

Advantech Panel PCs

Diverse offerings for a wide range of applications

- Introduction
- Benefits and Features
- Selection Guide



ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

Advantech's PPC Product Family

Reliable, Cost-Effective, and High-Performance Industrial Panel PCs

Advantech's PPC (panel PC) product family offers highly scalable, economical solutions in a range of performance classes that support various display sizes to satisfy diverse equipment manufacturing and process automation applications. The PPC product portfolio includes an all-in-one series (PPC-3000) and a configurable series (PPC-6000C). The all-in-one series features an optimized design, compact form factor, and industrial-grade specifications, such as rich I/O, flexible expansion slots, and a wide operating temperature range. Regarding the configurable series, these products are designed to be equipped with any mini-ITX motherboard according to price and functionality.

All-in-One Series

Advantech's PPC-3000/3000S series systems are equipped with a fanless, low-power Intel® Core™ i/Atom™ processor. The standard PPC model (PPC-3000 series) features rich I/O and expansion slots that enable system integrators to build complex systems. Meanwhile, the PPC-3000S series systems, which are aimed at industrial IoT applications, are ultra slim devices that feature a stylish appearance to ensure easy integration.

All-in-One

- Fanless
- Compact
- Low power consumption

General Purpose

- Essential I/O
- Ultra slim
- All-metal body

Industry Oriented

- Rich I/O
- Slim
- Expandible
- Wide temperature range

Configurable Series

Compatible with diverse mini-ITX motherboards, the PPC-6000C series allows system integrators to configure the device according to their exact usage requirements. This flexibility and versatility makes PPC-6000C ideal for applications that require high-performance computing and multiple expansions, such as machine vision operations.

Configurable

- Fan
- High computing power
- Selectable motherboard

Customizable

Features



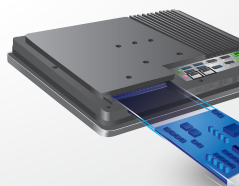
IP65-rated true-flat panel

In addition to IP65 certification for dust and water resistance, Advantech's panel PCs are equipped with a true flat P-CAP/resistive touchscreen, giving the system an elegant and stylish appearance.



Rich industrial-grade I/O

To ensure excellent connectivity for integrating devices and peripherals, Advantech's PPC systems are equipped with multiple industrial-grade I/O, including isolated RS-422/485, GPIO, RS-232, USB 3.0, DisplayPort, and Line Out ports.





PPC-3001S

- 6/7th gen Intel® Core™ i processor
- PCAP touch screen control
- All-metal body



PPC-3000S

- Intel® Celeron® N4200/N2930/N2807 processor
- PCAP/resistive touch screen control
- All-metal body



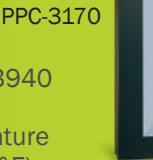
PPC-3001

- 6/7th gen Intel® Core™ i processor
- PCAP/resistive touch screen control
- PCIe x4/PCI expansion



PPC-3000

- Intel® Atom™ E3845/E3940 processor
- Wide operating temperature (-20 ~ 60 °C/-4 ~ 140 °F)
- Resistive touch screen control
- PCIe x1/PCI expansion



PPC-6000C

- Compatible with diverse mini-ITX MBs
- Supports CPUs with up to 65W TDP
- PCAP/resistive touch screen control
- PCIe x4/2 x PCI or PCIe x1



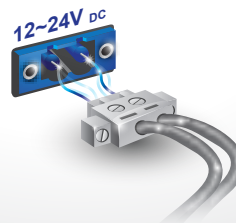
Expansion slots

PPC series systems feature expansion slots that support a range of optional riser cards, such as PCI, PCIe x1, and PCIe x4, to enable flexible expansion according to the platform specifications.



Wide operating temperature range

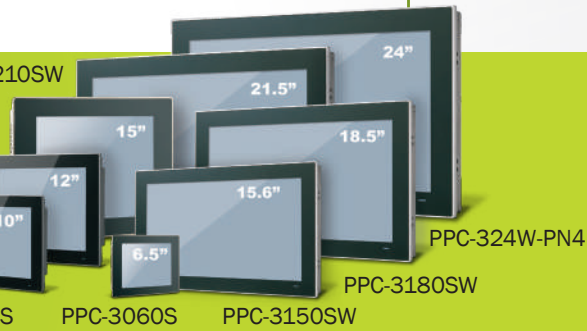
All PPC-3000 series systems equipped with an Intel® Atom™ processor support a wide operating temperature range of -20 ~ 60 °C, making them suitable for operation in harsh environments.



Wide input power range

With support for a wide input power range of 12 ~ 24 V_{DC}, Advantech PPC systems can be operated in various industrial environments without necessitating an additional power converter or generating increased energy costs.

om



All-metal body

PPC-3000S series products are designed with an all-metal body to ensure an elegant and streamlined appearance.

Accessories

PPC-IPS-AE



A lightweight, intelligent power management module that protects the system from electrical damage and reduces the potential for data losses. This module can serve as a temporary power source during short-term power outages and can ensure safe system shutdowns.

PPC-STAND-A1E



An elegant desktop stand made of aluminum alloy that supports VESA 75/100. This stand allows users to adjust the vertical viewing angle and can be affixed to surfaces using two screws.

PPC-ARM-A03



A swivel arm equipped with a C-clamp to enable installation on any surface. The swivel arm supports 360-degree rotation.

PPC-174T-WL-MTE




A compact wall-mount kit that supports 360-degree rotation and vertical/horizontal viewing angle adjustment.

PPC-WLAN-C1E



An optional WiFi + BT4.2 Combo Module with dual antennae (2T2R) and 802.11 a/b/g/n/ac support.

| | PPC-3001S | | | | PPC-3000S | | | | | | | | |
|------------------------------|--|------------|----------------------------------|-------------|--|---|------------|------------|-------------|--|------------|-------------|--|
| Model | PPC-3151SW/3181SW/3211SW  PPC-324W-P7 | | | | PPC-3060S | PPC-3100S/3120S/3150S/3210SW | | | |  PPC-3150SW/3180SW/324W-PN4 | | | |
| CPU | 6th Gen Intel® Core™ i processor | | 7th Gen Intel® Core™ i processor | | Intel® Celeron® N2807 (1.58 GHz) | Intel® Celeron® N2930 (1.86 GHz) | | | | Intel® Pentium® N4200 (1.1G up to 2.5GHz) | | | |
| Memory | 1 x SODIMM DDR4 1866/2133 MHz (up to 16 GB) | | | | 1 x SODIMM DDR3L 1333 (up to 4 GB) | 1 x SODIMM DDR3L, 1333 MHz (up to 8 GB) | | | | 1 x SODIMM, DDR3L 1600/1866 (up to 8GB) | | | |
| Display Size | 15.6" | 18.5" | 21.5" | 23.8" | 6.5" | 10.4" | 12.1" | 15" | 21.5" | 15.6" | 18.5" | 23.8" | |
| Max. Resolution | 1920 x 1080 | 1366 x 768 | 1920 x 1080 | 1920 x 1080 | 640 x 480 | 800 x 600 | 1024 x 768 | 1024 x 768 | 1920 x 1080 | 1366 x 768 | 1366 x 768 | 1920 x 1080 | |
| Luminance (cd/m²) | 450 | 450 | 300 | 350 | 700 | 400 | 500 | 400 | 300 | 400 | 450 | 350 | |
| Backlight MTBF | 50,000 | 50,000 | 50,000 | 30,000 | 50,000 | 30,000 | 30,000 | 50,000 | 50,000 | 50,000 | 50,000 | 30,000 | |
| Touchscreen | Multi-touch projected capacitive | | | | 5-wire analog resistive / Multi-touch projected capacitive | | | | | Multi-touch projected capacitive | | | |
| Network (LAN) | 2 x GbE (Intel® I211-AT, I219LM) | | | | 2 x GbE (Intel® I211) | | | | | 2 x GbE (Intel® I211) | | | |
| I/O | 1 x RS-232, 1x RS-232/422/485 (by BIOS), 2 x USB 3.0, 2 x USB 2.0, 1 x HDMI, 1 x TPM2.0 (optional module), | | | | 1 x RS-232, 1x RS-232/422/485 (by BIOS), 2 x USB 2.0, 1 x USB 3.0, | | | | | 1 x RS-232, 1x RS-232/422/485 (by BIOS), 2 x USB 3.0, 2 x USB 2.0, 1 x Line-out, 1 x HDMI, | | | |
| Storage | 1 x 2.5" SATA bay, 1 x mSATA bay | | | | 1 x 2.5" SATA bay (optional), 1 x mSATA bay | | | | | 1 x 2.5" SATA bay (optional), 1 x mSATA bay | | | |
| Expansion Slots | N/A | | | | N/A | | | | | N/A | | | |
| Additional Expansion | 1 x Full-size Mini PCIe | | | | 1 x Full-size Mini PCIe | | | | | 1 x Full-size Mini PCIe | | | |
| Input Power | 12 ~ 24 V _{DC} | | | | 12 ~ 24 V _{DC} | | | | | 12 ~ 24 V _{DC} | | | |
| Operating Temperature | 0 ~ 50 °C with SSD | | | | 0 ~ 50 °C with SSD | | | | | 0 ~ 50 °C with SSD | | | |
| Operating System | Windows 7/10 (64bit), Linux, Android 8.1 | | Windows 10(64-bit), Linux | | Windows 7/10 (64bit), Linux, Android 6.0 | | | | | Windows 10 (64bit), Linux, Android 8.1 | | | |

| | PPC-3001 | | | | PPC-3000 | | | | | PPC-6000C | | | | |
|------------------------------|--|-------------------------------|---|-------------|--|---------------------------------|---|-------------|-------------|---|-----------|---|-------------|-------------|
| Model | PPC-3151  PPC-412 | PPC-3151W/3211W | | | PPC-3100/3120-RE9A | | PPC-3150/3170/3190 | | | PPC-6121 | PPC-6151C | PPC-6171C | PPC-6191C | |
| CPU | 6th Gen Intel® Core™ i5-6300U | 7th Gen Intel® Core™ i5-7300U | | | Intel® Atom™ E3940 (1.6 GHz) | | Intel® Atom™ E3845 (1.91 GHz) | | | 8/9th Gen Intel® Core™ i/ Celeron® processor | | Supports processors with up to 65 W TDP depending on the Mini-ITX motherboard | | |
| Memory | 1 x SODIMM DDR4, 1866/2133 MHz (up to 16 GB) | | | | 1 x SODIMM DDR3L 1600/1866 MHz (up to 8 GB) | | 1 x SODIMM DDR3L 1333 MHz (up to 8 GB) | | | 2 x 260-pin SO-DIMM DDR4, 2666 MHz (up to 32 GB, 16 GB per SODIMM) | | Dependent on the Mini-ITX motherboard specifications | | |
| Display Size | 15" | 12.1" | 15.6" | 21.5" | 10.4" | 12.1" | 15" | 17" | 19" | 12.1" | | 15" | 17" | 19" |
| Max. Resolution | 1024 x 768 | 1024 x 768 | 1920 x 1080 | 1920 x 1080 | 800 x 600 | 1024 x 768 | 1024 x 768 | 1280 x 1024 | 1280 x 1024 | 1024 x 768 | | 1024 x 768 | 1280 x 1024 | 1280 x 1024 |
| Luminance (cd/m²) | 400 | 600 | 450 | 300 | 400 | 600 | 400 | 350 | 350 | 600 | | 500 | 350 | 350 |
| Backlight MTBF | 50,000 | 50,000 | 50,000 | 50,000 | 30,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | | 50,000 | 50,000 | 50,000 |
| Touchscreen | Multi-touch projected capacitive | 5-wire analog resistive | Multi-touch projected capacitive | | 5-wire analog resistive | | 5-wire analog resistive | | | 5-wire analog resistive | | 5-wire analog resistive | | |
| Network (LAN) | 2 x GbE (Intel® I211-AT, I219LM) | | | | 2 x GbE (Intel® I210) | | 2 x GbE (Intel® I210) | | | 2 x GbE (Intel® I211-AT, I219LM) | | Dependent on the Mini-ITX motherboard specifications | | |
| I/O | 1 x isolated RS-422/485, 4 x RS-232 (2 x by optional module, Expect :PPC-412), 1 x GPIO (8 channels, TTL level), 4 x USB 3.0, 1 x VGA, 1 x DP1.2, 1 x Line-Out, 1 x Mic-In, 1 x TPM2.0 (optional module) | | | | 4 x RS-232, 1 x isolated RS-422/485 (by BIOS), 4 x USB 3.0, 1 x Line-out, 1 x Mic-in, 1 x VGA, 1 x HDMI, 1 x GPIO (8 channels, TTL), | | 1 x isolated RS-422/485, 4 x RS-232 (2 x by optional module), 1 x GPIO (8 channels, TTL level), 1 x USB 3.0, 3 x USB 2.0, 1 x VGA, 1 x DP1.1a, 1 x Line-Out, 1 x Mic-In | | | 4 x RS-232, 1 x isolated RS422/485, 4 x USB3.1, 1 x VGA, 1 x HDMI 1.4 , 1 x Mic in, 1 x Line out, 1 x GPIO (8channels, TTL) | | 4 x Reserved ports 2 x WLAN antenna ports | | |
| Storage | 1 x 2.5" SATA bay, 1 x M.2 bay (22 x 42 mm) | | 2 x 2.5" SATA bay, 1 x M.2 bay (22 x 42 mm) | | 1 x 2.5" SATA bay, 1 x mSATA bay | | 1 x 2.5" SATA bay, 1 x mSATA bay | | | 1 x 2.5" SATA bay, 1 x mSATA bay | | 1 x 2.5" SATA bay, 2 x 2.5" SATA bay (optional) | | |
| Expansion Slots | 1 x PCIe x4 or PCI(Expect, PPC-412) | | | | N/A | (optional) 1 x PCIe x1 or 1 PCI | 1 x PCI or 1 x PCIe x1 | | | (optional) 1 x PCIe x4 or 1 x PCI | | 2 x PCI or 1 x PCIe x4 (in the accessory box) | | |
| Additional Expansion | 1 x Full-size Mini PCIe, (only PPC-3151 optional) 1 x Cfast, | | | | 1 x Full-size Mini PCIe | | 1 x Full-size Mini PCIe, (optional) 1 x Cfast, | | | 1 x M.2 2230 (E Key) | | Dependent on the Mini-ITX motherboard specifications | | |
| Input Power | 9~32 V _{DC} | | | | 9 ~ 32 V _{DC} | | 9 ~ 32 V _{DC} | | | 12 ~ 30 V _{DC} | | 100 ~ 240 V _{AC} @ 50/60 Hz | | |
| Operating Temperature | 0 ~ 50 °C with SSD | | | | -20 ~ 60 °C with SSD | | -20 ~ 60 °C with SSD | | | 0 ~ 50 °C with SSD | | 0 ~ 50 °C with 35W CPU 0 ~ 45 °C with 65W CPU | | |
| Operating System | Windows 7/10 (64bit), Linux | Windows 10 (64bit), Linux | | | Windows 10 (64bit), Linux, Android 8.1 | | Windows 7/10(64bit), WEC7, Linux, Android 6.0 | | | Windows 10 (64bit), Linux | | Dependent on the Mini-ITX motherboard specifications | | |

Regional Service & Customization Centers

| | | | | | | | | | |
|--------------|-----------------------------|---------------|---------------------------|--------------------|-----------------------------|---------------|---------------------------|------------|--------------------------------|
| China | Kunshan 86-512-5777-5666 | Taiwan | Taipei 886-2-2792-7818 | Netherlands | Eindhoven 31-40-267-7000 | Poland | Warsaw 00800-2426-8080 | USA | Milpitas, CA 1-408-519-3898 |
|--------------|-----------------------------|---------------|---------------------------|--------------------|-----------------------------|---------------|---------------------------|------------|--------------------------------|

Worldwide Offices

Greater China

| | |
|---------------------|---------------------|
| China | |
| Toll Free | 800-810-0345 |
| Beijing | 86-10-6298-4346 |
| Shanghai | 86-21-3632-1616 |
| Shenzhen | 86-755-8212-4222 |
| Chengdu | 86-28-8545-0198 |
| Hong Kong | 852-2720-5118 |
| Taiwan | |
| Toll Free | 0800-777-111 |
| Taipei & IoT Campus | 886-2-2792-7818 |
| Taichung | 886-4-2372-5058 |
| Kaohsiung | 886-7-392-3600 |

Middle East and Africa

| | |
|--------|-------------|
| Israel | 072-2410527 |
|--------|-------------|

Asia

| | |
|------------------|-----------------------|
| Japan | |
| Toll Free | 0800-500-1055 |
| Tokyo | 81-3-6802-1021 |
| Osaka | 81-6-6267-1887 |
| Nagoya | 81-0800-500-1055 |
| Korea | |
| Toll Free | 080-363-9494/5 |
| Seoul | 82-2-3660-9255 |
| Singapore | |
| Singapore | 65-6442-1000 |
| Malaysia | |
| Kuala Lumpur | 60-3-7725-4188 |
| Penang | 60-4-537-9188 |
| Thailand | |
| Bangkok | 66-02-2488306-9 |
| Vietnam | |
| Hanoi | 84-24-3399-1155 |
| Indonesia | |
| Jakarta | 62-21-751-1939 |
| Australia | |
| Toll Free | 1300-308-531 |
| Melbourne | 61-3-9797-0100 |
| India | |
| Bangalore | 91-80-6814-4600 |
| Pune | 91-94-2260-2349 |

Europe

| | |
|-----------------------|---------------------------|
| Netherlands | |
| Eindhoven | 31-40-267-7000 |
| Breda | 31-76-523-3100 |
| Germany | |
| Toll Free | 00800-2426-8080/81 |
| Munich | 49-89-12599-0 |
| Düsseldorf | 49-2103-97-855-0 |
| France | |
| Paris | 33-1-4119-4666 |
| Italy | |
| Milan | 39-02-9544-961 |
| UK | |
| Newcastle | 44-0-191-262-4844 |
| London | 44-0-870-493-1433 |
| Spain | |
| Madrid | 34-91-668-86-76 |
| Sweden | |
| Stockholm | 46-0-864-60-500 |
| Poland | |
| Warsaw | 48-22-31-51-100 |
| Russia | |
| Moscow | 8-800-555-01-50 |
| St. Petersburg | 8-800-555-81-20 |
| Czech Republic | |
| Ústí nad Orlicí | 420-465-524-421 |
| Ireland | |
| Galway | 353-91-792444 |

Americas

| | |
|----------------------|-----------------------|
| North America | |
| Toll Free | 1-888-576-9668 |
| Cincinnati | 1-513-742-8895 |
| Milpitas | 1-408-519-3898 |
| Irvine | 1-949-420-2500 |
| Ottawa | 1-815-433-5100 |
| Brazil | |
| Toll Free | 0800-770-5355 |
| São Paulo | 55-11-5592-5367 |
| Mexico | |
| Toll Free | 1-800-467-2415 |
| Mexico City | 52-55-6275-2727 |

Buy Now



ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

Please verify specifications before quoting. This guide is intended for reference purposes only. All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission of the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies. © Advantech Co., Ltd. 2020

860000493