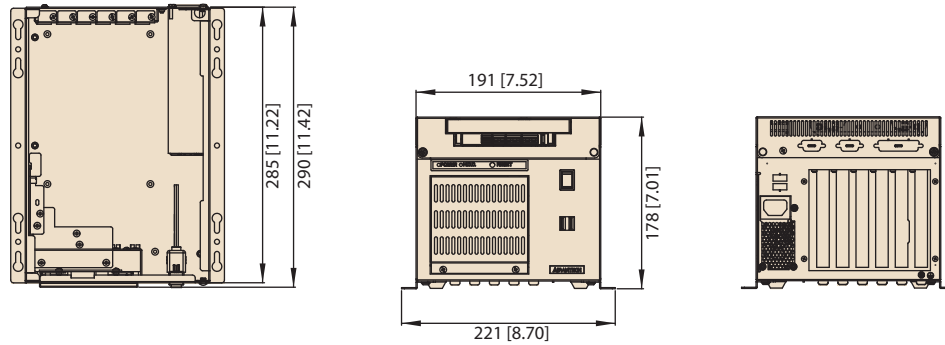
### Inside View





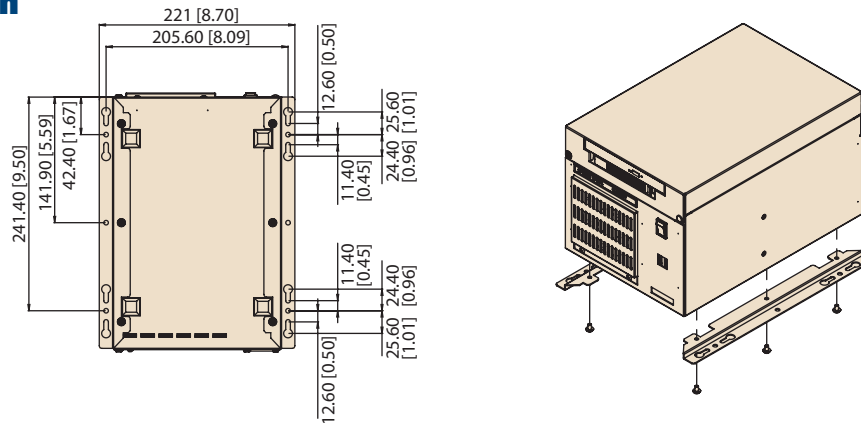
## Dimensions

Unit: mm [inch]



## Installation

Unit: mm [inch]



## Ordering Information

Part Number	Color	CPU Card Form Factor	Power Supply Wattage	Backplane	Switch
IPC-6806S-25DE	Black	Half-size	250W	-	AT

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# IPC-6606/6608

## 6/8-Slot Desktop/Wallmount Chassis



### Features

- Supports 6/8-slot PICMG 1.0 / PICMG 1.3 backplane
- Shockproof drive bay for 5.25" ODD and 3.5" HDD
- Two front access USB ports
- Bidirectional to mount chassis on wall or workbench
- Easily-maintained system fan and filter

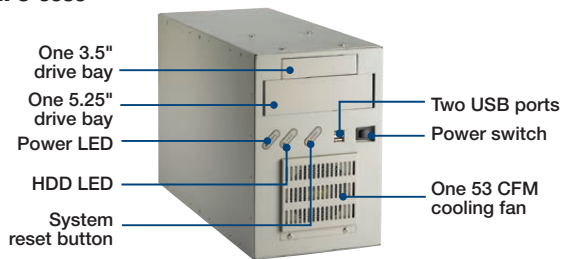
CE FCC

### Specifications

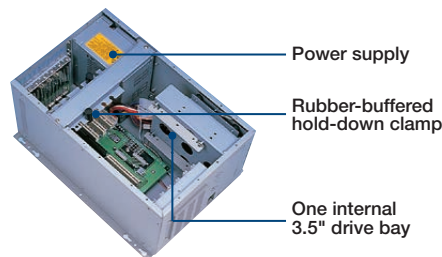
Model Name		IPC-6606	IPC-6608
Drive Bay	5.25"	1	2
	3.5"	2 (1 front-accessible, 1 internal)	1
Front I/O Interface	USB 2.0	2	2
Cooling	Fan	1 (9 cm / 53 CFM)	1 (12 cm / 85 CFM)
	Air Filter	Yes	
Miscellaneous	LED Indicators	Power and HDD	
	Control	Power switch and reset button	
Environment		Operating	
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
Physical Characteristics	Dimensions (W x H x D)	173 x 254 x 396 mm (6.8" x 10" x 15.6")	173 x 315 x 410 mm (6.8" x 12.4" x 16.1")
	Weight	9 kg (19.8 lb)	11 kg (24.2 lb)

### Front View

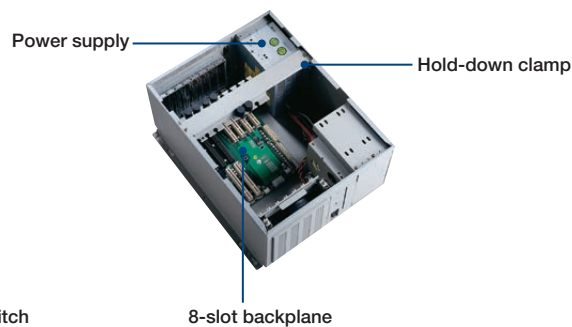
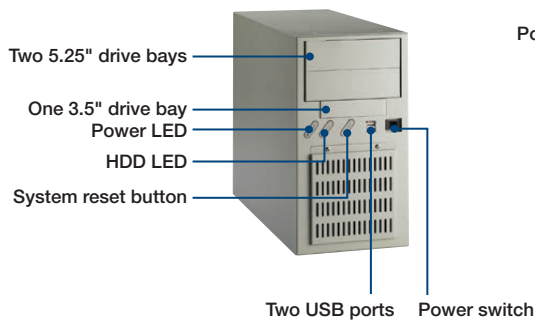
#### IPC-6606



### Inside View



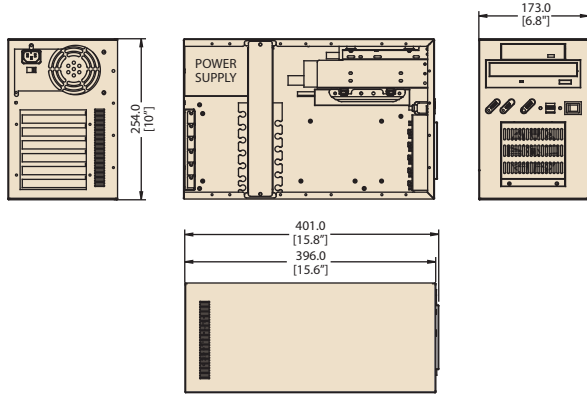
#### IPC-6608



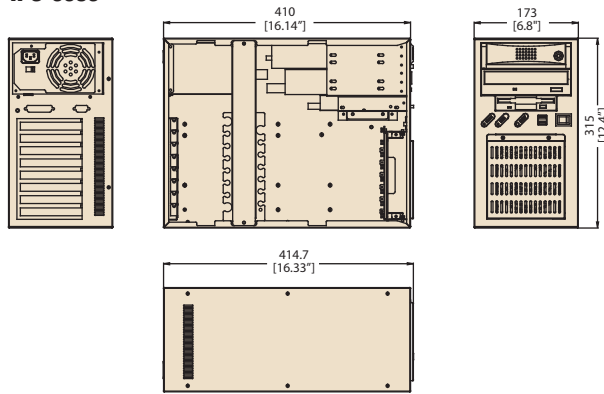
## Dimensions

Unit: mm [inch]

### IPC-6606



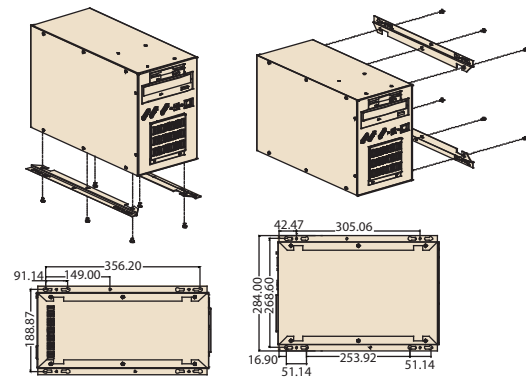
### IPC-6608



## Installation

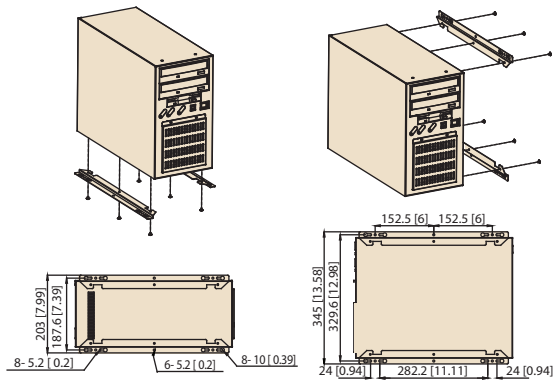
Unit: mm [inch]

### IPC-6606



Bidirectional mounting

### IPC-6608



## Ordering Information

Part Number	Power Supply	Wattage	Backplane	Switch
<b>IPC-6606</b>				
IPC-6606BP-25BE	PS8-250ATX-ZE	250W	-	AT
IPC-6606BP-30CE	PS8-300ATX-ZBE	300W	-	ATX
IPC-6606P3-25BE	PS8-250ATX-ZE	250W	PCA-6106P3-0D2E	AT
IPC-6606P3-30CE	PS8-300ATX-ZBE	300W	PCA-6106P3-0D2E	ATX
<b>IPC-6608</b>				
IPC-6608BP-25BE	PS8-250ATX-ZE	250W		ATX
IPC-6608BP-30CE	PS8-300ATX-ZBE	300W		ATX

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays

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# IPC-7132

## Cost-effective Wallmount Chassis for ATX/mATX Motherboard



CE FCC

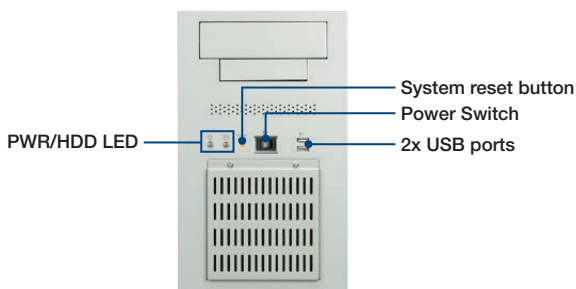
### Features

- Supports ATX/mATX M/B
- Shockproof drive bay for one 5.25" ODD and three 3.5" HDDs
- Thumb-screw for top cover easy opening
- Bidirectional option to mount chassis on wall or workbench
- Two front access USB ports

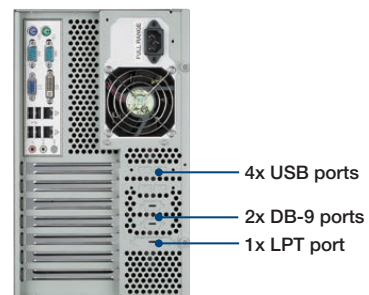
### Specifications

		External	Internal
Disk Drive Bay	3.5"	1	2
	5.25"	1	-
Cooling	Fan	1 (12 cm/85 CFM)	
	Air Filters	Yes	
Front I/O interface	USB 2.0	2	
Miscellaneous	LED Indicators	Power, HDD	
	Control	Power Switch, System Reset Button	
	Rear panel	4x USB, 2x DB-9, 1x LPT port	
Environment	Temperature	Operating: 0 ~ 40 °C (32 ~ 104 °F)	Non-operating: -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85 % @ 40 °C, non-condensing	10 ~ 95 % @ 40 °C, non-condensing
	Vibration (5-500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
	Dimensions (W x H x D)	200 x 330 x 430 mm (7.9" x 13" x 16.9")	
Physical Characteristics	Weight	9.96 kg (21.93 lb)	

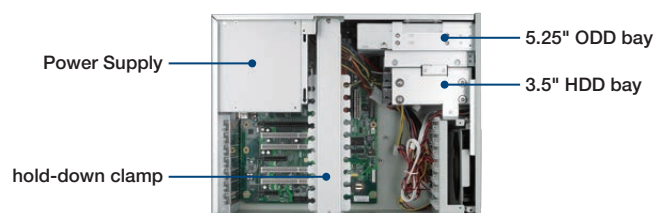
### Front View



### Rear View



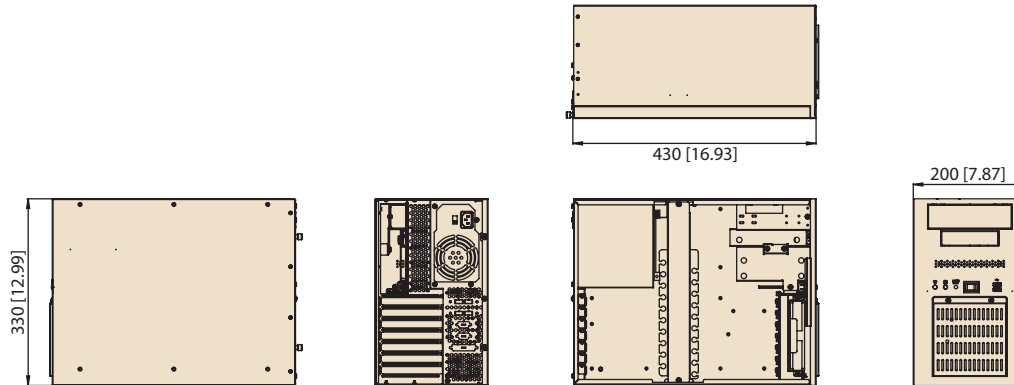
### Inside View



Easy-to-maintain cooling fan

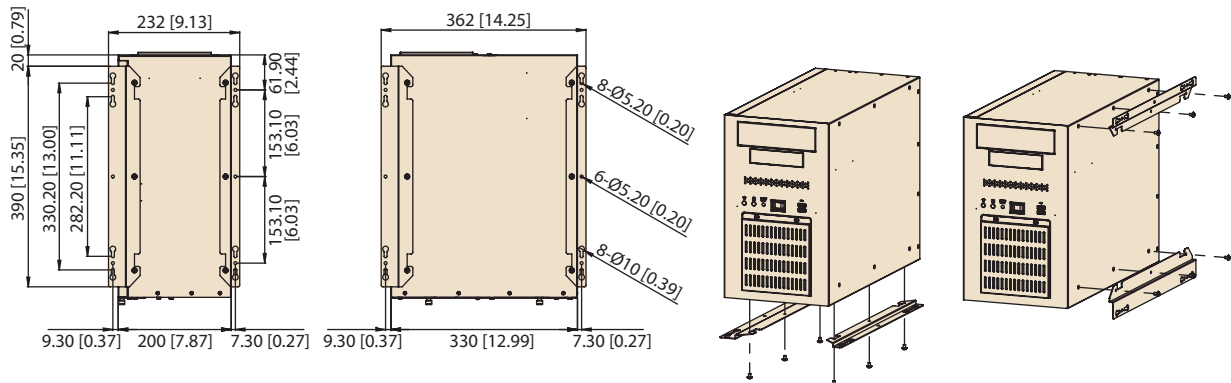
## Dimensions

Unit: mm [inch]



## Installation

Unit: mm [inch]



## Ordering Information

Model Name	Power Supply	Wattage	Switch Type
IPC-7132MB-25ZE	PS8-250ATX-ZE	250W	ATX
IPC-7132MB-30ZE	PS8-300ATX-ZBE	300W	ATX
IPC-7132MB-40ZE	PS8-400ATX-ZE	400W	ATX

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile HDD tray for dual 2.5" SATA HDDs
1750006427	87.87 CFM, system fan 120 x 120 x 25.0 mm

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# IPC-7220

## Desktop/wallmount Chassis for ATX/mATX Motherboard



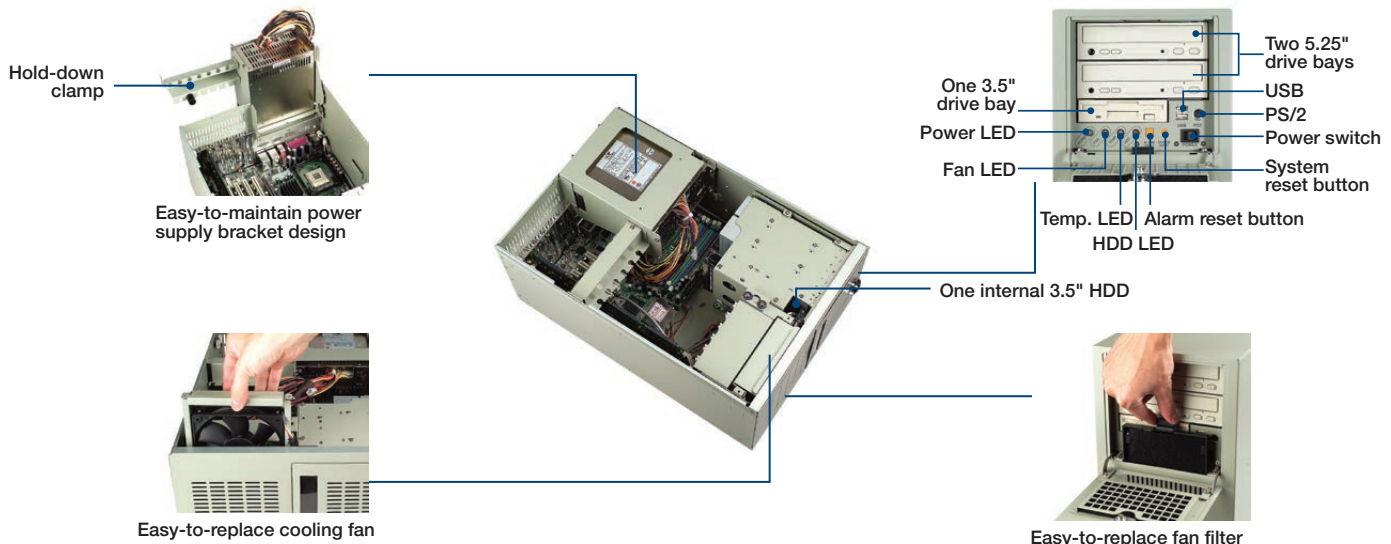
### Features

- Two 5.25" and two 3.5" shock-resistant drive bays
- Lockable front door to prevent unauthorized access
- LED indicators and alarm notification for system fault detection
- Easy-to-maintain system fan and air filter
- Low noise system fan
- Built-in Intelligent System Module enables whole system fan control and remote manageability

### Quiet Specifications

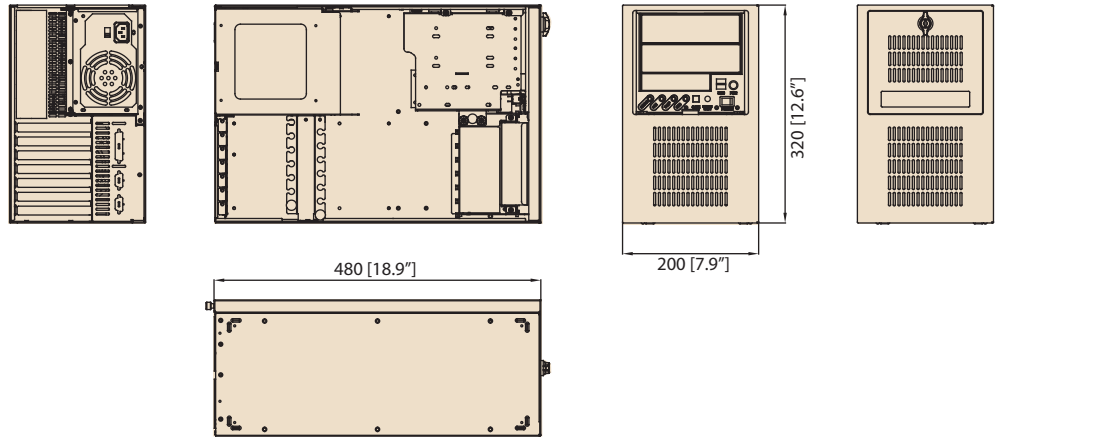
CE FCC

		External	Internal
Drive Bay	5.25"	2	-
	3.5"	1	1
Cooling	Fan	1 (12 cm / 85 CFM)	
	Air Filters	2 (one 7 x 12 cm and one 12 x 12 cm)	
	Smart Fan	System fan speed referring to chassis thermal sensor, or CPU temperature (Available with selected Advantech MBs/CPU cards)	
Front I/O Interface	USB 2.0	2	
	PS/2	PS/2 keyboard and mouse, or PS/2 keyboard depends on the enclosed motherboard	
Miscellaneous	LED Indicators	Power, HDD, temperature and fan	
	Control	Power switch, system reset and alarm reset buttons	
	Rear Panel	Reserved Two 9-pin D-Sub openings, one LPT opening	
Intelligent System Module Remote Monitoring	CPU/System fan speed, CPU/System temperature, motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environmental	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	200 x 320 x 480 mm (7.9" x 12.6" x 18.9")	
	Weight	14 kg (30.8 lb)	

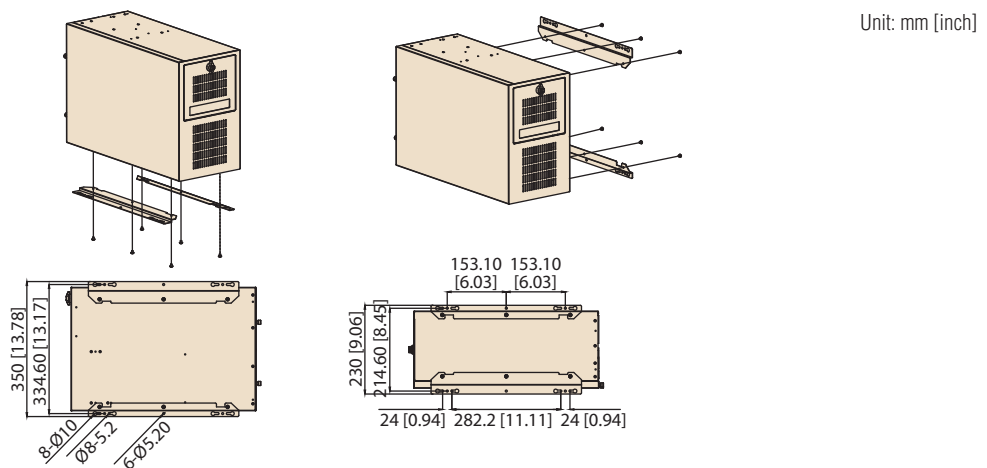




### Dimensions



### Installation



### Ordering Information

Part number	Power Supply	Wattage	Switch Type
IPC-7220-30BE	PS8-300ATX-ZBE	300W	ATX
IPC-7220-40BE	PS8-400ATX-ZE	400W	ATX

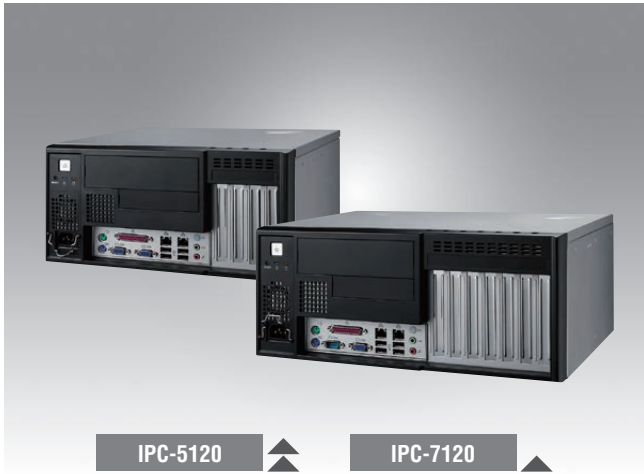
### Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 2.5" or 3.5" SATA HDD trays

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# IPC-5120/7120

## Desktop/Wallmount Chassis with front I/O Interfaces for ATX/mATX Motherboard



IPC-5120

IPC-7120

CE FCC

### Features

- With front I/O interface and four to seven expansion slots
- Shockproof drive bay for one 5.25" ODD and two 3.5" HDDs
- LED indicators for power status and HDD activity
- Supports four to seven half-size add-on cards
- Suitable foam factor : IPC-5120 for Micro-ATX MB , IPC-7120 for ATX MB

### Specifications

		External	Internal
Drive Bay	5.25"	1	-
	3.5"	1	1
Cooling	Fans	1 (12 cm / 85 CFM) + 1 (4 cm / 10 CFM)	
	Air Filter	Yes	
Miscellaneous	LED Indicators	Power status and HDD activity	
	Control	Power switch and system reset button	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	IPC-5120: 320 x 164 x 316.5 mm (12.6" x 6.5" x 12.5") IPC-7120: 380 x 164 x 316.5 mm (15" x 6.5" x 12.5")	
	Weight	IPC-5120: 6.54 kg (14.42 lb) IPC-7120: 7.01 kg (15.45 lb)	

### Front View

#### IPC-5120



### Inside View



Easy-to-maintain fan filter



Shock-resistant drive bay for holding an internal 3.5" HDD

#### IPC-7120



Plug ring-lock securely fastens the power cord

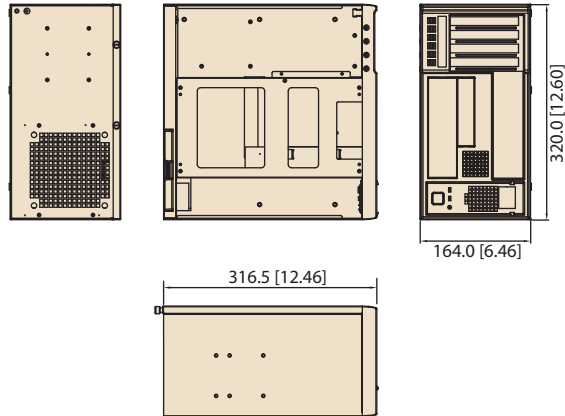


User-friendly mechanical design for installing an add-on card

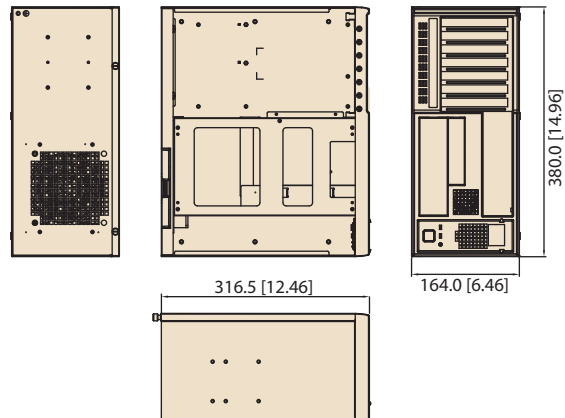
## Dimensions

Unit: mm [inch]

### IPC-5120



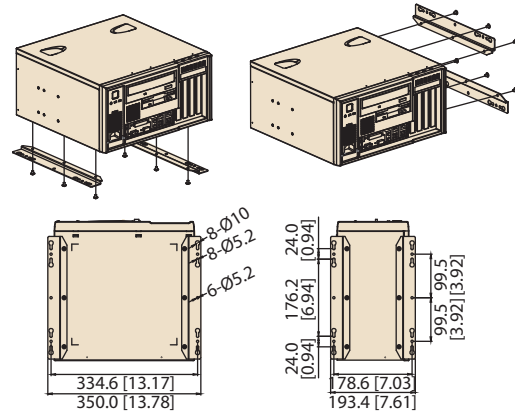
### IPC-7120



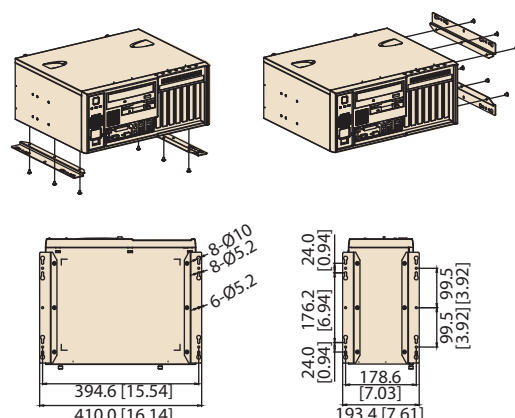
## Installation

Unit: mm [inch]

### IPC-5120



### IPC-7120



## Ordering Information

Part Number	Power Supply	Wattage	Switch
<b>IPC-5120 Series</b>			
IPC-5120-25CE	PS8-250FATX-XE	250W	ATX
IPC-5120-35CE	PS8-350FATX-XE	350W	ATX
<b>IPC-7120 Series</b>			
IPC-7120-25CE	PS8-250FATX-XE	250W	ATX
IPC-7120-35CE	PS8-350FATX-XE	350W	ATX

## Power Supply Specification

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-250FATX-XE	Bronze	250W	Single	AC 100-240V (full range)
PS8-350FATX-XE	Bronze	350W	Single	AC 100-240V (full range)

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# IPC-6025

## 5-Slot Desktop/Wallmount Chassis with Scalability as 5U Quad-System Solution



### Features

- Front handle for easy withdraw in rackmount carrier
- Lockable front door prevents unauthorized access
- Shockproof drive bay for two 3.5" HDDs
- LED indicators for system fault detection
- Optional rackmount carrier for quad-system solution
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

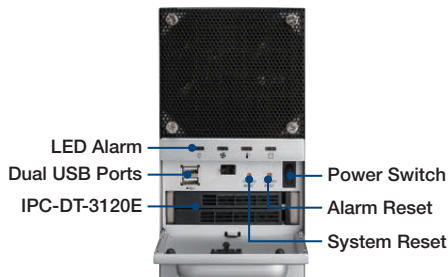


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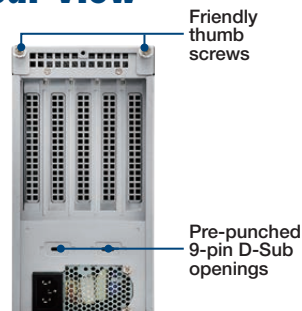
### Specifications

Drive Bay	3.5"	External 1	Internal 1
Cooling	Fan	1 (9 cm / 46.6 CFM)	
	Air Filters	Yes	
Front I/O Interface	USB 2.0	2	
Miscellaneous	LED Indicators	Power, fan, temperature, HDD	
	Control	Power switch and system reset buttons	
	Rear Panel	Reserved Two 9-pin D-Sub openings	
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
	Dimensions (W x H x D)	111 x 212 x 420 mm (4.4" x 8.3" x 16.5")	
Physical Characteristics	Weight	4.7 kg (10.3 lb)	

### Front View



### Rear View

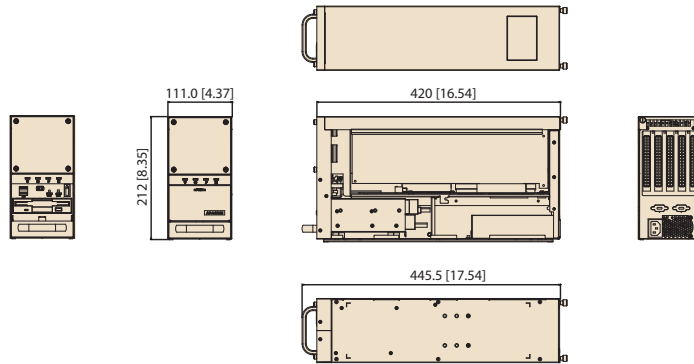


4 IPC-6025 combined as a 5U quad-system rackmount IPC

Note: Hot swap drive bay module should be bought separately.

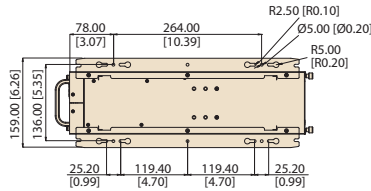
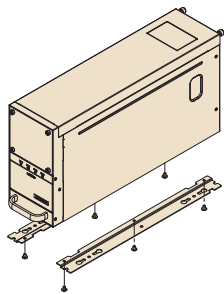
## Dimensions

Unit: mm [inch]



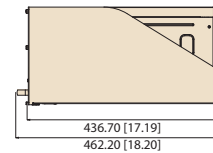
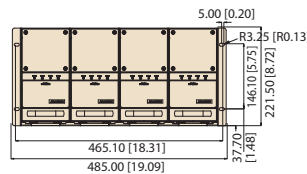
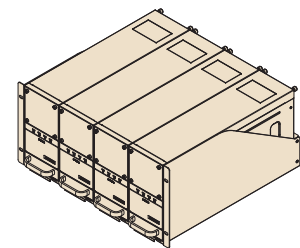
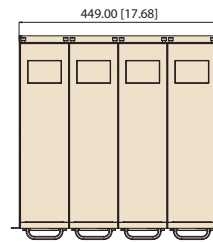
## Installation

### Single System



### Quad System

Unit: mm [inch]



## Ordering Information

Part number	Power Supply	80 Plus Grade	Wattage	Type	Input	Switch type
IPC-6025BP-27ZE	96PS-A270WFX	White	270W	Single	AC 100 ~ 240V (Full Range)	AT Switch
IPC-6025BP-40ZE	96PS-A400WFX-2	Gold	400W	Single	AC 100 ~ 240V (Full Range)	AT Switch

## Optional Accessories

Ordering P/N	Description
9892602501E	Rackmount carrier for Quad System solution
IPC-DT-3120E	Mobile rack for dual 2.5" SATA HDDs

## Backplane Options

Model	PICMG 1.3/1.0	PCIe	PCI-X	PCI	ISA	PCI/ISA
<b>PCE-5000 Series</b>						
PCE-5B04-20B1E	PICMG 1.3	1 (PCIe x 16)	2	-	-	-
PCE-5B05-02A1E	PICMG 1.3	1 (PCIe x 16) 1 (PCIe x 4)	-	2	-	-
PCE-5B05-03A1E	PICMG 1.3	1 (PCIe x 16)	-	3	-	-
<b>PICMG 1.0</b>						
PCA-6105P3-5A1E	PICMG 1.0	-	-	2	1	1

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# IPC-5122

## Desktop/Wallmount Chassis for MicroATX Motherboard



### Features

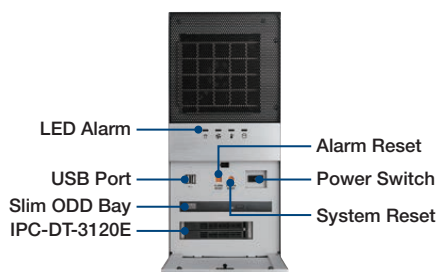
- Shockproof drive bay for slim ODD and 3.5" or 2.5" HDD
- Lockable front door prevents unauthorized access
- LED indicators for system fault detection
- Easy-to-maintain system fan and reusable air filter
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

### Quiet Specifications

CE FCC

		External	Internal
Drive Bay	Slim Optical Drive	1	-
	3.5"	1	1
Cooling	Fan	1 (12 cm / 85 CFM)	
	Air Filter	Yes	
Front I/O Interface	USB 2.0	2 ( Front accessible)	
Miscellaneous	LED Indicators	Power, HDD, fan and temperature	
	Control	Power switch, alarm reset and system reset buttons	
	Rear Panel	Six 9-pin D-Sub openings	
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	
	Shock	10 G (with 11 ms duration, half sine wave)	
	Dimensions (W x H x D)	157 x 360 x 340 mm (6.2" x 14.2" x 13.4")	
Physical Characteristics	Weight	6.5 kg (14.3 lb)	

### Front View



### Inside View



### Rear View



Note: Hot swap drive bay module and Slim ODD should be bought separately.



Easy-open door



Gently press the hook to pull the air filter out

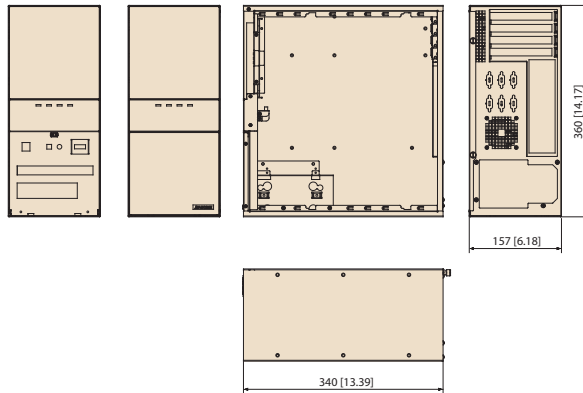




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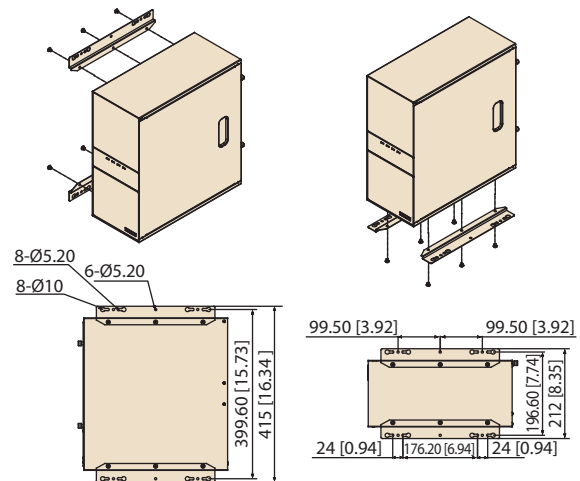
## Dimensions

Unit: mm [inch]



## Installation

Unit: mm [inch]



## Ordering Information

Part Number	Description
IPC-5122-00XE	Without power supply, with ATX switch

## Power Supply Options

(For detailed power supply specs, please refer to Chapter 13)

Part number	80 Plus Grade	Wattage	Type	Input
PS8-300ATX-ZBE	Bronze	300W	Single	AC 100-240V (full-range)
PS8-400ATX-ZE	Bronze	400W	Single	AC 100-240V (full-range)

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays

# IPC-7130/7130L

## Desktop/Wallmount Chassis for ATX/MicroATX Motherboard with Dual Hot-Swap 3.5" Drive Bays



IPC-7130

IPC-7130L

### Features

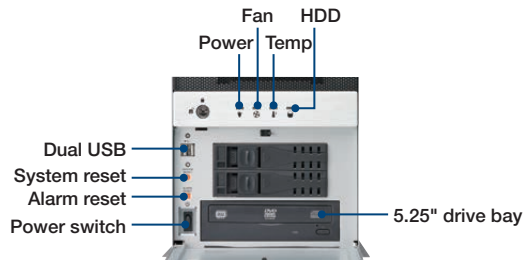
- Shockproof drive bays - One 5.25", one internal 3.5", and two hot-swap 3.5" trays for IPC-7130 / two 3.5" HDD device trays for IPC-7130L
- Lockable front door prevents unauthorized access
- LED indicators for system fault detection
- Bidirectional to mount chassis on the wall or workbench
- Built-in Intelligent System Module enabling whole system fan control and remote manageability (IPC-7130)

### Quiet Specifications

CE FCC

		External	Internal
Disk Drive Bay	5.25"	1/1	-/-
	3.5"	-/2	1/1
	Hot-Swap	2/- (SATA)	-
Cooling	Fan	1 (12 cm/73.8 CFM) + 1 (6 cm/21.2 CFM) / 1 (12 cm/73.8 CFM)	
	Air Filters	Yes	
I/O Interface	USB 2.0	2 (Front accessible)	
Miscellaneous	LED indicators	IPC-7130	IPC-730L
	Control	Power, fan, temperature, HDD	Power, HDD
		Power, Alarm reset, System reset	Power, System reset
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.) (This feature only enabled in IPC-7130)		
Environment	Temperature	Operating	Non-operating
		0 ~ 40 °C (32 ~ 122 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85 % @ 40 °C, non-condensing	
	Vibration (5-500 Hz)	0.5 Grms	
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	200 x 320 x 480 mm (7.9" x 12.6" x 18.9")	
	Weight	12.8 kg (28.2 lb)	

### Front View

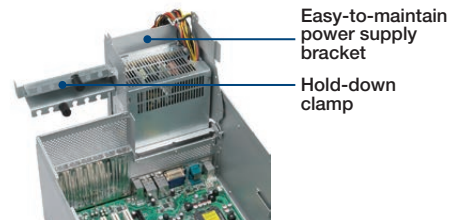


IPC-7130



IPC-7130L

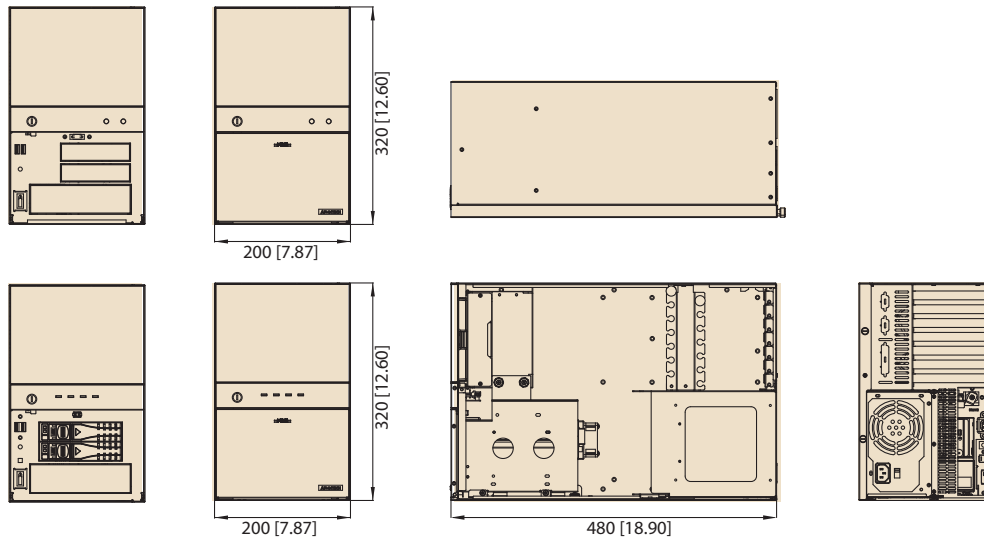
### Inside View



Easy-to-maintain reusable fan filter

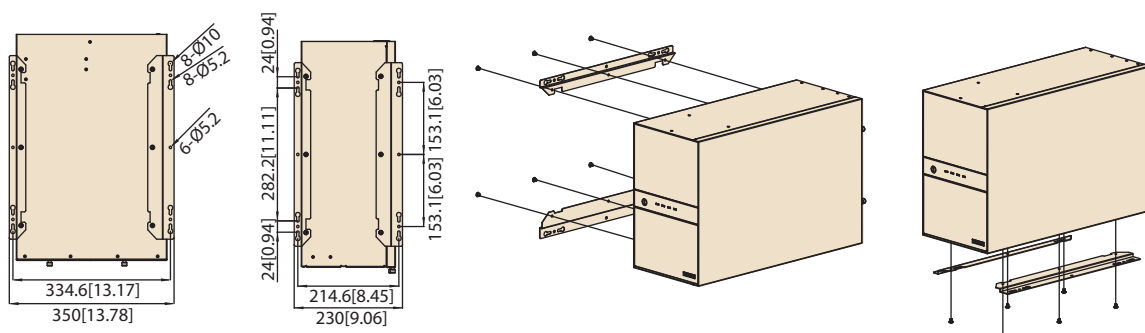
## Dimensions

Unit: mm [inch]



## Installation

Unit: mm [inch]



## Ordering Information

Part number	Power supply	Switch type
<b>IPC-7130 series</b>		
IPC-7130-00XE	NA	ATX
IPC-7130-50ZE	PS8-500ATX-ZE	ATX
<b>IPC-7130L series</b>		
IPC-7130L-00XE	NA	ATX
IPC-7130L-30ZE	PS8-300ATX-ZE	ATX

## Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-300ATX-ZBE	Bronze	300W	Single	AC 100 ~ 240V (full range)
PS8-400ATX-ZE	Bronze	400W	Single	AC 100 ~ 240V (full range)
RPS8-350ATX-XE	Gold	350W	1+1 Redundant	AC 100 ~ 240V (full range)
RPS8-500ATX-XE	Bronze	500W	1+1 Redundant	AC 100 ~ 240V (full range)

## Optional Accessories

Part Number	Description
1750006045	73.84 CFM, System fan 120 x 120 x 25 mm
1750006376	21.22 CFM, HDD fan 60 x 60 x 13 mm

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# ACP-1010

## 1U Rackmount Chassis for Full-size SHB/SBC or ATX/MicroATX Motherboard



CE FCC

### Features

- Supports full-size SHB/SBC or ATX/MicroATX motherboards
- LED indicators for power, HDD, temperature, fan, LAN1 and LAN2
- Supports up to 2 expansion slots in BP version, and 1 expansion slot via riser card in MB version
- Supports both 250W/350W Flex ATX/PFC power supplies

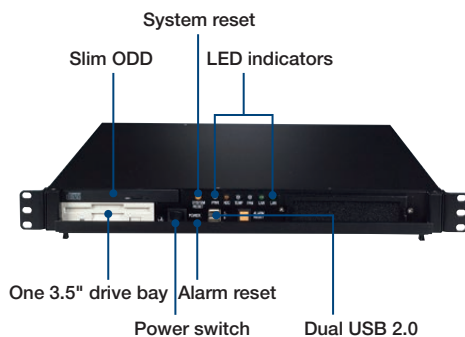
### Specifications

		External	Internal
Driver bay	Slim Optical Disk Drive	1	-
	3.5"	1	1*
	2.5"	-	2*
Cooling	Fan	BP: 4 (4 cm/24 CFM x 3 + 15 CFM x 1) MB: 2 (4 cm/24 CFM each)	
Front I/O Interface	USB 2.0	2	
Miscellaneous	Notification LEDs	System: Power, HDD, Temperature, Fan, LAN1 and LAN2	
	Control	Power switch, system reset & alarm reset button	
	Rear panel	One 9-pin D-Sub opening	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	0.5 Grms	2 Grms
	Shock	10 G (with 11 ms duration, half sine wave)	
	Physical Characteristics	Dimensions (W x H x D)	480 x 44 x 497 mm (19" x 1.7" x 19.6")
	Weight	8 kg (17.6 lb)	

\* Internal driver bay can choose 1 x 3.5" or 2 x 2.5"

\* ACP-1010 supports up to CPU 65W under 35 °C for thermal concern.

### Front View



### Back View



ACP-1010BP

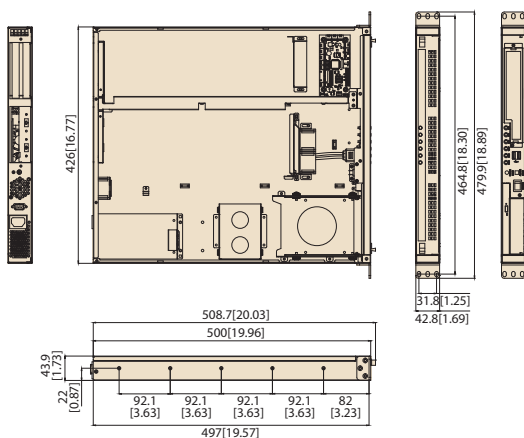


ACP-1010MB

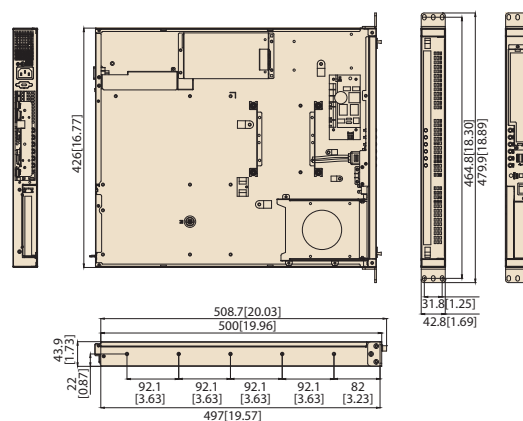
## Dimensions

Unit: mm [inch]

### ACP-1010BP



### ACP-1010MB



## Ordering Information

Part Number	Description
<b>Backplane Version</b>	
ACP-1010BP-00BE	BP version W/O PSU
<b>Motherboard Version</b>	
ACP-1010MB-00BE	MB version W/O PSU

\*ACP-1010MB does not support AIMB-763, 542, 562 and 564 because the height of the audio connector is over 1U.

## Power Supply Options

(For detailed power supply specs, please refer to Chapter 13)

Part Number	80 Plus Bronze	Wattage	Type	Input
PS8-250FATX-XE	Bronze	250W	Single	AC 100 ~ 240 V (full range)
PS8-350FATX-XE	Bronze	350W	Single	AC 100 ~ 240 V (full range)

## Spare Parts

Part Name	Description
2130007889S000	Filter 170 x 32 x 5 mm for ACP-1010

## Optional Accessories

Part Name	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin ( for slim ODD )
<b>I/O shield</b>	
1960055954T000	I/O shield for AIMB-701/781/782/581
1960048353T000	I/O shield for AIMB-767/769/780/566/580

## Backplane Options

Part Name	Slot	CPU Card
<b>PICMG 1.3</b>		
PCE-5B03V-01A1E	One CPU, one PCIe x16, one PCI (32-bit/33MHz)	PCE-5000 Series
PCE-5B03V-00A1E	One CPU, one PCIe x16, one PCIe x4	
PCE-7B03V-01A1E	One CPU, one PCIe x8, one PCI	PCE-7000 Series
PCE-7B03V-00A1E	One CPU, two PCIe x8	
<b>PICMG 1.0</b>		
989K610302E (PCA-6103P2V-0A2E)	One CPU, 2 PCI (320bit/33MHz)	PICMG 1.0 Full-Size SBC

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# IPC-603

## 2U 3-Slot Rackmount Chassis for ATX/ MicroATX Motherboard with Front I/O



### Features

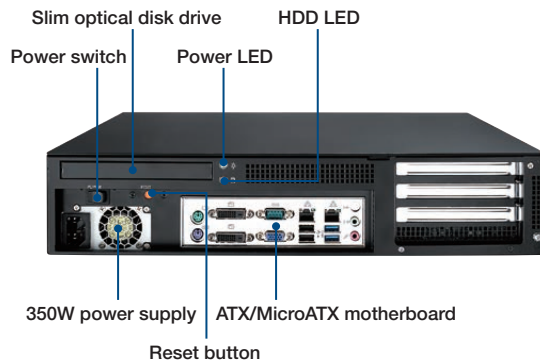
- Front I/O, short depth 2U chassis (308 mm)
- Shockproof drive for slim ODD and one 3.5" HDD
- Equipped with 350W single power supply
- Easy-to-replace air filters

CE FCC

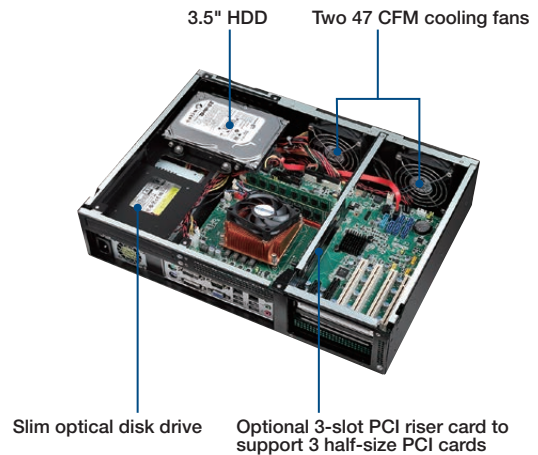
### Specifications

		External	Internal
Drive Bay	Slim Optical Disk Drive	1	-
	3.5"	-	1
Cooling	Fan	2 (8 cm/47 CFM each)	
	Air Filters	3 (85 x 80 mm)	
Miscellaneous	Notification LEDs	Power & HDD activity	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
	Dimensions (W x H x D)	482 x 88 x 308 mm (19" x 3.46" x 12.1")	
Physical Characteristics	Weight	6.4 kg (14.1 lb)	

### Front View

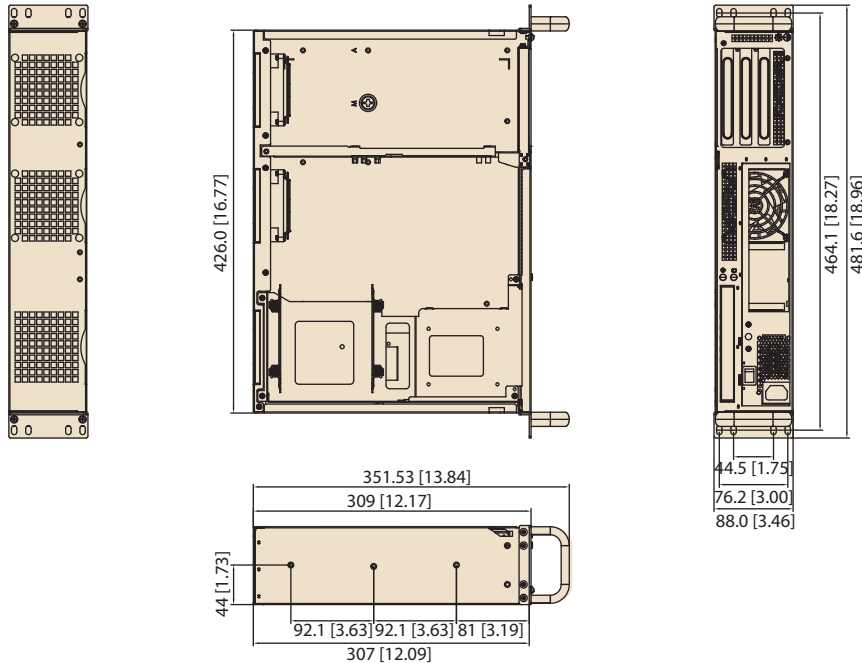


### Inside View





**Dimensions**



**Ordering Information**

Part Number	Power Supply	Wattage	Type	Input
IPC-603MB-35BE	PS8-350FATX-XE	350W	Single	AC 100 ~ 240 V full range

**Optional Accessories**

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)

**Spare Parts**

Part Number	Description
2130004795S000	Fan filter 80 x 85 x 5 mm

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# ACP-2000/ IPC-602

## 2U 6-Slot Rackmount Chassis with Front USB and PS/2 Interfaces



### Features

- 2U rackmount chassis supports up to 6 cards
- Butterfly backplane design
- Front-accessible USB and PS/2 connectors
- 250W / 300W AC ATX and DC power supply options
- Two 40 CFM cooling fans with air filter
- Lockable front door prevents unauthorized access

### Features with ACP-2000 only:

- System alarm notification by front LED indicators
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

CE FCC

### Specifications

		External	Internal
Drive Bay	Slim Optical Disk Drive	1/-	-
	3.5"	2/1	-/1
	5.25"	-/1	-
Cooling	Fan	2 (8 cm / 47 CFM each) / 2 (8 cm / 40 CFM each)	
	Air Filter	Yes	
Front I/O Interface	USB	2	
	PS/2	1	
Miscellaneous	LED Indicators	Power and HDD activity; fan and temperature for ACP-2000 only	
	Rear Panel	One 9-pin D-Sub opening	
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.) (This feature only enabled in ACP-2000)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	0.5 Grms	
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 88 x 451 mm (19" x 3.5" x 17.8")	
	Weight	11.5 kg (25.3 lb) / 11.3 kg (24.9 lb)	

### Front View

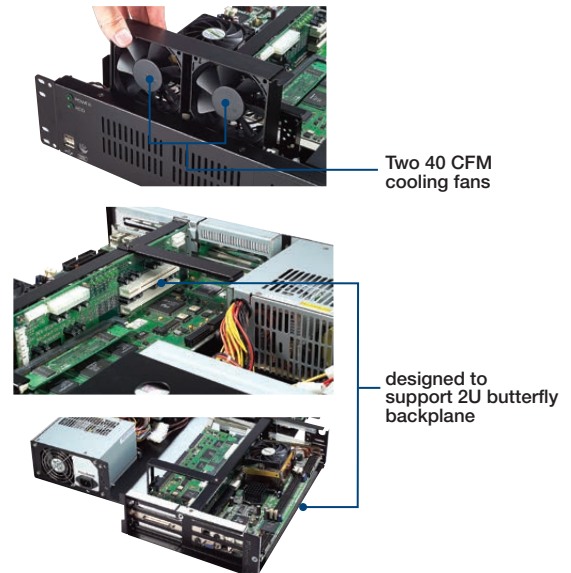
#### IPC-602



#### ACP-2000



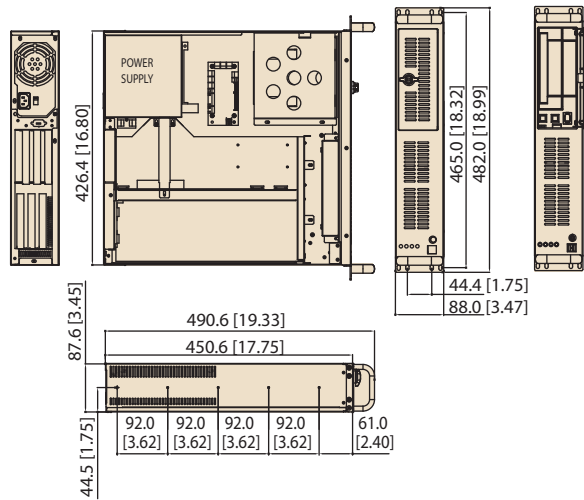
### Inside View



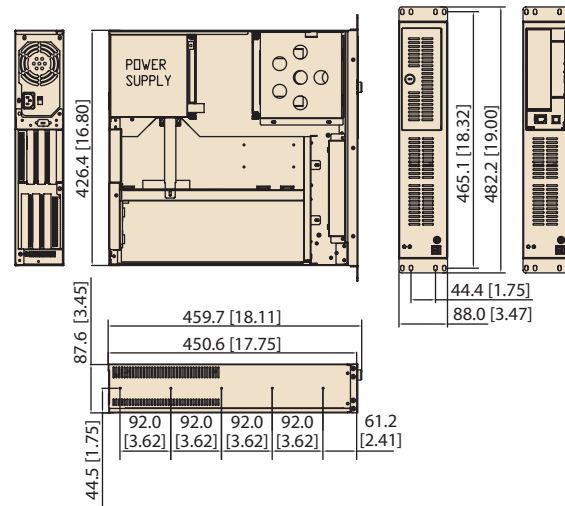
## Dimensions

Unit: mm [inch]

### ACP-2000



### IPC-602



## Ordering Information

Part Number	Power Supply	Backplane
<b>PICMG 1.0</b>		
ACP-2000P4-00BE	Without power supply, with ATX switch	989K610512E (PCA-6105P4V)
<b>PICMG 1.3</b>		
ACP-2000EBP-00BE	Without power supply, with ATX switch	-
IPC-602EBP-00XBE	Without power supply, with ATX switch	-

## Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-300ATX-ZBE	Bronze	300W	Single	AC 100 ~ 240 V (full range)
PS8-400ATX-ZE	Bronze	400W	Single	AC 100 ~ 240 V (full range)
PS-300ATX-DC48E	-	300W	Single	DC -48 V
RPS-300ATX-ZE (ACP-2000 only)	-	300W	(1+1) Redundant	AC 100 ~ 240 V (full range)

## Optional Accessories

Part Number	Description
1950000869N002	P4 card cage
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays

## Spare Parts

Part Number	Description
2130006189S000	Filter behind the door 156 x 45 x 5 mm
19900001949	Filter in the front of the fans 165 x 58 mm

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# ACP-2010/2320

## 2U Rackmount Chassis for ATX/ MicroATX Motherboard with Low-Profile Rear Bracket Option



### Features

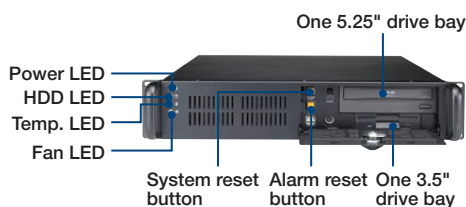
- LED indicators and audible alarm notification for system fault detection
- ACP-2010: One 5.25" and three 3.5" shock-resistant drive bays
- ACP-2320: One Slim optical disk drive, two internal 3.5" drives and dual hot-swap SATA HDD trays
- Various riser card options to support three full-size PCI or PCIe cards for expansion
- Supports 250W /350W single power supply, or 250W redundant power supply
- Reusable and washable air filters
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

CE FCC

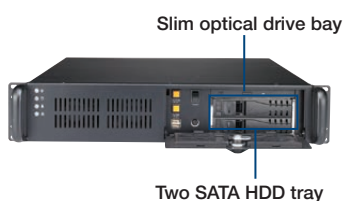
### Specifications

		External	Internal
Drive Bay	Slim Optical Disk Drive	- / 1	-
	5.25"	1 / 0	-
	3.5"	1 / 2	2 / 2
	Hot Swap	- / 2 (Compatible with 3.5" or 2.5" devices)	-
Cooling	Fan	2 (8 cm /47 CFM each) / 2 (8 cm /47 CFM each) + 1 (6 cm /28 CFM) for SATA storage unit	
	Air Filters	Yes	
	Smart Fan	System fan speed referring to chassis thermal sensor, or CPU temperature (Available with selected Advantech MBs/CPU cards)	
Front I/O Interface	USB 2.0	2	
	PS/2	1	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan	
	Rear Panel	Two 9-pin D-Sub openings	
Intelligent System Module Remote Monitoring	CPU/system fan speed, CPU/system temperature, motherboard voltage (only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with your local Advantech rep. for detailed information.)		
Environment		Operating	Non-operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 88 x 480 mm (19" x 3.46" x 18.9")	
	Weight	10.7 kg (23.5 lb) / 11.7 kg (25.7 lb)	

### Front View

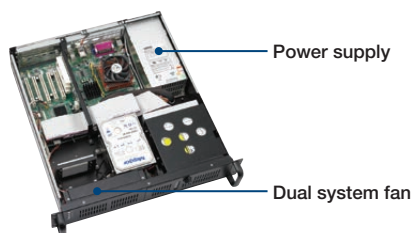


ACP-2010

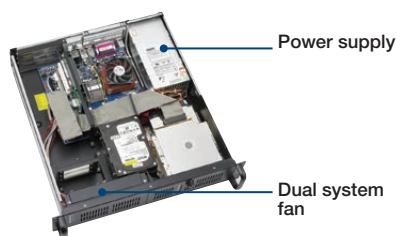


ACP-2320

### Inside View



ACP-2010



ACP-2320

### Rear View



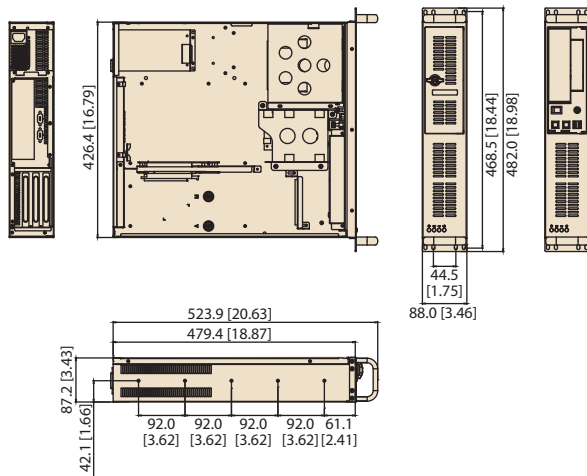
Rear I/O bracket for low profile add-on cards



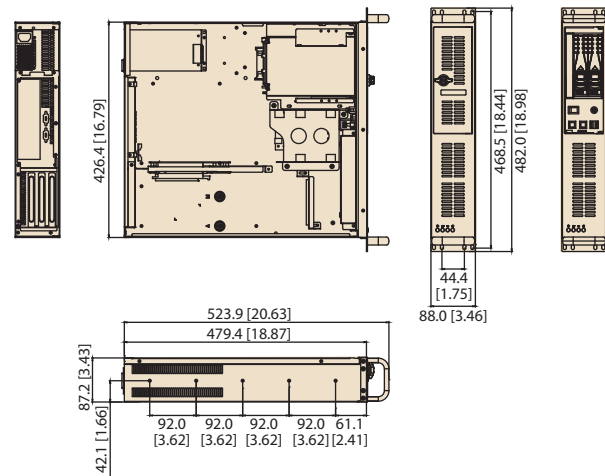
## Dimensions

Unit: mm [inch]

### ACP-2010



### ACP-2320



## Ordering Information

Part Number	Power Supply	Wattage	Switch type
ACP-2010MB-35CE	PS8-350FATX-XE	350W	ATX
ACP-2320MB-25CE	PS8-250FATX-XE	250W	ATX
ACP-2320MB-35CE	PS8-350FATX-XE	350W	ATX

## Spare Parts

Part Number	Description
9662132020E	Black mobile HDD tray
1990007986S000	Filter behind the door 156 x 45 x 5 mm
1990001949	Filter in the front of the fans 168 x 58 mm

## Optional Accessories

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays
<b>Rear I/O panel kit for low-profile add-on cards</b>	
1939000361	Screws (should purchase 7 pcs)
1960034816N000	I/O bracket (should purchase 7 pcs)
1960019475T201	Rear panel for low-profile

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# ACP-2020

## 2U Rackmount Short Depth Chassis for ATX and mATX Motherboard

**NEW**



### Features

- 398 mm short depth 2U rackmount chassis
- Supports ATX and mATX form factor single processor motherboard
- Two Internal 2.5" drive bay and two "hot-swap or external" drive bay
- Supports 80 Plus single 350W or 500W redundant power supply
- Front-accessible system fan without opening top cover for easy maintenance
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

CE FCC

### Specifications

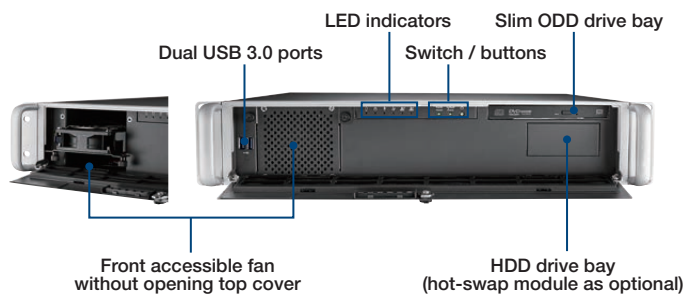
		External	Internal
Drive Bay	Slim Optical Drive	1	-
	2.5"	2 (hot-swap tray module as optional)*	2
Cooling	Fan	1 (8 cm/41CFM)	
	Air Filter	Yes	
Front I/O Interface	USB 3.0*	2	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, LAN1, and LAN2	
	Rear Panel	Two 9-pin D-Sub	
Intelligent System Module Remote Monitoring	CPU/System fan speed, CPU/System temperature, motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enabled these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 88 x 398 mm (18.96" x 3.46" x 15.67")	
	Weight	8.6 kg (18.96 lbs)	

The USB 3.0 ports do not operate if the motherboard has no on-board USB 3.0 box header.

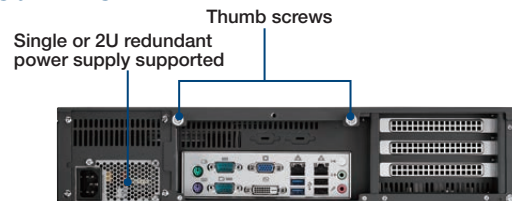
\* ACP-2020 2.5" drive bay, both default internal and hot-swap tray module support 2.5" HDD with thickness less than 14.7mm.

\* The hot-swap module only accepts 2.5" SATA HDD/SSD

### Front View



### Rear View



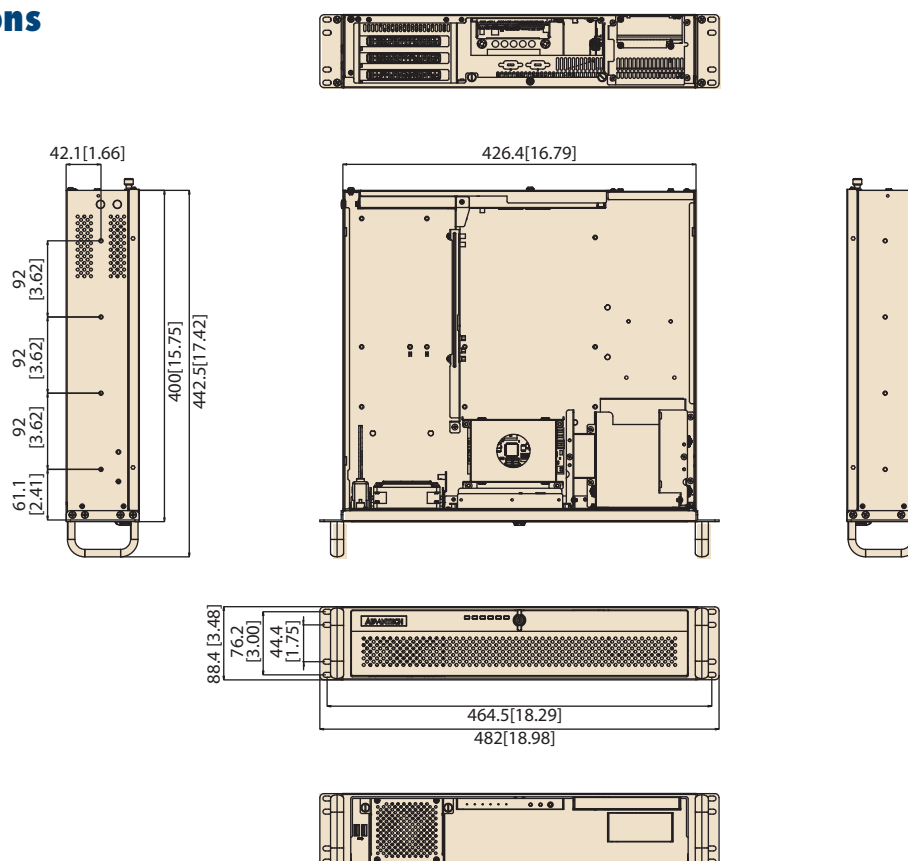
### Top view





## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Power supply	80 Plus grade	Power supply type	Wattage	Switch
ACP-2020MB-35ZE	PS8-350FATX-XE	Bronze	Single	350W	ATX
ACP-2020MB-50RE	RPS8-500U2-XE	Bronze	1+1 redundant	500W	ATX

Suggest using CPU cooler 1960052651N021, max. CPU TDP 84W with no add-on card configuration.

## Optional Accessories

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
1990021407T000	Door filter
98R1310010E	2.5" SATA Hot-swap module

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# IPC-510

## Economical 4U Rackmount Chassis with Front-Accessible USB and PS/2 Interfaces



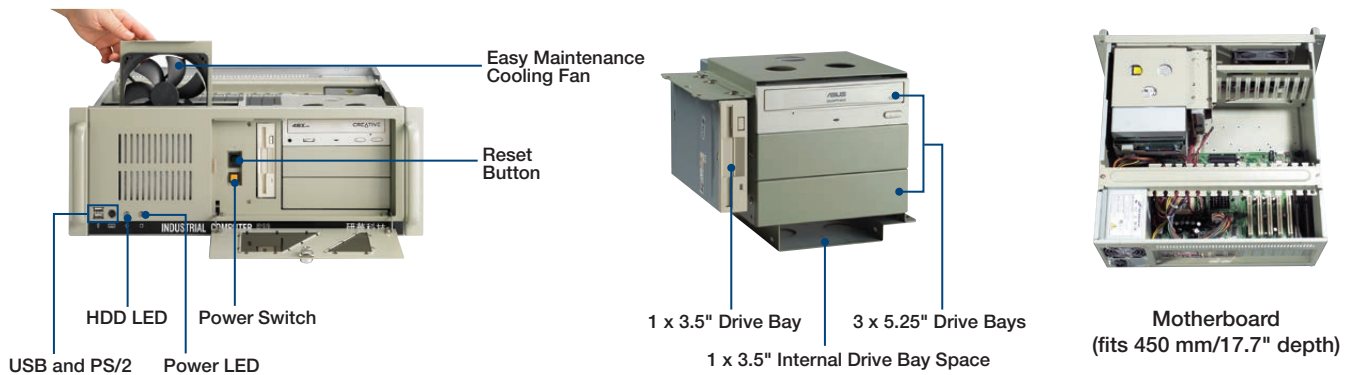
### Features

- Most cost-effective rackmount chassis
- Supports PS/2 single power supply
- Easy-to-install front-accessible drive bays hold 3 x 5.25" and 2 x 3.5" drives (1 x front-accessible and 1 x internal)
- Front-accessible USB and PS/2 interfaces

CE FCC

### Specifications

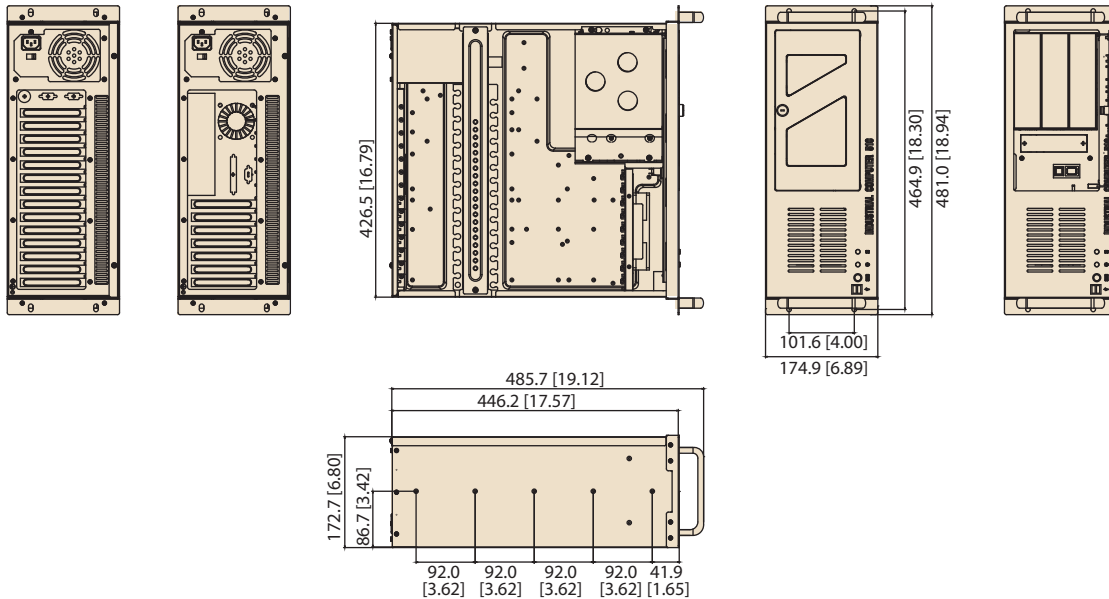
Drive Bay	5.25"	External	3	Internal	-
	3.5"		1		1
Cooling	Fan		1 (12 cm/77 CFM)		
	Air Filter		Yes		
Front I/O	USB		2		
	PS/2		1		
Miscellaneous	LED Indicators		Power and HDD activity		
	Rear Panel		Backplane version: 2 x 9-pin D-Sub openings Motherboard version: 1 x 9-pin D-Sub and 1 x 68-pin SCSI openings		
Environment	Temperature	Operating	0 ~ 40 °C (32 ~ 104 °F)	Non-Operating	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity		10 ~ 85% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)		1 Grms		2 G
	Shock		10 G (with 11 ms duration, half sine wave)		
	Dimensions (W x H x D)		481 x 175 x 446 mm (19 x 7 x 17.6")		
Physical Characteristics	Weight		10.7 kg (23.5 lb)		



Black Version

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Color	Power Supply	Wattage	Switch Type
<b>Backplane Version</b>				
IPC-510BP-30CE	Beige	PS8-300ATX-ZBE	300W	ATX
IPC-510BP-30ZCE	Black	PS8-300ATX-ZBE	300W	ATX
IPC-510BP-40ZCE	Black	PS8-400ATX-ZE	400W	ATX
<b>Motherboard Version</b>				
IPC-510MB-30CE	Beige	PS8-300ATX-ZBE	300W	ATX
IPC-510MB-40CE	Beige	PS8-400ATX-ZE	400W	ATX
IPC-510MB-30ZCE	Black	PS8-300ATX-ZBE	300W	ATX
IPC-510MB-40ZCE	Black	PS8-400ATX-ZE	400W	ATX

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting one 3.5" drive bay into two 2.5" SATA HDD trays
IPC-DT-5230E	Mobile rack for converting two 5.25" drive bays into three 3.5" SATA HDD trays

## Spare Parts

Part Number	Description
2130018002T000	Fan filter 120 x 100 x 15 mm

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# IPC-610-L/ IPC-611

## 4U 15-Slot Rackmount Chassis with Front-Accessible Fan



IPC-610-L

### Features

- Supports an ATX motherboard or a backplane with up to 15 slots
- Shock-resistant disk drive bay design holds up to three 5.25" and one 3.5" disk drives
- Special hold-down clamp design with rubber cushions protects the cards from shocks and vibrations
- Power and HDD activity notification improves system availability
- Front-accessible air filter for easy system maintenance
- Lockable front door prevents unauthorized access

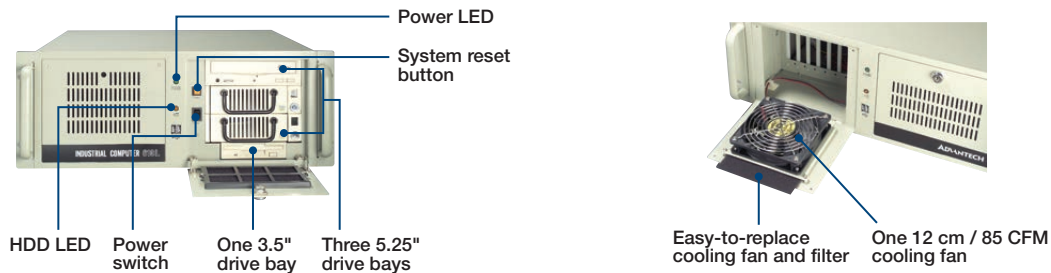
CE FCC

### Specifications

Drive Bay	3.5"	External	1
	5.25"		3
Cooling	Fan		1 (12 cm / 85 CFM)
	Air Filter		Yes
Miscellaneous	LED Indicators	Power and HDD activity	
	Control	Power switch and system reset button	
	Rear Panel	Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub & one 25-pin D-sub openings	
Environment	Temperature	Operating	Non-Operating
		0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85 % @ 40 °C, non-condensing	10 ~ 95 % @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, 1/2 sine wave)	
Physical Characteristics	Color / Logo	IPC-610-L: Beige / Advantech Logo IPC-611: Black / No Logo	
	Dimensions (W x H x D)	482 x 177 x 479 mm (19" x 7" x 18.9")	
	Weight	14.5 kg (31.9 lb) / 14.2 kg (31.2 lb)	

### Front View

#### IPC-610-L

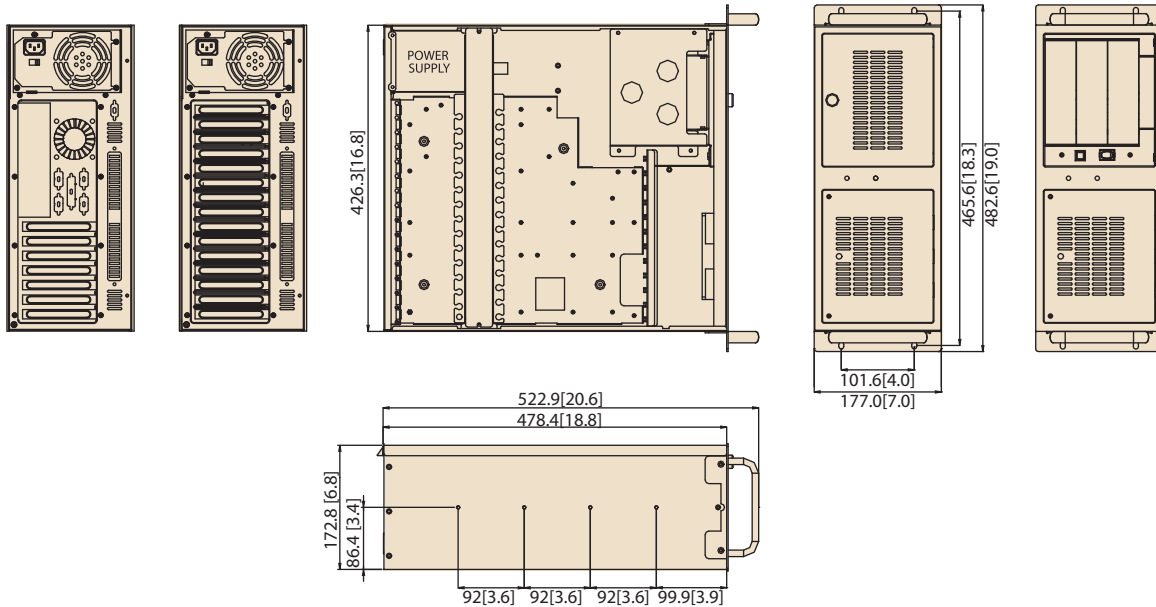


#### IPC-611



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Power Supply	Wattage	Switch type
<b>Backplane Version</b>			
IPC-610BP-00LBE	-	-	ATX
IPC-610BP-50LBE	PS8-500ATX-ZE	500W	ATX
IPC-611BP-00XBE	-	-	ATX
<b>Motherboard Version</b>			
IPC-610MB-00LBE	-	-	ATX
IPC-610MB-40LBE	PS8-400ATX-ZE	400W	ATX
IPC-611MB-00XBE	-	-	ATX

## Optional Accessories

Part Number	Description
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays

## Spare Parts

Part Number	Description
2130006149S000	Fan filter 127 x 127 x 5 mm
2130004802S000	Door filter 142 x 97 x 5 mm

## Power Supply Options

(For detailed power supply specs, please refer to Chapter 13)

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-250ATX-ZE	Bronze	250W	Single	AC 100 ~ 240 (full range)
PS8-300ATX-ZBE	Bronze	300W	Single	AC 100 ~ 240 (full range)
PS8-400ATX-ZE	Bronze	400W	Single	AC 100 ~ 240 (full range)
PS8-500ATX-ZE	Bronze	500W	Single	AC 100 ~ 240 (full range)
RPS8-350ATX-XE	Gold	350W	1+1 Redundant	AC 100 ~ 240 (full range)
RPS8-500ATX-XE	Bronze	500W	1+1 Redundant	AC 100 ~ 240 (full range)

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- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
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- Industrial Ethernet Solutions 15

# IPC-610-H

## 4U Rackmount Chassis with Visual Alarm Notification



### Features

- 4U rackmount chassis supports up to 15 add-on cards
- Shock-resistant disk drive bay design holds up to three 5.25" and one 3.5" disk drives
- Front accessible USB & PS/2 interfaces for easy data transfer
- Dual front-accessible filtered cooling fans provide optimized and streamlined airflow
- Front LEDs indicate power status, and HDD activity
- Lockable front door prevents unauthorized access
- Supports 80 plus single power supply or redundant power supply up to 500W

CE FCC

### Specifications

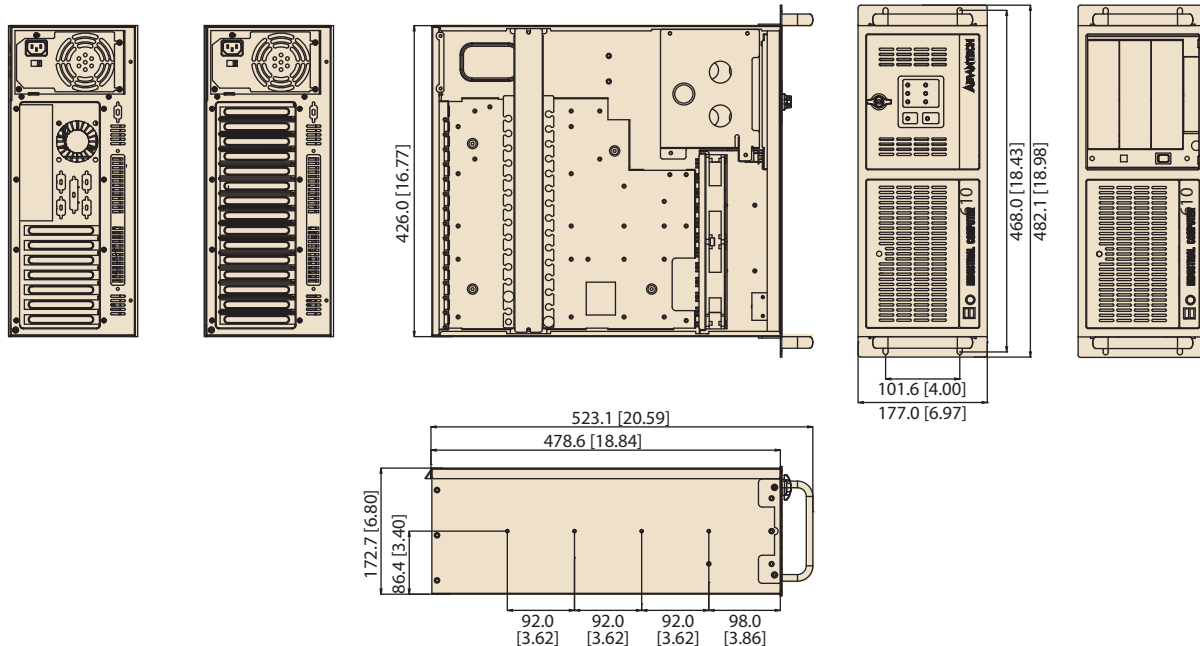
Drive Bay	3.5"	External	1
	5.25"		3
Cooling	Fan		2 (12 cm / 85 CFM each)
	Air Filter		Yes
Front I/O Interface	USB		2
	PS/2		1
Miscellaneous	LED Indicators	Power, HDD, and power voltage status	
	Rear Panel	Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub & one 25-pin D-sub openings	
Environment	Temperature	Operating	Non-Operating
		0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
		10 ~ 95% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 177 x 479 mm (19" x 7" x 18.9")	
	Weight	15 kg (33 lb)	





## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Power Supply	Switch Type
<b>Backplane Version</b>		
IPC-610BP-30HBE	PS8-300ATX-ZBE	ATX
IPC-610BP-40HBE	PS8-400ATX-ZE	ATX
IPC-610BP-50HBE	PS8-500ATX-ZE	ATX
<b>Motherboard Version</b>		
IPC-610MB-30HBE	PS8-300ATX-ZBE	ATX
IPC-610MB-40HBE	PS8-400ATX-ZE	ATX
IPC-610MB-50HBE	PS8-500ATX-ZE	ATX

## Optional Accessories

Part Number	Description
1700006916	ATX 24P/20P + 4P + 15P 60cm (connecting from power supply to LED board)
1700006917	Two Mini DIN (connect to MB) / 6P (connect to front I/O board) PS2 KB/Mouse cable
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays

\* If users use AIBM-763 or 3rd party motherboard, they need to purchase 1700006915 or 1700006916 for the front voltage LEDs to function normally. And they also need to purchase 1700006917 to make front PS/2 function normally.

## Spare Parts

Part Number	Description
2130006147S000	Door filter 97.6 x 36.6 x 5 mm
2130004803S000	Fan filter 115 x 195 x 5 mm

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# IPC-631

## 4U Front I/O Short Depth Rackmount Chassis for ATX/MicroATX Motherboard

**NEW**



### Features

- All I/O ports, buttons, LEDs, drive bays, AC inlet located on the front side
- 350mm short depth
- Supports ATX/Micro ATX MB with CPU TDP up to 120W
- Built-in 500W single or redundant power supply
- Optional module for dual hot-swap 2.5" drive bays for RAID 0, 1
- PWM controlled smart fan generating low noise

CE FCC

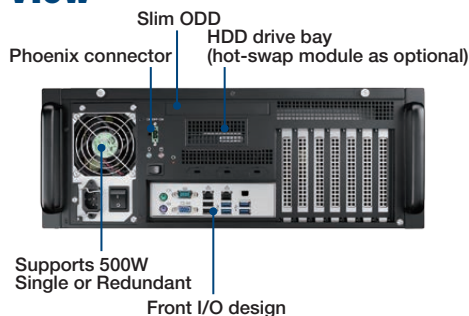
### Specifications

		External	Internal
Drive Bay	Slim Optical Drive Bay	1	-
	2.5"	2 (hot-swap tray module as optional)*	2
Cooling	Fan	2 (12cm/82 CFM)	
	Air Filter	Yes	
Front I/O Interface	Phoenix front PW-ON	1	
	COM	3	
Miscellaneous	LED Indicators	Power, HDD	
	Control	Power switch, System reset	
System Monitoring		Chassis intrusion switch	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	10 ~ 95% @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 177 x 348 mm (19" x 7.0" x 13.7")	
	Weight	8 kg (17.6 lb)	

\* IPC-631 2.5" drive bay, both default internal and hot-swap tray module, support 2.5" HDD with thickness less than 14.7mm.

\* The hot-swap module only accepts 2.5" SATA HDD/SSD

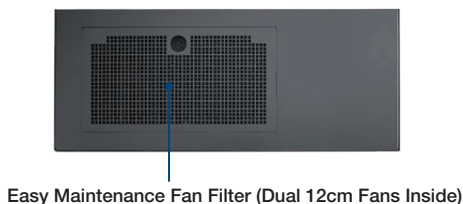
### Front View



### Inside View



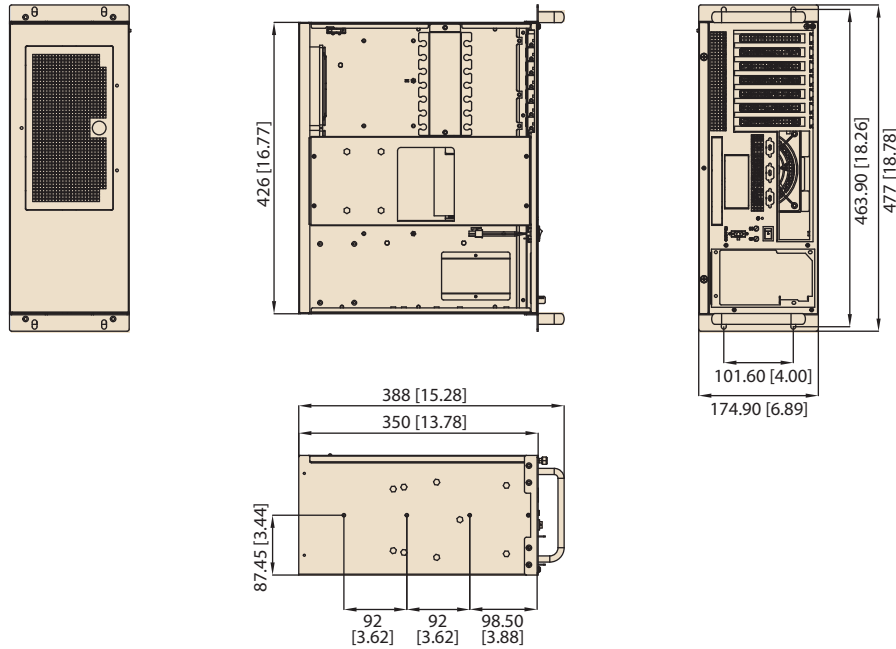
### Rear View



Optional SATA hot-swap tray module 98R1310010E

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Power supply P/N	80 Plus grade	Power supply type	Wattage	Switch type
IPC-631MB-50ZE	PS8-500ATX-ZE	Bronze	Single	500W	ATX
IPC-631MB-50RE	RPS8-500ATX-XE	Bronze	1+1 redundant	500W	ATX

## Optional Accessories

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
98R1310010E	2.5" SATA Hot-swap module
2130017444T000	Door filter

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- Industrial Chassis 8**
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
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# ACP-4020

## 348mm Depth 4U Rackmount Chassis for Half-size SBC or ATX Motherboard



### Features

- 4U rackmount chassis, only 348 mm depth
- Supports 14-slot BP for half-size SBC or ATX/MicroATX motherboard
- Shock-resistant disk drive bay holds one internal 2.5", and two front-accessible 3.5" drives, plus one slim optical disk drive
- Dual front USB 3.0 ports
- Front-accessible system fan without opening top cover for easy maintenance
- LED indicators and alarm notification for system fault detection
- Smart fan speed control
- Built-in Intrusion switch function
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

### Quiet Specifications

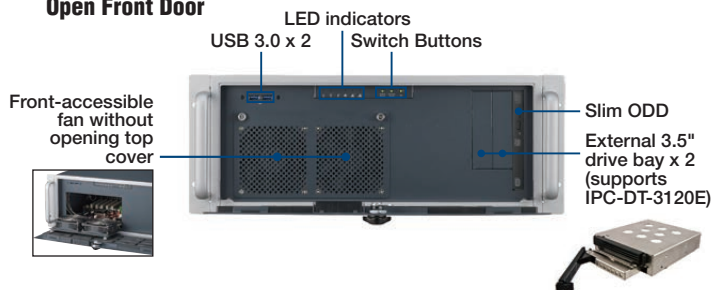
CE FCC

		External	Internal
Drive Bay	Slim ODD	1	-
	3.5"	2	-
	2.5"	-	1
Cooling	Fan	2 (9 cm / 53 CFM)	
	Air Filter	Yes	
Front I/O Interface	USB 3.0*	2	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, LAN1, and LAN2	
	Rear Panel	Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub and one 25-pin D-Sub openings	
System Monitoring		Chassis intrusion switch	
Intelligent System Module Remote Monitoring		CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
	Dimensions (W x H x D)	482 x 177 x 348 mm (19" x 7.0" x 13.7")	
Physical Characteristics	Weight	8.5 kg (18.7 lb)	

The USB 3.0 ports do not operate if the motherboard has no on-board USB 3.0 box header.

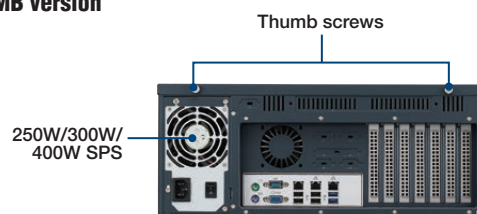
### Front View

#### Open Front Door

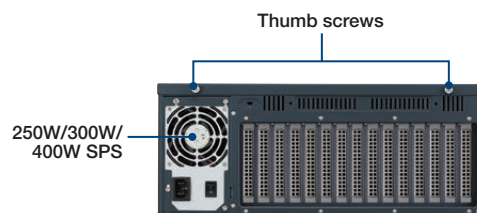


### Rear View

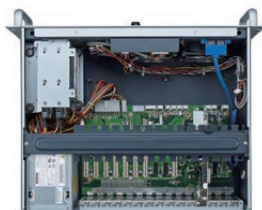
#### MB version



#### BP version

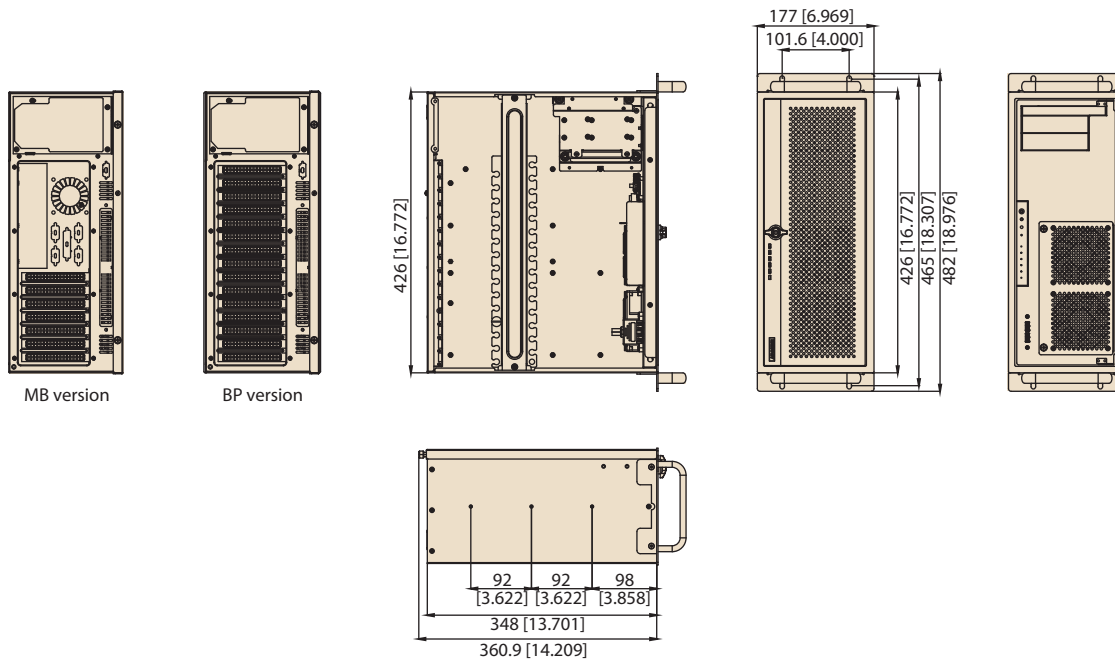


### Inside View



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Power Supply	Wattage	Switch type
<b>Backplane Version</b>			
ACP-4020BP-25ZE	PS8-250ATX-ZE	250W	ATX
ACP-4020BP-30ZE	PS8-300ATX-ZBE	300W	ATX
ACP-4020BP-40ZE	PS8-400ATX-ZE	400W	ATX
<b>Mother board Version</b>			
ACP-4020MB-25ZE	PS8-250ATX-ZE	250W	ATX
ACP-4020MB-30ZE	PS8-300ATX-ZBE	300W	ATX
ACP-4020MB-40ZE	PS8-400ATX-ZE	400W	ATX

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Drive bay module converting 1 3.5" to 2 hot-swap 2.5"
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)

## Supported Backplanes

Part Number	Description
PCE-3B12-08	PICMG 1.3 BP with 1 PCIe x 16, 2 PCIe x 1, 8 PCI slots (for PCE-3028 & PCE-4128)
PCE-4B13-08	PICMG 1.3 BP with 2 PCIe x 8, 2 PCIe x 1, 8 PCI slots (only for PCE-4128)

## Spare Parts

Part number	PCI	PCIex16	PCIex8	PCIex4	PCIex1
<b>PICMG 1.3 backplane</b>					
PCE-3B12-08	8	1	-	-	2
PCE-4B13-08	8	-	2	-	2
PCE-4B12-03	3	-	1	4	3
PCE-4B13-00	-	-	1	11	-

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- Industrial Motherboards 7
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
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- GPU Servers 12
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- Industrial Ethernet Solutions 15

# ACP-4D00

## Dual-Node 350mm Depth 4U Chassis for Half-size Slot SBC



### Features

- Dual nodes, 350mm depth design for easy maintenance and space saving
- Supports PICMG 1.3 or PCI half-size slot SBC
- Supports 6-slot backplane, 3 available slots per node
- Supports two front USB 3.0 ports each node
- Supports 250W or 350W Flex ATX PSUs

### Specifications (Each Node)

Drive Bay	3.5"	External 1	Internal -
Cooling	Fan	1 (9 cm / 58 CFM)	
	Air Filter	Yes	
Front I/O Interface	USB 2.0	2	
	USB 3.0	2	
Miscellaneous	LED Indicators	Power On/Off, HDD Action, Fan Status, Temperature Status	
	Front Buttons	System Reset, Alarm Reset, Power Switch	
	Real Panel	2 COM/VGA, 1 PRT Semi-Piercing Openings	
Environment		Operating	Non-Operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 Grms
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	430 x 177 x 350 mm (19" x 7" x 13.8")	
	Weight	15.0 kg	

### Front and Back Views

Thumb Screws to Fix The Sub-System in the Cage



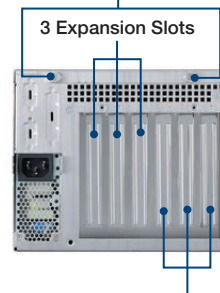
Dual Nodes Design

Easy Maintenance Fan



Front LEDs

Thumb Screws to Fix The Top Lid

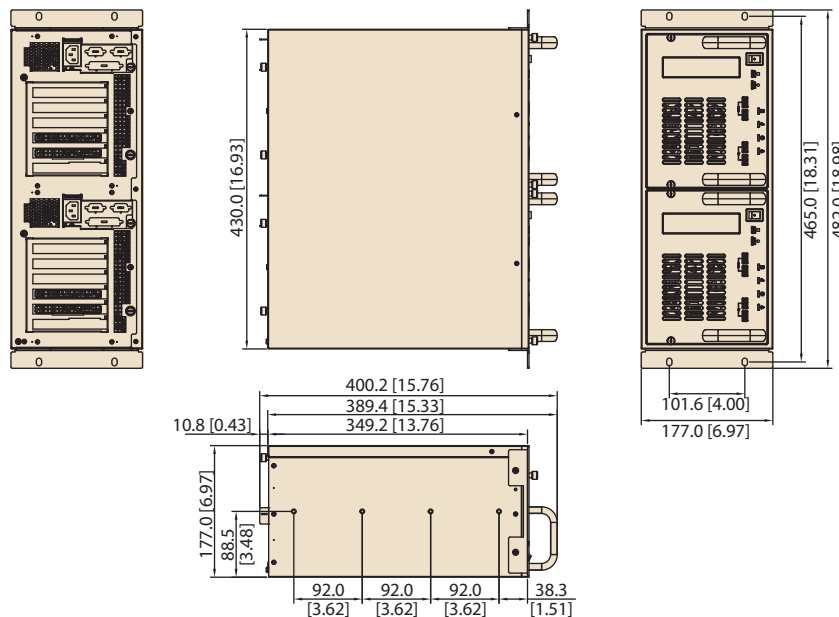


Slots Occupied by CPU Card and CPU Cooler



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description
ACP-4D00BP-00XE	4U dual node chassis without BP, power supply

## Power Supply Options

Part Number	80 Plus Grade	Specifications	
		Wattage	Input
PS8-250FATX-XE	80 Plus Bronze	250W	AC 100 ~ 240 V (full range)
PS8-350FATX-XE	80 Plus Bronze	350W	AC 100 ~ 240 V (full range)

## Optional Accessories

Part Number	Description
1960053207N001	1.5U CPU cooler for 3 available expansion slots
IPC-DT-3120E	Drive bay module converting 1 3.5" to 2 hot-swap 2.5"
989K008734	Bracket to fix two 2.5" devices in a 3.5" drive bay
9680006905	Slide rail for ACP-4D00

\* The 1.5U CPU cooler 1960053207N001 is for LGA 1155/1150 socket CPUs, it is thin enough to leave 3 available expansion slots on the backplane.

## Supported Backplanes

Part Number	CPU Card Slot	PCIe Slot	PCI
PCE-3B03-00A1E	PICMG 1.3	1 PCIe x 16 1 PCIe x 4	-
PCE-3B06-00A1E	PICMG 1.3	1 PCIe x 16 4 PCIe x 1	-
PCE-3B06-03A1E	PICMG 1.3	1 PCIe x 16 1 PCIe x 1	3
PCA-6105P5-0B2E	PCI	-	4

Industrial I/O 1

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Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# ACP-4000

## Quiet 4U Rackmount Chassis with Visual & Audible Alarm Notification



### Features

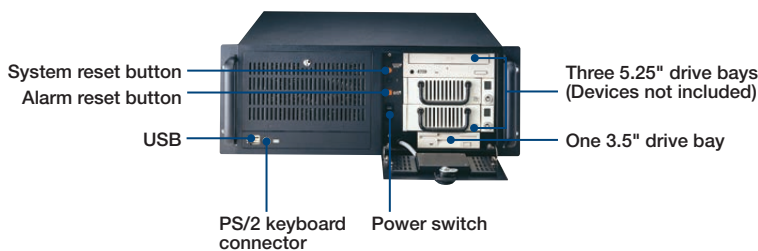
- Supports either an ATX motherboard or PICMG backplane with up to 15 slots
- Shock-resistant disk drive bay design holds up to three 5.25" and one 3.5" disk drives
- LED indicators and alarm notification for system fault detection
- Low noise system fans
- Built-in Intelligent System Module enables whole system fan control and remote manageability

### Quiet Specifications

CE FCC

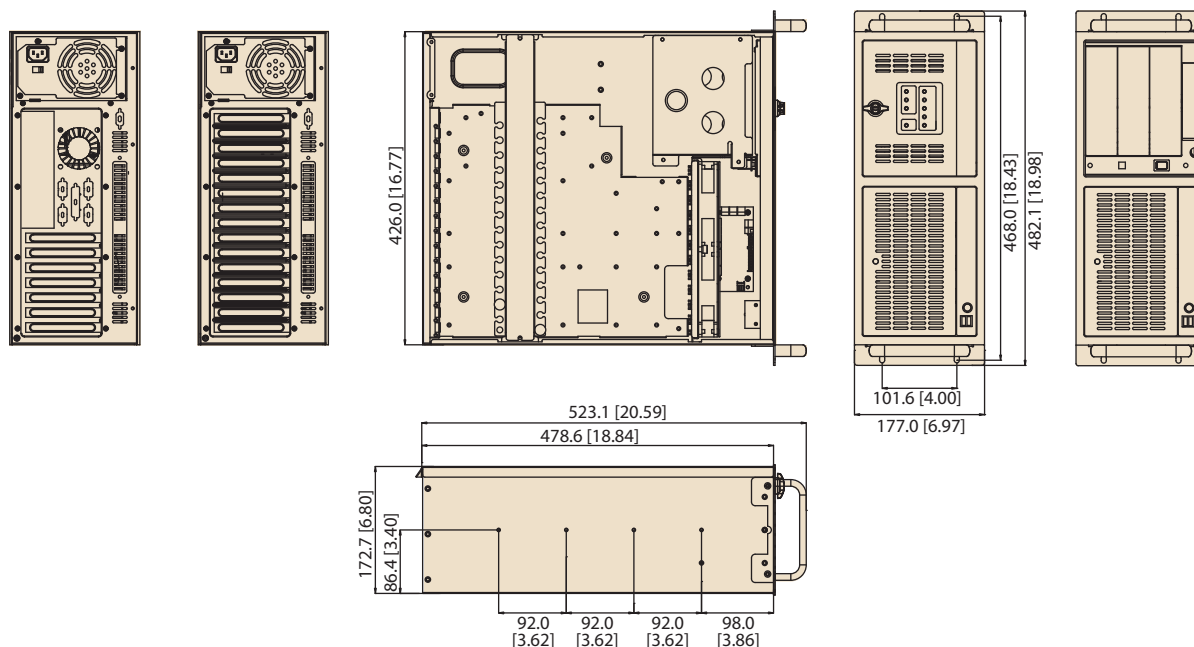
Drive Bay	3.5"	External	1
	5.25"		3
Cooling	Fan		2 (12 cm / 85 CFM each)
	Air Filter		Yes
Front I/O Interface	USB 2.0		2
	PS/2		1
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, and power voltage status	
	Rear Panel	Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub & one 25-pin D-Sub openings	
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating	Non-Operating
		0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 177 x 479 mm (19" x 7" x 18.9")	
	Weight	15.2 kg (33.5 lb)	

### Front View



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Power Supply	Wattage	Switch type
<b>Backplane Version</b>			
ACP-4000BP-30CE	PS8-300ATX-ZBE	300W	ATX
ACP-4000BP-40CE	PS8-400ATX-ZE	400W	ATX
ACP-4000BP-50CE	PS8-500ATX-ZE	500W	ATX
<b>Mother board Version</b>			
ACP-4000MB-30CE	PS8-300ATX-ZBE	300W	ATX
ACP-4000MB-40CE	PS8-400ATX-ZE	400W	ATX
ACP-4000MB-50CE	PS8-500ATX-ZE	500W	ATX
ACP-4000MB-50RCE	RPS8-500ATX-XE	500W (1+1) redundant	ATX

## Optional Accessories

Part Number	Description
1700006915	ATX 24P/20P + 4P + 8P 60cm cable (connecting from power supply to alarm board)
1700006917	Two Mini DIN (connect to MB) / 6P (connect to front I/O board) PS2 KB/Mouse cable
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays

\* If users use AIMB-763 or 3rd party motherboard, they need to purchase 1700006915 or 1700006916 for the front voltage LEDs to function normally. And they also need to purchase 1700006917 to make front PS/2 function normally.

\* If users use ASMB-822, they need to purchase 1700006915 for the front voltage LEDs to function normally.

## Spare Parts

Part Number	Description
2130006147S000	Door filter 97.6 x 36.6 x 5 mm
2130004803S000	Fan filter 115 x 195 x 5 mm

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# ACP-4010

## Quiet 4U Rackmount Chassis for ATX/CEB/EEB Motherboard or Full-size SHB/SBC with Dual System Support



### Features

- Supports either an ATX/CEB/EEB single/dual processors motherboard or a PICMG backplane with up to 15 slots
- Supports one or two systems in a single chassis
- Shock-resistant disk drive bay design holds up to two 5.25" and two 3.5" disk drives
- LED indicators and alarm notification for system fault detection
- Low noise system fans
- Built-in Intelligent System Module enables whole system fan control and remote manageability

### Quiet Specifications

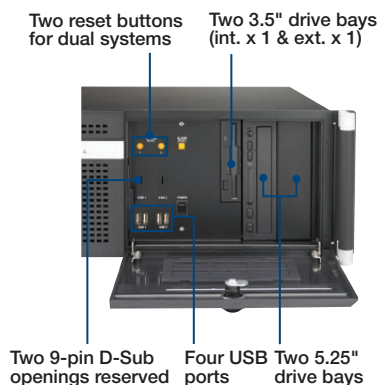
CE FCC

Drive Bay	5.25"	External	2	Internal	-
	3.5"		1		1
Cooling	Fan		2 (12 cm /85 CFM each)		
	Air Filter		Yes		
Front I/O Interface	USB 2.0		4		
	9-pin D-Sub		2 (Reserved)		
Miscellaneous	LED Indicators		Power, HDD, temperature, fan, LAN1, and LAN2		
	Rear Panel		Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub and one 25-pin D-sub openings		
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)				
Environment	Temperature	Operating	0 ~ 40 °C (32 ~ 104 °F)		
	Humidity		-20 ~ 60 °C (-4 ~ 140 °F)		
	Vibration (5 ~ 500 Hz)		10 ~ 85% @ 40 °C, non-condensing		
	Shock		10 ~ 95% @ 40 °C, non-condensing		
Physical Characteristics	Dimensions (W x H x D)		1 G		
	Weight		10 G (with 11 ms duration, half sine wave)		
			2 G		
	Dimensions (W x H x D)		482 x 177 x 479 mm (19" x 7.0" x 18.9")		
	Weight		16.6 kg (36.5 lb)		

\*Installation of all 15 full-size cards will sacrifice the two 3.5" disk drive bays.

\*While an EEB motherboard is installed in the chassis, only one 3.5" and two 5.25" disk drive bays are available.

### Front View

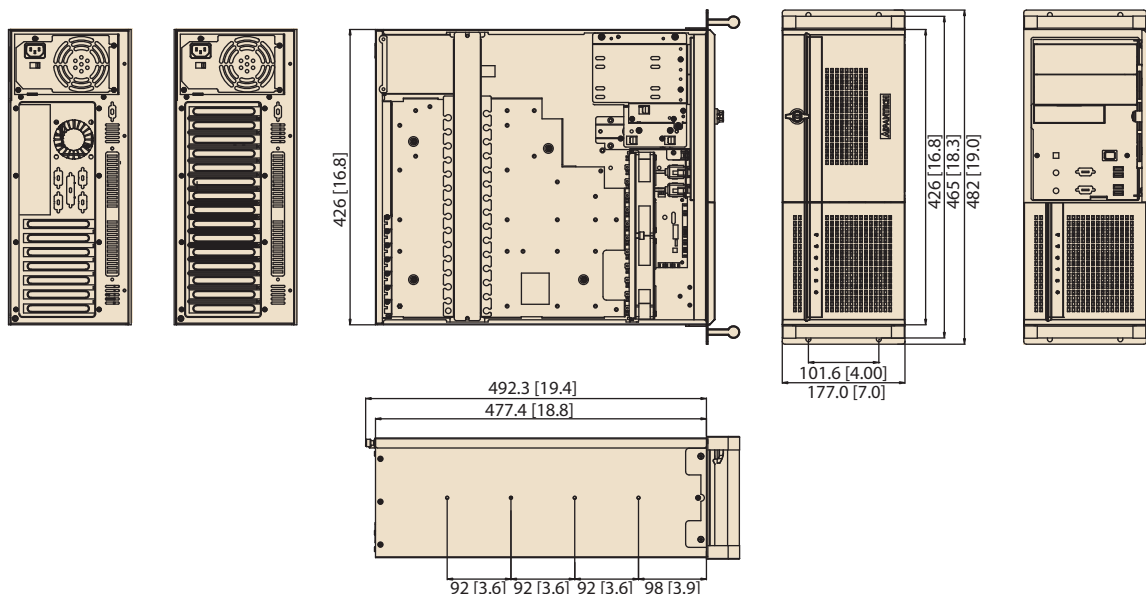


### Inside View



## Dimensions

Unit: mm [inch]



## Ordering Information

Model Name	Description
<b>Backplane Version</b>	
ACP-4010BP-00BE	Without PSU with ATX switch
<b>Motherboard Version</b>	
ACP-4010MB-00BE	Without PSU with ATX switch

## Power Supply Options

(For detailed power supply specs, please refer to Chapter 13)

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-300ATX-ZBE	Bronze	300W	Single	AC 100 ~ 240 V (full range)
PS8-400ATX-ZE	Bronze	400W	Single	AC 100 ~ 240 V (full range)
PS8-500ATX-ZE	Bronze	500W	Single	AC 100 ~ 240 V (full range)
RPS8-350ATX-XE	Gold	350W	1+1 Redundant	AC 100 ~ 240 V (full range)
RPS8-500ATX-XE	Bronze	500W	1+1 Redundant	AC 100 ~ 240 V (full range)
RPS8-750ATX-XE	Gold	750W	1+1 Redundant	AC 100 ~ 240 V (full range)

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays

## Spare Parts

Part Number	Description
1990001299	Fan filter 95 x 130 mm
1990001298	Door filter 150 x 68 mm

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# ACP-4320

## Quiet 4U Rackmount Chassis with Dual Hot-Swap SATA HDD Trays



### Features

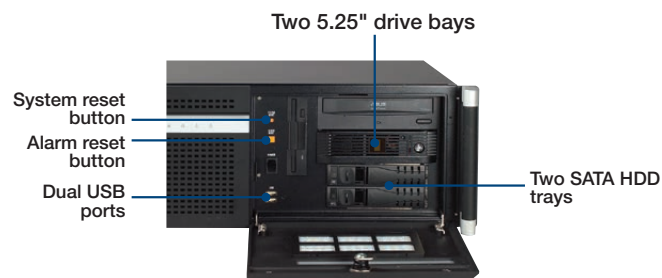
- Supports either an ATX motherboard or a PICMG backplane with up to 15 slots
- Supports dual SATA hot-swap HDD trays
- LED indicators and alarm notification for system fault detection
- Low noise system fans
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

### Quiet Specifications

CE FCC

		External	Internal
Driver Bay	5.25"	2	-
	3.5"	1 SATA Tray	-
	Hot Swap	2 (compatible with 3.5" or 2.5" devices)	-
Cooling	Fan	1 (12 cm/74 CFM) + 1 (6cm / 28 CFM)	
	Air Filter	Yes	
	Smart Fan	System fan speed referring to chassis thermal sensor, or CPU temperature (Available with selected Advantech MBs/CPU cards)	
Front I/O Interface	USB 2.0	2	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, LAN1 and LAN2	
	Rear Panel	Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub opening and one 25-pin D-sub opening	
Intelligent System Module Remote Monitoring	CPU/System fan speed, CPU/system temperature, motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating - 20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C , non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10G ( with 11 ms duration, half sine wave )	
Physical Characteristics	Dimension (W x H X D)	482 x 177 x 479 mm (19" x 7.0" x 18.9")	
	Weight	17.6 kg (38.7lb)	

### Front View



### Inside View

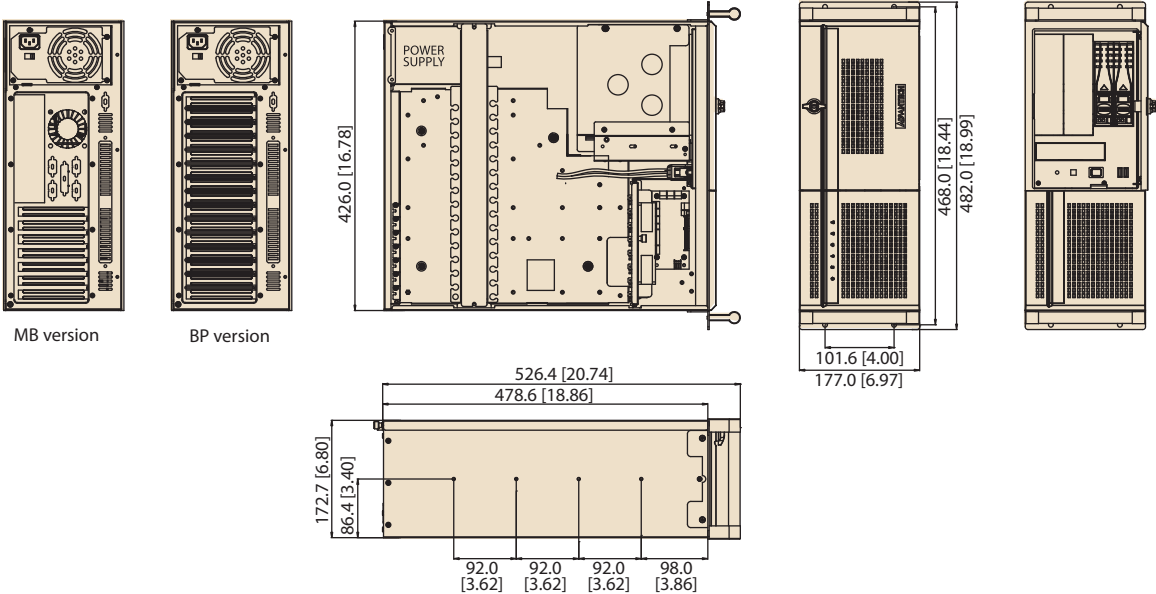
Easy-to-maintain system fan





Dimensions

Unit: mm [inch]



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Ordering Information

Part number	Power supply	Wattage	Switch type
<b>Backplane version</b>			
ACP-4320BP-25BE	PS8-250ATX-ZE	250W	ATX
ACP-4320BP-40BE	PS8-400ATX-ZE	400W	ATX
ACP-4320BP-50BE	PS8-500ATX-ZE	500W	ATX
<b>Motherboard version</b>			
ACP-4320MB-25BE	PS8-250ATX-ZE	250W	ATX
ACP-4320MB-40BE	PS8-400ATX-ZE	400W	ATX
ACP-4320MB-50BE	PS8-500ATX-ZE	500W	ATX

Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays
1700007351	M Cable SATA 7P/SATA 7P 40CM C=R 90/180

When choosing ASMB-781, ASMB-782, ASMB-820, ASMB-823 for system mother board, 2pcs right-angle SATA cable (PN: 1700007351) are necessary for hot-swap driver bay.

Spare Parts

Part Number	Description
1990001299	Fan filter 95 x 130 mm
1990001298	Door filter 150 x 68 mm

# ACP-4340

## 4U Rackmount Chassis for Full-size SHB/SBC or ATX/MicroATX Motherboard with 4 Hot Swap Drive Trays



### Features

- Supports a PICMG backplane with up to 14 slots or an ATX/Micro-ATX motherboard
- Shock-resistant disk drive bay holds four hot-swap 3.5" and 2.5" SATA disk trays, one slim optical disk drive, and one 2.5" internal drive
- Dual front USB 3.0 ports
- Front-accessible system fan without opening top cover for easy maintenance
- LED indicators and alarm notification for system fault detection
- Smart fan speed control
- Built-in Intrusion switch function
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

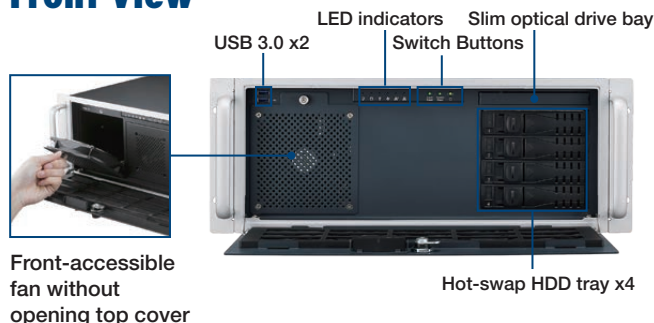
### Quiet Specifications

CE FCC

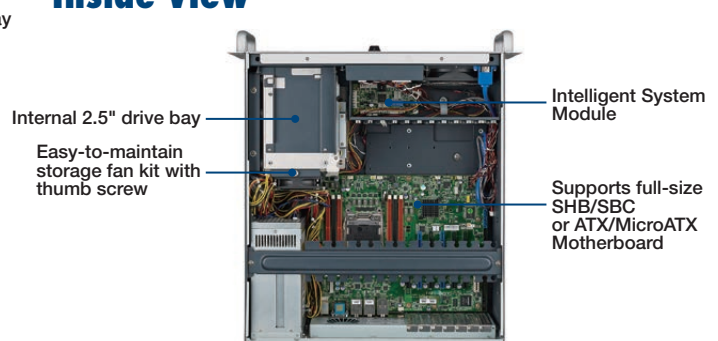
		External	Internal
Drive Bay	Slim Optical Drive Bay	1	-
	3.5"	-	-
	2.5"	-	1
	Hot Swap	4 (Compatible with 3.5" or 2.5" devices)	-
Cooling	Fan	1 (12 cm /74 CFM) + 1 (8 cm/56 CFM) for SATA storage unit	
	Air Filter	Yes	
Front I/O Interface	USB 3.0*	2	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, LAN1, and LAN2	
	Rear Panel	Backplane version: One 9-pin D-Sub opening Motherboard version: Five 9-pin D-Sub and one 25-pin D-Sub openings	
System Monitoring		Chassis intrusion switch	
Intelligent System Module Remote Monitoring	CPU/System fan speed, CPU/system temperature, motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	482 x 177 x 479 mm (19" x 7.0" x 18.8")	
	Weight	12.5 kg (27.5 lb)	

The USB 3.0 ports do not operate if the motherboard has no on-board USB 3.0 box header.

### Front View



### Inside View



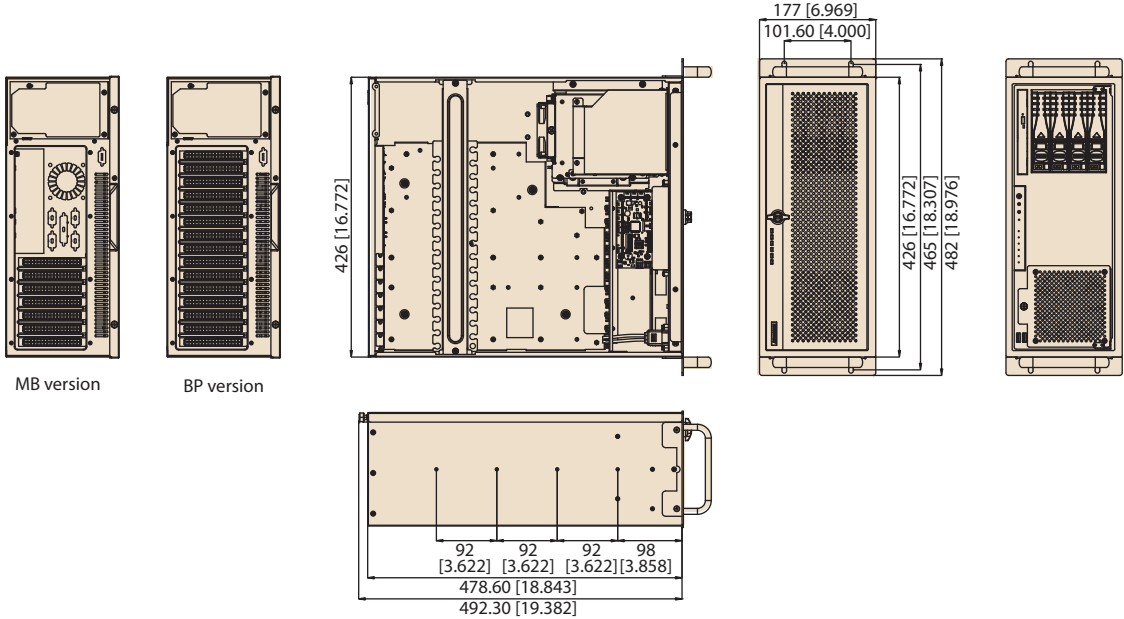
### Rear View



\*Note: Backplane, SBC, motherboard, and power supply are not included.

Dimensions

Unit: mm [inch]



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Ordering Information

Part Number	Power Supply	Wattage	Switch type
<b>Backplane Version</b>			
ACP-4340BP-40ZE	PS8-400ATX-ZE	400W	ATX
ACP-4340BP-50ZE	PS8-500ATX-ZE	500W	ATX
ACP-4340BP-70ZE	PS8-700ATX-ZE	700W	ATX
ACP-4340BP-50RE	RPS8-500ATX-XE	500W (1+1 Redundant)	ATX
<b>Mother board Version</b>			
ACP-4340MB-40ZE	PS8-400ATX-ZE	400W	ATX
ACP-4340MB-50ZE	PS8-500ATX-ZE	500W	ATX
ACP-4340MB-70ZE	PS8-700ATX-ZE	700W	ATX
ACP-4340MB-50RE	RPS8-500ATX-XE	500W (1+1 Redundant)	ATX

Optional Accessories

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
98R1434000E	ACP-4340 fan kit for multi GPU card

Spare Parts

Part Number	Description
9662132020E	Black mobile HDD tray
1990021256T000	Door filter

# IPC-623

## 4U 20-Slot Rackmount Chassis with Multi-System and Front-Accessible Redundant Power Supply



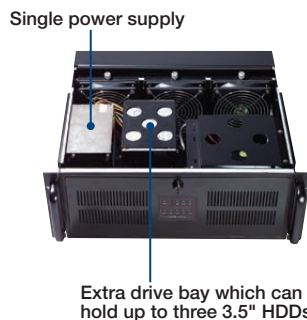
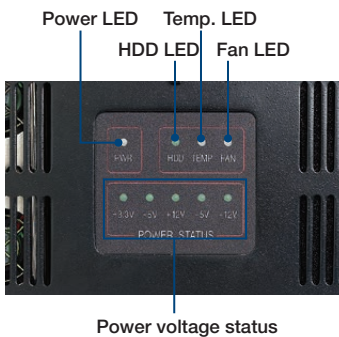
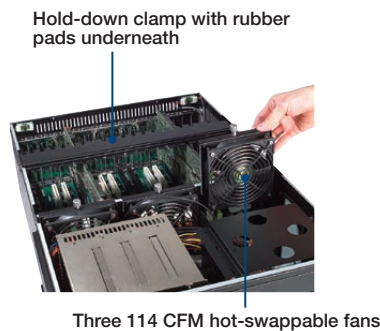
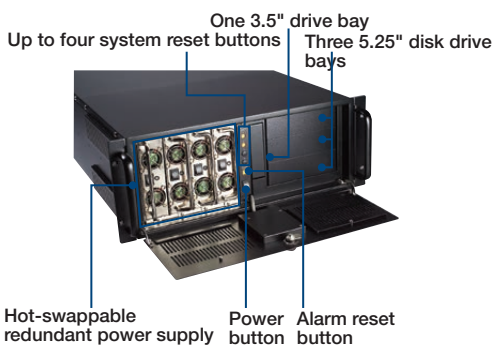
### Features

- 4U rackmount chassis supports up to 4 multi-systems
- Front-accessible redundant power supply
- Shockproof disk drive bay design can hold up to three front-accessible 5.25" and one 3.5" disk drives, and one internal 3.5" HDD
- Three 12 cm / 114 CFM ball-bearing cooling fans
- Front LEDs and audible alarm notifications for system power status, fan operation, HDD status, and in-chassis temperature monitoring
- Dual top cover designed for easy maintenance
- Five easily replaceable air filters provide good airflow

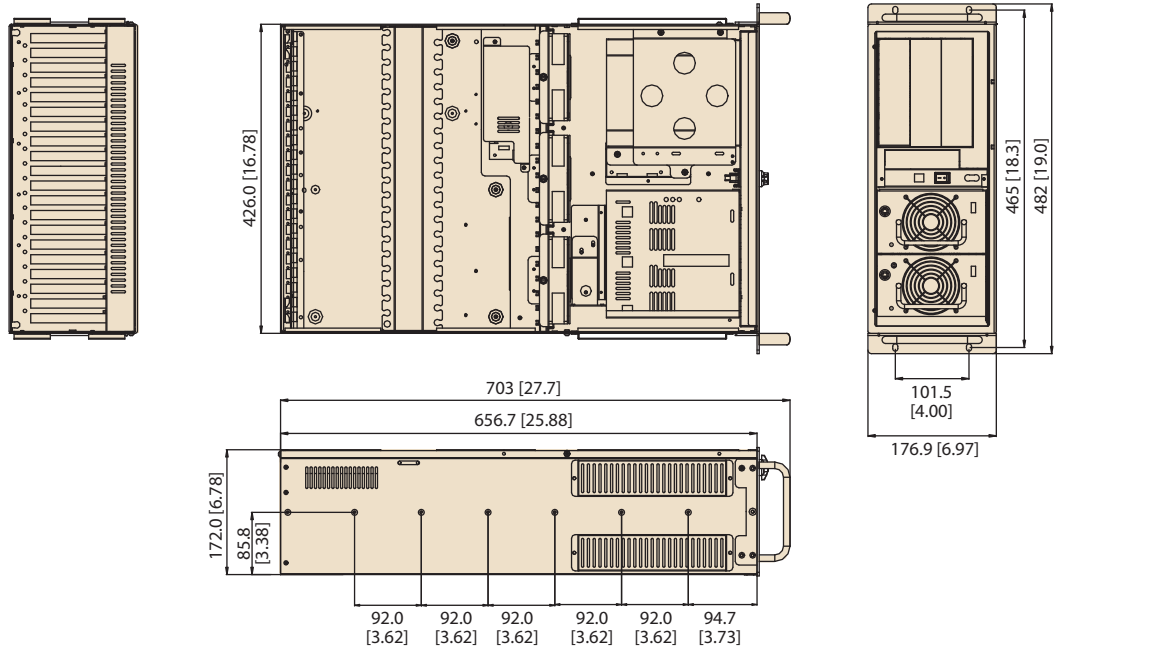
CE FCC

### Specifications

		External	Internal
Drive Bay	3.5"	1	1
	5.25"	3	-
Cooling	Fan	3 (12 cm / 114 CFM each)	
	Air Filter	4 (200 x 45 mm) + 1 (128 x 95 mm)	
Miscellaneous	LED Indicators	Power, HDD, fan, temperature, and power voltage status	
	Control	Power switch, system reset (reserve 3 more for quad-system) and alarm reset buttons	
	Hold-down Clamp	Hold-down clamp with rubber pad underneath and accessory rubber cushions	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C, non-condensing	10 ~ 95% @ 40 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Dimensions (W x H x D)	482 x 177 x 657 mm (19" x 7" x 26")	
Physical Characteristics	Weight	26 kg (57 lb)	



## Dimensions



## Ordering Information

Part Number	Power Supply
IPC-623BP-00XBE	Barebone chassis for single power supply
IPC-623BP-00RBE	Barebone chassis for redundant power supply

## Power Supply Options

Part Number	Specifications	
	Watts	Input
96PS-A400WPS2-2 (Single)	400W (ATX, PFC)	AC 100 ~ 240 V (full range)
96PS-A500WPS2-2 (Single)	500W (ATX, PFC)	AC 115 ~ 240 V (full range)
96PSR-A460WOTH-2 (1+1 redundant)	460W (ATX, PFC)	AC 100 ~ 240 V (full range)

## Optional Accessories

Part Number	Description
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD trays
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays
1700002459	Reset button with wire

## Spare Parts

Part Number	Description
2130004799S000	Side filter 45 x 200 x 6 mm
2130004800S000	Door filter 130 x 95 x 6 mm

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# IPC-622

## 6U 20-Slot Rack-mount Short Depth Chassis with Redundant Power Supply



### Features

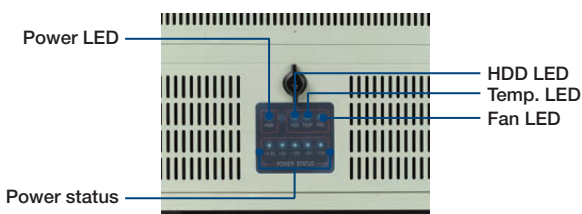
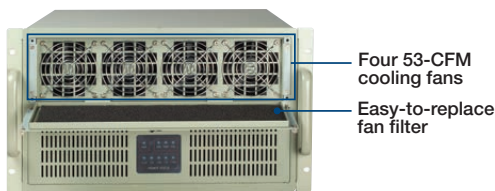
- 6U rackmount chassis supports PICMG 1.0/1.3 20 slots backplane
- Supports Mini-redundant power supply up to 750W
- LED indicators and audible alarm notification for system fault detection
- Four 9 cm / 53 CFM ball-bearing system fans for excellent cooling
- Front accessible fan filters for easy maintenance
- Lockable front door prevents unauthorized access
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

CE FCC

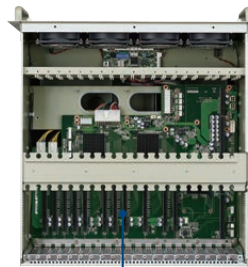
### Specifications

Drive Bay	5.25"	Front-accessible	Internal
	3.5"	4	-
Cooling	Fan	4 (9 cm / 58 CFM each)	2
	Air Filter	Yes (Front accessible)	
Front I/O Interface	USB	2 (default) and reserve up to 4 sets of dual USB ports in the front	
Miscellaneous	LED Indicators	Power, HDD, fan, temperature and power voltage status	
	Control	Power switch, system reset (reserve 3 more for quad-system) and alarm reset buttons	
	Rear Panel	Four 9-pin D-sub openings	
Intelligent System Module Remote Monitoring	CPU/System fan speed , CPU/System temperature , motherboard voltage (Only selected Advantech MBs/CPU cards with WISE-PaaS/RMM installed can fully enable these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating	Non-Operating
	Humidity	0 ~ 40 °C (32 ~ 104 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Vibration (5 ~ 500 Hz)	10 ~ 85% @ 40 °C, non-condensing	10 ~ 95% @ 40 °C, non-condensing
	Shock	0.5 Grms	1 G
Physical Characteristics	Dimensions (W x H x D)	482 x 266 x 465 mm (19" x 10.5" x 18.3')	
	Weight	30.0 kg (66 lb)	

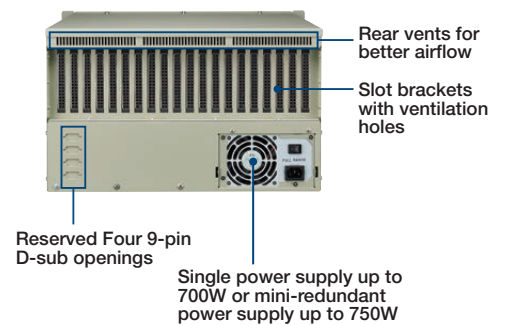
### Front view



### Inside View



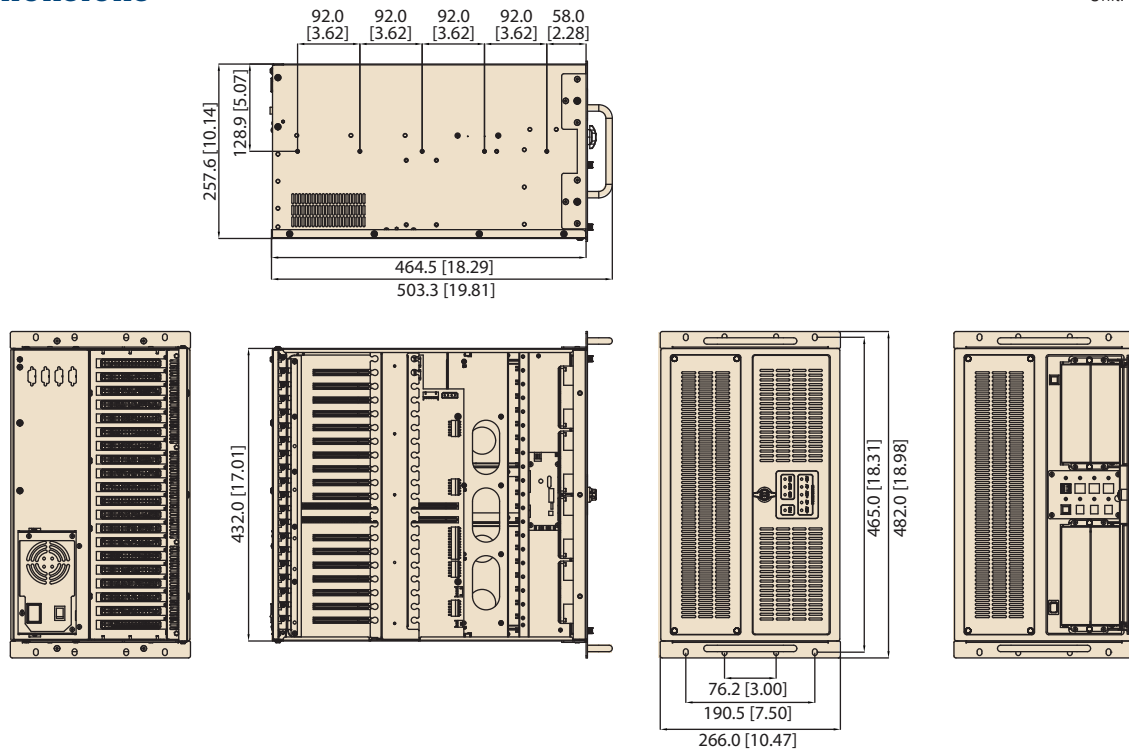
### Rear View





## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description
IPC-622BP-00DE	W/O power supply, with AT switch

## Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-400ATX-ZE	Bronze	400W	Single	AC 100 ~ 240V (full range)
PS8-500ATX-ZE	Bronze	500W	Single	AC 100 ~ 240V (full range)
PS8-700ATX-ZE	Bronze	700W	Single	AC 100 ~ 240V (full range)
RPS8-500ATX-XE (1+1 redundant)	Bronze	500W	1+1 Redundant	AC 100 ~ 240V (full range)
RPS8-750ATX-XE (1+1 redundant)	Gold	750W	1+1 Redundant	AC 100 ~ 240V (full range)

## Optional Accessories

Part Number	Description
1700002444	Reset button with wire
1700007032	Dual USB connector with wire
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays

## Spare Parts

Part Number	Description
2130004802S000	Door filter 142 x 97 x 5 mm
2130004804S000	Fan filter 382 x 93 x 5 mm

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# Advantech's Compact and Intelligent IPC Designed for Equipment Builders



**ADVANTECH**

*Enabling an Intelligent Planet*

## Full Range of Machine Automation Solutions

Advantech's new-generation IPCs are designed for equipment builders who face the common challenges of limited equipment space, plus the need for quick maintenance times and short line downtime.

### Features:

- Small Footprint
- Easy Maintenance
- Simple Manageability



**ACP-4D00**  
4U Dual-Node  
Intelligent IPC



**ACP-4020**  
4U Short Depth  
Intelligent IPC



**ACP-2020**  
2U Short Depth  
Intelligent IPC



**IPC-631**  
4U Short Depth  
Single Side I/O IPC



**IPC-603**  
2U Short Depth Single  
Side I/O IPC

# Industrial Server Motherboards

<b>Selection Guide</b>		<b>9-2</b>
<b>Server-grade Motherboards</b>		
<b>ASMB-260</b>	Intel® Atom™ C3000 Mini-ITX Server Board with 4 DDR4 DIMM, one PCIe x4 Slot (Gen 3.0), 8 SATA III, IPMI	<b>9-6</b>
<b>ASMB-584</b>	LGA 1150 Intel® Xeon® E3 v3/ 4th Generation Core™ Micro ATX Server Board with 2 PCIe x16 slots (x8 link), 1 PCIe x4, 1 PCI, USB 3.0, Dual LANs	<b>9-8</b>
<b>ASMB-585</b>	LGA 1151 Intel® Xeon® E3 v5/v6 & 6th/7th Generation Core™ series Micro ATX Server Board with 4 DDR4, 1 PCIe x16, 3 PCIe x4, Quad LANs, USB 3.0	<b>9-10</b>
<b>ASMB-784</b>	LGA 1150 Intel® Xeon® E3 v3/ 4th Generation Core™ ATX Server Board with 2 PCIe x16 slots (x8 link), 3 PCI, USB 3.0, Quad/Dual LANs	<b>9-12</b>
<b>ASMB-785</b>	LGA 1151 Intel® Xeon® E3 v5/v6 & 6th/7th Generation Core™ ATX Server Board with 4 DDR4, 4 PCIe, 3 PCI, 6 USB 3.0, 6 COM, 6 SATA3, Quad/Dual LANs	<b>9-14</b>
<b>ASMB-813</b>	LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 ATX Server Board with 8 DDR4 DIMM, 5 PCIe x16 Slot, 6 USB 3.0, IPMI	<b>9-16</b>
<b>ASMB-815</b>	LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 5 PCIe x8 or 2 PCIe x16 and 1 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI	<b>9-18</b>
<b>ASMB-823</b>	Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 ATX Server Board with 6 DDR4, 4 PCIe x16, 6 USB 3.0, SATA3, Dual LAN, IPMI	<b>9-20</b>
<b>ASMB-825</b>	Dual LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 4 PCIe x16 + 2 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI	<b>9-22</b>
<b>ASMB-913</b>	Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 EATX Server Board with 16 DDR4 DIMM, 3 PCIe x16, 6 USB 3.0, PME support, IPMI	<b>9-24</b>
<b>ASMB-923</b>	Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 EATX Server Board with 8 DDR4, 4 PCIe x16+ 2 PCIe x8, 4 USB 3.0, IPMI	<b>9-26</b>
<b>ASMB-925</b>	Dual LGA 3647-P0 Intel® Xeon® Scalable EATX Server Board with 12 DDR4, 5 PCIe x16 + 1 PCIe x8 + 1 PCI, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI	<b>9-28</b>
<b>ASMB-975</b>	Dual LGA 3647-P0 Intel® Xeon® Scalable Proprietary Server Board with 12 DDR4, 4 PCIe x16 + 1 PCIe x8+4 PCIe x4, 14 SATA3, 8 USB3.0, Dual 10GbE, IPMI	<b>9-30</b>
<b>PME Expansion Cards</b>	Various Selections Supporting PCI, PCI-X, PCIe x1/x4/x8/x16	<b>9-32</b>
<b>ASMB Riser Card</b>		<b>9-33</b>

To view all of Advantech's Industrial Server Motherboards, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Server-grade Motherboards

NEW



Model Name		ASMB-260	ASMB-584	ASMB-585	ASMB-782
Form Factor		Mini-ITX	Micro ATX	Micro ATX	ATX
Processor System	CPU	Intel® Atom® C3000 Series	Intel® Xeon® E3 v3 and 4th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® E3 v5/v6 and 6th/7th Gen. Core™ i3/i5/i7 Series	Intel Xeon E3/E3 v2/ 2nd and 3rd Gen. Core i7/i5/i3/ Pentium Series
	Socket	-	1 x socket 1150	1 x socket 1151	1 x socket 1155
	Max. Speed	2.2 GHz	3.5 GHz	3.6 GHz	3.5 GHz
	Front Side Bus	-	-	-	-
	L3 Cache	2 MB (based on CPU sku)	8 MB	8 MB	8 MB
	Chipset	-	Intel C226	Intel C236	Intel C216
Expansion Slot	BIOS	AMI 128 Mbit, SPI	AMI 128Mbit, SPI	AMI 128Mbit, SPI	AMI 64 Mbit, SPI
	PCI	-	1*	-	3
	PCIe x16	-	-	1 (Gen3 x16 link)	-
	PCIe x8	-	2 (x16 slot with x8 link)	-	2 (x16 slot with x8 link)
	PCIe x4	1 (1 Gen3 x 4 link)	1	3 (2 Gen3 x4 link, 1 Gen3 x1 link)	2
Memory	PCIe x1	-	-	-	-
	Technology	DDR4 Reg/unbuffered 2400/2133/1866/1600 Mhz DIMM	DDR3 ECC/non-ECC Unbuffer 1066/1333/1600 MHz	DDR4 ECC/non-ECC Unbuffer 1600/1866/2133/2400 MHz	DDR3 ECC/Non-ECC Unbuffer 1066/1333/1600 MHz
	Max. Capacity	128 GB for RDIMM/ 64GB for UDIMM	32 GB ECC/Non-ECC UDIMM	64 GB ECC/Non-ECC UDIMM	32 GB ECC/Non-ECC UDIMM
	Socket	4x 288-pin DIMM	4 x 240-pin DIMM	4 x 288-pin DIMM	4 x 240-pin DIMM
Graphics	Controller	AST2500	Intel GT2-HD Graphics	Intel GT2-HD Graphics	Intel HD Graphics
	VRAM	DDR3 64MB	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed
	LCD	-	-	-	-
	TV-Out	-	-	-	-
	HDMI	-	-	-	-
	DVI	-	1	2	Yes (pin header)
Ethernet	Dual Display	Yes	Yes	Yes	Yes (pin header for DVI)
	Interface	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet
	Controller	2 x Intel I210AT + 1 x Intel X557-AT2	1 x Intel I217LM, 1 x Intel I210AT (G2 SKU only)	1 x Intel I219LM, 3 x Intel I210AT (G4 SKU only)	1 x Intel 82579LM + 3 x Intel 82574L (G4 SKU only)
TPM	Connector	RJ-45 x 3 (1 sharing IPMI function)	RJ-45 x 2 (G2 SKU) / RJ-45 x1 (VG SKU)	RJ-45 x 2 (G2 SKU) / RJ-45 x4 (G4 SKU)	RJ-45 x 4 (G4 SKU) / RJ-45 x 2 (G2 SKU)
	Max. Data Transfer Rate	Optional	Optional	Optional	Optional
SATA	Channel	600MB/s for SATA3	600 MB/s	600 MB/s	300MB/s for SATA2 600 MB/s for SATA3
	SAS	Up to 8	6	7	4 for SATA2, 2 for SATA3
SAS	Max. Data Transfer Rate	-	-	-	-
	Channel	-	-	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / 1 / - / 2	1 / 2 / - / -	1 / - / - / -
	Ethernet	3	2 for G2 SKU and 1 for VG SKU	2 for G2 SKU and 4 for G4 SKU	4 for G4 SKU and 2 for G2 SKU
	USB	2 (USB 3.0)	4 ( 2 USB 3.0; 2 USB 2.0)	4 (USB 3.0)	4 (2 USB 3.0; 2 USB 2.0)
	Audio	-	Mic-in, Line-out	Mic-in, Line-out	-
	Parallel	-	-	-	-
	Serial	1 (RS-232)	-	1 (RS-232)	1 (RS-232)
	PS/2	-	-	-	2
	DVI	-	-	-	Yes (pin header)
Internal Connector	USB	2 (2 USB3.0)	9 (2 USB 3.0; 6 USB 2.0; 1 USB 2.0 Type A)	9 (2 USB 3.0; 6 USB 2.0; 1 USB 2.0 Type A)	10 (2 USB 3.0; 6 USB 2.0; 2 USB 2.0 Type-A)
	Audio	-	1	1	1
	Serial	1	2	3	1
	Parallel	-	1	-	1
	SATA	8	6	7	6
	SAS	-	-	-	-
	Compact Flash	-	-	-	-
Watchdog Timer	GPIO	8 bit GPIO	8 bit GPIO	8 bit GPIO	1 (SATA SGPIO)
	Output Interval	System reset Programmable, 1 ~ 255 sec	System reset Programmable 1~255 sec	System reset Programmable 1~255 sec	System reset Programmable 1~255 sec
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\* ASMB-584 A2 version has removed PCI slot for 1U & 2U chassis with riser.





**NEW**



ASMB-784	ASMB-785	ASMB-822	ASMB-813	ASMB-815
ATX	ATX	ATX	ATX	ATX
Intel® Xeon® E3 v3 and 4th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® E3 v5/v6 and 6th/7th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® E5-1600/1600 v2 / 2600 / 2600 v2	Intel® Xeon® E5-1600 v3/v4 and 2600 v3/v4 Series Core i7 Series	Intel® Xeon® Scalable Series
1 x socket 1150	1 x socket 1151	1 x socket 2011	1 x socket 2011-R3	1 x socket 3647-P0
3.5 GHz	3.6 GHz	3.7 GHz	2.5 GHz	3.6 GHz
-	-	-	QPI 9.6GT/s	Up to UPI 10.4 GT/s
8MB	8MB	20 MB	30 MB	38.5 MB
Intel C226	Intel C236	Intel C602J	Intel C612	Intel C620
AMI 128Mbit, SPI	AMI 128Mbit, SPI	AMI 64 Mbit, SPI	AMI 128 Mbit, SPI	AMI 256 Mbit, SPI
3	3	1	-	-
1 (switchable to two x8)	1 (switchable to two x8)	-	2/0	2/0
2 (switchable to one x16)	2 (switchable to one x16)	5	1/5	1/5
-	2	1	1	1
2	-	-	1	1
DDR3 ECC/Non-ECC Unbuffer 1066/1333/1600 MHz	DDR4 ECC/Non-ECC Unbuffer 1600/1866/2133/2400 MHz	DDR3 REG/ECC/Non-ECC Unbuffer 1066/1333/1600 MHz	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2666/2400/2133 MHz DIMM
32 GB ECC/Non-ECC UDIMM	64 GB ECC/Non-ECC UDIMM	96 GB/Non-ECC/ECC/REG DIMM	256 GB REG DIMM	192 GB REG DIMM
4 x 240-pin DIMM	4 x 288-pin DIMM	6 x 240-pin DIMM	8 x 288-pin DIMM	6 x 288-pin DIMM
Intel GT2-HD Graphics	Intel GT2-HD Graphics	AST1300/AST2300	AST1400/AST2400	AST2510/AST2500
1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed	DDR3 64MB	DDR3 64MB	DDR3 64MB
-	-	-	-	-
-	-	-	-	-
2	2	-	-	-
Yes	Yes	-	-	-
10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet
1 x Intel I217LM + 3 x Intel I210AT (G4 SKU only)	1 x Intel I219LM + 3 x Intel I210AT (G4 SKU only)	1 x Intel 82579LM + 1 x Intel I210AT + 1 x Realtek 8201EL (ASMB-822I SKU only)	2 x Intel I210AT	2 x Intel I210AT + 1 x Intel X557-AT2 + 1 x Realtek 8201EL (ASMB-815I/815T2 SKUs)
RJ-45 x 4 (G4 SKU) / RJ-45 x2 (G2 SKU)	RJ-45 x 2 (G2 SKU) / RJ-45 x4 (G4 SKU)	RJ-45 x 3 (1 for IPMI function)	RJ-45 x 3 (1 for IPMI function)	RJ-45 x 5 (1 for IPMI function)
Optional	Optional	Optional	Optional	Optional
600 MB/s	600 MB/s	300MB/s for SATA2 600 MB/s for SATA3	600MB/s for SATA3	600MB/s for SATA3
6	6	4 for SATA2, 2 for SATA3	8 for SATA3	9 for SATA3
-	-	-	-	-
-	-	-	-	-
1 / 2 / - / -	1 / 2 / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -
4 for G4 SKU and 2 for G2 SKU	2 for G2 SKU and 4 for G4 SKU	2	2	4 (T2 SKU)
4 ( 2 USB 3.0; 2 USB 2.0)	4 (USB 3.0)	6 (2 x USB 3.0)	4 (USB 3.0), 2 (USB 2.0)	4 (USB 3.0), 2 (USB 2.0)
-	Mic-in, Line-out	-	-	-
-	-	-	-	-
1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)
2	-	2	2	-
-	-	-	-	-
9 (2 USB 3.0; 6 USB 2.0; 1 USB 2.0 Type A)	9 (2 USB 3.0; 6 USB 2.0; 1 USB 2.0 Type A)	8 (6 USB 2.0, 2 USB 2.0 Type-A)	5 (2 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)	5 (2 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)
1	1	1	1	1
1	3	1	1	1
1	1	1	-	-
6	6	6	8	8
-	-	-	-	-
-	-	-	-	-
8 bit GPIO	8 bit GPIO	8 bit GPIO	8 bit GPIO	8 bit GPIO
System reset	System reset	System reset	System reset	System reset
Programmable 1~255 sec 9-12	Programmable 1~255 sec 9-14	Programmable, 1 ~ 255 sec online	Programmable, 1 ~ 255 sec 9-16	Programmable, 1 ~ 255 sec 9-18

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# Server-grade Motherboards

NEW



Model Name		ASMB-823	ASMB-825	ASMB-922
Form Factor		ATX	ATX	EATX
Processor System	CPU	Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® Scalable Series	Intel® Xeon® E5-2600 / 2600 v2
	Socket	2 x socket 2011-R3	2 x socket 3647-P0	2 x socket 2011
	Max. Speed	2.5 GHz	3.6 GHz	2.1 GHz
	Front Side Bus	QPI 9.6GT/s	Up to UPI 10.4 GT/s	QPI 8 GT/s
	L3 Cache	30 MB	38.5 MB	20 MB
	Chipset	Intel C612	Intel C620	Intel C602J
BIOS		AMI 128 Mbit, SPI	AMI 256 Mbit, SPI	AMI 64 Mbit, SPI
Expansion Slot	PCI	-	-	-
	PCIe x16	4	4	4 (1 for PME)
	PCIe x8	2	2	1
	PCIe x4	1 (x8 slot with x4 link)	-	-
	PCIe x1	-	-	-
Memory	Technology	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2666/2400/2133 MHz DIMM	DDR3 REG/ECC/non-ECC Unbuffer 1066/1333/1600 MHz
	Max. Capacity	192 GB REG DIMM	192 GB REG DIMM	128 GB/Non-ECC/ECC/REG DIMM
	Socket	6 x 288-pin DIMM	8 x 288-pin DIMM	8 x 240-pin DIMM
Graphics	Controller	AST1400/AST2400	AST2510/AST2500	AST1300/AST2300
	VRAM	DDR3 64MB	DDR3 64MB	DDR3 64MB
	LCD	-	-	-
	TV-Out	-	-	-
	HDMI	-	-	-
	DVI	-	-	-
	Dual Display	-	-	-
Ethernet	Interface	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet	10/100/1000 Mbps Gigabit Ethernet
	Controller	2 x Intel I210AT	2 x Intel I210AT + 1 x Intel X557-AT2	1 x Intel 82579LM + 1 x Intel I210AT + 1 x Realtek 8201EL (ASMB-922! SKU only)
	Connector	RJ-45 x 3 (1 sharing IPMI function)	RJ-45 x 4 (1 sharing IPMI function)	RJ-45 x 3 (1 for IPMI function)
TPM		Optional	Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s for SATA3	600MB/s for SATA3	300MB/s for SATA2 600 MB/s for SATA3
	Channel	9 for SATA3	9 for SATA3	4 for SATA2, 2 for SATA3
SAS	Max. Data Transfer Rate	-	-	-
	Channel	-	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -	1 / - / - / -
	Ethernet	2	4 (T2 SKU)	2
	USB	4 (USB 3.0)	2 (USB 3.0)	4 (2 x USB 3.0)
	Audio	-	-	-
	Parallel	-	-	-
	Serial	-	1 (RS-232)	1 (RS-232)
	PS/2	-	-	2
Internal Connector	DVI	-	-	-
	USB	5 (2 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)	5 (4 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)	9 (8 USB 2.0, 1 USB 2.0 Type-A)
	Audio	1	1	1
	Serial	1	1	1
	Parallel	-	-	-
	SATA	9	8	6
	SAS	-	-	-
	Compact Flash	-	-	-
Watchdog Timer	GPIO	8 bit GPIO	8 bit GPIO	8 bit GPIO
	Output	System reset	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec
Page		9-20	9-22	online





NEW



NEW



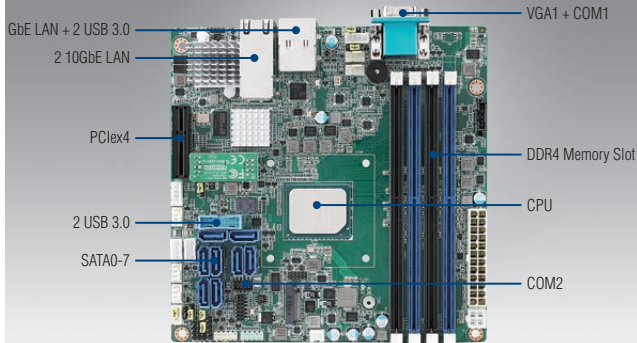
ASMB-913	ASMB-923	ASMB-925	ASMB-975
EATX	EATX	EATX	Proprietary
Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® Scalable Series	Intel® Xeon® Scalable Series
2 x socket 2011-R3	2 x socket 2011-R3	2 x socket 3647-P0	2 x socket 3647-P0
2.5 GHz	2.5 GHz	3.6 GHz	3.6 GHz
QPI 9.6GT/s	QPI 9.6GT/s	Up to UPI 10.4 GT/s	Up to UPI 10.4 GT/s
30 MB	30 MB	38.5 MB	38.5 MB
Intel C612	Intel C612	Intel C620	Intel C620
AMI 128 Mbit, SPI	AMI 128 Mbit, SPI	AMI 256 Mbit, SPI	AMI 256 Mbit, SPI
-	-	1	-
4 (1 for PME)	4	5	4
-	2	1	1
-	1	-	4
-	-	-	0
DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2666/2400/2133 MHz DIMM	DDR4 REG 2666/2400/2133 MHz DIMM
512 GB REG DIMM	256 GB REG DIMM	384 GB REG DIMM	384 GB REG DIMM
16 x 288-pin DIMM	8 x 288-pin DIMM	12 x 288-pin DIMM	12 x 288-pin DIMM
AST1400/AST2400	AST1400/AST2400	AST2510/AST2500	AST2510/AST2500
DDR3 64MB	DDR3 64MB	DDR3 64MB	DDR3 64MB
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet
4 x Intel I210AT	2 x Intel I210AT	2 x Intel I210AT + 1 x Intel X557-AT2	2 x Intel I210AT + 1 x Intel X557-AT2
RJ-45 x 4 (1 sharing IPMI function)	RJ-45 x 3 (1 for IPMI function)	RJ-45 x 4 (1 sharing IPMI function)	RJ-45 x 4 (1 sharing IPMI function)
Optional	Optional	Optional	Optional
600MB/s for SATA3	600MB/s for SATA3	600MB/s for SATA3	600MB/s for SATA3
8 for SATA3	10 for SATA3	8 for SATA3	14 for SATA3
-	-	-	-
-	-	-	-
1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -
4	2	4 (T2 SKU)	4 (T2 SKU)
2 (USB 3.0)	2 (USB 3.0), 2 (USB 2.0)	4 (USB 3.0)	4 (USB 3.0)
-	-	-	-
-	-	-	-
1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)
-	2	-	-
-	-	-	-
7 (4 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)	7 (2 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)	7 (2 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)	11 (8 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)
1	1	1	1
1	1	1	1
-	-	-	-
8	10	8	12
-	-	-	-
-	-	-	-
8 bit GPIO	8 bit GPIO	8 bit GPIO	8 bit GPIO
System reset	System reset	System reset	System reset
Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec
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# ASMB-260

**Intel® Atom™ C3000 Mini-ITX Server Board with 4 DDR4 DIMM, 1 PCIe x4 Slot (Gen 3.0), 8 SATA III, IPMI**

**NEW**



## Features

- Mini-ITX Server Board with Intel® Atom™ C3000 processor
- Four DDR4 2400MHz ECC/Non-ECC UDIMM up to 64GB or Four DDR4 2400MHz RDIMM up to 128GB
- One PCIe x4, 8 SATA III, one M.2, four USB 3.0, and two 10GbE/one GbE LAN
- 0 ~ 60 °C ambient operation temperature range

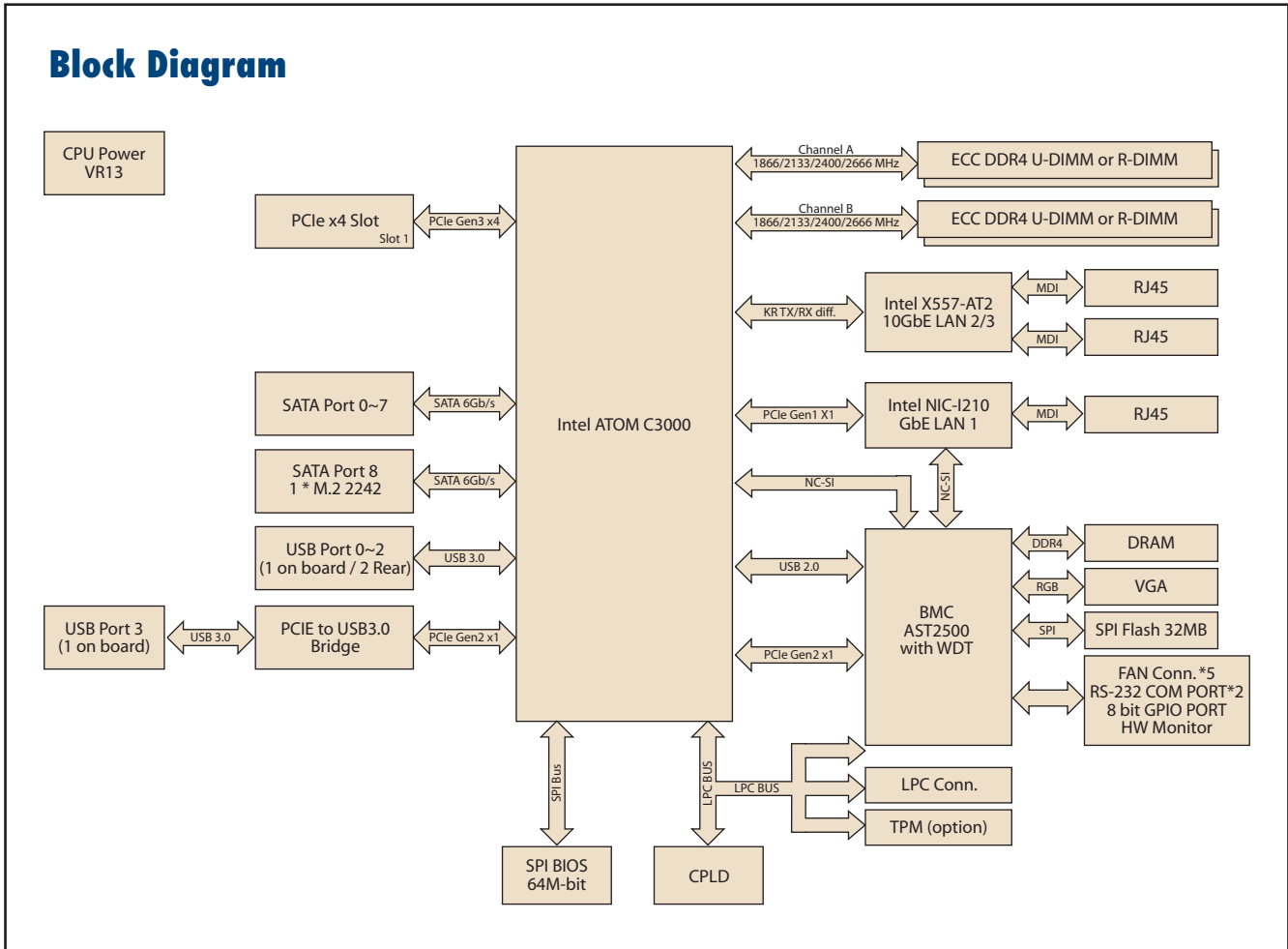


CE FCC

## Specifications

Form Factor	Mini-ITX form factor						
Processor System	Socket	Onboard SOC					
	CPU type	Intel® Atom™ C3000					
Core Logic	Chipset	N/A					
	Total slots	4 (Dual Channel)					
Memory	Capacity	Maximum 128GB for RDIMM Maximum 64GB for UDIMM					
	Memory type	DDR4 2400/2133/1866/1600 MHz DIMM					
	Memory size	4 GB, 8 GB, 16 GB, 32GB (only for RDIMM)					
	Total PCI/PCI-X/PCIe slots	1					
Expansion Slots	Slot location 1	PCIe x4 slot (Gen3 x4 link)					
	VGA	Aspeed AST 2500					
Graphics	IDE controller	-					
	SATA controller	8 x SATA III + 1 x M.2 6 Gb/s ports					
	SAS controller	-					
Networking	GbE/10GbE LAN	Intel I210AT/Intel X557-AT2 (dual 10GbE ports)					
	LPC connector	1					
Onboard I/O Connectors	PSU connector	24-pin ATX power connector or 4-pin 12V DC input					
	USB connector	1 x USB3.0 pin header ( supports 2 x USB 3.0 port)					
	Fan header	5 x 4pin (4 for system + 1 for CPU)					
	SMBus	1					
	Chassis intruder	1					
	Front LAN LED	1					
	Audio Header	-					
	Serial port header	1					
	Rear I/O Connectors	External serial port	1				
		External USB port	2 (supports 2 x USB 3.0)				
VGA port		1					
RJ-45		3 (share NIC for IPMI function)					
PS/2 KB/mouse		-					
Management Solution	Software	-					
	Out of band remote management	Yes					
Monitoring	CPU temperature	Yes					
	System Monitoring	Yes					
Watchdog Timer	Output	System reset					
	Interval	Programmable 1 ~ 255 sec/min					
Power Requirement	Power On	3.3V	5V	12V	5Vsb	-12V	
		0.10A	0.10A	6.41A	0.54A	0A	
Environment	Operating					Non-operating	
	Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution					-40 ~ 85 °C
	Humidity	10% ~ 95%					10% ~ 95% (Non condensing)
Physical Characteristics	Dimension (L x H)	170 x 170 mm (6.7" x 6.7")					

### Block Diagram



### Ordering Information

Part Number	CPU	Memory	10GbE Lan	GbE Lan	SATA	M.2	VGA	IPMI
ASMB-260T2-22A1	C3758	4 xDDR4 RDIMM/UDIMM	2	1	8	1	AST 2500	Yes
ASMB-260I-22A1	C3758	4 xDDR4 RDIMM/UDIMM	-	1	8	1	AST 2500	Yes
ASMB-260I-21A1	C3558	4 xDDR4 RDIMM/UDIMM	-	1	2	0	AST 2500	Yes

### Packing List

Part Number	Description	Quantity
2061260I00	Driver CD	x 1
2001026000	Start manual	x 1
1960052312T020	I/O shield	x 1
1700003194	SATA Data Cables	x 2
1930007120-01	Screw for M.2 device	x 2
1700024372-01	SATA Power cable	x 2

### Optional Accessories

Part number	Description
1960080721N001	Atom C3000 cooler for 1U/2U and tower chassis
1700019414	COM port cable w/o bracket
1700002204	Dual port USB 2.0 cable (27 cm) with bracket
1700020277-01	Dual port USB3.0 cable (30 cm) with bracket
1920000406T010	1U I/O shield

Note: Purchasing ASMB-260's proprietary CPU cooler from Advantech is a must.

### I/O View



ASMB-260T2-22A1

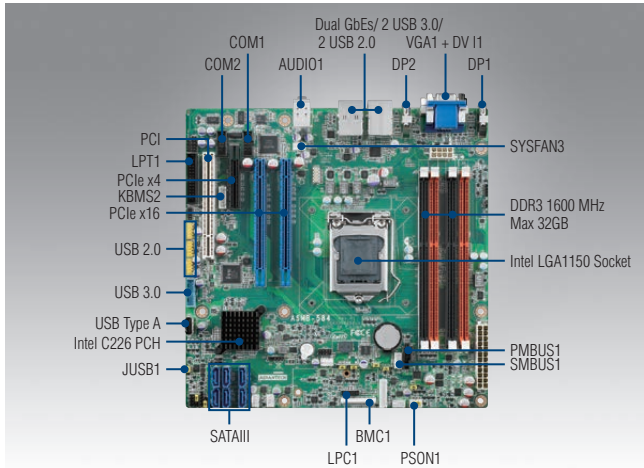


ASMB-260I-22A1  
ASMB-260I-21A1

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
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# ASMB-584

**LGA 1150 Intel® Xeon® E3 v3/ 4th Generation Core™ Micro ATX Server Board with 2 PCIe x16 slots (x8 link), 1 PCIe x4, 1 PCI, USB 3.0, Dual LANs**



## Features

- Supports LGA 1150 Intel® Xeon® E3 v3 and 4th Generation Core™ i7/i5/i3 processors
- DDR3 1600 MHz ECC UDIMM up to 32GB
- Two PCIe x16 slots (x8 link), one PCIe x4 and one PCI slots
- Rackmount optimized placement with positive air flow design
- Supports Intel vPro, AMT 9.0, IPMI (optional), Software RAID 0, 1, 5, 10 and Embedded software APIs/utilities

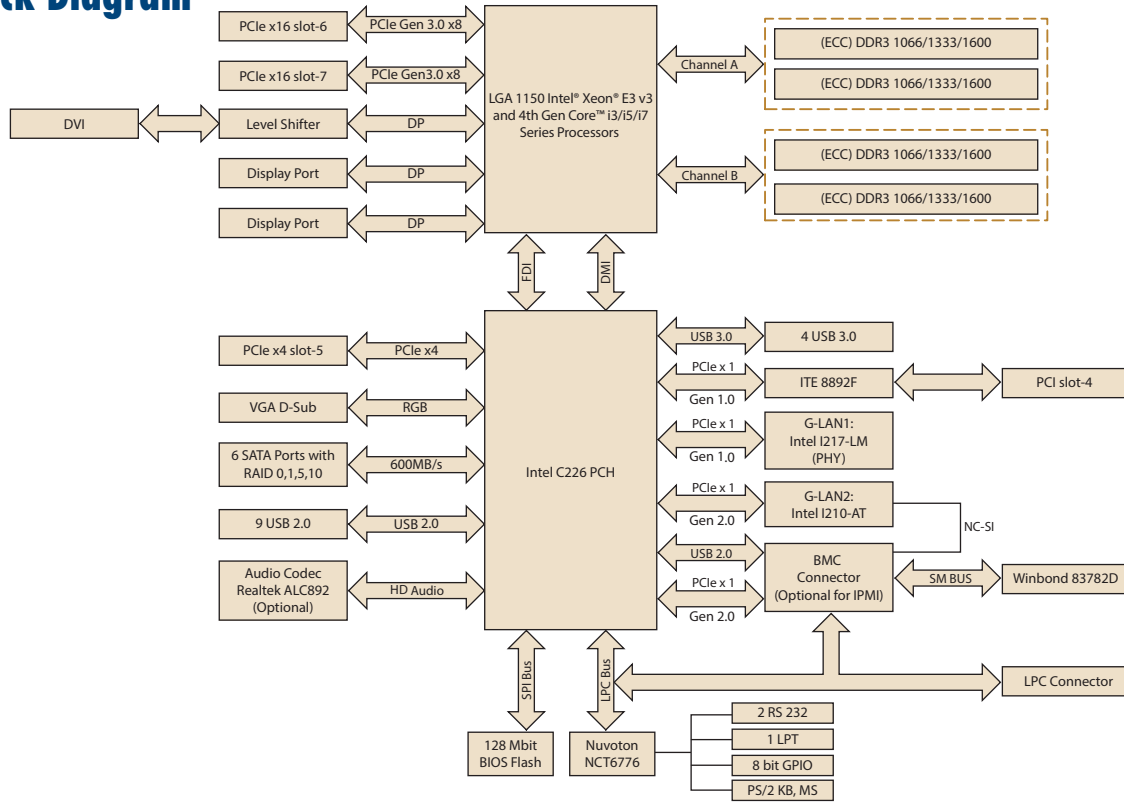


## Specifications

Form Factor		Micro ATX form factor
Processor System	Socket	Intel LGA 1150
	CPU type	Intel® Xeon® E3-1200 v3 and Core™ i3/i5/i7 series (TDP up to 88W)
Core Logic	Chipset	Intel C226 chipset
Memory	Total slots	4 (Dual Channel)
	Max. capacity	32 GB
	Memory type	DDR3 ECC/Non-ECC 1600/1333/1066 MHz UDIMM (240-pin)*
	Memory size	1 GB, 2 GB, 4 GB, 8 GB
Expansion Slots	Total PCI/PCI-X/PCIe slots	4
	Slot location 1	-
	Slot location 2	-
	Slot location 3	-
	Slot location 4	PCI
	Slot location 5	PCIe x4 (Gen2 x4 link)
	Slot location 6	PCI x16 slot (Gen3 x8 link)
Graphics	Controller	Intel HD Graphics
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed
Storage	SATA controller	Intel C226: 6 SATA3 6 Gb/s ports with Intel Rapid Storage Technology support (for Windows only) (Supports software RAID 0, 1, 10 & 5)
	SAS controller	-
Networking	Interface	10/100/1000 Mbps
	Controller	GbE LAN1: Intel I217-LM; GbE LAN2: Intel I210-AT
	Connector	RJ-45 x 2
Onboard I/O Connectors	Printer Port connector	1
	PSU connector	24-pin SSI power connector + 8-pin SSI 12V power connector
	USB connector	2 USB 3.0; 7 USB 2.0 (1 x USB Type-A)
	Fan header	5 (4-pin)
	SMBus	2
	Chassis intruder	1
	Front LAN LED	1
	Serial port header	2 (RS-232)
	Audio Connector	1 (ALC 892)
	PS/2 KB/Mouse	1
Rear I/O Connectors	External serial port	-
	External USB port	4 (2 USB 3.0 and 2 USB 2.0)
	VGA port	1
	DVI	1
	Display Port	2
	RJ-45	2 for G2 version
	PS/2 KB/mouse	-
Watchdog Timer	Output	System reset
	Interval	Programmable 1 – 255 sec
Power Requirement	Power On	Intel LGA1150 2.6GHz; DDR3 4G x4
		3.3 V                      5 V                      12 V                      12V_8P                      5 Vsb                      -12 V
Environment	Operating	3.7 A                      2.22 A                      0.07 A                      3.77 A                      0.12 A                      0.02 A
		Non-operating
Physical Characteristics	Temperature	0 – 60 °C (32 ~ 140 °F) Depends on CPU speed and cooler solution
	Humidity	5% – 90% 5% – 95% (Non-condensing)
Physical Characteristics	Dimension (L x H)	244 x 244 mm (9.6" x 9.6")

\*Memory ECC function enabled or not depends on processor support.

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	LAN	DVI	Display Port	IPMI	PCI / PCIe Slots
ASMB-584G2-00A1E	C226	DDR3 ECC UNB/Non-ECC	2	1	2	Optional Module	1 / 3
ASMB-584G2-00A2E*	C226	DDR3 ECC UNB/Non-ECC	2	1	2	Optional Module	0 / 3
ASMB-584VG-00A1E	C226	DDR3 ECC UNB/Non-ECC	1	1	N/A	N/A	1 / 3

\*ASMB-584G2-00A2E is designed for 1U & 2U chassis with riser.

### Packing List

Part Number	Description	Quantity
2066S58402	Driver CD	x 1
2006S58410	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
19Z0000470T000	I/O shield	x 1

### I/O View



ASMB-584G2-00A1E  
ASMB-584G2-00A2E



ASMB-584VG-00A1E

### Optional Accessories

Part Number	Description
1700002204	Dual port USB 2.0 cable (27 cm) with bracket
1700008461	Four port USB 2.0 cable (30.5 cm) with bracket
1960052651N021	LGA 1151/1150/1155 CPU cooler for 2U/4U and wallmount chassis (TDP up to 95W)
1960049408N001	LGA 1151/1150/1155 1U CPU Cooler (TDP up to 95W)
19Z0001023T000	1U I/O shield
1700008809	Printer port cable kit (25 cm)
1700020294-01	Printer port cable kit (42 cm)
1701090401	COM port cable with bracket (40 cm)
1700020277-01	Dual port USB 3.0 cable with bracket (30 cm)
ASMB-RF348-21A1E	2U riser card (PCIe x16 to 2 PCIe x4 + 1 PCIe x8)
AIMB-RF10F-01A1E	1U riser card (PCIe x16 to PCIe x16)
IPMI-1000-00A1E	IPMI 2.0 Module
968EMLSAP2	SUSIAccess Pro 3.0
PCA-TPM-00A1E	TPM Module with Infineon TPM 1.2 solution

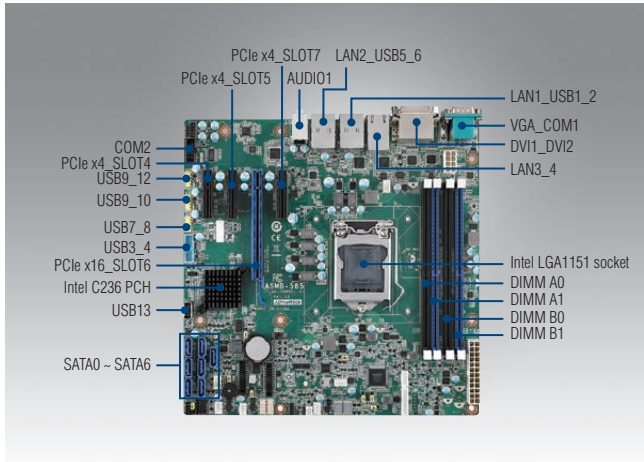
Note 1: To enable Intel vPro feature, PCA-TPM-00A1E must be installed. TPM and IPMI modules are installation alternatives.

Note 2: Purchasing ASMB-584's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with ASMB-584.

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
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# ASMB-585

**LGA 1151 Intel® Xeon® E3 v5/v6 & 6th/7th Generation Core™ series Micro ATX Server Board with 4 DDR4, 1 PCIe x16, 3 PCIe x4, Quad LANs, USB 3.0**



## Features

- Supports LGA 1151 Intel® Xeon® E3-1200 v5/v6 and 6th/7th Generation Core™ i7/i5/i3 processors
- DDR4 ECC/Non-ECC 2400/2133/1866/1600 MHz DIMM up to 64GB
- One PCIe x16 slot (Gen3 x16 link), three PCIe x4 slots (2 Gen3 x4 link, 1 Gen3 x1 link)
- 0 ~ 60 °C ambient operation temperature range
- Support up to ten RS-232 or six RS-232 and four RS-422/485 ports
- Support up to four Gigabit LAN ports
- Triple display - two DVI-D and one VGA ports
- Support seven SATA3 ports and six USB 3.0 ports

Quiet

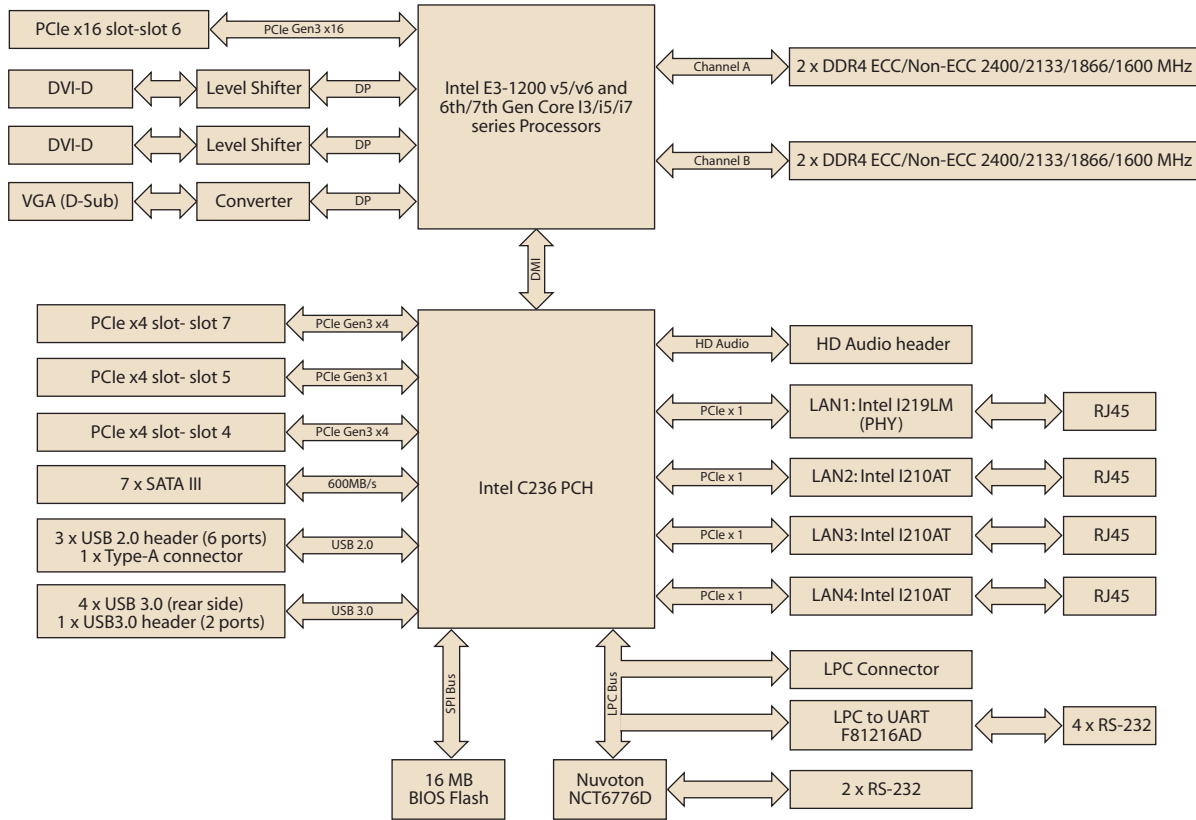
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## Specifications

Form Factor		Micro ATX form factor				
Processor System	Socket	Intel LGA 1151				
	CPU type	Intel® Xeon® E3-1200 v5/v6 and 6th/7th Gen Core™ i3/i5/i7 series processors (TDP up to 91W)				
Core Logic	Chipset	Intel C236 chipset				
Memory	Total slots	4				
	Capacity	Maximum 64 GB				
	Memory type	DDR4 ECC/Non-ECC 2400/2133/1866/1600 MHz UDIMM				
	Memory size	4 GB, 8 GB, 16 GB				
Expansion Slots	Total PCI/PCI-X/PCIe slots	4				
	Slot location 1	-				
	Slot location 2	-				
	Slot location 3	-				
	Slot location 4	PCIe x4 slot (Gen3 x4 link)				
	Slot location 5	PCIe x4 slot (Gen3 x1 link)				
	Slot location 6	PCIe x16 slot (Gen3 x16 link)				
Graphics	VGA	Intel HD Graphics				
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed				
Storage	SATA controller	Intel C236: 7 SATA3 6Gb/s Intel Rapid Storage Technology (for Windows only) (Supports software RAID 0, 1, 10 & 5)				
	SAS controller	-				
Networking	GbE LAN	1 x Intel I219LM + 3 x Intel I210AT				
Onboard I/O Connectors	LPT connector	-				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12 V power connector				
	USB 2.0 connector	3 (supports 6 x USB2.0 port), 1 x Type-A				
	USB 3.0 connector	1 (support 2 x USB 3.0 port)				
	Fan header	5 x 4pin				
	SMBus	1				
	Chassis intruder	1				
	Front LAN LED	2				
	Audio Header	1 (ALC 892)				
	Serial port header	3 (supports 5 x serial ports)				
Rear I/O Connectors	External serial port	1				
	External USB port	4 x USB 3.0				
	VGA port	1				
	DVI port	2				
	RJ-45	4				
	PS/2 KB/mouse	-				
Watchdog Timer	Audio	2 (Mic-in , Line-out)				
	Output	System reset				
Power Requirement	Interval	Programmable 1 ~ 255 sec/min				
	Power On	3.3 V	5 V	12 V	5 Vsb	-12 V
Environment		0.68A	1.31A	1.04A	0.13A	0.06A
		Operating Non-operating				
	Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution				
Physical Characteristics	Humidity	0% ~ 90%				
	Dimension (L x H)	244 x 244 mm (9.6" x 9.6")				
		-40 ~ 85 °C				
		5% ~ 95% (Non condensing)				



### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	LAN	IPMI	Graphic
ASMB-585G2-00A1E	C236	DDR4 ECC/Non-ECC	2	-	Intel HD Graphics
ASMB-585G4-00A1E	C236	DDR4 ECC/Non-ECC	4	-	Intel HD Graphics

### Packing List

Part Number	Description	Quantity
2061058502	Driver CD	x 1
2001058502	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
19Z0000996T010	I/O shield	x 1

### I/O View



ASMB-585G2-00A1E



ASMB-585G4-00A1E

### Optional Accessories

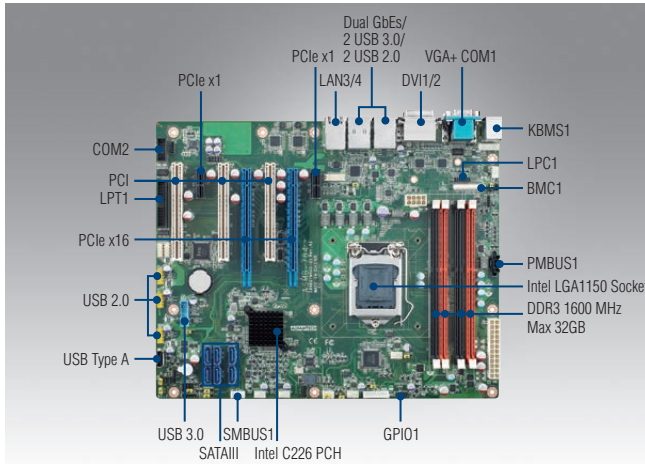
Part Number	Description
1960049408N001	LGA 1151 CPU heatsink for 1U chassis (TDP up to 95W)
1960052651N021	LGA 1151 CPU cooler for 2U/4U chassis (TDP up to 95W)
PCA-TPM-00B1E	TPM 2.0 Module by LPC
19Z0001156T010	1U IO bracket for ASMB-585
1700002204	Dual port USB2.0 cable (27 cm) with bracket
1700008461	Four port USB2.0 cable (30.5 cm) with bracket
1700020277-01	Dual port USB3.0 cable (30 cm) with bracket
PCA-COM232-00A1E	4 ports RS-232 module connect to LPC connector
PCA-COM485-00A1E	4 ports RS-422/485 module connect to LPC connector
1701090401	Single port RS-232 cable(40cm) for COM2 connector
1700026254-01	Dual port RS-232 cable(45cm) for COM3_4 & COM5_6 connector
968EMLSAP2	SUSIAccess Pro 3.0
1700019268-11	Cable for onboard KBMS1 connector (35cm)
1960063434N000	Cable bracket for 1700019268-11

Note 1: Purchasing ASMB-585's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers may NOT compatible with ASMB-585.

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
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- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
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# ASMB-784

**LGA 1150 Intel® Xeon® E3 v3/ 4th Generation Core™ ATX Server Board with 2 PCIe x16 slots (x8 link), 3 PCI, USB 3.0, Quad/Dual LANs**



## Features

- Supports LGA 1150 Intel® Xeon® E3-1200 v3 and 4th Generation Core™ i7/ i5/i3 processors
- DDR3 1600 MHz ECC/Non-ECC UDIMM up to 32GB
- One Gen 3.0 PCIe x16 link or two PCIe x16 slots with x8 link, two PCIe x1 and three PCI slots
- Rackmount optimized placement with positive air flow design
- Supports Intel vPro, AMT 9.0, IPMI (optional) and Embedded software APIs and utilities

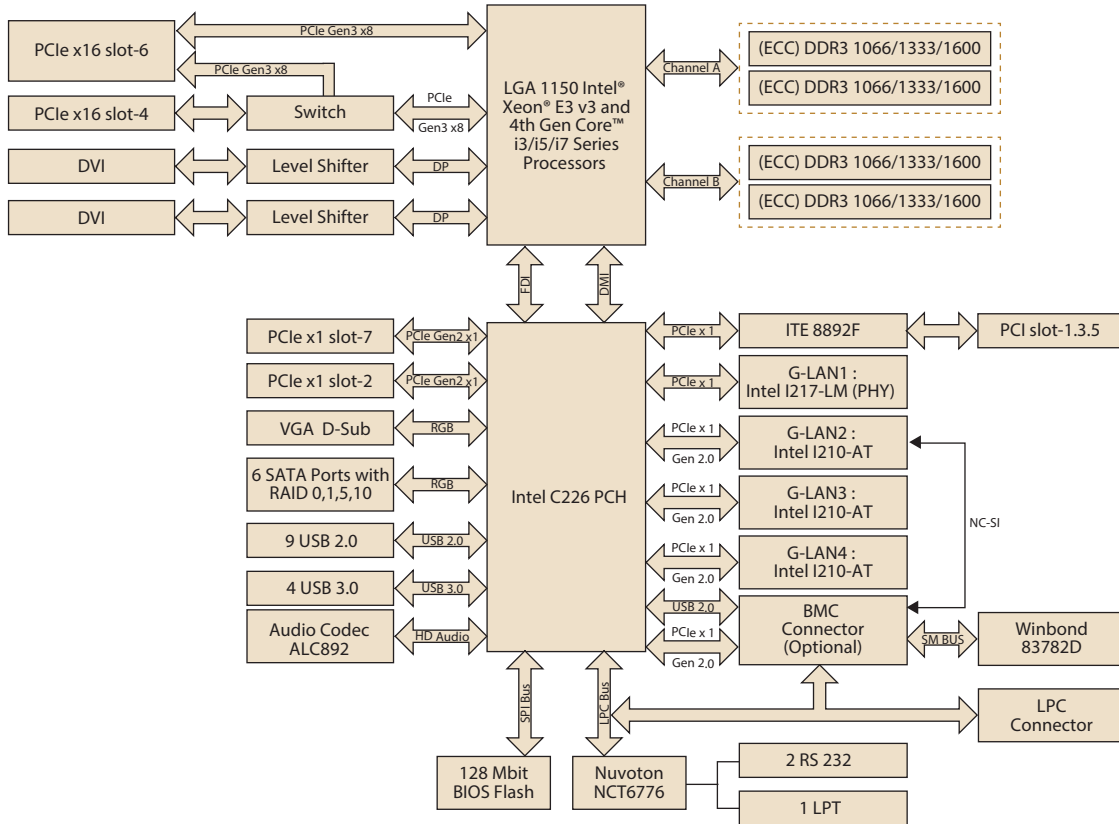


## Specifications

Form Factor	ATX form factor					
Processor System	Socket	Intel LGA 1150				
	CPU type	Intel® Xeon® E3-1200 v3 and Core™ i3/i5/i7 series (TDP up to 88W)				
Core Logic	Chipset	Intel C226 chipset				
Memory	Total slots	4 (Dual Channel)				
	Max. capacity	32 GB				
	Memory type	DDR3 ECC/Non-ECC 1600/1333/1066 MHz UDIMM (240-pin)*				
	Memory size	1 GB, 2 GB, 4 GB, 8 GB				
Expansion Slots	Total PCI/PCI-X/PCIe slots	7				
	Slot location 1	PCI				
	Slot location 2	PCIe x1 slot (Gen2 x1 link)				
	Slot location 3	PCI				
	Slot location 4	PCI x16 slot (Gen3 x8 link)				
	Slot location 5	PCI				
	Slot location 6	PCI x16 slot (Gen3 x8 or x16 link)				
Graphics	Controller	Intel HD Graphics				
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed				
Storage	SATA controller	Intel C226: 6 SATA3 6 Gb/s ports with Intel Rapid Storage Technology support (for Windows only) (Supports software RAID 0, 1, 10 & 5)				
	SAS controller	-				
Networking	Interface	10/100/1000 Mbps				
	Controller	GbE LAN1: Intel I217-LM; GbE LAN 2-4: Intel I210-AT				
	Connector	RJ-45 x 2 for G2 version; RJ-45 x 4 for G4 version				
Onboard I/O Connectors	Printer Port connector	1				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12V power connector				
	USB connector	2 USB 3.0; 7 USB 2.0 (1 x USB Type-A)				
	Fan header	5 (4-pin)				
	SMBus	2				
	Chassis intruder	1				
	Front LAN LED	2				
	Serial port header	1 (RS-232)				
	Audio Connector	1 (ALC 892)				
	PS/2 KB/Mouse	1				
Rear I/O Connectors	External serial port	1				
	External USB port	4 (2 USB 3.0 and 2 USB 2.0)				
	VGA port	1				
	DVI	2				
	Display Port	-				
	RJ-45	2 for G2 version. 4 for G4 version				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec				
Power Requirement	Power On	Intel® Xeon® E3-1275v3 3.5GHz; DDR3 8G x4				
		3.3 V	5 V	12 V	12V_8P	5 Vsb
Environment	Temperature	Operating	Non-operating			
		0 ~ 60 °C (32 ~ 140 °F)	-40 ~ 85 °C (-40 ~ 185 °F)			
Physical Characteristics	Humidity	Depends on CPU speed and cooler solution		5% ~ 95% (Non-condensing)		
		0% ~ 90%				
Physical Characteristics	Dimension (L x H)	304.8 x 244 mm (12" x 9.6")				

Memory ECC function enabled or not depends on processor support.

### Block Diagram



### Ordering Information

Part Number	Chipset	LAN	USB 3.0	DVI	SATAIII	IPMI
ASMB-784G2-00A1E	C226	2	4	2	6	Optional
ASMB-784G4-00A1E	C226	4	4	2	6	Optional

### Packing List

Part Number	Description	Quantity
2066S78402	Driver CD	x 1
2006S78410	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
19Z0000502T000	I/O shield	x 1

### I/O View



ASMB-784G2-00A1E



ASMB-784G4-00A1E

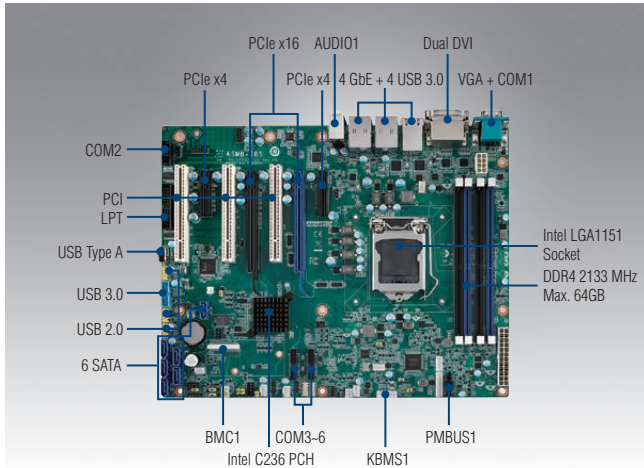
### Optional Accessories

Part Number	Description
1700002204	Dual port USB 2.0 cable (27 cm) with bracket
1700008461	Four port USB 2.0 cable (30.5 cm) with bracket
1960052651N021	LGA 1151/1150/1155 CPU cooler for 2U/4U and wallmount chassis (TDP up to 95W)
1960049408N001	LGA 1151/1150/1155 1U CPU Cooler (TDP up to 95W)
19Z0000747T000	1U I/O shield
1700008809	Printer port cable kit (25 cm)
1700020294-01	Printer port cable kit (42 cm)
1701090401	COM port cable with bracket (40 cm)
1700020277-01	Dual port USB 3.0 cable with bracket (30 cm)
1700007351	SATA cable L-type (for ACP-4320)
AIMB-AUDIO-HDA1E	HD Audio-Card
IPMI-1000-00A2E	IPMI 2.0 Module
968EMLSAP2	SUSIAccess Pro 3.0
PCA-TPM-00A1E	TPM Module with Infineon TPM 1.2 solution

Note 1: To enable Intel vPro feature, PCA-TPM-00A1E must be installed.  
 Note 2: Purchasing ASMB-784's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with ASMB-784.

# ASMB-785

**LGA 1151 Intel® Xeon® E3 v5/v6 & 6th/7th Generation Core™ ATX Server Board with 4 DDR4, 4 PCIe, 3 PCI, 6 USB 3.0, 6 COM, 6 SATA3, Quad/Dual LANs**



## Features

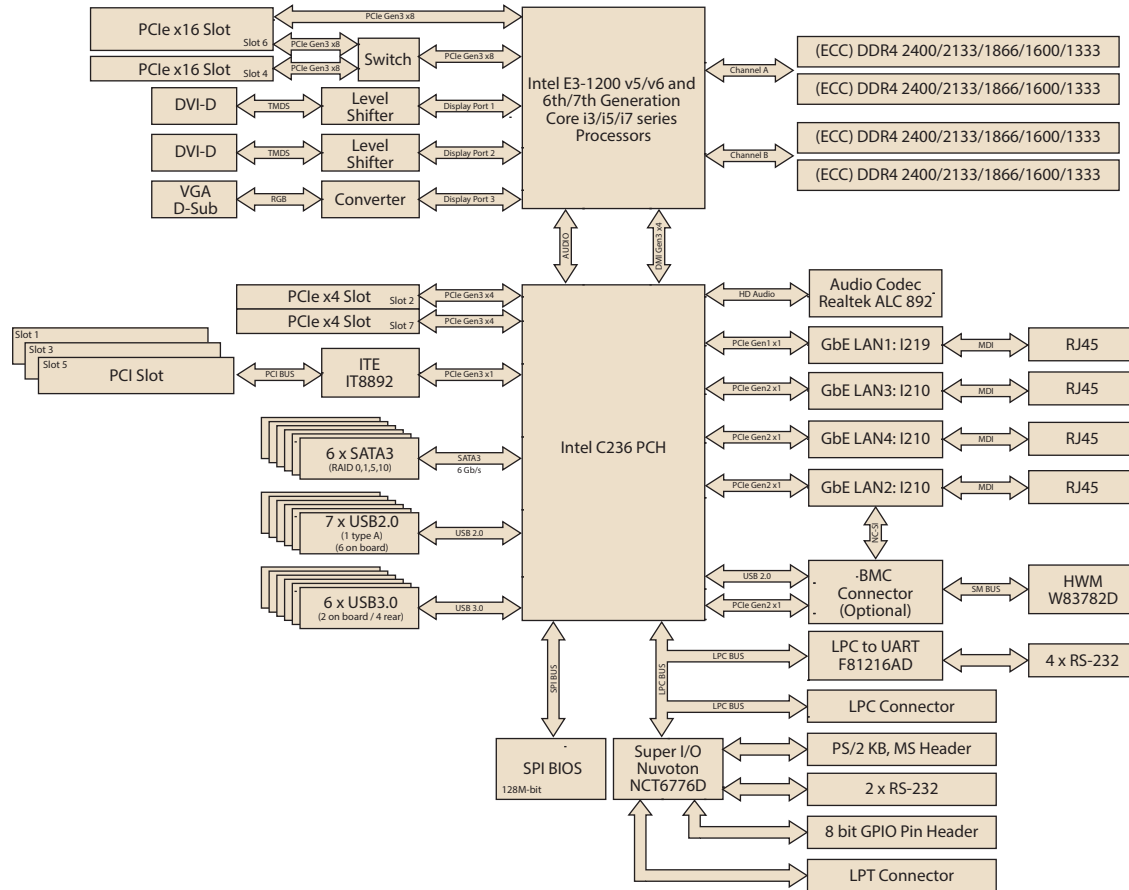
- Supports LGA 1151 Intel® Xeon® E3-1200 v5/v6 and 6th/7th Generation Core™ i7/i5/i3 processors
- DDR4 2400/2133/1866/1600/1333 MHz ECC/Non-ECC UDIMM up to 64 GB
- One Gen 3.0 PCIe x16 link (or two PCIe x16 slots with x8 link), two PCIe x4, and three PCI slots
- Rackmount optimized placement with positive air flow design
- 0 ~ 60 °C ambient operation temperature range



## Specifications

Form Factor		ATX form factor					
Processor System	Socket	Intel LGA 1151					
	CPU type	Intel® Xeon® E3-1200 v5/v6 and 6th/7th Generation Core™ i3/i5/i7 series (TDP up to 91W)					
Core Logic	Chipset	Intel C236 chipset					
Memory	Total slots	4 (Dual Channel)					
	Max. capacity	64 GB					
	Memory type	DDR4 ECC/Non-ECC 2400/2133/1866/1600 MHz UDIMM (288-pin)					
	Memory size	4 GB, 8 GB, 16 GB					
Expansion Slots	Total PCI/PCI-X/PCIe slots	7					
	Slot location 1	PCI					
	Slot location 2	PCIe x4 slot (Gen3 x4 link)					
	Slot location 3	PCI					
	Slot location 4	PCIe x16 slot (Gen3 x8 link)					
	Slot location 5	PCI					
	Slot location 6	PCIe x16 slot (Gen3 x8 or x16 link)					
Graphics	Controller	Intel HD Graphics					
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed					
Storage	SATA controller	Intel C236: 6 SATA3 6 Gb/s ports with Intel Rapid Storage Technology support (for Windows only) (Supports software RAID 0, 1, 10 & 5)					
	SAS controller	-					
Networking	Interface	10/100/1000 Mbps					
	Controller	GbE LAN1: Intel I219; GbE LAN 2-4: Intel I210-AT					
	Connector	RJ-45 x 2 for G2 version; RJ-45 x 4 for G4 version					
Onboard I/O Connectors	Printer Port connector	1					
	PSU connector	24-pin SSI power connector + 8-pin SSI 12V power connector					
	USB connector	1 USB 3.0 (2 ports), 3 USB 2.0 (6 ports), 1 USB Type-A					
	Fan header	5 (4-pin)					
	SMBus	1					
	Chassis intruder	1					
	Front LAN LED	2					
	Serial port header	2 (support 4 RS-232 ports) + 1 (support 1 RS-232 port)					
	Audio connector	1 (ALC 892)					
	PS/2 KB/Mouse	1					
	Rear I/O Connectors	External serial port	1				
External USB port		4 (USB 3.0)					
VGA port		1					
DVI		2					
Display port		-					
RJ-45		2 for G2 version; 4 for G4 version					
Audio connector		2 (Mic-in, Line-out)					
PS/2 KB/Mouse		-					
Watchdog Timer	Output	System reset					
	Interval	Programmable 1 ~ 255 sec					
Power Requirement	Power On	Intel® Xeon® E3-1275 v5 3.60GHz; DDR4 8G x 4					
		3.3 V	5 V	12 V	12V_8P	5 Vsb	-12 V
		0.96A	1.58A	0.32A	7.21A	0.11A	0.06A
	Non-operating	Operating					
		Temperature	0 ~ 60 °C (32 ~ 140 °F)				
	Environment	Humidity	10 ~ 90%				
Temperature		Depends on CPU speed and cooler solution				-40 ~ 85 °C (-40 ~ 185 °F)	
Physical Characteristics	Dimension (L x H)					10 ~ 95% (Non-condensing)	

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	LAN	USB 3.0	DVI	SATAIII	IPMI
ASMB-785G2-00A1E	C236	DDR4 Non-ECC/ECC UDIMM	2	6	2	6	Optional
ASMB-785G4-00A1E	C236	DDR4 Non-ECC/ECC UDIMM	4	6	2	6	Optional

### Packing List

Part Number	Description	Quantity
2061S78502	Driver CD	x 1
2006S78510	Startup manual	x 1
1700003194	SATA data cables	x 1
1700019381	SATA data cable (right angle)	x 1
1700022749-11	SATA power cables	x 2
1920000996T010	I/O shield	x 1

### Optional Accessories

Part Number	Description
1700002204	Dual port USB 2.0 cable (27 cm) with bracket
1700008461	Four port USB 2.0 cable (30.5 cm) with bracket
1960052651N021	LGA 1151/1150/1155 CPU cooler for 2U/4U and wallmount chassis (TDP up to 95W)
1960049408N001	LGA 1151/1150/1155 CPU heatsink for 1U chassis (TDP up to 95W)
1920001156T010	1U I/O shield
1700008809	Printer port cable kit (25 cm)
1700020294-01	Printer port cable kit (42 cm)
1701090401	Single port RS-232 cable with bracket (40 cm)
1700008762	Dual port RS-232 cable with bracket (22.5 cm)
1700020277-01	Dual port USB 3.0 cable with bracket (30 cm)
1700019268-11	PS/2 cable (35 cm)
1960063434N000	Cable bracket for 1700019268-11
PCA-COM232-00A1E	4 ports RS-232 module to LPC connector
PCA-COM485-00A1E	4 ports RS-485 module to LPC connector
IPMI-1000-00A2E	IPMI 2.0 Module
968EMLSAP2	SUSIAccess Pro 3.0
PCA-TPM-00B1E	TPM 2.0 Module by LPC

### I/O View



ASMB-785G2-00A1E

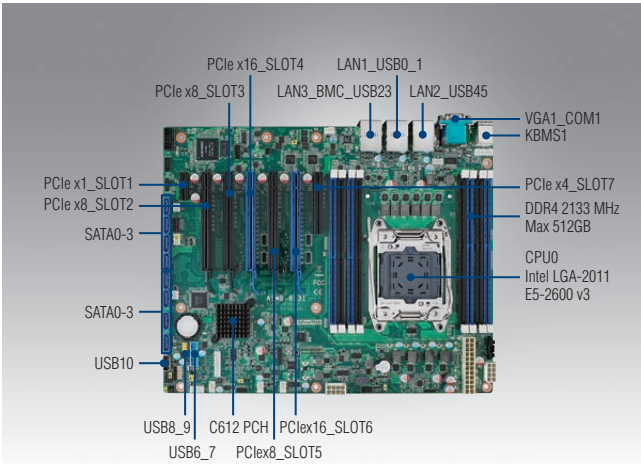


ASMB-785G4-00A1E

Note : Purchasing ASMB-785's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with ASMB-785.

# ASMB-813

**LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4  
ATX Server Board with 8 DDR4 DIMM,  
5 PCIe x16 Slot, 6 USB 3.0, IPMI**



## Features

- ATX Server Board with Intel® Xeon® E5-2600 v3/v4 processor
- Eight DDR4 2400 MHz RDIMM up to 256 GB and support DDR4 NVDIMM
- Seven PCIe expansion slots: five PCIe x8 (or two x16 and one x8), one PCIe x4 and one PCIe x1
- 0 ~ 60 °C ambient operation temperature range

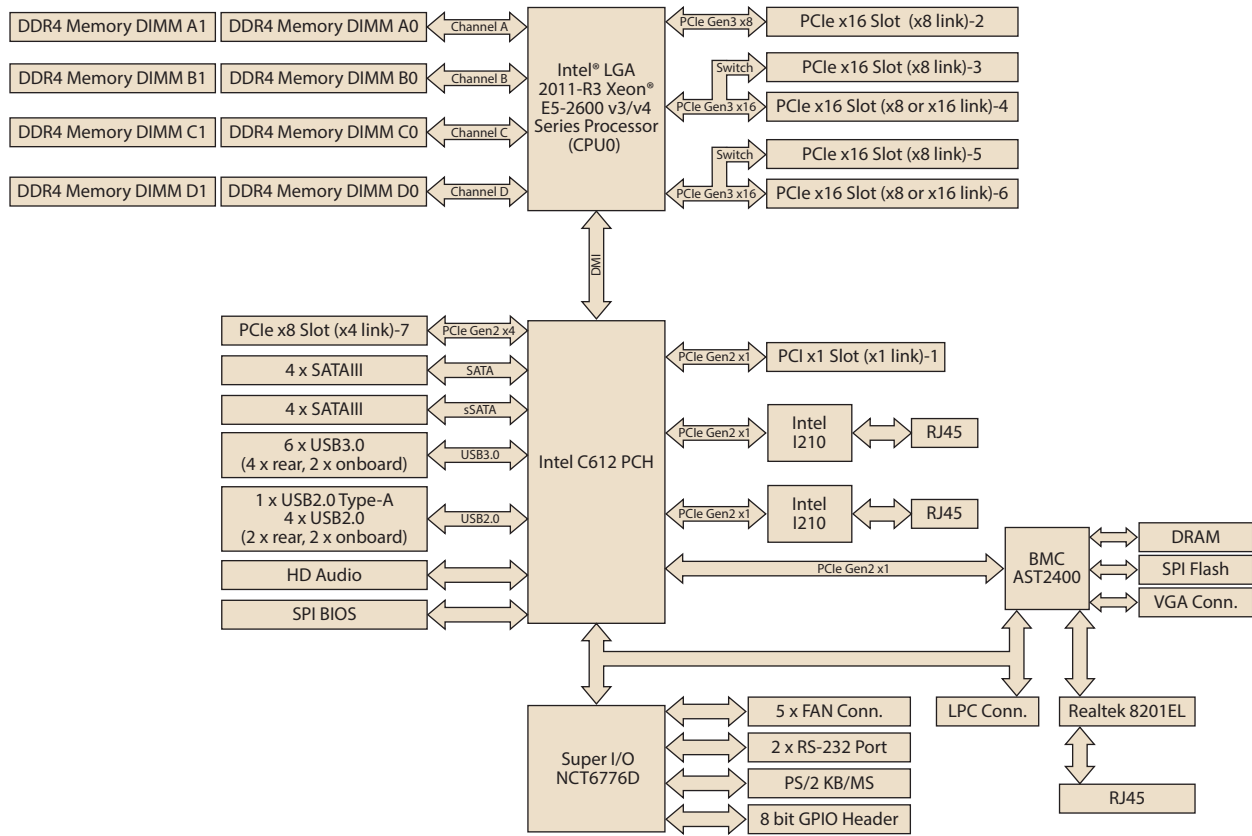


## Specifications

Form Factor		ATX form factor				
Processor System	Socket	Intel LGA 2011-R3				
	CPU type	Intel® Xeon® E5-2600 v3/v4 Series (CPU cooler should be purchased separately and TDP up to 160W) Intel® Xeon® E5-1600 v3/v4 Series Intel® Core™ i7 5800/5900/6800/6900 Series				
Core Logic	Chipset	Intel C612 chipset				
	Total slots	8 (Quad Channel)				
Memory	Capacity	Maximum 256 GB ECC RDIMM				
	Memory type	DDR4 ECC-REG 2400/2133/1866/1600 MHz DIMM and NVDIMM				
	Memory size	4 GB, 8 GB, 16 GB, 32 GB				
Expansion Slots	Total PCI/PCI-X/PCIe slots	7				
	Slot location 1	PCIe x1 slot (Gen2 x1 link), signal from PCH				
	Slot location 2	PCIe x16 slot (Gen3 x8 link)				
	Slot location 3	PCIe x16 slot (Gen3 x8 link)				
	Slot location 4	PCIe x16 slot (Gen3 x16 link or x8 link when Slot 3 is occupied)				
	Slot location 5	PCIe x16 slot (Gen3 x8 link)				
	Slot location 6	PCIe x16 slot (Gen3 x16 link or x8 link when Slot 5 is occupied)				
Graphics	Slot location 7	PCIe x8 slot (Gen2 x4 link), signal from PCH				
	VGA	Aspeed AST2400/1400 64 MB				
Storage	IDE controller	-				
	SATA controller	Intel C612: 8 SATA3 6 Gb/s ports Intel Rapid Storage Technology (for Windows only) (SATA0-SATA3 and sSATA0-sSATA3 support software RAID 0, 1, 10 & 5)				
	SAS controller	-				
Networking	GbE LAN	2 x Intel I210AT				
Onboard I/O Connectors	LPC connector	1				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12 V power connector + 8-pin SSI 12 V power connector				
	USB connector	2 (supports 2 x USB3.0 ports and 2 x USB2.0 ports) + 1 x Type-A				
	Fan header	5 x 4-pin				
	SMBus	1				
	Chassis intruder	1				
	Front LAN LED	2				
	Audio Header	1				
Rear I/O Connectors	Serial port header	1				
	External serial port	1				
	External USB port	6 (4 x USB3.0 + 2 x USB2.0)				
	VGA port	1				
	RJ-45	3 (1 port dedicated for IPMI function)				
Management Solution	PS/2 KB/mouse	1				
	Software	-				
Monitoring	Out of band remote management	Yes (ASMB-813I SKU only)				
	CPU temperature	Yes				
Watchdog Timer	System Monitoring	Yes				
	Output	System reset				
Power Requirement	Interval	Programmable 1 ~ 255 sec/min				
	Power On	3.3V	5V	12V	5Vsb	-12V
		1.53A	0.92A	12.21A	0.04A	0.04A
Environment	Operating	Non-operating				
	Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution				
Physical Characteristics	Humidity	10% ~ 95%				
	Dimension (L x H)	304.8 x 244 mm (12" x 9.6")				



### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-813-00A1E	C612	8 x DDR4 RDIMM	2	-	AST 1400
ASMB-813I-00A1E	C612	8 x DDR4 RDIMM	2	Yes	AST 2400

### Packing List

Part Number	Description	Quantity
2061813101	Driver CD	x 1
2001813110	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable(8P)	x 2
1960048321T020	I/O shield	x 1

### Optional Accessories

Part Number	Description
ASMB-RF3X8-21A1E	2U Riser Card (2 x PCI-X + 1 x PCIe x8)
PCA-AUDIO-HDA1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960065593N001	LGA-2011 CPU heatsink narrow type for 1U chassis (TDP up to 130W)
1960063011N001	LGA-2011 CPU cooler narrow type for 2U/4U chassis (TDP up to 130W)
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1701090401	COM port cable with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
1920000811N000	1U chassis IO shield
968EMLSAP2	SUSIAccess Pro 3.0

### I/O View



ASMB-813-00A1E

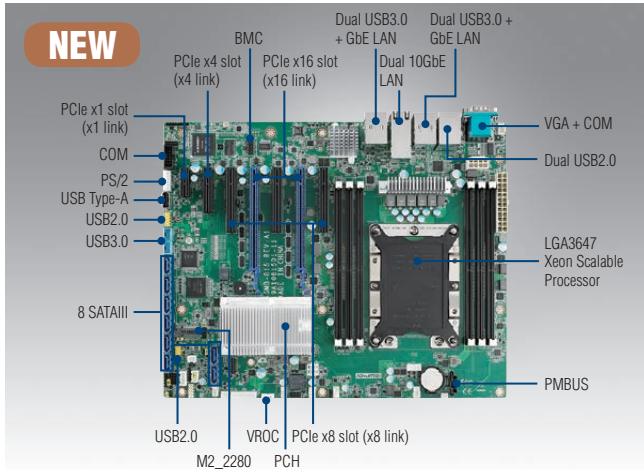


ASMB-813I-00A1E

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ASMB-815

**LGA 3647-PO Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 5 PCIe x8 or 2 PCIe x16 and 1 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI**



## Features

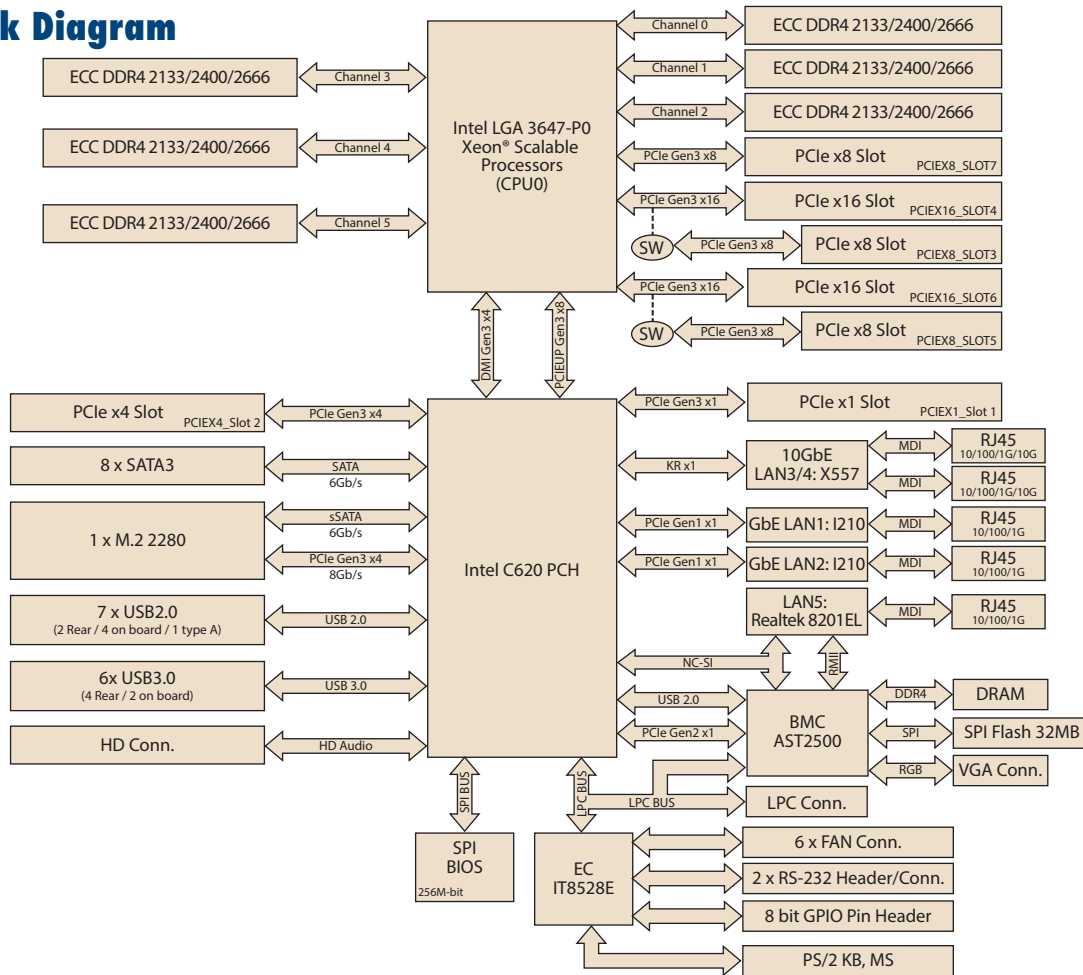
- ATX Server Board with Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 192 GB (6 DIMMs)
- Five PCIe x8 or two PCIe x16 and 1 PCIe x8
- Intel® X557-AT2 dual 10GbE ports
- Eight SATA3 and one M.2 connectors (SATA / PCIe compatible)
- 0 ~ 60 °C ambient operation temperature range

CE FCC

## Specifications

Form Factor	ATX form factor	
Processor System	Socket	Intel LGA 3647-PO
	CPU type	Intel Xeon Scalable processors (CPU cooler should be purchased separately and TDP up to 205W)
Core Logic	Chipset Intel C620 chipset	
Memory	Total slots	6 (1 DIMM per channel)
	Capacity	Maximum 192 GB ECC RDIMM
	Memory type	DDR4 ECC-REG 2133/2400 /2666 MHz DIMM
	Memory size	4 GB, 8 GB, 16 GB, 32 GB
Expansion Slots	Total PCI/PCI-X/PCIe slots	7
	Slot location 1	PCIe x1 slot (x1 link), signal from PCH
	Slot location 2	PCIe x4 slot (x4 link), signal from PCH
	Slot location 3	PCIe x8 slot (0 or x8 link), signal from CPU
	Slot location 4	PCIe x16 slot (x8 or x16 link), signal from CPU
	Slot location 5	PCIe x8 slot (0 or x8 link), signal from CPU
	Slot location 6	PCIe x16 slot (x8 or x16 link), signal from CPU
Graphics	VGA	Aspeed AST 2500/2510
	IDE controller	-
Storage	SATA controller	Intel C620: 8 x SATA3 + 1 x M.2 6 Gb/s ports Intel Rapid Storage Technology (for Windows only) (SATA0-SATA7 supports software RAID 0, 1, 10 & 5)
	SAS controller	-
Networking	GbE/10GbE LAN 2 x Intel I210AT / Intel X557-AT2 (dual 10GbE ports)	
Onboard I/O Connectors	Floppy connector	-
	PSU connector	24-pin SSI power connector + 1 x 8-pin SSI 12 V power connector + 4-pin SSI 12 V power connector
	USB connector	4 x USB2.0 ports (two onboard headers) + 2 x USB3.0 ports (one onboard header) + 1 x Type-A USB2.0 port
	Fan header	6 x 4-pin (5 for system + 1 for CPU)
	SMBus	1
	Chassis intruder	1
	Front LAN LED	1
	Audio Header	1
	PS/2 KB/Mouse	1
	Serial port header	1
Rear I/O Connectors	External serial port	1
	External USB port	4 (USB3.0) + 2 USB (2.0)
	VGA port	1
	RJ-45	5 (1 port dedicated for IPMI function)
	PS/2 KB/mouse	-
	Infiniband	-
Management Solution	Software	-
	Out of band remote management	Yes (ASMB-815I & ASMB-815T2 SKUs)
Monitoring	CPU temperature	Yes
	System Monitoring	Yes
Watchdog Timer	Output	System reset
	Interval	Programmable 1 ~ 255 sec/min
Power Requirement	Power On	3.3V 5V 12V 5Vsb -12V 12V_8P
	(205W CPU@2.5GHz DDR4 2400 4G*6)	2.77127A 7.00549A 0.57829A 0.132880A 0.063951A 17.5801A
Environment	Operating	Non-operating
	Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution -40 ~ 85 °C
	Humidity	10% ~ 95% 10% ~ 95% (Non condensing)
Physical Characteristics	Dimension (L x H) 304.8 x 244 mm (12" x 9.6")	

**Block Diagram**



**Ordering Information**

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	VGA Chip
ASMB-815-00A1E	C621	DDR4 RDIMM	2/-	-	AST 2510
ASMB-815I-00A1E	C621	DDR4 RDIMM	2/-	Yes	AST 2500
ASMB-815T2-00A1E	C622	DDR4 RDIMM	2/2	Yes	AST 2500

**Packing List**

Part Number	Description	Quantity
2066815I00	Driver CD	x 1
2006815I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1930007120-01	Screw for M.2 device	x 2
1960076488T000	I/O shield	x 1

**Optional Accessories**

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960081603N001	LGA-3647 narrow CPU cooler for 2U/4U chassis
1960081155N001	LGA-3647 narrow CPU cooler for 1U chassis
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
1701090401	COM port cable (40 cm) with bracket
1700019268-11	PS/2 port cable (35 cm)
1960063434N000	Cable bracket for 1700019268-11
1960082347T000	For 1U chassis IO shield

**I/O View**



ASMB-815T2-00A1E



ASMB-815I-00A1E

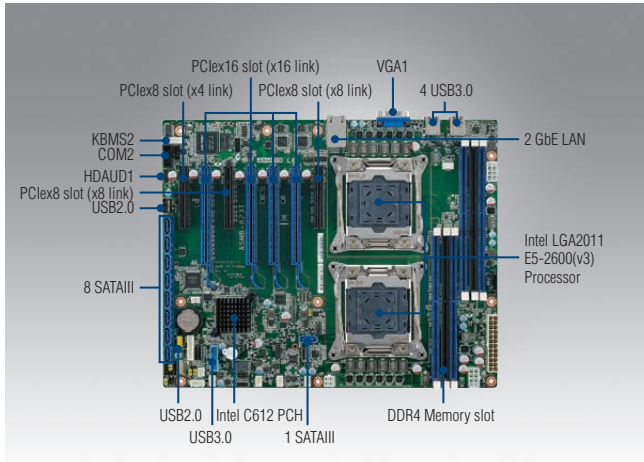


ASMB-815-00A1E

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
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- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ASMB-823

**Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 ATX Server Board with 6 DDR4, 4 PCIe x16, 6 USB 3.0, SATA3, Dual LAN, IPMI**



## Features

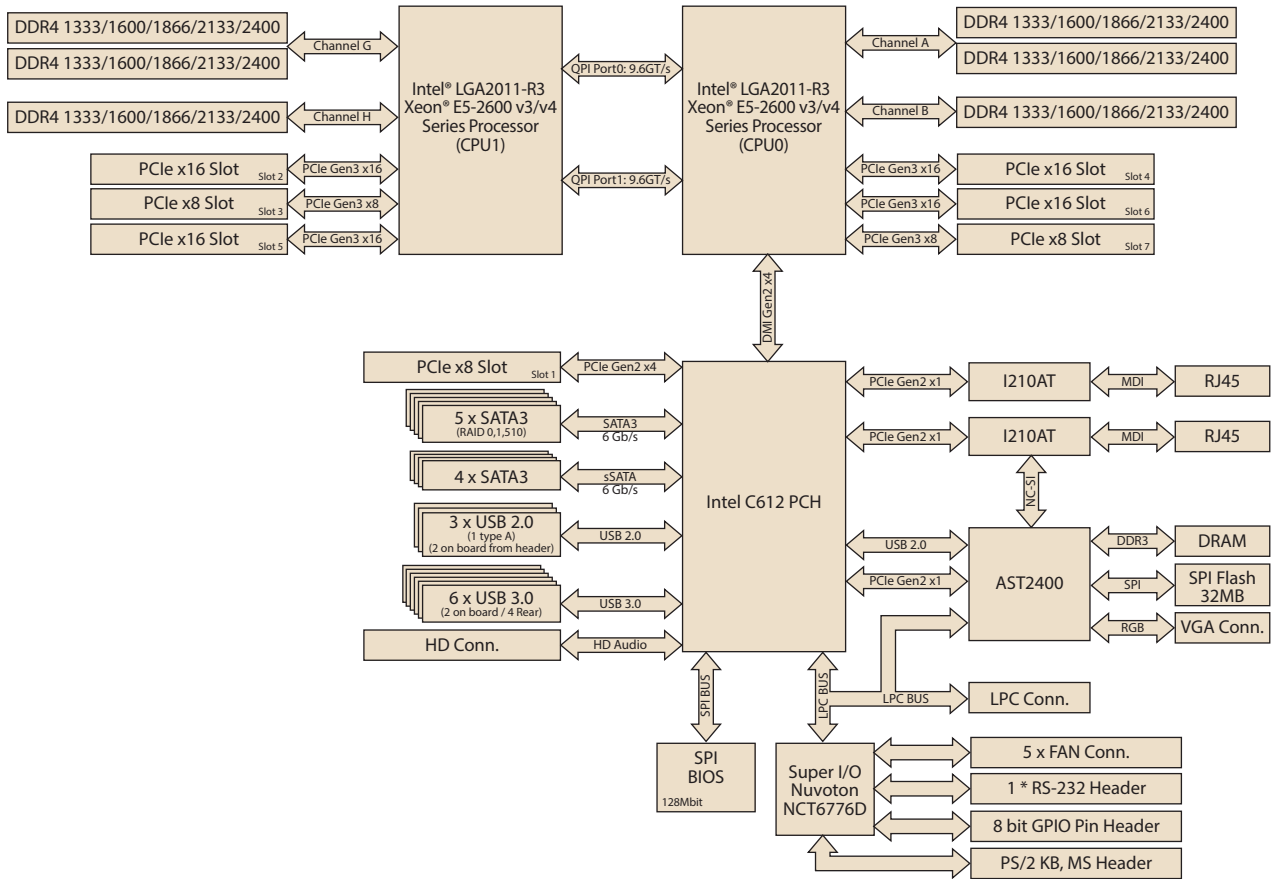
- ATX Server Board with dual Xeon® E5-2600 v3/v4 processors
- DDR4 2400 MHz RDIMM up to 192 GB
- Four PCIe x16 slots (Gen3), two PCIe x8 (Gen3) and one PCIe x4 (Gen2) slots
- Nine SATA3 ports and six USB 3.0 ports
- 0 ~ 40 °C ambient operation temperature range



## Specifications

Form Factor	ATX form factor					
Processor System	Socket	Intel LGA 2011-R3				
	CPU type	Intel® Xeon® E5-2600 v3/v4 dual processor (CPU cooler should be purchased separately and TDP up to 160W) Intel® Xeon® E5-1600 v3/v4 Series (1S conditional support, please contact to Advantech application engineer)				
Core Logic	Chipset	Intel C612 chipset				
	Total slots	6 (Quad Channel)				
Memory	Capacity	Maximum 192 GB ECC RDIMM				
	Memory type	DDR4 ECC-REG 2400/2133/1866/1600/1333 MHz DIMM				
	Memory size	1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB				
Expansion Slots	Total PCI/PCI-X/PCIe slots	7				
	Slot location 1	PCIe x8 slot (x4 link), signal from PCH				
	Slot location 2	PCIe x16 slot (x16 link), signal from CPU1				
	Slot location 3	PCIe x8 slot (x8 link), signal from CPU1				
	Slot location 4	PCIe x16 slot (x16 link), signal from CPU0				
	Slot location 5	PCIe x16 slot (x16 link), signal from CPU1				
	Slot location 6	PCIe x16 slot (x16 link), signal from CPU0				
	Slot location 7	PCIe x8 slot (x8 link), signal from CPU0				
Graphics	VGA	Aspeed AST2400/1400 64 MB				
	IDE controller	-				
	Storage	SATA controller	Intel C610: 9 SATA3 6 Gb/s ports Intel Rapid Storage Technology (for Windows only)			(SATA0-SATA4 supports software RAID 0, 1, 10 & 5)
SAS controller		-				
Networking	GbE LAN	2 x Intel I210AT				
Onboard I/O Connectors	Floppy connector	-				
	PSU connector	24-pin SSI power connector + 2 x 8-pin SSI 12 V power connector + 4-pin SSI 12 V power connector				
	USB connector	2 x USB2.0 ports (in one header) + 2 x USB3.0 ports (in one header) + 1*Type-A USB2.0 ports				
	Fan header	5 x 4-pin (2 for CPU + 3 for SYS)				
	SMBus	1				
	Chassis intruder	1				
	Front LAN LED	2				
	Audio Header	1				
	Serial port header	1				
	Rear I/O Connectors	External serial port	-			
External USB port		4 (USB 3.0)				
VGA port		1				
RJ-45		2 (one sharing IPMI function)				
PS/2 KB/mouse		1 (by onboard connector)				
Management Solution	Infiniband	-				
	Software	-				
Monitoring	Out of band remote management	Yes				
	CPU temperature	Yes				
Watchdog Timer	System Monitoring	Yes				
	Output	System reset				
Power Requirement	Interval	Programmable 1 ~ 255 sec/min				
	Power On	3.3V	5V	12V	5Vsb	-12V
Environment		1.67A	0.85A	18.11A	0.05A	0.004A
	Temperature	Operating			Non-operating	
Physical Characteristics	Humidity	0 ~ 40 °C, depends on CPU speed and cooler solution			-40 ~ 85 °C	
	Dimension (L x H)	10% ~ 90%			10% ~ 95% (Non condensing)	
		304.8 x 244 mm (12" x 9.6")				

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-823-00A1E	C612	DDR4 RDIMM	2	-	AST 1400
ASMB-823I-00A1E	C612	DDR4 RDIMM	2	Yes	AST 2400

### Packing List

Part Number	Description	Quantity
2066823I01	Driver CD	x 1
2006823I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
192000077T000	I/O shield	x 1

### I/O View



ASMB-823I-00A1E  
ASMB-823-00A1E

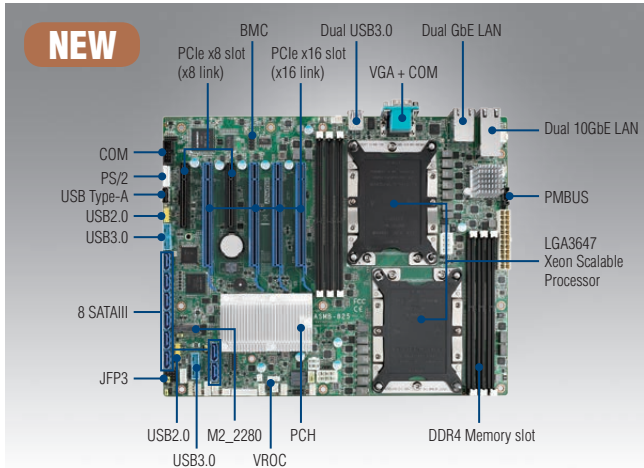
### Optional Accessories

Part Number	Description
PCA-AUDIO-HDA1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960057226N001	LGA2011 square CPU heatsink for 1U chassis (95W)
1960055362N001	LGA2011 square CPU cooler for 2U/4U chassis (145W)
1960065684N001	LGA2011 square CPU cooler for 4U chassis (160W)*
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
1701090401	COM port cable (40 cm) with bracket
1700019268-11	PS/2 cable (35 cm)
1960063434N000	Cable bracket for 1700019268-11
1920000806T000	1U chassis IO shield
1700019127	FAN connector extended cable 1*4P-2.54/1*4P-2.54 35cm
PCA-COM232-00A1E	4 ports RS-232 module connect to LPC connector
PCA-COM485-00A1E	4 ports RS-422/485 module connect to LPC connector
968EMLSAP2	SUSIAccess Pro 3.0

Note : Purchasing ASMB-823's proprietary CPU cooler from Advantech is a must. The 160W cooler for 4U chassis has option of CPUFAN1 cable 1700019127 when length is an issue.

# ASMB-825

**Dual LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 4 PCIe x16 + 2 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI**



CE FCC

## Features

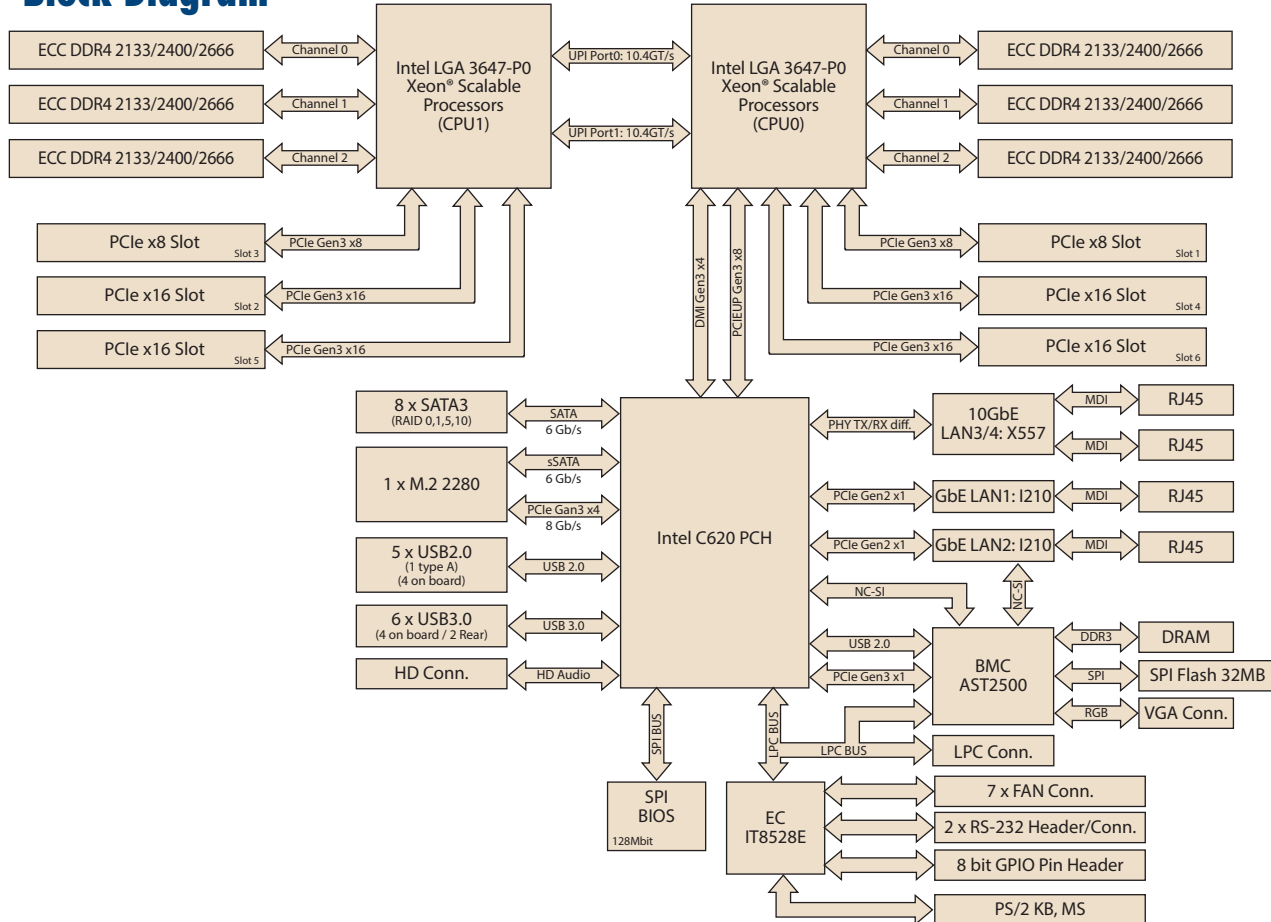
- ATX Server Board with dual Xeon Scalable processors
- DDR4 2666 MHz RDIMM up to 192 GB (6 DIMMs)
- Four PCIe x16 slots (Gen3) and two PCIe x8 (Gen3)
- Intel® X557-AT2 dual 10GbE ports
- Eight SATA3 and one M.2 connectors (SATA / PCIe compatible)
- 0 ~ 40 °C ambient operation temperature range

## Specifications

Form Factor	ATX form factor	
Processor System	Socket	Intel LGA 3647-P0
	CPU type	Intel Xeon Scalable dual processors (CPU cooler should be purchased separately and TDP up to 150W)
Core Logic	Chipset	Intel C620 chipset
Memory	Total slots	6 (1 DIMM per channel)
	Capacity	Maximum 192 GB ECC RDIMM
	Memory type	DDR4 ECC-REG 2133/2400/2666 MHz DIMM
	Memory size	4 GB, 8 GB, 16 GB, 32 GB
Expansion Slots	Total PCI/PCI-X/PCIe slots	6
	Slot location 1	PCIe x8 slot (x8 link), signal from CPU0
	Slot location 2	PCIe x16 slot (x16 link), signal from CPU1
	Slot location 3	PCIe x8 slot (x8 link), signal from CPU1
	Slot location 4	PCIe x16 slot (x16 link), signal from CPU0
	Slot location 5	PCIe x16 slot (x16 link), signal from CPU1
Graphics	VGA	Aspeed AST 2500/2510
	IDE controller	-
Storage	SATA controller	Intel C620: 8 x SATA3 + 1 x M.2 6 Gb/s ports Intel Rapid Storage Technology (for Windows only) (SATA0-SATA7 supports software RAID 0, 1, 10 & 5)
	SAS controller	-
Networking	GbE/10GbE LAN	2 x Intel I210AT / Intel X557-AT2 (dual 10GbE ports)
Onboard I/O Connectors	Floppy connector	-
	PSU connector	24-pin SSI power connector + 2 x 8-pin SSI 12 V power connector + 4-pin SSI 12 V power connector
	USB connector	4 x USB2.0 ports (two onboard headers) + 4 x USB3.0 ports (two onboard headers) + 1 x Type-A USB2.0 port
	Fan header	7 x 4-pin (5 for system + 2 for CPU)
	SMBus	1
	Chassis intruder	1
	Front LAN LED	1
	Audio Header	1
	PS/2 KB/Mouse	1
	Serial port header	1
Rear I/O Connectors	External serial port	1
	External USB port	2 (USB3.0)
	VGA port	1
	RJ-45	4 (LAN2 sharing with IPMI function)
	PS/2 KB/mouse	-
	Infiniband	-
Management Solution	Software	-
	Out of band remote management	Yes (ASMB-8251 & ASMB-8252 SKUs)
Monitoring	CPU temperature	Yes
	System Monitoring	Yes
Watchdog Timer	Output	System reset
	Interval	Programmable 1 ~ 255 sec/min
Power Requirement	Power On	3.3V      5V      12V      5Vsb      -12V      12V_8P_0      12V_8P_1
	(150W CPU@2.6GHz DDR4 2400 8G*6)	1.32966A      4.31024A      0.68597A      0.25408A      0.056846A      21.5989A      17.5921A
Environment	Operating	Non-operating
	Temperature	0 ~ 40 °C, depends on CPU speed and cooler solution -40 ~ 85 °C
Physical Characteristics	Humidity	10% ~ 95%      10% ~ 95% (Non condensing)
	Dimension (L x H)	304.8 x 244 mm (12" x 9.6")



### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	VGA Chip
ASMB-825-00A1E	C621	DDR4 RDIMM	2/-	-	AST 2510
ASMB-825I-00A1E	C621	DDR4 RDIMM	2/-	Yes	AST 2500
ASMB-825T2-00A1E	C622	DDR4 RDIMM	2/2	Yes	AST 2500

### Packing List

Part Number	Description	Quantity
2066825I00	Driver CD	x 1
2006825I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1930007120-01	Screw for M.2 device	x 2
1960076489T000	I/O shield	x 1

### Optional Accessories

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960081603N001	LGA-3647 narrow CPU cooler for 2U/4U chassis
1960081155N001	LGA-3647 narrow CPU cooler for 1U chassis
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
1701090401	COM port cable (40 cm) with bracket
1700019268-11	PS/2 port cable (35 cm)
1960063434N000	Cable bracket for 1700019268-11
1960082348T000	For 1U chassis IO shield

### I/O View



ASMB-825T2-00A1E

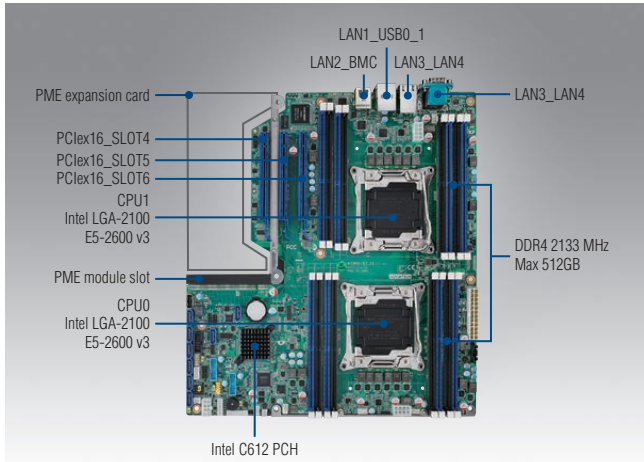


ASMB-825-00A1E  
ASMB-825I-00A1E

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ASMB-913

**Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 EATX Server Board with 16 DDR4 DIMM, 3 PCIe x16, 6 USB 3.0, PME support, IPMI**



## Features

- EATX Server Board with dual Xeon® E5-2600 v3/v4 processor
- 16 x DDR4 2400 MHz RDIMM up to 512 GB
- Three PCIe x16 slot (Gen3.0) and PME expansion slot
- PME expansion cards supporting list is in page 9-32
- 0 ~ 40 °C ambient operation temperature range

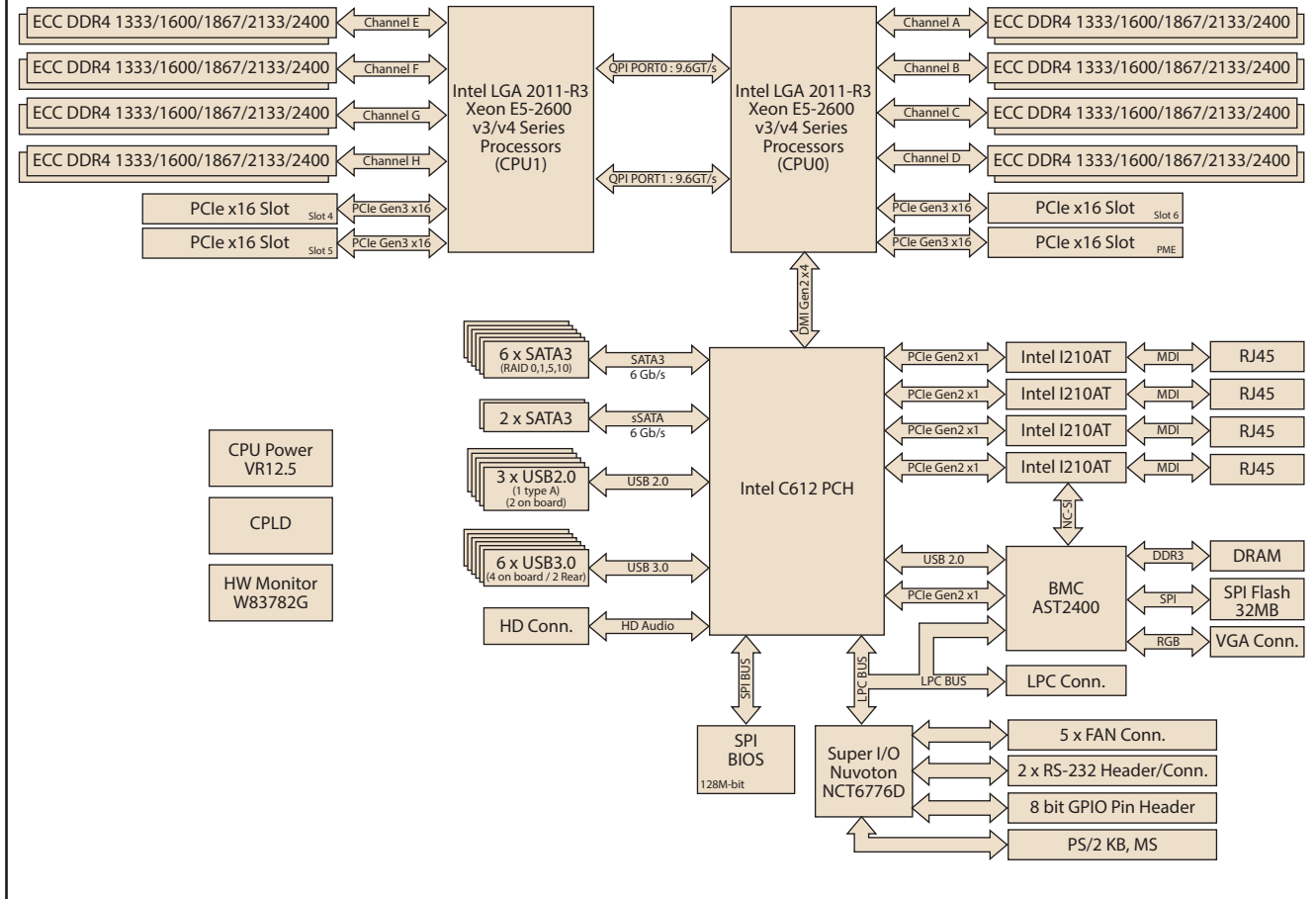
Note: ASMB-913I could enable PME slot when processor is installed in CPU0 socket.



## Specifications

Form Factor		Extended ATX form factor				
Processor System	Socket	Intel LGA 2011-R3				
	CPU type	Intel® Xeon® E5-2600 v3/v4 dual processor (CPU cooler should be purchased separately and TDP up to 160W) Intel® Xeon® E5-1600 v3/v4 Series (1S conditional support, please contact to Advantech application engineer)				
Core Logic	Chipset	Intel C612 chipset				
Memory	Total slots	16 (Quad Channel)				
	Capacity	Maximum 512 GB ECC RDIMM				
	Memory type	DDR4 ECC-REG 2400/2133/1866/1600 MHz DIMM				
	Memory size	4 GB, 8 GB, 16 GB, 32 GB				
Expansion Slots	Total PCI/PCI-X/PCIe slots	6				
	Slot location 1	Fit to PME daughter board				
	Slot location 2	Fit to PME daughter board				
	Slot location 3	Fit to PME daughter board				
	Slot location 4	1 x PCIe x16 slot (x16 link), signal from CPU1				
	Slot location 5	1 x PCIe x16 slot (x16 link), signal from CPU1				
	Slot location 6	1 x PCIe x16 slot (x16 link), signal from CPU0				
Graphics	VGA	Aspeed AST2400/1400 64 MB				
	IDE controller	-				
Storage	SATA controller	Intel C612: 8 SATA3 6 Gb/s ports Intel Rapid Storage Technology (for Windows only) (SATA0-SATA5 and sSATA0-sSATA1 Supports software RAID 0, 1, 10 & 5)				
	SAS controller	-				
Networking	GbE LAN	4 x Intel I210AT				
Onboard I/O Connectors	Floppy connector	-				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12 V power connector + 8-pin SSI 12 V power connector				
	USB connector	2 (supports 4 USB port), 1* Type-A , 2* USB3.0 20pin header (supports 4*USB 3.0 port)				
	Fan header	5 x 4-pin				
	SMBus	1				
	Chassis intruder	1				
	Front LAN LED	2				
	Audio Header	1				
	Serial port header	1				
	Rear I/O Connectors	External serial port	1			
External USB port		4 (2*USB2.0 + 2*USB3.0)				
VGA port		1				
RJ-45		4 (one sharing IPMI function)				
PS/2 KB/mouse		-				
Infiniband		-				
Management Solution		Software	-			
Monitoring	Out of band remote management	Yes (ASMB-913I sku only)				
	CPU temperature	Yes				
Watchdog Timer	System Monitoring	Yes				
	Output	System reset				
Power Requirement	Interval	Programmable 1 ~ 255 sec/min				
	Power On	3.3V	5V	12V	5Vsb	-12V
		1.4A	0.5A	23.2A	0.09A	0.05A
	Environment	Operating	Non-operating			
		Temperature	0 ~ 40 °C, depends on CPU speed and cooler solution			
Physical Characteristics	Humidity	-40 ~ 85 °C				
	Dimension (L x H)	10% ~ 95% (Non condensing)				
		304.8 x 330.2 mm (12" x 13")				

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-913-00A1E	C612	16 x DDR4 RDIMM	2	-	AST 1400
ASMB-9131-00A1E	C612	16 x DDR4 RDIMM	4	Yes	AST 2400

### Packing List

Part Number	Description	Quantity
2061913101	Driver CD	x 1
2001913110	Startup manual	x 1
1700003194	SATA data cables	x 2
1703150102	SATA power cables	x 2
1700019748	CPU power cable(8P)	x 2
19Z0000995T000	I/O shield	x 1

### Optional Accessories

Part Number	Description
ASMB-FF3P8-12A1E	PME card with 1 PCIe x8 slot and 1 PCIe x4 slot and 1 PCI slot
ASMB-FF3PX-12A1E	PME card with 2 PCI-X and 1 PCI slots
ASMB-FF20F-02A1E	PME card with 2 PCIe x16 slots
ASMB-FF208-02A1E	PME card with 2 PCIe x 8 slots
PCA-AUDIO-HDA1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960057226N001	LGA-2011 CPU heatsink for 1U chassis (95W)
1960055362N001	LGA-2011 square CPU cooler for 2U/4U chassis (145W)
1960065684N001	LGA-2011 square CPU cooler for 4U chassis (160W)
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1701090401	COM port cable with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
19Z0001086N000	1U chassis IO shield
968EMLSAP2	SUSIAccess Pro 3.0

### I/O View



ASMB-913-00A1E

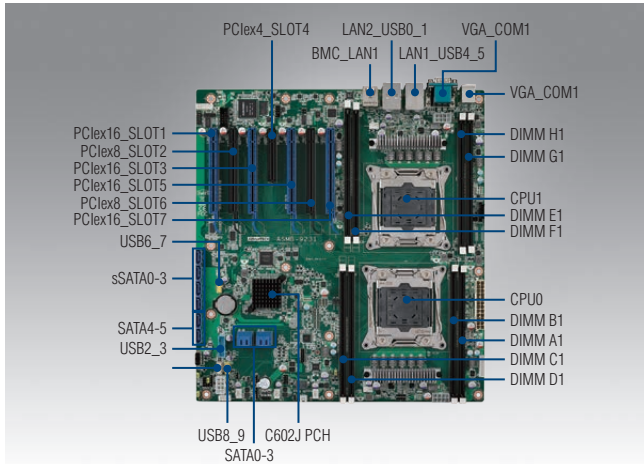


ASMB-9131-00A1E

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ASMB-923

**Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 EATX Server Board with 8 DDR4, 4 PCIe x16+ 2 PCIe x8, 4 USB 3.0, IPMI**



## Features

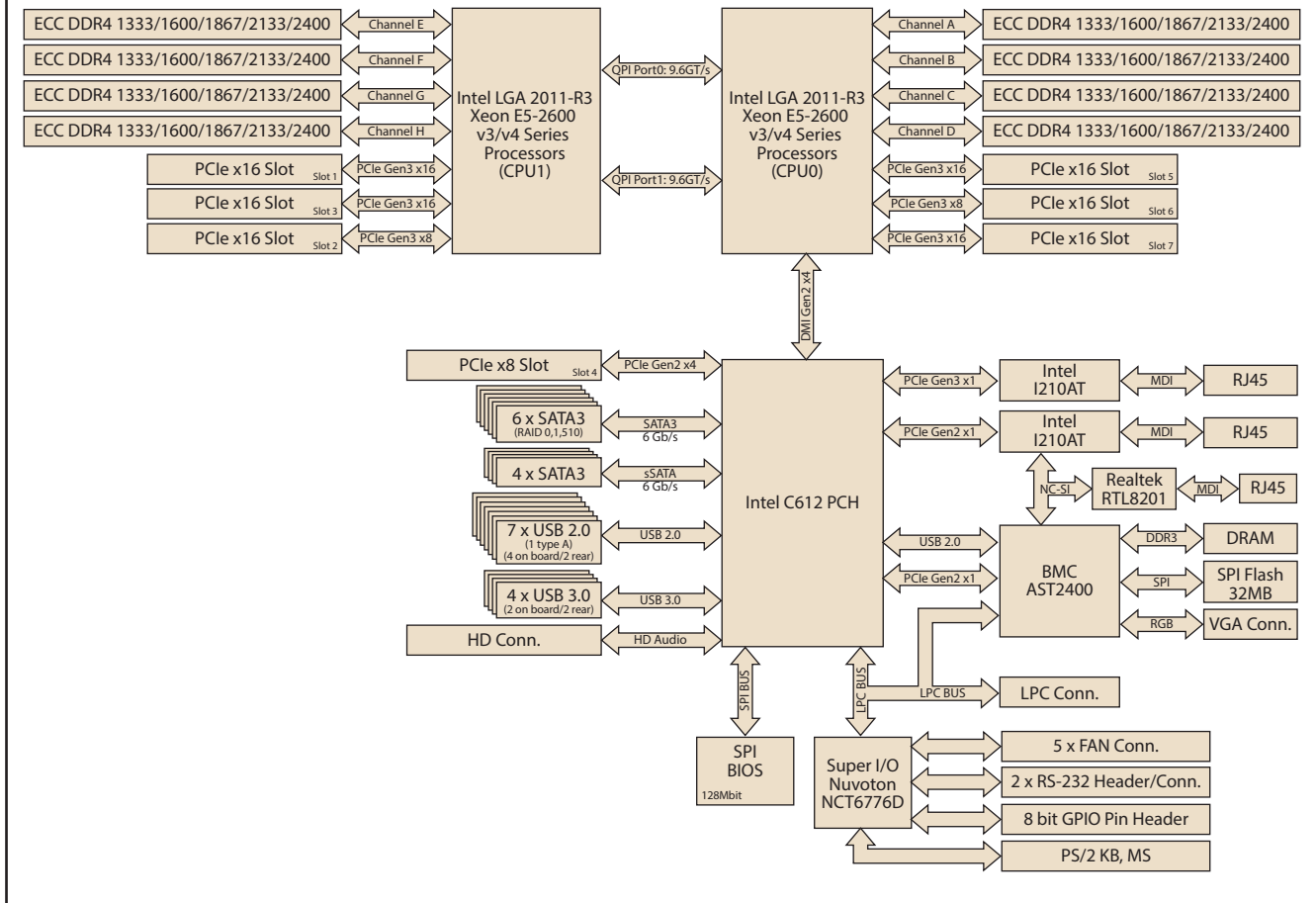
- EATX Server Board with dual Xeon® E5-2600 v3/v4 processor, 8 DIMMs 256 GB memory capacity
- DDR4 2400 MHz RDIMM up to 256 GB
- Four PCIe x16 slots (Gen3) + two PCIe x8 slots (Gen3.0) and one PCIe x4 (Gen2.0)
- 0 ~ 40 °C ambient operation temperature range



## Specifications

Form Factor		Extended ATX form factor				
Processor System	Socket	Intel LGA 2011-R3				
	CPU type	Intel® Xeon® E5-2600 v3/v4 dual processor (CPU cooler should be purchased separately and TDP up to 160W) Intel® Xeon® E5-1600 v3/v4 Series (1S conditional support, please contact to Advantech application engineer)				
Core Logic	Chipset	Intel C612 chipset				
	Total slots	8 (Quad Channel)				
Memory	Capacity	Maximum 256 GB ECC RDIMM				
	Memory type	DDR4 ECC-REG 2400/2133/1866/1600/1333 MHz DIMM				
	Memory size	1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB				
Expansion Slots	Total PCI/PCI-X/PCIe slots	7				
	Slot location 1	PCIe x16 slot (x16 link), signal from CPU1				
	Slot location 2	PCIe x16 slot (x8 link), signal from CPU1				
	Slot location 3	PCIe x16 slot (x16 link), signal from CPU1				
	Slot location 4	PCIe x8 slot (x4 link), signal from PCH				
	Slot location 5	PCIe x16 slot (x16 link), signal from CPU0				
	Slot location 6	PCIe x16 slot (x8 link), signal from CPU0				
Graphics	VGA	Aspeed AST2400/1400 64 MB				
	IDE controller	-				
Storage	SATA controller	Intel C610: 10 SATA3 6 Gb/s ports Intel Rapid Storage Technology (for Windows only) (SATA0-SATA5 and sSATA0-sSATA3 Supports software RAID 0, 1, 10 & 5)				
	SAS controller	-				
Networking	GbE LAN	2 x Intel I210AT				
Onboard I/O Connectors	Floppy connector	-				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12 V power connector + 8-pin SSI 12 V power connector				
	USB connector	2 (supports 4 USB port), 1* Type-A , 1* USB3.0 20pin header (supports 2*USB 3.0 port)				
	Fan header	5 x 4-pin				
	SMBus	1				
	Chassis intruder	1				
	Front LAN LED	2				
	Audio Header	1				
	Serial port header	1				
	Rear I/O Connectors	External serial port	1			
External USB port		4 (2*USB2.0 + 2*USB3.0)				
VGA port		1				
RJ-45		3 (1 port dedicated for IPMI function)				
PS/2 KB/mouse		1				
Infiniband		-				
Management Solution	Software	-				
	Out of band remote management	Yes (ASMB-923I sku only)				
Monitoring	CPU temperature	Yes				
	System Monitoring	Yes				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Power Requirement	Power On	3.3V	5V	12V	5Vsb	-12V
		1.69A	1.00A	17.42A	0.05A	0.01A
Environment		Operating			Non-operating	
		Temperature			-40 ~ 85 °C	
		Humidity			10% ~ 95% (Non condensing)	
Physical Characteristics	Dimension (L x H)	304.8 x 330.2 mm (12" x 13")				

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-923-00A1E	C612	DDR4 RDIMM	2	-	AST 1400
ASMB-923I-00A1E	C612	DDR4 RDIMM	2	Yes	AST 2400

### Packing List

Part Number	Description	Quantity
2066923I01	Driver CD	x 1
2006923I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1703150102	SATA power cables	x 2
1700019748	CPU power cable(8P)	x 2
1960052312T010	I/O shield	x 1

### Optional Accessories

Part Number	Description
PCA-AUDIO-HDA1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960057226N001	LGA-2011 square CPU heatsink for 1U chassis (95W)
1960055362N001	LGA-2011 square CPU cooler for 2U/4U chassis (145W)
1960065684N001	LGA-2011 square CPU cooler for 4U chassis (160W)
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1701090401	COM port cable with bracket
1920000406T000	1U chassis IO shield
968EMLSAP2	SUSIAccess Pro 3.0

### I/O View



ASMB-923-00A1E

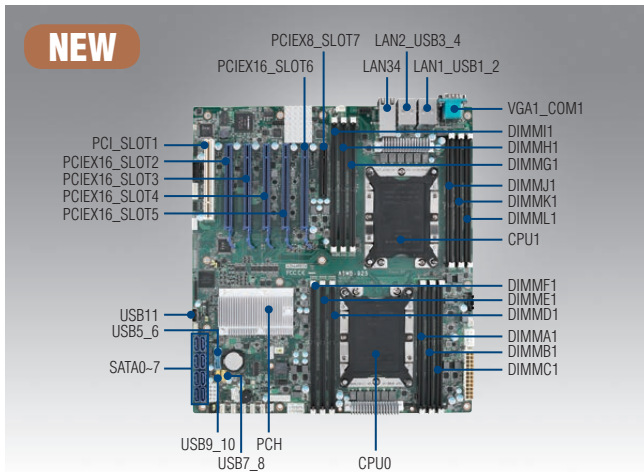


ASMB-923I-00A1E

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ASMB-925

**Dual LGA3647-PO Intel® Xeon® Scalable EATX Server Board with 12 DDR4, 5 PCIe x16 + 1 PCIe x8 + 1 PCI, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI**



CE FCC

## Features

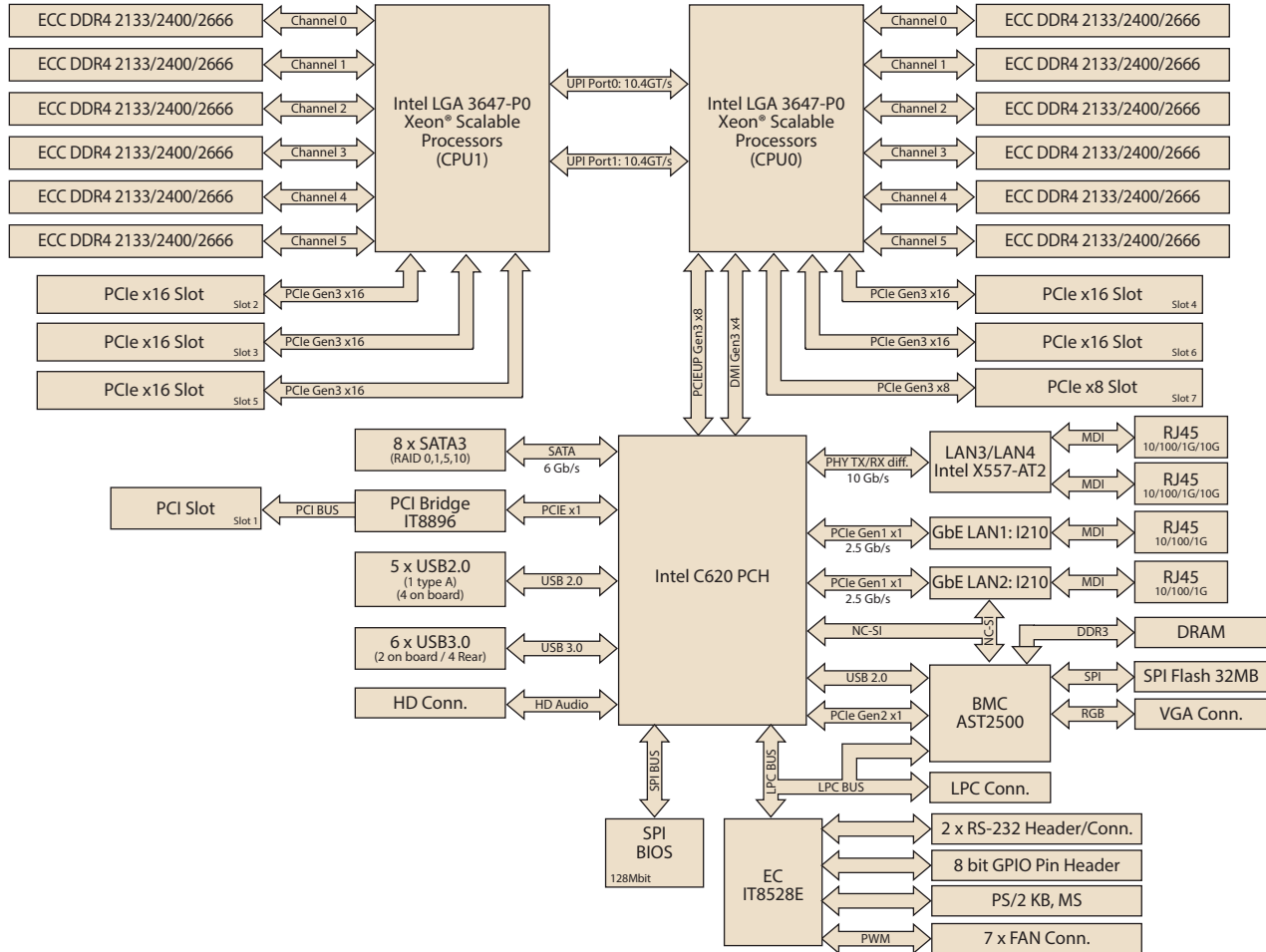
- EATX Server Board with dual Xeon Scalable processors
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- Five PCIe x16 (Gen3), one PCIe x8 (Gen3), and one PCI slots
- Intel® X557-AT2 dual 10GbE ports
- Eight SATA3 and six USB3.0 ports
- 0 ~ 40 °C ambient operation temperature range

## Specifications

Form Factor	EATX form factor	
Processor System	Socket	Intel LGA3647-PO
	CPU type	Intel Xeon Scalable dual processors (CPU cooler should be purchased separately and TDP up to 205W)
Core Logic	Chipset	Intel C620 chipset
Memory	Total slots	12 (1 DIMM per channel)
	Capacity	Maximum 384 GB ECC RDIMM
	Memory type	DDR4 ECC-REG 1866/2133/2400 /2666 MHz DIMM
	Memory size	4 GB, 8 GB, 16 GB, 32 GB
Expansion Slots	Total PCI/PCI-X/PCIe slots	7
	Slot location 1	PCI, signal from PCH
	Slot location 2	PCIe x16 slot (x16 link), signal from CPU1
	Slot location 3	PCIe x16 slot (x16 link), signal from CPU1
	Slot location 4	PCIe x16 slot (x16 link), signal from CPU0
	Slot location 5	PCIe x16 slot (x16 link), signal from CPU1
	Slot location 6	PCIe x16 slot (x16 link), signal from CPU0
Graphics	VGA	ASPEED AST2500/2510
	IDE controller	-
Storage	SATA controller	Intel C620: 8 x SATA3 / 6 Gb/s ports Intel Rapid Storage Technology (for Windows only) (SATA0-SATA7 supports software RAID 0, 1, 10 & 5)
	SAS controller	-
Networking	GbE/10GbE LAN	2 x Intel I210AT / Intel X557-AT2 (dual 10GbE ports for ASMB-925T2 sku only)
Onboard I/O Connectors	Floppy connector	-
	PSU connector	24-pin SSI power connector + 3 x 8-pin SSI 12 V power connector
	USB connector	4 x USB2.0 ports (two onboard headers) + 2 x USB3.0 ports (one onboard headers) + 1 x Type-A USB2.0 port
	Fan header	7 x 4pin (5 for system + 2 for CPU)
	SMBus	1
	Chassis intruder	1
	Front LAN LED	1
	Audio Header	1
	PS/2 KB/Mouse	1
Serial port header	1	
Rear I/O Connectors	External serial port	1
	External USB port	4 (USB3.0)
	VGA port	1
	RJ-45	4 (LAN2 sharing with IPMI function)
	PS/2 KB/mouse	-
	Infiniband	-
Management Solution	Software	-
	Out of band remote management	Yes (ASMB-925/ASMB-925T2 sku only)
Monitoring	CPU temperature	Yes
	System Monitoring	Yes
Watchdog Timer	Output	System reset
	Interval	Programmable 1 ~ 255 sec/min
Power Requirement	Power On	3.3V      5V      12V      5Vsb      -12V      12V_8P_0      12V_8P_1
	(205W CPU@2.5GHz DDR4 2400 4G*12)	1.51A    5.19A    0A      0.05A    0A      20.58A    20.08A
Environment	Operating	Non-operating
	Temperature	0 ~ 40 °C, depends on CPU speed and cooler solution
	Humidity	10% ~ 95%
Physical Characteristics	Dimension (L x H)	304.8 x 330.2 mm (12" x 13")



### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	VGA Chip
ASMB-925-00A1	C621	DDR4 RDIMM	2/-	-	AST2510
ASMB-925I-00A1	C621	DDR4 RDIMM	2/-	Yes	AST2500
ASMB-925T2-00A1	C622	DDR4 RDIMM	2/2	Yes	AST2500

### Packing List

Part Number	Description	Quantity
2061092500	Driver CD	x 1
2001092500	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1960076488T000	I/O shield	x 1

### Optional Accessories

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
PCA-TPM-00A1E	TPM1.2 Module
PCA-TPM-00B1E	TPM2.0 Module
1960081603N001	LGA-3647 narrow CPU cooler for 2U/4U chassis
1960081155N001	LGA-3647 narrow CPU cooler for 1U chassis
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
1701090401	COM port cable with bracket
1960082347T000	For 1U chassis IO shield

### I/O View



ASMB-925T2-00A1



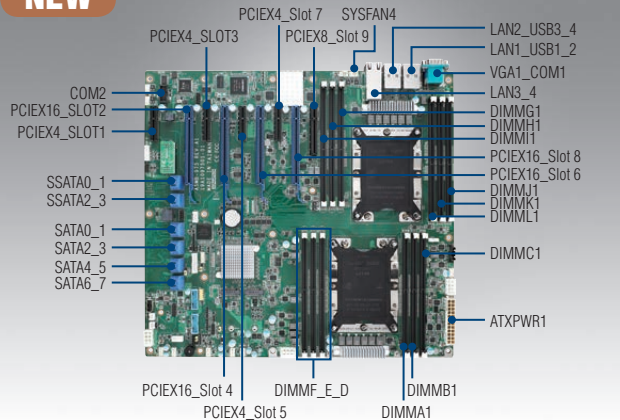
ASMB-925-00A1/  
ASMB-925I-00A1

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# ASMB-975

**Dual LGA 3647-P0 Intel® Xeon® Scalable Proprietary Server Board with 12 DDR4, 4 PCIe x16 + 1 PCIe x8+4 PCIe x4, 14 SATA3, 8 USB3.0, Dual 10GbE, IPMI**

**NEW**



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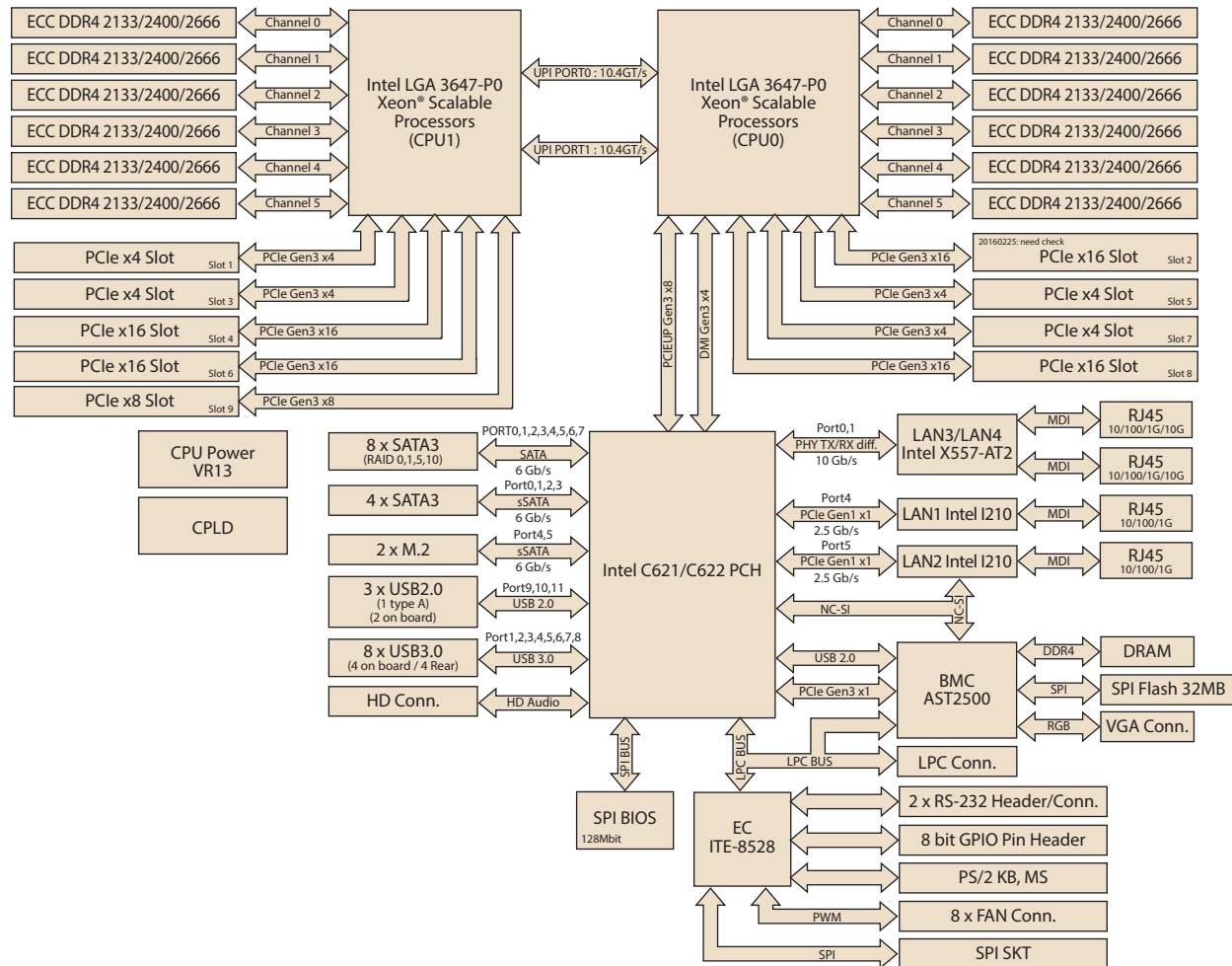
## Features

- Proprietary Server Board with dual Xeon Scalable
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- 14 SATA3 connectors (including 2 SATA M.2)
- Four PCIe x16 slots (Gen3) for double-deck cards
- Intel® X557-AT2 dual 10GbE ports
- 0 ~ 40 °C ambient operation temperature range

## Specifications

Form Factor	Proprietary (14.1" x 13")	
Processor System	Socket	Intel LGA 3647-P0
	CPU type	Intel Xeon Scalable dual processors (CPU cooler should be purchased separately and TDP up to 205W)
Core Logic	Chipset	Intel C620 chipset
Memory	Total slots	12 (1 DIMM per channel)
	Capacity	Maximum 384 GB ECC RDIMM
	Memory type	DDR4 ECC-REG 2133/2400 /2666 MHz DIMM
	Memory size	4 GB, 8 GB, 16 GB, 32 GB
Expansion Slots	Total PCIe slots	9
	Slot location 1	PCIe x4 slot (x4 link), signal from CPU1
	Slot location 2	PCIe x16 slot (x16 link), signal from CPU0
	Slot location 3	PCIe x4 slot (x4 link), signal from CPU1
	Slot location 4	PCIe x16 slot (x16 link), signal from CPU1
	Slot location 5	PCIe x4 slot (x4 link), signal from CPU0
	Slot location 6	PCIe x16 slot (x16 link), signal from CPU1
	Slot location 7	PCIe x4 slot (x4 link), signal from CPU0
	Slot location 8	PCIe x16 slot (x16 link), signal from CPU0
Slot location 9	PCIe x8 slot (x8 link), signal from CPU1	
Graphics	VGA	Aspeed AST 2500/2510
Storage	IDE controller	-
	SATA controller	Intel C620: 12 x SATA3 + 2 x M.2 6 Gb/s ports Intel Rapid Storage Technology (for Windows only)
	SAS controller	-
Networking	GbE/10GbE LAN	2 x Intel I210AT / Intel X557-AT2 (dual 10GbE ports)
Onboard I/O Connectors	Floppy connector	-
	PSU connector	24-pin SSI power connector + 2 x 8-pin SSI 12 V power connector + 4-pin SSI 12 V power connector
	USB connector	2 x USB2.0 ports (two onboard headers) + 8 x USB3.0 ports (four in rear + two onboard headers) + 1 x Type-A USB2.0 port
	Fan header	8 (6 for system fan + 2 for CPU fan)
	SMBus	1
	Chassis intruder	1
	Front LAN LED	2
	Audio Header	1
	PS/2 KB/Mouse	1
	Serial port header	1
Rear I/O Connectors	External serial port	1
	External USB port	4 (USB3.0)
	VGA port	1
	RJ-45	4 (LAN2 sharing IPMI)
	PS/2 KB/mouse	-
	Infiniband	-
Management Solution	Software	-
	Out of band remote management	Yes
Monitoring	CPU temperature	Yes
	System Monitoring	Yes
Watchdog Timer	Output	System reset
	Interval	Programmable 1 ~ 255 sec/min
Power Requirement	Power On	3.3V 1.37A 5V 6.83A 12V 0.09A 5Vsb 0.14A -12V 0.03A 8P_0 4.4A 8P_1 4.2A
	Operating	Non-operating
Environment	Temperature	0 ~ 40 °C, depends on CPU speed and cooler solution -40 ~ 85 °C
	Humidity	10% ~ 95% 10% ~ 95% (Non condensing)
Physical Characteristics	Dimension (L x H)	358.1 x 330.2 mm (14.1" x 13")

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	VGA Chip
ASMB-975-00A1	C621	DDR4 RDIMM	2/-	-	AST 2510
ASMB-975I-00A1	C621	DDR4 RDIMM	2/-	Yes	AST 2500
ASMB-975T2-00A1	C622	DDR4 RDIMM	2/2	Yes	AST 2500

### Packing List

Part Number	Description	Quantity
2066975I00	Driver CD	x 1
2001097500	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1960076489I000	I/O shield	x 1

### Optional Accessories

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1960081603N001	LGA-3647 narrow CPU cooler for 2U/4U chassis
1960081155N001	LGA-3647 narrow CPU cooler for 1U chassis
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm) with bracket
1701090401	COM port cable with bracket

### I/O View



ASMB-975-00A1  
ASMB-975I-00A1

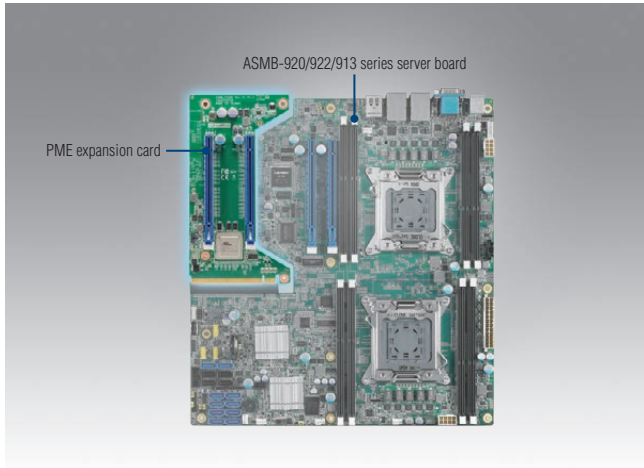


ASMB-975T2-00A1

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# PME Expansion Cards

Various Selections Supporting PCI, PCI-X, PCIe x1/x4/x8/x16



## Features

- Auto-configured by BIOS
- ASMB-920/922/913 series plus PME forms a standard EATX motherboard compatible with EATX chassis
- Multiple options for all demands

Note:

- To enable PME function, processors must be installed in both CPU0 & CPU1 sockets of ASMB-920 series.
- To enable PME function, a processor must be installed in the CPU0 socket of ASMB-922 & 913 series.

## Introduction

Advantech's PME (Powerful Modular Expansion) design allows versatile expansion module options for the ASMB-920/922/913 series motherboards. PME expansion cards are an economical, effective solution for a range of applications, providing function expansion for a range of PCIe modules. In addition to meeting standard industrial specifications, Advantech's PME modules fit just about anywhere. They are easy to assemble and provide a simple upgrade path.

## Specifications

Model Name		ASMB-FF3PX	ASMB-FF20F	ASMB-FF208	ASMB-FF3P8	ASMB-FF404*
Expansion Slots	Total PCI/PCI-X/PCIe slots	3	2	2	3	4
	Slot location E1	-	-	-	-	PCIe x8 (Gen3 x4 link)
	Slot location 1	PCI 33/66 MHz	PCIe x16 (Gen3 x16 link)	PCIe x16 (Gen1 x8 link)	PCI 33/66 MHz	PCIe x8 (Gen3 x4 link)
	Slot location 2	PCI-X 100 MHz	-	-	PCIe x8 (Gen3 x4 link)	PCIe x8 (Gen3 x4 link)
Fit Motherboard	Slot location 3	PCI-X 100 MHz	PCIe x16 (Gen3 x16 link)	PCIe x16 (Gen1 x8 link)	PCIe x8 (Gen3 x8 link)	PCIe x8 (Gen3 x4 link)
		ASMB-920/922/913 series				
Environment	Temperature	Operating System: 0 ~ 40 °C Board: 0 ~ 60 °C			Non-operating -40 ~ 85 °C	
		Humidity	0% ~ 90%			5% ~ 95% (Non condensing)
	Physical Characteristics	Dimension (L x H)	101 x 193 mm (3.9" x 7.5")	101 x 193 mm (3.9" x 7.5")	101 x 193 mm (3.9" x 7.5")	101 x 193 mm (3.9" x 7.5")

## Front View



ASMB-FF3PX-12A1E



ASMB-FF20F-02A1E



ASMB-FF208-02A1E



ASMB-FF3P8-12A1E



ASMB-FF404-04A1E<sup>Note 3</sup>

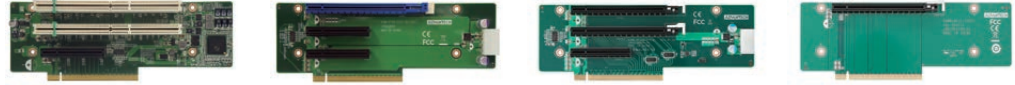
## Ordering Information

Part Number	Description
ASMB-FF3PX-12A1E	PME card with 2 PCI-X and 1 PCI slots
ASMB-FF20F-02A1E	PME card with 2 PCIe x16 slots (x16 link)
ASMB-FF3P8-12A1E	PME card with 1 PCIe x8 slot(x8 link) and 1 PCIe x8 slot(x4 link) and 1 PCI slot
ASMB-FF208-02A1E	PME card with 2 PCIe x16 slots (x8 link)
ASMB-FF404-04A1E	PME card with 4 PCIe x8 slots (x4 link)

Note:

- To enable PME function, a processor must be installed in the CPU0 socket of ASMB-922 & 913 series.
- HPC-7400 & HPC-7483 chassis can support ASMB-922/913 series + ASMB-FF404.

# ASMB Riser Card



## Selection Guide

Model Name		ASMB-RF3X8-21A1E	ASMB-RF348-21A1E	ASMB-RF388-21A1E	ASMB-RF1F-10A1E
Interface		PCIe x16 for slot 6	PCIe x16 for slot 6	PCIe x16 for slot 6	PCIe x16 for slot 6
Expansion Slots	Spec.	2 * PCI-X 64bit 133/100MHz + 1 * PCIe x8	1 * PCIe x8 + 2 * PCIe x4	1 * PCIe x8 + 2 * PCIe x4	1 * PCI x16
	Top Slot	3.3V PCI-X 64bit 133/100MHz	PCIe x16 (x8 link)	PCIe x16 (x8 link)	PCIe x16(x16 link)
	Middle Slot	3.3V PCI-X 64bit 133/100MHz	PCIe x8 (x4 link)	PCIe x8 (x4 link)	-
	Bottom Slot	PCIe x8 slot (x8 link)	PCIe x8 (x4 link)	PCIe x8 (x4 link)	-
Chassis		2U	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/ HPC-8212/HPC-8224	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/ HPC-8212/HPC-8224	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/HPC-8212/ HPC-8224
Motherboard	ASMB-584	X	*△ (Note3)	*△ (Note3)	*(Note4)
	ASMB-585	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-781	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-782	X	*△ (Note2)	*△ (Note2)	*(Note4)
	ASMB-784	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-785	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-813	YES	YES	YES	YES
	ASMB-815	YES	YES	YES	YES
	ASMB-822	YES	YES	YES	YES
	ASMB-823	YES	YES	YES	YES
	ASMB-825	YES	YES	YES	YES
	ASMB-913	YES	YES	YES	YES
	ASMB-922	YES	YES	YES	YES
	ASMB-923	X	* (Note3)	* (Note3)	*(Note4)
ASMB-925	YES	YES	YES	YES	
ASMB-975	YES	YES	YES	YES	

Yes: Fully compatible

△: Conditionally compatible

\*△ Note 1: PCIe x16 slot of ASMB-781/784/785/585 motherboard can split as x8 x8 mode. When an ASMB-RF348-21A1E riser card is installed, it supports one PCIe x4 (bottom slot), and one PCIe x8 (top slot). The middle PCIe x4 slot on the riser card doesn't work.

\*△ Note 2: PCIe x16 slot of ASMB-782 motherboard is x8 link only. When installing an ASMB-RF348-21A1E riser card, it only supports one PCI-E x4 slot (bottom).

\*△ Note 3: PCIe x16 slot of ASMB-584/923 motherboard is x8 link and can split as x4 x4 mode. When installing an ASMB-RF348-21A1E riser card, it supports two PCIe x4 (bottom and middle slots) and the top PCIe x8 slot doesn't work.

\*△ Note 4: PCIe x16 slot of ASMB-584/923 motherboard is x8 link. When installing an ASMB-RF1F-10A1E riser card, it supports PCIe x8 only.

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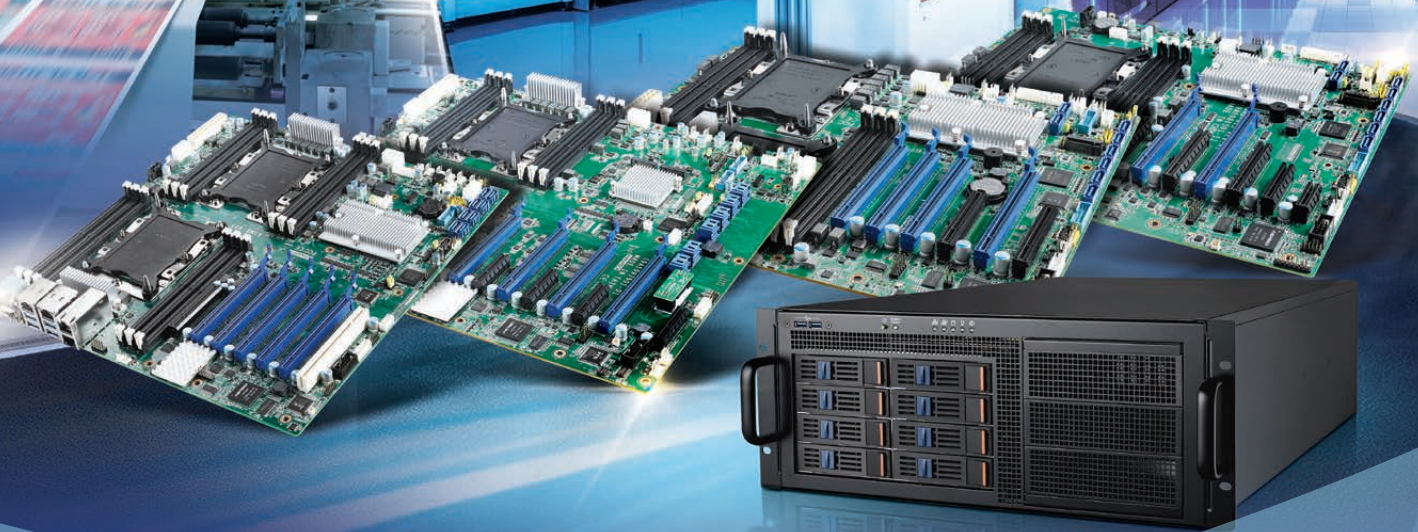
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# Enhance Your Scalability

Connect to Innovate with Advantech SKY Server Applications



**ADVANTECH**

*Enabling an Intelligent Planet*

Advantech launches the latest ASMB server boards to support Intel® Xeon® scalable processors which focus on speed without compromising on data security. They offer up to 28 cores in a single processor and provide at least 1.5 times greater computing capability compared to previous generation Intel® Xeon® processors. Advantech ASMB Dual Processor (DP) and Uni Processor (UP) server boards come in a variety of form factors, including ATX, EATX, and proprietary server boards. They fulfill a multitude of applications, such as visual computing using multiple GPU cards or VDI virtualization requiring high memory capacity configuration.



## ASMB-975

Dual LGA 3647-P0 Intel® Xeon® Scalable Proprietary Server Board with 12 DDR4, 4 PCIe x16 + 1 PCIe x8+4 PCIe x4, 14 SATA3, 8 USB3.0, Dual 10GbE, IPMI



## ASMB-925

Dual LGA 3647-P0 Intel® Xeon® Scalable EATX Server Board with 12 DDR4, 5 PCIe x16 + 1 PCIe x8 + 1 PCI, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI



## ASMB-825

Dual LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 4 PCIe x16 + 2 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI



## ASMB-815

LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 5 PCIe x8 or 2 PCIe x16 and 1 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI

### Advantech Headquarters

No. 1, Alley 20, Lane 26, Rueiguang Road,  
Neihu District, Taipei, Taiwan, 11491, R.O.C.  
Tel: 886-2-2792-7818  
Fax: 886-2-2794-7304





## Industrial Server Chassis

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To view all of Advantech's Industrial Server Chassis, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Server-grade Chassis



Height (1U = 1.75")		1U		Tower	
Model Name		HPC-7120S	HPC-7140	HPC-5000	HPC-7000
Form Factor Support		Micro ATX, ATX	Micro ATX, ATX	Micro ATX	Micro ATX, ATX, EATX
No. of slots / No. of full-size cards		1/0	1/0	4/2 (11.73" Length )	7/6
Drive Bay	Slim ODD Bay	-	1 (ODD should be purchased separately)	1 (ODD should be purchased separately)	1 (ODD should be purchased separately)
	5.25" (front-accessible)	-	-	-	-
	3.5" (hot-swappable)	-	4	-	-
	3.5" (internal)	-	-	2*3.5" or 1*3.5" + 1*2.5"	3 (External)
	2.5" (hot-swappable)	2 (HPC-7120S-35ZXE only)	Optional	-	-
	2.5" (internal)	2	-	2*3.5" or 1*3.5" + 1*2.5"	-
Cooling	Chassis Fan	3 (4 cm/23.1 CFM)	4 (4cm / 24CFM)	1 (12cm / 82CFM)	2 (12cm/150CFM)
	Air Filter	-	-	Yes	-
Front I/O Interface	USB 3.0	2	-	2	2
	USB 2.0	-	2	2	-
Miscellaneous	LED Indicators	System: Power, HDD, LAN1, LAN2, System Information HDD Tray: HDD Power and Activity LED	System: Power, HDD, LAN1, LAN2, System Information HDD Tray: HDD Power and Activity LED	System: Power	System: Power
	Rear Panel	-	-	Two reserved DB-9 ports	Two USB reserved ports
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 35 °C (32 ~ 95 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)
	Non-Operating Temperature	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Operating Humidity	10 ~ 95% @ 40 °C non-condensing	10 ~ 85% @ 35 °C non-condensing	10 ~ 95% @ 40 °C non-condensing	10 ~ 95% @ 40 °C non-condensing
	Non-operating Humidity	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing
Physical Characteristics	Dimensions (W x H x D)	438 x 43 x 381 mm (17.24" x 1.7" x 15")	437 x 43.5 x 503 mm (17.2" x 1.7" x 19.85")	192 x 376.7 x 338.5 mm (7.56" x 14.83" x 13.33")	267.1 x 458 x 500 mm (10.52" x 18.03" x 19.69")
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2U		3U / Tower		4U / Tower	
HPC-7242	HPC-7282	HPC-7320	HPC-7400	HPC-7442	HPC-7483
Micro ATX, ATX	Micro ATX, ATX	Micro ATX, ATX, EATX	Micro ATX, ATX, EATX	Micro ATX, ATX, EATX	Micro ATX, ATX, EATX
3/3	7/0	7/6	12/12	7/7	10/10
1 (ODD should be purchased separately)	1 (ODD should be purchased separately)	1 (ODD should be purchased separately)	-	1 (ODD should be purchased separately)	-
-	-	-	2	-	3
4 (3.5" / 2.5")	8	2 (3.5" / 2.5")	-	4 can upgrade to 8 (3.5" / 2.5")	8
-	2	2	2 rear-accessible (3.5" / 2.5")	1	-
4 (3.5" / 2.5")	Optional	2 (3.5" / 2.5")	-	4 can upgrade to 8 (3.5" / 2.5")	-
2	-	-	2 rear-accessible (3.5" / 2.5")	-	2
1 (8 cm/47CFM) + 2 (6 cm/28CFM)	3 (8cm / 52.6 CFM)	2 (8cm/141.9CFM) + 1 (6cm/27.2CFM)	3 (8cm/141.9CFM)	1 (12 cm /114 CFM) + 1 (8 cm/55 CFM)	3 (12 cm /226.5 CFM)
Yes	-	Yes	Yes	Yes	-
2	-	2	2	2	2
-	2	-	-	-	-
System: Power, HDD, LAN1, LAN2, temperature, fan HDD Tray: HDD Power and Activity LED	System: Power, HDD, LAN1, LAN2, System Information HDD Tray: HDD Power and Activity LED	System: Power, HDD, LAN1, LAN2 HDD Tray: HDD Power and Activity LED	System: Power, HDD, LAN1, LAN2	System: Power, HDD, LAN1, LAN2, temperature, fan HDD Tray: HDD Power and Activity LED	System: Power, HDD, LAN1, LAN2, System information HDD Tray: HDD Power and Activity LED
Two reserved DB-9 ports	-	Two reserved DB-9 ports	-	Five DB-9 ports and one 68-pin SCSI openings	Two DB-9 ports and two PS2 and two USB
0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)
-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
10 ~ 85% @ 40 °C non-condensing	10 ~ 85% @ 40 °C non-condensing	10 ~ 85% @ 40 °C non-condensing	10 ~ 85% @ 40 °C non-condensing	10 ~ 85% @ 40 °C non-condensing	10 ~ 85% @ 40 °C non-condensing
10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing
426.4 x 88 x 525 mm (16.79" x 3.46" x 20.67")	437 x 88.9 x 533.4 mm (17.2" x 3.5" x 21")	426.4 x 132.2 x 480 mm (16.79" x 5.2" x 18.9")	426 x 177 x 448 mm (16.7" x 7.0" x 17.6")	426 x 177 x 600 mm (16.7" x 7.0" x 23.6")	435 x 177 x 658 mm (17.13" x 7.0" x 25.5")
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# HPC-2040

## Mini 4 Bay Server Tower



### Features

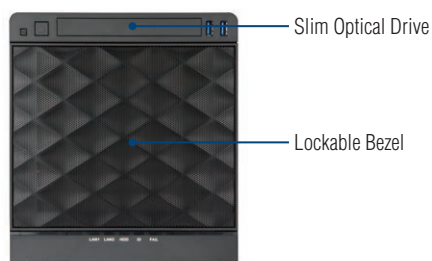
- Four Hot-Swap 3.5"/2.5" drive bays. (SAS 6Gb/s supported)
- Two internal 2.5" HDD, one slim ODD for option
- Dual front USB 3.0 ports
- Support 250W Flex ATX Power
- Supports Mini ITX motherboard

CE FCC

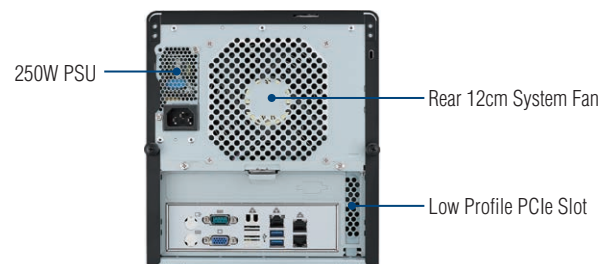
### Specifications

Drive Bay	Slim Optical Drive	External	Internal
	2.5"	Optional	-
	Hot Swap	-	2 (one for option)
Cooling	Fan	4 SASII / SATA III (3.5" or 2.5")	
	Air Filter	1 (12cm)	
Front I/O Interface	USB3.0	-	
Miscellaneous	LED Indicators	Power, LAN 1, LAN 2, HDD, and System Information	
Environment	Temperature	Operating	Non-Operating
	Humidity	0 ~ 40 °C (32 ~ 122 °F)	-40 ~ 70 °C (-40 ~ 156 °F)
	Vibration (5 ~ 500 Hz)	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Shock	0.25Grms	0.5G
Physical Characteristics	Dimensions (W x H x D)	10 G (with 11 ms duration, half sine wave)	
		210 x 230 x 275 mm (8.3" x 9.1" x 10.8")	

### Front View

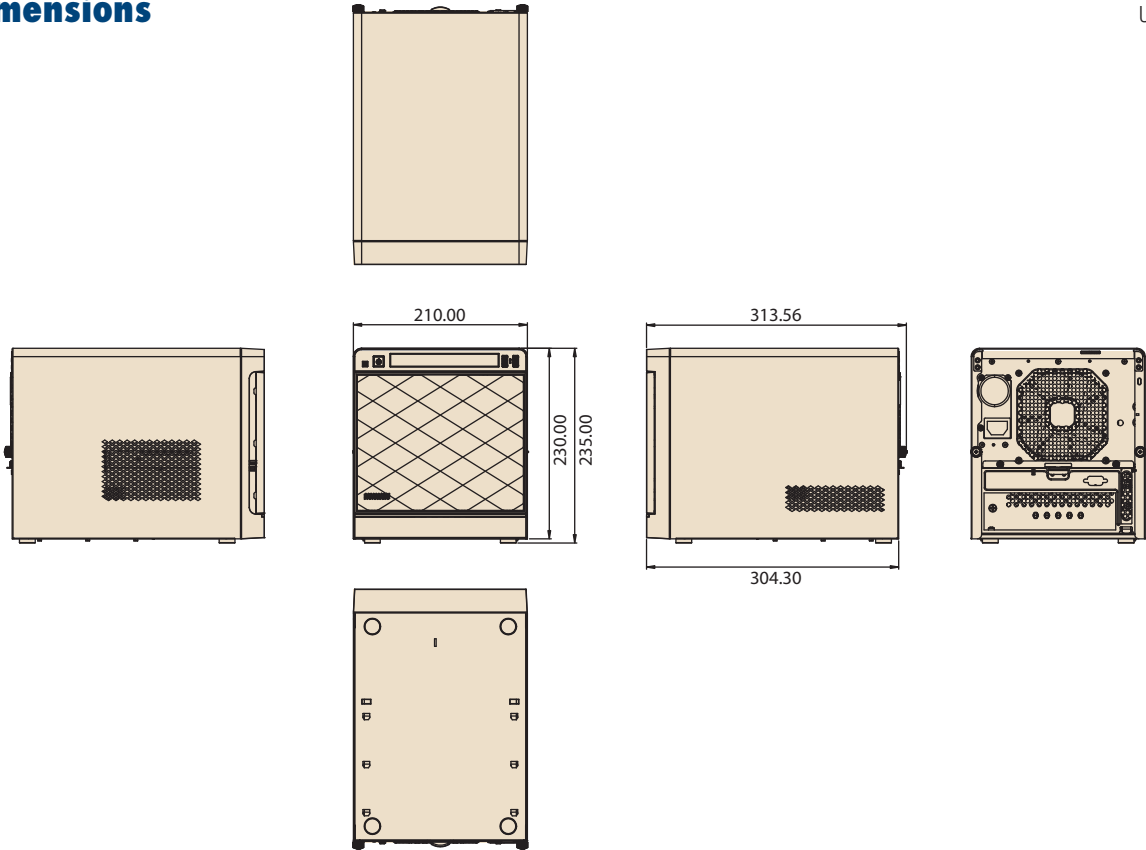


### Rear View



**Dimensions**

Unit: mm



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**Ordering Information**

Part Number	Description
HPC-2040-25ZXE	HPC-2040 Mini Tower Chassis w/ 250W SPS

**Packing List**

Part Number	Description
PS8-250FATX-XE	250W Flex ATX Power Supply

**Optional Accessories**

Part Number	Description
1960080721N001	Atom C3000 Cooler for ASMB-260
9891831620E	4 Ports SATAIII HBA Card
96CB-SATAPOWER-6P2	SATA POWER ADAPTER 6PIN TO BIG 4 PIN(G) for Slim ODD

**Compatible Motherboard**

Part Number	CPU	Memory	10GbE Lan	GbE Lan	SATA	M.2	VGA	IPMI
ASMB-260T2-22A1	C3758	4 xDDR4 RDIMM/UDIMM	2	1	8	1	AST 2500	Yes
ASMB-260I-22A1	C3758	4 xDDR4 RDIMM/UDIMM	-	1	8	1	AST 2500	Yes

# HPC-5000

## Small Tower Chassis for microATX / Mini-ITX Motherboard



### Features

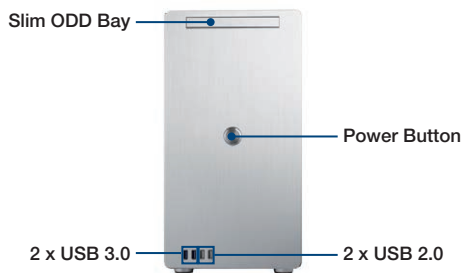
- Supports microATX / Mini-ITX motherboard
- Supports up to internal two 3.5" or one 3.5" + one 2.5" HDD
- Two USB 2.0 and two USB 3.0 ports in the front side
- Supports up to four FH/FL (10.5") expansion slots

CE FCC

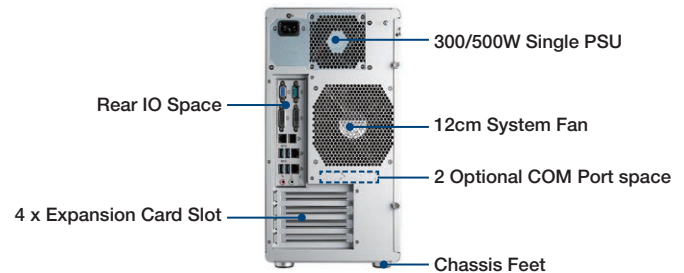
### Specifications

		External	Internal
Drive Bay	5.25"	-	-
	3.5" / 2.5"	-	2 x 3.5" or 1 x 3.5" + 1 x 2.5"
	Slim ODD	1	-
Cooling	Fan	1 x 12cm system fan in the rear side 1 x 8cm system fan in the bottom side (optional)	
	Air Filter	Replaceable air filter (in the bottom side)	
Front I/O Interface	USB 3.0	2	
	USB 2.0	2	
Miscellaneous	LED Indicators	Power	
	Rear Panel	-	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-operating -40 ~ 70 °C (-40 ~ 156 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
	Physical Characteristics	Dimensions (W x H x D)	192 x 376.7 x 338.5 mm (7.56" x 14.83" x 13.33"), with chassis feet and key lock bracket
	Weight	10kg (without MB and HDD)	

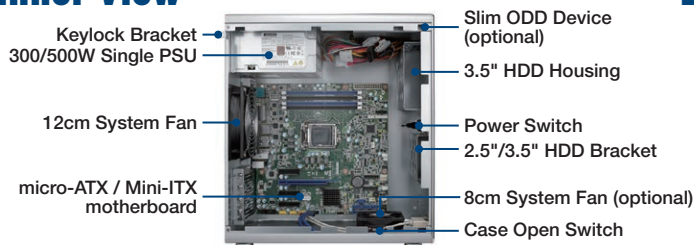
### Front View



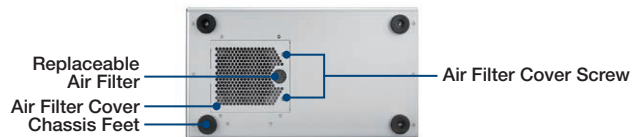
### Rear View



### Inner View



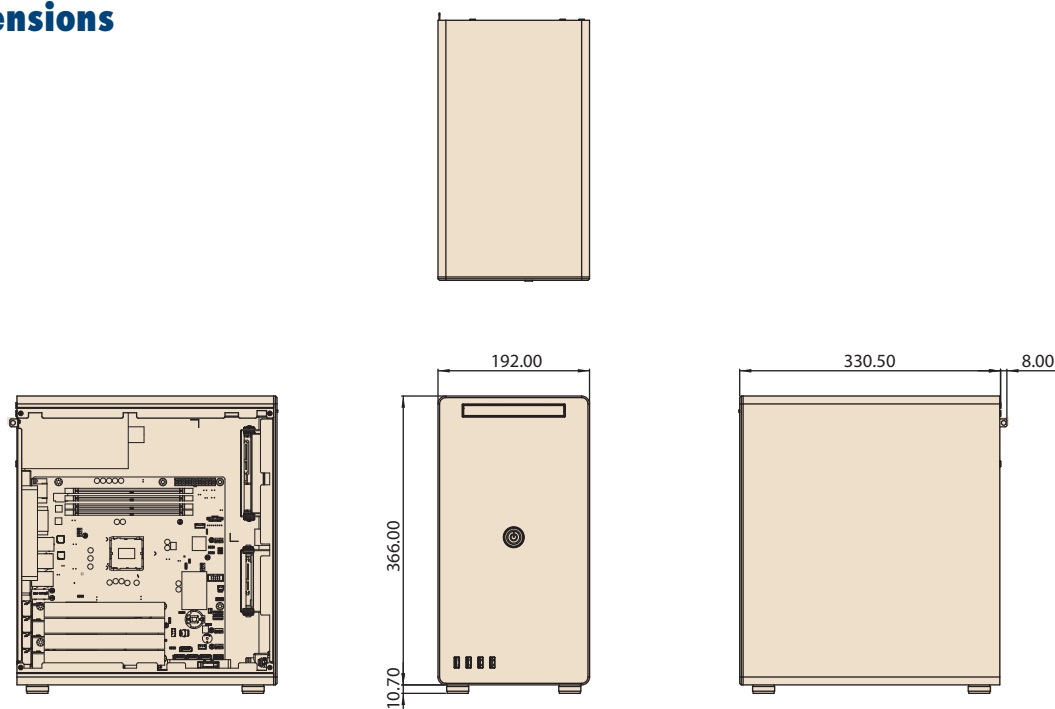
### Bottom view





## Dimensions

Unit: mm



## Ordering Information

Part Number	Description
HPC-5000-30ZXE	HPC-5000 small tower chassis with 300W single ATX PSU
HPC-5000-50ZXE	HPC-5000 small tower chassis with 500W single ATX PSU

## Packing List

Part number	Description	Quantity
1990022007S000	Chassis feet (pre-installed)	4
1960078418N002	Key lock bracket (pre-installed)	1
1960077474N000	3.5" HDD cage (pre-installed)	2
1960078421N000	2.5" HDD cage	1
1700007351	SATA HDD cable (40cm)	2
1750008561-01	12cm system fan (pre-installed)	1
2130017820N000	System air filter (pre-installed)	1
96PS-A300WPS2	300W single power supply (Only pre-installed in HPC-5000-30ZXE)	1
96PS-A500WPS2G	500W single power supply (Only pre-installed in HPC-5000-50ZXE)	1

## Optional Accessories

Item	Part number	Description	Quantity
2.5" HDD convert module	98R15000M00	Convert module for two 15mm(H) 2.5" HDDs in a 3.5" cage	1
Slim optical device	Check Advantech P-trade available list	Slim optical device	1
	1700019381	Slim optical device SATA cable	1
	96CB-SATAPOWER-6P2	Slim optical device power cable	1
Air filter	2130017820N000	System replaceable air filter	1
System fan	1750007983-01	8cm bottom system fan (57CFM)	1
GPU/GTX card power cable	1700024754-01	2 x B4P Molex power connector to 6+2P PCIe power cable (10cm)	1
COM port cable	1700001788	Single COM port cable for HPC-5000 rear side (30cm)	1

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# HPC-7000

## Server Tower Chassis for EATX/ATX/ MicroATX Motherboard



CE FCC

### Features

- Supports EATX/ATX/MicroATX motherboard with dual processors
- Three internal 3.5" HDD bays and one slim ODD drive bay
- Dual front USB 3.0 ports
- System fan easy maintenance design

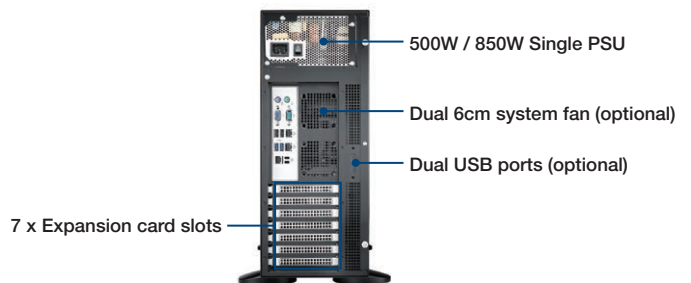
### Specifications

		External	Internal
Drive Bay	Slim Optical Drive	1	-
	3.5"	3	-
Cooling	Fan	2 (12cm/150CFM)	
	Air Filter	-	
Front I/O Interface	USB3.0	2	
Miscellaneous	LED Indicators	Power	
	Rear Panel	Two USB reserved ports	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -40 ~ 60 °C (-40 ~ 140 °F)
	Humidity	95% @ 40 °C, non-condensing	95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	267.1 x 458 x 500mm (10.52" x 18.03" x 19.69")	

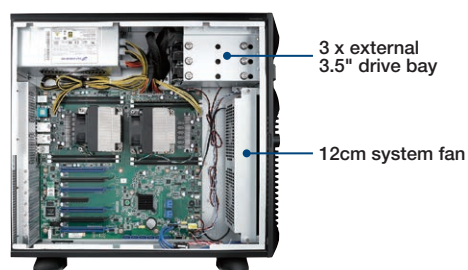
### Front View



### Rear View

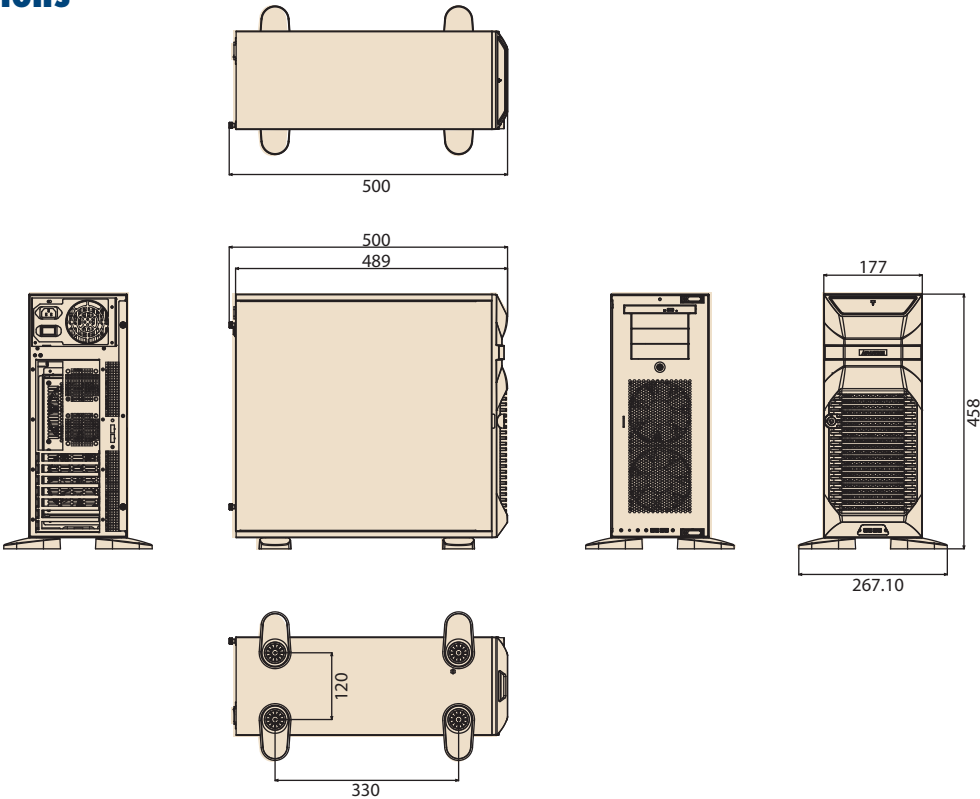


### Inside View



**Dimensions**

Unit: mm [inch]



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**Ordering Information**

Part Number	Description
HPC-7000-50ZXE	HPC-7000 Tower chassis w/ 500W SPS
HPC-7000-85ZXE	HPC-7000 Tower chassis w/ 850W SPS

**Packing List**

Part Number	Description	Quantity
1750008562-01	12cm system fan	2

Note:  
1. HPC-7000 does not support AIMB series motherboard

**Optional Accessories**

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
989K008734	Convert module for dual 9.6mm(H) 2.5" HDDs in a 3.5" cage
IPC-DT-3120E	Mobile rack for converting a 3.5" drive bay to dual 9.6mm(H) 2.5" HDD trays
1700026948-01	USB 3.0 cable (30cm) for rear panel
1700011592	USB 2.0 cable (50cm) for rear panel
1750006117	6cm system fan (23.6CFM) for rear panel

# HPC-7120S

## 1U Short-Depth Server Chassis for Micro ATX/ATX Motherboards



CE FCC

### Features

- 1U short-depth server chassis that supports micro ATX/ATX motherboards
- Two hot-swappable and two internal 2.5" SATA/SSD drive bays
- Anti-vibration fan
- Two front-accessible USB 3.0 ports
- Compatible with a front-accessible I/O design

### Specifications

Form Factor Support		Micro ATX/ATX	
Expansion Slots		1 x PCIe x16 (Full-Height & Half-Length)	
Drive Bay	Slim ODD Bay	-	
	5.25" (Front Accessible)	-	
	3.5" (Hot Swappable)	-	
	3.5" (Internal)	-	
	2.5" (Hot Swappable)	2 x SASII / SATAIII (HPC-7120S-35ZXE only)	
Cooling	2.5" (Internal)	2 x SATA III	
	Chassis Fan	3 (4 cm/23.1 CFM)	
	Air Filter	-	
System Monitoring	Chassis Intrusion Switch	Yes	
Front I/O	USB 3.0	2	
Miscellaneous	LED Indicators	System: Power, LAN 1, LAN 2, HDD, and System Information	
		HDD Tray: HDD Power and Activity	
Environment		Operating	Non-Operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration	1 Grm (5 ~ 500 Hz)	2 G (5 ~ 500 Hz)
	Shock	10G (with 11ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	438 x 43 x 381 mm (17.24" x 1.7" x 15")	

### Front View



HPC-7120S-35ZXE

### Rear View



### Front I/O View



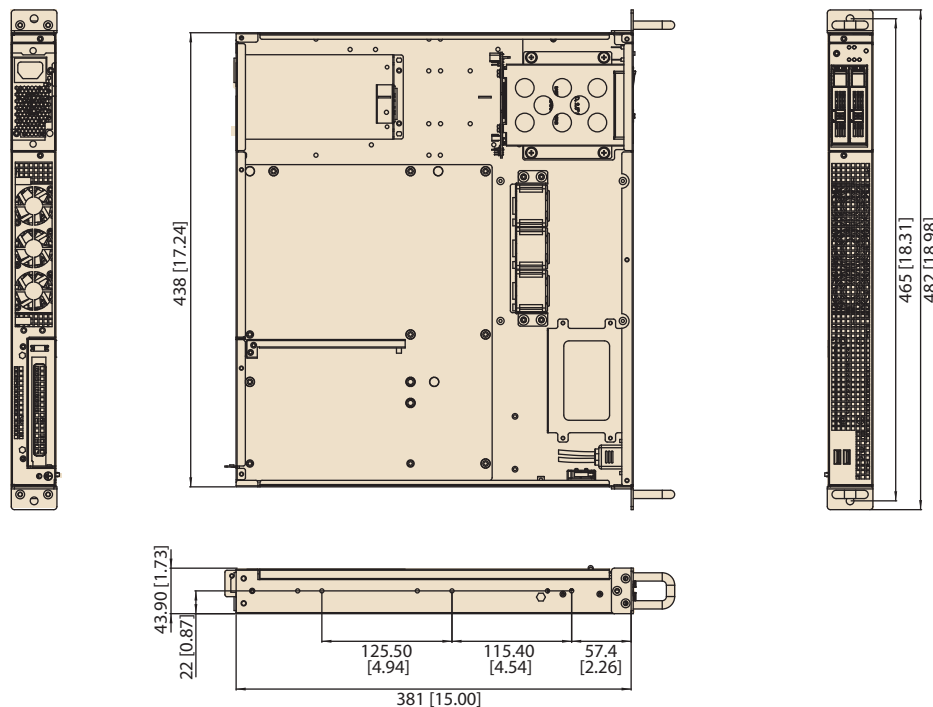
HPC-7120S-70ZXE



HPC-7120S-35ZXE

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description
HPC-7120S-35ZXE	HPC-7120S 1U chassis w/ 350W SPS
HPC-7120S-70ZXE	HPC-7120S 1U chassis w/ 700W SPS

## Packing List

Part Number	Items	Quantity
9661310000E	Hot-swappable 2.5" HDD tray (HPC-7120S-35ZXE only)	2
1700024530-01	Front USB 3.0 cable	1
1750006764-01	System fan (4 cm)	3

## Optional Accessories

Part Number	Description
96CB-MSAS-SATA-4P2	Mini SAS to 4-pin SATA SGPIO cable, 0.7 m, 6 G
19Z0001023T000	1U I/O shield for ASMB-584
19Z0001156T000	1U I/O shield for ASMB-585/785
19Z0000747T000	1U I/O shield for ASMB-784
19Z0000406T000	1U I/O shield for ASMB-781/782/820
19Z0000811N000	1U I/O shield for ASMB-822/813
19Z0000806T000	1U I/O shield for ASMB-823
AIMB-RF10F-01A1E	1U PCIe x16 to PCIe x16 riser card
9680017208	22" rail kit for chassis (438 mm)
1990026944T000	Mylar air duct for front I/O application and ASMB-823

Note:

1. A 96CB-MSAS-SATA-4P2 cable is required to use an add-on RAID card with mini SAS connector.
2. HPC-7120S does not support AIMB series motherboards.
3. A 1990026944T000 is recommended for the front I/O to improve thermal performance.
4. A 1990026944T000 is required for ASMB-823 to support dual CPUs. Additionally, only temperatures of up to 30 °C are supported.

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# HPC-7120

## 1U Server Chassis for MicroATX/ATX/EATX Server board



CE FCC

### Features

- 1U short depth server chassis supports MicroATX/ATX/EATX motherboard
- Two hot swap 2.5" SATA/SSD drive bays
- Anti-vibration FAN design
- Two front USB3.0 ports

### Specifications

Form Factor Support		MicroATX/ATX/EATX
Expansion Slots		PCIe x16 Full Height / Half Length x1
Drive Bay	Slim ODD Bay	-
	5.25" (front-accessible)	-
	3.5" (hot-swappable)	-
	3.5" (internal)	-
	2.5" (hot-swappable)	2 x SASII / SATAIII
Cooling	2.5" (internal)	-
	Chassis Fan	4 (4cm / 28.6 CFM)
	Air Filter	-
System Monitoring	Chassis intrusion switch	Yes
Front I/O Interface	USB 3.0	2
Miscellaneous	LED Indicators	System : Power, LAN1, LAN2, HDD, System Information
		HDD Tray: HDD Power and Activity LED
Environment	Operating	Non-Operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)      -40 ~ 70 °C (-40 ~ 158 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing      10 ~ 95% @ 60 °C, non-condensing
	Vibration (5-500 Hz)	1Grms      2G
	Shock	10G (with 11ms duration, half sine wave)
Physical Characteristics	Dimensions (W x H x D)	438 x 43 x 478 mm (17.24" x 1.7" x 18.82")

### Front View



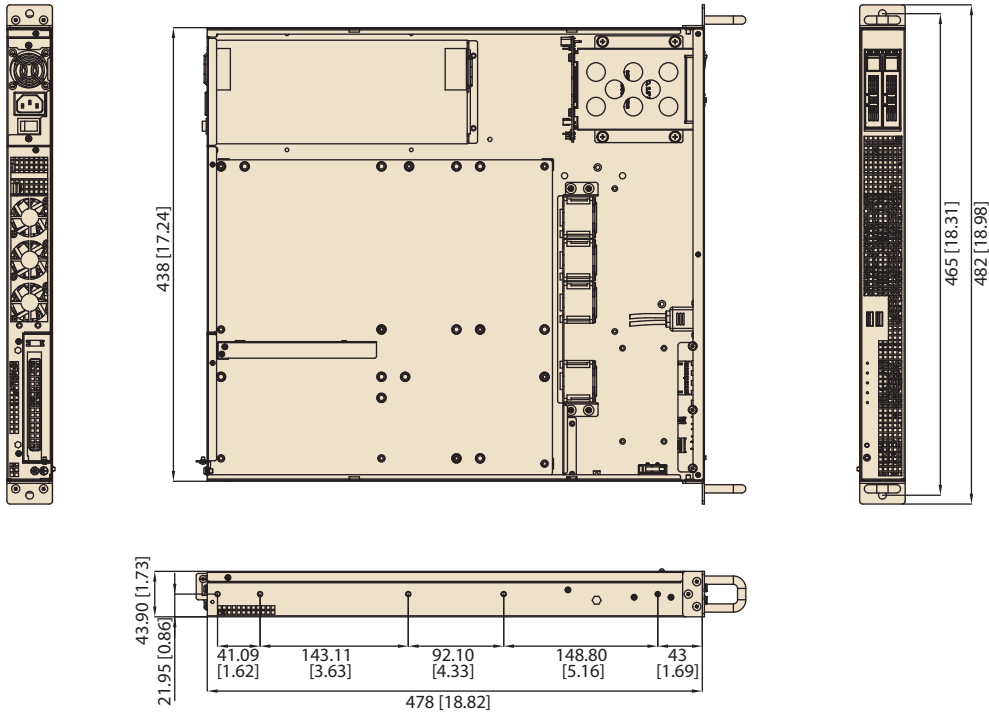
### Rear View





**Dimensions**

Unit: mm [inch]



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**Ordering Information**

Part Number	Description
HPC-7120-00XE	HPC-7120 1U 2 bays server chassis (w/o SPS)

**Packing List**

Part Number	Items	Quantity
9661310000E	Hot-Swap 2.5" HDD tray	2
1700024529-01	Front USB 3.0 cable	1
1990027281T000	Air duct for ASMB-9XX series	1
1990027567T000	Air duct for ASMB-8XX series	1

**Power Supply Options**

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-350FATX-XE	Bronze	350W	Single	AC 100 ~ 240V (full range)
96PS-A700W1U	Bronze	700W	Single	AC 100 ~ 240V (full range)

**Optional Accessories**

Part Number	Description
96CB-MSAS-SATA-4P2	Cable mini SAS to 4P SATA SGPIO 0.7m 6G
19Z0001023T000	1U IO Shield for ASMB-584
19Z0001156T000	1U IO Shield for ASMB-585/785
19Z0000747T000	1U IO Shield for ASMB-784
19Z0000406T000	1U IO Shield for ASMB-781/782/820/920/922/923
19Z0000811N000	1U IO Shield for ASMB-822/813
19Z0000806T000	1U IO Shield for ASMB-823
19Z0001086N000	1U IO Shield for ASMB-913
AIMB-RF10F-01A1E	1U PCIe x16 to PCIe x16 Riser Card
9680017208	22" Rail Kit

\* Note:

1. When using an add-on RAID Card with Mini-SAS connector(s), you must use 96CB-MSAS-SATA-4P2 cable.
2. HPC-7120 does not support AIMB series motherboards.
3. HPC-7120 can support 650W redundant power supply on a per project basis.

# HPC-7140

## 1U Rackmount Server Chassis for MicroATX/ATX Server board with 4 x 3.5" Hot-swap Drive Bays



CE FCC

### Features

- 1U rackmount server chassis supports MicroATX/ATX motherboard
- Four hot swap 3.5" SAS/SATA/SSD drive bays
- Supports 1U single and redundant power supply
- Easy swap and anti-vibration FAN design
- Two front USB and one front COM ports

### Specifications

Form Factor Support		MicroATX/ATX
Expansion Slots		PCIe x16 Full Height / Half Length x1
Drive Bay	Slim ODD Bay	1 (ODD should be purchased separately)
	5.25" (front-accessible)	-
	3.5" (hot-swappable)	4 x SASII / SATAIII
	3.5" (internal)	-
	2.5" (hot-swappable)	Optional
Cooling	2.5" (internal)	-
	Chassis Fan	4 x Swappable 40mm PWM fan module
	Air Filter	-
System Monitoring	Chassis intrusion switch	
Front I/O Interface	USB 2.0	2
	COM Ports	1
Miscellaneous	LED Indicators	System : Power, LAN1, LAN2, HDD, System Information
	Rear Panel	HDD Tray: HDD Power and Activity LED
Environment	Operating Temperature	0 ~ 35 °C (32 ~ 95 °F)
	Non-Operating Temperature	-40 ~ 70 °C (-40 ~ 158 °F)
	Humidity	10 ~ 85% @ 40 °C non-condensing
	Humidity	10 ~ 95% @ 40 °C, non-condensing
Physical Characteristics	Vibration (5-500 Hz)	0.25Grms
	Dimensions (W x H x D)	0.5G
		437 x 43 x 504 mm (17.2" x 1.7" x 19.85")

### Front View



### Rear View

#### Single Power Supply SKU

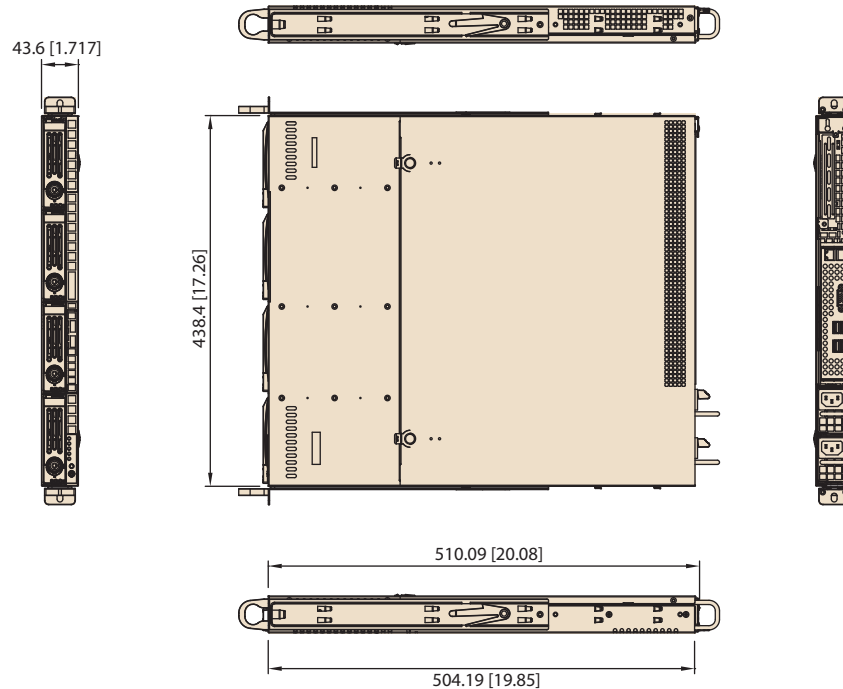


#### Redundant Power Supply SKU



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description
HPC-7140-00A1E	HPC-7140 1U 4 bays server chassis (w/o SPS)
HPC-7140-R4A1E	HPC-7140 1U 4 bays server chassis (w/400W RPS)

Note: Standard HPC-7140-R4A1E does not support PMBUS function. This function is only supported on a per project basis.

## Packing List

Items	Quantity
Hot-Swap 3.5" HDD tray with SATA cable (Pre-install)	4
Accessory Box	1

## Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
XARR-CPS-2511-1A2	Bronze	250W	Single	AC 100 ~ 240V (full range)
XARR-CPS-6811-2A12	Gold	680W	Single	AC 100 ~ 240V (full range)

## Optional Accessories

Part Number	Description
96CB-SAS-SATA-4P1	Mini SAS to 4-port SATA Cable*
19Z0001023T000	1U IO Shield for ASMB-584
19Z0000747T000	1U IO Shield for ASMB-784
19Z0000406T000	1U IO Shield for ASMB-781/782/820
19Z0000811N000	1U IO Shield for ASMB-822/813
19Z0000806T000	1U IO Shield for ASMB-823
1703040150	A Cable B4P-5.08/B4P-5.08*2 15cm*
96CB-SATAPOWER-6P2	SATA POWER ADAPTER 6PIN TO BIG 4 PIN(G) for Slim ODD
AIMB-RF10F-01A1E	1U PCIe x16 to PCIe x16 Riser Card
1990026944T000	ASMB-823 Mylar FAN DUCT for HPC-7140*
9680016633	2.5" HDD Bracket for Swappable HDD Tray
9680016685	25.6" - 33" Rail Kit for HPC-7140

\* Note:

- When using add-on RAID Card with Mini-SAS connector(s), purchasing 96CB-SAS-SATA-4P1 cable is a MUST.
- HPC-7140 does not support AIMB series motherboards.
- HPC-7140 only supports up to 30 °C when ASMB-823 has been installed.
- When installing Slim ODD in HPC-7140-R4A1E, purchasing 1703040150 is a MUST.
- Purchasing 1990026944T000 is a MUST if using dual CPUs on ASMB-823.

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# HPC-7242

## 2U Rackmount Chassis for ATX Motherboard with 4 Hot-Swap SAS/SATA HDD Trays and RPS



### Features

- Supports ATX motherboard with dual processors
- Four shock-resistant hot-swap disk trays supporting 3.5" or 2.5" SAS/SATA drives for RAID 5/10 application, one slim ODD, and two 2.5" internal drives
- Dual front USB 3.0 ports
- Supports 80plus single or redundant power supply up to 700W
- Front-accessible system fan without opening top cover for easy maintenance
- LED indicators and audible alarm notification for system fault detection
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

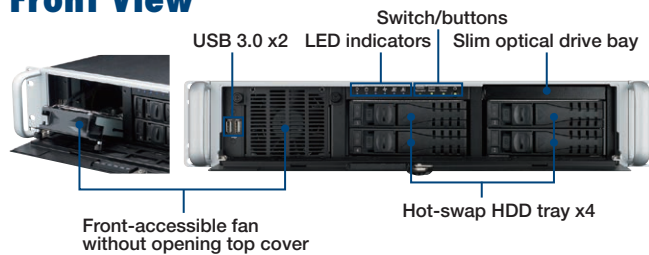
### Quiet Specifications

CE FCC

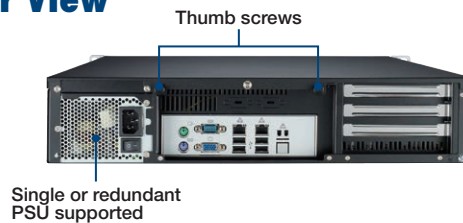
		External	Internal
Drive Bay	Slim Optical Drive	1	-
	2.5"	-	2
	Hot Swap	4 SASII / SATAIII HDDs	
Cooling	Fan	1 (8 cm/47CFM) + 2 (6 cm/28CFM) for SAS/SATA storage unit	
	Air Filter	Yes	
Front I/O Interface	USB 3.0*	2	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, LAN1, and LAN2	
	Rear Panel	Two 9-pin D-Sub	
Intelligent System Module Remote Monitoring	CPU/System fan speed, CPU/System temperature, motherboard voltage (Only selected Advantech MBs/CPU cards with SUSIAccess installed can fully enabled these functions, check with Advantech local rep. for detailed information.)		
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -40 ~ 70 °C (-40 ~ 156 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	426.4 x 88 x 525 mm (16.79" x 3.46" x 20.67")	
	Weight	13.7 kg (30.12 lb)	

\* The USB ports do not operate if a main board without on-board USB 3.0 internal box header is installed.

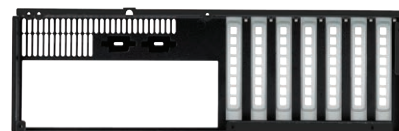
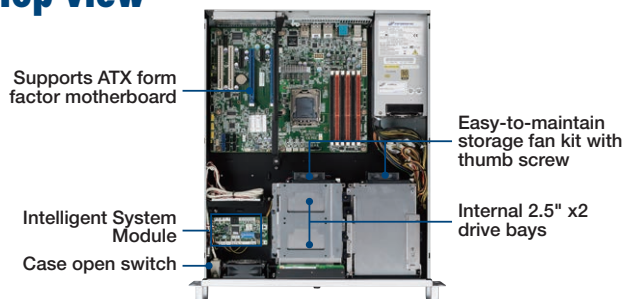
### Front View



### Rear View



### Top view

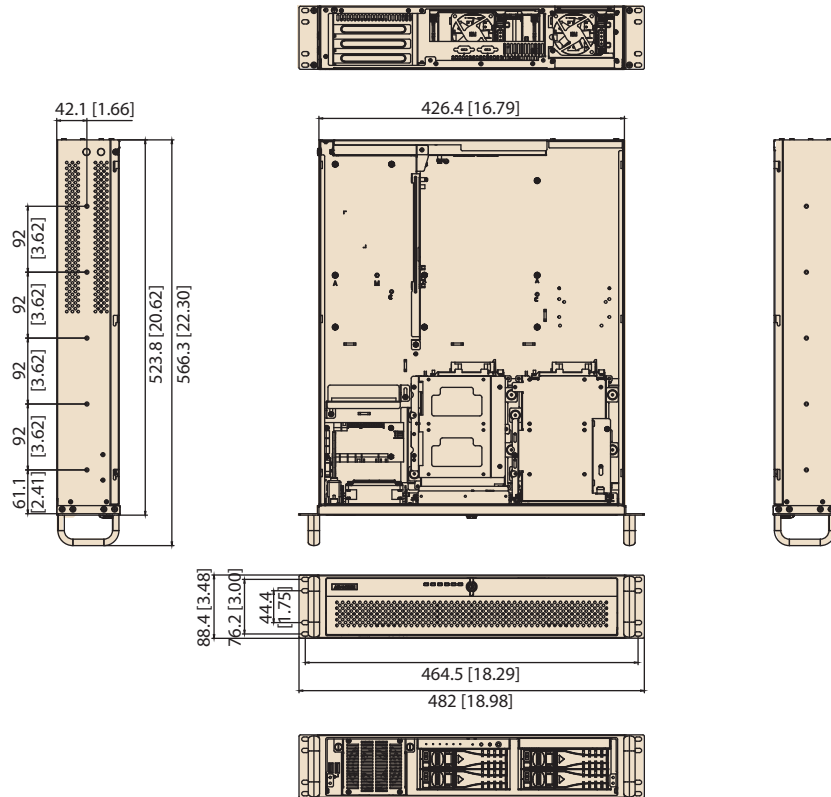


Rear I/O bracket for low profile add-on cards

\*Note: Motherboard and power supply are not included.

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description
HPC-7242MB-00XE	Without PSU, with ATX switch

## Packing List

Part Number	Description
9662132020E	Black mobile HDD tray
1990021407T000	Door filter

## Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-350FATX-XE	Bronze	350W	Single	AC 100 ~ 240 V (full range)
PS8-500U2-XE	Bronze	500W	Single	AC 100 ~ 240 V (full range)
RPS8-500U2-XE	Bronze	500W	(1+1) Redundant	AC 100 ~ 240 V (full range)
RPS8-700U2-XE	Bronze	700W	(1+1) Redundant	AC 100 ~ 240 V (full range)

## Optional Accessories

Part Number	Description
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
96CB-SAS-SATA-4P1	Mini SAS to 4-port SATA Cable
1950014302N001	Special bracket for riser card AIMB-RP3P8-12A1E
9680006905	26" Slide Rail
<b>Rear I/O panel kit for low-profile add-on cards</b>	
1939000361	Screws (should purchase 7 pcs)
1960034816N000	I/O bracket (should purchase 7 pcs)
1960019475T201	Rear panel for low-profile

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# HPC-7282

## 2U Rackmount Chassis for Micro/ATX Server Board with 8 Hot-swap Drive Bays, 7 Low Profile Expansion Slots



### Features

- 2U rackmount chassis supports MicroATX/ATX motherboard
- Eight hot swap SAS/SATA drive bays
- Swappable fan module design facilitates maintenance
- Supports 7 x low-profile/half-length I/O expansion slots

CE FCC

### Specifications

Form Factor Support		MicroATX/ATX	
Expansion Slots		Supports 7 x low-profile/half-length I/O expansion slots	
Drive Bay	Slim ODD Bay	1 (ODD should be purchased separately)	
	5.25" (front-accessible)	-	
	3.5" (hot-swappable)	8 SASII / SATAIII (Lockable)	
	2.5" / 3.5" (internal)	2	
Cooling	2.5" (hot-swappable)	Optional	
	Chassis Fan	3 x 80 mm fan module with swappable bracket	
	Air Filter	-	
System Monitoring		Chassis intrusion switch	
Front I/O Interface	USB 2.0	2	
	COM Port	1	
Miscellaneous	LED Indicators	Power, HDD activity, LAN, System Information	
	Rear Panel	-	
Environment		Operating	Non-Operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Humidity	10 ~ 85% @ 40 °C non-condensing	10 ~ 95% @ 40 °C, non-condensing
	Vibration (5-500 Hz)	0.25Grms	0.5G
Physical Characteristics	Dimensions (W x H x D)	437 x 88.9 x 533.4 mm (17.2" x 3.5" x 21")	

### Front View



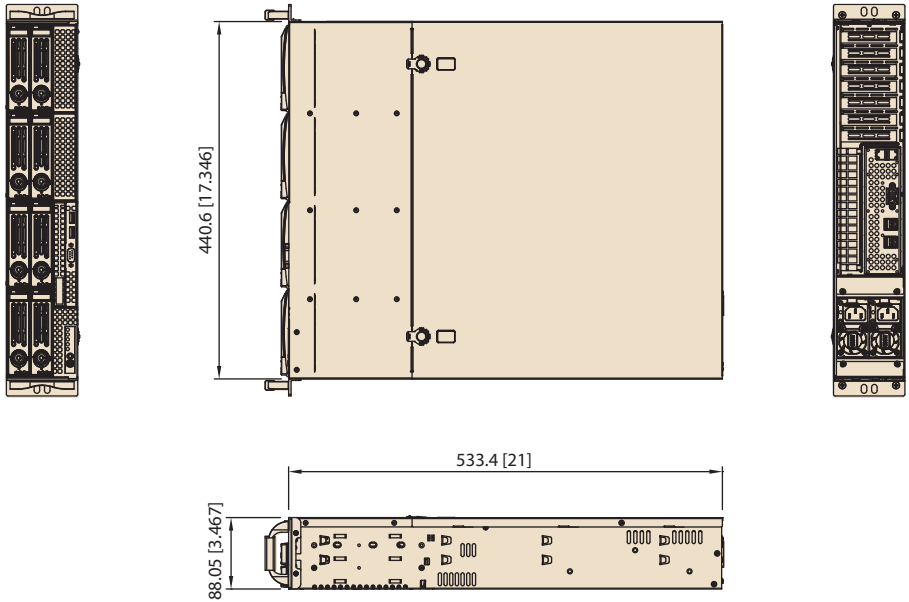
### Rear View





Dimensions

Unit: mm [inch]



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Ordering Information

Part Number	Description
HPC-7282-00A1E	HPC-7282 2U 8 bays server chassis (w/o PSU)

Packing List

Description	Quantity
Hot-swap 3.5" HDD Trays with SATA cable (Pre-installed)	x 8
System Accessory	x 1

Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-500U2-XE	Bronze	500W	Single	AC 100 ~ 240 V (full range)
XARR-CPS-6811-2A12	Gold	680W	Single	AC 100 ~ 240 V (full range)
RPS8-500U2-XE	Bronze	500W	(1+1) Redundant	AC 100 ~ 240 V (full range)
RPS8-700U2-XE	Gold	700W	(1+1) Redundant	AC 100 ~ 240 V (full range)

Optional Accessories

Part Number	Description
96CB-SAS-SATA-4P1	Mini SAS to 4-port SATA Cable*
96CB-SATAPOWER-6P2	SATA power adapter 6-pin to big 4-pin (G) for slim ODD
9680016633	2.5" HDD Bracket for Swappable HDD Tray
9680016697	19" - 26.6" Rail Kit for HPC-7282
9680016698	26.5" - 33" Rail Kit for HPC-7282

- \* Note:
- When using an add-on RAID card with mini-SAS connector(s), purchasing the 96CB-SAS-SATA-4P1 cable is a essential: - single port RAID card needs 1 piece, dual port needs 2 pieces.
  - HPC-7282 does not support AIMB series motherboards.
  - When installing the power supply please use the power supply bracket inside the accessory box.

# HPC-7320

## 3U Short-depth Rackmount/ Tower Chassis for EATX/ATX/MicroATX Motherboard



### Features

- Supports EATX/ATX/MicroATX motherboard with dual processors
- Two Hot-Swap 3.5"/2.5" drive bays, one slim ODD drive bay and two internal 3.5" HDD bays
- Dual front USB 3.0 ports
- Supports Flex ATX Power, 2U 80Plus single or redundant power supply
- Front-accessible system fan without opening top cover for easy maintenance

Quiet

### Specifications

CE FCC

		External	Internal
Drive Bay	Slim Optical Drive	1	-
	3.5"	-	2
	Hot Swap	2 SASII / SATAIII (3.5" or 2.5")	
Cooling	Fan	2 (8cm/57CFM) + 1 (6cm/27.72CFM)	
	Air Filter	Yes	
Front I/O Interface	USB3.0	2	
Miscellaneous	LED Indicators	Power, HDD, LAN1, and LAN2	
	Rear Panel	Two 9-pin D-Sub	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 122 °F)	Non-Operating -40 ~ 70 °C (-40 ~ 156 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	426.4 x 132.2 x 480 mm (16.79" x 5.2" x 18.9")	
	Weight	12 kg	

### Front View



### Rear View



### Inside View

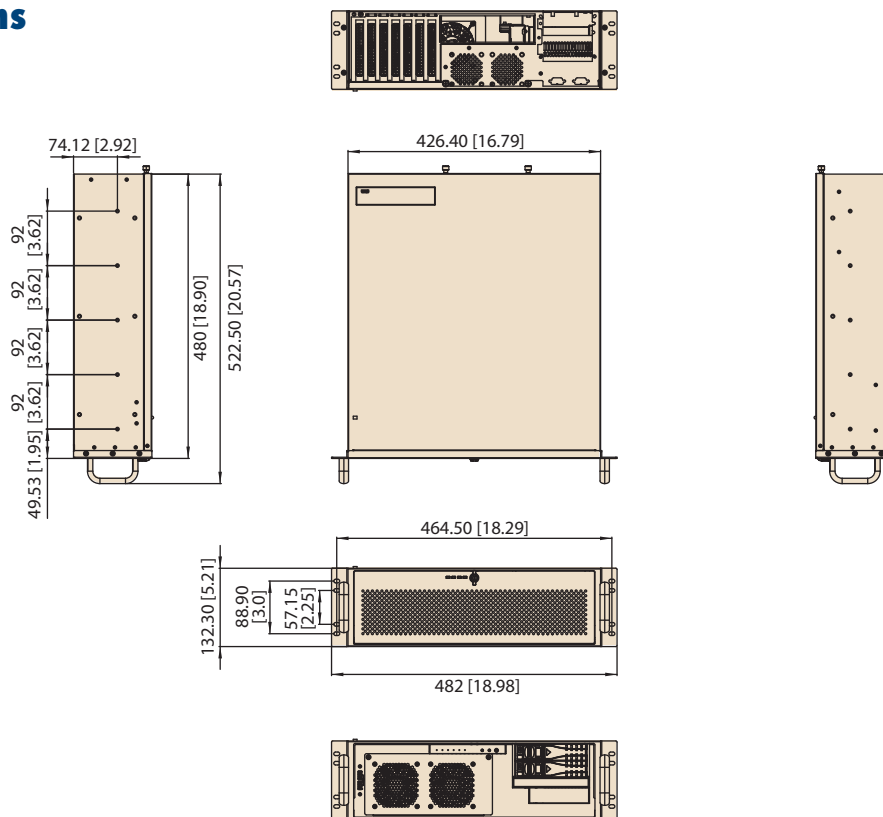


### Rackmount View



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description
HPC-7320MB-00XE	Without PSU, with ATX switch

## Packing List

Part Number	Description	Quantity
1960002043T001 & 1960004574T001	Wall mount bracket	1
1960061378T001	FATX power rear bracket	1
1960069262N001	1U power rear bracket	1
1990025044T000	Door filter	1
1750008101-01	8cm system fan	2

Note:

- HPC-7320 does not support AIMB-701, AIMB-780, AIMB-781, AIMB-782, AIMB-784.
- HPC-7320 does not support add-on cards which need to be connected to additional power cables from the top.

## Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-350FATX-XE	Bronze	350W	Single	AC 100 ~ 240 V (full range)
PS8-500U2-XE	Bronze	500W	Single	AC 100 ~ 240 V (full range)
96PS-A700W1U	Bronze	700W	Single	AC 100 ~ 240V (full range)
RPS8-500U2-XE	Bronze	500W	(1+1) Redundant	AC 100 ~ 240 V (full range)
RPS8-700U2-XE	Gold	700W	(1+1) Redundant	AC 100 ~ 240 V (full range)

## Optional Accessories

Part Number	Description
2130015257T000	CPU cooler box
9680006905	26" Slide Rail
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
1700011592	Front dual USB2.0 cable
1750007769-01	8038mm High speed system fan for GPU server solution

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# HPC-7400

## 4U Compact Rackmount / Tower Chassis for EATX/ATX/MicroATX Motherboard



### Features

- 4U compact industrial server chassis suitable for space-sensitive applications
- Supports EATX/ATX/MicroATX motherboard
- Shock-resistant 2 x 5.25" (front) + 2 x 3.5" int (rear) and optional 2 x 3.5" int. HDD bays
- Supports 80plus 1U single and 1+1 redundant higher watt power supply
- Front-accessible system fan without opening top cover
- Lockable front door with replaceable air filter prevents unauthorized access

### Quiet Specifications

CE FCC

Drive Bay	5.25"	Front-accessible	Internal
	2.5" / 3.5"	2	-
Cooling	Fan	3 (8 cm / 57 CFM) PWM fans + optional 2 (6cm) rear fans	
	Air Filter	Yes	
Front I/O Interface	USB	2 (USB 3.0)	
Miscellaneous	LED Indicators	Power, HDD, LAN1 & LAN2	
	Control	Power switch and system reset button	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -40 ~ 60 °C (-40 ~ 140 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	426 x 177 x 448 mm (16.7" x 7.0" x 17.6")	
	Weight	16 kg	

### Front View



### Rear View



With 700W single power supply

With 1400W redundant power supply

### Inside View

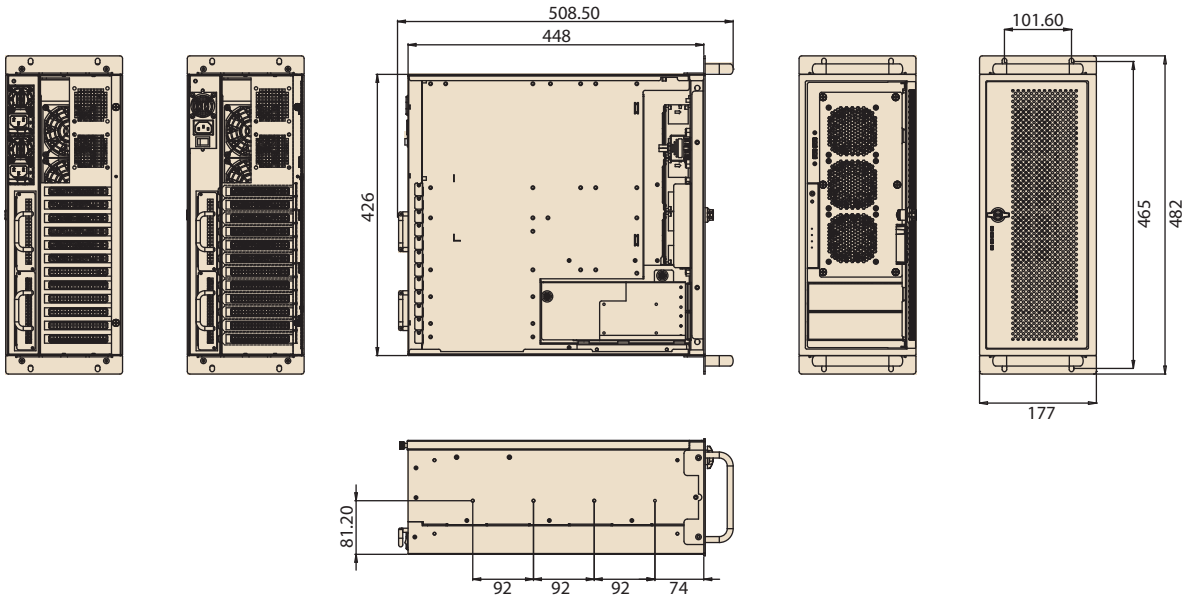


### Tower View



Dimensions

Unit: mm



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Ordering Information

Part Number	Power Supply
HPC-7400MB-70A1E	With single 700W power supply, with ATX switch
HPC-7400MB-14A1E	With redundant 1+1 1400W power supply, with ATX switch

Packing List

Part Number	Description	Quantity
1990021256T000	Door filter	1
1750008101-01	8cm system fan	3
96PS-A700W1U	1U 700W single power supply, AC 100-240V (full range) (HPC-7400MB-70A1E only)	1
96PSRM-A1K4WMDU	1U 1400W 1+1 redundant power module, AC 100-240V (full range) (HPC-7400MB-14A1E only)	2
96PSR-1U-BKP-F1K4	1400W power distribution board for 96PSRM-A1K4WMDU (HPC-7400MB-14A1E only)	1

Optional Accessories

Part Number	Description
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SAS/SATA HDD Trays
96RACK-5SS-CAGE-CR	Mobile rack for converting one 5.25" drive bays to four 2.5" SATA/SAS HDD Trays (Max. HDD height :15mm)
9892200013E	Module to convert one 5.25" drive bay to one slim ODD and one internal 3.5" drive bay
9680006905	26" Slide Rail
1700007032	Front dual USB 2.0 cable kit
1750007769-01	8038mm High speed system fan for GPU server solution

- Note:
- HPC-7400 does not support AIMB series motherboard.
  - HPC-7400 does not support add-on cards which need to be connected to additional power cables from the top.
  - HPC-7400 does not support 1960065684N001 due to mechanical limitations.

# HPC-7442

## 4U Rackmount Chassis for EATX/ATX/MicroATX Motherboard with 4 Hot Swap Drive Trays



### Features

- Supports EATX/ATX/MicroATX motherboard
- Shock-resistant disk drive bay provides four hot-swap 3.5" or 2.5" SAS/SATA disk trays, one slim optical disk drive, and one 3.5" internal drive
- With optional storage upgrade kit installed, system equipped up to eight hot-swap HDD trays for higher storage capacity requirement
- Supports 80plus single and redundant power supply
- Front-accessible system fan without opening top cover for easy maintenance
- LED indicators and alarm notification for system fault detection
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

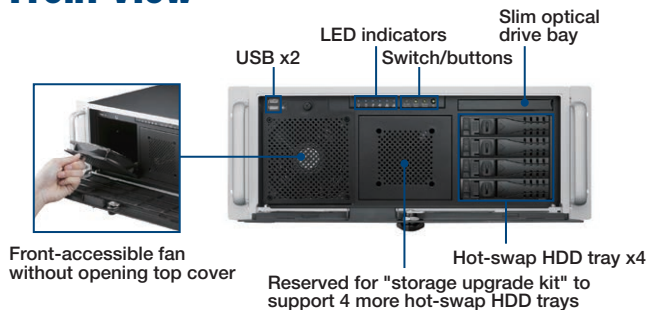
### Quiet Specifications

CE FCC

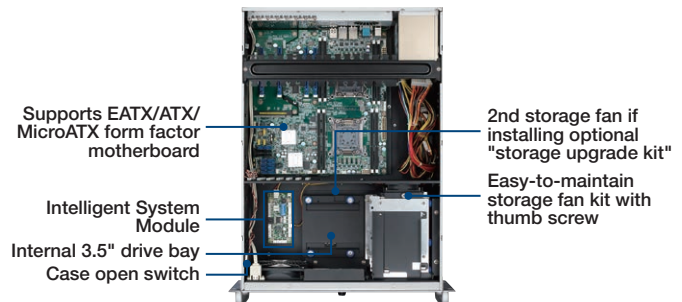
		External	Internal
Drive Bay	Slim Optical Drive 3.5"	1	-
	Hot Swap	4 SASII / SATAIII HDDs (support upgrade to 8)	1
	Fan*	1 (12 cm /114 CFM) + 1 (8 cm/55 CFM)	
Cooling	Air Filter	Yes	
Front I/O Interface	USB 2.0	2	
Miscellaneous	LED Indicators	Power, HDD, temperature, fan, LAN1, and LAN2	
	Rear Panel	Five 9-pin D-Sub and one 68-pin SCSI openings	
Intelligent System Module Remote Monitoring	CPU/System fan speed, CPU/System temperature, motherboard voltage (Only selected Advantech MBs/CPU cards with SUSIAccess installed can fully enable these functions, check with an Advantech local rep. for detailed information.)		
		Operating	Non-Operating
Environment	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 70 °C (-40 ~ 156 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	426 x 177 x 600 mm (16.7" x 7.0" x 23.6")	
	Weight	18.5 kg (40.68 lb)	

\* While adding the optional "storage upgrade kit", the chassis will support four more front-accessible SAS/SATA drive trays and one more (8cm/55CFM) fan for SAS/SATA drives.

### Front View



### Inside View



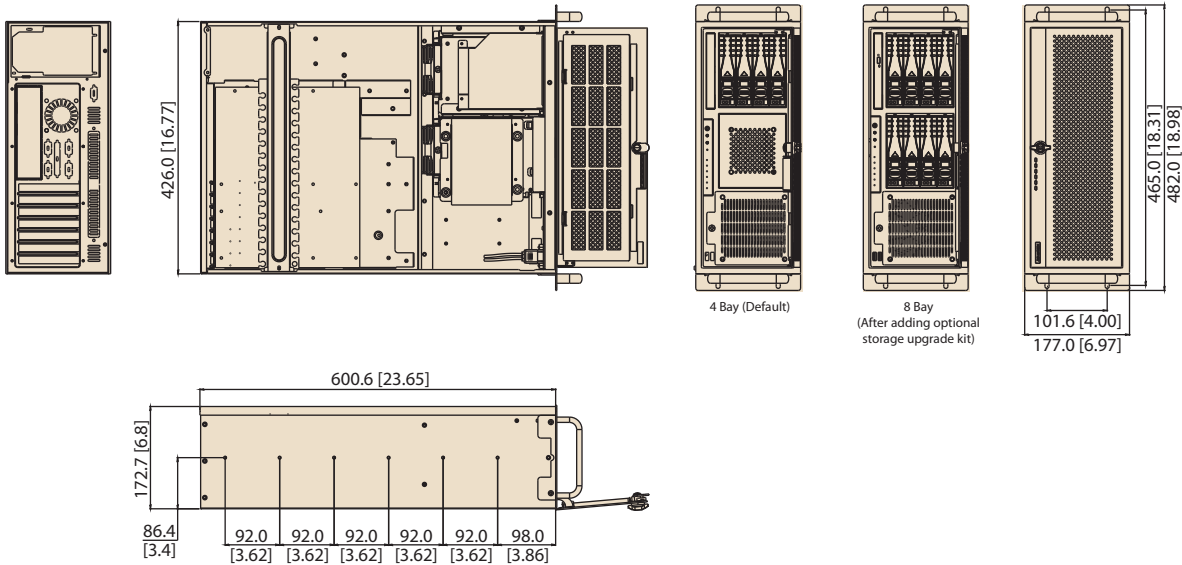
### Upgrade Features





Dimensions

Unit: mm [inch]



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Ordering Information

Part Number	Description
HPC-7442MB-00XE	Without PSU, with ATX switch

Packing List

Part Number	Description
9662132020E	Black mobile HDD tray
1990021256T000	Door filter

Power Supply Options

Part Number	80 Plus Grade	Wattage	Type	Input
PS8-400ATX-ZE	Bronze	400W	Single	AC 100 ~ 240 V (full range)
PS8-500ATX-ZE	Bronze	500W	Single	AC 100 ~ 240 V (full range)
PS8-700ATX-ZE	Bronze	700W	Single	AC 100 ~ 240 V (full range)
RPS8-500ATX-XE	Bronze	500W	(1+1) Redundant	AC 100 ~ 240 V (full range)
RPS8-750ATX-XE	Gold	750W	(1+1) Redundant	AC 100 ~ 240 V (full range)

Optional Accessories

Part Number	Description
98R2744200E	Storage Upgrade Kit
96CB-SATAPOWER-6P2	SATA power wire 6-pin to big 4-pin (for slim ODD)
96CB-SAS-SATA-4P1	Mini SAS to 4-port SATA Cable
989K008734	Internal 3.5" to two 2.5" HDD Frame
9680006905	26" Slide Rail

# HPC-7483

## 4U Rackmount / Tower Chassis for EATX/ATX/MicroATX Motherboard



### Features

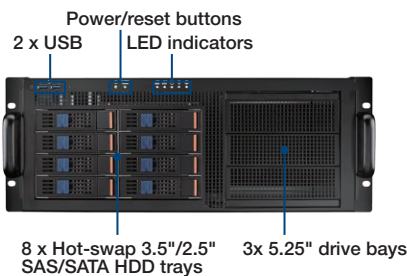
- Supports EATX/ATX/MicroATX motherboard
- Supports up to eight SATA3 or SAS3 hot-swap HDD
- With the optional storage upgrade kit installed, the system will support up to eleven hot-swap HDD trays for higher storage requirements
- Supports 80plus 1U 1+1 redundant high watt power supply
- Supports up to ten FH/FL expansion slots

CE FCC

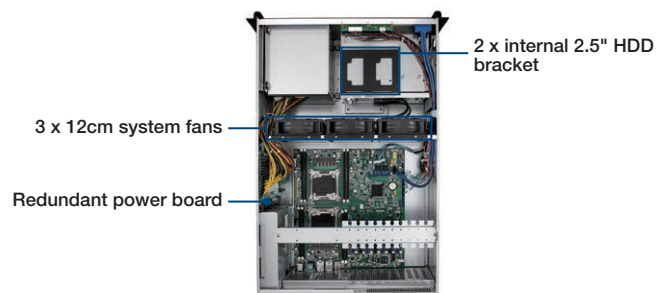
### Specifications

		External	Internal
Drive Bay	5.25"	3	-
	3.5"	8*SATA 3/SAS 3 (2.5" HDD compatible)	-
	2.5"	-	2
Cooling	Fan*	3*12cm system fan in middle fan bar 2*8cm system fan in rear window (optional)	
	Air Filter	-	
Front I/O Interface	USB 3.0	2	
Miscellaneous	LED Indicators	Power, HDD, Information, LAN1, and LAN2	
	Rear Panel	Two PS/2 and two D-sub and two USB openings	
Environment	Temperature	Operating 0 ~ 40 °C (32 ~ 104 °F)	Non-Operating -40 ~ 70 °C (-40 ~ 156 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	435 x 177 x 658 mm (19" x 7.0" x 26.5")	
	Weight	20 kg (44 lb)	

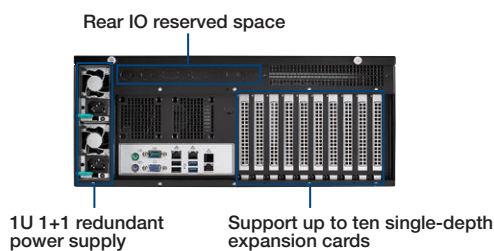
### Front View



### Inner View



### Rear View

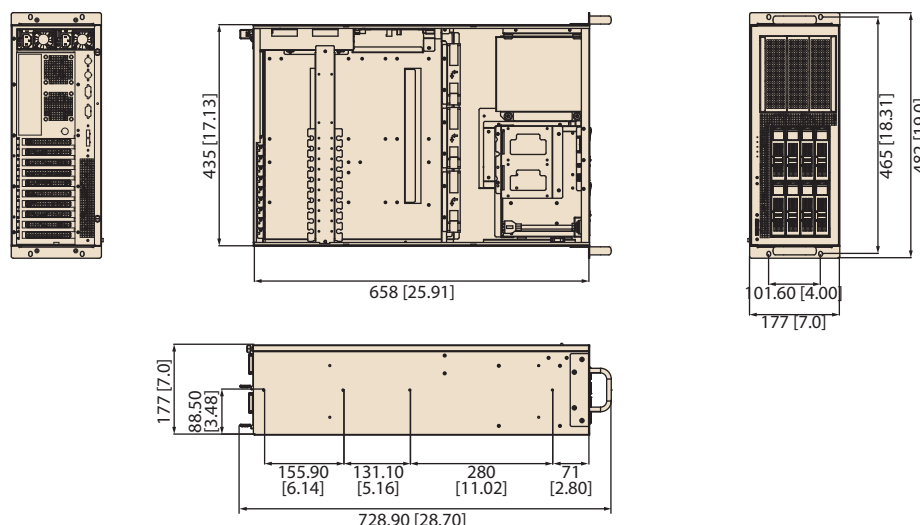


### Tower View



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Description	Remark
HPC-7483-12RXE	With redundant 1+1 1200W power supply, with ATX switch	1000W @ 110V ; 1200W @ 220V
HPC-7483-20RX	With redundant 1+1 2000W power supply, with ATX switch	1000W @ 110V ; 2000W @ 220V

## Packing List

Part number	Description	Quantity
1750008306-01	12cm system fan (Pre-installed)	3
9661831600E	3.5" HDD Trays (Pre-installed)	8
1700025828-01	PDB CN1 connector to MB 4pin or 8pin 12V connector of PCIe slot	1
1700019127	4P 2.54mm to 4P 2.54 Extend FAN connector	1

## Optional Accessories

Cable request for optional device	Part number	Description	Quantity
5.25" to 3.5" Convert HDD kit	Refer to the P-Trade web site	Mobile rack for converting dual 5.25" drive bays to three 3.5" SAS/SATA HDD Trays	1
	1700021733-01	SATA cable for optional ODD/HDD (65cm)	3
5.25" ODD or other SATA device	1700021733-01	SATA cable for optional ODD/HDD (65cm)	1
MB without RAID card	1700025861-01	Mini SAS HD 8643 to 4 ports SATA Cable (50cm)	2
MB with SAS2 RAID card	1700025440-01	Mini SAS HD 8643 to Mini SAS (85cm)	2
MB with SAS3 RAID card	1700025065-01	Mini SAS HD 8643 to Mini SAS HD 8643 (85cm)	2
The 2nd GPU card	1700025829-01	PDB 8P connector to 6+2 connector for GPU card (80cm)	2
The 3rd GPU card	1700025829-01	PDB 8P connector to 6+2 connector for GPU card (80cm)	2
The 4th GPU card	1700025829-01	PDB 8P connector to 6+2 connector for GPU card (80cm)	2
4 ports SATA HBA card	9691831620E	ASS'Y HPC-8316 SATA HBA Rev.A1 01	1
	1700021733-01	SATA cable for optional ODD/HDD (65cm)	4

Optional device	Part number	Description	Quantity
Rail kit	9680016858	3U/4U 26" slide kit (pair) for HPC-8316/7483	1
Rear window optional fan kit	98R1748300E	Rear window 8cm fan kit for high-watt expansion card solution	1
Internal air duct	98R1748310E	Air duct for HPC-7483 + ASMB-923 + 4*Double depth GPU cards	1
Rear IO KMBS port	1700019268-11	A Cable M-DIN 6P(F)*2/1*6P-2.5	1
Rear IO COM port	1701092300	Dual RS-232 COM port cable	1
Rear IO USB port	1700024532-01	USB 3.0 dual port cable	1
	1700017849	USB 2.0 dual port cable	1

# HPC-8212

## 2U Storage Chassis for ATX/EATX Serverboard with 12 Hot-swap Drive Bays

**NEW**



### Features

- 2U rackmount chassis supports EATX/ATX/uATX motherboard
- 12-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Default 7x slots (low profile) rear panel, 3x slots (full height) optional
- Supports 80Plus redundant power supply

CE FCC

### Specifications

Drive Bay	3.5"/2.5"	Front 12 (Hot Swap)	Rear -
	2.5"	-	2 (for R6A1E SKU)
Cooling	Fan	4 (8 cm)	
	Air Filter	-	
Front I/O Interface	USB	2	
Miscellaneous	LED Indicators	LAN1, LAN2, HDD, Power, and Information LED	
Environment	Temperature	Operating 0 ~ 35 °C (32 ~ 95 °F)	Non-Operating -40 ~70 °C (-40 ~158 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	0.25 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	438 x 88.4 x 620 mm (17.24" x 3.48" x 24.41") / 438 x 88.4 x 540 mm (17.24" x 3.48" x 21.26")	
	Weight	25 kg (without hard drivers)	

### Front View



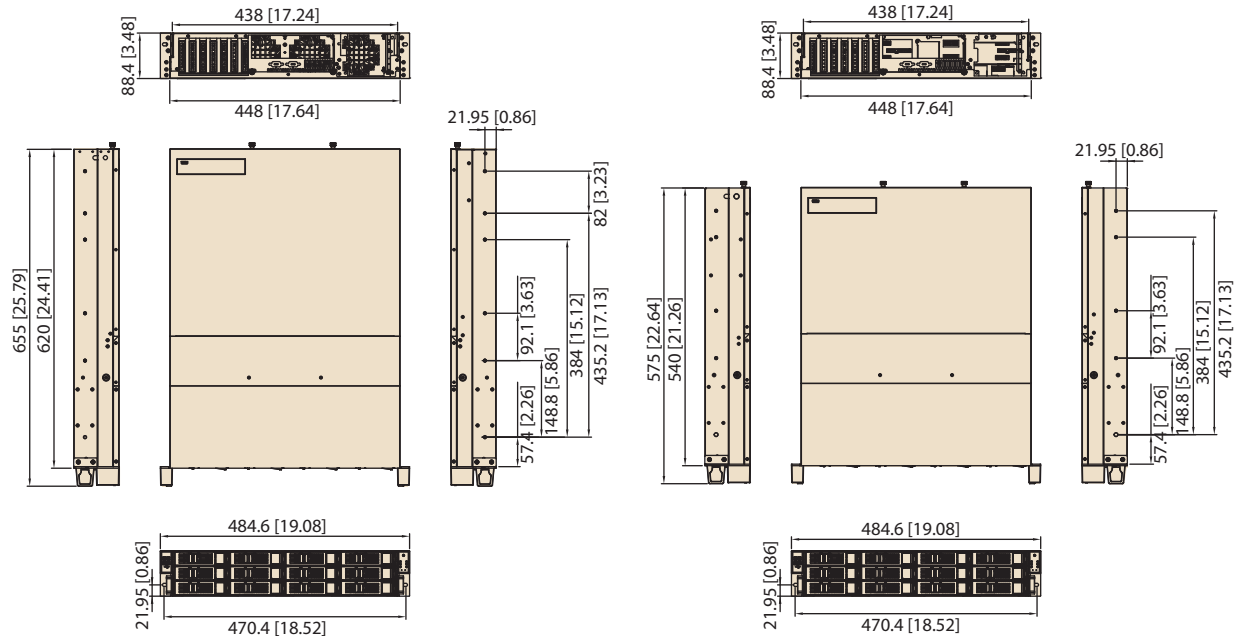
### Rear View



Optional full-height rear panel via  
98R112SE00E & 98R112AE00E

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Chassis Depth	Built-in PSU	Front HDD Backplane	Rear HDDs (2 x 2.5")	Default Rail Kit	Motherboard Form-factor	Expansion Slots
HPC-8212SE-R8A1E	620mm	RPSU 800W	SAS12Gb/s	-	26"	EATX, ATX, uATX	x6* Low Profile
HPC-8212SE-R6A1E	620mm	RPSU 650W	SAS12Gb/s	Hot-swap	26"	EATX, ATX, uATX	x6* Low Profile
HPC-8212SA-R5A1E	540mm	RPSU 550W	SAS12Gb/s	-	22"	ATX, uATX	x6* Low Profile

Note: one slot will be occupied by SAS RAID card

## Packing List

Part Number	Description	Quantity
9680017208	22" Slide Rail Kit for HPC-8212SA	1
9680017207	26" Slide Rail Kit for HPC-8212SE	1

## Optional Accessories

Part Number	Description
98R112SE00E*	Rear Panel kit of Full-Height x3 slots for SE SKU
98R112SA00E*	Rear Panel kit of Full-Height x3 slots for SA SKU
9891821200E	PCIe x16 Riser card for 4-port NVMe drives
1700025064-01	Internal SAS cable (12G) SFF8643 to SFF8643, 60cm
1700025439-01	Internal SAS cable (6G) SFF8643 to SFF8087, 60cm
ASR-1000K-00A1E	JBOD module for SA SKU

Note: an additional ASMB riser card is required.

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# HPC-8224

## 2U Storage Chassis for ATX/EATX Serverboard with 24 Hot-swap Drive Bays

**NEW**



### Features

- 2U rackmount chassis supports EATX/ATX/uATX motherboard
- 24-bay hot-swappable 2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Default 7x slots (low profile) rear panel, 3x slots (full height) optional
- Supports 80Plus redundant power supply

CE FCC

### Specifications

Drive Bay	2.5"	Front 24 (Hot Swap)	Rear -
Cooling	Fan	4 (8 cm)	
	Air Filter	-	
Front I/O Interface	USB	2	
Miscellaneous	LED Indicators	LAN1, LAN2, HDD, Power, and Information LED	
Environment	Temperature	Operating 0 ~ 35 °C (32 ~ 95 °F)	Non-Operating -40 ~ 70 °C (-40 ~ 158 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration (5 ~ 500 Hz)	0.25 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	438 x 88.4 x 620 mm (17.24" x 3.48" x 24.41") / 438 x 88.4 x 540 mm (17.24" x 3.48" x 21.26")	
	Weight	25 kg (without hard drivers)	

### Front View



### Rear View

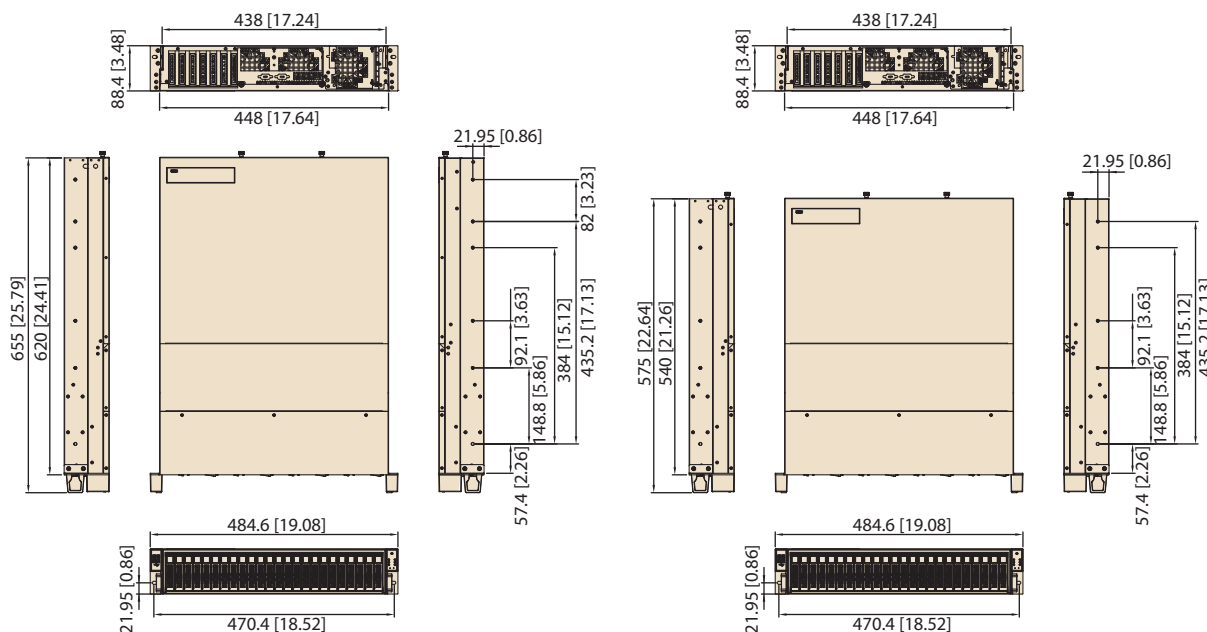


Optional full-height rear panel via  
98R112SE00E & 98R112AE00E



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Chassis Depth	Built-in PSU Configuration	Front HDD Backplane	Rear HDDs (2 x 2.5")	Default Rail Kit	Motherboard Form-factor	Expansion Slots
HPC-8224SE-R8A1E	620mm	RPSU 800W	SAS12Gb/s	-	26"	EATX, ATX, uATX	x6* Low Profile
HPC-8224SA-R5A1E	540mm	RPSU 550W	SAS12Gb/s	-	22"	ATX, uATX	x6* Low Profile

Note: one slot will be occupied by SAS RAID card

## Packing List

Part Number	Description	Quantity
9680017208	22" Slide Rail Kit for HPC-8224SA	1
9680017207	26" Slide Rail Kit for HPC-8224SE	1

## Optional Accessories

Part Number	Description
98R112SE00E*	Rear Panel kit of Full-Height x3 slots for SE SKU
98R112SA00E*	Rear Panel kit of Full-Height x3 slots for SA SKU
9891821200E	PCIe x16 Riser card for 4-port NVMe drives
1700025064-01	Internal SAS cable (12G) SFF8643 to SFF8643, 60cm
1700025439-01	Internal SAS cable (6G) SFF8643 to SFF8087, 60cm
ASR-1000K-00A1E	JBOD module for SA SKU

Note: an additional ASMB riser card is required

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# HPC-8316

## 3U Storage Chassis for ATX/EATX Serverboard with 16 Hot-swap Drive Bays

**NEW**



### Features

- 3U rackmount chassis supports EATX/ATX/uATX motherboard
- 16-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- Supports 2 hot-swappable 2.5" drive bays at the rear for SAS SKUs
- Eliminates the need for an additional HBA card for SATA SKUs
- Supports 80Plus redundant power supply

### Quiet Specifications

CE FCC

Drive Bay	3.5/2.5"	Front	Rear
	2.5"	16 (hot swappable)	-
Cooling	Fan	4 (8 cm)	
	Air Filter	-	
Front I/O	USB 3.0	2	
Miscellaneous	LED Indicators	LAN1, LAN2, HDD, Power, and Information	
Environment		Operating	Non-Operating
	Temperature	0 ~ 35 °C (32 ~ 95 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Vibration	0.25 Grms, 5 ~ 500 Hz	2 Grms, 5 ~ 500 Hz
	Shock	10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	435 x 132 x 620 mm (17.13" x 5.2" x 24.41") / 435 x 132 x 540 mm (17.13" x 5.2" x 21.26")	
	Weight	28 kg (without hard drives)	

### Front View



### Rear View



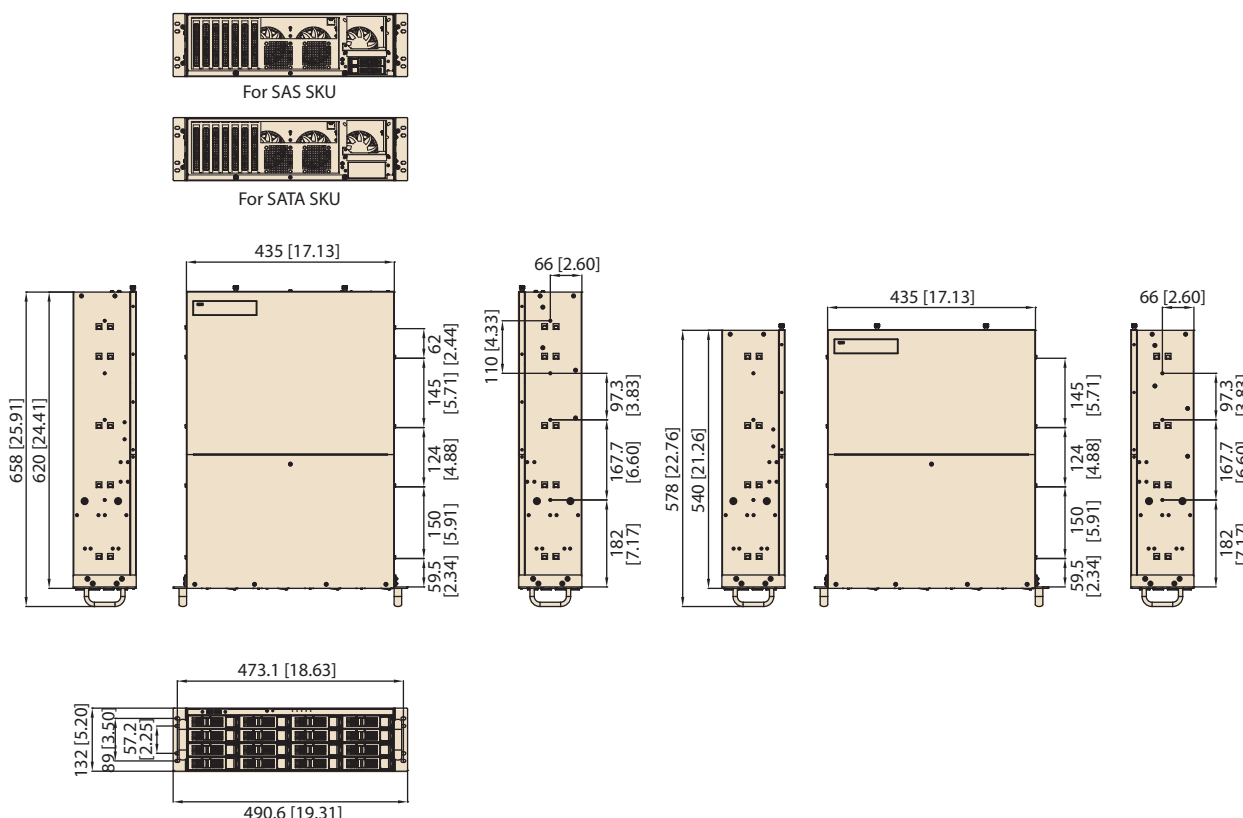
HPC-8316SE-R8A1E, HPC-8316SA-R5A1E



HPC-8316TE-00A1E, HPC-8316TA-00A1E

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	Chassis Depth	Built-in PSU Configuration	Front HDD Backplane	Rear HDDs (2 x 2.5")	Default Rail Kit	Motherboard Form-factor	Expansion Slots
HPC-8316SE-R8A1E	620mm	RPSU 800W	SAS12Gb/s	Hot-Swap	26"	EATX, ATX, uATX	x6 <sup>1</sup> Full Height
HPC-8316SA-R5A1E	540mm	RPSU 550W	SAS12Gb/s	Hot-Swap	26"	ATX, uATX	x6 <sup>1</sup> Full Height
HPC-8316TE-00A1E	620mm	-	SATA6Gb/s	Internal	26"	EATX, ATX, uATX	x6 <sup>2</sup> Full Height
HPC-8316TA-00A1E	540mm	-	SATA6Gb/s	Internal	26"	ATX, uATX	x6 <sup>2</sup> Full Height

Note 1: One slot will be occupied by SAS Raid card.

Note 2: One slot will be occupied by Advantech proprietary SATA HBA card.

## Power Supply Options

Part Number	80 Plus Grade	Description
96PSR-A800WCR	Platinum	Redundant (1+1) 800W for HPC-8316TE
96PSR-A550W2U	Silver	Redundant (1+1) 550W for HPC-8316TA
PS8-500U2-XE	Bronze	Single 500W SPS for HPC-8316TA

## Optional Accessories

Part Number	Description
1700025064-01	Internal SAS cable (12G) SFF-8643 to SFF-8643, 60 cm
1700025065-01	Internal SAS cable (12G) SFF-8643 to SFF-8643, 85 cm
1700025439-01	Internal SAS cable (6G) SFF-8643 to SFF-8087, 60 cm
1700025440-01	Internal SAS cable (6G) SFF-8643 to SFF-8087, 85 cm
ASR-1000K-00A1E	JBOD module for SA SKU

## Packing List

Part Number	Description	Quantity
9680016858	Slide Rail Kit	1

# HPC-8424

## 4U Storage Chassis for ATX/EATX Serverboard with 24 Hot-swap Drive Bays

**NEW**



### Features

- 4U rackmount chassis supports EATX/ATX/uATX motherboard
- 24-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Support 2 hot-swappable 2.5" drive bays at the rear
- Supports 80Plus redundant power supply

CE FCC

### Specifications

Drive Bay	3.5"/2.5"	Front 24 (Hot-Swap)	Rear -
	2.5"	-	2
Cooling	Fan	4 (8 cm)	
	Air Filter	-	
Front I/O Interface	USB	2	
Miscellaneous	LED Indicators	LAN1, LAN2, HDD, Power, and Information LED	
Environment	Temperature	Operating 0 ~ 35 °C (32 ~ 95 °F)	Non-Operating -40 ~70 °C (-40 ~158 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	
	Vibration (5 ~ 500 Hz)	0.25 Grms	2 G
	Shock	5 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	438 x 176 x 620 mm (17.24" x 6.93" x 24.41") / 438 x 176 x 540 mm (17.24" x 6.93" x 21.26")	
	Weight	31 kg (without hard drivers)	

### Front View

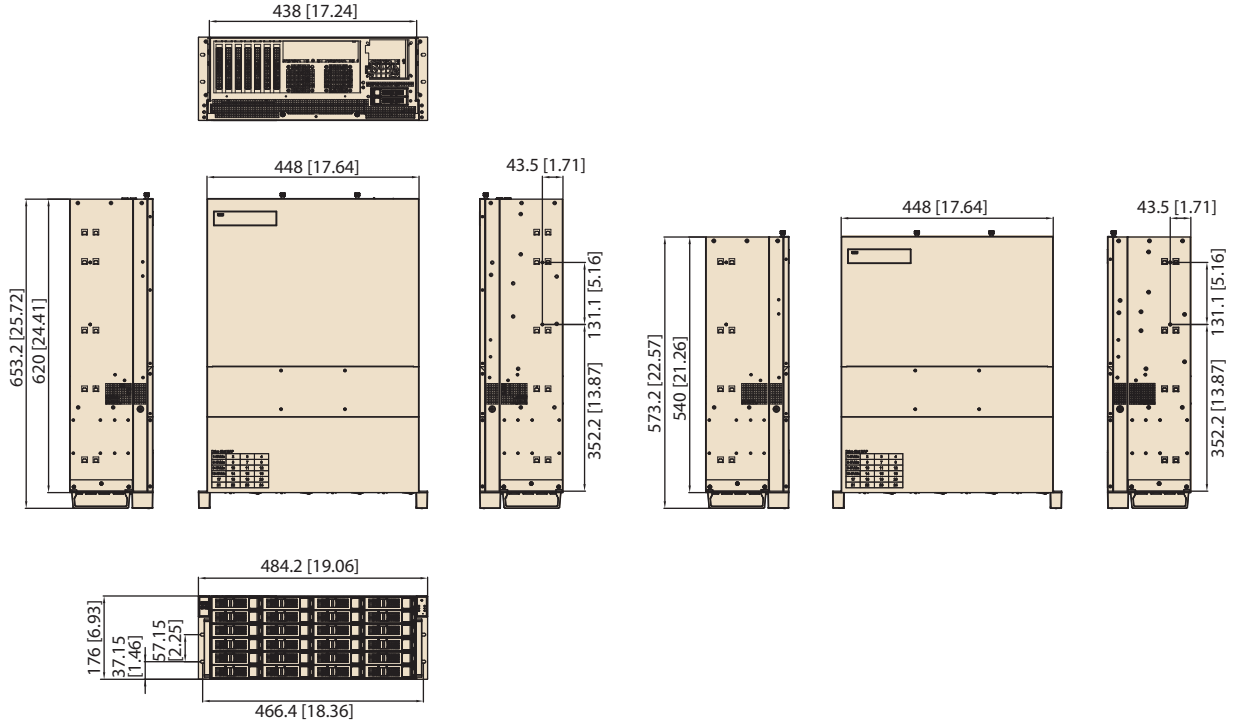


### Rear View



**Dimensions**

Unit: mm [inch]



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**Ordering Information**

Part Number	Chassis Depth	Built-in PSU Configuration	Front HDD Backplane	Rear HDDs (2 x 2.5")	Default Rail Kit	Motherboard Form-factor	Expansion Slots
HPC-8424SE-R8A1E	620mm	RPSU 800W	SAS12Gb/s	Hot-Swap	26"	EATX, ATX, uATX	x6* Full Height
HPC-8424SA-R5A1E	540mm	RPSU 550W	SAS12Gb/s	Hot-Swap	26"	ATX, uATX	x6* Full Height

Note: one slot will be occupied by an SAS RAID card.

**Packing List**

Part Number	Description	Quantity
9680017375	26" Slide Rail Kit	1

**Optional Accessories**

Part Number	Description
9891821200E	PCIe x16 Riser card for 4-port NVMe drives
1700025064-01	Internal SAS cable (12G) SFF8643 to SFF8643, 60cm
1700025439-01	Internal SAS cable (6G) SFF8643 to SFF8087, 60cm
ASR-1000K-00A1E	JBOD module for SA SKU

# ASR-1000K

## Flexible Expansion Module Fulfilling Various JBOD Demands



### Features

- Two Mini-SAS HD (SFF-8644) host ports
- Supports 12Gbps SAS protocol
- SES enclosure management & smart fan control
- Storage daisy chain & maximum 72 SAS/SATA HDDs
- Flexibly leverage HPC-8000 series chassis to build JBOD subsystems

### Specifications

System	Form Factor	I/O module	
	Back Panel I/O Port	2 mini-SAS HD (SFF-8644)	
	Internal I/O Connector	2 mini-SAS HD (SFF-8643)	
	SAS Interlink	2 SAS 12Gbps cables	
	Smart Fan Control	Yes	
Mechanical	Storage Daisy Chain	Yes, up to 72 drives	
	Dimension (W x H x D)	175 x 53.2 x 181.77 mm (6.8" x 2" x 7.1")	
	Weight	500g	
Environment	Temperature	Operating	Non-operating
		System: 0 ~ 35 °C	-40 ~ 85 °C
	Board: 0 ~ 40 °C		
Humidity	10% ~ 90%	10% ~ 95% (Non condensing)	
Misc	Notification LED	Power LED, System Alert LED, FAN Fault LED, Overheat LED	
	Button	Power button, Mute Button	

### I/O View



### TOP View



### Ordering Information

Part Number	Description
ASR-1000K-00A1E	JBOD kit for enclosure expansion function

### Packing List

Part Number	Description	Quantity
1700025064-01	Mini-SAS HD (SFF-8643) to mini-SAS HD (SFF-8643) 60cm cable	2

### Optional Accessories

Part Number	Description
1700025067-01	Mini-SAS HD (SFF-8644) to mini-SAS HD (SFF-8644) 150cm cable
1700025066-01	Mini-SAS (SFF-8088) to mini-SAS HD (SFF-8644) 150cm cable

### Compatible Enclosures

Part Number	Description
HPC-8316SA-R5A1E	3U-16 bay short-depth storage chassis
HPC-8212SA-R5A1E	2U-12 bay short-depth storage chassis
HPC-8224SA-R5A1E	2U-24 bay short-depth storage chassis
HPC-8424SA-R5A1E	4U-24 bay short-depth storage chassis



## Industrial Storage

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<b>ASR-3100</b>	1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server, with up to 16x 2.5" NVMe SSDs and 2x PCIe Gen III x8 Slots	<b>11-4</b>
<b>SKY-4311</b>	1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server, with up to 8x 2.5" NVMe SSDs and 2x PCIe Gen III x8 Slots	<b>11-6</b>
<b>ASR-5300I</b>	3U 16-bay IP-SAN Storage with Reinforced Reliability for Surveillance	<b>11-8</b>
<b>SKY-4120B</b>	2U 24-bay JBOD Enclosure for High Availability Applications	<b>11-10</b>

To view all of Advantech's industrial storage product offerings, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Selection Guide



Product Categories		Storage Server		Disk Expansion Enclosure
Model Name		ASR-3100	SKY-4311	SKY-4120B
System	Form Factor	1U 16 bay	1U 8 bay	2U 24bay
	Number of Drives	16 bays (2.5")	8 bays (2.5")	24 bays (2.5")
	Drive Type	NVMe/SAS/SATA	NVMe/SATA	12/6 Gb/s SAS
	CPU Type	Dual LGA 2011-R3 supports Intel® Xeon® E5-2600 V3/V4 series	Dual LGA 2011-R3 supports Intel® Xeon® E5-2600 V3/V4 series	-
	Chipset	Intel® C612	Intel® C612	-
	Memory Type	16 x DDR4-2133 ECC RDIMM (up to 512 GB)	16 x DDR4-2133 ECC RDIMM (up to 512 GB)	-
	Storage Expansion	2 x PCIe x8 (Gen3) (supports 1 x HHHL card and 1 x FHHL card)	2 x PCIe x8 (Gen3) (supports 1 x HHHL card and 1 x FHHL card)	3 x mSAS HD wide-ports 2 for SAS-in, 1 for SAS-out
	Configuration	-	-	Redundant controller
	TPM	-	-	-
	Smart Fan Control	Yes	Yes	Yes
Expansion Slot	PCIe x16	-	-	-
	PCIe x8	2 (supports 1 x HHHL card and 1 x FHHL card)	2 (supports 1 x HHHL card and 1 x FHHL card)	-
Display	Integrated Chipset	-	-	-
	Display Memory	1 GB	1 GB	-
	VGA	ASPEED AST-2400	ASPEED AST-2400	-
Ethernet	RJ-45 Ethernet	2	2	Remote managements - SNMP trap supported
I/O	Front I/O	1 x USB 2.0	1 x USB 2.0	-
	Rear I/O	1 x VGA 1 x COM RS-232 4 x USB 3.0 2 x LAN RJ45	1 x VGA 1 x COM RS-232 4 x USB 3.0 2 x LAN RJ45	1 x LAN RJ45
	Internal I/O Connector	2 x M.2 connectors (2242)	2 x M.2 connectors (2242)	-
Power Supply	Power Output	1100W redundant power	1100W redundant power	650W redundant power
	Input Range	100 ~ 240V <sub>AC</sub>	100 ~ 240V <sub>AC</sub>	100 ~ 240V <sub>AC</sub>
Mechanical	Dimensions (L x W x H)	806 x 430 x 44 mm (31.7" x 16.9" x 1.7")	626 x 430 x 44 mm (24.6" x 16.9" x 1.7")	502 x 438 x 88.4 mm (19.7" x 17.2" x 3.4")
	Weight	17 kg (without hard drives)	15 kg (without hard drives)	20 kg (without hard drives)
Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)
	Non-Operating Temperature	-20 ~ 60 °C (-4 ~ 140 °F)	-20 ~ 60 °C (-4 ~ 140 °F)	-40° C ~ 60° C (-40° F ~ 140° F)
	Operating Humidity	10 ~ 85% @ 40 °C, non-condensing	10 ~ 85% @ 40 °C, non-condensing	95% @ 40° C, non-condensing
	Non-Operating Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 40 °C, non-condensing	95% @ 60° C, non-condensing
	Operating Vibration (5~500 Hz)	0.25Grms	0.25Grms	0.25Grms
Miscellaneous	Notification LED	Power Status, System Error, HDD Status, LAN LED, Location	Power Status, System Error, HDD Status, LAN LED, Location	Power Status, System Fail
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Product Categories		External Disk Array
Model Name		ASR-5300I
System	Form Factor	3U 16 bays (LFF)
	Configuration	Single controller
	Number of Drives	116 bays (3.5")
	Drive Type	6 Gb/s SAS, 6 Gb/s SATA
	Cache Memory	2 GB (default), up to 16 GB
	JBOD Expansion	Yes (mini SAS)
	Max. Drives	160 x 3.5"
	Default Host	4 x 1Gb/s iSCSI RJ45 port
	Optional Host	-
	RAID Level	0, 1, 3, 5, 6, 10, 30, 50, 60
	LUN Number	2048 LUNs
	Notification	Email, fax, LAN broadcast, SNMP traps, SMS, Skype
Data Service	Advanced Functions	Thin provisioning
		Snapshot (64 images per source volume, max. 128 per system)
		Volume copy/ mirror (16 source volumes, 4 replication pairs per volume, max. 64 per system)
Optional Features	-	
Power Supply	Power Output	460W redundant power (80PLUS)
	Input Range	100 ~ 240V <sub>AC</sub>
Mechanical	Dimensions (L x W x H)	500 x 448 x 130 mm (19.6" x 17.6" x 5.1")
	Weight	21.66 kg (47.75 lbs) without hard drives (without hard drives)
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F) without BBU or supercap
	Non-Operating Temperature	-40 ~ 60 °C (-40 ~ 140 °F)
	Operating Humidity	5 ~ 95%, non-condensing
	Non-Operating Humidity	5 ~ 95%, non-condensing
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# ASR-3100

## 1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server with 16 x 2.5" NVMe SSDs and 2 x PCIe Gen III x8 Slots



CE FCC

### Features

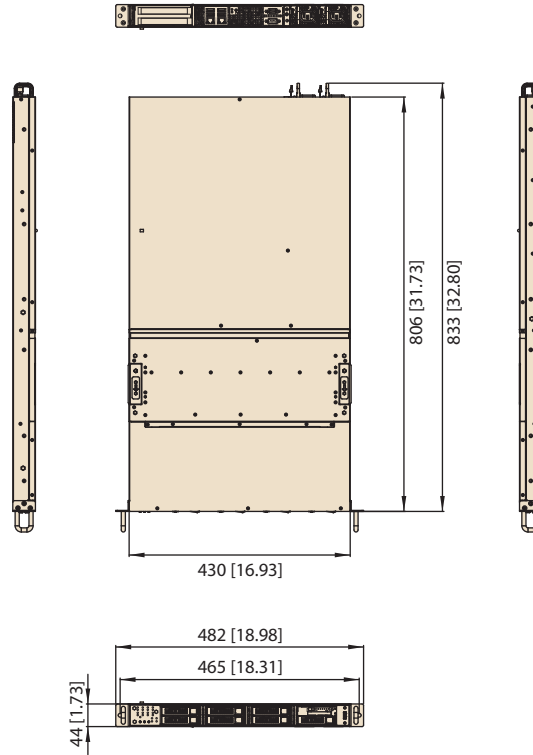
- Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 processors
- 16 DDR4-2133 RDIMMs for a maximum of 512 GB
- Up to 16 x hot-swappable 2.5" NVMe/SAS/SATA drives
- Intelligent Platform Management Interface (IPMI) support
- Supports 2 x PCIe Gen III x8 cards for I/O expansion
- 1100 W 1+1 redundant power supply with 80 PLUS Platinum certification

### Specifications

System	Chipset	Intel® C612	
	CPU	Intel® Xeon® E5-2600(v3/V4) dual processor (up to 135W TDP)	
	Memory	16 x DDR4-2133 ECC RDIMMs, maximum 512 GB	
Graphics	Controller	ASPEED AST2400	
	VRAM	64 MB	
Expansion Slot	PXle x8	2 x PCIe Gen III x8 slots (Supports 1 x HHHL card and 1 x FHHL card)	
Drive Bay	2.5" (hot swappable)	Up to 16 x NVMeS/SAS (12Gb)/SATA (6Gb) drives (Refer to the ordering information for further details.)	
Ethernet	Interface	2 x 1 GB Base-T Ethernet	
	Controller	2 x Intel® I210	
Front I/O	USB	1 x USB 2.0	
	USB	4 x USB 3.0	
Rear I/O	PS/2	-	
	COM	1	
	Display	1 x VGA	
	RJ45	2	
Internal Connector	Type-A USB	-	
	SATA	2 (SATA M.2 2242)	
	LPC	-	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output	80 PLUS Platinum 1+1 redundant power supply 900W @ 100 ~ 120 V 1100W @ 200 ~ 240 V	
	Input Range	100 ~ 240V <sub>AC</sub>	
Cooling	Chassis Fan	7 x 4056	
	Air Filter	-	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN status, location, error messages	
	Remote Management	Advantech Remote Monitoring Utility	
Environment	Temperature	Operating 0 ~ 40 °C (32~104 °F)	Non-operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C 10 ~ 95% @ 40 °C	
	Vibration (5 ~ 500 Hz)	0.25 Grms -	
Characteristics	Dimensions (D x W x H)	806 x 430 x 44 mm (31.7" x 16.9" x 1.7")	

## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	2.5" Front HDD Bay	Second Row 2.5" HDD Bay	PCIe Slots	Chassis Depth	1 GbE	IPMI	Power Supply
ASR-3100PP-R11A1E	X8 NVMe	X8 NVMe + SATA (SAS optional)	2	806 mm	2	Yes	1+1 1100W RPS
ASR-3100PT-R11A1E	X8 NVMe	X8 SATA (SAS optional)	2	806 mm	2	Yes	1+1 1100W RPS
ASR-3100SS-R11A1E	X8 SAS+SATA	X8 SAS + SATA (x2 NVMe optional)	1*	806 mm	2	Yes	1+1 1100W RPS

Note:

- One slot is occupied by the SAS12G RAID card.
- For quality assurance purposes, the product must be sold as a complete system with the CPU, memory, and drives fully integrated and tested.

## Package Contents

Part Number	Description	Quantity
CPU0 heatsink	Heatsink for E5-2600 series	1
CPU1 heatsink	Heatsink for E5-2600 series	1
Rail kit	1U slide rail kit	1
CMA	Cable management arm	1
Driver CD	ASR-3100 CD with drivers and user manual	1
Startup manual	ASR-3100 startup manual	1

## Compatible NVMe Drives

Part Number	Description
96FD25-V2TB-IN7	Intel P3700 2.5" NVMe, 2.0TB, MLC
96FD25-V1.6TB-IN7	Intel P3700 2.5" NVMe, 1.6TB, MLC
96FD25-800-IN7	Intel P3700 2.5" NVMe, 800GB, MLC
96FD25-400-IN7	Intel P3700 2.5" NVMe, 400GB, MLC

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# SKY-4311

## 1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server with 8 x 2.5" NVMe SSDs and 2 x PCIe Gen III x8 Slots



CE FCC

### Features

- Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 processors
- 16 x DDR4-2133 RDIMMs for a maximum of 512 GB
- Up to 8 x hot-swappable 2.5" NVMe/SATA drives
- Intelligent Platform Management Interface (IPMI) support
- Supports 2 x PCIe Gen III x8 cards for I/O expansion
- 1100 W 1+1 redundant power supply with 80 PLUS Platinum certification

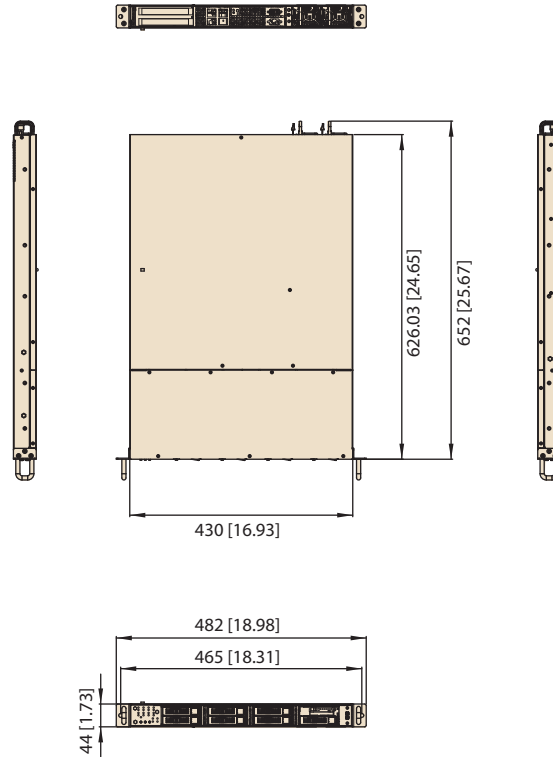
### Specifications

System	Chipset	Intel® C612	
	CPU	Intel® Xeon® E5-2600(v3) dual processor (up to 135W TDP)	
	Memory	16 x DDR4-2133 ECC RDIMMs, maximum 512 GB	
Graphics	Controller	ASPEED AST2400	
	VRAM	64 MB	
Expansion Slot	PXle x8	2 x PCIe Gen III x8 slots (Supports 1 x HHHL card and 1 x FHHL card)	
Drive Bay	2.5" (hot swappable)	Up to 8 x NVMeS/SAS (12 Gb)/SATA (6 Gb) drives (Refer to the ordering information for further details.)	
Ethernet	Interface	2 x 1 GB Base-T Ethernet	
	Controller	2 x Intel® I210	
Front I/O	USB	1 x USB 2.0	
	USB	4 x USB 3.0	
Rear I/O	PS/2	-	
	COM	1	
	Display	1 x VGA	
	RJ45	2	
	USB Type A	-	
Internal Connector	SATA	2 (SATA M.2 2242)	
	LPC	-	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output	80 PLUS Platinum 1+1 redundant power supply 900W @ 100 ~ 120 V 1100W @ 200 ~ 240 V	
	Input Range	100 ~ 240V <sub>AC</sub>	
Cooling	Chassis Fan	5 x 4056	
	Air Filter	-	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN status, location, error messages	
	Remote Management	Advantech Remote Monitoring Utility	
Environment	Temperature	Operating 0 ~ 40 °C (32~104 °F)	Non-operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C 10 ~ 95% @ 40 °C	
	Vibration (5 ~ 500 Hz)	0.25 Grms -	
Characteristics	Dimensions (D x W x H)	626 x 430 x 44 mm (24.6" x 16.9" x 1.7")	



## Dimensions

Unit: mm [inch]



## Ordering Information

Part Number	2.5" Front HDD Bay	PCIe Slots	Chassis Depth	1 GbE	IPMI	Power Supply
SKY-4311P-R11A1E	x8 NVMe+SATA (SAS is optional)	2	626 mm	2	Yes	1+1 1100W RPS

Note:

1. For quality assurance purposes, the product must be sold as a complete system with the CPU, memory, and drives fully integrated and tested.

## Package Contents

Part Number	Description	Quantity
CPU0 heatsink	Heatsink for E5-2600 series	1
CPU1 heatsink	Heatsink for E5-2600 series	1
Rail kit	1U slide rail kit	1
Driver CD	CD with drivers and user manual	1
Startup manual	Startup manual	1

## Compatible NVMe Drives

Part Number	Description
96FD25-V2TB-IN7	Intel P3700 2.5" NVMe, 2.0TB, MLC
96FD25-V1.6TB-IN7	Intel P3700 2.5" NVMe, 1.6TB, MLC
96FD25-800-IN7	Intel P3700 2.5" NVMe, 800GB, MLC
96FD25-400-IN7	Intel P3700 2.5" NVMe, 400GB, MLC

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# ASR-5300I

## 3U 16-Bay IP-SAN Storage Solution with Enhanced Reliability for Surveillance



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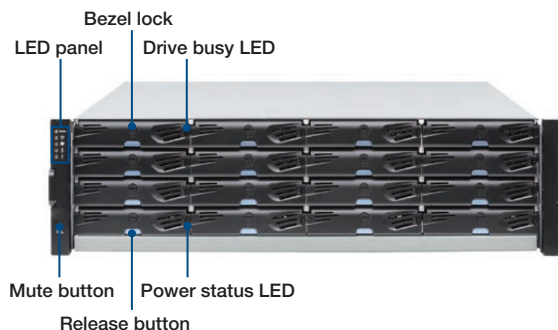
### Features

- Single controller configuration
- 3U 16-bay (LFF) short-depth form factor
- 4 x iSCSI 1Gb/s host interfaces
- 2 GB cache (default), up to 16 GB
- Up to 160 x 3.5"/2.5" SATA/SAS drives
- Optional BBU/Supercap+Flash module for cache backup
- Supports thin provisioning, snapshot, and volume copy/mirror data service functions

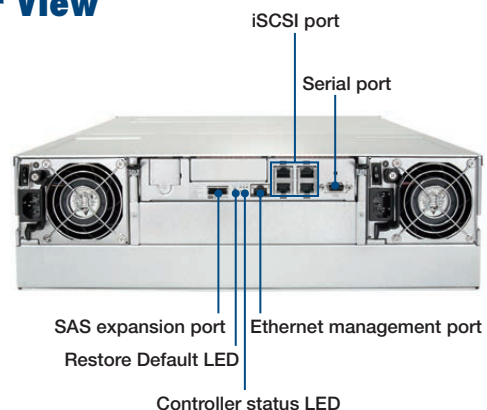
### Specifications

System	Form Factor	3U 16 bays (LFF)	
	Configuration	Single controller	
	Number of Drives	16 bays (3.5")	
	Drive Type	6 Gb/s SAS, 6 Gb/s SATA	
	Cache Memory	2 GB (default), up to 16 GB	
	JBOD Expansion	Yes (mini SAS)	
	Max. Drives	160 x 3.5" (with corresponding JBODs)	
	Default Host	4 x 1Gb/s iSCSI RJ45 port	
	RAID Level	0, 1, 3, 5, 6, 10, 30, 50, 60	
	LUN Number	2048 LUNs	
Data Service	Notification	Email, fax, LAN broadcast, SNMP traps, SMS, Skype	
	Advanced Function	Thin provisioning	
		Snapshot (64 images per source volume, max. 128 per system) Volume copy/mirror (16 source volume, 4 replication pairs per volume, max. 64 per system)	
Power Supply	Power Output	460W Redundant Power (80 Plus)	
	Input Range	100 ~ 240V <sub>AC</sub>	
Mechanical	Dimensions (L x W x H)	500 x 448 x 130 mm (19.6" x 17.6" x 5.1")	
	Weight	21.66 kg (47.75 lbs) without hard drives	
Environment	Temperature	Operating	Non-operating
		0 ~ 40 °C (32 ~ 104 °F) without BBU or supercap      -40 ~ 60 °C (-40 ~ 140 °F)	
	Humidity	5 ~ 95%, non-condensing      5 ~ 95%, non-condensing	

### Front View

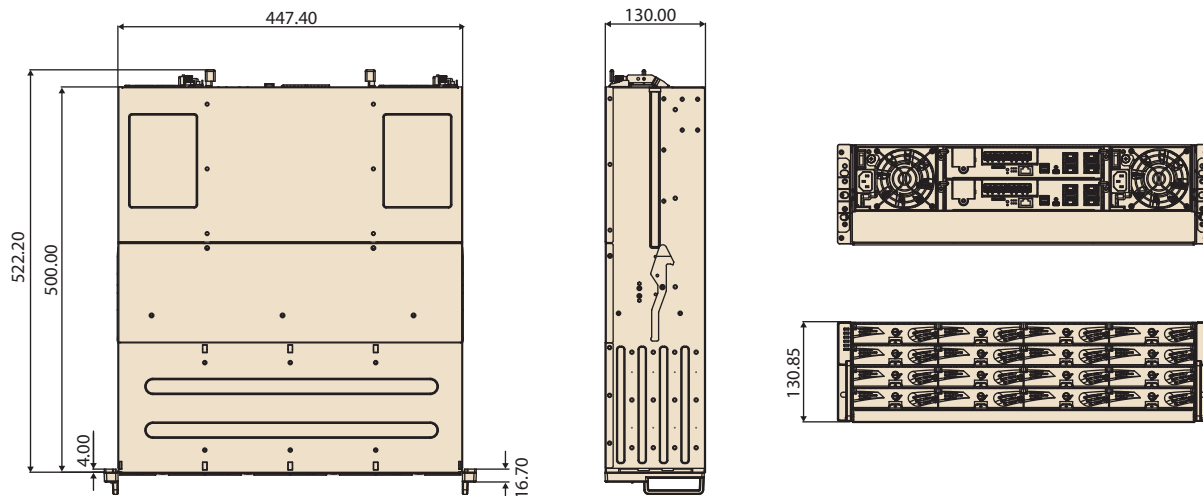


### Rear View



## Dimensions

Unit: mm



## Ordering Information

Part Number	Description
ASR-5300I-16A1E	3U 16-bay single controller iSCSI disk array

## System Contents

Description	Quantity
Mount kit	1

## Compatible Drives

Part Number	Description
96HD2T-ST-WD7KE	WD 3.5" Enterprise SATA 2TB, 7Krpm, with 5-year warranty
96HD4TB-ST-WD7KE	WD 3.5" Enterprise SATA 4TB, 7Krpm, with 5-year warranty
96HD3TB-ST-SG5KA	Seagate 3.5" Surveillance SATA 3TB, 5Krpm, with 3-year warranty
96HD4TB-ST-SG5KA	Seagate 3.5" Surveillance SATA 4TB, 5Krpm, with 3-year warranty
96HD2TB-ST-SG7KE	Seagate 3.5" Enterprise SATA 2TB, 7Krpm, with 5-year warranty
96HD3TB-ST-SG7KE	Seagate 3.5" Enterprise SATA 3TB, 7Krpm, with 5-year warranty
96HD4TB-ST-SG7KE	Seagate 3.5" Enterprise SATA 4TB, 7Krpm, with 5-year warranty
96ND500G-ST-SG7K2	Seagate 2.5" Enterprise SATA 500GB, 7Krpm, with 5-year warranty
96ND1T-ST-SG7KE	Seagate 2.5" Enterprise SATA 1TB, 7Krpm, with 5-year warranty
96ND300G-SS-SG10KE	Seagate 2.5" Enterprise SAS 300GB, 10Krpm, with 5-year warranty
96ND600G-SS-SG10KE	Seagate 2.5" Enterprise SAS 600GB, 10Krpm, with 5-year warranty
96ND900G-SS-SG10KE	Seagate 2.5" Enterprise SAS 900GB, 10Krpm, with 5-year warranty

## Optional Accessories

Part Number	Description
ASR-5300I-CBMB	Cache backup module, BBU+Flash
ASR-5300I-CBMC	Cache backup module, Super-capacitor+ Flash
ASR-5300I-8GB	8GB DDR-III DIM module
ASR-5300I-4GB	4GB DDR-III DIM module
ASR-5300I-2GB	2GB DDR-III DIM module

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# SKY-4120B

## 2U 24-Bay JBOD Enclosure for High-Availability Applications



### Features

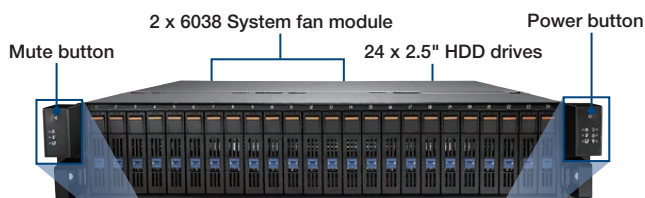
- Supports 24 x hot-swappable 2.5" SAS (12/6 Gb) drives
- SES enclosure management and smart fan control
- 3 x Mini SAS HD (SFF-8644) per expander module (2 x for input and 1 x for output)
- Storage daisy chain support for up to 72 drives
- High-efficiency (80PLUS) redundant power supply

CE FCC

### Specifications

System	Form Factor	2U 24 bays	
	Number of Drives	24 x 2.5" bays	
	Drive Type	SAS 12/6 Gb only	
	SAS Expansion Port	3 x Mini SAS HD (SFF-8644) per expander module	
	Cooling	2 x (1+1) 6038 easy-swap fans with smart fan control	
Power Supply	Power Output	550W 1+1 redundant power	
	Input Range	100 ~ 240V <sub>AC</sub>	
Mechanical	Dimensions (W x H x D)	438 x 88.4 x 502 mm (19.7" x 17.2" x 3.4") (without handle ears)	
	Weight	20 kg (without hard drives)	
Environment	Temperature	Operating	Non-operating
		0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 60 °C (-40 ~ 140 °F)
	Humidity	95% @ 40 °C, non-condensing	
	Vibration (5 ~ 500Hz)	0.25Grms	
	Shock	10G @11 ms duration, half sine wave	
Miscellaneous	LED Indicators	System power, system alert, location, controller fan, controller temperature, controller ready	

### Front View

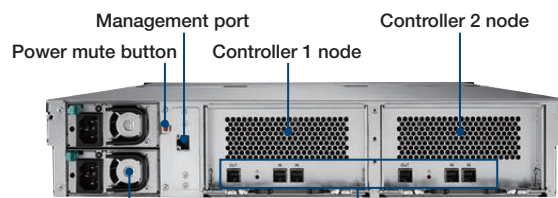


1. Controller2 Fan LED
2. Controller2 Temp. LED
3. Controller2 Ready LED
4. Controller1 Fan LED (Red)
5. Controller1 Temp. LED (Red)



6. Controller1 Ready LED (Blue)
7. System Power LED (Blue)
8. System Alert LED (Red)
9. Location LED (Blue)

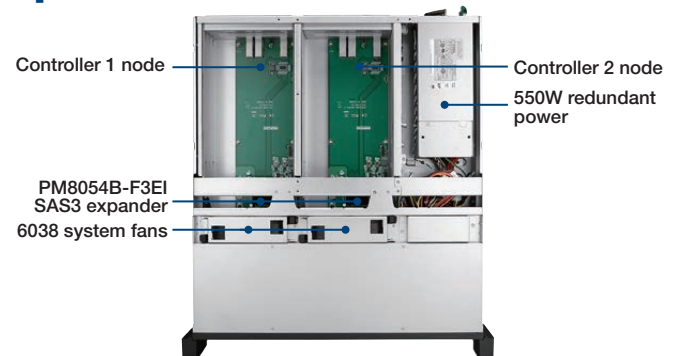
### Rear View



550W redundant power

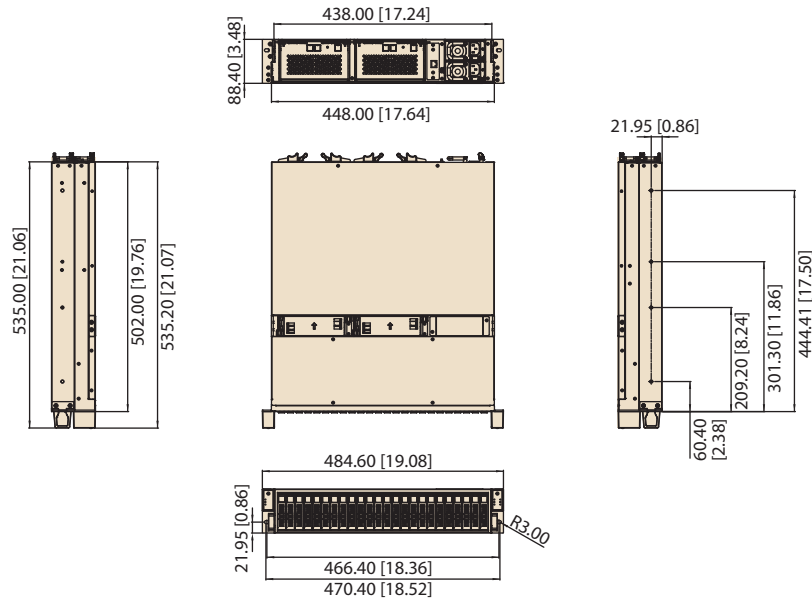
Input: Uplinked to host server or upper JBOD  
Output: Downlinked to next JBOD  
Alert LED: Same function as the alert LED located at the front

### Up View



## Dimensions

Unit: mm



## Ordering Information

Part Number	Description
SKY-4120B-R5A1E	2U 24-bay dual controller JBOD enclosure

## Optional Accessories

Part Number	Description
1700025067-01	mSAS HD (8644) to mSAS HD, 1.5m
1700025066-01	mSAS (8088) to mSAS HD, 1.5m

## Packing List

Part Number	Description	Quantity
9680017208	22" slide rail kit	1

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Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

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**ASR-3100**  
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Storage Server



**HPC-8224**  
2U 24 Hot-swappable  
2.5" Drive Bays  
Storage Server

**Advantech Headquarters**

No. 1, Alley 20, Lane 26, Rueiguang Road,  
Neihu District, Taipei, Taiwan, 11491, R.O.C.  
Tel: 886-2-2792-7818  
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## GPU Servers

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<b>AGS-913</b>	1U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU server, Supporting 3 x PCIe x16 double-depth card and 1 x PCIe x8 single-depth FH/HL card	<i>12-4</i>
<b>AGS-923</b>	2U Rackmount Intel® Xeon® E5-2600 v4/v3 GPU server, Supporting 4 x PCIe x16 double-depth card and 1 x PCIe x8 single-depth FH/HL card	<i>12-6</i>
<b>HPC-7400-S813</b>	4U GPU Server System With Intel® Xeon® E5-2600 v3/v4 CPU, Supporting up to 2* GPU cards and 1400W RPS	<i>12-8</i>
<b>HPC-7400-S923</b>	4U GPU Server System With Dual Intel® Xeon® E5-2600 v3/v4 CPU, Supporting up to 3* GPU cards and 1400W RPS	<i>12-10</i>
<b>HPC-7483-S923</b>	4U GPU Server System With Dual Intel® Xeon® E5-2600 v4 CPU, Supporting up to 4* GPU cards and 1800W RPS	<i>12-12</i>

To view all of Advantech's GPU Servers, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Selection Guide



Model Name		AGS-913	AGS-923	HPC-7400-S813
Processor Support		Dual Intel® Xeon® E5-2600 v3/v4	Dual Intel® Xeon® E5-2600 v3/v4	Single Intel® Xeon® E5-2600 v3/v4
Expansion Slots		3 x PCIe x16 double-depth card + 1 x PCIe x8 FH/HL card	4 x PCIe x16 double-depth card + 1 x PCIe x8 FH/HLcard	2 x PCIe x16 double-depth card + 1 x PCIe x8 + PCIe x4 + 1 x PCIe x1
Drive Bay	Slim ODD Bay	-	-	-
	2.5" Hot Swap	4	8	-
	3.5" Hot Swap	-	-	2
Cooling	Chassis Fan	7 x 40x56 + 2 x 40x28 high speed fan	4 x 80x38 + 1 x 80x20 + 1 x 80x38 (optional) high speed fan	3 x 80x38 + optional 2 (6cm) rear fans
	Air Filter	-	-	Yes
Chassis Intrusion Alarm		Yes	Yes	Yes
Front USB		2	2	2
Miscellaneous	LED Indicators	Power status, HDD activity, LAN status, location, error message	Power status, HDD activity, LAN status, location, error message	Power switch and system reset button
	Rear Panel	Location, error message	Location, error message	-
Environment	Operating		Non-Operating	
	Temperature	0 ~ 40 °C (32~104 °F)		-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C		
	Vibration (5~500 Hz)	0.5 Grms	2G	2G
	Shock	10 G (with 11ms duration, half sine wave)	10 G (with 11ms duration, half sine wave)	10 G (with 11ms duration, half sine wave)
Physical Characteristics	Dimensions (W x H x D)	430 x 44 x 770 mm (16.9" x 1.7" x 30.3")	430 x 88 x 770 mm (16.9" x 3.4" x 30.3")	482 x 177 x 448 mm (18.9" x 6.9" x 17.6")
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Model Name		HPC-7400-S923	HPC-7483-S923	
Processor Support		Intel Xeon E5-2500 v4/v3 processor		
Expansion Slots		3 x PCIe x 16 double-depth cards	4 x PCIe x 16 double-depth cards	
Drive Bay	Slim ODD Bay	-	-	
	2.5" Internal	2 rear-accessible (3.5"/2.5")	2	
	2.5" Hot Swap	-	-	
	3.5" (internal)	2 rear-accessible (3.5"/2.5")	8	
	5.25" (front accessible)	2	3	
Cooling	Chassis Fan	( 8 cm/1.41.9 CFM) + optional 2 (6 cm) rear fans	3 (12 cm / 226.5 CFM)+ optional 2 (8 cm) rear fans	
	Air Filter	Yes	No	
Chassis Intrusion Alarm		Yes	Yes	
Front USB		2	2	
Miscellaneous	LED Indicators	Power switch , system reset button,HDD, LAN1,LAN2	System: Power, HDD, LAN1, LAN2, System information HDD Tray: HDD Power and Activity LED	
	Rear Panel	-	Two 9-pin D-Sub and two PS2 and two USB	
Environment	Operating		Non-Operating	
	Temperature	0 ~ 35 °C (32 ~ 95 °F)		-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 35 °C		
	Vibration (5~500 Hz)	1 Grms	2 G	
	Shock	10G		
Physical Characteristics	Dimensions (W x H x D)	482x 177 x 448 mm (18.9" x 6.9" x 17.6")	435 x 177 x 658 mm (17.1" x 6.9" x 25.9")	
Page		12-10	12-12	

## Compatible GPU/Xeon Phi

Advantech Product Model			1U	2U	3U chassis HPC-7320/ 4U chassis HPC-7483 & HPC-7400					4U		
			AGS-913	AGS-923	ASMB-813	ASMB-822	ASMB-913	ASMB-922	ASMB-923	HPC-7400-S813	HPC-7400-S923	HPC-7483-S923
Nvidia	Tesla	P100	*	*	v	v	v	v	v	v	v	*
		P40	v	v	v	v	v	v	v	v	v	*
		M60	*	*	v	v	v	v	v	*	v	v
		M40	*	*	v	v	v	v	v	v	*	*
		K80	v	*	v	v	v	v	v	*	*	v
		K40	v	v	v	v	v	v	v	v	v	
AMD	Workstation	W9000	v	v	v	v	v	v	v	v	v	v
		W9100	v	v	v	v	v	v	v	v	v	v
	Server	S9000	v	v	v	v	v	v	v	v	v	v
		S9150	v	v	v	v	v	v	v	v	v	v
Intel	Coprocessor	Xeon Phi 5110P	v	v	v	v	v	v	v	v	v	

### Note:

- v means they have already passed compatibility tests (GPU card and driver install).
- \* means qualified tesla server by Nvidia
- Some GPU cards need to enable "Above 4G Decoding" in BIOS setup menu when installing multiple GPU cards

## GPU P/N

Cat.	Part Number	Description
NVS series GPU cards	SKY-NVS-310-1E	NVS 310 1GB PCI-E x16 DP*2 FS
	SKY-NVS-315E	NVS 315 1GB PCI-E x16 DMS59 FS
	SKY-NVS-510E	NVS 510 2GB PCI-E x16 MDP*4 FS
	SKY-NVS-810E	NVS 810 4GB PCI-E x16 MDP*8 FS
Quadro series GPU cards	SKY-QUAD-GP100	Quadro GP100 16GB PCI-Ex16 DVI-D*1 DP*4 FS
	SKY-QUAD-K1200E	Quadro K1200 4GB PCI-Ex16 MDP*4 FS
	SKY-QUAD-K1200LPE	Quadro K1200 4GB PCI-Ex16 MDP*4 FS/LP B
	SKY-QUAD-K420-2E	Quadro K420 2GB PCI-Ex16 DVI-I*1 DP*1 FS
	SKY-QUAD-K4200E	Quadro K4200 4GB PCI-Ex16 DVI*1 DP*2 FS
	SKY-QUAD-K5200E	Quadro K5200 8GB PCI-Ex16 DVI*2 DP*2 FS
	SKY-QUAD-K6000E	Quadro K6000 12GB PCI-Ex16 DVI*2 DP*2 FS
	SKY-QUAD-K620E	Quadro K620 2GB PCI-Ex16 DVI-I*1 DP*1 FS
	SKY-QUAD-M2000E	Quadro M2000 4GB PCI-Ex16 DP*4 FS
	SKY-QUAD-M4000E	Quadro M4000 8GB PCI-Ex16 DP*4 FS
	SKY-QUAD-M5000E	Quadro M5000 8GB PCI-Ex16 DVI*1 DP*4 FS
	SKY-QUAD-M6000-2E	Quadro M6000 24GB PCI-Ex16 DVI*1 DP*4 FS
	SKY-QUAD-M6000E	Quadro M6000 12GB PCI-Ex16 DVI*1 DP*4 FS
	SKY-QUAD-P400	Quadro P400 2GB PCI-Ex16 MDP*2 FS
	SKY-QUAD-P600	Quadro P600 2GB PCI-Ex16 MDP*4 FS
	SKY-QUAD-P1000	Quadro P1000 4GB PCI-Ex16 MDP*4 FS
	SKY-QUAD-P2000	Quadro P2000 5GB PCI-Ex16 DP*4 FS
	SKY-QUAD-P4000	Quadro P4000 8GB PCI-Ex16 DP*4 FS
SKY-QUAD-P5000E	Quadro P5000 12GB PCI-Ex16 DVI-D*1 DP*4 FS	
SKY-QUAD-P6000E	Quadro P6000 24GB PCI-Ex16 DVI-D*1 DP*4 FS	
SKY-QUAD-SYNC-KE	Quadro Sync for Kepler w/4*ribbon cable	
Tesla series GPU cards	SKY-TESL-K40-AE	Tesla K40 12GB PCI-E x16 FS
	SKY-TESL-K40-PE	Tesla K40 12GB PCI-E x16 HS
	SKY-TESL-K80E	Tesla K80 24GB PCI-E x16 HS
	SKY-TESL-M10-PE	Tesla M10 32GB PCI-E x16 HS
	SKY-TESL-M40-2E	Tesla M40 24GB PCI-E x16 HS
	SKY-TESL-M40E	Tesla M40 12GB PCI-E x16 HS
	SKY-TESL-M4E	Tesla M4 4GB PCI-E x16 HS/Low profile
	SKY-TESL-M6-MXM-PE	Tesla M6 8GB MXM3.1 type B HS
	SKY-TESL-M60-PLRE	Tesla M60 16GB PCI-E x16 HS L to R
	SKY-TESL-M60-PRLE	Tesla M60 16GB PCI-E x16 HS R to L
	SKY-TESL-P100-16P	Tesla P100-PCI-E-16GB x16 HS
	SKY-TESL-P100-PE	Tesla P100 12GB PCI-E x16 HS
	SKY-TESL-P4-PE	Tesla P4 8GB PCI-E x16 HS
	SKY-TESL-P40-PE	Tesla P40 24GB PCI-E x16 HS

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# AGS-913

## 1U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU Server, Supporting 3 x PCIe x16 Double-depth Cards and 1 x PCIe x8 Single-depth FH/HL Card



CE FCC

### Features

- Processor: Dual Intel® Xeon® E5-2600 v3/v4 series, up to 20 cores / 40 threads
- Memory: DDR4 1600/1866/2133 MHz ECC-REG type up to 256GB
- Remote Management: IPMI function support
- Expansion: Supporting 3 \* PCIe x16 double-deck cards + 1\* PCIe x8 single-deck FH/HL card
- PSU: 1100W 1+1 redundant power supply with 80 PLUS Platinum level certification

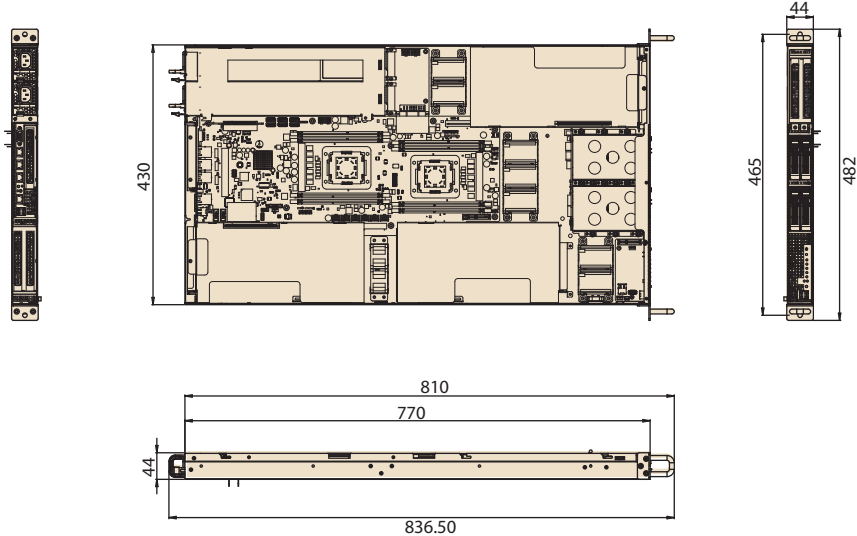
### Specifications

Processor System	Chipset	Intel C612 Chipset	
	CPU	Dual Intel LGA2011 Xeon E5-2600 v3/v4 processor (up to 135W TDP)	
	L2 Cache	Up to 30 MB	
	Memory	8 x DDR4 1600/1866/2133 ECC-REG DIMM, up to 256GB	
Graphics	Controller	Aspeed AST2400	
	VRAM	64 MB	
Expansion Slot	Slot location 1 (Upper Middle slot)	PCIe x 8 slot (Gen3 x8 link) for FH/HL expansion cards	
	Slot location 2 (Lower Right slot)	PCIe x16 slot (Gen3 x16 link), for double-deck 4.376"(H)/10.5"(L) expansion cards	
	Slot location 3 (Upper Left slot)	PCIe x16 slot (Gen3 x16 link), for double-deck 4.376"(H)/10.5"(L) expansion cards	
	Slot location 4	-	
	Slot location 5	-	
	Slot location 6 (Lower Left slot)	PCIe x16 slot (Gen3 x16 link), for double-deck 4.376"(H)/10.5"(L) expansion cards	
Drive Bay	2.5" (Hot-swap)	4	
	3.5" (Front Accessible)	-	
	3.5" Internal	-	
Ethernet	Interface	4 x 10/100/1000 Mbps Gigabit Ethernet	
	Controller	4 x Intel I210AT	
Front I/O Interface	USB	2 x USB2.0	
	USB	2 x USB3.0	
Rear I/O Interface	PS/2	-	
	COM	-	
	Display	1 x VGA	
	RJ-45	4 (1 is sharing NIC for IPMI)	
Internal connector	Type-A USB	1	
	COM	2	
	LPC	1	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output Wattage	80 PLUS Platinum 1+1 redundant Power Supply 900W @ 100 ~ 120V 1100W @ 200 ~ 240V	
	Input Range	AC 100 ~ 240 V	
Cooling	Chassis Fan	7 x 40 x 56 + 2 x 40 x 28 high speed fan	
	Air Filter	-	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN status, location, error message	
	Remote Management	Advantech Remote Monitoring Utility	
Environment	Temperature	Operating	Non-Operating
		0 ~ 35 °C (32 ~ 85 °F) *0 ~ 30 °C (32 ~ 85.9 °F) for nVidia tesla P100	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C	10 ~ 95% @ 40 °C
	Vibration (5 ~ 500 Hz)	0.5 Grms	2 G
Shock	10G (with 11ms duration, half sine wave)	30G	
Physical Characteristics	Dimension (W x H x D)	430 x 44 x 770 mm (16.9" x 1.7" x 30.3")	

Note1: operating temperature qualified AGS-913 max 2 GPU cards by nVidia certification.

**Dimensions**

Unit: mm [inch]



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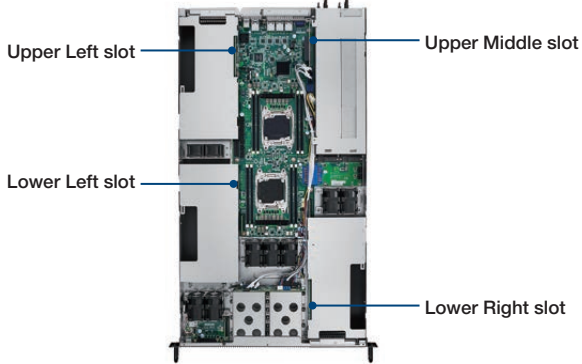
**Front View**



**Rear View**



**Inside View**



Note1: nVidia qualified AGS-913 max 2 of GPU slots on lower left slot & lower right slot

**Ordering Information**

Part Number	HDD	VGA Chip	RJ45	IPMI	Power supply
AGS-913I-R11A1E	4	AST 2400	4	YES	1+1 1100W RPS

**System Contents**

Items	Advantech P/N	Quantity
CPU0 heatsink	1960065593N001	1
CPU1 heatsink	1960065591N001	1
Slide rail kit	9680015703	1
Power cable for expansion card (Pre-assembled in the system)	1700023022-01	6
Driver CD	2061S91301	1
Startup manual	2001S91310	1

**Optional Accessories**

Part Number	Description
1700026210-01	SATA Power cable for nVidia GPU card (20 cm)

# AGS-923

## 2U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU Server, Supporting 4 x PCIe x16 Double-depth Cards and 1 x PCIe x8 Single-depth FH/HL Card



### Features

- Processor: Dual Intel® Xeon® E5-2600 v4/v3 series
- Memory: DDR4 1600/1866/2133 MHz ECC-REG type up to 256GB
- Remote Management: IPMI function support
- Expansion: Supporting 4 \* PCIe x16 double-depth card + 1\* PCIe x8 single-depth FH/HL card
- PSU: max 1800W 1+1 redundant power supply with 80 PLUS Platinum level certification

CE FCC

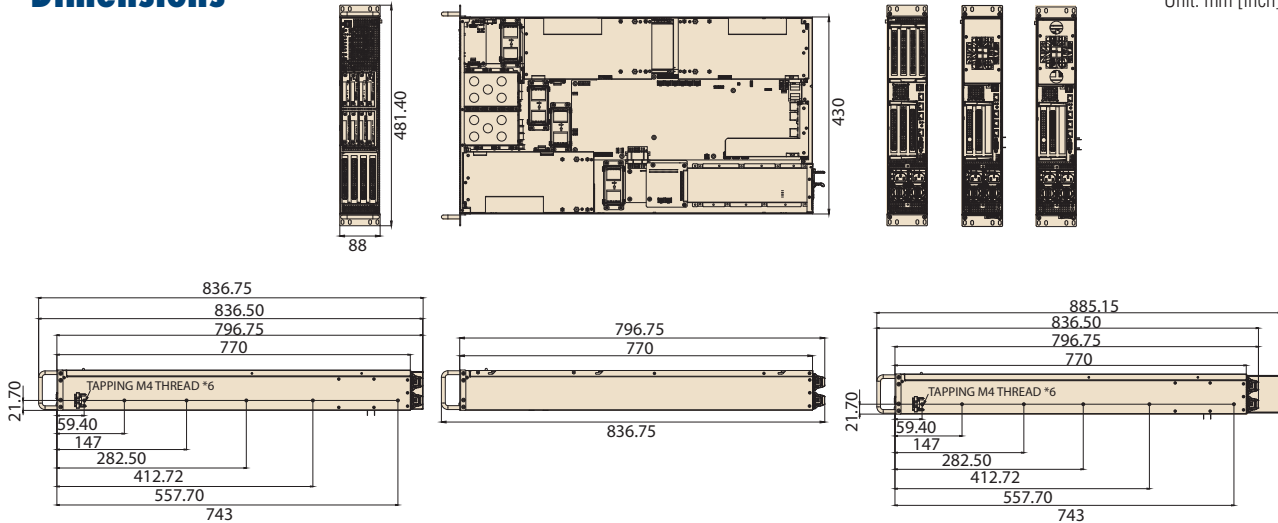
### Specifications

Processor System	Chipset	Intel C612 Chipset	
	CPU	Dual Intel LGA2011 Xeon E5-2600 v3/v4 processor (up to 145W TDP)	
	L2 Cache	Up to 30 MB	
	Memory	8 x DDR4 1600/1866/2133 ECC-REG DIMM, up to 256GB	
Graphics	Controller	Aspeed AST2400	
	VRAM	64 MB	
Expansion Slot	Slot location 1 (Upper Middle slot)	PCIe x 8 slot (Gen3 x8 link) for single-depth 4.376"(H)/6.4"(L) expansion cards	
	Slot location 2 (Lower Right slot)	PCIe x16 slot (Gen3 x16 link), for double-depth 4.376"(H)/10.5"(L) expansion cards	
	Slot location 3 (Upper Left slot/bottom)	PCIe x16 slot (Gen3 x16 link), for double-depth 4.376"(H)/10.5"(L) expansion cards, support 12"(L) when remove 8020 FAN	
	Slot location 4	-	
	Slot location 5 (Upper Left slot/top)	PCIe x16 slot (Gen3 x16 link), for double-depth 4.376"(H)/10.5"(L) expansion cards, support 12"(L) when remove 8020 FAN	
	Slot location 6 (Lower Left slot)	PCIe x16 slot (Gen3 x16 link), for double-depth 4.376"(H)/10.5"(L) expansion cards	
Drive Bay	2.5" (Hot-swap)	8 (4 from SATA III and 4 from slave SATA III on-board)	
	3.5" (Front Accessible)	-	
	3.5" Internal	-	
Ethernet	Interface	4 x 10/100/1000 Mbps Gigabit Ethernet	
	Controller	4 x Intel I210AT	
Front I/O Interface	USB	2 x USB2.0	
		2 x USB3.0	
Rear I/O Interface	PS/2	-	
	COM	-	
	Display	1 x VGA	
	RJ-45	4 (1 is sharing NIC for IPMI)	
Internal connector	Type-A USB	1	
	COM	2	
	LPC	1	
Watchdog Timer	Output	System reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output Wattage	80 PLUS Platinum 1800W 1+1 redundant Power Supply 1000W @ 100 ~ 127V 1800W @ 200 ~ 240V	
		80 PLUS Platinum 1400W 1+1 redundant Power Supply 900W @ 100 ~ 120V 1400W @ 200 ~ 240V	
	Input Range	AC 100 ~ 240 V	
Cooling	Chassis Fan	[1800W] 3 * 80 x 38 + 2 * 80 x 38 high speed fan [1400W] 4 * 80 x 38 + 1 * 80x20 + 1 * 80 x 38 (optional) high speed fan	
	Air Filter	-	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN status, location, error message	
	Remote Management	Advantech Remote Monitoring Utility	
Environment	Temperature	Operating	Non-Operating
		0 ~ 30 °C (32 ~ 86 °F, for 1800W) 0 ~ 40 °C (32 ~ 104 °F, for 1400W)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C	10 ~ 95% @ 40 °C
	Vibration (5 ~ 500 Hz)	0.5 Grms	2 G
Physical Characteristics	Dimension (W x H x D)	[1800W] 430 x 88 x 798 mm (16.9" x 3.4" x 31.4")	
		[1400W] 430 x 88 x 770 mm (16.9" x 3.4" x 30.3")	



## Dimensions

Unit: mm [inch]



## Front View



Supports 1 x PCIe x 16 double deck/  
1 x single deck FH card

## Rear View

1400W



Supports 1 x PCIe x8 FH/HL card

Supports 2 x PCIe X16 double deck/  
2 x single deck FH card

1800W



Supports 1 x PCIe x8 FH/HL card

Supports 2 x PCIe X16 double deck/  
2 x single deck FH card

## Inside View

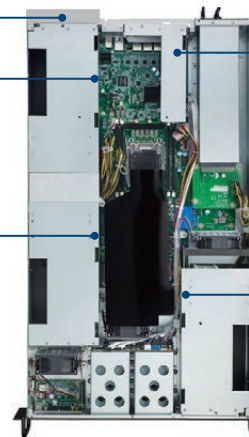
Default system fan 1800W  
and optional part for 1400W

Upper Left slot

Lower Left slot

Upper Middle slot

Lower Right slot



## Ordering Information

Part Number	HDD tray	VGA Chip	RJ45	IPMI	Power Supply
AGS-923I-R18A1E	8	AST 2400	4	YES	1+1 1800W RPS
AGS-923I-R14A1E	8	AST 2400	4	YES	1+1 1400W RPS

## Optional Accessories (for 1400W)

Part Number	Description
98R1920I10E	Optional parts for Upper Left GPU card air duct with FAN
98R1920I20E	Optional parts for Upper Left GPU card air duct with FAN and display output

## System Contents

Items	Advantech P/N	Quantity
Startup manual	2001S91310	1
Driver CD	2061S92300	1
Rail kit (pair)	9680015703	1
CPU cooler	1960063011N001	2
Power module (Installed in the system)	96PSRM-A1K8WCR	2
Power cable for GPU/VGA card (Installed in the system)	1700023022-01	8

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# HPC-7400-S813

**4U GPU Server System With Intel® Xeon® E5-2600 v3/v4 CPU, Supporting up to 2\* GPU Cards and 1400W RPS**



## Features

- 7 years longevity support- Revision control
- 0 ~ 35 °C operating temperature
- Reliable resume from AC power loss function
- Supports Intel® Xeon® E5-2600/E5-1600 v3/v4 Series CPUs
- Quad channel DDR4 2133 MHz ECC & Registered DIMMs up to 256 GB
- Supports up to 2\* GPU cards
- 1400W 1+1 Redundant PSU with 80 PLUS Platinum level
- IPMI remote management

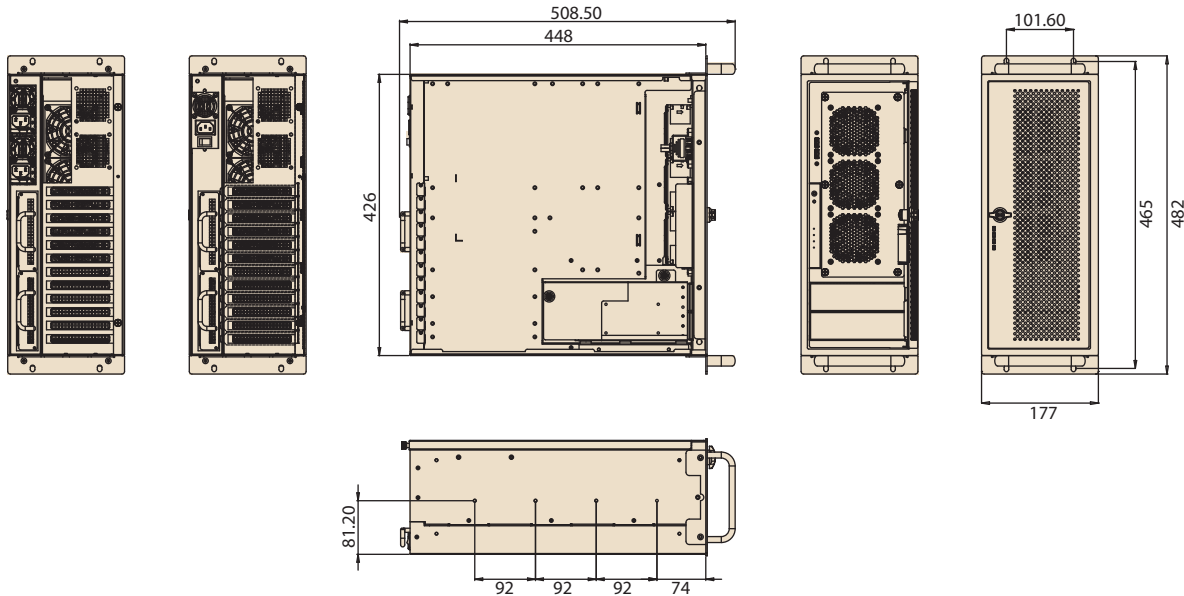
CE FCC

## Specifications

Processor System	CPU type	Intel Xeon E5-2600 / E5-1600 v3/v4 / Core i7 5800/5900/6800/6900 series processor	
	CPU socket	Intel LGA-2011-R3	
	Memory	DDR4 ECC-REG 2133/1866/1600 MHz RDIMMs, maximum 256 GB	
	Chipset	Intel C612 Chipset	
Graphics	Controller	Aspeed AST2400	
	VRAM	64 MB	
Expansion Slot	PCIe x16 (Gen 3.0)	2 (Slot 4 and Slot 6 for GPU cards)	
	PCIe x8 (Gen 3.0)	1 (Slot 2)	
	PCIe x4 (Gen 2.0)	1 (Slot 7) from PCH	
	PCIe x1 (Gen 2.0)	1 (Slot 1) from PCH	
Drive Bay	Slime Odd Bay	-	
	5.25" Front-Accessibl	2	
	3.5" Hot-swappable	-	
	2.5" Hot-swappable	-	
	3.5" Internal	2 (rear-accessible)	
	2.5" Internal	-	
Ethernet	Interface	10/100/1000 Mbps Gigabit Ethernet	
	Controller	2 x Intel I210AT	
Remote Management		IPMI, Advantech Remote Monitoring Utility	
Front I/O Interface	USB	2 x USB3.0	
Rear I/O Interface	USB	6 (4 x USB3.0 + 2 x USB2.0)	
	PS/2	2	
	COM	1	
	Display	1 x VGA	
	Parallel	-	
	RJ-45	3 (1 port dedicated for IPMI function)	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output Wattage	80 PLUS Platinum 1400W 1+1 redundant Power Supply 900W @ 100 ~ 120V 1400W @ 200 ~ 240V	
	Input Range	AC 100 ~ 240 V	
Cooling	Chassis Fan	3 (8cm / 142CFM) PWM fans (6cm) rear fans	
	Air Filter	Yes	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN activity	
	Remote Management	IPMI, Advantech Remote Monitoring Utility	
Environment		Operating	Non-Operating
	Temperature	0 ~ 35 °C (32 ~ 95 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 35 °C	10 ~ 95% @ 40 °C
	Vibration (5 ~ 500 Hz)	1 Grms	2 G
	Shock (with 11 ms du ration, half sine wave)	10G	
Physical Characteristics	Dimension (W x H x D)	482 x 177 x 448 mm (18.9" x 6.9" x 17.6")	

## Dimensions

Unit: mm



## Ordering Information

Part Number	Description	Quantity
HPC-7400MB-14A1E	4U chassis with redundant 1+1 1400W PSU	1
ASMB-813I-00A1E	LGA 2011-R3 ATX server board	1
1750007769-01	FAN 12V 80X80X38 14000 2W L250	3

## Spare Parts

Parts number	Description
1990021256T00	Door filter
1750007769-01	8cm system fan
96PSRM-A1K4WMDU	1U 1400W 1+1 redundant power module, AC 100-240V (full range)
96PSR-1U-BKP-F1K4	1400W power distribution board for 96PSRM-A1K4WMDU

## Front View



## Optional Accessories

Parts number	Description
1700024754-01	GPU power cable (2*B4P Molex power connector to 6+2P PCIe power cable)
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SAS/SATA HDD Trays
96RACK-5SS-CAGE-CR	Mobile rack for converting one 5.25" drive bays to four 2.5" SATA/SAS HDD Trays (Max. HDD height :15mm)
9680006903	20" Slide Rail (supports 75-100cm depth cabinet)
9680006904	24" Slide Rail (supports 90-110cm depth cabinet)
1700007032	Front dual USB 2.0 cable kit
1960063011N001	LGA-2011 CPU cooler (narrow type)

## Rear View



With 1400W redundant power supply

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# HPC-7400-S923

**4U GPU Server System With Dual Intel® Xeon® E5-2600 v3/v4 CPU, Supporting up to 3\* GPU Cards and 1400W RPS**



## Features

- 7 years longevity support- Revision control
- 0 ~ 35 °C operating temperature
- Reliable resume from AC power loss function
- Supports Intel® Xeon® E5-2600/E5-1600 v3/v4 Series CPUs
- Quad channel DDR4 2133 MHz ECC & Registered DIMMs up to 256 GB
- Supports up to 3\* GPU cards
- 1400W 1+1 Redundant PSU with 80 PLUS Platinum level
- IPMI remote management

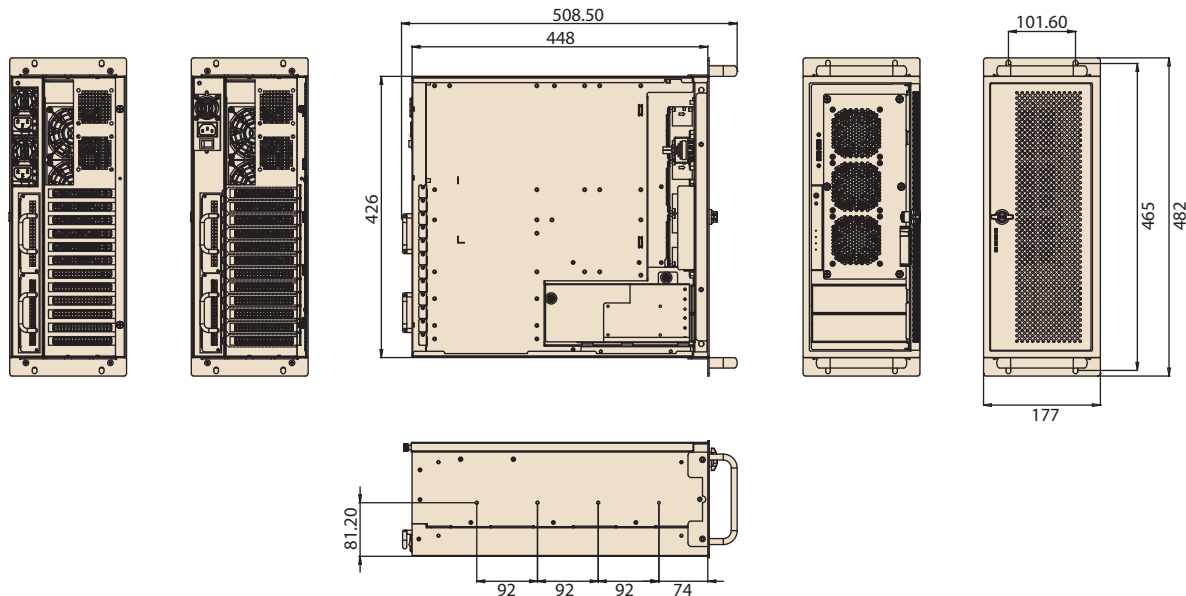
CE FCC

## Specifications

Processor System	CPU type	Intel Xeon E5-2600 v3/v4 processor	
	CPU socket	Intel LGA-2011-R3	
	Memory	DDR4 ECC-REG 2133/1866/1600 MHz RDIMMs, maximum 256 GB	
	Chipset	Intel C612 Chipset	
Graphics	Controller	Aspeed AST2400	
	VRAM	64 MB	
Expansion Slot	PCIe x16 (Gen 3.0)	4 (Slot 3, Slot 5 and Slot 7 for GPU cards)	
	PCIe x8 (Gen 3.0)	2 (Slot 2, Slot 6)	
	PCIe x4 (Gen 2.0)	1 (Slot 4) from PCH	
	PCIe x1 (Gen 2.0)	-	
Drive Bay	Slime Odd Bay	-	
	5.25" Front-Accessibl	2	
	3.5" Hot-swappable	-	
	2.5" Hot-swappable	-	
	3.5" Internal	2 (rear-accessible)	
Ethernet	Interface	10/100/1000 Mbps Gigabit Ethernet	
	Controller	2 x Intel I210AT	
Remote Management		IPMI, Advantech Remote Monitoring Utility	
Front I/O Interface	USB	2 x USB3.0	
Rear I/O Interface	USB	4 (2 x USB3.0 + 2 x USB2.0)	
	PS/2	2	
	COM	1	
	Display	1 x VGA	
	Parallel	-	
	RJ-45	3 (1 port dedicated for IPMI function)	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output Wattage	80 PLUS Platinum 1400W 1+1 redundant Power Supply 900W @ 100 ~ 120V 1400W @ 200 ~ 240V	
	Input Range	AC 100 ~ 240 V	
Cooling	Chassis Fan	3 (8cm / 142CFM) PWM fans + 2 (6cm) rear fans	
	Air Filter	Yes	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN activity	
	Remote Management	IPMI, Advantech Remote Monitoring Utility	
Environment	Temperature	Operating 0 ~ 35 °C (32 ~ 95 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 35 °C	
	Vibration (5 ~ 500 Hz)	1 Grms	
	Shock (with 11 ms du ration, half sine wave)	10G	
	Physical Characteristics	Dimension (W x H x D)	482 x 177 x 448 mm (16.9" x 3.4" x 30.3")

## Dimensions

Unit: mm



## Ordering Information

Part Number	Description	Quantity
HPC-7400MB-14A1E	4U chassis with redundant 1+1 1400W PSU	1
ASMB-923I-00A1E	LGA 2011-R3 EATX server board	1
1750007769-01	FAN 12V 80X80X38 14000 2W L250	3

## Spare Parts

Parts number	Description
1990021256T00	Door filter
1750007769-01	8cm system fan
96PSRM-A1K4WMDU	1U 1400W 1+1 redundant power module, AC 100-240V (full range)
96PSR-1U-BKP-F1K4	1400W power distribution board for 96PSRM-A1K4WMDU

## Front View



## Rear View



With 1400W redundant power supply

## Optional Accessories

Parts number	Description
1700024754-01	GPU power cable (2*B4P Molex power connector to 6+2P PCIe power cable)
IPC-DT-5230E	Mobile rack for converting dual 5.25" drive bays to three 3.5" SAS/SATA HDD Trays
96RACK-5SS-CAGE-CR	Mobile rack for converting one 5.25" drive bays to four 2.5" SATA/SAS HDD Trays (Max. HDD height :15mm)
9680006903	20" Slide Rail (supports 75-100cm depth cabinet)
9680006904	24" Slide Rail (supports 90-110cm depth cabinet)
1700007032	Front dual USB 2.0 cable kit
1960063011N001	LGA-2011 CPU cooler (narrow type)

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# HPC-7483-S923

## 4U GPU Server System With Dual Intel® Xeon® E5-2600 v3/v4 CPU, Supporting up to 4\* GPU Cards and 2000W RPS



### Features

- 7 years longevity support- Revision control
- 0 ~ 35 °C operating temperature
- Reliable resume from AC power loss function
- Supports Intel® Xeon® E5-2600 v3/v4 Series CPUs
- Quad channel DDR4 2133 MHz ECC & Registered DIMMs up to 256 GB
- Supports up to 4\* Double-depth GPU cards
- 2000W 1+1 Redundant PSU with 80 PLUS Platinum level
- IPMI remote management

CE FCC

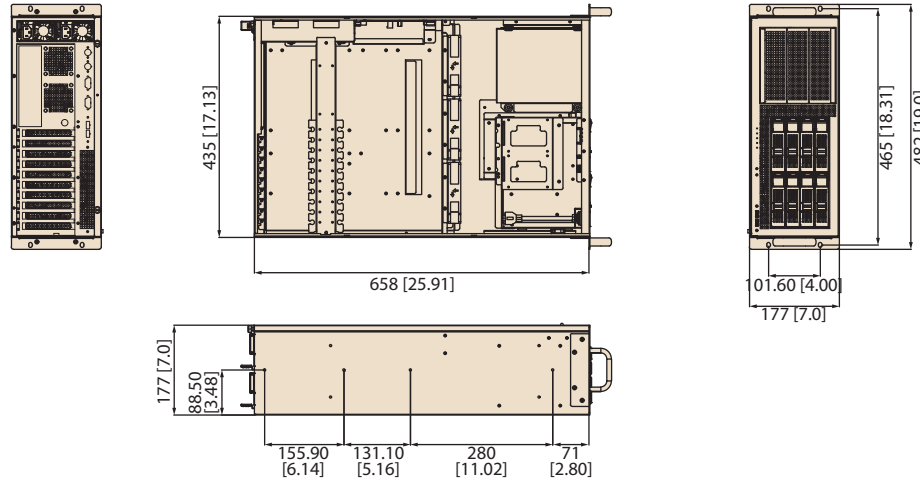
### Specifications

Processor System	CPU type	Intel Xeon E5-2600 v3/v4 processor	
	CPU socket	Intel LGA-2011-R3	
	Memory	DDR4 ECC-REG 2133/1866/1600 MHz RDIMMs, maximum 256 GB	
	Chipset	Intel C612 Chipset	
Graphics	Controller	Aspeed AST2400	
	VRAM	64 MB	
Expansion Slot	PCIe x16 (Gen 3.0)	4 (Slot 3, Slot 5 and Slot 7 for GPU cards)	
	PCIe x8 (Gen 3.0)	2 (Slot 2, Slot 6)	
	PCIe x4 (Gen 2.0)	1 (Slot 4) from PCH	
	PCIe x1 (Gen 2.0)	-	
Drive Bay	Slime Odd Bay	-	
	5.25" Front-Accessibl	3	
	3.5"/2.5" Hot-swappable	8	
	2.5" Internal	2	
Ethernet	Interface	10/100/1000 Mbps Gigabit Ethernet	
	Controller	2 x Intel I210AT	
Remote Management		IPMI, Advantech Remote Monitoring Utility	
Front I/O Interface	USB	2 x USB3.0	
Rear I/O Interface	USB	4 (2 x USB3.0 + 2 x USB2.0)	
	PS/2	2	
	COM	1	
	Display	1 x VGA	
	Parallel	-	
	RJ-45	3 (1 port dedicated for IPMI function)	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	Programmable, 1~255 sec	
Power Supply	Power Output Wattage	80 PLUS Platinum 1800W 1+1 redundant Power Supply 1000W @ 100 ~ 127V 1800W @ 200 ~ 240V	
	Input Range	AC 100 ~ 240 V	
Cooling	Chassis Fan	3 x 12cm system fan in middle fan bar 2 x 8cm system fan in rear window	
	Air Filter	-	
Miscellaneous	LED Indicators	Power status, HDD activity, LAN activity	
	Remote Management	IPMI, Advantech Remote Monitoring Utility	
Environment	Temperature	Operating 0 ~ 35 °C (32 ~ 95 °F)	Non-Operating -20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10 ~ 85% @ 40 °C	
	Vibration (5 ~ 500 Hz)	1 Grms	
	Shock (with 11 ms du ration, half sine wave)	10G	
Physical Characteristics	Dimension (W x H x D)	482 x 177 x 448 mm (17.1" x 6.9" x 25.9")	



## Dimensions

Unit: mm



## Ordering Information

Part Number	Description	Quantity
HPC-7483-20RX	With redundant 1+1 2000W power supply	1
ASMB-923I-00A1E	LGA 2011-R3 EATX server board	1
98R1748300E	Rear side 8cm fan kit for high-watt GPU cards	1

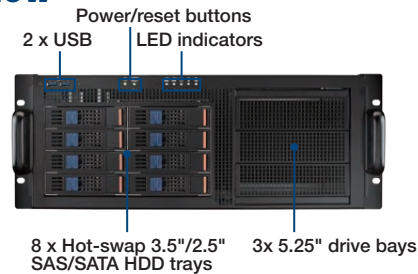
## Packing List

Part number	Description	Quantity
1750008306-01	12cm system fan (Pre-installed)	3
9661831600E	3.5" HDD Trays (Pre-installed)	8
1700025828-01	PDB CN1 connector to MB 4pin or 8pin 12V connector of PCIe slot	1
2066923100	Driver CD	1
2006923110	Startup manual	1
1700003194	SATA data cables	2
1703150102	SATA power cables	2
1700019748	CPU power cable(8P)	2
1960052312T010	I/O shield	1

## Optional Accessories

Cable request for optional device	Part number	Description	Quantity
5.25" to 3.5" Convert HDD kit	Refer to the P-Trade web site	Mobile rack for converting dual 5.25" drive bays to three 3.5" SAS/SATA HDD Trays	1
	1700021733-01	SATA cable for optional ODD/HDD (65cm)	3
5.25" ODD or other SATA device	1700021733-01	SATA cable for optional ODD/HDD (65cm)	1
MB without RAID card	1700025861-01	Mini SAS HD 8643 to 4 ports SATA Cable (50cm)	2
MB with SAS2 RAID card	1700025440-01	Mini SAS HD 8643 to Mini SAS (85cm)	2
MB with SAS3 RAID card	1700025065-01	Mini SAS HD 8643 to Mini SAS HD 8643 (85cm)	2
The 2nd GPU card	1700025829-01	PDB 8P connector to 6+2 connector for GPU card (80cm)	2
The 3rd GPU card	1700025829-01	PDB 8P connector to 6+2 connector for GPU card (80cm)	2
The 4th GPU card	1700025829-01	PDB 8P connector to 6+2 connector for GPU card (80cm)	2
4 ports SATA HBA card	9691831620E	ASS'Y HPC-8316 SATA HBA Rev.A1 01	1
	1700021733-01	SATA cable for optional ODD/HDD (65cm)	4
Rear IO KMBS port	1700019268-11	A Cable M-DIN 6P(F)*2/1*6P-2.5	1
Rear IO COM port	1701092300	Dual RS-232 COM port cable	1
Rear IO USB port	1700024532-01	USB 3.0 dual port cable	1
	1700017849	USB 2.0 dual port cable	1
CPU cooler for 2U/4U	LGA-2011 square CPU cooler for 4U chassis (160W)	LGA-2011 square CPU cooler for 2U/4U chassis (145W)	
CPU cooler for 4U	1960065684N001	LGA-2011 square CPU cooler for 4U chassis (160W)	

## Front View



## Rear View



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# Unlock Visual Computing Power

Trusted Platform and Comprehensive Industrial GPU Server Solution



## ADVANTECH

Enabling an Intelligent Planet

Advantech's comprehensive GPU server solutions for accelerating industrial applications come in a wide 1U to 4U product range, and satisfy all validation requirements. The unique industrial design and industry-leading 3-5-7 service guarantee make these GPU servers ideal solutions for accelerating business growth.

### Allied with diverse GPU and DSP processor providers

Supports GPU/DSP card brands including

- NVIDIA® Tesla®, GRID™, Quadro®
- AMD FirePro™
- Intel® Xeon Phi™
- Advantech-designed DSP cards

### Ultimate Industrial-Grade Design

- Front and internal USB ports enhance usability
- Exclusive anti-vibration mechanism
- Cable-less design increases thermal efficiency
- GTX side power connector supports various GPU cards

### 3-5-7 Service Guarantee

- 3 service levels in design customization and development
- 5-year extended warranty
- 7-year product longevity



#### AGS-913

1U rackmount Intel® Xeon® E5-2600 v3 GPU server that supports 3 x PCIe x16 double-depth cards and 1 x PCIe x8 single-depth FH/HL card



#### ASMB-813 with HPC-7400

4U GPU server system with Intel® Xeon® E5-2600 v3/v4 CPU, supporting up to 2\* GPU cards and 1400W RPS



#### AGS-923

2U rackmount Intel® Xeon® E5-2600 v3 GPU server that supports 4 x PCIe x16 double-depth cards and 1 x PCIe x8 single-depth FH/HL card



#### ASMB-923 with HPC-7483

4U GPU server system with dual Intel® Xeon® E5-2600 v4 CPU, supporting up to 4\* GPU cards and 1800W RPS

www.advantech.com



### Advantech Headquarters

No. 1, Alley 20, Lane 26, Rueiguang Road,  
Neihu District, Taipei, Taiwan, 11491, R.O.C.

Tel: 886-2-2792-7818

Fax: 886-2-2794-7304



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## CompactPCI Platforms

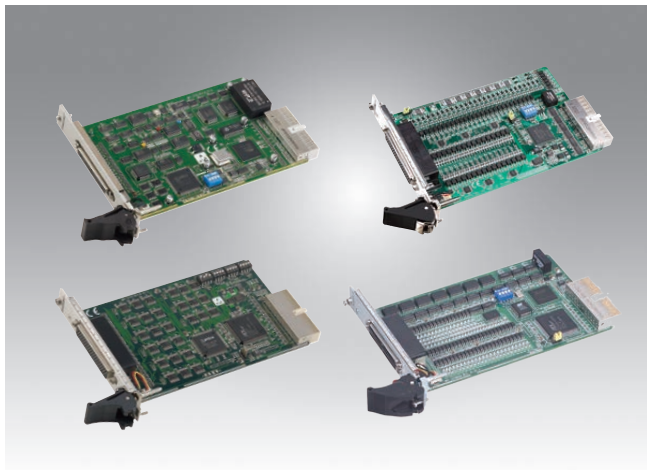
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<b>MIC-3680</b>	2-Port CAN-bus 3U CompactPCI® Card	
<b>MIC-3714</b>	30 MS/s, 12-bit, Simultaneous 4-ch Analog Input 3U CompactPCI® Card	<b>13-19</b>
<b>MIC-3716</b>	250 kS/s, 16-bit, 16-ch Multifunction 3U CompactPCI® Card	
<b>MIC-3720</b>	12-bit, 4-ch Isolated Analog Output Universal CompactPCI® Card	<b>13-20</b>
<b>MIC-3723</b>	16-bit, 8-ch Analog Output 3U CompactPCI® Card	
<b>MIC-3753</b>	72-CH Digital I/O 3U CompactPCI® Card	
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To view all of Advantech's Video Wall Controllers, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Advantech CompactPCI®

## Introduction



### Features

- Commercial standard PCI chips provide high performance at a low price
- Up to 8 slots in one bus segment. Expandable using PCI-to-PCI bridge chips
- Eurocard form factor
- Airtight, high density, 2 mm pin-and-socket connectors
- Front loading and removal
- Vertical card orientation for better cooling
- Staged power pins for hot-swap capability
- Excellent shock and vibration characteristics

## Introduction

Engineers have been trying to apply high-performance, low-cost PC technologies to critical applications such as telecommunications and industrial automation for quite some time. Unfortunately, the characteristics of desktop PC technologies do not readily lend themselves to critical applications where high serviceability, vibration & shock resistance, and good ventilation are required. CompactPCI may be the answer.

### What is CompactPCI?

CompactPCI is a small, rugged, high-performance industrial computer architecture based on the standard PCI bus specification. It was developed by the PCI Industrial Computers Manufacturers Group (PICMG) in late 1994, and is ideal for embedded applications.

Three important technologies form the core of CompactPCI: PCI local bus, Eurocard mechanics, and airtight pin-and-socket connectors.

### PCI Local Bus

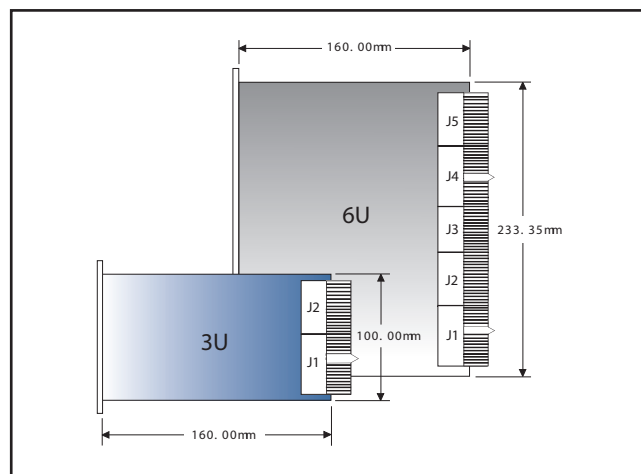
PCI stands for Peripheral Component Interconnect. It was published by Intel® in 1992, and soon became popular in commercial PC designs. It is a high-performance, processor-independent data bus, and most importantly, it is very inexpensive. The PCI local bus specification defines two data widths: 32-bit and 64-bit operating at a speed up to 66 MHz. This provides theoretical throughput up to 264 MB/s at 32-bit or 528 MB/s at 64-bit. Most computer systems and operating systems support the PCI bus. For example, Pentium, Alpha, PowerPC, Windows, Unix, and MacOS. Because PCI components are manufactured in large quantities, they are inexpensive and readily available. With these advantages, the PCI bus is very suitable for high speed computing and high speed data communication applications.

### Eurocard Mechanics

Eurocard is an industrial-grade packaging standard popularized by VMEbus. CompactPCI allows the use of 3U and 6U Eurocards. The dimensions of a 3U CompactPCI board are 160 mm deep x 100 mm high, while the dimensions of a 6U CompactPCI board are 160 mm deep x 233.35 mm high. The front panels of CompactPCI boards are IEEE 1101.1 and IEEE 1101.10 compliant, and may include optional EMC gaskets to minimize electromagnetic interference. Typically, the front panel contains I/O connectors, LED indicators, and switches. CompactPCI also supports rear panel I/O, which is compliant with IEEE 1101.11. Rear panel I/O is popular for telecommunication equipment because of its easy-to-maintain characteristics. If all the wiring is done on rear transition boards (passive boards), the front CompactPCI boards (active boards), which may require maintenance, are "clean" without any connected wiring. The front CompactPCI boards can then simply be replaced without the need for rewiring.

### Airtight Pin-and-Socket Connectors

CompactPCI uses airtight, high-density pin-and-socket connectors as specified in the IEC-1076 international standard. These 2 mm "hard metric" connectors have low inductance and controlled impedance, which reduce signal reflections caused by the high speed PCI bus. They enable CompactPCI systems to have up to eight slots in one bus segment.



**Eurocard Form Factor**

The CompactPCI specification defines five connectors, designated as J1 through J5. The 3U CompactPCI board has two connectors labeled J1 and J2, while the 6U CompactPCI board has five connectors labeled J1 through J5. J1 and J2 are defined identically on both 3U and 6U CompactPCI boards, so 3U and 6U CompactPCI boards are electrically interchangeable.



**Pin-and-Socket Connector**

## CompactPCI® versus Conventional Industrial PCs

### Serviceability

Replacement of a card from a conventional industrial PC system is always time-consuming. Users need to unfasten the chassis cover, disconnect all wiring from the card, replace the card, reconnect the wiring, and refasten the chassis cover. It is a process prone to error because there can be internal cabling between cards and peripheral devices, and it is necessary to remove all cabling before a card can be replaced. The serviceability of conventional industrial PC systems is not as simple and fast as CompactPCI systems.

CompactPCI is designed to be a front loading and removable system. The replacement of a CompactPCI board is very simple, with no need to remove the chassis cover. In addition, if the I/O is cabled through the back of the system, the front CompactPCI boards are "clean" without any connected wiring, and the replacement of a CompactPCI board is quick and easy. The maintenance time can be reduced from a matter of hours (conventional industrial PCs) to a matter of minutes, yielding a lower Mean Time To Repair (MTTR).



**3U Dual System CompactPCI® Enclosure for 3U Cards**



**4U 8-Slot CompactPCI Enclosure**

### Vibration and Shock Resistance

Conventional industrial PCs do not provide reliable and secure support for peripheral cards in the system. Cards inside conventional industrial PCs are screwed down at one point only, and the top and bottom card edges are not supported by guide rails. Therefore, the connecting edge of a card is prone to shift under shock and vibration.

CompactPCI boards are firmly mounted in the system. Guide rails support the top and bottom edges of the boards. Front panel retaining mechanisms securely lock the front panel to the surrounding mechanical frame. The connecting edge of the board is held tightly in place by the pin-and-socket connectors. With all four sides of the board firmly held in place, it is much less prone to suffer loss of electrical contact in high vibration and shock environments.

### Ventilation

Conventional industrial PC systems cannot provide regular airflow paths, resulting in uneven cooling within the chassis. Airflow is blocked by backplanes, card brackets, and disk drives. Cooling air cannot circulate over all the cards, and hot air is not immediately forced out of the chassis. Electronic devices and circuit boards deteriorate because of these cooling related problems: warped circuit boards, bad connections, broken traces, and shortened component lives.

CompactPCI systems provide clear paths for airflow over all active, heat-producing boards in the system. Cooling air easily flows through the spaces between cards, and carries heat out of the spaces. A fan system can be integrated at the bottom of the boards to provide forced air to each slot. CompactPCI systems are therefore much less susceptible to cooling problems because of the even cooling pattern inherent in their mechanical design.

## The Complete Offering for Mission-Critical Applications

The MIC-3000 series is an industrial CompactPCI solution which features front-end access, high shock and vibration tolerance characteristics, automatic cooling system, fault resilient and hot swappable capabilities. These features make MIC-3000 the most reliable PC-based computing platform, for mission-critical applications. Advantech leverages 3U CompactPCI as the industrial high-end computing platform, providing Pentium 4-grade CPU modules, 8-slot chassis, high-speed I/O and serial communication modules, to become a total solution provider for industrial CompactPCI solutions. Target applications include military defense, transportation, traffic control, test and measurement (T&M) and critical data acquisition & control markets.

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# 3U/4U Chassis



Model		MIC-3106				MIC-3111				MIC-3121			
Backplane	slot	System x 1, Peripheral x 2 CompactPCI® peripheral slot x 2				System x 1, Peripheral x 7 CompactPCI® peripheral slot x 7				System x 1, Peripheral x 7 CompactPCI® peripheral slot x 7			
	bus	32-bit/33 MHz PCI bus				32-bit/33 MHz PCI bus				32-bit/33 MHz PCI bus			
	V (I/O)	+3.3 V/+5 V (selectable)				+3.3 V/+5 V (selectable)				+3.3 V/+5 V (selectable)			
Cooling	FAN	1 Blower on Top (Max. 2.47CFM/FAN) 1 Fan on Bottom (Max. 18 CFM/FAN)				2 Blowers on Top (Max. 2.47CFM/FAN) 1 Fan on Bottom (Max. 18 CFM/FAN)				2 Blowers on Top (Max. 2.47CFM/FAN) 1 Fan on Bottom (Max. 18 CFM/FAN)			
	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range				AC 100 ~ 240 V @ 50 ~ 60 Hz, full range				AC 100 ~ 240 V @ 50 ~ 60 Hz, full range			
Power Supply	Output	ATX 180W PSU				ATX 180W PSU				ATX 300W PSU			
		+3.3V	+5V	+12V	-12V	+3.3V	+5V	+12V	-12V	+3.3V	+5V	+12V	-12V
	Max Load	14A	16A	14A	0.5A	14A	16A	14A	0.5A	16A	19A	11A	0.3A
	Min Load	0.3A	0.3A	0.3A	0A	0.3A	0.3A	0.3A	0A	0A	0.5A	0.1A	0A
Physical Characteristics	Dimensions (W x H x D)	134 x 177 x 238 mm (5.27" x 6.96" x 9.37")				234 x 177 x 258 mm (9.21" x 6.96" x 9.37")				482 x 177 x 310 mm (18.97" x 6.96" x 12.2")			
	Temperature	Operating 0 ~ 50 °C (32 ~ 122 °F)		Non-operating -20 ~ 60 °C (-4 ~ 138 °F)		Operating 0 ~ 50 °C (32 ~ 122 °F)		Non-operating -20 ~ 60 °C (-4 ~ 138 °F)		Operating 0 ~ 50 °C (32 ~ 122 °F)		Non-operating -20 ~ 60 °C (-4 ~ 138 °F)	
Environment	Humidity	10 ~ 85% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing		10 ~ 85% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing		10 ~ 85% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing	
	Vibration	2Grms				2Grms				2Grms			
	Shock	10G				10G				10G			
Reliability	MTBF	Backplane	FAN module			Backplane	FAN module			Backplane	FAN module		
		800,000 hours / 50,000 hours @ 40 °C / 10,000 hours @ 80% load				800,000 hours / 50,000 hours @ 40 °C / 10,000 hours @ 80% load				800,000 hours / 50,000 hours @ 40 °C / 10,000 hours @ 80% load			
Regulatory	Conformance	RoHS, CE, FCC, UL, CCC				RoHS, CE, FCC, UL, CCC				RoHS, CE, FCC, UL, CCC			
Compliance	Standards	PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification				PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification				PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification			
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Model		MIC-3022CE/MIC-3022PCE				MIC-3022AE				MIC-3023D1-A1E/ MIC-3023S1-D1E			
Backplane	slot	System x 1, Peripheral x 7, Rear transition x 8 CompactPCI® PlusIO system slot x 1 CompactPCI® peripheral slot x 3				System x 1, Peripheral x 7, Rear transition x 8 CompactPCI® PlusIO system slot x 1 CompactPCI® peripheral slot x 3 CompactPCI® Serial peripheral slot x 4				MIC-3023D1-A1E: System x 2, Peripheral x 10, Rear transition x 0 MIC-3023S1-D1E: System x 1, Peripheral x 6, adding peripheral x7 by using bridge card, Rear transition x 0			
	bus	32-bit/33 MHz/66 MHz PCI bus Serial bus, up to 5.0Gb/s				32-bit/33 MHz/66 MHz PCI bus Serial bus, up to 5.0Gb/s				MIC-3023: 32-bit/33 MHz/66 MHz PCI bus			
	V (I/O)	+3.3 V/+5 V (selectable)				+3.3 V/+5 V (selectable)				+3.3 V/+5 V (selectable)			
Cooling	FAN	2 Blowers (Max 45.6CFM/FAN); up to 4 Blowers for dual system				2 Blowers (Max 45.6CFM/FAN); up to 4 Blowers for dual system				fanless			
	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range				AC 100 ~ 240 V @ 50 ~ 60 Hz, full range				AC 100 ~ 240 V @ 50 ~ 60 Hz, full range DC 24V/110V			
Power Supply	Output	AC cPCI 250 W redundant power module (for Legacy) AC cPCI 300 W redundant power module (for PlusIO)				ATX 400W PSU				AC cPCI 50W power module (for MIC-3023D) DC cPCI 150W redundant power module (for MIC-3023S)			
		+3.3V	+5V	+12V	-12V	+3.3V	+5V	+12V	-12V	+3.3V	+5V	+12V	-12V
	Max Load	18A	25A	5A	0.5A	11.6A	12.89A	11.74A	0.37A	0A	10A	0A	0A
	Min Load	40A	40A	10A	2A	0.3A	0.3A	0.5A	0A	10A	20A	3A	0.5A
Physical Characteristics	Dimensions (W x H x D)	440 x 177 x 295 mm (17.3" x 7" x 11.6")				440 x 177 x 295 mm (17.3" x 7" x 11.6")				436.8 x 133.3 x 252 mm (17.2" x 5.25" x 9.92")			
	Temperature	Operating 0 ~ 50 °C (32 ~ 122 °F)		Non-operating -40 ~ 70 °C (-40 ~ 158 °F)		Operating 0 ~ 50 °C (32 ~ 122 °F)		Non-operating -40 ~ 70 °C (-40 ~ 158 °F)		Operating -25 ~ 55 °C (-13 ~ 131 °F)		Non-operating -40 ~ 85 °C (-40 ~ 185 °F)	
Environment	Humidity	10 ~ 95% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing		10 ~ 95% @ 40 °C, non-condensing		10 ~ 95% @ 60 °C, non-condensing	
	Vibration	2Grms		2Grms		2Grms		2Grms		1.06Grms		2Grms	
	Shock	10G		30G		10G		30G		10G		30G	
Reliability	MTBF	Backplane	FAN module	Power supply		Backplane	FAN module	Power supply		Backplane	Power supply		
		800,000 hours	50,000 hours @ 25 °C	100,000 hours @ 70% load		800,000 hours	50,000 hours @ 25 °C	100,000 hours @ 70% load		147,077 hours	AC:733,472 hours @ 50% load DC: 2,815,391 hours @ 50% load		
Regulatory	Conformance	RoHS, CE, FCC, UL, CCC				RoHS, CE, FCC, UL, CCC				RoHS, CE, FCC, CCC			
Compliance	Standards	PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification				PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification				PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification			
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# MIC-3106

# MIC-3111

4U CompactPCI® with 2 Peripheral Slots

4U CompactPCI® with 7 Peripheral Slots



## Features

- 4U CompactPCI supports 2 or 7 peripheral slots
- High performance or low power consumption CPU selectable
- Lockable power on/off switch prevents inadvertent access
- 40dB Ultra low system noise for working environments
- Easy-accessible cooling fan and air filter for system maintenance
- Robust design, Anti-Vibration up to 2G with SSD

## Introduction

The MIC-3106 and 3111 are Advantech's latest IPC's and the first to use the CompactPCI standard. CompactPCI is an open standard that gives users the flexibility to add the components that they need. The small footprint of MIC-3106 and 3111 makes it the smallest CPCI system available and offers either 2 or 7 expansion slots to give users the flexibility to build the system they require. For improved access and configuration, the MIC-3106 and 3111 are front accessible and the highly reliable nature of CompactPCI makes it the perfect choice for industrial applications. The three available models in the MIC-3106 and 3111 offer a choice of either high power or low power CPUs and therefore a range of prices to suit the requirements of specific companies.

## Specifications

		MIC-3106	MIC-3111
Power Supply	Power Type	ATX	ATX
	Input Voltage	100 ~ 240 V <sub>AC</sub>	100 ~ 240 V <sub>AC</sub>
	Wattage	180W	180W
	ON/OFF Switch	Lockable Toggle Switch	Lockable Toggle Switch
Backplane	System Slot	1, on the right	1, on the right
	Peripheral Slot	2 Slots	7 Slots
	PCI Bus	32-bit 33MHz	32-bit 33MHz
Physical	Dimensions (W x H x D)	134 x 177 x 238 mm (5.27" x 6.96" x 9.37")	234 x 177 x 258 mm (9.21" x 6.96" x 9.37")
	Weight (kg)	4.33 Kg	6.14 Kg
Environment	Temperature	Operating	0 ~ 50 °C
		Non-Operating	-20 ~ 60 °C
	Humidity (non-condensing)	Operating	10 ~ 85% @ 40 °C
		Non-Operating	10 ~ 95% @ 40 °C
	Vibration (5 ~ 500 Hz)	Operating	2Grms (without HDD)
		Non-Operating	2G
Shock (11ms)	Operating	10G	
	Non-Operating	30G	
Compliance	Regulatory	CE, FCC, CCC, UL, RoHS	CE, FCC, CCC, UL, RoHS
	Compliance	PICMG 2.0 Rev. 3.0	PICMG 2.0 Rev. 3.0

## Ordering Information

Part Number	Description
MIC-3106-00-AE	Modular Industrial Chassis 4U, 2 slots, w/ 180W
MIC-3111-00-AE	Modular Industrial Chassis 4U, 7 slots, w/ 180W
MIC-3106-L1-AE	4U, 2 slots, w/ 180W, MIC-3325N
MIC-3106-L2-AE	4U, 2 slots, w/ 180W, MIC-3325D
MIC-3106-H1-AE	4U, 2 slots, w/ 180W, MIC-3328 w/ 3217UE
MIC-3111-L1-AE	4U, 7 slots, w/ 180W, MIC-3325N
MIC-3111-L2-AE	4U, 7 slots, w/ 180W, MIC-3325D
MIC-3111-H1-AE	4U, 7 slots, w/ 180W, MIC-3328 w/ 3217UE
MIP-3104-AE	MIC-3100 PCI Hybrid Box
MIC-3106-H2-AE	4U, 2 slots, w/ 180W, MIC-3328 w/ 3517UE
MIC-3111-H2-AE	4U, 7 slots, w/ 180W, MIC-3328 w/ 3517UE

## Optional Accessories

Part Number	Description
1990024035N000	Fan filter 130 x 10 x 12 mm <sup>3</sup> (for MIC-3106)
1990024034N000	Fan filter 230 x 10 x 10 mm <sup>3</sup> (for MIC-3111)
1750002440	Bottom side fan 60 x 60 x 13 mm <sup>3</sup>
1750007398-01	Top side blower 51 x 51 x 15 mm <sup>3</sup>
1960064154N001	4HP bracket cover
1960064193N001	Wall Mount Kit for MIC-3106
1960064192N001	Wall Mount Kit for MIC-3111
1960064183N001	Table Mount for MIC-3106
1960064184N001	Table Mount for MIC-3111

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## CPU Options

L1	Processor	CPU	Intel Atom N455, 1.66GHz
		Memory	2 GB Onboard
		Storage	1 x CompactFlash Type II 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connector
		USB 2.0	3 x Type A
Serial		2 x RS-232, DB9 connector	
PS/2	1		
Operating System	Windows	XP, XPE, 7	
L2	Processor System	CPU	Intel Atom D525, 1.8GHz
		Memory	2GB On board
		Storage	1 x CompactFlash Type II 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connector
		USB 2.0	3 x Type A
Serial		2 x RS-232, DB9 connector	
PS/2	1		
Operating System	Windows	XP, XPE, 7	

H1	Processor	CPU	Intel 3rd Gen. Core i3-3217UE, 1.6GHz
		Memory	4GB On board
		Storage	1 x CFast 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connector
		USB 2.0	2 x Type A
Serial		2 x RS-232, RJ45 connector	
PS/2	1		
Operating System	Windows	XP, 7	
H2	Processor	CPU	Intel 3rd Gen. Core i7-3517UE, 1.7 GHz
		Memory	4GB On board
		Storage	1 x CFast 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connectors
		USB 3.0	2 x Type A
Serial		2 x RS-232, RJ45 connector	
PS/2	1		
Operating System	Windows	XP, 7	

## PCI Hybrid Box

MIP-3104			
Backplane	CPCI interface to chassis	1 for chassis	
	PCI Slot	4 Slots	
	PCI Slot Power (4 Slot)	12V @ 2.4A, -12V @ 0.8A, +5V @ 7.5A, +3.3V @ 10A	
Physical	Dimensions (W x H x D)	142 x 131 x 213 mm (5.59" x 5.15" x 8.38")	
	Weight (g)	725	
	Temperature	Operating	0-50 °C
		Non-operating	-20-60 °C
	Humidity (non-condensing)	Operating	10-85% @40 °C
		Non-operating	10-95% @40 °C
	Vibration (5-500 Hz)	Operating	1 Grms (with MIC-3100 chassis)
		Non-operating	1G
Shock (11 ms)	Operating	10G (with MIC-3100 chassis)	
	Non-operating	30G	
Compliance	Regulatory	CE, FCC	
	Compliance	PICMG 2.0 Rev. 3.0	



# MIC-3121

## 4U CompactPCI® with 7 Peripheral Slots



### Features

- 4U height rackmount CompactPCI supports 7 peripheral slots
- Optional 4-slot PCI hybrid box for flexible configuration
- Selectable high performance or low power consumption CPU
- Lockable power on/off switch prevents accidental access
- Very low noise cooling fan for quiet environments
- Easily-accessible cooling fan and air filter for system maintenance
- All front-accessible connectors/cables for easy wall mounting



### Introduction

The MIC-3121 CompactPCI is Advantech's new generation IPC to meet the CompactPCI standard; it offers a 4U height rackmount platform, with compact features, and is the most compact device in its price range. The MIC-3121 measures 482 x 177 x 310 mm, which is the standard 4U height rackmount CPCI system. With seven CPCI expansion slots or three CPCI expansion slots plus an optional four slot PCI hybrid box, users have the flexibility to configure their own system. With all these features the MIC-3121 is an open platform with a front access modular design, and high reliability which makes it the perfect choice for industrial applications where high availability matters.

The MIC-3121 has two levels of CPU choice. One is the Intel Core i3-3217UE CPU for high performance applications, and the other is the Intel Atom N455 CPU which is the most cost effective for low power consumption applications.

### Specifications

Power Supply	Power Type	ATX
	Input Voltage	100-240 V <sub>AC</sub>
	Wattage	300W
	On/Off Switch	Lockable Toggle Switch
Backplane	System Slot	1 on the right
	Peripheral Slot	7 slots
	PCI Bus	32-bit 33 MHz
Dimensions (W x H x D)	482 x 177 x 310 mm (18.97" x 6.96" x 12.2")	
Weight (kg)	9.65 Kg	
Temperature	Operating	0-50 °C
	Non-operating	-20-60 °C
Humidity (non-condensing)	Operating	10-85% @ 40 °C
	Non-operating	10-95% @ 40 °C
Vibration (5-500 Hz)	Operating	2Grms (without HDD)
	Non-operating	2G
Shock (11ms)	Operating	10G
	Non-operating	30G
Certification	CE, FCC, CCC, UL, RoHS	
Compliance	PICMG 2.0 Rev. 3.0	

### Ordering Information

Part Number	Description
MIC-3121-00-AE	Modular Industrial Chassis 4U, 7 slots, w/ 300W
MIC-3121-L1-AE	4U, 7 slots, w/ 300W, MIC-3325N
MIC-3121-L2-AE	4U, 7 slots, w/ 300W, MIC-3325D
MIC-3121-H1-AE	4U, 7 slots, w/ 300W, MIC-3328 w/ 3217UE
MIP-3104-AE	MIC-3100 PCI Hybrid Box
MIC-3121-H2-AE	4U, 7 slots, w/ 300W, MIC-3328 w/ 3517UE

### Optional Accessories

Part Number	Description
1990024038N000	Fan filter 430 x 10 x 10 mm3 (for MIC-3121 only)
1750002440	Bottom side fan 60 x 60 x 13 mm3
1750007398-01	Top blower 51 x 51 x 15 mm3
1960064154N001	4HP bracket cover
1960064155N001	8HP bracket cover

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## CPU Options

L1	Processor	CPU	Intel Atom N455, 1.66GHz
		Memory	2GB Onboard
		Storage	1 x CompactFlash Type II 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connector
		USB 2.0	3 x Type A
		Serial	2 x RS-232, DB9 connector
PS/2	1		
Operating System	Windows	XP, XPE, 7	
L2	Processor System	CPU	Intel Atom D525, 1.8GHz
		Memory	2GB On board
		Storage	1 x CompactFlash Type II 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connector
		USB 2.0	3 x Type A
		Serial	2 x RS-232, DB9 connector
PS/2	1		
Operating System	Windows	XP, XPE, 7	

H1	Processor	CPU	Intel 3rd Gen. Core i3-3217UE, 1.6GHz
		Memory	4GB On board
		Storage	1 x CFast 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connector
		USB 2.0	2 x Type A
		Serial	2 x RS-232, RJ45 connector
PS/2	1		
Operating System	Windows	XP, 7	
H2	Processor	CPU	Intel 3rd Gen. Core i7-3517UE, 1.7 GHz
		Memory	4GB On board
		Storage	1 x CFast 1 x 2.5" SATA HDD
	Front I/O	VGA	1 x DB15 port
		Ethernet	2 x 10/100/1000 Mbps, RJ45 connectors
		USB 3.0	2 x Type A
		Serial	2 x RS-232, RJ45 connector
PS/2	1		
Operating System	Windows	XP, 7	

## PCI Hybrid Box

MIP-3104			
Backplane	CPCI interface to chassis	1 for chassis	
	PCI Slot	4 Slots	
	PCI Slot Power (4 Slot)	12V @ 2.4A, -12V @ 0.8A, +5V @ 7.5A, +3.3V @ 10A	
Physical	Dimensions (W x H x D)	142 x 131 x 213 mm (5.59" x 5.15" x 8.38")	
	Weight (g)	725	
	Temperature	Operating	0-50 °C
		Non-operating	-20-60 °C
	Humidity (non-condensing)	Operating	10-85% @40 °C
		Non-operating	10-95% @40 °C
	Vibration (5-500 Hz)	Operating	1 Grms (with MIC-3100 chassis)
		Non-operating	1G
	Shock (11 ms)	Operating	10G (with MIC-3100 chassis)
Non-operating		30G	
Compliance	Regulatory	CE, FCC	
	Compliance	PICMG 2.0 Rev. 3.0	



# MIC-3022

## 4U CompactPCI® Enclosure for 3U Cards



### Features

- Hosts up to eight 3U Eurocard boards
- CompactPCI® Legacy or Plus IO Hybrid backplane
- PICMG 2.11 power supplies
- ATX power supply option for cost sensitive applications
- Dual-system ready



### Introduction

MIC-3022 is a 4U enclosure designed to host up to 8 CompactPCI 3U cards connected via a 32bit 33MHz or 66MHz PCI bus or serial bus. The chassis can be powered by PICMG2.11 CPCI power supplies or an ATX 400W power supply for cost sensitive applications. A CPCI power supply supports a wide range of applications in the industrial market requiring a robust, compact and reliable platform. Rear transition modules can be installed for each of the 8 slots to support I/O extension.

The MIC-3022 enclosure is available for two kinds of backplanes; Legacy backplane provides up to 8 peripheral PCI slot while the hybrid backplane offers three PCI slots and four serial slots. Being a hybrid system, it offers an uncomplicated and cost effective migration solution from parallel 3U CompactPCI® to serial CompactPCI® via the CompactPCI PlusIO standard instead of a bridge or an active logic. To save peripheral slot, there is two SATA connectors reserved on hybrid backplane by cable connection for storage extension.

The chassis can be powered by PICMG2.11 CPCI power supplies or an ATX 400W power supply for cost sensitive applications. Four high performance fans provide adequate air flow to all slots, enabling system configurations which can be used in extended temperature environments. With the support of front swappable power supplies and add-in cards as well as a simplified fan replacement mechanism built in, systems based on the MIC-3022 can support a MTTR of 5 minutes or less.

### Specifications

Backplane	Legacy backplane	System x 1, Peripheral x 7, Rear transition x 8 (80 mm, IEEE1101.11 compliant) 32-bit/33 MHz/66 MHz PCI bus				
	PlusIO Hybrid backplane	System x 1, Peripheral x 7 (80 mm, IEEE1101.11 compliant) 32-bit/33 MHz/66 MHz PCI bus, serial bus				
V (I/O)		+3.3 V/+5 V (selectable)				
Cooling	Fan	2 Blowers ;up to 4 Blowers for dual system				
		Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range			
Power Supply	Legacy chassis: CPCI PSU 250W	Max. Load	+3.3V	+5V	+12V	-12V
		Min. Load	0A	1A	0A	0A
			+3.3V	+5V	+12V	-12V
	PlusIO Hybrid Chassis: CPCI PSU 300W	Max. Load	40A	40A	10A	2A
		Min. Load	0A	1A	0A	0A
			+3.3V	+5V	+12V	-12V
Legacy/PlusIO Hybrid Chassis: ATX PSU 400W	Max. Load	11.6A	12.89A	11.74A	0.37A	
	Min. Load	0.3A	0.3A	0.5A	0A	
		+3.3V	+5V	+12V	-12V	
Environment	Temperature	Operation: 0 ~ 50 °C (32 ~ 122 °F); Storage: -40 ~ 70 °C (-40 ~ 158 °F)				
	Humidity	10 ~ 95% @ 40 °C, non-condensing 10 ~ 95% @ 60 °C, non-condensing				
	Shock	Operation: 10G; Non Operation 30G				
	Vibration	Random: Operating: 2G Sine: Non-operating: 2G				
Physical Characteristics	Dimensions (W x H x D)	440 x 177 x 295 mm (17.3" x 7" x 11.6")				
	Weight	11 kg				
Reliability	MTBF	Backplane	Fan module	Power supply		
		800,000 hours	50,000 hours @25 °C	100,000 hours @ 70% load		
Compliance		PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification PICMG 2.11 R3.0 Front-Access Power Connectors Specification RoHS, CE, FCC, UL, CCC				

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## Backplane Information

MIC-3022 PlusIO Hybrid		
Physical Number	Function	Rear I/O
1	CPCI I/O slot	Yes
2	CPCI I/O slot	Yes
3	CPCI I/O slot	Yes
4	Plus IO System slot	-
5	CPCI-Serial I/O slot	-
6	CPCI-Serial I/O slot	-
7	CPCI-Serial I/O slot	-
8	CPCI-Serial I/O slot	-

MIC-3022 Legacy		
Physical Number	Function	Rear I/O
1	System Slot	Yes
2	CPCI I/O slot	Yes
3	CPCI I/O slot	Yes
4	CPCI I/O slot	Yes
5	CPCI I/O slot	Yes
6	CPCI I/O slot	Yes
7	CPCI I/O slot	Yes
8	CPCI I/O slot	Yes

## Recommended Configurations

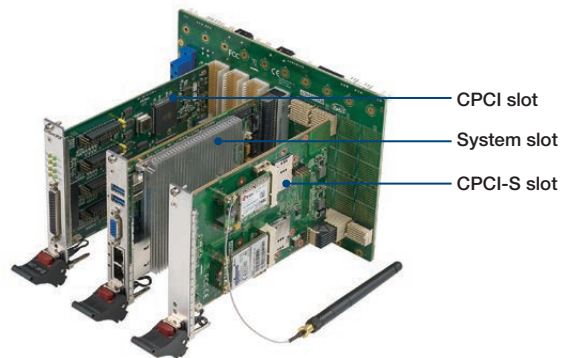
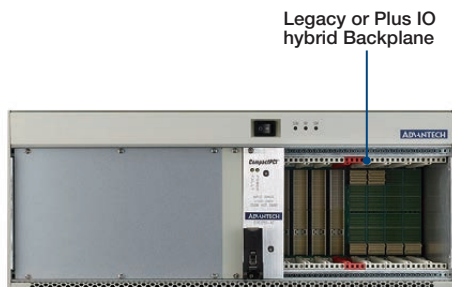
Enclosure	CPU Board	Front I/O Board
MIC-3022AE MIC-3022CE MIC-3022PAE MIC-3022PCE	MIC-3329 MIC-3328	MIC-3953;MIC-3954; MIC-3955; MIC-3957;MIC-3958

## Ordering Information

Part Number	PCI/Serial	PICMG 2.11	ATX power SPEC	Description
MIC-3022AE	Yes	-	Yes	3U CPCI enclosure with 400W ATX PSU, single system
MIC-3022CE	Yes	Yes	-	3U CPCI enclosure with 250W CPCI PSU, single system
MIC-3022PCE	Yes	Yes	-	3U CPCI Plus IO enclosure with 300W CPCI PSU, single system

## Optional Accessories

Part Number	Description
1757004516-01	CPCI 250W Power Supply Unit
1757004391-01	ATX 400W Power Supply Unit
1757004594-01	CPCI 300W Power Supply Unit
1757004391-01	ATX 400W Power Supply Unit



CPCI PSU Rear side



ATX PSU Rear side



# MIC-3023

## 3U CompactPCI® Enclosure for 3U Cards



### Features

- Hosts up to twelve 3U CompactPCI® boards
- 32bit 33/66MHz PCI bus backplane
- Two 50W low power PICMG2.11 power supplies
- Dual system ready
- Fanless design

### Introduction

The MIC-3023 is a space and cost optimized 3U CompactPCI enclosure which is designed to host up to two 6-slot CompactPCI 3U backplanes. Each backplane supports 32bit 33MHz or 66MHz PCI add in cards. The chassis can be powered by two PICMG2.11 CPCI power supplies for two individual systems, which is suitable for redundant, room less and high density application. MIC-3023 provides for a wide range of applications in the industrial market requiring a robust, compact and reliable platform such as in transportation.

With fanless design and the support of front swappable power supplies, systems based on the MIC-3023 can support a Mean Time To Repair (MTTR) of 5 minutes or less.

### Specifications

		MIC-3023	
Backplane	Backplane	Up to two backplanes. Each backplane supports 1 System slot left and 5 Peripheral slots, 2 PSU slots	
	Bus Interface	32-bit/33 MHz/66 MHz PCI bus	
	V (I/O)	+3.3 V/+5 V (selectable)	
Cooling	Natural convection	Fanless design	
Power Supply	MIC-3956-50AE CPCI 50W PSU	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range, DC power is under development
			+5 V
		Max. Load	10 A
		Min. Load	0.1 A
Environment	Temperature	Operating -25 ~ 55 °C (-13 ~ 131 °F)	Non-Operating -40 ~ 80 °C (-40 ~ 176 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	
	Shock	10 G	30 G
	Vibration (5 ~ 500 Hz)	1.06 Grms	2 Grms
	Dimensions (W x H x D)	436.8 x 133.3 x 252 mm (17.2" x 5.25" x 9.92")	
Physical Characteristics	Weight	4.76kg (10.5 lb)	
Reliability	MTBF at 25 °C ambient	Backplane	Power supply
		147,077 hours	746,880 hours @ 100% load
Compliance	PICMG 2.0 R3.0 CompactPCI Specification		
	PICMG 2.1 R2.0 CompactPCI Hot Swap Specification		
	PICMG 2.11 R3.0 Front-Access Power Connectors Specification		
	RoHS, CE, FCC GB/T 17626		

### Related Products

CPU Board	Description
MIC-3329B1-D1E	MIC-3329 w/ E3827 4G RAM dual slot
MIC-3329C1-D1E	MIC-3329 w/ E3845 4G RAM dual slot

### Ordering Information

Part Number	Description
MIC-3023D1-A1E	3U CPCI fanless enclosure dual system with 2 backplane, 2 AC-In panel
MIC-3023S1-D1E	3U CPCI fanless enclosure single system with 1 back plane, 2 CPCI power connector for DC-Input power

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# MIC-3328

## 3rd Generation Intel® Core™ Processor 3U CompactPCI® PlusIO Card



### Features

- Supports 3rd Generation Intel® Core™ processor
- Intel® QM77 Platform Controller Hub
- 4 or 8GB DDR3-1600 soldered SDRAM with ECC
- Triple independent display support
- Optional 8GB SATA NAND Flash on board
- 2.5" SATA-II SSD, CFast, XMC on 8HP version
- Two 10/100/1000 Mbps ports, 2 USB 3.0 ports, 1 VGA port on front panel (4HP)
- Two COM ports, 2 Display ports, 1 PS/2 port (8HP)
- Supports CompactPCI PlusIO
- PICMG2.0, R3.0 , PICMG2.1, R2.0, PICMG2.30 compliant

### Introduction

Advantech's MIC-3328 is a 3U CompactPCI PlusIO CPU blade based on the Intel® 3rd generation Core™ processor family. Based on latest 22nm process technology these processors support up to four cores / eight threads at up to 2.5GHz and up to 6M last level cache. With Intel® HD Graphics(Gen7,DX11,OCL1.1) integrated into the CPU, the MIC-3328 can serve applications demanding high performance, high resolution video output on up to three independent display interfaces. Latest DDR3 DRAM up to 8GB running at 1600MT/s complement the powerful processor with high performance, ECC protected onboard memory.

MIC-3328's design for reliability includes using a soldered processor, DRAM and flash storage for enhanced shock and vibration tolerance make it an ideal choice for workstation workloads in harsh environments and mission/business-critical applications such as military, transportation, test & measurement and traffic control.

MIC-3328 uses the Intel® QM77 PCH, which provides extensive I/O support such as USB3.0, PCI Express gen.2 and SATA-III ports.

The MIC-3328 PlusIO J2 supports interfaces such as 4 PCI Express x1 gen. 2 links for IO extension, one GbE for computer to computer multiprocessing, three SATA for Hard drives and RAID systems as well as 4 USB ports for wireless interfaces and legacy interface replacement.

For more information about CompactPCI PlusIO and Serial offerings from Advantech or information on how this new platform can help you to gain competitive advantages, please contact your Advantech representative.

### Specifications

Processor System	CPU	Intel® 3rd Generation Core™ i7 up to 2.5 GHz (6MB L2 cache) 1.7G, 3517UE, 17w / 2.5G,3555LE, 25w/ 2.1G, 3612QE, 35w
	Platform Controller Hub	Intel® QM77
	BIOS	Customized AMI Aptio UEFI BIOS
CompactPCI Interface	J1 Connector	32-bit PCI local bus (33MHz)
	J2 Connector	CompactPCI PlusIO / RTM
Memory	Technology	DDR3-1600MHz SDRAM, dual channel with ECC support
	Max. Capacity	8GB
	Soldered/socket	Soldered
Graphics	Chipset	Integrated in Intel® CPU
	Resolution	VGA 2048 x 1536 pixels with 32-bit color at 75 Hz Display port 2560 x 1600 at 60 Hz
Ethernet	Controller	3 x i210AT
	Interface	10/100/1000 Mbps
	I/O Connector	RJ-45 x 2 (front panel), RJ-45 x 1 (RTM / PlusIO)
Storage	IDE	1 x CFast Socket on 8HP
	SATA	1 x optional SATA NAND Flash on 4HP,1x Internal SATA connector on 8HP version
Front I/O	VGA	DB15 Port
	Ethernet	2 x 10/100/1000 Mbps RJ-45
	USB 3.0	2 x Type A
	8HP XTM	8HP-1: 2x RJ45 RS232, 2x Display port, 1x PS/2 port 8HP-2: XMC (PClex8 gen.3) front IO
PlusIO / RTM interface (4HPJ2 interface)	PCIE	4 x PClex1 Gen 2 (one PClex1 is routed to Mini-PCIe socket on board for wireless LAN using)
	SATA	2 x SATA-II (one SATA-II is designed as half size mSATA socket on board), 1 x SATA-III
	RJ45	1 GbE based on i210AT
	USB 2.0	4 ports

## Specifications (Cont.)

RIO (8HP)	8HP-1 J2 interface	1 x PS/2 is mutually exclusive with PS/2 on 8HP front panel by BOM control. It required a special 8HP board to work. The special 8HP board is on request by customer 2 x COM default setting is RS232, RS422/485 could be set by the switch on 8HP board (Total 4 COM ports on 8HP and its RIO) 2 x DisplayPort is switchable from front panel by switch on 8HP board
Watchdog Timer	Supervision	0 ~ 255s, 1s step, generate reset signal
Operating System	Compatibility	Microsoft Windows XP Professional, Windows 7, Windows server 2008, VxWorks 6.9, Linux Redhat 6.1
Power Requirement	Configuration	CPU TDP 17w/25w/35w, 8HP with RIO
	Consumption	23.42W/ 33.12W /43.91W
Physical	PCB Dimensions (L x H)	4HP or 8HP, 160.00 x 100.00 mm (6.30" x 3.95")
	Weight	0.62kg w. AL Heatsink ,0.9kg w. Cu Heatsink including XTM
Environment	Temperature	Operating: 0 ~ 60 °C (32 ~ 140 °F) Non-operating: - 40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	95% @ 40 °C (non condensing)
	Shock	10 G, 11ms, each axis three times 30 G, 11ms, each axis three times
	Vibration	2Grms (5~500Hz, with CFast on 8HP) Sine 2 Grms, 30mins each axis (5 ~ 500 Hz)
Regulatory	Conformance	FCC, Class A, CE, RoHS
Compliance	Standard	PICMG 2.0 Rev. 3.0, PICMG 2.1 R2.0, PICMG2.30 PlusIO compatible

## Supported CPU Configurations

Intel® CPU Model Number	# Cores	Freq.	Cache	Memory Types	CPU TDP
I3 3120ME	2	2.4GHz	3 MB L2 Cache	DDR3-1600	35W
I7 3517UE	2	1.7 GHz	4 MB L2 Cache	DDR3-1600	17W
I7 3555LE	2	2.5GHz	4 MB L2 Cache	DDR3-1600	25W
I7 3612QE	4	2.1GHz	6 MB L2 Cache	DDR3-1600	35W

## Ordering Information

System board	Front panel							On board Features				
	LAN (RJ45)	LAN (M12)	USB3.0	VGA	COM RJ45	COM DB9	Displayport	PS/2	CPU	Memory	SATA CFast/HDD	Slot Width
MIC-3328B1-D1E	2		2	1	2		2	1	I7 3555LE	8GB	2	2
MIC-3328C2-D1E	-	2	2	1	-	1	-	-	I7 3612QE	8GB	2	2
MIC-3328D1-D1E	2		2	1	2		2	1	I3 3120ME	4GB	2	2
MIC-3328B1-D3E	2		2	1	2		2	1	I7 3555LE	8GB	2	2

## Ordering Information

Model Number	Configuration
MIC-3328B1-D1E	MIC-3328, 3555LE, 8G RAM, w/ 8HP-1, 2 DP, 2 COM, PS/2, Support PlusIO
MIC-3328C2-D1E	MIC-3328, 3612QE, 8G RAM, VGA, USB,w/ 8HP-3, 2 M12 LAN, 1 DB9 COM
MIC-3328D1-D1E	MIC-3328, i3120ME, 4G RAM, w/8HP-1, 2DP, 2COM, PS/2
MIC-3328B1-D3E	MIC-3328, 3555LE, 8G RAM, w/8HP-1, 2DP, 2COM, PS/2

For other CPU blade SKU,chassis and RIO, please contact your Advantech sales representative.

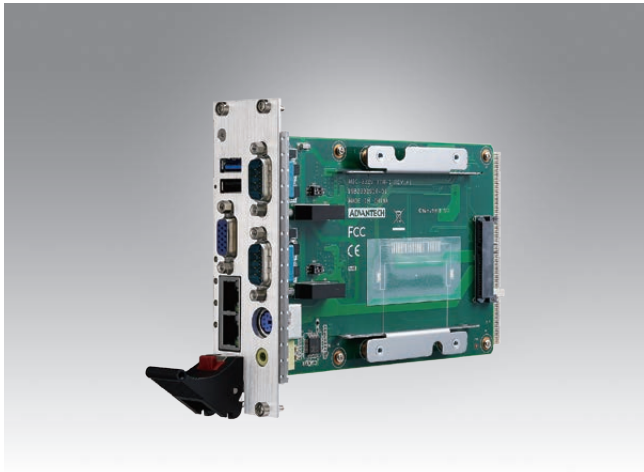
## Related Products

Model Number	Configuration
MIC-3955A2-S1E	4port RS for RIO application 3U CPCI
MIC-3527A1-S1E	4port RS RIO for MIC-3955A2-S1E 3U CPCI
MIC-3955A1-S1E	4-port RS-232/422/485
MIC-3716/3-AE	3U 250kS/s,16-bit,16-ch multifunction Card
MIC-3756-BE	3U CPCI 64-ch Isolated DI/O Card
MIC-3680/3-AE	2-port CAN Card
MIC-3022AE	3U single system CPCI enclosure, with 400W ATX PSU
MIC-3022PAE	3U single system CPCI PlusIO enclosure, with 400W ATX PSU
MIC-3022CE	3U enclosure,8slots,32-bit/33 MHz/66 MHz,250W CPCI PSU
MIC-3022PCE	3U enclosure, w/ CPCI PlusIO BP, 300W CPCI PSU
MIC-3954-AE	3U CPCI-Serial card with dual mini-PCIe slot and SIM slot
MIC-3953-AE	3U CPCI PMC Carrier board

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# MIC-3329

## Quad-Core Intel® Atom™ SoC Processor 3U CompactPCI® Card



### Features

- Supports latest 22nm Intel® Atom™ Low power Quad Core E3845/Dual Core E3827 SoC processor
- Supports up to 4GB DDR3L-1333 soldered ECC memory
- Optional extension module on 8HP and RIO for VGA, LAN, USB, PS/2, Audio, COM ports
- Supports fanless application with optimized heatsink design
- Design to meet EN50121-4 and EN50155 for railway application
- PICMG2.0 R3.0, PICMG2.1 R.0 Compliant

Fully Compliant with  
**EN 50121-4**

Fully Certified with  
**EN 50155**



### Introduction

The Advantech MIC-3329 Series uses the latest Intel® 22 nm Atom™ technology to provide significant performance and power efficiency.

MIC-3329 series, as a 3U CompactPCI® processor blade, is featured with a dual-core E3827 and quad-core E3845 Atom™ SoC processors, up to 4GB soldered DDR3L-1066/1333 ECC memory. It is available in single and dual slots width form factor, to offer various I/O functionalities by XTM (8HP) & Rear IO extensions. Front panel I/O on the single slot (4HP) provides 2 x RJ45 GbE ports (Switchable with RIO 4HP), 1 x VGA port (Switchable with RIO 4HP), 1 x USB2.0 port and 1 x USB3.0 port. Front panel I/O on the second layer (XTM) provides 2 x COM ports (RS232/422/485), 1 x PS/2 KB/MS and 1 x Audio ports. There are three types of storage device available such as on board 8GB SSD flash on 4HP (optional) or a Cfast socket on RIO 4HP, Cfast socket or 2.5" on board SATA drive on the front second layer.

MIC-3329 provides an ideal solution for transportation, railway and factory automation applications. By using robust designs for board layout a thermal dissipation, it meets or exceeds EN50155 and EN50121-4; with a low TDP, selection of processor such as 8W/10W give it very low power consumption, and industrial SoC features make the MIC-3329 a perfect fit for fanless system applications.

### Specifications

Processor System	CPU	Intel® Atom™ Processor SOC E3827/E3845
	Max Speed	Up to 2MB L2 Cache, 1.91 GHz
	BIOS	2 x AMI 8 MByte SPI flash
Memory	Technology	Single Channel DDR3L 1333 MHz with ECC
	Max. Capacity	Up to 4GB on board
Compact PCI Interface	J1 Connectors	32bit/33MHz PCI local bus
	J2 Connector	RTM
	Mode	System Master/Drone (Stand alone)
Ethernet	Controller	Intel® WG1210AT SLJXR Gigabit Ethernet Controller
	Interface	PCIe 1.0 x 1, 10/100/1000 Base TX Ethernet
	I/O Connector	2 x RJ45 to 4HP front (Switchable with RIO 4HP)
Graphics	Chipset	Integrated in processor
	I/O Connector	1 x VGA to 4HP front (Switchable with RIO 4HP)
	Resolution	1 x VGA 2560 x 1600, 60Hz
Storage	Mode	SATA-II
	Channels	1 x 2.5" SATA Drive connector on front 8HP (optional to Cfast upon request) 1 x Cfast socket on RIO (switchable with 8GB SSD flash on front 4HP, upon request)
Front I/O	USB	1 x US2.0 type A, 1 x USB3.0 type A
	VGA	1 x VGA (Switchable with RIO)
	LAN	2 x 10/100/1000Mbps on RJ45 (Switchable with RIO)
	Front Panel LEDs	x 1 blue/yellow for Hot Swap/HDD, x 1 green for Power, and x 1 green for Master/Drone mode
	8HP (XTM)	2 x COM port on DB9 (RS232/422/485); 1 x PS/2 KB/MS; 1 x Audio Line-in/Line-out
	Buttons	System reset button
	To RTM	
To RTM	USB	2 x US2.0 type A,
	VGA	1 x VGA (Switchable with front)
	LAN	2 x 10/100/1000Mbps on RJ45 (Switchable with front)
	8HP (XTM)	2 x COM port on DB9 (RS232/422/485)
BIOS	Boot Options	SATA, USB, network (PXE)

Watchdog Timer	Output	Local reset
	Interval	Programmable 1s ~ 255s
Operating System	Compatibility	Windows7,Windows8.1, Linux, CentOS6.6
Physical	Dimension (L x H) & Weight	3U/ 4HP&8HP: 100 x 160 mm (6.30" x 3.95")
Environment	Operating	Non-operating
	Temperature	-40 ~ 60 °C (-40 ~ 140 °F) Fanless
	Humidity	95 % @ 40 °C, non-condensing
	Vibration	2Grms (X,Y,Z 1H/axis, w/o HDD)
Regulatory	Shock	30 G, 11ms, each axis three times
	Conformance	FCC Class A, CE, RoHS EN50121-4, EN50155
Compliance	Standards	PICMG2.0 R3.0, PICMG2.1 R.0

## Supported CPU Configurations

Intel® CPU Model Number	# Cores	Freq.	Cache	Memory Types	CPU TDP
Intel® Atom™ Processor E3827	2	1.75GHz	1 MB L2 Cache	DDR3L-1333	8W
Intel® Atom™ Processor E3845	4	1.91GHz	2 MB L2 Cache	DDR3L-1333	10W

## Ordering Information

System board	Front panel							On board Features			
	LAN(1)	USB2.0	USB3.0	VGA(2)	COM	PS/2	Audio	CPU	Memory	SATA	Slot Width
MIC-3329B1-D1E	2	1	1	1	2	1	1	E3827	4GB	1	2
MIC-3329C1-D1E	2	1	1	1	2	1	1	E3845	4GB	1	2

\*Note: (1)(2): 2 x LAN and 1 x VGA are switchable between front and RTM

RIO Board	Rear panel				On board Features	
	LAN(1)	USB2.0	VGA(2)	COM	Cfast Socket	Slot Width
MIC-3329R1-D1E	2	2	1	2	1	2

\*Note: (1)(2): 2xLAN and 1xVGA are switchable between front and RTM

## Recommended Configurations

CPU board	Rear I/O Board
MIC-3329xx-DxE Series	MIC-3329Rx-DxE Series

Front Board



RIO Board



## Related Products

Peripheral board	Description
MIC-3955	4-port RS232/422/485 communication card, with RIO support
MIC-3958	3U CPC1 4/2 port RJ45 Gigabit Ethernet Card, with RIO support
MIC-3953-AE	PMC carrier board
MIC-3022	4U enclosure for 3U cards, with RIO support
MIC-3023	3U fanless enclosure for 3U cards,w/o RIO support

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# 3U Peripheral Cards



Model		MIC-3612	MIC-3620	MIC-3680	MIC-3714	MIC-3716	MIC-3720	MIC-3723
Form Factor		3U	3U	3U	3U	3U	3U	3U
Main Function		-	-	-	-	-	-	-
Bus	PCI	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz
Power Consumption	TDP	3W	3.5W	2W	13W	13W	6.7W	12W
Environment	Operating Temperature	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)
	non-operating temperature	-20 ~70 °C (-4~ 158 °F)	-20 ~70 °C (-4~ 158 °F)	-20 ~70 °C (-4~ 158 °F)	-20 ~70 °C (-4~ 158 °F)	-20 ~70 °C (-4~ 158 °F)	-20 ~70 °C (-4~ 158 °F)	-20 ~70 °C (-4~ 158 °F)
	Humidity	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)
		95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)
	Vibration	2Grms	2Grms	2Grms	2Grms	2Grms	2Grms	2Grms
	Shock	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Altitude	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Regulatory	Conformance	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS
Operating System	Compatibility	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10
Compliance	Standards	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0
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MIC-3753	MIC-3756	MIC-3758	MIC-3761	MIC-3780	MIC-3953	MIC-3954	MIC-3957	MIC-3958
3U	3U	3U	3U	3U	3U	3U	3U	3U
-	-	-	-	-	PMC carrier	mini-PCIe/HDD carrier	GPS board	Quad GbE LAN
32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit/33 MHz	32-bit PCI	CPCI-Serial	32-bit/33 MHz	32-bit PCI
3.5W	6W	8.3W	4W	8.5W	depending on plugged card, 0.1A max. w/o card	depending on plugged card, 0.1A max. w/o card	2.5W	Up to 9.5W
0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	-25 ~ 55 °C (-13 ~ 131 °F)	-40 ~ 60 °C (-40 ~ 140 °F)
-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-20 ~ 70 °C (-4 ~ 158 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	95 % @ 40 °C, non-condensing (Operating)	10 ~ 95 % @ 40 °C, non-condensing	95 % @ 40 °C, non-condensing (Operating)
95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)	95 % @ 60 °C, non-condensing (Non-operating)		95 % @ 60 °C, non-condensing (Non-operating)
2Grms	2Grms	2Grms	2Grms	2Grms	2Grms	2Grms (5-500Hz, without HDD) (Operating)	1.06 Grms Operating 2 Grms Non-Operating	2Grms
n/a	n/a	n/a	n/a	n/a	n/a	n/a	10 Grms Operating 20 Grms Non-Operating	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,000m (operating) 10,000m (non-operating)	n/a
FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS	FCC Class A, CE, RoHS
WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10	WinXP, Win 7/8/10				
PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.1 R2.0	PICMG 2.0 R3.0 PICMG 2.3 R1.0 IEEE P1386.1 R2.3 PMC Specification	PICMG CPCI-S.0 CompactPCI® Serial peripheral card	PICMG 2.0 R3.0	PICMG2.0 R3.0
13-21	13-21	13-21	13-22	13-22	13-23	13-24	13-25	13-26

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# MIC-3612

# MIC-3620

# MIC-3680

4-port RS-232/422/485 3/6U CompactPCI® Card

8-port RS-232 3U CompactPCI® Card

2-Port CAN-bus 3U CompactPCI® Card



MIC-3612/3



MIC-3620/3



MIC-3680/3



## Features

- PCI Specification 2.1 compliant
- Speeds up to 921.6 kbps
- 4-port RS-232/422/485
- Surge protection
- 16C954 UARTs with 128-byte standard
- Standard Industrial CompactPCI® 3U Board size
- I/O address automatically assigned by PCI Plug & Play
- OSs supported: Windows® 98/2000/XP, Linux 2.4
- Interrupt status register for increased performance
- Automatic RS-485 data flow control
- Tx/Rx LED indicator

## Specifications

### Communications

- **Communication** BUS controller: PLX9030  
Controller UART: 16C954
- **Data Bits** 5, 6, 7, 8
- **Data Signals** TxD, RxD, RTS, CTS, DTR,  
DSR, DCD, RI, GND  
(for RS-232)  
TxD, RxD, RTS, CTS  
(for RS-422)  
DATA+, DATA- (for RS-485)
- **IRQ** All ports use the same IRQ  
assigned by PCI Plug & Play
- **Parity** None, even, odd
- **Speed (bps)** 50 ~ 921.6 k
- **Stop Bits** 1, 1.5, 2

### General

- **PICMG Compliance** CompactPCI V2.0, R 3.0  
Hot swap V2.1, R 2.0
- **Bus Type** CompactPCI V2.1
- **I/O Connectors** DB 44pin female
- **Dimensions (L x H)** 160 x 100 mm (6.3" x 3.9"),  
3U bracket
- **Power Consumption**

	Typical	Max.
+5 V	220 mA	285 mA
+3.3 V	100 mA	200 mA
+12 V	60 mA	80 mA

- **Operating Temperature** 0 ~ 70 °C (32 ~ 158 °F)  
(IEC68-2-1, 2)
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- **Operating Humidity** 5 ~ 95% RH, non-condensing  
(IEC 68-2-1, 2)

## Ordering Information

- **MIC-3612/3-BE** 3U CompactPCI 4-port  
RS-232/422/485 Card
- **MIC-3612/6-BE** 6U CompactPCI 4-port  
RS-232/422/485 Card

## Features

- PCI Specification 2.1 compliant
- Speeds up to 921.6 kbps
- 16C954 UARTs with 128-byte standard
- 8-port RS-232
- Standard Industrial CompactPCI 3U Board size
- I/O address automatically assigned by PCI Plug & Play
- OSs supported: Windows 98/2000/XP, Linux 2.4
- Interrupt status register for increased performance

## Specifications

### Communications

- **Communication** PCI9030 + 16C954 Controller
- **Data Bits** 5, 6, 7, 8
- **Data Signals** TxD, RxD, RTS, CTS, DTR,  
DSR, DCD, RI, GND
- **IRQ** All ports use the same IRQ  
assigned by PCI Plug & Play
- **Parity** None, even, odd
- **Speed (bps)** 50 ~ 921.6 k
- **Stop Bits** 1, 1.5, 2

### General

- **PICMG Compliance** CompactPCI V2.0, R 3.0  
Hot swap V2.1, R 2.0
- **Bus Type** CompactPCI bus specification  
2.1 compliant
- **I/O Connectors** SCSI 68-pin female
- **Dimensions (L x H)** 160 x 100 mm (6.3" x 3.9"),  
3U Bracket
- **Power Consumption** +5 V, +3.3 V, +12 V
- **Operating Temperature** 0 ~ 70 °C (32 ~ 158 °F)  
(refer to IEC68-2-1, 2)
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- **Storage Humidity** 5 ~ 95% Relative Humidity,  
non-condensing  
(IEC 68-2-1, 2)

## Ordering Information

- **MIC-3620/3-BE** 3U CompactPCI 8-port  
RS-232 Card

## Features

- CompactPCI specification PICMG 2.0 R3.0 compatible
- Hot swap support
- Two individual CAN ports
- Supports CAN2.0 A/B
- High speed transmission up to 1 Mbps
- 16 MHz CAN controller frequency
- Optical isolation up to 2,500 V<sub>oc</sub>
- Microsoft Windows DLL library and examples included
- Supports Windows 98/2000/XP drivers and utility
- Supports Rear I/O

## Specifications

### Communications

- **CAN Controller Frequency** 16 MHz
- **CAN Transceiver** 82C250
- **Communication Controller** SJA-1000
- **Ports** 2
- **Protocol** CAN 2.0 A/B
- **Signal Support** CAN\_H, CAN\_L, GND
- **Speed (bps)** Up to 1 Mbps  
programmable transfer  
rate

### Isolation Protection

- **Isolation Protection** 2,500 V<sub>oc</sub>
- ### General
- **PICMG Compliance** CompactPCI V2.0,  
R 3.0  
Hot swap V2.1, R 2.0
  - **Bus Type** CompactPCI
  - **I/O Connectors** 2 x DB9-M
  - **Dimensions (L x H)** 160 x 100 mm  
(6.3" x 3.9")
  - **Power Consumption** 5 V @ 400 mA (Typical)
  - **Operating Temperature** 0 ~ 65 °C (32 ~ 149 °F)
  - **Storage Temperature** -25 ~ 85 °C  
(-13 ~ 185 °F)
  - **Storage Humidity** 5 ~ 95% RH,  
non-condensing

## Ordering Information

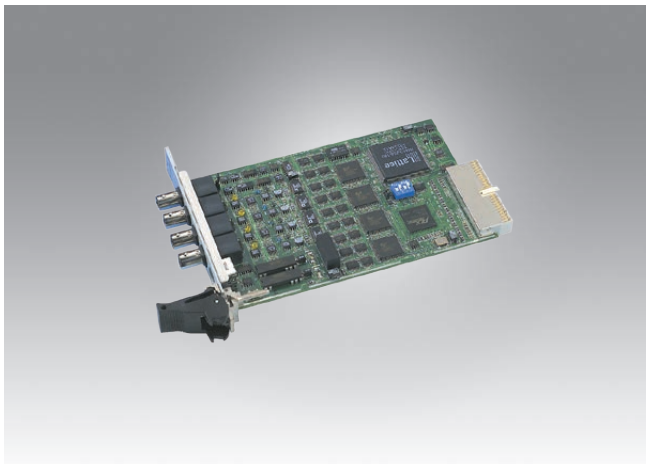
- **MIC-3680/3-AE** 3U CompactPCI  
2-port Isolated CAN  
Communication Card

# MIC-3714

# MIC-3716

30 MS/s, 12-bit, Simultaneous 4-ch  
Analog Input 3U CompactPCI® Card

250 kS/s, 16-bit, 16-ch Multifunction  
3U CompactPCI® Card



MIC-3714/3

CE FCC

## Specifications

### Analog Input

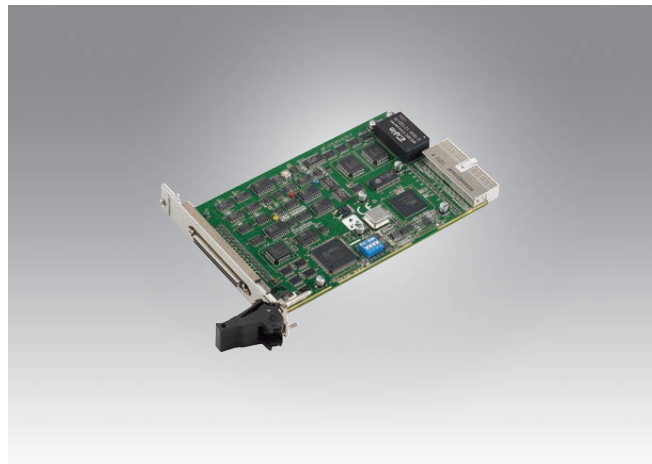
- **Channels** 4 single-ended channels
- **Resolution** 12 bits
- **Max. Sampling Rate** 30 MS/s (Only in FIFO 32k)
- **FIFO Size** 32,768 samples/ch
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 50 Ω/1 MΩ/jumper selectable, 100 pF
- **Sampling Modes** Software, pacer, post-trigger, pre-trigger, delay-trigger, about-trigger
- **Input Range (V)** ±5, ±2.5, ±1, ±0.5

### General

- **Bus Type** CompactPCI
- **I/O Connectors** 4 x BNC connector (for AI)  
1 x PS/2 connector (for ext. colock and trigger)
- **Dimensions (L x H)** 160 x 100 mm (6.3" x 3.9") with 3U bracket
- **Power Consumption** Typical: +3.3 V @ 550 mA, +5 V @ 150 mA,  
+12 V @ 600 mA  
Max.: +3.3 V @ 850 mA, +5 V @ 200 mA,  
+12 V @ 700 mA
- **Operating Temperature** 0 ~ 70 °C (32~158 °F)
- **Storage Temperature** -20 ~ 85 °C (-4 ~ 185 °F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- **Certification** CE, FCC

## Ordering Information

- **MIC-3714/3-AE** 3U, 30 MS/s Simultaneous 4-ch Analog Input Card
- **ADAM-3909-AE** DB-9 Wiring Terminal for DIN-rail Mounting
- **PCL-10901-3E** PS2 to DB-9 wiring cable, 3 m
- **PCL-1010B-1E** BNC to BNC wiring cable, 1 m



MIC-3716/3

CE

## Specifications

### Analog Input

- **Channels** 16 single-ended, 8 differential, or combination
- **Resolution** 16 bits
- **Max. Sampling Rate** 250 kS/s
- **FIFO Size** 1024 samples/ch
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 100 MΩ/10 pF (Off); 100 MΩ/100 pF (On)
- **Sampling Modes** Software, pacer, or external
- **Input Range**

<b>Bipolar</b>	±10	±5	±2.5	±1.25	±0.625
<b>Unipolar</b>	-	0 - 10	0 - 5	0 - 2.5	0 - 1.25
<b>Accuracy (% of FSR ±1LSB)</b>	0.15	0.03	0.03	0.05	0.1

### Analog Output

- **Channels** 2
- **Resolution** 16 bits
- **Output Rate** Static update
- **Output Range**

<b>Internal Reference</b>	<b>Bipolar</b>	±5, ±10
	<b>Unipolar</b>	0 - 5, 0 - 10
<b>External Reference</b>		0 - +x V @ +x V (-10 ≤ x ≤ 10) -x - +x V @ +x V (-10 ≤ x ≤ 10)

- **Slew Rate** 20 V/μs
- **Driving Capability** ±20 mA
- **Output Impedance** 0.1 Ω max.
- **Operation Mode** Single output
- **Accuracy** Relative: ±1LSB

### Digital Input/Output

- **Channels** 16, 5V/TTL
- **Input Voltage** Logic 0: 0.4 V max.  
Logic 1: 2.4 V min.
- **Output Voltage** Logic 0: 0.4 V max.  
Logic 1: 2.7 V min.
- **Output Capability** Sink: 0.4 V max. @ +8 mA  
Source: 2.4 V min. @ -0.4 mA

### Counter/Timer

- **Channels** 3
- **Compatibility** 5 V/TTL
- **Resolution** 16 bits
- **Max. Input Frequency** 1 MHz
- **Reference Clock** Internal 10 MHz  
External Clock Frequency 10 MHz  
External Voltage Range TTL (Low: 0.8, High: 2 V)

### General

- **PICMG Compliance** CompactPCI V2.0, R. 2.1 Hot-Swap V2.1, R. 2.0
- **Bus Type** CompactPCI
- **I/O Connector Type** 68-pin SCSI-II female
- **Dimensions (L x H)** 160 x 100 mm (6.9" x 3.9") with 3U Bracket
- **Power Consumption** Typical: +5 V @ 850 mA, +12 V @ 600 mA  
Max.: +5 V @ 1 A, +12 V @ 700 mA
- **Certification** CE

## Ordering Information

- **MIC-3716/3-AE** 3U, 250 kS/s, 16-bit, 16-ch High-Resolution Multifunction Card
- **PCLD-8710-AE** Industrial Wiring Terminal Board with CJC circuit for DIN-rail Mounting, (cable not included)
- **PCL-10168-1E/2E** 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m
- **ADAM-3968-AE** 68-pin SCSI-II Wiring Terminal Board for DIN-rail Mounting

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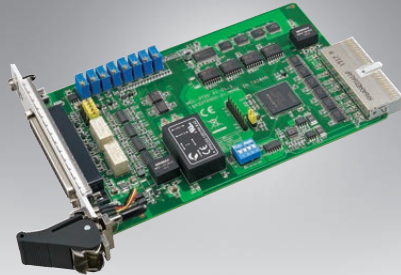
# MIC-3720

# MIC-3723

12-bit, 4-ch Isolated Analog Output  
Universal CompactPCI® Card

16-bit, 8-ch Analog Output 3U  
CompactPCI® Card

NEW



MIC-3720



## Specifications

### Analog Output

- Channels 4 isolated
- Resolution 12 bits
- Output Rate Static update
- Output Range

Bipolar (V)	±5, ±10
Unipolar (V)	0 ~ 5, 0 ~ 10
Current Loop (mA)	0 ~ 20, 4 ~ 20 (software programmable)

- Slew Rate 2.5 V/μs @ ±10 V  
1.5 V/μs @ ±5 V, 0 ~ 10 V  
0.7 V/μs @ 0 ~ 5 V
- Isolation Protection 2,500 V<sub>DC</sub>
- Driving Capability 5 mA
- Operation Modes Software polling
- Accuracy Relative: ±1 LSB; Differential  
Non-Linearity: ±1 LSB (monotonic)

### General

- Bus Type CompactPCI
- I/O Connectors 1 x DB37 female connector
- Dimensions (L x H) 175 mm x 100 mm (6.9" x 3.9")
- Power Consumption 5 V @ 350 mA (typical), 500 mA (max.)  
12 V @ 200 mA (typical), 350 mA (max.)
- Operating Temperature 0 ~ 60 °C (32 ~ 140 °F)
- Storage Temperature -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Humidity 5 ~ 95% RH, non-condensing

## Ordering Information

- MIC-3720-AE 12-bit, 4-ch Isolated AO Universal CompactPCI Card

### Accessories

- PCL-10137-1E DB37 Cable, 1 m
- PCL-10137-2E DB37 Cable, 2 m
- PCL-10137-3E DB37 Cable, 3 m
- ADAM-3937-AE DB37 DIN-rail Wiring Board



MIC-3723/3



## Specifications

### Analog Output

- Channels 8
- Resolution 16 bits
- Output Rate Static update
- Output Range (V, software programmable)

Internal Reference	Unipolar	±10 V
	Current Loop	0 ~ 20 mA, 4 ~ 20 mA

- Slew Rate 20 V/μs
- Driving Capability 5 mA
- Output Impedance 0.1 Ω max.
- Operation Modes Single output, synchronized output

### Digital Input/Output

- Channels 16, 5V/TTL
- Input Voltage Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- Output Voltage Logic 0: 0.5 V max. @ 24 mA  
Logic 1: 2.4 V min. @ -15 mA
- Output Capability Sink: 0.5 V max. @ 24 mA  
Source: 2.4 V min. @ -15 mA

### General

- PICMG Compliance CompactPCI V2.0, R 2.1  
Hot-Swap V2.1, R 2.0
- Bus Type CompactPCI
- I/O Connector Type 68-pin SCSI-II female
- Dimensions (L x H) 160 x 100 mm (6.9" x 3.9") with 3U Bracket
- Power Consumption Typical: 5 V @ 850, 12 V @ 600 mA
- Certification CE

## Ordering Information

- MIC-3723/3-AE 3U CompactPCI 16-bit, 8-ch non-isolated analog output card
- PCL-10168-1E 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m
- PCL-10168-2E 68-pin SCSI-II Wiring Terminal Board for DIN-rail mounting

# MIC-3753 MIC-3756 MIC-3758

72-CH Digital I/O 3U CompactPCI® Card

64-ch Isolated Digital I/O CPCI Card

128-CH Isolated Digital I/O 3U CompactPCI® Card



MIC-3753R/3

MIC-3753/3



MIC-3756



MIC-3758/3



## Specifications

### Digital Input

- Channels 72 (shared with output)
- Compatibility 5 V/TTL
- Input Voltage Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- Interrupt Capable Ch. 6 (2 for each C port)

### Digital Output

- Channels 72 (shared with input)
- Compatibility 5 V/TTL
- Output Voltage Logic 0: 0.44 V max. @ 24 mA  
Logic 1: 3.76 V min. @ 24 mA
- Output Capability Sink: 0.44 V max. @ 24 mA  
Source: 3.76 V min. @ 24 mA

### General

- PICMG Compliance CompactPCI V2.0, R 2.1  
Hot-Swap V2.1, R 2.0  
CompactPCI
- Bus Type 1 x 78-pin D-type female connector
- I/O Connectors 160 x 100 mm (6.9" x 3.9") with 3U Bracket
- Dimensions (L x H) Typical: +5 V @ 400 mA  
Max.: +5 V @ 0.7 A
- Power Consumption 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 68-2-1, 2)
- Operating Temperature 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- Operating Humidity -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Temperature CE
- Certifications

## Ordering Information

- MIC-3753/3-A1E 3U CompactPCI 72-ch Digital I/O card
- MIC-3753R/3-AE 3U CompactPCI 72-ch Digital I/O card with Rear I/O support
- PCL-10178-1E DB-78 cable assembly, 1 m
- ADAM-3978-AE DB-78 wiring terminal for DIN-rail mounting

## Specifications

### Isolated Digital Input

- Channels 32
- Input Voltage Logic 0: 3 V max.  
Logic 1: 10 V min. (50 V max.)
- Interrupt Capable 2 (DI00, DI16)
- Isolation Protection 2,500 V<sub>DC</sub>
- Opto-Isolator Response 100 μs
- Input Current 24 V<sub>DC</sub> @ 4.40 mA (typical)

### Isolated Digital Output

- Channels 32
- Output Type Sink (NPN)
- Isolation Protection 2,500 V<sub>DC</sub>
- Output Voltage 5 ~ 40 V<sub>DC</sub>
- Sink Current 200 mA max./channel
- Opto-Isolator Response 25 μs

### General

- Bus Type CompactPCI
- I/O Connectors 1 x 78-pin D-type female connector
- Dimensions (L x H) 160 x 100 mm (6.9" x 3.9") with 3U Bracket
- Power Consumption Typical: 5 V @ 285 mA  
Max: 5 V @ 475 mA
- Operating Temperature 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 68-2-1, 2)
- Operating Humidity 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- Storing Temperature -20 ~ 80 °C (-4 ~ 158 °F)
- Certifications CE

## Ordering Information

- MIC-3756-BE 3U 64-channel isolated digital I/O Card

### Accessories

- PCL-10178-1E DB-78 cable assembly, 1 m
- ADAM-3978-AE DB-78 wiring terminal for DIN-rail mounting

## Specifications

### Isolated Digital Input

- Channels 64
- Input Voltage Logic 0: 2.5 V max.  
Logic 1: 5 V min. (25 V max)
- Interrupt Capable Ch. 64
- Isolation Protection 2,500 V<sub>DC</sub>
- Opto-Isolator Response 50 μs
- Input Resistance 3 kΩ

### Isolated Digital output

- Channels 64
- Output Type Sink (NPN)
- Isolation Protection 2500 V<sub>DC</sub>
- Output Voltage 5 ~ 40 V<sub>DC</sub>
- Sink Current 90 mA max./Channel
- Opto-isolator Response 50 μs

### General

- Bus Type CPCI bus spec. 2.1 compliant
- I/O Connectors 1 x MINI-SCSII HDRA-E100 Female
- Dimensions (L x H) 160 x 100 mm (6.9" x 3.9") with 3U Bracket
- Power Consumption Typical: +5 V @ 800 mA, +3.3 V @ 600 mA  
Max.: +5 V @ 1 A, +3.3 V @ 1 A
- Operating Temperature 0 ~ 60 °C (32 ~ 140 °F) (IEC 68-2-1,2)
- Storage Temperature -20°~ 70 °C (-4°~ 158 °F)
- Storage Humidity 5 ~ 95% (IEC 68-2-3) non-condensing

## Ordering Information

- MIC-3758/3-AE 3U CompactPCI 128-ch isolated Digital I/O card
- PCL-101100S-1E 100-pin SCSI Cable, 1 m
- ADAM-39100-BE 100-pin SCSI wiring terminal, DIN-rail mounting

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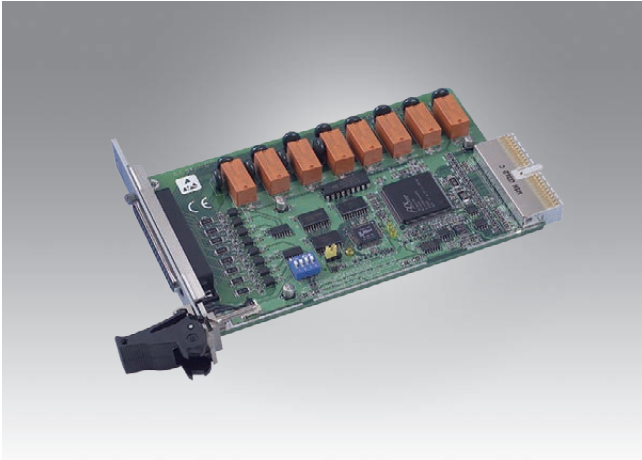


# MIC-3761

# MIC-3780

## 8-CH Relay & 8-CH Isolated Digital Input 3U CompactPCI® Card

## 8-CH, 16-bit Counter/Timer 3U CompactPCI® Card



MIC-3761/3



### Specifications

#### Isolated Digital Input

- Channels 8
- Input Voltage Logic 0: 3 V max.  
Logic 1: 10 V min.  
(50 V max.)
- Input Current\* 10 V<sub>DC</sub> 1.6 mA (typical)  
12 V<sub>DC</sub> 1.9 mA (typical)  
24 V<sub>DC</sub> 4.1 mA (typical)  
48 V<sub>DC</sub> 8.5 mA (typical)  
50 V<sub>DC</sub> 8.9 mA (typical)
- Interrupt Capable Ch. ID0 ~ ID7
- Isolation Protection 2,500 V<sub>DC</sub>
- Overvoltage Protection 70 V<sub>DC</sub>
- Opto-Isolator Response 25 µs
- Input Resistance 560 Ω

#### Relay Output

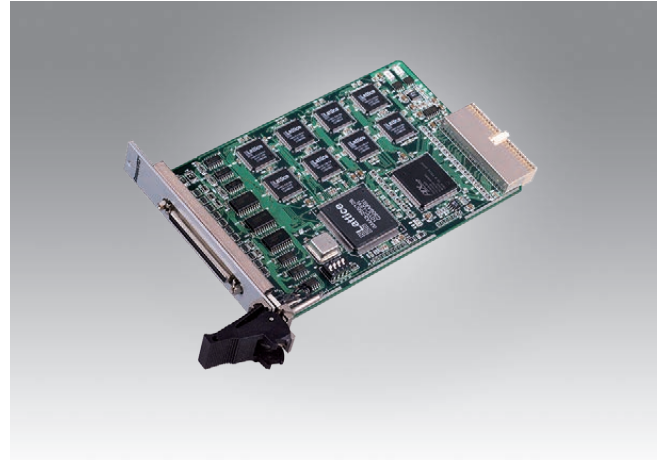
- Channels 8
- Relay Type SPDT  
(4 Form A, and 4 Form C)
- Contact Rating 3 A @ 250 V<sub>AC</sub> or  
3 A @ 24 V<sub>DC</sub>
- Relay on Time 15 ms max.
- Relay off Time 5 ms max.
- Life Span Mechanical  
2 x 10<sup>7</sup> ops. min.  
Electrical  
2 x 10<sup>9</sup> ops. min. (contact rating)
- Resistance 1 GΩ min. (at 500 V<sub>DC</sub>)

#### General

- PICMG Compliance CompactPCI V2.0, R 3.0  
Hot-Swap V2.1, R 2.0, R 2.1
- Bus Type CompactPCI
- I/O Connectors 1 x 37-pin D-type female connector
- Dimensions (L x H) 160 x 100 mm (6.9" x 3.9") with 3U Bracket
- Power Consumption Typical: +5 V @ 220 mA  
Max.: +5 V @ 750 mA
- Certification CE

### Ordering Information

- MIC-3761/3-AE 3U 8-ch Relay Actuator and 8-ch Isolated D/I Card
- PCL-10137-1E/2E/3E DB-37 cable assembly, 1, 2 and 3 m
- ADAM-3937-BE DB-37 Wiring Terminal for DIN-rail Mounting
- PCLD-780-BE Universal Screw Terminal Board



MIC-3780/3



### Specifications

#### Digital Input

- Channels 8
- Compatibility 5 V/TTL
- Input Voltage Logic 0: 0.8 V max.  
Logic 1: 2.4 V min.
- Interrupt Capable Ch. 1 (channel 0)

#### Digital Output

- Channels 8
- Compatibility 5 V/TTL
- Output Voltage Logic 0: 0.5 V max. @ 24 mA  
Logic 1: 2.4 V min. @ -15 mA  
Sink: 0.5 V max. @ 24 mA  
Source: 2.4 V min. @ -15 mA
- Output Capability

#### Counter/Timer

- Channels 8 (independent)
- Resolution 16 bits
- Compatibility 5 V/TTL
- Max. Input Frequency 20 MHz
- Reference Clock Internal: 20 MHz
- Counter Modes 12 (programmable)
- Interrupt Capable Ch. 8

#### General

- PICMG Compliance CompactPCI V2.0, R 3.0  
Hot-Swap V2.1, R 2.0
- Bus Type CompactPCI V2.1
- I/O Connectors 68-pin SCSI-II female
- Dimensions (L x H) 160 x 100 mm (6.3" x 3.9") with 3U Bracket
- Power Consumption Typical: +5 V @ 900 mA  
Max: +3.3 V @ 1.2 A
- Operating Temperature 0 ~ 60 °C (32 ~ 140 °F) (refer to IEC 68-2-1, 2)
- Storage Temperature -20 ~ 70 °C (-4 ~ 158 °F)
- Relative Humidity 5 ~ 95 % RH non-condensing (refer to IEC 68-2-3)
- Certification CE, FCC Class A

### Ordering Information

- MIC-3780/3-A1E 3U Compact PCI 8-ch, 16 bit counter/timer card
- PCL-10168-1E/2E 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m
- ADAM-3968-AE 68-pin SCSI-II Wiring Terminal Board for DIN-rail mounting



# MIC-3953

## Single PMC Slot Carrier 3U CompactPCI® Card



### Features

- Up to 64-bit/66 MHz CompactPCI® Interface
- Supports one single-size PMC site in 4HP width
- Comprehensive EMC shielding



### Introduction

The MIC-3953 is a 3U CompactPCI carrier board for PCI Mezzanine Cards (PMC) modules. It provides one 32,64-bit/33,66 MHz PMC site in 4HP width for system expansion through different PMC modules. Advantech provides several PMC modules that work with MIC-3953, such as the 10/100 Ethernet module and Gigabit module. It is also compatible with other standardized modules from other manufacturers.

### Specifications

Bus	PCI	32/64-bit/33MHz, up to 32/64-bit/66MHz	
Environment	Temperature	Operating 0 ~ 60 °C (32 ~ 140 °F)	Non-Operating -40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	95% @ 40 °C, non-condensing	
	Vibration (5-500 Hz)	2.0 Grms	
Physical Characteristics	Dimensions (W x D)	160.00 x 100.00 mm (6.30" x 3.95")	
	Weight	0.5kg	
Compliance		PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.3 R1.0 CompactPCI PMC I/O Mapping Specification IEEE P1386.1 R2.3 PMC Specification	

### Recommended Configurations

Carrier Board	PMC Module
MIC-3953-AE	MIC-3665-AE MIC-3665-BE

### Ordering Information

Part Number	Description
MIC-3953-AE	3U CompactPCI single PMC carrier board

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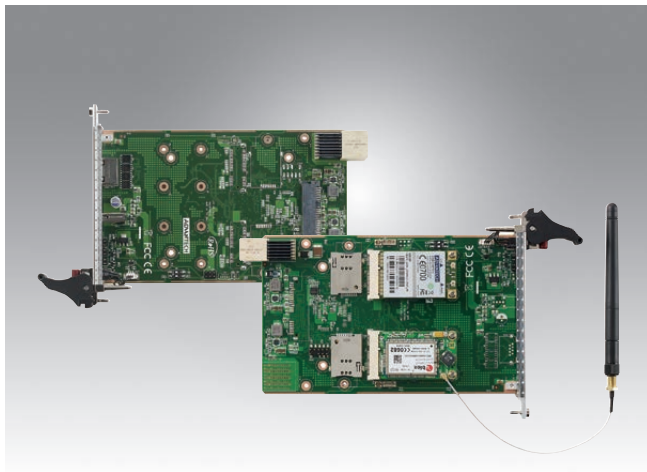
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# MIC-3954

## PCIe® Mini or Storage Carrier 3U CompactPCI® Serial Card



### Features

- For card 1 with internal PCIe and USB interface
- For card 2 with SATA interface
- PICMG CPCI-S.0 CompactPCI® Serial

CompactPCI® Serial  

### Introduction

The MIC-3954 is a rugged single Eurocard CompactPCI® Serial carrier board with two function options; Option 1: Supports the PCI Express® Mini Card, which offers two standard PCI Express® Mini Card slots, with dual on-board SIM slots for 3G module. It allows to use all types of cards for HF applications, for example GPS, WLAN, UMTS, GSM, or HSDPA which is connected to two external SMA antenna connectors; Option 2: Supports the hard disk drive carrier board and one USB connector on front panel. It is designed to carry a 2.5" SATA hard disk drive or a solid state drive.

### Specifications

	MIC-3954 PCIe Mini Card Carrier Board	MIC-3954 Storage Carrier Board	
Interface	PClex1 and USB2.0	SATA2.0 and USB2.0	
Power	+12 V, power consumption depending on plugged card, 0.1A max. w/o card	+12 V, power consumption depending on plugged HDD/SSD	
Environment	Operating Temperature	Non-Operating	
	Temperature	0 ~ 60 °C (32 ~ 140 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	95% @ 40 °C, non-condensing	95% @ 60 °C, non-condensing
Physical Characteristics	Vibration (5-500 Hz)	-	
	Dimensions (L x H)	160.00 x 100.00 mm (6.30" x 3.95")	
Compliance	Weight	0.5 kg	
	PICMG CPCI-S.0 CompactPCI® Serial peripheral card		

### Recommended Configurations

Carrier Board	CPU Board	Enclosure
MIC-3954-AE	MIC-3328 series	MIC-3022PAE
MIC-3954-BE		MIC-3022PCE

### Ordering Information

Part Number	Description
MIC-3954-AE	3U CompactPCI® Serial PCIe® Mini Card Carrier Board for Wireless Functions
MIC-3954-BE	3U CompactPCI® Serial SATA HDD/SSD Carrier board

Note: Please contact Advantech sales representative for recommended wireless modules.

# MIC-3957

## GPS Communication 3U CompactPCI® Card



### Features

- GPS based on 50 channel u-blox lea-6s module
- 32bit 33/66MHz PCI bus backplane
- UART interface for GPS module
- Accuracy 2.5 m CEP
- PICMG 2.0 Rev. 3.0 compatible



### Introduction

The MIC-3957 is a 3U CompactPCI GPS Communication Card. It supports working with 32bit 33MHz or 66MHz PCI frequency. MIC-3957 is designed with u-blox lea-6s GPS module via UART interface. MIC-3957 is capable of massive parallel time/frequency space searches, enabling it to find satellites instantly. Innovative design and technology suppress interference sources and mitigate multipath effects, providing excellent navigation performance even in the most challenging environments in automotive and industrial applications.

### Specifications

GPS Interface	UART		
Main chip	u-blox lea-6s		
Antenna	GPS antenna 1575MHz		
Receiver Type	50 Channels GPS L1 frequency, C/A code GALILEO Open Service capable SBAS:WAAS,EGNOS, MSAS, GAGAN		
Time-To-First-Fix	Cold Start: 29 s Warm Start: 29 s Hot Start: < 1 s		
Sensitivity	Tracking & Navigation: -160 dBm Reacquisition: -160 dBm Cold Start: -147 dBm		
Horizontal Position Accuracy	Autonomous: < 2.5 m SBAS: < 2.0 m		
Max Navigation Update Rate	< 5 Hz		
Velocity Accuracy	0.1 m/s		
Heading Accuracy	0.5 degrees		
Operational Limits	Dynamics	< 4 g	
	Altitude	50,000m	
	Velocity	515 m/s	
OS support	Windows XP, Windows 7, Linux CentOS6.6		
Power consumption	2.5W		
Environment	Temperature	-25 ~ 55 °C (-13 ~ 131 °F)	-40 ~ 80 °C (-40 ~ 176 °F)
	Humidity	10 ~ 95% @ 40 °C, non-condensing	10 ~ 95% @ 60 °C, non-condensing
	Shock	10 G	20 G
	Vibration (5 ~ 500 Hz)	1.06 Grms	2 Grms
Physical Characteristics	PCB Dimensions (L x H)	160 x 100 mm (6.3" x 3.9")	
	Weight	0.4 kg	
Reliability	MTBF	-	

### Related Products

Part Number	Description
MIC-3328	3U CompactPCI Intel® third generation Ivy bridge™ Processor Blade
MIC-3023D1-A1E	3U CPCI fanless enclosure dual system with 2 backplane, 2 AC-In panel
MIC-3023S1-D1E	3U CPCI fanless enclosure single system with 1 back plane, 2 CPCI power connector for DC-Input power

### Ordering Information

Part Number	PCI	PICMG 2.0	Description
MIC-3957A1-S1E	Yes	Yes	3U CPCI GPS communication board

### Accessories

Part Number	Description
1750006432	GPS antenna 5000mm AG1575-0250SM-UL

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# MIC-3958

## 4 RJ45 Port Gigabit Ethernet 3U CompactPCI® Card



### Features

- Standard 3U 4HP CompactPCI® form factor
- Up to four Intel® i210 Ethernet controllers with fully MAC & PHY
- Four or two 10/100/1000BASE-T Ethernet ports via RJ-45 connectors
- Two LAN ports switchable to rear (MIC-3958R)
- Compliant PICMG2.0 R3.0

Fully Compliant with  
EN 50121-4

Fully Certified with  
EN 50155



### Introduction

Advantech MIC-3958 Series, a 3U height 4HP CompactPCI® peripheral card, using Intel® latest industry i210 Ethernet controller, to support up to four RJ45 Gigabit lan connectors, two switchable with rear transition module; MIC-3958A provides four RJ45 lan ports on front panel, MIC-3958R provides two RJ45 lan ports on rear IO panel. Its ideal power solution make it perfect for all fanless system applications.

### Specifications

Bus	PCI	32bit, up to 33/66MHz
	PCI-to-PCIe Bridge	P17C9X130
	J2 Connector	RTM
Ethernet	Controller	Intel® Industry I210IT Ethernet Controller
	Interface	PCIe 1.0x1, 10/100/1000 Base TX Ethernet
	I/O Connector	4x RJ45 to 4HP front (2x RJ45 Switchable with RIO 4HP)
	LED	LAN Speed LED Status (Dual-Color)=>10Mb/s :off, 100Mb/s: Green, 1000Mb/s: Orange LAN Link/ACT LED status=> Link: Green, Activity: Green Blink
Operating System	Compatibility	Windows7, Windows8, Linux CentOS6.5/6.6
Max Power Consumption	Max./Typ.	4x LAN ports: 9.5W (5V@1.9A) 2x LAN ports: 7.1W (5V@1.42A)
Physical	Dimensions (L x H)	100 x 160 mm (6.30" x 3.95")
Environment	Temperature	Operating: -40 ~ 55 °C (-40 ~ 122 °F) Fanless Non-Operating: -40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	95 % @ 40 °C, non-condensing 95 % @ 60 °C, non-condensing
	Vibration	2 Grms -
	Compliance	Standards



Front Board



RIO board

### Related Products

I/O Board	CPU Board	Enclosure
MIC-3958 series	MIC-3325 series / MIC-3328 series / MIC-3329 series	MIC-3022 series / MIC-3023 series

### Ordering Information

Part Number	Description
MIC-3958A1-S1E	3U CompactPCI peripheral card w./ 4xRJ45 Gigabit Ethernet Connectors on front panel
MIC-3958B1-S1E	3U CompactPCI Peripheral card w./ 4 M12 Gigabit Ethernet connector on front panel
MIC-3958R1-S1E	3U CompactPCI RIO peripheral card w./2xRJ45 Gigabit Ethernet Connectors on rear panel

\*Note: MIC-3958R is switchable w./ MIC-3958A by switch setting on front board.

## Industrial Computer Peripherals

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To view all of Advantech's Peripherals, please visit [www.advantech.com/products](http://www.advantech.com/products).



# Power Supplies

## 80 Plus PS/2 Single Power Supplies



Part Number	PS8-250ATX-ZE	PS8-300ATX-ZBE	PS8-400ATX-ZE	PS8-500ATX-ZE	PS8-700ATX-ZE
Form Factor	PS/2	PS/2	PS/2	PS/2	PS/2
Wattage	250W	300W	400W	500W	700W
80 Plus Grade	Bronze	Bronze	Bronze	Bronze	Bronze
Input Range	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>
Output Range	+3.3V @ 20 A +5 V @ 21 A +12 V1 @ 16 A +12 V2 @ 16 A -12 V @ 0.3 A -5 V @ 0.3A +5 Vsb @ 2.5 A	+3.3V @ 11.12 A +5 V @ 13.2 A +12 V @ 7.64 A +12 VCPU @ 8 A -12 V @ 0.1 A -5V @ 0.05 A +5 Vsb @ 1.39 A	+3.3V @ 21 A +5 V @ 20 A +12 V1 @ 16 A +12 V2 @ 16 A -12 V @ 0.5 A -5V @ 0.3 A +5 Vsb @ 3 A	+3.3V @ 24 A +5 V @ 20 A +12 V1 @ 16 A +12 V2 @ 16 A -12 V @ 0.5 A -5V @ 0.3 A +5 Vsb @ 3 A	+3.3V @ 24 A +5 V @ 30 A +12 V1 @ 16 A +12 V2 @ 16 A +12 V3 @ 16 A +12 V4 @ 16 A -12 V @ 0.5 A -5V @ 0.5 A +5 Vsb @ 4 A
MTBF(hrs)	100,000 @ 25° C	100,000 @ 25° C	100,000 @ 25° C	100,000 @ 25° C	100,000 @ 25° C
Dimensions (W x H x D)	150 x 86 x 140 mm (5.91" x 3.39" x 5.51")	150 x 86 x 140 mm (5.91" x 3.39" x 5.51")	150 x 86 x 140 mm (5.91" x 3.39" x 5.51")	150 x 86 x 140 mm (5.91" x 3.39" x 5.51")	150 x 86 x 140 mm (5.91" x 3.39" x 5.51")
Safety	CE, FCC, UL, CB, TUV, CCC, KC	CE, FCC, UL, CB, TUV, CCC, KC, BSMI	CE, FCC, UL, CB, TUV, CCC, KC	CE, FCC, UL, CB, TUV, CCC, KC	CE, FCC, UL, CB, TUV, CCC, KC
Compatible Chassis	ACP-2000/IPC-602, ACP-4000, ACP-4010, ACP-4020, ACP-4320, ACP-4340, ACP-4360 IPC-6606, IPC-6608, IPC-5122, IPC-7130, IPC-7130L, IPC-7132, IPC-7220, IPC-510, IPC-610-F, IPC-610-H, IPC-610-L, IPC-611, IPC-619	ACP-2000/IPC-602, ACP-4000, ACP-4010, ACP-4020, ACP-4320, ACP-4340, ACP-4360 IPC-6606, IPC-6608, IPC-5122, IPC-7130, IPC-7130L, IPC-7132, IPC-7220, IPC-510, IPC-610-F, IPC-610-H, IPC-610-L, IPC-611, IPC-619, HPC-5000	ACP-2000/IPC-602, ACP-4000, ACP-4010, ACP-4020, ACP-4320, ACP-4340, ACP-4360 IPC-6606, IPC-6608, IPC-5122, IPC-7130, IPC-7130L, IPC-7132, IPC-7220, IPC-510, IPC-610-F, IPC-610-H, IPC-610-L, IPC-611, IPC-619, HPC-7442	ACP-2000/IPC-602, ACP-4000, ACP-4010, ACP-4020, ACP-4320, ACP-4340, ACP-4360 IPC-6606, IPC-6608, IPC-5122, IPC-7130, IPC-7130L, IPC-7132, IPC-7220, IPC-510, IPC-610-F, IPC-610-H, IPC-610-L, IPC-611, HPC-7442	ACP-2000/IPC-602, ACP-4000, ACP-4010, ACP-4020, ACP-4320, ACP-4340, ACP-4360, IPC-510, IPC-610-F, IPC-610-H, IPC-610-L, IPC-619, HPC-7442

## PS/2 DC Power Supplies



Model Name	PS-300ATX-DC48E
Wattage	300W
Input Range	72 ~ 36 V <sub>DC</sub> , 15 A
Outputs	+5 V @ 30 A (0.3 A min) +3.3 V @ 28 A (0.3 A min) +12 V @ 15 A (0.2 A min) -12 V @ 0.8 A, -5 V @ 0.3 A, +5 Vsb @ 2 A
MTBF (hrs)	100,000 @ 25° C
Dimensions (W x H x D)	150 x 86 x 140 mm (5.91" x 3.39" x 5.51")
Safety	UL, TUV, CB, CCC
Compatible Chassis	ACP-2000, ACP-4000, ACP-4010, ACP-4020, ACP-4320, ACP-4340, ACP-4360, IPC-602, IPC-610



## 80 Plus 1U/2U Single Power Supplies



Part Number	PS8-500U2-XE	96PS-A700W1U
Form Factor	2U	1U
Wattage	500W	700W
80 Plus Grade	Bronze	Bronze
Input Range	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>
Output Range	+3.3V @ 20 A, +5 V @ 20 A +12 V1 @ 16 A, +12 V1 @ 16 A +12 V3 @ 16 A, -12 V @ 0.5A +5 Vsb @ 3 A	+3.3V @ 24 A, +5 V @ 30 A +12 V1 @ 16 A, +12 V2 @ 16 A +12 V3 @ 16 A, +12 V4 @ 16 A -12V @ 0.5 A, +5 Vsb @ 4 A
MTBF(hrs)	100,000 @ 25° C	100,000 @ 25° C
Dimensions (W x H x D)	70 x 100 x 240 mm (2.75" x 3.93" x 9.44")	40 x 100 x 250 mm (1.57" x 3.93" x 9.84")
Safety	CE, FCC, UL, CB, TUV, CCC, KC	CE, FCC, UL, CB, TUV, CCC, KC
Compatible Chassis	HPC-7242, HPC-7282, HPC-7320, HPC-8316	HPC-7320, HPC-7400, HPC-8316

## 80 Plus Flex ATX Power Supplies



Part Number	PS8-250FATX-XE	PS8-350FATX-XE
Form Factor	Flex ATX	Flex ATX
Wattage	250W	350W
80 Plus Grade	Bronze	Bronze
Input Range	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>
Output Range	+3.3V @ 12 A +5 V @ 14 A +12 V @ 18 A -12 V @ 0.3 A +5 Vsb @ 2.5 A	+3.3V @ 16A +5 V @ 16 A +12 V1 @ 18 A +12 V2 @ 18 A -12 V @ 0.3A +5 Vsb @ 3 A
MTBF(hrs)	100,000 @ 25° C	100,000 @ 25° C
Dimensions (W x H x D)	81.5 x 40.5 x 150 mm (3.2" x 1.59" x 5.9")	81.5 x 40.5 x 150 mm (3.2" x 1.59" x 5.9")
Safety	CE, FCC, UL, CB, TUV, CCC, KC	CE, FCC, UL, CB, TUV, CCC, KC, BSMI
Compatible Chassis	ACP-1010/ACP-1320, ACP-2010/ACP-2320, ACP-4D00, IPC-3012, IPC-6806S, IPC-6806S-D, IPC-6806, IPC-5120, IPC-7120	ACP-1010/ACP-1320, ACP-2010/ACP-2320, ACP-4D00, IPC-603, IPC-3012, IPC-6806S, IPC-6806S-D, IPC-6806, IPC-5120, IPC-7120, ACP-2020

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# Power Supplies

## 80 Plus Redundant Power Supplies



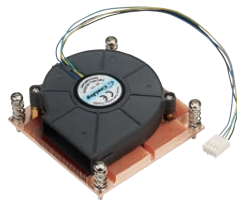
Part Number	RPS8-350ATX-XE	RPS8-500ATX-XE	RPS8-750ATX-XE	RPS8-500U2-XE	RPS8-700U2-XE
<b>Form Factor</b>	Mini Redundant	Mini Redundant	Mini Redundant	2U Redundant	CRPS
<b>Wattage</b>	350W 1+1	500W 1+1	750W 1+1	500W 1+1	700W 1+1
<b>80 Plus Grade</b>	Gold	Gold	Gold	Bronze	Gold
<b>PMBus</b>	Ver. 1.2	Ver. 1.2	Ver. 1.2	-	Ver. 1.2
<b>Input Range</b>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>	90 ~ 264 V <sub>AC</sub>
<b>Output Range</b>	+3.3V @ 20 A +5 V @ 20 A +12 V1 @ 29 A -5 V @ 0.3 A -12 V @ 0.5 A +5 Vsb @ 2 A	+3.3V @ 20 A +5 V @ 20 A +12 V1 @ 16 A +12 V2 @ 16A +12 V3 @ 16A -5 V @ 0.3 A -12 V @ 0.5 A +5 Vsb @ 3 A	+3.3V @ 24 A +5 V @ 30 A +12 V @ 60.9 A -12 V @ 0.5 A +5 Vsb @ 4 A	+3.3V @ 20 A +5 V @ 25 A +12 V @ 40.2 A -12 V @ 0.5 A +5 Vsb @ 3.52 A	+3.3V @ 25 A +5 V @ 25 A +12 V @ 57 A -12 V @ 0.3 A +5 Vsb @ 4.5 A
<b>MTBF(hrs)</b>	100,000 @ 25° C	100,000 @ 25° C	100,000 @ 25° C	100,000 @ 25° C	100,000 @ 25° C
<b>Dimensions (W x H x D)</b>	150 x 84 x 190 mm (5.9" x 3.3" x 7.48")	150 x 84 x 190 mm (5.9" x 3.3" x 7.48")	150 x 84 x 200 mm (5.9" x 3.3" x 7.87")	85 x 86.6 x 217 mm (3.34" x 3.4" x 8.54")	75.6 x 83.8 x 250 mm (2.97" x 3.29" x 9.84")
<b>Safety</b>	CE , FCC, UL , CB, TUV, CCC, KC	CE , FCC, UL , CB, TUV, CCC, KC	CE , FCC, UL , CB, TUV, CCC, KC	CE , FCC, UL , CB, TUV, CCC, KC	CE , FCC, UL , CB, TUV, CCC, KC
<b>Compatible Chassis</b>	IPC-7130, IPC-7130L, IPC-7220, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-622, HPC-7442	IPC-7130, IPC-7130L, IPC-7220, IPC-610, IPC-611, ACP-4000, ACP-4010, ACP-4320, ACP-4340, ACP-4360, IPC-622, HPC-7442, IPC-631	ACP-4000, ACP-4010, IPC-622, HPC-7442	HPC-7242, HPC-7282, HPC-7320, HPC-8316, ACP-2020	HPC-7242, HPC-7282, HPC-7320, HPC-8316
<b>Single Module Part Number</b>	96PSRM-A350WMIN	96PSRM-A500W1U-2	96PSRM-A750W1U	96PSRM-A500WFX	-

# CPU Coolers

## Intel® LGA1150/1151/1155/1156



Model Name	1960049408N001	1960047831N001	1960052651N021	1960047669N001
<b>Thermal Dispatch Performance</b>	Intel LGA1156/1155/1150/1151 84W	Intel LGA1156/1155/1150/1151 95W	Intel LGA 1156/1155/1150/1151 80W	Intel LGA1156/1155/1150/1151 95W
<b>Fan</b>	-	7 cm/35.5CFM 5400+/- 10% RPM	6 cm/28.77 CFM 5800 +/- 10% RPM	8 cm/57.5 CFM 4500+/- 10% RPM
<b>Heatsink Material</b>	Copper	Copper	Aluminum	Aluminum & Copper heart
<b>Heatsink Dimensions</b>	85 x 85 x 26 mm (3.35" x 3.35" x 1.02")	83 x 83 x 39.26 mm (3.27" x 3.27" x 1.54")	90x 90x 68 mm (3.54" x 3.54" x 2.68")	90 x 90 x 35 mm (3.54" x 3.54" x 1.38")
<b>Dimensions</b>	-	83 x 83 x 55.73mm (3.27" x 3.27" x 2.17")	90x 90x 68 mm (3.54" x 3.54" x 2.68")	120 x 120 x 77 mm (4.72" x 4.72" x 3.03")
<b>Weight</b>	611 g	582 g	417g	500 g
<b>Minimum Chassis Height</b>	1U	2U	2U/4U	4U
<b>Recommended Chassis</b>	ACP-1010/1320 HPC-7140/7180	Backplane version of chassis	Motherboard/ backplane version of chassis	Motherboard version of chassis
<b>Supported Boards</b>	AIMB-580/701/780/781/782/784; PCE-5125/5126/5127/7127/5026 ASMB-584/585/781/782/784/785	AIMB-580/581/582; PCE-5125/5126/5127/ 5026/7127/5128/7128	AIMB-705/785 PCE-5029/5129/7129/3029/4129 ASMB-584/585/781/782/784/785	AIMB-580/581/582/701/780/ 781/782/784



Model Name	1960053065N001	1960053207N001
<b>Thermal Dispatch Performance</b>	Intel LGA1155/1150/1151 55W Up to Core i3	Intel LGA1155/1150/1151 65W Up to Core i7
<b>Fan</b>	77 x 75 x 15.4 mm/11.83 CFM 5500+/- 10% RPM	9 cm/45.09 CFM 4400 +/- 10% RPM
<b>Heatsink Material</b>	Copper	Aluminum & Copper
<b>Heatsink Dimensions</b>	84 x 84 x 13 mm (3.32" x 3.32" x 0.51")	92.9 x 92.2 x 46 mm (3.67" x 3.67" x 1.82")
<b>Dimensions</b>	84 x 84 x 28 mm (3.32" x 3.32" x 1.11")	92.9 x 92.2 x 46 mm (3.67" x 3.67" x 1.82")
<b>Weight</b>	382g	250g
<b>Minimum Chassis Height</b>	1U	1.5U
<b>Recommended Chassis</b>	IPC-3026, IPC-3012	IPC-3026, IPC-3012
<b>Supported Board</b>	PCE-3026/3028/3029/4128/4129 AIMC-3200/3201/3420/3421/3202/3422	PCE-3026/3028/3029/4128/4129 AIMC-3200/3420/3201/3421/3202/3422

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# CPU Coolers

## Intel® Xeon® LGA2011



Part number	1960055362N001	1960065684N001	1960063011N001	1960063011N011	1960065593N001	1960065591N001	1960057226N001
<b>Thermal Dispatch Performance</b>	Up to 145W	Up to 160W	Up to 135W	Up to 120W	Up to 135W	Up to 135W	Up to 95W
<b>Fan</b>	6cm / 38.8CFM 6800 ± 10% RPM	9cm/108.08CFM 5000 ± 10% RPM	6cm/50.40CFM 9000± 10% RPM	6cm/50.40CFM 9000+/- 10% RPM(Puller Fan)	-	-	-
<b>Heatsink Material</b>	Aluminum Fins & Cu Block with 3 Heat Pipes	Aluminum Fins & Copper base with 3 Heat Pipes	Aluminum fins soldered Copper base with Heatpipe	Aluminum fins soldered Copper base with Heatpipe	Copper with vapor chamber	Copper with vapor chamber	Aluminum fins soldered Copper base with Heatpipe
<b>Heatsink Dimensions (L x W x H)</b>	90.0 x 90.0 x 63.9 mm (3.54" x 3.54" x 2.51")	88.2 x 88.2 x 112.15 mm (3.47" x 3.47" x 4.41")	107 x 70 x 64.0 mm (4.21" x 2.75" x 2.51")	107 x 70 x 64.0 mm (4.21" x 2.75" x 2.51")	106 x 82 x 27 mm (4.17" x 3.22" x 1.06")	106 x 82 x 27 mm (4.17" x 3.22" x 1.06")	90 x 90 x 25.5 mm (3.54" x 3.54" x 1")
<b>Dimensions</b>	90.0 x 90.0 x 65.6 mm (3.54" x 3.54" x 2.58")	88.2 x 88.2 x 112.15 mm (3.47" x 3.47" x 4.41")	94.0 x 70.0 x 64.0 mm (3.7" x 2.75" x 2.51")	94.0 x 70.0 x 64.0 mm (3.7" x 2.75" x 2.51")	106 x 82 x 27 mm (4.17" x 3.22" x 1.06")	106 x 82 x 27 mm (4.17" x 3.22" x 1.06")	90 x 90 x 25.5 mm (3.54" x 3.54" x 1")
<b>Weight</b>	413g	583g	319g	319g	405g	385g	197g
<b>Minimum Chassis Height</b>	2U	4U	2U	2U	1U	1U	1U
<b>Supported Boards</b>	ASMB-823/913/920/923	ASMB-823/913/920/923	ASMB-822/922/813	PCE-9228	ASMB-822/813 & 922 (For CPU1)	ASMB-922 (For CPU0)	ASMB-823/913/920/923
<b>Remark</b>	Square Type	Square Type	Narrow Type	Narrow Type	Narrow Type	Narrow Type	Square Type

## Intel® Xeon® LGA3647



Part number	1960081603N001	1960081155N001
<b>Thermal Dispatch Performance</b>	Up to 205W	Up to 165W
<b>Fan</b>	6 cm/50.4 CFM 9000 ± 10% RPM	-
<b>Heatsink Material</b>	Aluminum Stack Fin & CU Block with heatpipe	Aluminum Stack Fin & CU Block with Heatpipe
<b>Heatsink Dimensions (L x W x H)</b>	108 x 78 x 64 mm (4.25" x 3.07" x 2.51")	107.75 x 78 x 25.5 mm (4.24" x 3.07" x 1")
<b>Dimensions</b>	108 x 78 x 64 mm (4.25" x 3.07" x 2.51")	107.75 x 78 x 25.5 mm (4.24" x 3.07" x 1")
<b>Weight</b>	464g	257.6g
<b>Minimum Chassis Height</b>	2U	1U
<b>Supported Boards</b>	ASMB-815/825/925/975	ASMB-815/825/925/975
<b>Remark</b>	Narrow Type	Narrow Type

# Keyboards



**IPC-KB-6302**  
Compact 104-key Keyboard

- 104-key with tactile response
- AT & PS/2 compatible
- Over 20 million life cycles
- Spiral cable with 6-pin PS/2 keyboard connector (not including PS/2 to 5-pin DIN PC/AT adapter)
- Dimensions (W x H x D): 400 x 40 x 188 mm (15.7" x 1.6" x 7.4")
- Language: English
- P/N: IPC-KB-6302



**IPC-KB-6304**  
Compact 88-key Keyboard

- 88-key with membrane structure
- PC/AT, PS/2, DOSV compatible
- 5 million life cycles
- Spiral cable with 6-pin PS/2 keyboard connector (not including PS/2 to 5-pin DIN PC/AT adapter)
- Dimensions (W x H x D): 287 x 29 x 140 mm (11.3" x 1.14" x 5.5")
- Weight: 0.5 kg (1.1 lb)
- CE, FCC, UL, CSA, CNS compliant
- Language: English
- P/N: IPC-KB-6304



**IPC-KB-6305**  
Compact 88-key Keyboard with Touchpad

- 88-key with membrane structure
- PC/AT, PS/2, DOSV compatible
- Built-in touchpad for pointing input device
- 5 million life cycles
- Spiral cable with PS/2 keyboard & mouse connector (not including PS/2 to PC/AT and PS/2 to DB-9 adapters)
- Dimensions (W x H x D): 289 x 27 x 227 mm (11.4" x 1.06" x 8.9")
- Weight: 0.8 kg (1.76 lb)
- CE, FCC, UL, CSA, CNS compliant
- Language: English
- P/N: IPC-KB-6305

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# Accessories

## Slide Rail



- For 1U rackmount chassis**
- 26" P/N: 9680009153
  - Maximum acceptable load: 25kg
  - 1 pair included



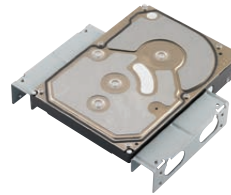
- For 2U and higher rackmount chassis**
- 26" P/N: 9680006905
  - Maximum acceptable load: 45kg
  - 1 pair included

## Industrial Disk Tray/Bay



- IPC-DT-5121/  
IPC-DT-5121B**
- Shockproof industrial hard disk drive tray with cooling fan and optional front USB and PS/2 interfaces**

- Accepted Device: 1 x 3.5" HDD (only for 9.5mm thickness)
- Cooling Fan: 1 x 4 cm
- Color (Codes): Gray (414U), Black (4C2X)
- Dimensions (W x H x D): 148.5 x 42.6 x 171 mm<sup>3</sup> (5.84" x 1.67" x 6.73")



- 989K008733**
- A frame to securely fix a 3.5" HDD in a 5.25" drive bay**

- Accepted Device: 3.5" HDD x 1



- IPC-DT-3120E**
- Mobile rack for converting a 3.5" drive bay to dual 2.5" SATA HDD/SSD trays**

- Accepted Device: 2 x 2.5" SATA HDD/SSD (only for HDD/SSD thickness less than 9.6 mm)
- Dimensions (W x H x D): 101.6 x 25.4 x 139 mm<sup>3</sup> (4" x 1" x 5.47")



- 989K008734**
- A frame to securely fix two 2.5" HDDs/SSDs in a 3.5" drive bay**

- Accepted Device: 2.5" SATA HDD/SSD x 2 (only for HDD thickness less than 9.6 mm)



- 9892200013E**
- Module to convert a 5.25" drive bay to a slim ODD and a 3.5" drive bay**

- Accepted Device: 3.5" device x 1, slim ODD x 1



- 96RACK-5SS-CAGE-CR**

- Mobile rack for converting one 5.25" drive bay to four 2.5" SAS/SATA HDD/SSD trays**

- Accepted Device: 2.5" SAS/SATA HDD/SSD x 4
- Dimension (W x H x D): 146 x 41 x 170 mm<sup>3</sup> (5.74" x 1.61" x 6.69")



- IPC-DT-5230E**
- Mobile rack for converting dual 5.25" drive bays to three 3.5" SATA HDD trays**

- Accepted Device: 3.5" SATA HDD x 3 or 2.5" SATA HDD/SSD x 3
- Cooling Fan: 1 x 8 cm
- Dimensions (W x H x D): 146.5 x 86 x 225 mm<sup>3</sup> (5.76" x 3.38" x 8.85")



- 96RACK-5-SS-CR-B2**

- Mobile rack for converting one 5.25" drive bay to one slim ODD and two 2.5" SAS/SATA HDD/SSD trays**

- Accepted Device : slim ODD x 1 , 2.5" SAS/SATA HDD/SSD x 2
- Dimension (W x H x D): 146 x 41.3 x 170 mm<sup>3</sup> (5.74" x 1.62" x 6.69")

## Add-on Card Hold Down Kit



- 98RKBTOS09E**
- Add-on card hold down kit (short)**

- Bracket Q'ty of each kit : 5 pcs
- For PCI add-on card with height 72.3mm ~ 87.3mm and PCIe add-on card with height 81.7mm ~ 91.8mm



- 98RKBTOS10E**
- Add-on card hold down kit (long)**

- Bracket Q'ty of each kit : 5 pcs
- For PCI add-on card with height 54.8mm ~ 75.7mm and PCIe add-on card with height 59.3mm ~ 80.2mm



# Accessories

## USB Cables



Part Number	1700008461	1700003195	1700002204	1700014398	1700020277-01
<b>Description</b>	USB 2.0 cable with 4 ports	USB 2.0 cable with 2 ports	USB 2.0 cable with 2 ports	USB 2.0 cable with 4 ports	USB 3.0 cable with 2 ports
<b>Cable Length</b>	30.5 cm (12.01")	17.5 cm (6.89")	27 cm (11.92")	30.5 cm (12.01")	30 cm (11.81")
<b>Remark</b>	For ATX/Micro-ATX MB, full-sized SBC			For half-sized SBC	For ATX/Micro-ATX MB, full/half-sized SBC

## SATA Cables



Part Number	96CB-SATAPOWER-6P2	1700022749-11	1700019381	1700007351	1700003194
<b>Description</b>	SATA power cable for slim ODD	SATA power cable for HDD/SSD	SATA data cable (right angle)	SATA data cable (right angle)	SATA data cable
<b>Cable Length</b>	10 cm (3.94")	10 cm (3.94")	55 cm (21.65")	40 cm (15.75")	60 cm (23.62")
<b>Remark</b>	Big 4 P to SATA power cable for Slim ODD	Big 4 P to SATA power cable for HDD/SSD	SATA data cable with 1 right angle and 1 vertical connectors	SATA data cable with 1 right angle and 1 vertical connectors	SATA data cable with vertical connectors with locks

## COM and Printer Ports Cables



Part Number	1701092300	1701090401	1700020294-01	1700008762
<b>Description</b>	COM cable with 2 ports	COM cable with 1 port	Printer (Parallel) port cable	COM cable with 2 ports
<b>Cable Length</b>	28.5 cm (11.22")	40 cm (15.75")	42.0 cm (16.54")	22.5 cm (8.86")
<b>Remark</b>	For ATX/Micro-ATX MB, full-sized SBC		For ATX/Micro-ATX MB, full-sized SBC	For half-sized SBC

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# Accessories

## Video Cables



Part Number	PCE-DP10-00A1E	1700021831-01	1700008822-11
Description	Display port cable	DP to DVI port cable	DVI to DVI port cable
Cable Length	25 cm (9.84")	30 cm (11.81")	30 cm (11.81")
Remark	Video cable for converting on board DP connector to external DP port supporting DP 1.1a/1.2 signaling	Video cable for converting on board DP connector to external DVI-D port	Video cable for converting on board DVI connector to external DVI-D port

## Other Cables



Part Number	1700006915	1700006916	1700024754-01
Description	Cable for ACP-4000MB front LED board	Cable for IPC-610MB-H front LED board	Power cable for GPU card
Cable Length	60 cm (23.62")	60 cm (23.62")	10 cm (3.93")
Remark	For those Advantech motherboards with VOLT1 connector too far away from the chassis LED board		2*B4P Molex power connector to 6+2P PCIe power cable for GPU card

# Industrial Ethernet Solutions

## EN50155 Switches

EKI-6558TI EKI-6559TMI	EN50155 IP67 8-port M12 Managed Ethernet Switch with Wide Temperature EN50155 IP67 8-port M12 + 2-port Fiber Optic Managed Ethernet Switch with Wide Temperature	15-2
EKI-6528TI EKI-6528TPI	EN50155 8-port M12 Unmanaged Switch with Wide Temperature EN50155 8-port M12 Unmanaged PoE Switch with Wide Temperature	15-3
EKI-9516-WV EKI-9516P	EN 50155 16-port Full Gigabit Managed Ethernet Switch EN 50155 16-port Full Gigabit Managed Ethernet Switch with PoE/PoE+	15-4 15-5

## PoE Switches

EKI-7710E-2CP EKI-7710E-2CPI	8FE+2G Port Gigabit Managed Redundant Industrial PoE Switch	15-6
EKI-7712E-4FP EKI-7712E-4FPI	8FE+4SFP Port Gigabit Managed Redundant Industrial PoE Switch	15-7
EKI-2706E-1GFP/I EKI-2706G-1GFP/I	4FE+1GE+1G SFP Unmanaged Industrial PoE Switch 5GE+1G SFP Unmanaged Industrial PoE Switch	15-8
EKI-2701HPI	IEEE 802.3af/at Gigabit PoE+ Injector with Wide Temperature	15-9

## Industrial Protocol Managed Ethernet Switches

EKI-5528-PNMA	8 Port Entry-Level Managed Switch Supporting PROFINET MRP Master	15-10
EKI-5526/I-EI EKI-5528/I-EI	16 port Entry-Level Managed Switch Supporting EtherNet/IP 8 port Entry-Level Managed Switch Supporting EtherNet/IP	15-11
EKI-5626C/CI-MB EKI-5629C/CI-MB	16 + 2G Combo ports Entry-Level Managed Switch Supporting Modbus/TCP 8 + 2G Combo ports Entry-Level Managed Switch Supporting Modbus/TCP	15-12

## Managed Switches

EKI-7710E-2C EKI-7710E-2CI	8FE+2G Port Gigabit Managed Redundant Industrial Switch	15-13
EKI-7712E-4F EKI-7712E-4FI	8FE+4SFP Port Gigabit Managed Redundant Industrial Switch	15-14
EKI-7720E-4F EKI-7720E-4FI	16FE+4SFP Port Gigabit Managed Redundant Industrial Switch	15-15

## Unmanaged Ethernet Switches

EKI-7629C/CI	8+2G Combo Port Gigabit Unmanaged Industrial Ethernet Switch	15-16
EKI-2525/I EKI-2528/I	5-port Unmanaged Industrial Ethernet Switch 8-port Unmanaged Industrial Ethernet Switch	15-17
EKI-2728MI	6G+2G Multi-Mode Unmanaged Ethernet Switch with Wide Temperature	15-18

## Serial Device Servers

EKI-1521/CI/I EKI-1522/CI/I EKI-1524/CI/I	1-port RS-232/422/485 Serial Device Server 2-port RS-232/422/485 Serial Device Server 4-port RS-232/422/485 Serial Device Server	15-19
EKI-1528/I/TI EKI-1526/I/TI	8-port RS-232/422/485 Serial Device Server 16-port RS-232/422/485 Serial Device Server	15-20

## Modbus Gateways

EKI-1221/CI/I EKI-1222/CI/I EKI-1224/CI/I	1-port Modbus Gateway 2-port Modbus Gateway 4-port Modbus Gateway	15-21
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## Wireless Serial Device Servers/Modbus Gateways

EKI-1361 EKI-1362 EKI-1361-MB EKI-1362-MB	1-port RS-232/422/485 to 802.11a/b/g/n WLAN Serial Device Server 2-port RS-232/422/485 to 802.11a/b/g/n WLAN Serial Device Server 1-port RS-232/422/485 to 802.11a/b/g/n WLAN Modbus Gateway 2-port RS-232/422/485 to 802.11a/b/g/n WLAN Modbus Gateway	15-22
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## Industrial Protocol Gateways

EKI-1222EIMS	Modbus RTU/TCP to EtherNet/IP Protocol Gateway	15-23
EKI-1222PNMS	Modbus RTU/TCP to PROFINET Protocol Gateway	15-24
EKI-1222ECMS	Modbus RTU/TCP to EtherCAT Protocol Gateway	15-25

## Cellular Routers/Gateways

EKI-1331 SmartStart	1-port RS-232/485 to HSPA+ IP Gateway Intelligent 4G LTE Router & Gateway	15-26 15-27
SmartFlex	Flexible, Modular LTE Router	15-28
SmartMotion™	Twin Module Cellular Router for Redundant Reliability	15-29

## LoRa Gateways/Nodes

SmartSwarm 243 BB-WSL1/2C2112T BB-WSL1/2C31000 BB-WSL1/2M31000	LoRa Gateway Industrial LoRa Private Node	15-30 15-31
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## IoT and Network Edge Platform

SmartSwarm 341 SmartSwarm 351	Asset Integration Gateway Modbus Eavesdrop to MQTT IIoT Gateway	15-32 15-33
WzzardC™ Intelligent Edge Node	With SmartMesh IP and Bluetooth LE	15-34
Wzzard™ Intelligent Edge Node	With SmartMesh IP and Bluetooth LE	15-35

## Wireless Access Points/CPE

EKI-6331AN EKI-6332GN	IEEE 802.11 a/n Wi-Fi AP/Client IEEE 802.11 b/g/n Wi-Fi AP/Client	15-36 15-37
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# EKI-6558TI

# EKI-6559TMI

**EN50155 IP67 8-port M12 Managed Ethernet Switch with Wide Temperature Support**

**EN50155 IP67 8-port M12 + 2-port Fiber Optic Managed Ethernet Switch with Wide Temperature Support**



EKI-6558TI

EKI-6559TMI



## Features

- EN50155 certified
- Supports X-Ring Pro function (ultra high-speed recovery time < 20 ms)
- Wide redundant power design
- Provides M12 connector with IP67 protection
- Provides Waterproof fiber optic connector
- TFTP firmware updates and system configure restore and backup
- Dual 12 ~ 48 V<sub>DC</sub> power input and 1 relay output
- Supports wide operating temperature -40 ~ 75 °C
- Provides 100 Mbps LC type connector

## Introduction

The EKI-6558TI and EKI-6559TMI are EN50155 certified IP67 wide temperature industrial switches which are especially designed for railway industry and harsh environments. M12 connectors secure highly reliable connectivity for industrial communication applications. EN50155 certification ensures use for railway application. EKI-6559TMI also provides two additional fiber optic ports to extend communication range. Both EKI-6558TI and EKI-6559TMI provide Advantech's X-Ring Pro protocol, which enables users to establish a redundant Ethernet network with ultra high-speed recovery (less than 20 ms). They also support advanced network standards to optimize network performance, reduce maintenance cost, and secure network safety.

## Specifications

### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.3ad, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X
- **LAN** 10/100Base-T (X), 100Base-FX
- **Transmission Speed** Up to 100 Mbps

### Interface

- **Ethernet** M12, 4-pole D-coded, Female x 8
- **Fiber Optic** LC type waterproof x 2, Multi-mode (EKI-6559TMI)
- **Console** M12, 8-pole A-coded, Female x 1

### Network Management

- **Configuration** Web browser, Telnet, Serial console, TFTP, SNMPv1/v2c/v3, Port Speed/Duplex Configuration, IPv6 IEEE 802.1Q, GVRP, Port-based VLAN
- **VLAN**
- **Redundancy** Advantech X-Ring Pro (Recovery time < 20 ms at 250 pcs full loading ring structure), Dual Homing, Dual Ring, Couple Ring, 802.1w/D RSTP/STP
- **Security** IP Access security, port security, DHCP Server, Port and IP Binding, 802.1X Port Access Control, SSL
- **Traffic Control** IGMP Snooping/Query for multicast group management, Port Trunking, Static/802.3ad, LACP Rate limit and storm control, IEEE 802.1p QoS CoS/TOS/DSCP priority queuing, IEEE 802.3x flow control
- **Diagnostics** Port Mirroring, Real-time traffic statistic, MAC Address Table, SNMP, Syslog, Email Alert, SNMP Trap, RMON

### Mechanism

- **Enclosure** IP67, aluminum shell with solid mounting kits
- **Dimensions (W x H x D)** 193 x 176 x 62.5 mm (7.59" x 6.93" x 2.46")
- **Mounting** Wall

### Power

- **Power Consumption** Max. 8.1 W
- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- **Power Connector** M12, 5-pole A-coded, male x 1
- **P-Fail Output** 1A @ 24 V<sub>DC</sub>
- **P-Fail Connector** M12, 8-pole A-coded, Female x 1

### Protection

- **Power Reverse** Present

### Environment

- **Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 388,201 hours (EKI-6558TI)  
320,420 hours (EKI-6559TMI)

### Certification

- **Safety** UL 508
- **EMI** FCC Part 15 Subpart B Class A, EN 55022 Class A
- **EMS** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8
- **Shock** IEC 61373
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 61373
- **Railway** EN50155, EN 50121-3-2, EN 50121-4

## Ordering Information

- **EKI-6558TI** EN50155 8-port M12 Managed Ethernet Switch
- **EKI-6559TMI** EN50155 8-port M12+ 2-port FX Managed Ethernet Switch

# EKI-6528TI

# EKI-6528TPI

## EN50155 8-port M12 Unmanaged Switch with Wide Temperature Support

## EN50155 8-port M12 Unmanaged PoE Switch with Wide Temperature Support



EKI-6528TI

EKI-6528TPI



### Features

- Auto Bypass between Port 1 and Port 2
- EN50155 certified
- Wide redundant power design
- 8-port 10/100 Mbps M12 type connector with IP40 protection
- 4-port PoE type M12 (EKI-6528TPI)
- Dual redundant power input
- Supports wide operating temperature -40 ~ 75 °C

### Introduction

The EKI-6528TI and EKI-6528TPI are EN50155 certified industrial switches with IP40 protection and wide temperature support designed for railway applications. EKI-6528TPI provides four PoE ports that support IEEE 802.3af and can provide up to 15.4 watts of power per port. M12 connectors ensure highly reliable connectivity for industrial communication applications. With IP40 compact metal housings, these switches are protected against dusty environments and are a good fit for many industrial applications. Under no-power condition, 'Auto Bypass' function ensures the Ethernet signal connection through internal circuitry. This feature provides non-stop communication to rolling stock even if no power exists in some of the carriages.

### Specifications

#### Communications

- **Standard** IEEE 802.3  
IEEE 802.3u  
IEEE 802.3x  
IEEE 802.3af
- **LAN** 10/100Base-T (X)
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Ethernet** M12, 4-pole D-coded, Female x 8

#### Mechanism

- **Enclosure** IP40 protected metal shell
- **Dimensions (W x H x D)** 92 x 180 x 42 mm (3.62" x 7.08" x 1.65")
- **Mounting** DIN-rail, Wall

#### Power

- **Power Consumption** Max. 3.36 W (EKI-6528TI)  
Max. 72 W (EKI-6528TPI)
- **Power Input** 24 ~ 48 V<sub>DC</sub>, redundant dual inputs (for EKI-6528TPI)  
12 ~ 48 V<sub>DC</sub>, redundant dual inputs (for EKI-6528TI)
- **Power Connector** M12, 5-pole A-coded, male x 1
- **P-Fail Output** 1A @ 24 V<sub>DC</sub>
- **P-Fail Connector** M12, 8-pole A-coded, Female x 1

#### Protection

- **Power Reverse** Present
- **Overload Current** Present

#### Environment

- **Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 391,307 hours (EKI-6528TI)  
348,384 hours (EKI-6528TPI)

#### Certification

- **Safety** UL 60950-1
- **EMI** FCC Part 15 Subpart B Class A, EN 55022 Class A
- **EMS** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8

- **Shock** IEC 61373
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 61373
- **Railway** EN50155, EN 50121-3-2, EN 50121-4
- **Patent** <http://www.advantech.com/legal/patent>

### Ordering Information

- **EKI-6528TI** EN50155 8-port M12 Unmanaged Ethernet Switch
- **EKI-6528TPI** EN50155 8-port M12 Unmanaged PoE Switch

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# EKI-9516-WV

## EN 50155 16-port Full Gigabit Managed Ethernet Switch



### Features

- Complies with EN50155
- All Gigabit connections support dual ring protection and non-blocking traffic forwarding
- 12 x M12 Gigabit ports and 2 pairs M12 Gigabit ports with bypass relay function
- X-Ring Pro supports rapid and predictable convergence
- Provides M12 connector with IP67 protection
- Operating Temperature: -40 ~ 70 °C
- Wide Range Power Input (24/36/48/72/96/110 V<sub>DC</sub>)

### Introduction

EKI-9516 M12 Managed Ethernet Switch is designed for railway applications, including rolling stock. EKI-9516 switch uses M12 connectors to ensure tight, robust connections, and to guarantee reliable operation against environmental disturbances, such as vibration and shock. EKI-9516 provides 16 Gigabit Ethernet M12 ports. In addition, EKI-9516 provides a wide power input range of 24/36/48/72/96/110 V<sub>DC</sub>; the dual, isolated power input increases the reliability of your communications system. The -40 to 70 °C operating temperature and IP67-rated waterproof enclosure allow deployment in harsh environments. EKI-9516 is compliant with the essential sections of the European railway standard EN 50155, EN50121-3-2 covering operating temperature, power input voltage, surge, ESD, and vibration, making the switches suitable for a variety of industrial applications.

### Specifications

#### Interface

- I/O Port** 16 x 10/100/1000Base-T M12 X-Code
- Console Port** M12 A-Code
- F/W Backup Port** USB (M12 A-Code)
- Power Connector** M23 6 pin

#### Physical

- Enclosure** Aluminum Shell
- Protection Class** IP 67
- Installation** Wall Mount, DIN Rail (Optional)
- Dimensions (W x D x H)** 254 x 174 x 64.5 mm (10" x 6.85" x 2.54")
- Weight** 3.6 kg

#### LED Display

- System LEDs** PWR1, PWR2, SYS, CFG, ALM
- Port LED** Data

#### Environment

- Operating Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- Ambient Relative Humidity** 5 ~ 95% (non-condensing)

#### Power

- Power Consumption** ~ 26.4 Watts (System)
- Power Input** 24/36/48/72/96/110 V<sub>DC</sub> dual inputs  
Supports Overload Current Protection  
Supports Reverse Polarity Protection

#### Certification

- EMI** FCC Part 15 Subpart B Class A  
CE EN55022 (CISPR)  
EN55024 Class A
- EMS** EN61000-4-2 (ESD); EN61000-4-3 (RS); EN61000-4-4 (EFT); EN61000-4-5 (Surge); EN61000-4-6 (CS)
- Shock** IEC 61373
- Freefall** IEC 60068-2-32
- Vibration** IEC 61373
- Rail Traffic** EN 50155; EN50121-3-2

#### L2 Features

- L2 MAC Address** 16K
- Jumbo Frame** 9KB
- VLAN Group** 4093 (VLAN ID 1~4093)
- VLAN** Mac based VLAN, Protocol based VLAN, IP subnet based VLAN, Port based VLAN, GVRP  
Per port, Multi-source port  
IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- Port Mirroring** Broadcast, Multicast, Unknown unicast
- IP Multicast** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro
- Storm Control**
- Spanning Tree**

#### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Priority)
- Class of Service** IEEE 802.1p based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Egress Rate limit, Ingress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- Port Security** Static, Dynamic
- Authentication** 802.1x (Port-Based), RADIUS, TACACS+
- ACL** 550 rules
- Advanced Security** IP Source Guard

#### Management

- DHCP** Client, Server, Relay, Option 66/67
- Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- Security Access** SSH 2.0, SSL
- Software Upgrade** TFTP, HTTP, Dual Image
- NTP** NTP client

### Ordering Information

- EKI-9516-C0IDW10E** 16x M12 GbE Managed Ethernet Switch including 24/36/48/72/96/110 V<sub>DC</sub> dual power inputs



# EKI-9516P

## EN 50155 16-port Full Gigabit Managed Ethernet Switch with PoE/PoE+



### Features

- Complies with EN50155
- All Gigabit connections support dual ring protection and non-blocking traffic forwarding
- 12 x M12 Gigabit ports and 2 pairs M12 Gigabit ports with bypass relay function
- X-Ring Pro supports rapid and predictable convergence
- IEEE 802.3at PoE+ to supply 30W power
- IEEE 802.3af PoE to supply 15.4 power
- IEEE 802.3af/802.3at per port with system PoE power management
- Provides M12 connector with IP67 protection
- Operating Temperature: -40 ~ 70 °C

### Introduction

EKI-9516P M12 Managed Ethernet Switch is designed for railway applications, including rolling stock. EKI-9516P switch uses M12 connectors to ensure tight, robust connections, and to guarantee reliable operation against environmental disturbances, such as vibration and shock. EKI-9516P provides 16 Gigabit Ethernet M12 ports with 12 IEEE 802.3at/af compliant PoE+/PoE ports. The PoE+/PoE switch is classified as power source equipment (PSE) and provides up to 90 watts of power per system, and can be used for IEEE 802.3at/af compliant powered devices (PDs), such as IP cameras, wireless access points, and IP phones. In addition, EKI-9516P provides a wide power input range of 24/36/48 V<sub>DC</sub>, 72/96/110 V<sub>DC</sub>; the dual, isolated power input increases the reliability of your communications system. The -40 to 70 °C operating temperature and IP67-rated waterproof enclosure allow deployment in harsh environments. EKI-9516P is compliant with the essential sections of the European railway standard EN 50155, EN50121-3-2 covering operating temperature, power input voltage, surge, ESD, and vibration, making the switches suitable for a variety of industrial applications.

### Specifications

#### Interface

- I/O Port** 16 x 10/100/1000BaseT M12 X-Code
- Console Port** M12 A-Code
- F/W Backup Port** USB (M12 A-Code)
- Power Connector** M23 6 pin

#### Physical

- Enclosure** Aluminum Shell
- Protection Class** IP 67
- Installation** Wall Mount, DIN Rail (Optional)
- Dimensions (W x D x H)** 254 x 174 x 64.5 mm (10" x 6.85" x 2.54")
- Weight** 3.6 kg

#### LED Display

- System LEDs** PWR1, PWR2, SYS, CFG, ALM
- Port LED** Data, PoE

#### Environment

- Operating Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- Ambient Relative Humidity** 5 ~ 95% (non-condensing)

#### Power

- Power Consumption** ~ 26.4 Watts (System)  
~90 Watts (Power Source Equipment)  
Supports up to 12 ports PoE/PoE+
- Power Input** 24 / 36 / 48 V<sub>DC</sub> dual inputs (EKI-9516P-LV)  
72 / 96 / 110 V<sub>DC</sub> dual inputs (EKI-9516P-HV)  
Supports Overload Current Protection  
Supports Reverse Polarity Protection

#### Certification

- EMI** FCC Part 15 Subpart B Class A  
CE EN55022 (CISPR)  
EN55024 Class A
- EMS** EN61000-4-2 (ESD); EN61000-4-3 (RS); EN61000-4-4 (EFT);  
EN61000-4-5 (Surge); EN61000-4-6 (CS)
- Shock** IEC 61373
- Freefall** IEC 60068-2-32

- Vibration** IEC 61373
- Rail Traffic** EN 50155; EN50121-3-2
- Patent** <http://www.advantech.com/legal/patent>

#### L2 Features

- L2 MAC Address** 16K
- Jumbo Frame** 9KB
- VLAN Group** 4093 (VLAN ID 1-4093)
- VLAN** Mac based VLAN, Protocol based VLAN, IP subnet based VLAN, Port based VLAN, GVRP
- Port Mirroring** Per port, Multi-source port
- IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- Storm Control** Broadcast, Multicast, Unknown unicast
- Spanning Tree** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro

#### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Priority)
- Class of Service** IEEE 802.1p based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Egress Rate limit, Ingress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- Port Security** Static, Dynamic
- Authentication** 802.1x (Port-Based), RADIUS, TACACS+
- ACL** 550 rules
- Advanced Security** IP Source Guard

#### Management

- DHCP** Client, Server, Relay, Option 66/67
- Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- Security Access** SSH 2.0, SSL
- Software Upgrade** TFTP, HTTP, Dual Image
- NTP** NTP client

### Ordering Information

- EKI-9516-POIDL10E** 16 x M12 Managed Ethernet Switch with PoE/PoE+, including 24/36/48 V<sub>DC</sub> dual power inputs
- EKI-9516-POIDH10E** 16 x M12 Managed Ethernet Switch with PoE/PoE+, including 72/96/110 V<sub>DC</sub> dual power inputs

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# EKI-7710E-2CP EKI-7710E-2CPI

## 8FE+2G Port Gigabit Managed Redundant Industrial PoE Switch



### Features

- 8 x IEEE 802.3 af/at PoE Fast Ethernet ports + 2 x Gigabit Copper/SFP combo ports
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)
- IXM function enables fast deployment
- Security: 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB
- 40 ~ 75 °C wide-range operating temperature (EKI-7710E-2CPI)
- Dual 24 ~ 48 V<sub>DC</sub> power input and 1 relay output

### Introduction

The EKI-7710E-2CP/2CPI supports eight Power over Ethernet (PoE) ports and two Gigabit combo ports. It can provide up to 30 watts per port to fulfill high power consumption PD (Power Device). It features Advantech's IXM function, this can benefit users with fast deployment and can dramatically save engineers time and cost. The EKI-7710E series also supports NMS to help IT managers with networking maintenance and failure prevention. Finally, the EKI-7710E series is equipped with X-Ring Pro which can achieve ultra high speed recovery times of less than 20ms to ensure network stability.

### Specifications

#### Interface

- I/O Port** 8 x 10/100Base-T/TX RJ-45  
2 x RJ-45/SFP(mini-GBIC)Combo port
- Console port** RS-232 (RJ45)
- Power Connector** 6-pin screw Terminal Block (including relay)

#### Physical

- Enclosure** Metal Shell
- Protection Class** IP 30
- Installation** DIN-Rail
- Dimensions (W x H x D)** 74 x 152 x 105 mm (2.91" x 5.98" x 4.13")

#### LED Display

- System LED** PWR1, PWR2, SYS, Alarm and R.M.
- Port LED** Link / Speed / Activity / PoE

#### Environment

- Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F) 7710E-2CPI  
-10 ~ 60 °C (-40 ~ 140 °F) 7710E-2CP
- Storage Temperature** -40 ~ 85 °C
- Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- Humidity** 10 ~ 95% (non-condensing)

#### Power

- Power Consumption** 12.1W @ 48V<sub>DC</sub> (System)
- Power Input** 24 ~ 48 V<sub>DC</sub>, redundant dual power input
- Power Budget** 120W
- Fault Output** 1 Relay Output

#### Certification

- EMI** CE, FCC Class A
- Safety** UL508  
UL60950\*, C1D2\*
- EMC** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8  
EN50121-4\*

- Shock** IEC 60068-2-27
- Freefall** IEC 60068-2-32
- Vibration** IEC 60068-2-6
- Traffic control** NEMA TS2\*
- \*= Compliant
- Patent** <http://www.advantech.com/legal/patent>

#### L2 Features

- L2 MAC Address** 8K
- Jumbo Frame** 9216 Bytes
- VLAN Group** 256 (VLAN ID 1 ~ 4094)
- VLAN Arrange** Port based VLAN, Q-in-Q (VLAN Stacking), GVRP
- Port Mirroring** Per port, Multi-source port,
- IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave Broadcast, Multicast, Unknown unicast
- Storm Control** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro, with ultra high-speed recovery time less than 20ms
- Redundancy**

#### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Ingress Rate limit, Egress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- Port Security** Static, Dynamic
- Authentication** 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption)

#### Management

- DHCP** Client, Server, Option66/67/82
- Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- Security access** SSH2.0, SSL
- Software upgrade** TFTP, HTTP, Dual Image
- NTP** Sntp client

### Ordering Information

- EKI-7710E-2CPI-AE** 8FE + 2G Combo Port Managed PoE Ethernet Switch w/Wide Temp
- EKI-7710E-2CP-AE** 8FE + 2G Combo Port Managed PoE Ethernet Switch

# EKI-7712E-4FP EKI-7712E-4FPI

## 8FE+4SFP Port Gigabit Managed Redundant Industrial PoE Switch



### Features

- 8 x IEEE 802.3 af/at PoE Fast Ethernet ports + 4 SFP ports
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)
- IXM function enables fast deployment
- Security: 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB
- NEMA TS2 for Traffic Control
- EN50121-4 approval for Railway trackside deployment
- 40 ~ 75 °C wide-range operating temperature (EKI-7712E-4FPI)
- Dual 48 V<sub>DC</sub> power input and 1 relay output

### Introduction

EKI-7712E-4FP/4FPI supports 8 Fast Ethernet IEEE 802.3 af/at PoE ports and 4 SFP (mini-GBIC) ports. They can provide up to 30 watts per port to fulfill high power consumption PD (Power Device) requirements. They are embedded with Advantech's IXM function, which can benefit users for fast deployment and can dramatically save engineers time and cost. The EKI-7712E series also supports NMS to help IT managers with networking maintenance and failure prevention. Finally, the EKI-7712E series is equipped with X-Ring Pro which can achieve ultra high speed recovery times of less than 20 ms to ensure network stability. The switch also features a wide -40° to 75 °C operating temperature (EKI-7712E-4FPI) and NEMA TS2 rating, making the switch an ideal solution for use in traffic applications. EKI-7712E-4FP/4FPI has successfully passed the EN50121-4 European railway standard requirements for emissions and railway platform and trackside deployment.

### Specifications

#### Interface

- I/O Port** 8 x 10/100Base-T/TX RJ-45  
4 x SFP (mini-GBIC) port
- Console port** RS-232 (RJ45)
- Power Connector** 6-pin screw Terminal Block (including relay)

#### Physical

- Enclosure** Metal Shell
- Protection Class** IP 30
- Installation** DIN-Rail
- Dimensions (W x H x D)** 74 x 152 x 105 mm (2.91" x 5.98" x 4.13")

#### LED Display

- System LED** PWR1, PWR2, SYS, Alarm and R.M.
- Port LED** Link / Speed / Activity

#### Environment

- Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F) (7712E-4FPI)  
-10 ~ 60 °C (-40 ~ 140 °F) (7712E-4FP)
- Storage Temperature** -40 ~ 85 °C
- Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- Humidity** 10 ~ 95% (non-condensing)

#### Power

- Power Consumption** 12.1W @ 48V<sub>DC</sub> (System)
- Power Input** 48 V<sub>DC</sub> (46 to 57 V<sub>DC</sub>),  
53 ~ 57 V<sub>DC</sub> is recommended for 802.3at,  
redundant dual power input
- Power Budget** 240W
- Fault Output** 1 Relay Output

#### Certification

- EMI** CE, FCC Class A
- Safety** UL61010-2-201  
IEC60950\*
- EMC** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8  
EN 50121-4

- Shock** IEC 60068-2-27
- Freefall** IEC 60068-2-32
- Vibration** IEC 60068-2-6
- Traffic control** NEMA TS2  
\* = Compliant  
<http://www.advantech.com/legal/patent>
- Patent**

#### L2 Features

- L2 MAC Address** 8K
- Jumbo Frame** 9216 Bytes
- VLAN Group** 256 (VLAN ID 1 ~ 4094)
- VLAN Arrange** Port based VLAN, Q-in-Q (VLAN Stacking), GVRP
- Port Mirroring** Per port, Multi-source port,
- IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- Storm Control** Broadcast, Multicast, Unknown unicast
- Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro, with ultra high-speed recovery time less than 20ms

#### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Ingress Rate limit, Egress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- Port Security** Static, Dynamic
- Authentication** 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption)

#### Management

- DHCP** Client, Server, Option66/67/82
- Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- Security access** SSH2.0, SSL
- Software upgrade** TFTP, HTTP, Dual Image
- NTP** NTP client

### Ordering Information

- EKI-7712E-4FPI-AE** 8FE + 4SFP Port Managed PoE Ethernet Switch w/Wide Temp
- EKI-7712E-4FP-AE** 8FE + 4SFP Port Managed PoE Ethernet Switch

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# EKI-2706E-1GFP/I EKI-2706G-1GFP/I

## 4FE+1GE+1G SFP Unmanaged Industrial PoE Switch 5GE+1G SFP Unmanaged Industrial PoE Switch



EKI-2706E-1GFP/I

EKI-2706G-1GFP/I



### Features

- Supports 10/100/1000 Mbps Auto Negotiation (EKI-2706G)
- Supports jumbo frame transmission up to 9 kbytes
- DIN-rail with IP30 metal mechanism
- Redundant 48 V<sub>DC</sub> power input
- Provides broadcast storm protection
- 4 x IEEE 802.3 af/at PoE /PoE+ ports + 1 x Gigabit Copper + 1 Gigabit SFP ports

### Introduction

The EKI-2706 series supports 48V<sub>DC</sub> redundant power input and is secured with a double protection mechanism: Power Polarity Reverse Protection and an Overload Current Fuse. The EKI-2706 series supports up to 4-port IEEE 802.3 af/at PoE /PoE+ ports. Each port of EKI-2706 has two LED's to show the link status, transmission speed, and collision status. It also provides a relay output for an event alarm. In the event of a power failure, the built-in LED will activate the alarm to notify administrators. Engineers can simply verify the hardware status by checking the LED to make troubleshooting quick and easy. EKI-2706 comes with a compact metal housing rated at IP30 to protect against dusty industrial environments.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.1ab, 802.1z
- **LAN** EKI-2706E-1GFP/I :  
4 x 10/100Mbps(RJ-45)+1 x 100/1000Mbps(RJ-45)+1 x 100/1000Mbps(SFP)  
EKI-2706G-1GFP/I :  
5 x 100/1000Mbps(RJ-45)+1 x 100/1000Mbps(SFP)
- **Transmission Distance** Ethernet: Up to 100 m (4-wire Cat.5e, Cat.6 RJ45 cable)  
SFP: Up to 110 km (depends on SFP)
- **Transmission Speed** Ethernet: 10/100 Mbps Auto-Negotiation  
Gigabit Copper: 10/100/1000 Mbps, Auto-Negotiation  
Gigabit Fiber: Up to 1000 Mbps

#### Interface

- **Connectors** 5 x RJ-45 + 1 x SFP  
6-pin removable screw terminal (power & relay)
- **LED Indicators** P1, P2, P-Fail  
Link / Speed / Activity

#### Power

- **Power Consumption** Max. 2 W
- **Power Input** 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output, 1 A @ 24 V<sub>DC</sub>
- **Power Budget** 90W

#### Mechanism

- **Dimensions (W x H x D)** 30 x 140 x 95 mm (1.18" x 5.51" x 3.74")
- **Enclosure** IP30, metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall

#### Protection

- **Power Reverse** Present
- **Overload current** Present

#### Environment

- **Operating Temperature** EKI-2706E-1GFP & EKI-2706G-1G1FP :  
-10 ~ 60 °C (-40 ~ 140 °F)  
EKI-2706E-1GFP1 & EKI-2706G-1G1FPI :  
-40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 10 ~ 95% (non-condensing)
- **Storage Humidity** 10 ~ 95% (non-condensing)
- **MTBF** 1,697,086 hours

#### Certification

- **Safety** UL 60950
- **EMI** CE, FCC Class A
- **EMS** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8
- **Shock** IEC 60068-2-27
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 60068-2-6
- **Patent** <http://www.advantech.com/legal/patent>

### Ordering Information

- **EKI-2706E-1GFP-AE** 4FE+1GE+1G SFP Unmanaged Industrial PoE Switch
- **EKI-2706E-1GFPI-AE** 4FE+1GE+1G SFP Unmanaged Industrial PoE Switch w/Wide temp.
- **EKI-2706G-1GFP-AE** 5GE+1G SFP Unmanaged Industrial PoE Switch
- **EKI-2706G-1GFPI-AE** 5GE+1G SFP Unmanaged Industrial PoE Switch w/Wide temp.

# EKI-2701HPI

## IEEE 802.3af/at Gigabit PoE+ Injector with Wide Temperature Support

**NEW**



### Features

- Supports 10/100/1000Base-T (X) for PoE+ OUT and Data IN
- IEEE 802.3af/at compliant, supports a full 30 watt output
- Power input (24 ~ 48 V<sub>DC</sub>), inject 30 W for each port
- Provides slim size and DIN-rail/Wall mount with IP30 metal mechanism
- Supports operating temperatures from -40 to 75 °C

### Introduction

With PoE (Power over Ethernet) technology, both data and electrical power can be transferred to Ethernet-enabled devices using a standard CAT5 cable. EKI-2701HPI is compliant with IEEE 802.3af/at and inputs 30W for PD device. This product can operate in a wide temperature range between -40 to 75 °C and support wide power input range between 24 to 48 V<sub>DC</sub>.

### Specifications

Communications	Standard	IEEE 802.3, 802.3u, 802.3x, 802.3af/at, 802.3ab
	LAN	10/100/1000Base-T (X)
	Transmission Distance	Up to 100 m
	Transmission Speed	up to 1000 Mbps
Interface	Connectors	PoE OUT: RJ45 DATA IN: RJ45 6-pin removable screw terminal
	LED Indicators	PWR1, PWR2, PoE status, Link/Activity
	Power Consumption	Max. 33.36 W @ 24 V <sub>DC</sub> (Full load PoE)
Power	Power Input	24 ~ 48 V <sub>DC</sub> , redundant dual power inputs
	Power Output	30 W @ 24 V <sub>DC</sub>
	Dimensions (W x H x D)	37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
Mechanism	Enclosure	IP30, Metal shell with solid mounting kits
	Mounting	DIN-rail, Wall
	Reverse	Present
Protection	Reverse	Present
	Overload Current	Present
Environment	Operating Temperature	-40 ~ 75 °C (-40 ~ 167 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	Operating Humidity	5 ~ 95% (non-condensing)
	Storage Humidity	0 ~ 95% (non-condensing)
	MTBF	1,419,817 hours
Certification	Safety	UL508
	EMI	FCC Part 15 Subpart B Class A, EN 55022 Class A
		EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-4-8
	Shock	IEC 60068-2-27
		IEC 60068-2-32
		IEC 60068-2-6

### Ordering Information

Part Number	Description
EKI-2701HPI	PoE+ Injector, support a full 30 W output

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# EKI-5528-PNMA

## 8 Port Entry-Level Managed Switch Supporting PROFINET MRP Master



### Features

- 8 ports Fast Ethernet RJ-45
- Entry-Level Managed Switch
- IXM function enables fast deployment
- Provides GSDML files
- Management: SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB
- Supports Media Redundancy Protocol (MRP Master)

### Introduction

The EKI-5528-PNMA is a new generation of entry-level managed switch products. They support media redundancy protocol master and meet the PROFINET real time standard. The devices come with a compact metal housing that is IP30 rated to protect against dusty industrial environments. The wide power input power (8.4 to 52.8 V<sub>DC</sub>) is dedicated to operating in areas of unstable power and rugged environments.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3AD, 802.3az
- **LAN** 10/100Base-T (X)
- **Transmission Distance** Ethernet: Up to 100 m
- **Transmission Speed Ethernet** 10/100 Mbps Auto-Negotiation

#### Interface

- **I/O Port** 8 x RJ-45
- **Power Connector** 6-pin screw Terminal Block (including relay)

#### Physical

- **Enclosure** Metal Shell
- **Protection Class** IP 30
- **Installation** DIN-Rail
- **Dimensions (W x H x D)** 43 x 120 x 84 mm (1.69" x 4.72" x 3.30")

#### LED Display

- **System LED** PWR1, PWR2, P-Fail, Loop / Status
- **Port LED** Link / Speed / Activity

#### Environment

- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- **Storage Temperature** -40 ~ 85 °C
- **Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- **Humidity** 10 ~ 95% (non-condensing)
- **MTBF** 4,176,861 hours

#### Power

- **Power Consumption** Max. 5.2 W
- **Power Input** 12 ~ 48 V<sub>DC</sub> (8.4~52.8 V<sub>DC</sub>), redundant dual power input
- **Fault Output** 1 Relay Output

#### Certification

- **EMI** CE, FCC Class A
- **Safety** UL508, Class 1 Division 2, ATEX
- **EMC** EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8

- **Shock** IEC 60068-2-27
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 60068-2-6

#### L2 Features

- **L2 MAC Address** 8K
- **Jumbo Frame** 9216 Bytes
- **VLAN Group** 256 (VLAN ID 1~4094)
- **VLAN Arrange** Port based VLAN, GVRP
- **Port Mirroring** Per port, Multi-source port, IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- **IP Multicast** Broadcast, Multicast, Unknown unicast
- **Storm Control** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring, with ultra high-speed recovery time less than 20ms

#### QoS

- **Priority Queue** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- **Scheduling** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- **Class of Service** Ingress Rate limit, Egress Rate limit
- **Rate Limiting** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- **Port Security** Static, Dynamic, MAC address filtering
- **Authentication** 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption)

#### Management

- **Access** SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB
- **Software upgrade** TFTP, HTTP, Dual Image
- **NTP** SNTP client
- **Data** Syslog
- **Protocols** IPV6, LLDP, PROFINET, Media Redundancy Protocol Master

### Ordering Information

- **EKI-5528-PNMA-AE** 8 port entry-level managed switch supports PROFINET MRP Master



# EKI-5526/I-EI

# EKI-5528/I-EI

**16 port Entry-Level Managed Switch  
Supporting EtherNet/IP**

**8 port Entry-Level Managed Switch  
Supporting EtherNet/IP**



EKI-5526/I-EI

EKI-5528/I-EI



## Features

- 16 ports Fast Ethernet RJ-45 (EKI-5526/I-EI) & 8 ports Fast Ethernet RJ-45 (EKI-5528/I-EI)
- Entry-Level Managed Switch
- IXM function enables fast deployment
- Provides EtherNet/IP EDS (Electronic Data Sheet) file, AOI (Add-On Instructions) file, and FactoryTalk® View faceplate
- Management: SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB

## Introduction

EKI-5526/I-EI and EKI-5528/I-EI are a new generation of entry-level managed switch products. They support the EtherNet/IP protocol to communicate with Ethernet/IP based PLCs. Advantech also provides FactoryTalk® View compliant faceplate, so users can easily integrate the switch with Allen-Bradley® PLCs. "Electronic Data Sheet" (EDS files) are also available for users to customize their faceplate. The devices come in a compact metal housing that is IP30 rated to protect against dusty industrial environments. The wide power input power (8.4 to 52.8 V<sub>DC</sub>) is dedicated to operating in areas of unstable power and rugged environments.

## Specifications

### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3AD, 802.3az
- LAN** 10/100Base-T (X)
- Transmission Distance** Ethernet: Up to 100 m
- Transmission Speed Ethernet** 10/100 Mbps Auto-Negotiation

### Interface

- I/O Port** EKI-5526/I-EI: 16 x RJ-45  
EKI-5528/I-EI: 8 x RJ-45
- Power Connector** 6-pin screw Terminal Block (including relay)

### Physical

- Enclosure** Metal Shell
- Protection Class** IP 30
- Installation** DIN-Rail
- Dimensions (W x H x D)** EKI-5526/I-EI: 74 x 120 x 84 mm (2.91" x 4.72" x 3.31")  
EKI-5528/I-EI: 43 x 120 x 84 mm (1.69" x 4.72" x 3.31")

### LED Display

- System LED** PWR1, PWR2, P-Fail, Loop detection
- Port LED** Link / Speed / Activity

### Environment

- Operating Temperature** EKI-5526-I-EI & EKI-5528-I-EI: -40 ~ 75 °C (-40 ~ 167 °F)  
EKI-5526-EI & EKI-5528-EI: -10 ~ 60 °C (14 ~ 140 °F)
- Storage Temperature** -40 ~ 85 °C
- Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- Humidity** 10 ~ 95% (non-condensing)
- MTBF** EKI-5528/I-EI: 4,176,861 hours  
EKI-5526/I-EI: 2,788,343 hours

### Power

- Power Consumption** EKI-5526/I-EI: Max. 8 W  
EKI-5528/I-EI: Max. 5.2 W
- Power Input** 12 ~ 48 V<sub>DC</sub> (8.4 ~ 52.8 V<sub>DC</sub>), redundant dual power input
- Fault Output** 1 Relay Output

### Certification

- EMI** CE, FCC Class A
- Safety** UL508, Class 1 Division 2, ATEX
- EMC** EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8
- Shock** IEC 60068-2-27
- Freefall** IEC 60068-2-32
- Vibration** IEC 60068-2-6

### L2 Features

- L2 MAC Address** 8K
- Jumbo Frame** 9216 Bytes
- VLAN Group** 256 (VLAN ID 1 ~ 4094)
- VLAN Arrange** Port based VLAN, GVRP
- Port Mirroring** Per port, Multi-source port,
- IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- Storm Control** Broadcast, Multicast, Unknown unicast
- Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring, with ultra high-speed recovery time less than 20ms

### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Ingress Rate limit, Egress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

### Security

- Port Security** Static, Dynamic, MAC address filtering
- Authentication** 802.1x (Port-Based, MD5/TLS/TTLs/PEAP Encryption)

### Management

- DHCP** Client, Option 82
- Access** SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB
- Software upgrade** TFTP, HTTP, Dual Image
- NTP** Sntp client
- Data** Syslog
- Protocols** IPV6, LLDP, EtherNet/IP

## Ordering Information

- EKI-5526-EI-AE** 16 port entry-level managed switch support EtherNet/IP
- EKI-5526I-EI-AE** 16 port entry-level managed switch support EtherNet/IP w/wide temp.
- EKI-5528-EI-AE** 8 port entry-level managed switch support EtherNet/IP
- EKI-5528I-EI-AE** 8 port entry-level managed switch support EtherNet/IP w/wide temp.

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15

# EKI-5626C/CI-MB EKI-5629C/CI-MB

**16 + 2G Combo ports Entry-Level Managed Switch Supporting Modbus/TCP**  
**8 + 2G Combo ports Entry-Level Managed Switch Supporting Modbus/TCP**



EKI-5626C/CI-MB

EKI-5629C/CI-MB



## Features

- 16 Fast Ethernet ports + 2 Gigabit Copper/SFP combo ports (EKI-5626C/CI-MB) & 8 Fast Ethernet ports + 2 Gigabit Copper/SFP combo ports (EKI-5629C/CI-MB)
- Entry-Level Managed Switch
- IXM function enables fast deployment
- Management: SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB

## Introduction

The EKI-5626C/CI-MB and EKI-5629C/CI-MB are a new generation of entry-level managed switch products. They support basic Layer 2 managed functions such as Ring, SNMP, IGMP etc. They also support Modbus/TCP and can easily integrate with SCADA. The devices come with a compact metal housing that is IP30 rated to protect against dusty industrial environments. The wide power input (8.4 to 52.8 V<sub>DC</sub>) is designed to operate in areas of unstable power and rugged environments.

## Specifications

### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3AD, 802.3az, 10/100Base-T (X),
- LAN**
- Transmission Distance** Ethernet: UP to 100m (4-wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)  
SFP: UP to 110km (depends on SFP)
- Transmission Speed Ethernet** Ethernet: 10/100Mbps Auto-Negotiation  
Gigabit Copper: 10/100/1000Mbps, Auto-Negotiation  
Gigabit Fiber: UP to 1000Mbps

### Interface

- I/O Port** EKI-5626C/CI-MB: 16 x RJ-45 + 2 x RJ-45/SFP combo ports  
EKI-5629C/CI-MB: 8 x RJ-45 + 2 x RJ-45/SFP combo ports
- Power Connector** 6-pin screw Terminal Block (including relay)

### Physical

- Enclosure** Metal Shell
- Protection Class** IP 30
- Installation** DIN-Rail
- Dimensions (W x H x D)** 74 x 120 x 84 mm (2.91" x 4.72" x 3.31")

### LED Display

- System LED** PWR1, PWR2, P-Fail, Loop detection
- Port LED** Link / Speed / Activity

### Environment

- Operating Temperature** EKI-5626C/CI-MB & EKI-5629C/CI-MB: -40 ~ 75 °C (-40 ~ 167 °F)  
EKI-5626C-MB & EKI-5629C-MB: -10 ~ 60 °C (14 ~ 140 °F)
- Storage Temperature** -40 ~ 85 °C
- Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- Humidity** 10 ~ 95% (non-condensing)
- MTBF** EKI-5626C/CI-MB: 2,825,281 hours  
EKI-5629C/CI-MB: 3,183,604 hours

### Power

- Power Consumption** EKI-5626C/CI-MB: Max 8.2W  
EKI-5629C/CI-MB: Max 5.8W
- Power Input** 12 ~ 48 V<sub>DC</sub> (8.4 ~ 52.8 V<sub>DC</sub>), redundant dual power input
- Fault Output** 1 Relay Output

### Certification

- EMI** CE, FCC Class A
- Safety** UL508, Class 1 Division 2, ATEX
- EMC** EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8
- Shock** IEC 60068-2-27
- Freefall** IEC 60068-2-32
- Vibration** IEC 60068-2-6

### L2 Features

- L2 MAC Address** 8K
- Jumbo Frame** 9216 Bytes
- VLAN Group** 256 (VLAN ID 1 ~ 4094)
- VLAN Arrange** Port based VLAN, GVRP
- Port Mirroring** Per port, Multi-source port,
- IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- Storm Control** Broadcast, Multicast, Unknown unicast
- Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring, with ultra high-speed recovery time less than 20ms

### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Ingress Rate limit, Egress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

### Security

- Port Security** Static, Dynamic, MAC address filtering
- Authentication** 802.1x (Port-Based, MD5/TLS/TTLs/PEAP Encryption)

### Management

- DHCP** Client, Option 82
- Access** SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB
- Software upgrade** TFTP, HTTP, Dual Image
- NTP** SNTP client
- Data** Syslog
- Protocols** IPv6, LLDP, Modbus/TCP

## Ordering Information

- EKI-5626C-MB-AE** 16 + 2G Combo ports entry-level managed switch Support Modbus/TCP
- EKI-5626CI-MB-AE** 16 + 2G Combo ports entry-level managed switch support Modbus/TCP w/wide temp.
- EKI-5629C-MB-AE** 8 + 2G Combo ports entry-level managed switch support Modbus/TCP
- EKI-5629CI-MB-AE** 8 + 2G Combo ports entry-level managed switch support Modbus/TCP w/wide temp.

# EKI-7710E-2C EKI-7710E-2CI

## 8FE+2G Port Gigabit Managed Redundant Industrial Switch



### Features

- 8 Fast Ethernet ports + 2 Gigabit Copper/SFP combo ports
- SFP socket for easy and flexible fiber expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)
- IXM function enables fast deployment
- Security: 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB
- 40 ~ 75 °C wide-range operating temperature (EKI-7710E-2CI)
- Dual 12 ~ 48 V<sub>DC</sub> power input and 1 relay output

### Introduction

EKI-7710E-2C/2CI supports 8 Fast Ethernet ports and 2 Gigabit combo ports. It is embedded with Advantech's IXM function for fast deployment that can dramatically save engineers time and cost. The EKI-7710E series also support NMS to help IT managers with networking maintenance and failure prevention. Finally, the EKI-7710E series is equipped with X-Ring Pro which can achieve ultra high-speed recovery times of less than 20 ms to ensure network stability.

### Specifications

#### Interface

- I/O Port** 8 x 10/100Base-T/TX RJ-45  
2 x RJ-45/SFP (mini-GBIC) Combo port RS-232 (RJ45)
- Console port**
- Power Connector** 6-pin screw Terminal Block (including relay)

#### Physical

- Enclosure** Metal Shell
- Protection Class** IP 30
- Installation** DIN-Rail
- Dimensions (W x H x D)** 74 x 152 x 105 mm (2.91" x 5.98" x 4.13")

#### LED Displa

- System LED** PWR1, PWR2, SYS, Alarm and R.M.
- Port LED** Link / Speed / Activity

#### Environment

- Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F) 7710E-2CI  
-10 ~ 60 °C (-40 ~ 140 °F) 7710E-2C  
-40 ~ 85 °C
- Storage Temperature**
- Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- Humidity** 10 ~ 95% (non-condensing)

#### Power

- Power Consumption** 12.1W @ 48V<sub>DC</sub> (System)
- Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual power input
- Fault Output** 1 Relay Output

#### Certification

- EMI** CE, FCC Class A
- Safety** UL508  
UL60950\*, C1D2\*
- EMC** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8  
EN50121-4\*

- Shock** IEC 60068-2-27
  - Freefall** IEC 60068-2-32
  - Vibration** IEC 60068-2-6
  - Traffic control** NEMA TS2\*
- \*= Compliant

#### L2 Features

- L2 MAC Address** 8K
- Jumbo Frame** 9216 Bytes
- VLAN Group** 256 (VLAN ID 1 ~ 4094)
- VLAN Arrange** Port based VLAN, Q-in-Q (VLAN Stacking), GVRP
- Port Mirroring** Per port, Multi-source port, IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- IP Multicast** Broadcast, Multicast, Unknown unicast
- Storm Control** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro, with ultra high-speed recovery time less than 20ms
- Redundancy**

#### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Ingress Rate limit, Egress Rate limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- Port Security** Static, Dynamic
- Authentication** 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption)

#### Management

- DHCP** Client, Server, Option66/67/82
- Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- Security access** SSH2.0, SSL
- Software upgrade** TFTP, HTTP, Dual Image
- NTP** SNTP client

### Ordering Information

- EKI-7710E-2CI-AE** 8FE + 2G Combo Port Managed Ethernet Switch w/Wide Temp
- EKI-7710E-2C-AE** 8FE + 2G Combo Port Managed Ethernet Switch

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# EKI-7712E-4F

# EKI-7712E-4FI

## 8FE+4SFP Port Gigabit Managed Redundant Industrial Switch



### Features

- 8 Fast Ethernet ports + 4 SFP ports
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)
- IXM function enables fast deployment
- Security: 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB
- NEMA TS2 for Traffic Control
- EN50121-4 approval for Railway trackside deployment
- -40 ~ 75 °C wide-range operating temperature (EKI-7712E-4FI)
- Dual 12 ~ 48 V<sub>DC</sub> power input and 1 relay output

### Introduction

EKI-7712E-4F/4FI provides abundant ports to connect to many devices with 8 Fast Ethernet ports and 4 SFP (mini-GBIC) ports. It is embedded with Advantech's IXM function for fast deployment, which can dramatically save engineers time and cost. The EKI-7712E series also supports NMS to help IT managers with networking maintenance and failure prevention. Finally, the EKI-7712E series is equipped with X-Ring Pro which can achieve ultra high-speed recovery times of less than 20 ms to ensure network stability. The switch also features a wide -40 to 75 °C operating temperature (EKI-7712G-4FI) and NEMA TS2 rating, making the switch an ideal solution for use in traffic applications. EKI-7712E-4F/4FI has successfully passed the EN50121-4 European railway standard requirements for emissions and railway platform and trackside deployment.

### Specifications

#### Interface

- **I/O Port** 8 x 10/100Base-T/TX RJ-45  
4 x SFP (mini-GBIC) port  
RS-232 (RJ45)
- **Console port**
- **Power Connector** 6-pin screw Terminal Block (including relay)

#### Physical

- **Enclosure** Metal Shell
- **Protection Class** IP 30
- **Installation** DIN-Rail
- **Dimensions (W x H x D)** 74 x 152 x 105 mm (2.91" x 5.98" x 4.13")

#### LED Display

- **System LED** PWR1, PWR2, SYS, Alarm and R.M.
- **Port LED** Link / Speed / Activity

#### Environment

- **Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F) (7712E-4FI)  
-10 ~ 60 °C (-40 ~ 140 °F) (7712E-4F)
- **Storage Temperature** -40 ~ 85 °C
- **Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- **Humidity** 10 ~ 95% (non-condensing)

#### Power

- **Power Consumption** 12.1W @ 48V<sub>DC</sub> (System)
- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual power input
- **Fault Output** 1 Relay Output

#### Certification

- **EMI** CE, FCC Class A
- **Safety** UL61010-2-201  
IEC60950\*
- **EMC** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8  
EN50121-4\*

- **Shock** IEC 60068-2-27
  - **Freefall** IEC 60068-2-32
  - **Vibration** IEC 60068-2-6
  - **Traffic control** NEMA TS2\*
- \*= Compliant

#### L2 Features

- **L2 MAC Address** 8K
- **Jumbo Frame** 9216 Bytes
- **VLAN Group** 256 (VLAN ID 1 ~ 4094)
- **VLAN Arrange** Port based VLAN, Q-in-Q (VLAN Stacking), GVRP
- **Port Mirroring** Per port, Multi-source port,
- **IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- **Storm Control** Broadcast, Multicast, Unknown unicast
- **Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro, with ultra high-speed recovery time less than 20ms

#### QoS

- **Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- **Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- **Rate Limiting** Ingress Rate limit, Egress Rate limit
- **Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- **Port Security** Static, Dynamic
- **Authentication** 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption)

#### Management

- **DHCP** Client, Server, Option66/67/82
- **Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- **Security access** SSH2.0, SSL
- **Software upgrade** TFTP, HTTP, Dual Image
- **NTP** SNTP client

### Ordering Information

- **EKI-7712E-4FI-AE** 8FE + 4SFP Port Managed Ethernet Switch w/Wide Temp
- **EKI-7712E-4F-AE** 8FE + 4SFP Port Managed Ethernet Switch

# EKI-7720E-4F EKI-7720E-4FI

## 16FE+4SFP Port Gigabit Managed Redundant Industrial Switch



### Features

- 16 Fast Ethernet ports + 4 SFP ports
- SFP socket for easy and flexible fiber expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)
- IXM function enables fast deployment
- Security: 802.1x (port-based, MD5/TLS/TTLs/PEAP encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, standard MIB, private MIB
- NEMA TS2 for traffic control
- EN50121-4 approval for railway trackside deployment
- -40 ~ 75 °C wide-range operating temperature (EKI-7720E-4FI)
- Dual 12 ~ 48 V<sub>DC</sub> power input and 1 relay output

### Introduction

EKI-7720E-4F/4FI provides users with abundant ports to connect to many devices with 16 Fast Ethernet ports and 4 SFP (mini-GBIC) ports. It is embedded with Advantech's IXM function, which can benefit users for fast deployment and can dramatically save engineers time and cost. The EKI-7720E series also supports NMS to help IT managers with networking maintenance and failure prevention. Finally, the EKI-7720E series is equipped with X-Ring Pro which can achieve ultra high speed recovery time of less than 20 ms to ensure network stability. The switch also features a wide -40° to 75 °C operating temperature (EKI-7720E-4FI).

### Specifications

#### Interface

- **I/O Port** 16 x 10/100Base-T/TX RJ-45  
4 x SFP (mini-GBIC) port
- **Console port** RS-232 (RJ45)
- **Power Connector** 6-pin screw Terminal Block (including relay)

#### Physical

- **Enclosure** Metal Shell
- **Protection Class** IP 30
- **Installation** DIN-Rail
- **Dimensions (W x H x D)** 74 x 152 x 105 mm (2.91" x 5.98" x 4.13")

#### LED Display

- **System LED** PWR1, PWR2, SYS, Alarm and R.M.
- **Port LED** Link / Speed / Activity

#### Environment

- **Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F) (7720E-4FI)  
-10 ~ 60 °C (-40 ~ 140 °F) (7720E-4F)  
-40 ~ 85 °C
- **Storage Temperature** -40 ~ 85 °C
- **Ambient Relative Humidity** 10 ~ 95% (non-condensing)
- **Humidity** 10 ~ 95% (non-condensing)

#### Power

- **Power Consumption** TBC
- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual power input
- **Fault Output** 1 Relay Output

#### Certification

- **EMI** CE, FCC Class A
- **Safety** UL61010-2-201  
IEC60950\*
- **EMC** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8  
EN50121-4

- **Shock** IEC 60068-2-27
  - **Freefall** IEC 60068-2-32
  - **Vibration** IEC 60068-2-6
  - **Traffic control** NEMA TS2
- \*= Compliant

#### L2 Features

- **L2 MAC Address** 8K
- **Jumbo Frame** 9216 Bytes
- **VLAN Group** 256 (VLAN ID 1 ~ 4094)
- **VLAN Arrange** Port based VLAN, Q-in-Q (VLAN Stacking), GVRP
- **Port Mirroring** Per port, Multi-source port,
- **IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- **Storm Control** Broadcast, Multicast, Unknown unicast
- **Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro, with ultra high-speed recovery time less than 20ms

#### QoS

- **Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- **Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- **Rate Limiting** Ingress Rate limit, Egress Rate limit
- **Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

#### Security

- **Port Security** Static, Dynamic
- **Authentication** 802.1x (Port-Based, MD5/TLS/TTLs/PEAP Encryption)

#### Management

- **DHCP** Client, Server, Option66/67/82
- **Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- **Security access** SSH2.0, SSL
- **Software upgrade** TFTP, HTTP, Dual Image
- **NTP** SNTP client

### Ordering Information

- **EKI-7720E-4FI-AE** 16FE + 4SFP Port Managed Ethernet Switch w/Wide Temp
- **EKI-7720E-4F-AE** 16FE + 4SFP Port Managed Ethernet Switch

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

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Industrial Storage 11

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# EKI-7629C/CI

## 8+2G Combo Port Gigabit Unmanaged Industrial Ethernet Switch



### Features

- Provides 2 Gigabit Copper/SFP combo port plus 8 Fast Ethernet ports (EKI-7629C/CI)
- SFP socket for easy and flexible fiber expansion
- Supports Auto Negotiation and Auto MDI/MDI-X
- Provides flexible mounting: DIN-rail and Wall mount
- Supports Dual 12 ~ 48 V<sub>DC</sub> power input and 1 relay output
- Supports wide operating temperatures from -40 to 75 °C (EKI-7629CI)

### Introduction

Apart from the 2 Gbit fiber optic/copper combo ports, EKI-7629C/CI comes equipped with 8 x 10/100Base-TX fast Ethernet ports. Traditional RJ45 ports can be used for up-linking wide-band paths over short distances (< 100 m), or a replaceable SFP module can be used for networking and long distance transmissions. Long MTBF ensures low operation and maintenance cost. EKI-7629C/CI includes a switch controller that can automatically sense transmission speeds (10/100 Mbps). The RJ45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All Ethernet ports have a memory buffer that supports store-and-forward mechanism, which assures that data can be transmitted properly.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3ab, 802.3u, 802.3x, 802.3z
- **LAN** 100Base-TX, 10/100Base-T, Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
- **Transmission Distance** Ethernet: Up to 100 m (4-wire Cat.5e, Cat.6 RJ45 cable suggested for Gigabit port)  
Gigabit Fiber: Up to 110 km (depending on SFP)
- **Transmission Speed** Ethernet: 10/100 Mbps Auto-Negotiation  
Gigabit Copper: 10/100/1000 Mbps, Auto-Negotiation  
SFP: Up to 1000 Mbps

#### Interface

- **Connectors** 8 x RJ45 (Ethernet) with 2 x RJ45/SFP (mini-GBIC) combo ports (EKI-7629C/CI)  
6-pin removable screw terminal (Power & Relay)
- **LED Indicators** System: PWR1, PWR2, P-Fail  
Gigabit Copper: Link/Activity, Speed (1000 Mbps)  
Gigabit SFP: Link/Activity

#### Power

- **Power Consumption** Max. 6.5 W
- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 79 x 152 x 105 mm (3.11" x 5.98" x 4.13")
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall

#### Protection

- **Reverse Polarity** Present
- **Overload Current** Present

#### Environment

- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)  
Wide Temp. Model -40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 295,000 hours

#### Certification

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMI** FCC Part 15 Subpart B Class A, EN 55022 Class A
- **EMS** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8
- **Shock** IEC 60068-2-27
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 60068-2-6

### Ordering Information

- **EKI-7629C** 8+2G Combo Port Unmanaged Ethernet Switch
- **EKI-7629CI** 8+2G Combo Port Unmanaged Ethernet Switch w/ Wide Temp



# EKI-2525/I

# EKI-2528/I

## 5-port Unmanaged Industrial Ethernet Switch

## 8-port Unmanaged Industrial Ethernet Switch



EKI-2525

EKI-2528



### Features

- Provides 5/8 Fast Ethernet ports with Auto MDI/MDI-X
- Supports 10/100 Mbps Auto-Negotiation
- Provides broadcast storm protection
- Provides compact size with DIN-rail/Wall mount, and IP30 metal mechanism
- Supports redundant 12 ~ 48 V<sub>DC</sub> power input and P-Fail relay
- Supports wide operating temperatures from -40 to 75 °C (EKI-2525/I/EKI-2528/I)

### Introduction

The EKI-2525/2528 is a Fast Ethernet solution. Power is a +12 ~ 48 V<sub>DC</sub> redundant input design, and is secured with a double protection mechanism: Power Polarity Reverse Protection and Overload Current Resettable Fuse. The former tolerates reverse power switching while the later secures the system from overload currents. As the power supply turns normal, EKI-2525/2528 will automatically get back to work. Each EKI-2525/2528 port has 2 LED's to show the link status transmission speed and collision status. It also provides a relay output for an event alarm. In the event of a power failure, the built-in LED will activate the alarm to notify administrators. Engineers can simply verify the hardware status by checking the LED, which makes troubleshooting quick and easy. EKI-2525/2528 comes with a compact metal IP30 rated housing to protect against dusty industrial environments.

### Specifications

#### Communications

- Standard IEEE** 802.3, 802.3u, 802.3x
- LAN** 10/100Base-T (X)
- Transmission Distance** Up to 100 m
- Transmission Speed** Up to 100 Mbps

#### Interface

- Connectors** 8 x RJ45 (EKI-2528) or 5 x RJ45 (EKI-2525)  
6-pin removable screw terminal (power & relay)
- LED Indicators** P1, P2, P-Fail  
10/100T (X): Link/Activity, Duplex/Collision

#### Power

- Power Consumption** EKI-2525/I: 2.88 Watts  
EKI-2528/I: 4.71 Watts
- Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- Fault Output** 1 Relay Output

#### Mechanism

- Dimensions (W x H x D)** EKI-2525: 30 x 120 x 95 mm (1.18" x 4.72" x 3.74")  
EKI-2528: 30 x 140 x 95 mm (1.18" x 5.51" x 3.74")
- Enclosure** IP30, Metal shell with solid mounting kits
- Mounting** DIN-rail, Wall

#### Protection

- Reverse Polarity** Present
- Overload current** Present

#### Environment

- Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)  
-40 ~ 75 °C (-40 ~ 167 °F), (EKI-2525/I and EKI-2528/I)
- Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- Operating Humidity** 10 ~ 95% (non-condensing)
- Storage Humidity** 10 ~ 95% (non-condensing)
- MTBF** 388,566 hours (EKI-2528)  
412,590 hours (EKI-2525)

#### Certification

- Safety** EKI-2525/I: UL/cUL 60950  
EKI-2528/I: UL/cUL 60950 Class I, Division 2, Groups A, B, C and D
- EMI** FCC Part 15 Subpart B Class A, EN 55022 Class A
- EMS** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8  
Shock IEC 60068-2-27  
Freefall IEC 60068-2-32  
Vibration IEC 60068-2-6

### Ordering Information

- EKI-2525-BE** 5-port Ethernet Switch
- EKI-2525I-BE** 5-port Ethernet Switch w/ Wide Temp
- EKI-2528-BE** 8-port Ethernet Switch
- EKI-2528I-BE** 8-port Ethernet Switch w/ Wide Temp

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
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# EKI-2728MI

## 6G+2G Multi-Mode Unmanaged Ethernet Switch with Wide Temperature Support



### Features

- Supports 10/100/1000 Mbps Auto Negotiation
- Supports jumbo frame transmission up to 9kbytes
- Provides Slim size, DIN-rail with IP30 metal mechanism
- Provides broadcast storm protection
- Redundant DC power supply and one removable AC power input



### Introduction

EKI-2728MI is a cost effective unmanaged industrial Ethernet switch which supports Gigabit Ethernet. It supports green power requirements and also supports advanced network standards to optimize network performance, reduce maintenance cost, and secure network safety.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.1ab, 802.1z
- **LAN** 10/100/1000Base-Tx
- **Transmission Distance** Ethernet: Up to 100 m  
Fiber: Up to 2 km
- **Transmission Speed** Up to 1000 Mbps

#### Interface

- **Connectors** 6 x RJ45 ports  
2 x SC type fiber optic
- **LED Indicators** System: PWR1, PWR2, P-Fail  
Gigabit Ethernet copper: Link/Activity, speed (10/100/1000 Mbps)  
Fiber SC: Link/Activity

#### Mechanism

- **Enclosure** IP30, metal shell with solid mounting kits
- **Dimensions (W x H x D)** 59.6 x 152 x 105 mm (2.35" x 5.98" x 4.13")
- **Mounting** DIN-rail, Wall

#### Power

- **Power Consumption** Max. 10.2 W
- **Power Input** 12 ~ 48 V<sub>DC</sub>, 24 V<sub>AC</sub> (18 ~ 30 V<sub>AC</sub>)
- **Fault Output** 1 Relay Output, 1 A @ 24 V<sub>DC</sub>

#### Protection

- **Power Reverse** Present

#### Environment

- **Operating Temperature** -40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 505,863 hours

#### Certifications

- **Safety** UL 508, Class I, Division 2
- **EMI** FCC Part 15 Subpart B Class A, EN 55022 Class A
- **EMS** EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-4-8
- **Shock** IEC 60068-2-27
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 60068-2-6

### Ordering Information

- **EKI-2728MI** 6Gx+2 Multi-mode Fiber Unmanaged Ethernet Switch w/ Wide Temp

# EKI-1521/CI/I

# EKI-1522/CI/I

# EKI-1524/CI/I

1-port RS-232/422/485 Serial Device Server

2-port RS-232/422/485 Serial Device Server

4-port RS-232/422/485 Serial Device Server



EKI-1521

EKI-1522

EKI-1524



## Features

- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Supports up to 921.6 kbps, and any baud rate setting
- Allows a max. of 5 hosts to access one serial port
- Allows a max. of 16 hosts to be accessed as TCP client mode
- Built-in 15 KV ESD protection for all serial signals
- Provides rich configuration methods including Windows utility, Telnet console, and Web Browser
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7/8/8.1, Windows Server 2003/2008/2012, Windows CE 5.0, and Linux
- Automatic RS-485 data flow control
- Supports line to line 4 KV, line to ground 8 KV surge protection
- 'I' models support a wide operating temperature
- 'CI' models support isolation and wide operating temperature

## Introduction

EKI-1521, EKI-1522 and EKI-1524 feature two independent Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. EKI-1521, EKI-1522 and EKI-1524 are serial device servers that connect RS-232/422/485 serial devices, such as PLC, meters, sensors, and barcode readers to an IP-based Ethernet LAN. They allow nearly any device with serial ports to connect and share an Ethernet network. EKI-1521, EKI-1522 and EKI-1524 provide various operations: COM port redirection (Virtual COMport), TCP Server, TCP Client and UDP mode. With COM port redirection mode, standard serial operation calls are transparently redirected to the EKI-1521, EKI-1522 and EKI-1524, guaranteeing compatibility with legacy serial devices and enabling backward compatibility with existing software. With TCP server, TCP client, and UDP modes, EKI-1521, EKI-1522 and EKI-1524 ensure the compatibility of network software that uses a standard network API. Moreover, you can make serial devices communicate with other devices peer-to-peer, without any intermediate host PCs and software programming.

## Specifications

### Ethernet Communications

- Compatibility**: IEEE 802.3, IEEE 802.3u
- Speed**: 10/100 Mbps
- No. of Ports**: 2
- Port Connector**: 8-pin RJ45
- Protection**: Built-in 1.5 KV magnetic isolation

### Serial Communications

- Port Type**: RS-232/422/485, software selectable
- No. of Ports**: EKI-1521: 1/EKI-1522: 2/EKI-1524: 4
- Port Connector**: DB9 male
- Data Bits**: 5, 6, 7, 8
- Stop Bits**: 1, 1.5, 2
- Parity**: None, Odd, Even, Space, Mark
- Flow Control**: XON/XOFF, RTS/CTS, DTR/DSR
- Baud Rate**: 50 bps ~ 921.6 kbps, any baud rate setting
- Serial Signals**: RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND
- Protection**: Built-in 15 KV ESD for all signals

### Software

- Driver Support**: 32-bit/64-bit Windows 2000/XP/Vista/7/8/8.1, Windows Server 2003/2008/2012, Windows CE 5.0, and Linux
- Operation Modes**: COM port redirection mode (Virtual COM)  
TCP/UDP server (polling) mode  
TCP/UDP client (event handling) mode  
Pair connection (peer to peer) mode
- Configuration Management**: Windows utility, Telnet console, Web Browser  
SNMP MIB-II

### Mechanics

- Dimensions (W x H x D)**: 36.6 x 140 x 95 mm (1.44" x 5.51" x 3.74")  
EKI-1524: 48.6 x 140 x 95 mm (1.91" x 5.51" x 3.74")
- Enclosure**: Metal with solid mounting hardware
- Mounting**: DIN-rail, Wall
- Weight**: EKI-1521: 612g/EKI-1522: 620g/EKI-1524: 690g

### General

- LED Indicators**: System: Power, System Status/LAN: Speed, Link/Active  
Serial: Tx, Rx

### Power Requirements

- Input**: 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- Connector**: Terminal block
- Consumption**: EKI-1521: 5.2 W  
EKI-1522: 5.2 W  
EKI-1524: 6.3 W

### Environment

- Operating Temperature**: EKI-1521/EKI-1522/EKI-1524: -10 ~ 60 °C (14 ~ 140 °F) 'CI & I' models: -40 ~ 70 °C (-40 ~ 158 °F)
- Storage Temperature**: -40 ~ 85 °C (-40 ~ 185 °F)
- Operating Humidity**: 5 ~ 95% RH

### Regulatory Approvals

- EMC**: CE, FCC Part 15 Subpart B (Class A)

## Ordering Information

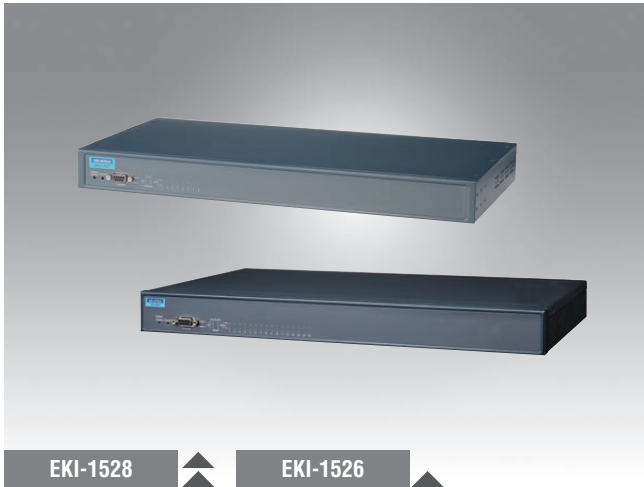
- EKI-1521**: 1-port RS-232/422/485 Serial Device Server
- EKI-1522**: 2-port RS-232/422/485 Serial Device Server
- EKI-1524**: 4-port RS-232/422/485 Serial Device Server
- EKI-1521I**: 1-port RS-232/422/485 Serial Device Server with wide operating temperature
- EKI-1522I**: 2-port RS-232/422/485 Serial Device Server with wide operating temperature
- EKI-1524I**: 4-port RS-232/422/485 Serial Device Server with wide operating temperature
- EKI-1521CI**: 1-port RS-422/485 Serial Device Server with wide operation temperature and isolation
- EKI-1522CI**: 2-port RS-422/485 Serial Device Server with wide operation temperature and isolation
- EKI-1524CI**: 4-port RS-422/485 Serial Device Server with wide operation temperature and isolation
- OPT1-DB9**: D-Sub9 to Terminal Converter

# EKI-1528/I/TI

# EKI-1526/I/TI

8-port RS-232/422/485 Serial Device Server

16-port RS-232/422/485 Serial Device Server



EKI-1528

EKI-1526



## Features

- 8 or 16-port RS-232/422/485 serial communication
- Provides 2 x 10/100/1000 Mbps Ethernet ports for LAN redundancy
- Supports up to 976.5 kbps, and any baud rate setting
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Provides rich configuration methods: Windows utility, Telnet console, Web Browser, and serial console
- Built-in 15 KV ESD protection for all serial signals
- SNMP MIB-II for network management
- Built-in buzzer for easy location
- Standard 1U rackmount size
- Rear wiring
- Automatic RS-485 data flow control

## Introduction

The EKI-1528 and EKI-1526 are industrial-grade network-based serial device servers for connecting up to 8 or 16 serial RS-232/422/485 devices, such as CNCs, PLCs, scales, and scanners, directly to a TCP/IP network. The EKI-1528 and EKI-1526 feature two independent Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. The EKI-1528 and EKI-1526 provide a simple and cost-effective way to bring the advantages of remote management and data accessibility to thousands of devices that can't connect to an Ethernet network. The EKI-1528 and EKI-1526 offer multiple ways to be configured through a Windows utility, web browser, serial console or Telnet console, these methods make it easy manage many EKI-1528 and EKI-1526 or serial devices on your network.

## Specifications

### Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- **Speed** 10/100/1000 Mbps, auto MDI/MDIX
- **No. of Ports** 2
- **Port Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

### Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1528/EKI-1528I/EKI-1528TI: 8  
EKI-1526/EKI-1526I/EKI-1526TI: 16
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 976.5 kbps, any baud rate setting  
16 ports up to 230.4 kbps simultaneously
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND, RI  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals

### Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7/ 8/8.1/10, Windows Server 2003/2008/2012, and Linux
- **Utility Software** Advantech EKI Device Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)  
TCP/UDP server (polling) mode  
TCP/UDP client (event handling) mode  
Pair connection (peer to peer) mode  
RFC2217 mode
- **Configuration Protocols** Windows utility, Telnet console, Web Browser, serial console  
ARP, ICMP, IPv6, TCP, UDP, BOOTP/DHCP Client, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, NTP
- **Management** SNMP MIB-II

### Mechanics

- **Dimensions (W x H x D)** 438 x 43.6 x 259.2 mm (17.24" x 1.71" x 10.2")
- **Enclosure** SECC chassis
- **Mounting** Rack

### General

- **LED Indicators** System: Power, System Status  
LAN: Speed, Link/Active  
Serial: Tx, Rx
- **Alert Tools** Built-in buzzer and RTC (real time clock)
- **Reboot Trigger** Built-in WDT and push button for hardware reboot

### Power Requirements

- **Power Input** EKI-1528(I)/EKI-1526(I): 100 ~ 240 V<sub>AC</sub>, 50 ~ 60 Hz  
EKI-1528T(I)/EKI-1526T(I): 12 ~ 48 V<sub>DC</sub>, Terminal Block
- **Power Consumption** 5.6 W

### Environment

- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)  
"I" Model: -40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- **Operating Humidity** 10 ~ 95% RH

### Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)

## Ordering Information

- **EKI-1528** 8-port RS-232/422/485 Serial Device Server
- **EKI-1526** 16-port RS-232/422/485 Serial Device Server
- **EKI-1528T-VDC** 8-port RS-232/422/485 Serial Device Server w/ DC Input
- **EKI-1526T-VDC** 16-port RS-232/422/485 Serial Device Server w/ DC Input
- **EKI-1528I** 8-port RS-232/422/485 Serial Device Server W/T
- **EKI-1526I** 16-port RS-232/422/485 Serial Device Server W/T
- **EKI-1528TI-VDC** 8-port RS-232/422/485 Serial Device Server w/ DC W/T Input
- **EKI-1526TI-VDC** 16-port RS-232/422/485 Serial Device Server w/ DC W/T Input

# EKI-1221/CI/I

# EKI-1222/CI/I

# EKI-1224/CI/I

1-port Modbus Gateway

2-port Modbus Gateway

4-port Modbus Gateway



EKI-1221

EKI-1222

EKI-1224



## Features

- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Supports up to 921.6 kbps, and any baud rate setting
- Supports up to 16 connections and 32 requests simultaneously
- Auto searching slave ID over configuration utility
- Software selectable RS-232/422/485 communication
- Mounts on DIN-rail and Wall mount
- Built-in 15 KV ESD protection for all serial signals
- Automatic RS-485 data flow control
- Supports surge protection for D.C. power ports with line to line 2 KV, and line to earth 4 KV; for signal ports with 4 KV.
- 'I' models support a wide operating temperature
- 'CI' models support isolation and wide operating temperature

## Introduction

The EKI-1200 series Modbus gateways are bi-directional gateways for integrating new and existing Modbus/RTU and Modbus/ASCII serial devices to newer TCP/IP networked-based devices. The EKI-1221/1222/1224 feature two independent Ethernet ports and MAC addresses to provide redundancy and reliability. They provide a simple and cost-effective way to bring remote management and data accessibility to thousands of devices that cannot connect to a network. EKI-1221/1222/1224 provide a feature that can allow users to select master or slave operation mode for each serial port. They not only allow an Ethernet master to control serial slaves, but also allow serial masters to control Ethernet slaves.

## Specifications

### Ethernet Communications

- Compatibility** IEEE 802.3, IEEE 802.3u
- Speed** 10/100 Mbps
- No. of Ports** 2
- Port Connector** 8-pin RJ45
- Protection** Built-in 1.5 KV magnetic isolation

### Serial Communications

- Port Type** RS-232/422/485, software selectable
- No. of Ports** EKI-1221: 1  
EKI-1222: 2  
EKI-1224: 4
- Port Connector** DB9 male
- Data Bits** 7, 8
- Stop Bits** 1, 2
- Parity** None, Odd, Even, Space, Mark
- Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND
- Protection** 15 KV ESD for all signals  
'CI' models: 2KV Isolation for RS-422/485 signals

### Software

- OS Support** 32-bit/64-bit Windows XP/Vista/7/8/8.1, Windows Server 2003/2008/2008 R2/2012/2012 R2, Windows CE 5.0, and Linux
- Utility Software** Advantech EKI Device Configuration Utility
- Operation Modes** Modbus RTU Master/Slave mode  
Modbus ASCII Master/Slave mode
- Configuration** Windows Utility, Web Browser
- Protocols** Modbus RTU, Modbus TCP, Modbus ASCII

### General

- LED Indicators** System: Power, System Status  
LAN: Speed, Link/Active  
Serial: Tx, Rx
- Reboot Trigger** Built-in WDT (watchdog timer)

### Mechanics

- Dimensions (W x H x D)** EKI-1221/1222: 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")  
EKI-1224: 55 x 140 x 95 mm (2.17" x 5.51" x 3.74")
- Enclosure** Metal with solid mounting hardware
- Mounting** DIN-rail, Wall
- Weight** EKI-1221: 0.592 Kg  
EKI-1222: 0.6 Kg  
EKI-1224: 0.668 Kg

### Power Requirements

- Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- Power Connector** Terminal block
- Power Consumption** EKI-1221: 5.2 W  
EKI-1222: 5.2 W  
EKI-1224: 6.3 W

### Environment

- Operating Temperature** EKI-1221/EKI-1222/EKI-1224: -10 ~ 60 °C (14 ~ 140 °F)  
'CI' & 'I' models: -40 ~ 70 °C (-40 ~ 158 °F)
- Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- Operating Humidity** 5 ~ 95% RH

### Regulatory Approvals

- EMC** CE, FCC Part 15 Subpart B (Class A)

## Ordering Information

- EKI-1221** 1-port RS-232/422/485 Modbus Gateway
- EKI-1222** 2-port RS-232/422/485 Modbus Gateway
- EKI-1224** 4-port RS-232/422/485 Modbus Gateway
- EKI-1221I** 1-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature
- EKI-1222I** 2-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature
- EKI-1224I** 4-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature
- EKI-1221CI** 1-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation
- EKI-1222CI** 2-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation
- EKI-1224CI** 4-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation
- OPT1-DB9** D-Sub9 to Terminal Converter

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# EKI-1361 EKI-1362 EKI-1361-MB EKI-1362-MB

1-port RS-232/422/485 to 802.11a/b/g/n WLAN Serial Device Server  
2-port RS-232/422/485 to 802.11a/b/g/n WLAN Serial Device Server  
1-port RS-232/422/485 to 802.11a/b/g/n WLAN Modbus Gateway  
2-port RS-232/422/485 to 802.11a/b/g/n WLAN Modbus Gateway



## Features

- Link any serial device to an IEEE 802.11a/b/g/n network
- Support 802.11n MIMO 2T2R
- WLAN transmission rate up to 300 Mbps
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Provides COM port redirection, TCP, UDP, and pair connection modes
- Supports up to 921.6 kbps, and any baud rate setting
- Provides Web-based configuration and Windows utility
- Allows a max. of 5 hosts to access one serial port
- Supports Modbus TCP and Modbus RTU
- Support Dual band 2.4G/5G selective

## Introduction

EKI-1361 and EKI-1362 wireless serial device servers bring RS-232/422/485 to wireless LAN. They allow nearly any device with serial ports to connect and share a WLAN network. EKI-1361 and EKI-1362 provide a quick, simple and cost-effective way to bring remote management and data accessibility to thousands of devices that cannot connect to a network. With EKI-1361 and EKI-1362, your existing serial devices can be used with the most common OS. There is no need to write special drivers for specific OS. Moreover, you can make serial devices communicate with other devices peer-to-peer, without any intermediate host PCs and software programming. That saves a lot of cost and effort. In addition, you can actively request data or issue commands from the RS-232/422/485 side or wireless LAN side. This data can be sent bilaterally. Thus, the EKI-1361 and EKI-1362 are especially suitable for remote monitoring environments such as security systems, factory automation, SCADA, transportation and more.

## Specifications

### Ethernet Communications

- **Port Type** RJ45
- **No. of Ports** 1
- **Speed** 10/100/1000 Mbps

### Wireless LAN Communications

- **Compatibility** IEEE 802.11a/b/g/n
- **Speed** Up to 300Mbps
- **Network Mode** Infrastructure
- **Antenna Connector** Reverse SMA
- **No. of Antenna** 2 (supports 2T2R)
- **Free Space Range** Open space 100 m
- **Wireless Security** WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise

### Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1361: 1  
EKI-1362: 2
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals

### Software

- **OS Support** 32-bit/64-bit Windows XP/Vista/7/8/8.1/10, Windows Server 2003/2008/2008 R2/2012/2012 R2 and Linux
- **Utility Software** Advantech EKI Device Configuration Utility
- **Operation Modes** Access Point mode/Station mode  
Pair connection without AP (peer to peer) mode  
**EKI-1361/2**  
COM port redirection mode (Virtual COM)  
TCP/UDP server (polling) mode  
TCP/UDP client (event handling) mode

### EKI-1361/2-MB

Modbus RTU Master/Slave  
Modbus ASCII Master/Slave  
Windows utility, Telnet console, Web Browser  
ARP, ICMP, IPv4, IPv6, TCP, UDP, BOOTP, DHCP Client, Auto IP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP

- **Configuration**
- **Protocol**

### Mechanics

- **Enclosure** Metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall
- **Dimensions (W x H x D)** 28.5 x 120 x 85.3 mm (1.12" x 4.72" x 3.36")
- **Weight** 0.5 Kg

### General

- **LED Indicators** System: Power, System Status  
WLAN: Quality, Link/Active  
LAN: Link/Active  
Serial: Tx, Rx  
Built-in WDT (watchdog timer)
- **Reboot Trigger**

### Power Requirements

- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1361: 8W  
EKI-1362: 9W

### Environment

- **Operating Temperature** -30 ~ 65 °C (-22 ~ 149 °F)
- **Storage Temperature** -40 ~ 80 °C (-40 ~ 176 °F)
- **Operating Humidity** 10 ~ 95% RH

### Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class B)

## Ordering Information

- **EKI-1361** 1-port 802.11a/b/g/n WLAN Serial Device Server
- **EKI-1362** 2-port 802.11a/b/g/n WLAN Serial Device Server
- **EKI-1361-MB** 1-port 802.11a/b/g/n WLAN Modbus Gateway
- **EKI-1362-MB** 2-port 802.11a/b/g/n WLAN Modbus Gateway
- **OPT1-DB9** D-Sub9 to Terminal Converter



# EKI-1222EIMS

## Modbus RTU/TCP to EtherNet/IP Protocol Gateway



### Features

- Supports dual power input for power redundancy
- Seamless integrate Modbus RTU/TCP and EtherNET/IP communication
- Modbus TCP Master mode supports 64 connections
- Mounts on DIN-rail and Wall mount
- Designed for protocol extensibility and adaption
- Built-in real time diagnostic to increase highly efficiency of device management

### Introduction

The EKI-1222EIMS Industrial Protocol gateway providing seamless communication between Fieldbus and Industrial Ethernet and supports different protocol devices and integrates new and existing Modbus RTU/TCP devices to the EtherNet/IP network. To collect data and exchange data between Modbus RTU/TCP to EtherNet/IP, EKI-1222EIMS is a simple and cost-effective way to bring the advantages of fast data transmissions between different devices.

### Specifications

#### Ethernet Communication

- **Protocols** EtherNet/IP, Modbus RTU/TCP
- **Number of Ports** 4
- **Speed** 10/100 Mbps, Auto MDI/MDIX
- **Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

#### Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** 2
- **Port Connector** DB9 male
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND

#### Software

- **Modbus RTU/TCP**
  - Mode Master
  - Functions Support 1, 2, 3, 4, 5, 6, 15, 16, 23
  - Max. Number of Connections 64 connections
- **EtherNet/IP**
  - Class Adapter
  - Max. Number of Connections 32 explicit messaging, 5 implicit messaging
  - Max. Total I/O Data Size Input: 496 bytes  
Output: 496 bytes

#### General

- **LED Indicators** System: Power, Syste, Protocol Status  
LAN: Speed, Link/Active, Error
- **Reboot Trigger** Built-in WDT (watchdog timer)
- **MicroSD Card** Configuration backup and restore

#### Mechanics

- **Dimensions (W x H x D)** 42 x 140 x 95 mm (1.66" x 5.52" x 3.75")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** 0.592 Kg

#### Power Requirements

- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** 5.2 W

#### Environment

- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- **Operating Humidity** 10 ~ 95% RH

#### Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)

### Ordering Information

- **EKI-1222EIMS** Modbus RTU/TCP to EtherNet/IP Protocol Gateway

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# EKI-1222PNMS

## Modbus RTU/TCP to PROFINET Protocol Gateway



### Features

- Supports dual power input for power redundancy
- Seamless integrate Modbus RTU/TCP and PROFINET communication
- Modbus TCP Master mode supports 64 connections
- Mounts on DIN-rail and Wall mount
- Designed for protocol extensibility and adaption
- Built-in real time diagnostic to increase highly efficiency of device management

### Introduction

The EKI-1222PNMS Industrial Protocol gateway provides seamless communication between Fieldbus and Industrial Ethernet and supports different protocol devices integrating new and existing Modbus RTU/TCP devices with EtherCAT networks. EKI-1222PNMS is a simple and cost-effective way to bring the advantage of fast I/O data transfers between devices.

### Specifications

#### Ethernet Communication

- **Protocols** PROFINET, Modbus TCP
- **Number of Ports** 4
- **Speed** 10/100 Mbps, Auto MDI/MDIX
- **Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

#### Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** 2
- **Port Connector** DB9 male
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND

#### Software

- **Modbus RTU/TCP**
  - Mode Master
  - Functions Support 1, 2, 3, 4, 5, 6, 15, 16, 23
  - Max. Number of Connections 64 connections
- **PROFINET**
  - Type Slave
  - Slot 64
  - Cyclic data exchange 64 ms cycle time

#### General

- **LED Indicators** System: Power, Syste, Protocol Status  
LAN: Speed, Link/Active, Error
- **Reboot Trigger** Built-in WDT (watchdog timer)
- **MicroSD Card** Configuration backup and restore

#### Mechanics

- **Dimensions (W x H x D)** 42 x 140 x 95 mm (1.66" x 5.52" x 3.75")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** 0.592 Kg

#### Power Requirements

- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** 5.2 W

#### Environment

- **Operating Temperature** -10 ~ 60 °C (14 ~ 140 °F)
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- **Operating Humidity** 10 ~ 95% RH

#### Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)

### Ordering Information

- **EKI-1222PNMS** Modbus RTU/TCP to PROFINET Protocol Gateway

# EKI-1222ECMS

## Modbus RTU/TCP to EtherCAT Protocol Gateway



### Features

- Supports dual power input for power redundancy
- Seamless integrate Modbus RTU/TCP and EtherCAT communication
- Modbus TCP Master mode supports 64 connections
- Mounts on DIN-rail and Wall mount
- Designed for protocol extensibility and adaption
- Built-in real time diagnostic to increase highly efficiency of device management

### Introduction

The EKI-1222ECMS Industrial Protocol gateway provides seamless communication between Fieldbus and Industrial Ethernet and supports different protocol devices integrating new and existing Modbus RTU/TCP devices with EtherCAT networks. EKI-1222ECMS is a simple and cost-effective way to bring the advantage of fast I/O data transfers between devices.

### Specifications

#### Ethernet Communication

- **Protocols** EtherCAT, Modbus RTU/TCP
- **Number of Ports** 4
- **Speed** 10/100 Mbps, Auto MDI/MDIX
- **Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

#### Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** 2
- **Port Connector** DB9 male
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND  
RS-422: TxD+, TxD-, RxD+, RxD-, GND  
RS-485: Data+, Data-, GND

#### Software

- **Modbus RTU/TCP**
  - Mode Master
  - Functions Support 1, 2, 3, 4, 5, 6, 15, 16, 23
  - Max. Number of Connections 64 connections
- **EtherCAT**
  - Type Slave
  - Max. Total I/O Data Size (SDO&PDO objects)
  - Input 512 bytes
  - Output 512 bytes
  - Fmmu Channel 4

#### General

- **LED Indicators** System: Power, System Status, Protocol status  
LAN: Speed, Link/Active, Error
- **Reboot Trigger** Built-in WDT (watchdog timer)
- **MicroSD Card** Configuration backup and restore

#### Mechanics

- **Dimensions (W x H x D)** 42 x 140 x 95 mm (1.66" x 5.52" x 3.75")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** 0.592 Kg

#### Power Requirements

- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** 5.2 W

#### Environment

- **Operating Temperature** -10 ~ 60 °C (-14 ~ 140 °F)
- **Storage Temperature** -20 ~ 80 °C (-4 ~ 176 °F)
- **Operating Humidity** 10 ~ 95% RH

#### Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)

### Ordering Information

- **EKI-1222ECMS** Modbus RTU/TCP to EtherCAT Protocol Gateway

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# EKI-1331

## 1-port RS-232/485 to HSPA+ IP Gateway



### Features

- Universal five-band UMTS/HSPA+ 850/900/1800/1900/2100 MHz
- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Connect Ethernet and Serial Devices over VPN
- Protocols converting between serial and Ethernet: Modbus RTU & TCP
- EMC Level III for industrial standards
- Built-in 15 KV ESD protection for all serial signals
- Multiple configuration methods: Serial Console, Telnet, and Web console

### Introduction

EKI-1331 cellular gateways can transparently integrate RS-232/485 or Ethernet devices onto a cellular network. They allow nearly any device with serial or Ethernet ports to connect and share a cellular network with easy and simple configuration. EKI-1331 cellular IP Gateway's are compact, and can be DIN-rail or wall mounted with front panel LED displays for easy identification. They come with DC power input from 12-24 V<sub>DC</sub> and have 2 KV EFT/Surge protection to prevent damage from various power sources. The serial ports are also protected by a 15 KV ESD line to keep the system safe from unexpected electrical discharges. From the rugged design to the built in automatic recovery mechanisms, EKI-1331 ensures critical applications stay connected. While providing a suite of VPN features, the EKI-1331 guarantees data security.

### Specifications

#### LAN Interface

- **Ethernet** 10/100 Mbps, auto MDI/MDIX
- **Connector** RJ45
- **Protection** 1.5 KV built-in magnetic isolation protection

#### Cellular Interface

- **Standards** HSPA+/UMTS/GPRS/GSM
- **Band Option** 850/900/1800/1900/2100 MHz
- **No. of SIM** 1
- **SIM Control** 3 V
- **SMA Connector** SMA Female with inner pin

#### Serial Communications

- **Port Type** RS-232/485
- **No. of Ports** 1
- **Port Connector** 5-pin Terminal block
- **Data Bits** 6, 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even
- **Baud Rates** 300/600/1200/2400/4800/9600/19200/38400/57600/115200 bps
- **Serial Signals** RS-232: Tx, Rx, GND  
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals

#### General

- **LED Indicators** System: Power, Status, Warn, Error, Modem, Cellular: SIM, Three Levels of Cellular Signal Strength
- **Reboot Trigger** Built-in WDT (watchdog timer)

#### Software

- **Operating Modes** TCP/UDP server mode, TCP/UDP client mode, IP Gateway w/ VPN
- **Configuration** Telnet console, Web Browser
- **Protocols** ARP, ICMP, IPv4, TCP, UDP, BOOTP, DHCP Client, DHCP Server, Auto IP, SMTP, Ping, Trace, DNS Relay, DDNS, Telnet, HTTP, HTTPS

#### Network Security

SPI, DDoS protection, Stateless Packet Inspection, Filtering Multicast/Ping package, Access Control List (ACL), NAT, DMZ, Port mapping, GRE, L2TP, PPTP, IPSec, OpenVPN

#### Mechanics

- **Dimensions (W x H x D)** 80 x 45 x 90 mm (3.1" x 1.8" x 3.5")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** 0.34 Kg

#### Power Requirements

- **Power Input** 12 ~ 24 V<sub>DC</sub>
- **Power Connector** Terminal block
- **Power Consumption** 2.16W
- **Power EFT/Surge Prot.** 2 KV

#### Environment

- **Operating Temperature** -20 ~ 70 °C (-5 ~ 160 °F)
- **Storage Temperature** -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity** 5 ~ 95% RH

#### Regulatory Approvals

- **EMC** EN61000-4-2, level 3  
EN61000-4-3, level 3  
EN61000-4-4, level 3  
EN61000-4-5, level 3  
EN61000-4-6, level 3  
EN61000-4-12, level 3  
EN61000-4-11, Voltage Dip: 70%
- **Shock** IEC60068-2-27
- **Free Fall** IEC60068-2-32
- **Vibration** IEC60068-2-6

### Ordering Information

- **EKI-1331** 1-Port HSPA+ IP Gateway

# SmartStart

## Intelligent 4G LTE Router & Gateway



### Features

- For industrial IoT and consumer focused high speed data applications
- Ethernet, serial RS-232 and I/O for connecting a wide array of field assets with DIN rail or wall mounting
- Low power consumption for solar and battery power applications
- Exceptionally resilient wireless and wired connection
- Enhanced memory to host custom software applications and a wide variety of protocols
- Easy deployment, mass maintenance and troubleshooting with B+B SmartWorx remote management and monitoring tools
- Loaded with advanced features to secure your data

### Introduction

The SmartStart™ LTE family of cellular routers and gateways are the perfect way to connect RS-232 and Ethernet devices to a cellular network. Industrial M2M and IoT applications include Ethernet lottery machines, ATM stations, kiosks, gaming terminals along with RS-232 traffic controllers, meters, UPS systems, PLCs and much more.

SmartStart™ combines best-in-class power consumption with LTE performance and is optimized for solar and battery powered applications. Low Power Mode extends battery life by dropping power consumption to 40 mW, and can be triggered by timers, low voltage detection or I/O. SmartStart™ is the industry's only cellular gateway with power consumption equivalent to 2G devices. It is DIN rail and panel mountable.

The router supports VPN tunnel creation using various protocols to ensure safe communications. The router provides diagnostic functions which include automatic monitoring of the wireless and wired connections, automatic restart in case of connection losses, and a hardware watchdog that monitors the router status.

### Specifications

- Network and Routing** DHCP Server, NAT/PAT, VRRP, Dynamic DNS client, DNS proxy, VLAN, QoS, DMVPN, NTP Client/ Server, IGMP, BGP, OSPF, RIP, SMTP, SMTPS, SNMP v1/ v2c/ v3, Backup Routers, PPP, PPPoE, SSL, Port Forwarding, Host Port Routing, Ethernet Bridging
- Security** HTTPS, SSH, VPN tunnels, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering) Open VPN client and server and P2P, L2TP, PPTP, GRE, EasyVPN, IPsec with IKEv1 and IKEv2
- VPN Tunnelling** Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server, Backup configuration, Restore configuration
- Configuration** Automatic firmware update from server, Locally via LAN or remotely OTA (HTTP, HTTPS), Over-the-Air software updates, Over-the-Air cellular module update from FW One CLICK report - current configuration / factory identification/ system log / kernel log / reboot log / routing table, Remote diagnostics possible via SSH
- Firmware Management** Network Status, DHCP Status, IPsec Status, Statistics history for last 60days
- Diagnostic** System Log, Reboot Log, Kernel Log
- Status** SMS, SNMP v1/v2c/v3, Statuses
- Log** StartUp script & Up/Down script (Bash, Python), Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature. Report Types: RAP, SMS, email, SNMP Trap, TCP (csv, xml, binary)
- Controlling and Diagnostic Event Engine** Support of IPv6
- Other**
- Ports, LED, Antennas**
  - Ethernet RJ45, 10/100 Mbps, 1.5kV RSM
  - SIM NAM/EMEA 1/2 Mini SIMs (2FF)
  - LED indicators PWR, DAT, WAN, ETH
  - 2x ANT SMA connectors
  - WiFi antenna-\*optional R-SMA connector
  - RS232 DB9 Female
  - I/O 1x Digital Input On Voltage: 2.7V to 36Vdc (4-Way Molex mini-fit connector)
- Mechanical**
  - Plastic case with metal DIN rail

- Enclosure Dimensions** 87 x 30 x 127 mm (3.43 x 1.18 x 5) (150 mm including wall mount sides)
- Weight** 187 g
- Power, Consumption, Environmental, Ip Cover**
  - Power Supply** 9 ~ 36 V<sub>DC</sub> (4-Way Molex mini-fit connector)
  - Power Consumption with WiFi - Average/Peak/Sleep Mode** 2.7 / 5.5 W / 40 mW
  - Temperature Range with WiFi - Operating / Storage** -25 to +55 °C / -40 to +85 °C
  - Temperature Range without WiFi - Operating / Storage** -40 to +75 °C / -40 to +85 °C
  - Humidity - Operating / Storage (noncondensing)** 0 to 95 % / 0 to 95 %
  - Enclosure Rating** IP30

### WI-FI

- Antenna Connector** R-SMA – 50 Ohms
- Supported WiFi Band** 2.4 GHz - Number of clients: 55
- Standards** 802.11b, 802.11g, 802.11n
- Encryption** None, WEP, TKIP, AES
- Authentication** Open, Shared, WPA-PSK, WPA2-PSK, WPA2-Enterprise, 802.1 - RADIUS
- 2.4 GHz Supported Channels** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
- Type of Device** Access point, Client

### Industry Certifications & Approvals

- Emissions/ Immunity** EN 55022, EN 61000-6-2, ETSI EN 301 489-1 V1.9.2, FCC part 15 class B (all pending)
- Safety** Hazardous Locations: EN 60950 Power: EN 61131-2
- Vehicle Usage:** E-Mark Environmental: RoHS, REACH, WEEE

### Ordering Information

- BB-SL30200110-SWH** LTE FDD Cat.1 AT&T, T-Mobile, Canada, UMTS without WiFi
- BB-SL30210110-SWH** LTE FDD Cat.1 AT&T, T-Mobile, Canada, UMTS with WiFi
- BB-SL30400110-SWH** EMEA: LTE FDD Cat.4, UMTS, GPRS,EDGE without WiFi
- BB-SL30410110-SWH** EMEA: LTE FDD Cat.4, UMTS, GPRS,EDGE with WiFi
- BB-SL30600110-SWH** APAC: LTE FDD Cat.4 LTE, UMTS, GPRS,EDGE, 1 x ETH, 1 x RS232, DI/DO, 2 x SIM, SmartWorx HUB
- BB-SL30610110-SWH** APAC: LTE FDD Cat.4 LTE, UMTS, GPRS,EDGE, 1 x ETH, 1 x RS232, DI/DO, 2 x SIM, WiFi, SmartWorx HUB

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# SmartFlex

## Flexible, Modular LTE Router



### Features

- Powerful CPU and enhanced memory
- Extended operational temperature range from -40 °C to +75 °C
- 10 ~ 60 V<sub>DC</sub> operated with transient and reverse polarity voltage protection
- Flexible Port options, such as 3-port Switch, Ethernet and S232/422/485 serial ports with isolation
- GPS and GLONASS support
- MicroSD card holder
- Low power consumption mode for solar and battery power applications
- Optional industrial grade Wi-Fi
- PoE PD, PoE PSE, In/Out, USB Host
- Advanced security features

### Introduction

The SmartFlex™ cellular router provides secure Internet connectivity for devices and LANs via cellular networks. It can be used to provide automatic wireless failover for wired networks, wireless connectivity for devices in remote locations where cable connections are impractical, and wireless connectivity for mobile assets. With upload speeds of up to 50 Mbit/s and download speeds of up to 100 Mbps, SmartFlex provides ample bandwidth, even for applications that require video.

### Features

#### Software

- **Network and Routing** DHCP Server, DHCP Client, NAT/PAT, VRRP, Dynamic DNS client, DNS proxy, VLAN, QoS, NTP Client/ Server, IGMP, BGP, OSPF, RIP, SMTP, SMTSP, SNMP v1/ v2c/ v3, Backup routes, PPP, PPPoE, SSL, Port Forwarding, Host Port Routing, Ethernet Bridging
- **Security** HTTPS, SSH, VPN tunnels, SFTP, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering)
- **VPN tunneling** Open VPN client and server and P2P, L2TP, PPTP, GRE, EasyVPN, DMVPN, IPSec with IKEv1 and IKEv2
- **Configuration** Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server Backup configuration, Restore configuration
- **Firmware Management** Automatic firmware update from server, Locally via LAN and USB or remotely OTA (HTTP, HTTPS), Over-the-Air software updates, Over-the-Air cellular module update from FW
- **Diagnostic** One CLICK report – current configuration / factory identification / system log / kernel log / reboot log / routing table, Remote diagnostics possible via SSH
- **Status** Network Status, DHCP Status, IPSec Status, Statistics history for last 60 days
- **Log** System Log, Reboot Log, Kernel Log
- **Controlling and diagnostic** SMS, SNMP v1/v2c/v3, Statuses, Log
- **Event Engine** StartUp script & Up/Down script (Bash), Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature Report Types: RAP, SMS, email, SNMP Trap, TCP (csv, xml, binary)
- **Other** IPv6 support

#### Ports, LED, Antennas

- **Up to 5x ETH ports** RJ45, 10/100 Mbps
- **SIM** 2 Mini SIMs (2FF) (rear panel)
- **LED Indicators** PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
- **3x ANT - ANT, DIV, GPS (no for LTE450 model)** SMA connectors
- **Wi-Fi Antenna-optional** R-SMA connector
- **USB** USB Host connector 2.0
- **SD Card** 1x Micro SD Card slot (rear panel)
- **RST** RESET button (rear panel)

\*Optional 3-port SWITCH 3x RJ45, 10/100 Mbps

\*Optional ETH - R232 - RS485 RJ45, 4-pin terminal block, 3-pin terminal block connectors – Isolation up to 2.5 kV

\*Optional RS232 - RS485 5-pin terminal block, 4-pin terminal block connectors – Isolation up to 2.5 kV

\*Optional RS232 RJ45

### Specifications

#### Power

- **Power Supply** 10 ~ 60 V<sub>DC</sub> (2-Way Molex connector)
- **Power Consumption** Idle: 2.5 W  
Average: 4 W  
Peak: 11 W  
Sleep Mode: 10mW

#### Environmental

- **Temperature Range** Operating: -40 to +75 °C  
Storage: -40 to +85 °C
- **Humidity** Operating: 0 to 95 %  
Storage (Non-condensing): 0 to 95 %  
-35 °C
- **Cold Start** Rating IP30
- **Ingress Protection**

#### Wi-Fi - 802.11 A/B/G/N, AP or Client modes

- **Supported Wi-Fi band** 2.4 GHz, 5.4 GHz
- **Encryption** None, WEP, TKIP, AES
- **5 GHz supported channels** -36, 40, 44, 48, 52, 56, 60, 64, 149, 153, 157, 161, 165
- **2.4 GHz supported channels** -1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
- **Number of clients** 10
- **Authentication** Open, Shared, WPA-PSK, WPA2-PSK

#### Industry Certifications & Approvals

- **Radio for general LTE** ETSI EN 301 511 v9.0.2, ETSI EN 301 908-1 v5.2.1, ETSI EN 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1
- **Emissions/Immunity** IEC 61000-6-2:2005, ETSI EN 301 489-1 v1.9.2, EN 55022:2010
- **Safety** EN 60950-1:06 ed.2 (not Hazardous Locations), EN 62311:2008
- **Vehicle** E8
- **Environmental** RoHS, RoHS2, REACH, WEEE

#### Mechanical

- **Plastic or metal case with plastic or metal DIN rail**
- **Enclosure Dimensions** 87 x 30 x 127 mm (3.43 x 1.18 x 5) (150 mm including wall month sides)
- **Weight Plastic** 170 g
- **Weight Metal** 375 g

### Ordering Information

- **BB-SR30xxx0xx** SmartFlex without optional interfaces
- **BB-SR30xxx1xx** SmartFlex with 3xETH
- **BB-SR30xxx1xx** SmsrtFlex with RS232, RS485
- **BB-SR30xxx1xx** SmartFlex with RS232, RS485, ETH



# SmartMotion™

## Twin Module Cellular Router for Redundant Reliability



### Features

- Two Independent cellular modules for advanced fail over feature
- Powerful CPU and enhanced memory to support high demand customer applications
- Load Balancing
- Extended operational temperature range from -40 °C to +75 °C
- 10 ~ 60 V<sub>DC</sub> operated with transient and reverse polarity voltage protection
- GPS and GLONASS support
- Low power consumption mode for solar and battery power applications
- Optional industrial grade WiFi
- PoE PD, PoE PSE, In/Out, USB Host, MicroSD card holder
- Advanced security features

### Introduction

The SmartMotion™ cellular router provides a reliable, secure network, with failover protection for devices and LANs. Two interdependent cellular modules with 2 SIMs slots each to support multiple cellular carriers. Business continuity is never a problem with this advanced failover architecture with load balancing features which simultaneously receive Cellular, WiFi and Ethernet data.

### Specifications

#### Power, Consumption, Environmental, IP cover

- Power Supply** 10 ~ 60 V<sub>DC</sub> (2-Way Molex connector)
- Power Consumption – Idle / Average / Peak / Sleep Mode** 2.5 W / 4W / 11 W / 10 mW
- Temperature Range – Operating / Storage** -40 to +75 °C / -40 to +85 °C
- Temperature Range – Operating / Storage** -20 to +60 °C / -40 to +85 °C
- LTE450 – Operating / Storage**
- Humidity – Operating / Storage (non condensing)** 0 to 95 % / 0 to 95 %
- Cold Start** -35 °C
- Operating Altitude** 2000 m / 70 kPa
- Ingress Protection Rating** IP30

#### WiFi - 802.11 a/b/g/n, AP or Client modes

- Supported WiFi band** 2.4 GHz, 5.4 GHz Number of clients: 10
- Encryption** None, WEP, TKIP, AES Authentication: Open, Shared, WPA-PSK, WPA2-PSK
- 5 GHz supported channels** 36, 40, 44, 48, 52, 56, 60, 64, 149, 153, 157, 161, 165
- 2.4 GHz supported channels** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

#### Industry Certifications & Approvals

- Radio for general LTE** ETSI EN 301 511 v9.0.2, ETSI EN 301 908-1 v5.2.1, ETSI EN 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1
- Radio for LTE450** ETSI EN 301 908-1 v6.2.1, ETSI EN 301 908-13 v6.2.1, ETSI EN 301 489-24 v1.5.1
- Emissions/ Immunity** IEC 61000-6-2:2005, ETSI EN 301 489-1 v1.9.2, EN 55022:2010
- Safety** EN 60950-1:06 ed.2 (not Hazardous Locations), EN 62311:2008
- Vehicle** E8
- Environmental** RoHS, RoHS2, REACH, WEEE

#### Mechanical

- Metal case with metal DIN rail** SIMs for secondary module are covered
- Enclosure Dimensions** 55 x 97 x 125 mm (2.17 x 3.82 x 4.9) (150 mm including wall month sides)
- Weight** 420 g

#### Features

- Network and Routing** DHCP Server, DHCP Client, NAT/PAT, VRRP, Dynamic DNS client, DNS proxy, VLAN, QoS, NTP Client/ Server, IGMP, BGP, OSPF, RIP, SMTP, SMTPS, SNMP v1/ v2c/ v3, Backup routes, PPP, PPPoE, SSL, Port Forwarding, Host Port Routing, Ethernet Bridging
- Security** HTTPS, SSH, VPN tunnels, SFTP Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering)
- VPN tunnelling** Open VPN client and server and P2P, L2TP, PPTP, GRE, EasyVPN, DMVPN
- Configuration** IPSec with IKEv1 and IKEv2
- Firmware Management** Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server Backup configuration, Restore configuration Automatic firmware update from server, Locally via LAN and USB or remotely OTA (HTTP, HTTPS), Over-the-Air software updates, Over-the-Air cellular module update from FW
- Diagnostic** One CLICK report – current configuration / factory identification / system log / kernel log / reboot log / routing table, Remote diagnostics possible via SSH

#### Ports, LED, Antennas

- 2x ETH** RJ45, 10/100 Mbps, 1.5 kV RMS
- SIM** 4 Mini SIMs (2FF) (rear panel)
- LED Indicators** PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
- 5x ANT - 2x ANT, 2x DIV, GPS** SMA connectors
- WiFi antenna - \*optional** R-SMA connector
- USB** USB Host connector 2.0
- I/O** 6-Way Molex connector - 2x binary input, 1x binary output
- SD Card** 1x Micro SD Card slot (rear panel)
- RST** RESET button

### Ordering Information

- BB-ST352xxx25** 2x LTE, UMTS, GSM/GPRS/EDGE, 4xSIM, Metal, Accessories
- BB-ST355xxx25** LTE, UMTS, GSM/GPRS/EDGE + LTE450, UMTS, GSM/GPRS/EDGE, 4xSIM, Metal, Accessories

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
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# SmartSwarm 243

## Industrial LoRa Private Gateway



### Features

- Long Range Wide Area IoT gateway
- LoRa Private protocol for closing system application
- Ethernet and I/O for connecting a wide array of field assets with DIN rail or wall mounting
- Low power consumption for solar and battery power applications

### Introduction

SmartSwarm 243 is a high performance LoRa gateway, with reliable connectivity for industrial environments. SmartSwarm 243 supports LoRa protocol for building private LoRa networks. It supports various protocols including MQTT, and its hardware and software flexibility provides rich features to Edge Intelligence Systems. SmartSwarm 243 supports VPN tunnel creation using various protocols to ensure safe communications.

### Specification

#### WSN Support

- **Standard** LoRa Private
- **Frequency** 868/915MHz
- **ANT Connector** SMA Female connector x 1

#### LAN Interface

- **Ethernet** 10/100 Mbps, auto MDI/MDIX
- **Connector** RJ45 x1
- **Protection** 1.5 KV built-in magnetic isolation protection

#### Digital I/O

- **Port Type** 1x Digital Input On Voltage: 2.7V to 36V<sub>DC</sub>
- **Port Connector** 4-Way Molex mini-fit connector

#### General

- **LED Indicators** PWR, DAT, WAN, ETH
- **Reboot Trigger** Reset Button

#### Software

- **Network and Routing** DHCP Server, NAT/PAT, VRRP, Dynamic DNS client, DNS proxy, VLAN, QoS, DMVPN, NTP Client/Server, IGMP, BGP, OSPF, RIP, SMTP, SMTPS, SNMP v1/v2c/v3, Backup Routers, PPP, PPPoE, SSL, Port Forwarding, Host Port Routing, Ethernet Bridging
- **Configuration** SSH, Web Browser
- **Network Security** HTTPS, SSH, VPN tunnels, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering)
- **VPN tunnelling** Open VPN client and server and P2P, L2TP, PPTP, GRE, EasyVPN, IPSec with IKEv1 and IKEv2

#### Mechanics

- **Dimensions (W x H x D)** 150 x 30 x 83 mm (5.9" x 1.18" x 3.27")
- **Mounting** DIN-rail, Wall
- **Weight** 187 g
- **Enclosure Rating** IP30

#### Power Requirements

- **Power Input** 9~36 V<sub>DC</sub>
- **Power Connector** 4-Way Molex mini-fit connector
- **Power Consumption** 2.1 / 4.8 / 40 mW (Average / Peak / Sleep Mode)

#### Environment

- **Operating Temperature** -40 ~ 75 °C
- **Storage Temperature** -40 ~ 85 °C
- **Operating Humidity** 5 ~ 95% RH

#### Regulatory Approvals

- **EMC** EN61000-4-2, level 3  
EN61000-4-3, level 3  
EN61000-4-4, level 3  
EN61000-4-5, level 3  
EN61000-4-6, level 3  
EN61000-4-12, level 3  
EN61000-4-11, Voltage Dip: 70%
- **Shock** IEC60068-2-27
- **Free Fall** IEC60068-2-32
- **Vibration** IEC60068-2-6

### Ordering Information

- **BB-SG30000115-43** LoRa Gateway w/o LTE

# Wzzard LRPv Node

## Industrial LoRa Private Node



### Features

- Long Range Wide Area IoT gateway
- Low power consumption for solar and battery power applications
- LoRa Private protocol for closing system application
- Ethernet and I/O for connecting a wide array of field assets with DIN rail or wall mounting
- Connect to industry standard analog or digital sensors
- Rugged, IP66-rated, fiber reinforced polyester PBT enclosure
- MQTT and JSON IoT protocol to application platform

### Introduction

The Wzzard LoRa private node intelligent sensor platform creates a complete, quick and easy connectivity stack between your sensors and your application, on your network or on the Internet. The platform uses Intelligent Edge Nodes, and a wireless LoRa network to transmit sensor data to the SmartSwarm 243 LoRa Gateway. The SmartSwarm 243 LoRa Gateway can connect to the Internet via wired connections and communicate with application platforms using the MQTT IoT protocol and JSON data formats. Wzzard LoRa Intelligent Edge Nodes accommodate virtually any industry standard external sensors. Connections can be made via conduit fitting, cable gland or M12 connector. The Nodes provide a wide variety of sensor interface options, including general purpose analog inputs, digital input/output and thermocouple.

### Specification

#### Power

- **Internal** (2) 3.6V 2400 mAh Lithium Thionyl Chloride AA batteries
- **Optional External Input Voltage** 6 ~ 12 V<sub>DC</sub>

#### Mechanical

- **Physical Connection** M12 Connector  
1/2" (12.7 mm) Conduit, sensor interface cable included; 8 wire, 26 gage, 6 ft. (1.8 m)
- **Sensor Inputs** Analog Input (0 ~ 5 V<sub>DC</sub>, 0 ~ 20 mA, 4 ~ 20 mA), Digital Input (0 ~ 48 V<sub>DC</sub>)  
Integrated Temperature, Thermocouple K Type  
Digital Output (0 ~ 30 V<sub>DC</sub>)
- **Optional External Antenna** RP-SMA, Omnidirectional, 1.5 dBi, 868~915MHz  
Dimensions 6.69 inches (170 mm)
- **Mounting** Magnetic mounting via internal magnet  
Pull force 4.7 lbs (2.13 kg), (4) Mounting ears, M5 (#10)
- **Enclosure** IP66-rated, fiber reinforced polyester PBT
- **Weight** 0.75 lbs (0.34 kg)

#### Technology

- **Wireless** LoRa Private 868/915MHz
- **LED** Network Connectivity

#### Environmental

- **Installation** Indoor or outdoor
- **Operating Temperature** -40 to 75 °C (-40 to 167 °F)
- **Storage Temperature** -40 to 85 °C
- **Operating Humidity** 0 to 95% Non-condensing

#### Digital Inputs

- **Voltage range** 0 ~ 48 V<sub>DC</sub>
- **V<sub>IL</sub>** 0.97 V Maximum
- **V<sub>IH</sub>** 1.8 V Minimum
- **Pull up current** 32uA
- **Type** Sourcing (PNP)/Sinking (NPN) Software selectable input
- **Isolation** None

#### Analog Inputs

- **Input ranges** 0 ~ 5 V<sub>DC</sub>, 0 ~ 20 mA, 4 ~ 20 mA
- **Resolution** 12 bit
- **Input load resistance** 100 Mega ohm (0 ~ 5V<sub>DC</sub>), 250 ohm (0 ~ 20 ma)
- **Accuracy** Voltage: 0.10% of full scale reading, 0.20% max.  
Current: 0.11% of full scale reading, 0.24% max.

#### Thermocouple Input

- **Types Supported** K
- **Ranges Supported** Type K -270 to +1,372 °C
- **Resolution** 0.25 °C
- **Accuracy** Typical +/- 2 °C, +/- 6 °C over the temperature range of -40 to 80 °C

#### Digital Outputs

- **Voltage range** 0 ~ 30 V<sub>DC</sub>
- **Output Type** Open Drain
- **Output Current** Not to be less than 100ma
- **Protection** Current Limit Protection
- **Isolation** None

#### Regulatory Approvals

- **Shock** IEC60068-2-27
- **Free Fall** IEC60068-2-32
- **Vibration** IEC60068-2-6

### Ordering Information

- **BB-WSL2C2112T-1** LoRa node with Power Monitoring, 2 Thermocouples, 2 AI, 1 DI, 1 DO, Conduit, External Antenna with 915MHz
- **BB-WSL2C2112T-2** LoRa node with Power Monitoring, 2 Thermocouples, 2 AI, 1 DI, 1 DO, Conduit, External Antenna with 868 MHz
- **BB-WSL2C31000-1** LoRa node with Power Monitoring, 3 AI, 1 DI, Conduit, External Antenna with 915 MHz
- **BB-WSL2C31000-2** LoRa node with Power Monitoring, 3 AI, 1 DI, Conduit, External Antenna with 868 MHz
- **BB-WSL2M31000-1** LoRa node with Power Monitoring, 3 AI, 1 DI, M12, External Antenna with 915 MHz
- **BB-WSL2M31000-2** LoRa node with Power Monitoring, 3 AI, 1 DI, M12, External Antenna with 868MHz

Industrial I/O 1

Intelligent Video Solution 2

Intelligent Transportation Platforms 3

Intelligent Inspection Systems 4

Modular-IPCs 5

Slot SBC & Passive Backplanes 6

Industrial Motherboards 7

Industrial Chassis 8

Industrial Server Motherboards 9

Industrial Server Chassis 10

Industrial Storage 11

GPU Servers 12

CompactPCI Platforms 13

Industrial Computer Peripherals 14

Industrial Ethernet Solutions 15

# SmartSwarm 341

## Asset Integration Gateway



### Features

- Configurable user business logic data processing & display engine
- Comprehensive data outputs via MQTT, email, SMS and a variety of other services and database connections
- Integrates data from WZZARD, WISE, ADAM & third party devices
- Integrates data from internet feeds
- Cellular or Ethernet connection to IIoT system
- Acts as LAN to WAN bridge for third party device connection
- Cellular (EMEA/NATAM support) and wired models available

## Introduction

### Seamlessly integrate data from diverse systems, devices and sensors into the IIoT

The SmartSwarm 341 IIoT gateway is aimed at owners of remote assets wishing to integrate data from their assets into IIoT applications like dashboarding, analytics or predictive maintenance. Data can be collected from a number of sources, including web feeds, databases and files, as well as from locally connected physical devices and sensors. SmartSwarm 341 includes an interface and manager for B+B's Wizzard wireless sensor platform that provides robust acquisition and transmission of sensor data without installing cables. For bulk I/O requirements where cabling is not an issue, it is also compatible with WISE and ADAM Ethernet connected I/O modules.

### User Applications

SmartSwarm 341 offers flexible data acquisition, processing and handoff via an inbuilt Node-RED user application environment. Node-RED is a powerful, yet simple to use, application programming environment optimized for processing data streams. Users drag and drop function nodes to acquire, processes and output data, via an internal web server interface provided by the SmartSwarm 341. Crucially, the Node-RED environment is contained, meaning that any user error made in programming cannot crash the gateway, which will remain connected and available for remote management in order to correct errors without site visits. In addition to offering local data processing, the Node-RED environment is also able to create and serve local dashboards, providing a mechanism to serve summary data to engineers, managers or operational staff.

## Specification

### WZZARD RADIO - 802.15.4E, 2.4 GHZ

- **Number of Channels** 15
- **Channel Separation** 5 MHz
- **Channel Clear Frequency** 2405 + 5\* (k-11) MHz
- **Modulation** IEEE 802.15.4 Direct Sequence Spread Spectrum (DSSS)
- **Raw Data Rate** 250 kbps
- **Range (25 °C, 50% RH, +2 dBi omni-directional antenna, antenna 2m)**

Indoor	100 m
Outdoor	300 m
Free Space	1200 m
- **Receiver Sensitivity** Packet Data Error Rate (PER) = 1% -93 dBm
- **Receiver Sensitivity** Packet Data Error Rate PER = 50% -95 dBm
- **Output Power** High Calibration Setting 8 dBm
- **(delivered to a 50 Ω load)** Low Calibration Setting 0 dBm

### Ports, LEDs, Antennas

- **(2) Ethernet Ports** RJ45, 10/100 Mbps
- **SIM** (2) Mini SIM, 2FF, 1 supported (rear panel)
- **LED Indicators** PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
- **Wizzard** R-SMA connector
- **RST** RESET button (rear panel)
- **\*Optional-3x ANT-ANT, DIV** SMA connectors
- **SD** Available for file storage from Node-RED applications (currently unsupported)
- **(USB)**

### Power

- **\*Optional - Power Supply** 10 – 60 V<sub>DC</sub> (2-Way Molex connector)
- **Power Consumption**
  - Idle: 2.5 W
  - Average: 4 W
  - Peak: 11 W
  - Sleep Mode: 10mW

### Environmental

- **Temperature Range** Operating: -40 to +75 °C  
Storage: -40 to +85 °C
- **Temperature Range LTE450** Operating: -20 to +60 °C  
Storage: -40 to +85 °C
- **Humidity** Operating: 0 to 95 %  
Storage (Non-condensing): 0 to 95 %
- **Cold Start** -35 °C
- **Operating Altitude** 2000 m / 70 kPa
- **Ingress Protection Rating** IP30

### Mechanical

- **Metal case with metal DIN rail**
- **Dimensions** 55 x 97 x 125 mm (2.17 x 3.82 x 4.9)
- **Weight** 375 g

### Industry Certifications & Approvals

- **Radio for general LTE** ETSI EN 301 511 v9.0.2, ETSI EN 301 908-1 v5.2.1, ETSI EN 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1
- **Emissions/ Immunity** IEC 61000-6-2:2005, ETSI EN 301 489-1 v1.9.2, EN 55022:2010
- **Safety** EN 60950-1:06 ed.2 (not Hazardous Locations), EN 62311:2008
- **Vehicle** E8
- **Environmental** RoHS, RoHS2, REACH, WEEE

## Ordering Information

- **BB-SG30000520-41** 2 Ethernet, Dust (no power supply)
- **BB-SG30000525-41** 2 Ethernet, Dust, International Power Supply
- **BB-SG30300520-41** 2 Ethernet, LTE-EMEA, Dust (no power supply)
- **BB-SG30300525-41** 2 Ethernet, LTE-EMEA, Dust, International Power Supply
- **BB-SG30500520-41** 2 Ethernet, LTE-NATAM, Dust (no power supply)



### Features

- Transparently connects to existing serial Modbus RTU networks
- Provides parallel data feed into Enterprise IIoT systems while the existing Modbus network continues to operate
- User configurable data enrichment and event triggers
- Extensive configuration options for interpretation of Modbus data
- Cellular or Ethernet connection to IIoT system
- Also acts as LAN to WAN bridge for 3rd party device connection

### Introduction

#### Seamlessly connect existing Modbus process systems into the IIoT

While a number of “Modbus to MQTT” gateways exist, most act as the local Modbus master devices, recovering information from a network of connected slaves. This presents a problem for operators of existing process control systems as a Modbus network can only have a single master device. The SmartSwarm 351 overcomes this limitation by transparently “eavesdropping” on communications between the existing master device and the connected slaves. It non-disruptively derives the I/O status of connected devices and uses this information to provide a real time data feed to a connected IIoT architecture.

#### Data Filtering

Much of the data that the gateway will see in the Modbus network is of little value. If a temperature reading rarely changes, for example, there is no point in reporting it every time it is sampled. For this reason, in addition to enriching the data, SmartSwarm 351 also allows users to configure the triggers that will cause a monitored value to be published. Users can also configure what is published once an event trigger condition is met – this might be just the changed value, a range of data, or all data from the same register type within the RTU. This lets users optimize the traffic across the communications network. At the same time, the gateway decreases the communications overhead and the processing bandwidth needed to handle it.

### Specification

#### Power

- Voltage 10 ~ 60 V<sub>DC</sub>; PoE PD optional
- Power 4W typical; 11W peak

#### Environmental

- Operating Temperature -40 °C to 75 °C (-40 °F to 167 °F)
- Cold Start Temperature -35 °C (-31 °F)
- Storage Temperature -40 °C to 85 °C (-40 to 185 °F)
- Operating Humidity 0% to 95% (non-condensing)
- Storage Humidity 0 to 95% non condensing
- Ingress Protection IP42

#### Mechanical

- Dimensions 55 x 97 x 125mm (2.17 x 3.82 x 4.9)
- Weight 375g
- Mounting Flat Surface or DIN rail

#### Ports & Interfaces

- Serial Modbus RTU interface RS-232 or RS-485
- Ethernet 2 x 10/100 Mb via RJ45
- SIM Mini SIM (2FF)
- ANT & DIV antennae SMA
- Cellular LTE, UMTS/HSPA+, GPRS/EDGE

#### Modbus Commands Supported

- 01 Read Coil Status
- 02 Read Input Status
- 03 Read Holding Registers

- 04 Read Input Registers
- 05 Force Single Coil\* \*
- 06 Preset Single Register\*
- 15 Force Multiple Coils\*
- 16 Preset Multiple Registers\*
- 22 Mask Write 4X Register\*
- 23 Read/Write 4X Registers\*

\* Note that for output command types, the unit interprets these as inputs to the IIoT enrichment process. It does not support output of data from the IIoT system

#### Modbus Data Types Supported

- Boolean
- Multi-bit Encoded Boolean (e.g. 2 bits provide 4 states for one point)
- 16 Bit Packed Boolean
- 16 Bit Integer (signed/ unsigned)
- 16 Bit Counter
- 32 Bit Integer (signed/unsigned) (single 32 bit or 2x16 bit registers)
- 32 Bit Counter (single 32 bit or 2x 16 bit registers)
- 32 Bit Float (single 32 bit or 2x 16 bit registers)
- 32 Bit Packed Boolean (single 32 bit or 2x 16 bit registers)
- Multi-register Text
- Endian order is configurable both within and between registers

### Ordering Information

- BB-SG30300320-51 EMEA Cellular, no accessories
- BB-SG30300325-51 EMEA Cellular, with accessories
- BB-SG30000320-51 no Cellular, no accessories
- BB-SG30000325-51 no Cellular, with accessories
- BB-SG30500320-51 NAM (AT&T) Cellular, no accessories

- Industrial I/O 1
- Intelligent Video Solution 2
- Intelligent Transportation Platforms 3
- Intelligent Inspection Systems 4
- Modular-IPCs 5
- Slot SBC & Passive Backplanes 6
- Industrial Motherboards 7
- Industrial Chassis 8
- Industrial Server Motherboards 9
- Industrial Server Chassis 10
- Industrial Storage 11
- GPU Servers 12
- CompactPCI Platforms 13
- Industrial Computer Peripherals 14
- Industrial Ethernet Solutions 15



# Wzzard™ Intelligent Edge Node

With SmartMesh IP and Bluetooth LE



## Features

- Ultra low power 802.15.4e SmartMesh IP technology
- Communicates with Spectre Network Gateway via highly scalable and reliable wireless mesh networks
- Connect to industry standard analog or digital sensors
- Wzzard app lets you read or configure the nodes using Android tablets and smart phones
- MQTT and JSON IoT protocol to application platform

## Introduction

### Wireless Connectivity Where You Need It

The Wzzard™ intelligent wireless sensor platform creates a complete, quick and easy connectivity stack between your sensors and your application, on your network or on the Internet. The platform uses Intelligent Edge Nodes, a wireless 802.15.4e SmartMesh IP network to transmit sensor data to the Spectre Network Gateway. The Spectre Network Gateway can connect to the Internet via wired connections or the cellular data networks and communicate with application platforms using the MQTT IoT protocol and JSON data formats. Wzzard Intelligent Edge Nodes accommodate virtually any industry- standard external sensors. The Nodes provide a wide variety of sensor interface options, including general purpose analog inputs, digital input/output and thermocouple. They can also contain internal sensors like an accelerometer, depending upon the model number. All 802.15.4e Wzzard Intelligent Edge Nodes contain an internal temperature sensor.

### Easy Configuration and Installation

Configuration of the Wzzard sensor platform is easy via Android smart phones or tablets. Using the Wzzard app, your handheld devices can configure the Wzzard Intelligent Edge Nodes over their Bluetooth LE connections. Wzzard Intelligent Edge Nodes can be configured with calibration and scaling information, friendly names, geolocation and other descriptive information. The platform simplifies physical installation as well. Wzzard Intelligent Edge Nodes can be attached to any surface using Velcro with dual lock adhesive or a holster mount.

## Specification

### Power

- **Internal** (2) 3.6V 2400 mAh Lithium Thionyl Chloride AA batteries
- **Battery Life** Multiyear based on 1 min sensor sampling and reporting
- **Optional External Input Voltage** 3.3 V<sub>DC</sub> +/- 5%, 0.2 W max

### Mechanical

- **Physical Connection** 3.5 mm terminal blocks
- **Sensor Inputs** Analog Input (0 – 5 V<sub>DC</sub>, 0 – 20 mA, 4 – 20 mA)  
Digital Input (0 – 48 V<sub>DC</sub>)  
Digital Input Frequency 1-1K Hz  
Digital Input Counter  
Integrated Temperature  
Thermocouple J Type  
Digital Output (0 – 30 V<sub>DC</sub>)  
Velcro with dual lock adhesive  
Holster Mount
- **Mounting** 150 g (5.28 oz) with batteries installed
- **Weight**

### Technology

- **Wireless** 802.15.4e, SmartMesh IP
- **Protocols** MQTT-SN, MQTT, JSON
- **Bluetooth** Bluetooth 4.0 Low Energy (LE)
- **LED** Network Connectivity

### Environmental

- **Installation** Indoor
- **Operating Temperature** 0 to 65 °C (32 to 149 °F)
- **Storage Temperature** 0 to 70 °C (32 to 158 °F)
- **Operating Humidity** 0 to 95% Non-condensing

### Wireless Security

- **Device Authentication**
- **128 bit AES-based encryption with multiple keys**
- **Message integrity check (MIC)**
- **Synchronized key changeovers**
- **Customized key rotation**

## Approvals and Certifications

### CE

- **EN55022** CISPR (EN55022) Class A
- **EN 61000-6-1:2007** Generic immunity standard for residential, commercial and light industrial environments
- **EN 61000-6-3:2006+A1:2011** Emission standard for residential, commercial and light-industrial environments
- **EN61000-4-2** ESD +/- 8kV air, +/- 4kV contact
- **EN61000-4-3** RFI
- **EN61000-4-4** EFT
- **EN61000-4-6** CI

### FCC/IC

- **FCC Part 15 Class A**
- **FCC - Part 15.247**
- **Industry Canada - RSS210**

### Regulatory Approvals

- **ROHS and WEEE Compliant**

## Ordering Information

- **BB-WCD1TA3** Wireless Mesh 802.15.4e; 3-Analog Inputs
- **BB-WCD1TD2** Wireless Mesh 802.15.4e; 2-Digital Inputs, 2 Digital Outputs
- **BB-WCD1TTJ** Wireless Mesh 802.15.4e; 2 J-Type Thermocouple



# Wzzard™ Intelligent Edge Node

With SmartMesh IP and Bluetooth LE



## Features

- Ultra low power 802.15.4e SmartMesh IP technology
- Communicates with Spectre Network Gateway via highly scalable and reliable wireless mesh networks
- Connect to industry standard analog or digital sensors
- Wzzard app lets you read or configure the nodes using Android tablets and smart phones
- Rugged, IP66-rated, fiber reinforced polyester PBT enclosure
- MQTT and JSON IoT protocol to application platform
- Class 1 DIV 2 approved for hazardous locations

## Introduction

### Wireless Connectivity Where You Need It

The Wzzard™ intelligent wireless sensor platform creates a complete, quick and easy connectivity stack between your sensors and your application, on your network or on the Internet. The platform uses Intelligent Edge Nodes, and a wireless 802.15.4e SmartMesh IP network to transmit sensor data to the Spectre Network Gateway. The Spectre Network Gateway can connect to the Internet via wired connections or the cellular data networks and communicate with application platforms using the MQTT IoT protocol and JSON data formats. Wzzard Intelligent Edge Nodes accommodate virtually any industry- standard external sensor. Connections can be made via conduit fitting, cable gland or an M12 connector. The Nodes provide a wide variety of sensor interface options, including general purpose analog inputs, digital input/outputs and thermocouple. They can also contain internal sensors like an accelerometer, depending upon the model number. All 802.15.4e Wzzard Intelligent Edge Nodes contain an internal temperature sensor.

### Easy Configuration and Installation

Configuration of the Wzzard sensor platform is easy via Android smart phones or tablets. Using the Wzzard app, your handheld devices can configure the Wzzard Intelligent Edge Nodes over their Bluetooth LE connections. The Wzzard Intelligent Edge Nodes can be configured with calibration and scaling information, friendly names, geolocation and other descriptive information. The platform simplifies physical installation as well. Wzzard Intelligent Edge Nodes can be attached to any surface using screws or their embedded magnetic bases. The IP66-rated, fiber reinforced polyester PBT housing makes the units deployable in virtually any industrial or commercial environment.

## Specification

### Power

- **Internal** (2) 3.6V 2400 mAh Lithium Thionyl Chloride AA batteries
- **Battery Life** Multiyear based on 1 min sensor sampling and reporting
- **Optional External Input Voltage** 3.3 V<sub>DC</sub> +/- 5%

### Mechanical

- **Physical Connection** M12 Connector  
1/2" (12.7 mm) Conduit, sensor interface cable included; 8 wire, 26 gage, 6 ft. (1.8 m)
- **Sensor Inputs** Analog Input (0 – 5 V<sub>DC</sub>; 0 – 20 mA, 4 – 20 mA)  
Digital Input (0 – 48 V<sub>DC</sub>)  
Digital Input Frequency 1–1K Hz (Accuracy + or – 1 Hz)  
Digital Input Counter  
Integrated Accelerometer 3 Axis  
Integrated Temperature  
Thermocouple J, K Type  
Digital Output (0 – 30 V<sub>DC</sub>)  
RP-SMA, Omnidirectional, 3.8 dBi, 2.4 GHz  
Dimensions 7.64 inches (194 mm)
- **Optional External Antenna** Magnetic mounting via internal magnet  
Pull force 4.7 lbs (2.13 kg)  
(4) Mounting ears, M5 (#10)
- **Enclosure Weight** IP66-rated, fiber reinforced polyester PBT  
0.75 lbs (0.34 kg)

### Technology

- **Wireless** 802.15.4e, SmartMesh IP
- **Protocols** MQTT-SN, MQTT, JSON
- **Bluetooth** Bluetooth 4.0 Low Energy (LE)
- **LED** Network Connectivity

### Environmental

- **Installation** Indoor or outdoor
- **Operating Temperature** –40 to 80 °C (–40 to 176 °F)
- **Storage Temperature** –40 to 85 °C
- **Operating Humidity** 0 to 95% Non-condensing

### Wireless Security

- **Device Authentication**
- **128 bit AES-based encryption with multiple keys**
- **Message integrity check (MIC)**
- **Synchronized key changovers**
- **Customized key rotation**

## Approvals and Certifications

### CE

- **EN 55022** CISPR (EN55022) Class A
- **EN 61000-6-2:2005** Generic immunity standard for (heavy) industrial environments
- **EN 61000-6-4:2006+A1:2011** Emission standard for (heavy) industrial environments
- **EN 61000-4-2** ESD +/- 8kV air, +/- 4kV contact
- **EN 61000-4-3** RFI
- **EN 61000-4-4** EFT
- **EN 61000-4-5** Surge
- **EN 61000-4-6** CI
- **EN 60255-21-1** Vibration; 2g, 10-500Hz 0.3mm displacement
- **EN 60255-21-2** Shock; 50g, 11ms half sine wave, 16 shocks

### Environmental

- **IEC 60068-2-6:2007** Vibration; 2g, 10-500 Hz, 1.5mm displacement
- **IEC 60068-2-27:2008** Shock; 50g, 11ms half sine wave, 16 shocks

### FCC/IC

- **FCC Part 15 Class A**
- **FCC - Part 15.247**
- **Industry Canada - RSS210**

### Safety

- **UL/CSA Class 1, Division 2 Group A, B, C, D**

### Regulatory Approvals

- **ROHS and WEEE Compliant**

## Ordering Information

- **BB-WSD2CTJ** Wireless Mesh 802.15.4e; 2 Thermocouple J-type Inputs; 1 Digital Output; External Antenna, Conduit Connector
- **BB-WSD1CT1** Wireless Mesh 802.15.4e; 2 Thermocouple K-type Inputs; 1 Digital Output; Internal Antenna, Conduit Connector
- **BB-WSD2CTK** Wireless Mesh 802.15.4e; 2 Thermocouple K-type Inputs; 1 Digital Output; External Antenna, Conduit Connector
- **BB-WSD1CTK** Wireless Mesh 802.15.4e; 2 Thermocouple K-type Inputs; 1 Digital Output; Internal Antenna, Conduit Connector
- **BB-WSD2XV0** Wireless Mesh 802.15.4e Integrated Accelerometer; External Antenna
- **BB-WSD1XV0** Wireless Mesh 802.15.4e Integrated Accelerometer; Internal Antenna
- **BB-WSD2MA2** Wireless Mesh 802.15.4e; 2 Analog Inputs, 1 Digital Output; External Antenna, M12 Connector
- **BB-WSD1MA2** Wireless Mesh 802.15.4e; 2 Analog Inputs, 1 Digital Output; Internal Antenna, M12 Connector
- **BB-WSD2CA2** Wireless Mesh 802.15.4e; 2 Analog Inputs, 1 Digital Output; External Antenna, Conduit Connector
- **BB-WSD1CA2** Wireless Mesh 802.15.4e; 2 Analog Inputs, 1 Digital Output; Internal Antenna, Conduit Connector
- **BB-WSD2CIA** Wireless Mesh 802.15.4e; 2 Analog Inputs, 1 Digital Output, 2 Thermocouple J-type Inputs; External Antenna, Conduit Connector
- **BB-WSD2MA3** Wireless Mesh 802.15.4e; 3 Analog Inputs; External Antenna, M12 Connector
- **BB-WSD1MA3** Wireless Mesh 802.15.4e; 3 Analog Inputs; Internal Antenna, M12 Connector
- **BB-WSD2CA3** Wireless Mesh 802.15.4e; 3 Analog Inputs; External Antenna, Conduit Connector
- **BB-WSD1CA3** Wireless Mesh 802.15.4e; 3 Analog Inputs; Internal Antenna, Conduit Connector
- **BB-WSD2MD2** Wireless Mesh 802.15.4e; 2 Digital Inputs, 2 Digital Outputs; External Antenna, M12 Connector
- **BB-WSD1MD2** Wireless Mesh 802.15.4e; 2 Digital Inputs, 2 Digital Outputs; Internal Antenna, M12 Connector
- **BB-WSD2CD2** Wireless Mesh 802.15.4e; 2 Digital Inputs, 2 Digital Outputs; External Antenna, Conduit Connector
- **BB-WSD1CD2** Wireless Mesh 802.15.4e; 2 Digital Inputs, 2 Digital Outputs; Internal Antenna, Conduit Connector

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# EKI-6331AN

## IEEE 802.11 a/n Wi-Fi AP/Client



### Features

- Compliant with IEEE 802.11 a/n
- IP55 waterproof certification
- MIMO 2 x 2 11n
- External RP-SMA connectors for 2T2R antennae
- High output power
- Passive 24 V PoE
- WPA/WPA2-Enterprise encryption for a highly secure wireless network
- WEP/WPA/WPA2/ IEEE 802.1x authentication support
- IGMP snooping protocol support

### Introduction

The EKI-6331AN is a feature rich wireless AP/Client which provides a reliable 5GHz wireless connectivity for industrial environments. The PoE injector enhances flexibility in deployment of this AP/Client even where the DC power supply is hard to fulfill. As an 802.11n compliant device, EKI-6331AN provides 6 times higher data rates than legacy 802.11a devices. With MIMO 2 x 2 technology, EKI-6331AN provides both robust wireless connectivity as well as high throughput rate in wireless transmission. With the support of WMM and IGMP snooping protocols, EKI-6331AN effectively improves the reliability of wireless connectivity, especially in applications that need high reliability and high throughput data transmission. To secure wireless connections, EKI-6331AN implements the latest encryption technologies including WPA2/WPA/802.1x for powerful security authentication.

### Specifications

#### Standard Support

- **Wireless** IEEE 802.11 a/n
- **Ethernet** IEEE 802.3u MDI / MDIX 10/100 Fast Ethernet
- **LAN** IEEE 802.11a wireless LAN interface  
IEEE 802.11n wireless LAN standard  
Passive 24 V PoE, max. distance: 50 meters
- **Certification** FCC 15B/C  
EN300328 V17.1  
EN301489 -1/-17  
EN55022/24  
EN60950  
Telec
- **Data Rates** 11a: 54M, 48M, 36M, 24M, 18M, 12M, 9M, 6Mbps auto fallback  
11n: HT20 MCS0 ~ 15 / HT40 MCS0 ~ 15

#### Physical Specifications

- **Power** DC 24 V / 1A; AC Adapter 100 V ~ 240 V
- **Dimensions (W x H x D)** 111 x 256 x 48 mm (4.37" x 10.08" x 1.89")
- **Mounting** Wall, Pole
- **Weight** 0.5 Kg

#### Environment

- **Operating Temp.** -20 ~ 70 °C (-4 ~ 158 °F)
- **Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- **Humidity** 10% ~ 95% non-condensing

#### Interface Operation Modes

- Access Point (AP) / Client

#### Antenna

- Default external 5 dBi Omni antenna
- 2 x RP-SMA connectors (female) for RP-SMA antennae (male)

#### Other Features

- **Management** Telnet, FTP, SNMP, Web UI
- **Security** Open System, Shared Key, Legacy 8021X, WPA, WPA2, WPA-PSK (TKIP), WPA2-PSK(AES)
- **Wireless** Radio on/off, WMM/Regatta Mode, Output Power Control, Fragmentation Length, Beacon Interval, RTS/CTS threshold, DTIM Interval

#### Modulation Techniques

- **IEEE 802.11n** OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
- **IEEE 802.11a** OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

#### Channel Support

- **FCC** 5.15 GHz ~ 5.25 GHz ; 5.725 GHz ~ 5.85 GHz
- **CE** 5.15 GHz ~ 5.35 GHz; 5.47 GHz ~ 5.725 GHz

#### Wireless Transmission Rates

- **IEEE 802.11a** 6-24 Mbps: 23 dBm  
54 Mbps: 20 dBm
- **IEEE 802.11n** HT20 - MCS0: 23 dBm  
MCS15: 19 dBm  
HT40 - MCS0: 21 dBm  
MCS15: 19 dBm
- Note: The listed value is the target power calibrated in the card. The actual power will vary depending on each country's regulation.

#### Receiver Sensitivity

- **IEEE 802.11a** 6Mbps: -89 dBm  
54Mbps: -70 dBm
- **IEEE 802.11n** HT20 - MCS15: -65 dBm  
HT40 - MCS15: -62 dBm

### Ordering Information

- **EKI-6331AN** IEEE 802.11 a/n Wireless AP/Client
- **EKI-6331AN-EU** IEEE 802.11 a/n Wireless AP/Client (EU)

# EKI-6332GN

## IEEE 802.11 b/g/n Wi-Fi AP/Client



### Features

- Compliant with IEEE 802.11 b/g/n
- IP55 waterproof certification
- External RP-SMA connectors for 2T2R antennae
- High output power
- MIMO 2 x 2 11n
- Passive 24 V PoE
- WPA/WPA2-Enterprise encryption for a highly secure wireless network
- WEP/WPA/WPA2/ IEEE 802.1x authentication support
- Spanning Tree and IGMP snooping protocol support

### Introduction

The EKI-6332GN is a feature rich wireless AP/Client which provides a reliable wireless connectivity for industrial environments. The PoE injector enhances flexibility in deployment of this AP/Client even where the DC power supply is hard to fulfill. As an 802.11n compliant device, EKI-6332GN provides 6 times higher data rates than legacy 802.11g devices. With the support of STP, WMM and IGMP snooping protocols, EKI-6332GN effectively improves the reliability of wireless connectivity, especially in applications that need high reliability and high throughput data transmission. To secure wireless connections, EKI-6332GN implements the latest encryption technologies including WPA2/WPA/802.1x for powerful security authentication.

### Specifications

#### Standard Support

- Wireless** IEEE 802.11b/g/n
- Ethernet** IEEE 802.3u MDI / MDIX 10/100 Fast Ethernet
- LAN** IEEE 802.11b/g wireless LAN interface  
IEEE 802.11n wireless LAN standard  
Passive 24 V PoE, max. distance: 50 meters
- Certification** FCC 15B/C  
EN300328 V181  
EN301489 -1/-17  
Telec  
EN55022/24  
EN60950
- Data Rates** 11b: 11M, 5.5M, 2M, 1Mbps  
11g: 54M, 48M, 36M, 24M, 18M, 12M, 9M, 6Mbps  
11n: HT20 MCS0 ~ 15 / HT40 MCS0 ~ 15

#### Physical Specifications

- Power** DC 24 V / 1A; AC Adapter 100 V ~ 240 V
- Dimensions (W x H x D)** 111 x 256 x 48 mm (4.37" x 10.08" x 1.89")
- Mounting** Wall, Pole
- Weight** 0.5 Kg

#### Environment

- Operating Temperature** Non Heater : -20 ~ 70 °C (-4 ~ 158 °F)
- Storage Temperature** -40 ~ 70 °C (-40 ~ 158 °F)
- Humidity** 10% ~ 95% non-condensing

#### Interface Operation Modes

- Access Point (AP) / Client

#### Antenna

- Default external 5 dBi Omni antenna
- 2 x RP-SMA connectors (female) for RP-SMA antennae (male)

#### Other Features

- Management** Telnet, FTP, SNMP, Web UI
- Wireless** Radio on/off, WMM/Regatta Mode, Output Power Control, Fragmentation Length, Beacon Interval, RTS/CTS threshold, DTIM Interval, Open System, Shared Key, Legacy 8021X, WPA, WPA2, WPA-PSK (TKIP), WPA2-PSK(AES)
- Security**

#### Modulation Techniques

- IEEE 802.11n** OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
- IEEE 802.11b** DSSS (DBPSK, DQPSK, CCK)
- IEEE 802.11g** OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

#### Channel Support

- IEEE 802.11b/g/n** HT20  
FCC: CH1 ~ CH11; ETSI: CH1 ~ CH13
- IEEE 802.11gn** HT40  
FCC: CH3 ~ CH9; ETSI: CH3 ~ CH11

#### Wireless Transmission Rates

- Transmitted Power\*** 802.11b: 27 dBm  
802.11g: 25 dBm @ 6 Mbps, 23 dBm @ 54 Mbps  
802.11gn HT20: 27 dBm @ MCS0/8, 23 dBm @ MCS7/15  
802.11gn HT40: 26 dBm @ MCS0/8, 22 dBm @ MCS7/15

\*Note: The listed value is the target power calibrated in the card. The actual power will vary depending on each country's regulation

#### Receiver Sensitivity

- 802.11b Sensitivity** -91 dBm @ 1 Mbps; -85 dBm @ 11 Mbps
- 802.11g Sensitivity** -89 dBm @ 6 Mbps; -70 dBm @ 54 Mbps
- 802.11n HT20** -83 dBm @ MCS0/8; -65 dBm @ MCS7/15
- 802.11n HT40** -80 dBm @ MCS0/8; -62 dBm @ MCS7/15

### Ordering Information

- EKI-6332GN** 802.11 b/g/n Wireless AP/Client (US)
- EKI-6332GN-EU** 802.11 b/g/n Wireless AP/Client (EU)

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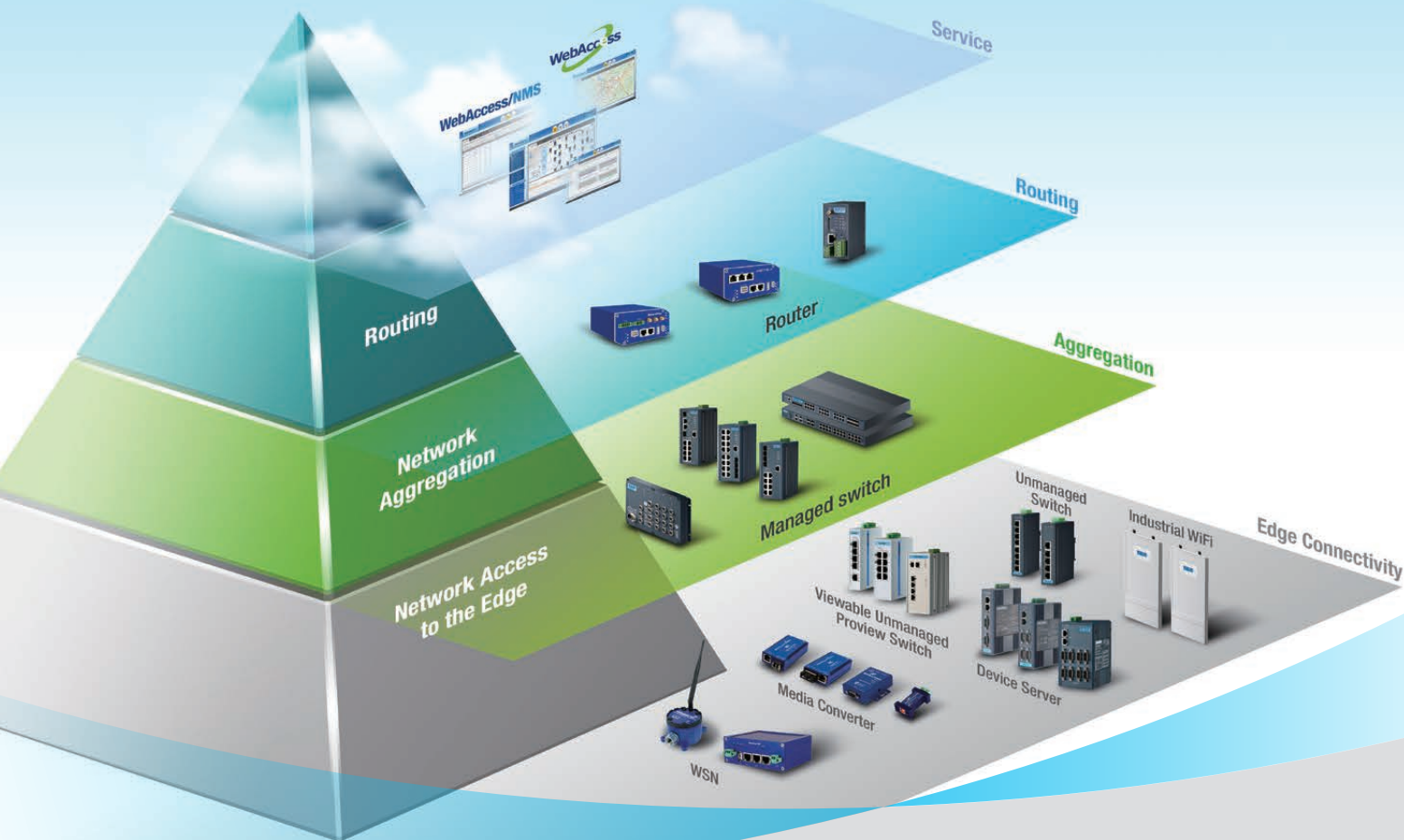
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# Advantech Industrial Communication



**ADVANTECH**

*Enabling an Intelligent Planet*

## Providing Interconnected Solutions for Advantech's Mission of Enabling an Intelligent Planet

Advantech's iConnectivity group offers a full range of Industrial Communication products including wired and wireless communication solutions for mission critical applications. These products include: Industrial Ethernet Switches, Industrial Wireless AP/CPE, Media Converters, Serial Device Servers, Modbus Gateways, and Cellular IP Gateways/Routers. They are also capable of securely transmitting, remotely monitoring and controlling networked devices and high communication capabilities for industrial applications. These reliable and robust industrial grade communication products from Advantech's iConnectivity group fit different applications including process manufacturing, discrete manufacturing, security, and intelligent transportation system and the mission is to simplify the way you connect.



**EKI-9512/P/9516/P**  
EN50155 M12 Managed  
Ethernet Switch



**EKI-7700 Series**  
**EKI-7428G Series**  
Industrial Managed Switch  
Industrial Rackmount  
Managed Switch



**EKI-152x Series**  
**EKI-122x Series**  
1/2/4-port RS-232/422/485  
Serial Device Server  
1/2/4-port Modbus Gateway



**Wizzard-LRPv Sensor Node**  
Industrial LoRa Private Node



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# Advantech Headquarters

No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei, Taiwan 11491

Tel: 886-2-2792-7818 Fax: 886-2-2794-7301

www.advantech.com

## Greater China

### Regional Service Center, China Kunshan Manufacturing Center

No. 600, Han-Pu Road, Yu-Shan  
Kunshan, Jiangsu, China  
Tel: 86-512-5777-5666  
Fax: 86-512-5778-5388

### Regional Service Center, Taiwan Taipei Manufacturing Center

7F, No.1, Lane 169, Kang-Ning Street,  
Shejir City, Taipei, Taiwan  
Tel: 886-2-2692-6076  
Fax: 886-2-2692-2762

### Advantech China 800-810-0345/800-810-8389 Beijing Office

6th Street No. 7, Shang Di Zone,  
Hai-Dian Dist., Beijing, China  
Tel: 86-10-6298-4346  
Fax: 86-10-6298-4342  
Email: sales@advantech.com.cn  
www.advantech.com.cn

#### Shanghai Office

136# Jiangchang Three Road Zhaipei  
Dist., Shanghai, China  
Tel: 86-21-3632-1616  
Fax: 86-21-36321616-3394

#### Advantech Plus Technology Campus

No. 887, Han-pu Road, Yu-Shan, Kunshan,  
Jiangsu, China  
Tel: 86-512-5777-5666  
Fax: 86-512-5778-5388

#### Shenzhen Office

4F, NO.28, Keji South Road 12th, NanShan Dist.,  
Shenzhen, China  
Tel: 800-810-0345  
Fax: 86-755-2586-7910

#### Chengdu Office

Room 1401, Building NO.2 HangXing  
International Square, High-tech zone No.800  
TianFu Avenue, Chengdu, China  
Tel: 800-810-0345  
Fax: 028-8543-5101

#### Hong Kong Office

Room 1601, 16/F, Westin Centre, 26 Hung To  
Road, Kwun Tong, Kowloon, Hong Kong  
Tel: 852-2720-5118  
Fax: 852-2720-8013  
Email: infohk@advantech.com

### Advantech Taiwan 800-777-111

#### Taipei Neihu Office

No. 1, Alley 20, Lane 26, Rueiguang Road,  
Neihu Dist., Taipei, 11491, Taiwan  
Tel: 886-2-2792-7818  
Fax: 886-2-2794-7302  
Toll Free: 8000-777-111  
Email: sales@advantech.com.tw

#### Taipei Xindian Office

4F No. 108-3, Minquan Road,  
Xindian Dist., New Taipei City, 23141, Taiwan  
Tel: 886-2-2218-4567  
Fax: 886-2-2218-3650  
Toll Free: 0800-777-111  
Email: emarketing.aatw@advantech.com.tw

#### Linkou Office

No. 27, Wende Road, Guishan Dist.,  
Taoyuan City, 33371, Taiwan  
Tel: 886-2-2792-7818  
Toll Free: 8000-777-111  
Fax: 886-2-2794-7301

#### Taichung Office

6F-5, No.633, Sec. 2, Taiwan Blvd., Xitun Dist.,  
Taichung City, 40759, Taiwan  
Tel: 886-4-2329-0371  
Fax: 886-4-2329-0373

#### Kaohsiung Office

11F-7, No.56, Minsheng 1st Rd., Xinxing Dist.,  
Kaohsiung City, 80045, Taiwan  
Tel: 886-7-229-3600  
Fax: 886-7-227-0217

## Asia

### Advantech Japan 0800-500-1055

#### Tokyo Office

6-16-3, Asakusa Taito-Ku,  
Tokyo 111-0032, Japan  
Tel: 81-3-6802-1021  
Fax: 81-3-6802-1022  
Email: ajp\_sales@advantech.com  
www.advantech.co.jp

#### Osaka Office

Minami-Senba M21 Bldg 6F  
1-10-20 Minami Senba,  
Chuo-Ku, Osaka, 542-0081 Japan  
Tel: 81-6-6267-1886  
Fax: 81-6-6267-1886

#### Nagoya Office

Hirokoji Garden Avenue 4F  
4-24-16 Meieki Nakamura-ku,  
Nagoya City, Aichi 450-0002, Japan  
Tel : 81-52-856-9657  
Fax : 81-6-6-6267-1886

### Advantech Korea 080-363-9494

#1202 AceTechno Tower, 468 Gangseo-ro,  
Gangseo-gu, Seoul 157-721, Korea  
Tel: 82-2-3663-9494  
Fax: 82-2-3663-4955  
Email: pros@advantech.co.kr  
www.advantech.co.kr

### Advantech Singapore

6 Serangoon North Ave 5, #03-08 East  
Lobby, Singapore 554910  
Tel: 65-6442-1000  
Fax: 65-6442-1001  
Email: sg@advantech.com  
www.advantech.com.sg

### Advantech Malaysia Kuala Lumpur Office

L3-03 / 03A, Wisma BU8, No 11,  
Lebuhr Bandar Utama,  
Bandar Utama, 47800 Petaling Jaya,  
Selangor Darul Ehsan, Malaysia  
Tel: 60-3-7725-4188  
Fax: 60-3-7728-1571  
Email: sales@advantech.com.my  
www.advantech.com.my

#### Penang Office

No.117 & 119 Ground Floor,  
Jalan Perniagaan Gemilang 1,  
Pusat Perniagaan Gemilang,  
14000 Bukit Mertajam, Penang  
Tel: 60-4-537-9188  
Fax: 60-4-538-1571

### Advantech Thailand

24F, Chamnan Phenjati Business Center  
65/205 Rama IX Road, Huay-Kwang,  
Bangkok 10320, Thailand  
Tel: 66-2-248-3140  
Fax: 66-2-248-2424  
Email: sales-th@advantech.com  
www.advantech.co.th

### Advantech Indonesia

Plaza Aminta 6th Floor Suite 601  
Jl. TB Simatupang Kav 10  
Jakarta Selatan 12310, Indonesia  
Tel : 62-21-751-1930/39  
Fax : 62-21-751-1933  
Email : aid.ccs@advantech.com  
www.advantech.co.id

### Advantech India Bangalore Office

No. 3M-409, Kasturi Plaza, 2nd Floor, 3rd Main  
Road, East of NGEF Layout, Kasturinaragar,  
Bangalore – 560043, India  
Tel: 91-80-2545-0206  
Fax: 91-80-2545-0317  
Toll Free: 1800-425-5071  
Email: info.in@advantech.com

#### Pune Office

809, 810, 8th Floor, South Block, Sacred World,  
Wanwadi, Pune – 4110040, India  
Tel: 91-20-3948-2075  
Toll Free: 1800-425-5070  
Email: sales.in@advantech.com

## Asia

### Advantech Australia 1300-308-531

#### Melbourne Office

Unit 1, 3 Southpark Close,  
Keysborough VIC 3173, Australia  
Tel: 61-3-9797-0100  
Fax: 61-3-9797-0199  
Email: info@advantech.net.au  
www.advantech.net.au

## Middle East and Africa

### Advantech Israel

Hamatech 8, Industrial Zone  
Kadima-Zoran, Israel  
Tel: 072-2410527  
Email: info@advantech.il

## Europe

### Advantech Europe B.V. 08000-2426-8080/81 Email: customercare@advantech.eu www.advantech.eu

### Advantech Europe Service Center

Ekkersrijt 5708 Science Park Eindhoven  
5692 ER Son, The Netherlands  
Tel: 31-40-267-7000  
Fax: 31-40-267-7001  
Email: customercare@advantech.eu

### Europe Technical Service/R&D Center

Fuggerstr. 9, 92224 Amberg, Germany  
Tel: 49-9621-9732-100  
Fax: 49-9621-9732-199  
Email: customerservice.aeu@advantech.com

### Europe Repair Service Center

ul. Działkowska 121B, 02-234 Warsaw, Poland  
Tel: 48-22-31-51-100  
Fax: 48-22-31-51-101  
Email: rma@advantech.pl

### Advantech Benelux & Nordics

Bijster 20A, 4817 HX Breda, The Netherlands  
Tel: 31-76-523-3100  
Fax: 31-76-523-119  
www.advantech.nl

### Advantech France

1 Bld Charles de Gaulle Noblet hall C (entrée  
rue du débarcadère) 92700 Colombes, France  
Tel: 33-1-4119-4666  
Fax: 33-1-4119-7929  
www.advantech.fr

### Advantech Germany

**Munich Office**  
Industriest. 15, 82110 Germering, Germany  
Tel: 49-89-12599-0  
Fax: 49-89-12599-1221  
www.advantech.de

#### Düsseldorf Office

Hochdahlstr. 14, 40724 Hilden, Germany  
Tel.: 49-2103-97-885-0  
Fax: 49-2103-97-885-19

### Advantech Italy

Via Roma, 74,  
20060 Cassina de' Pecchi, Milano, Italy  
Tel: 02-92-9544-961  
Fax: 39-02-9544-9650  
www.advantech.it

### Advantech UK

**London Office**  
Unit 3 Gunnery Terrace,  
Duke of Wellington Avenue,  
Royal Arsenal, Woolwich, London,  
SE18 6SW, United Kingdom  
Tel: 44-0-870-493-1433  
Fax: 44-0-208-181-6751  
www.advantech.eu

#### Newcastle Office

Innocore House, Kingfisher Way,  
Silverlink Business Park, North Shields,  
NE28 9NX, United Kingdom  
Tel: 44-0-191-262-4844  
Fax: 44-0-191-263-9287  
www.advantech-innocore.com

## Europe

### Advantech Poland

ul. Działkowska 121B, 02-234 Warsaw, Poland  
Tel: 48-22-31-51-100  
Fax: 48-22-31-51-101

### Advantech Russia

**Moscow Office**  
115184 Москва, Большой Ордынский  
перулок, д.4, стр.2, офис 102  
Tel: 7-495-644-0364  
Toll Free: 8-800-555-01-50  
Email: info@advantech.ru  
www.advantech.ru

#### St. Petersburg Office

БЦ "Jensen House", 2 этаж, 3-я линия,  
62литА, Санкт-Петербург, Россия, 199178  
Tel: 7-812-332-5727  
Toll Free: 8-800-555-81-20  
Email: ARU.embedded@advantech.com

### Advantech B+B SmartWorx Czech

Sokolská 71, 562 04 Ústí nad Orlicí, Czech  
Republic  
Tel: 420-465-521-020  
eMail: sales@conel.cz

### Advantech B+B SmartWorx Ireland

Westlink Commercial Park, Oranmore, Co.  
Galway, Ireland  
Tel: 353-91-792444  
Fax: 353-91-792445  
eMail: info@bb-smartworx.com

## Americas

### Regional Service Center, N. America

380 Fairview Way  
Milpitas, CA 95035, USA  
Tel: 1-408-519-3800  
Fax: 1-408-519-3801

### Advantech North America 1-888-576-9668

**Ohio (Cincinnati) Office**  
11380 Reed Hartman Highway  
Cincinnati, OH 45241, USA  
Tel: 1-513-742-8895  
Fax: 1-513-742-8892  
Toll Free: 1-800-800-6889  
RMA/Tech Support: 1-877-451-6868  
Email: info@advantech.com  
www.advantech.com/ea

#### Northern California (Milpitas) Office

380 Fairview Way,  
Milpitas, CA 95035, USA  
Tel: 1-408-519-3898  
Fax: 1-408-519-3888  
Toll free: 1-888-576-9668  
Email: buy@advantech.com

#### Southern California (Irvine) Office

13 Whatney, Irvine, CA 92618, USA  
Tel: 949-420-2500  
Fax: 949-420-2501  
Toll Free: 1-800-866-6008  
Toll Free: 1-800-557-6813  
Email: ECInfo@advantech.com  
Email: CTInfo@advantech.com

### Advantech B+B SmartWorx

PO Box 1040, 707 Dayton Road,  
Ottawa IL 61350  
Tel: 815-434-8731  
Fax: 815-433-5109  
Toll Free: 800-346-3119  
EMail: info@bb-smartworx.com

### Advantech South America

**Mexico Office**  
Ave. Baja California #245 Int. 704Col.  
Hipódromo Condesa Delegación  
Cauhtémoc 06100, México DF. México  
Tel: 52-55-6275-2727  
Toll Free: 1-800-467-2415

#### Brazil Office

Avenida Fagundes Filho, 134 – 12º andar  
CEP: 04304-010 - São Paulo  
Tel: 55-11-5592-5355  
Toll Free: 0800-770-5355  
Email: vendas@advantech.com.br

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