









High Performance Embedded Systems


Series		IVH-9000			IVH-7700
Model No.		IVH-9016-PoER	IVH-9008-PoER	IVH-9000-2R	IVH-7700-QRDM-ICY
Product Image					
System	CPU	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
	Chipset	Intel® CM236	Intel® CM236	Intel® CM236	Intel® QM77
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
	Graphics	Intel® HD P530/ 530	Intel® HD P530/ 530	Intel® HD P530/ 530	Intel® HD 4000
	Ethernet	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® 82579LM, Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8783
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Windows XP, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	NA	NA	NA	1
	DVI-D	1	1	1	NA
	LVDS	NA	NA	NA	1
	DisplayPort	2	2	2	1
	eDP	NA	NA	NA	NA
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 (2 RS-232/ 422/ 485, 2 RS-232)
	USB 3.0	4 (External)	4 (External)	4 (External)	8 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	3 (Internal)
	GigE LAN	18 (16 w/ PoE*)	10 (8 w/ PoE*)	2	6 (4 w/ PoE*)
	PoE LAN	16 (IEEE 802.3at)	8 (IEEE 802.3at)	NA	4 (IEEE 802.3at, w/ M12)
	M12	NA	NA	NA	4 (PoE*)
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
	Others	4 SSD/ HDD Tray (External)	4 SSD/ HDD Tray (External)	4 SSD/ HDD Tray (External)	4 SSD/ HDD Tray (External)
Storage	SATA III	6	6	6	2
	SATA II	NA	NA	NA	2
	CFast	1	1	1	1
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
	M2DOM	NA	NA	NA	NA
Expansion	Mini PCIe	4	4	4	4
	SIM Card	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	NA
Power	Input	DC-in 6V to 78V	DC-in 6V to 78V	DC-in 6V to 78V	DC-in 6V to 78V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block, M12 (Optional)
	Surge Protection	200V	200V	200V	200V
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")
Weight		4.2 kg (9.26 lb)	4.2 kg (9.26 lb)	4.2 kg (9.26 lb)	5.5 kg (12.13 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, Din Rail
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

			ECS-9000
IVH-7700-QRD-ICY	IVH-7700-QRDM	IVH-7700-QRD	ECS-9000-9GD
			
Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE
Intel® QM77	Intel® QM77	Intel® QM77	Intel® C236
AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	260-pin SO-DIMM, DDR4 2133MHz
Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 530
Intel® 82579LM, Intel® I210	Intel® 82579LM, Intel® I210	Intel® 82579LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8783	IT8783	IT8783	IT8786E
Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 10, Windows 8.1, Windows 7, Linux
NA	NA	NA	NA
1	1	1	1
NA	NA	NA	1
1	1	1	NA
1	1	1	1
NA	NA	NA	NA
4 (2 RS-232/ 422/ 485, 2 RS-232)	4 (2 RS-232/ 422/ 485, 2 RS-232)	4 (2 RS-232/ 422/ 485, 2 RS-232)	4 RS-232/ 422/ 485
8 (External)	8 (External)	8 (External)	6 (External)
3 (Internal)	3 (Internal)	3 (Internal)	1 (Internal)
6 (4 w/ PoE*)	6 (4 w/ PoE*)	6 (4 w/ PoE*)	9 (4 w/ PoE*)
4 (IEEE 802.3at)	4 (IEEE 802.3at, w/ M12)	4 (IEEE 802.3at)	4 (IEEE 802.3at)
NA	4 (PoE*)	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	NA
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
4 SSD/ HDD Tray (External)	4 SSD/ HDD Tray (External)	4 SSD/ HDD Tray (External)	NA
2	2	2	2
2	2	2	1
1	1	1	1
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	2 (Mini PCIe)
NA	NA	NA	1 (PCIe 3.0)
4	4	4	3
4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	3 (External)
NA	NA	NA	NA
DC-in 6V to 78V	DC-in 6V to 78V	DC-in 6V to 78V	DC-in 6V to 36V
Terminal Block	Terminal Block, M12 (Optional)	Terminal Block	Terminal Block, Mini-DIN
200V	200V	200V	80V
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")
5.5 kg (12.13 lb)	4.2 kg (9.26 lb)	4.2 kg (9.26 lb)	3.8 kg (8.38 lb)
Wallmount, Din Rail	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

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High Performance Embedded Systems

Series		ECS-9000			
Model No.		ECS-9000-9R	ECS-9000-PoER	ECS-9000-PoE	ECS-9000-6F
Product Image					
System	CPU	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE
	Chipset	Intel® C236	Intel® C236	Intel® C236	Intel® C236
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
	Graphics	Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	DVI-D	1	1	1	1
	LVDS	NA	NA	NA	NA
	DisplayPort	1	1	1	1
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	9 (4 w/ PoE*)	6 (4 w/ PoE*)	6 (4 w/ PoE*)	6 (2 w/ SFP*)
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA
	SFP	NA	NA	NA	2
	M12	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	16 GPIO
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA
	Others	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	NA	NA
Storage	SATA III	2	2	2	2
	SATA II	1	1	1	1
	CFast	1	1	1	1
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
	M2DOM	1 (PCIe 3.0)	1 (PCIe 3.0)	1 (PCIe 3.0)	1 (PCIe 3.0)
Expansion	Mini PCIe	3	3	3	3
	SIM Card	3 (External)	3 (External)	3 (External)	3 (External)
	SUMIT	NA	2 (Optional)	2 (Optional)	NA
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Surge Protection	80V	80V	80V	80V
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")
Weight		3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
Operating Temperature		-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

ECS-9000-6FR	ECS-9000-4G	ECS-9000-4R	ECS-9000-2G	ECS-9000-2R
				
Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE
Intel® C236	Intel® C236	Intel® C236	Intel® C236	Intel® C236
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
NA	NA	NA	NA	NA
1	1	1	1	1
4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
6 (2 w/ SFP*)	4	4	2	2
NA	NA	NA	NA	NA
2	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO	16 GPIO	16 GPIO	16 GPIO	16 GPIO
NA	NA	NA	NA	NA
2 SSD/ HDD Tray (External)	NA	2 SSD/ HDD Tray (External)	NA	2 SSD/ HDD Tray (External)
2	2	2	2	2
1	1	1	1	1
1	1	1	1	1
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 (PCIe 3.0)	1 (PCIe 3.0)	1 (PCIe 3.0)	1 (PCIe 3.0)	1 (PCIe 3.0)
3	3	3	3	3
3 (External)	3 (External)	3 (External)	3 (External)	3 (External)
NA	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
80V	80V	80V	80V	80V
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")	260 x 175 x 79 mm (10.24" x 6.89" x 3.11")
3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Wallmount, DIN Rail, 2U Rackmount -40°C to 75°C (-40°F to 167°F) -40°C to 85°C (-40°F to 185°F)	Wallmount, DIN Rail, 2U Rackmount -40°C to 75°C (-40°F to 167°F) -40°C to 85°C (-40°F to 185°F)	Wallmount, DIN Rail, 2U Rackmount -40°C to 75°C (-40°F to 167°F) -40°C to 85°C (-40°F to 185°F)	Wallmount, DIN Rail, 2U Rackmount -40°C to 75°C (-40°F to 167°F) -40°C to 85°C (-40°F to 185°F)	Wallmount, DIN Rail, 2U Rackmount -40°C to 75°C (-40°F to 167°F) -40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

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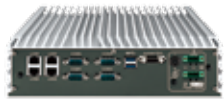
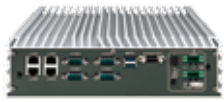

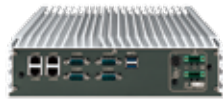
High Performance Embedded Systems

Series		ECS-8000			
Model No.		ECS-8000-PoER	ECS-8000-PoE	ECS-8000-2G	ECS-8000-2R
Product Image					
System	CPU	Intel® Core™ i7-5850EQ/ i7-5700EQ	Intel® Core™ i7-5850EQ/ i7-5700EQ	Intel® Core™ i7-5850EQ/ i7-5700EQ	Intel® Core™ i7-5850EQ/ i7-5700EQ
	Chipset	Intel® QM87	Intel® QM87	Intel® QM87	Intel® QM87
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	204-pin SO-DIMM, DDR3L 1600MHz	204-pin SO-DIMM, DDR3L 1600MHz	204-pin SO-DIMM, DDR3L 1600MHz	204-pin SO-DIMM, DDR3L 1600MHz
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
	Graphics	Intel® Iris™ 6200, HD 5600	Intel® Iris™ 6200, HD 5600	Intel® Iris™ 6200, HD 5600	Intel® Iris™ 6200, HD 5600
	Ethernet	Intel® I218, Intel® I210	Intel® I218, Intel® I210	Intel® I218, Intel® I210	Intel® I218, Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
Display I/O	VGA	1	1	1	1
	DVI-I	NA	NA	NA	NA
	DVI-D	1	1	1	1
	LVDS	NA	NA	NA	NA
	DisplayPort	2	2	2	2
	eDP	1	1	1	1
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	4 (External)	4 (External)	4 (External)	4 (External)
	USB 2.0	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)
	GigE LAN	6 (4 w/ PoE*)	6 (4 w/ PoE*)	2	2
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA
	M12	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	16 GPIO (Internal)	16 GPIO (Internal)	32 GPIO (16 Internal)	32 GPIO (16 Internal)
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	NA
Others	2 SSD/ HDD Tray (External)	NA	NA	2 SSD/ HDD Tray (External)	
Storage	SATA III	2	2	2	2
	SATA II	1	1	1	1
	CFast	1	1	1	1
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
Expansion	Mini PCIe	3	3	3	3
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Surge Protection	80V	80V	80V	80V
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	
Weight	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2, VMware Ready	CE, FCC, EN50155, EN50121-3-2, VMware Ready	CE, FCC, EN50155, EN50121-3-2, VMware Ready	CE, FCC, EN50155, EN50121-3-2, VMware Ready	

ECS-7800		ECS-7000		
ECS-7800-PoER	ECS-7800-PoE	ECS-7000M	ECS-7000-9GD	ECS-7000-9R
				
Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
AMI	AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000
Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8783	IT8783	IT8783	IT8783	IT8783
Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux
1	1	1	1	1
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
2	2	2	2	2
NA	NA	NA	NA	NA
4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232), Max 4 w/ M12	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)
4 (External)	4 (External)	4 (External), Max 2 w/ M12	4 (External)	4 (External)
4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (External), Max 2 w/ M12	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
6 (4 w/ PoE*)	6 (4 w/ PoE*)	6, Max 4 w/ M12	NA	NA
4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	9	9
NA	NA	Max 14 (4 COM, 4 LAN, 4 USB, 2 Power)	NA	NA
1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in
16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA
2 SSD/ HDD Tray (External)	NA	NA	NA	2 SSD/ HDD Tray (External)
2	2	2	2	2
1	1	1	1	1
1	1	1	1	1
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
2	2	2	2	2
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
2 (Optional)	2 (Optional)	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN, M12 (Optional)	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
80V	80V	80V	80V	80V
NA	NA	NA	NA	NA
Yes	Yes	Yes	Yes	Yes
260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
3.0 kg (6.6 lb)	3.0 kg (6.6 lb)	3.5 kg (7.7 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

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High Performance Embedded Systems

Series		ECS-7000			
Model No.		ECS-7000-6GDE	ECS-7000-6GD	ECS-7000-6R	ECS-7000-6G
Product Image					
System	CPU	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
	Chipset	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
	Memory Capacity	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
	Graphics	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000
	Ethernet	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8783	IT8783	IT8783	IT8783
	OS Support	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux
Display I/O	VGA	1	1	1	1
	DVI-I	NA	NA	NA	NA
	DVI-D	1	1	1	1
	LVDS	1	1	1	1
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)
	USB 3.0	4 (External)	4 (External)	4 (External)	4 (External)
	USB 2.0	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
	GigE LAN	6	6	6	6
	PoE LAN	NA	NA	NA	NA
	SFP	NA	NA	NA	NA
	M12	NA	NA	NA	NA
	Audio	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in
	GPIO	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	NA
Storage	SATA III	2	2	2	2
	SATA II	1	1	1	1
	CFast	1	1	1	1
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
Expansion	Mini PCIe	2	2	2	2
	SIM Card	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	SUMIT	2	NA	NA	NA
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Surge Protection	80V	80V	80V	80V
	Ignition Control	NA	NA	NA	NA
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
Weight		2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

ECS-7000-6F	ECS-7000-4G	ECS-7000-2G	ECS-7000-2R	ECS-7000-2V
				
Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
AMI	AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000
Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8783	IT8783	IT8783	IT8783	IT8783
Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux
1	1	1	1	1
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
2	2	2	2	2
4	4	4	4	4
(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)
4 (External)	4 (External)	4 (External)	4 (External)	4 (External)
4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
6 (2 w/ SFP)	4	2	2	2
NA	NA	NA	NA	NA
2	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in
16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
NA	NA	NA	NA	NA
NA	NA	NA	2 SSD/ HDD Tray (External)	4 CH Analog Video/ Audio Capture
2	2	2	2	2
1	1	1	1	1
1	1	1	1	1
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
2	2	2	2	2
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
NA	NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
80V	80V	80V	80V	80V
NA	NA	NA	NA	NA
Yes	Yes	Yes	Yes	Yes
260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

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IVH-9016-PoER

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) In-Vehicle Fanless Embedded System with Intel® CM236, 18 GigE LAN with 16 PoE+, 4 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 18 GigE LAN with 16 IEEE 802.3at PoE+, iAMT 11.0 supported
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD, 5 USB
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



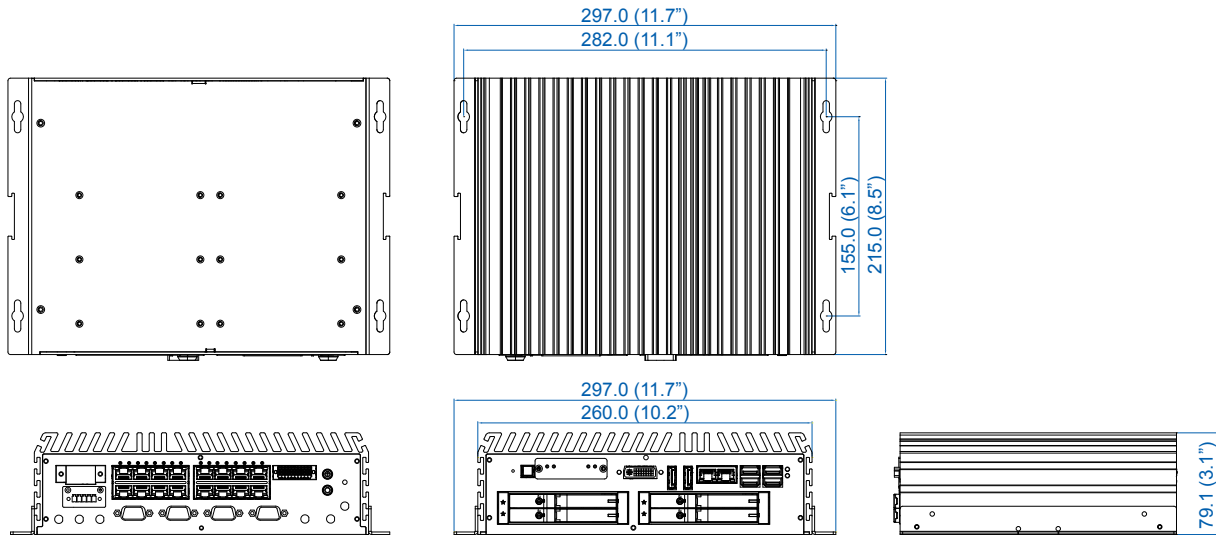
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	6 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
PoE	
LAN 3 to 18	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350

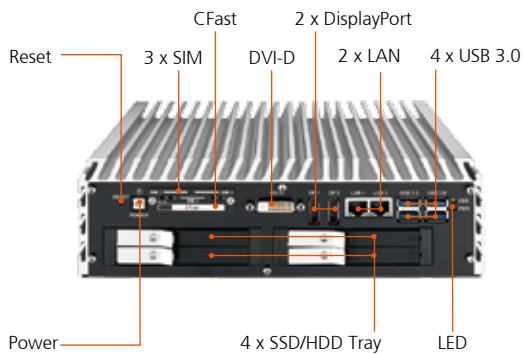
Power	
Power Input	6V to 78V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	5-pin Terminal Block : On, Off, IGN, LED+, LED-
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

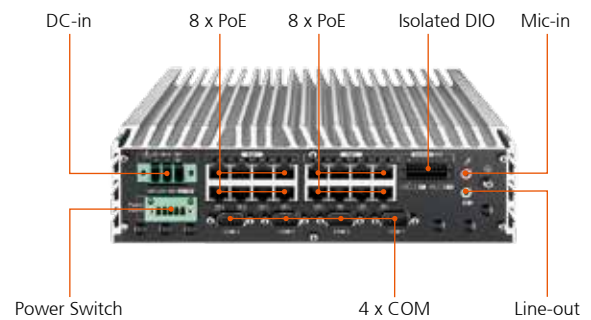
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-9016-PoER505M	IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 18 GigE LAN with 16 PoE+, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
IVH-9016-PoER820Q	IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 18 GigE LAN with 16 PoE+, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
IVH-9016-PoER440Q	IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 18 GigE LAN with 16 PoE+, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

IVH-9008-PoER

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) In-Vehicle Fanless Embedded System with Intel® CM236, 10 GigE LAN with 8 PoE+, 4 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 10 GigE LAN with 8 IEEE 802.3at PoE+, iAMT 11.0 supported
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD, 5 USB
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



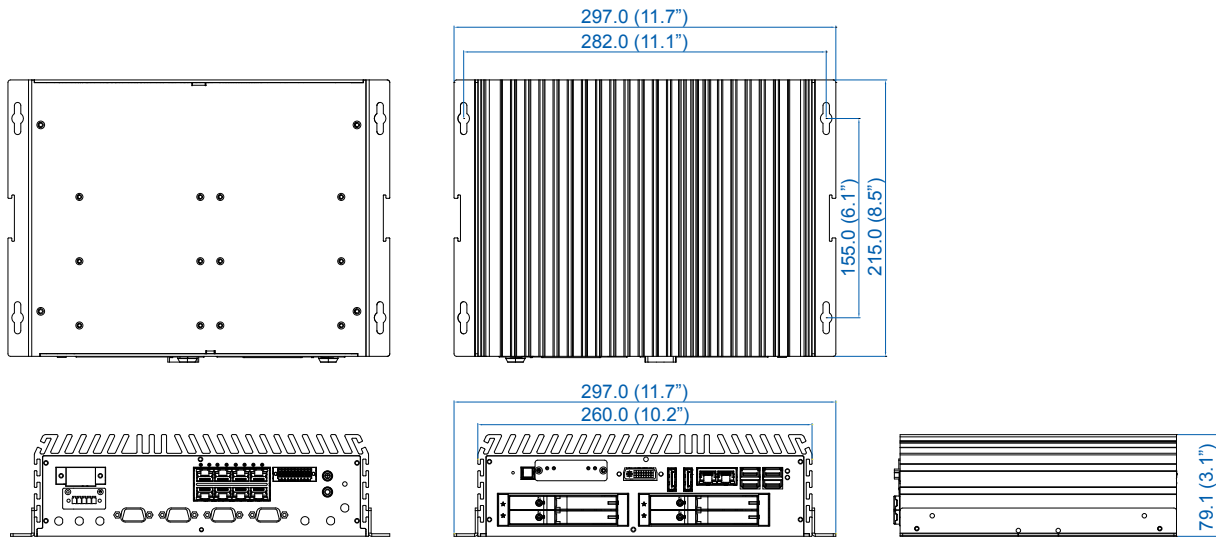
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	6 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
PoE	
LAN 3 to 10	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350

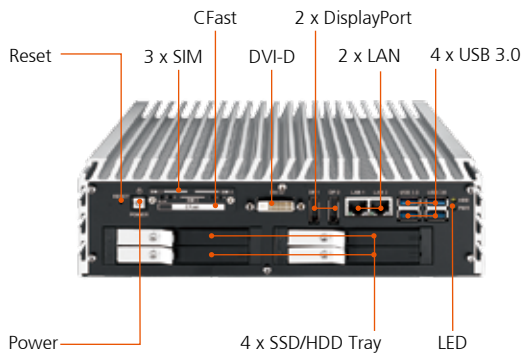
Power	
Power Input	6V to 78V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	5-pin Terminal Block : On, Off, IGN, LED+, LED-
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

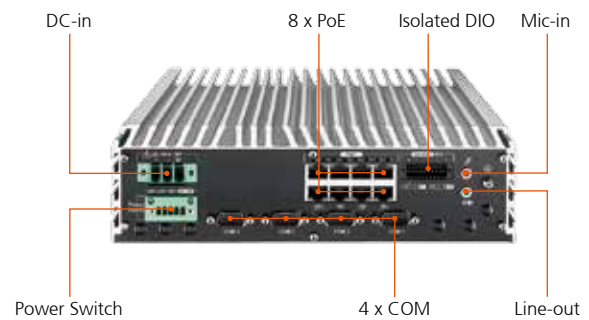
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-9008-PoER505M	IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 10 GigE LAN with 8 PoE+, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
IVH-9008-PoER820Q	IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 10 GigE LAN with 8 PoE+, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
IVH-9008-PoER440Q	IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 10 GigE LAN with 8 PoE+, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

IVH-9000-2R

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) In-Vehicle Fanless Embedded System with Intel® CM236, 2 GigE LAN, 4 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 GigE LAN support iAMT 11.0
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD Tray, 5 USB
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



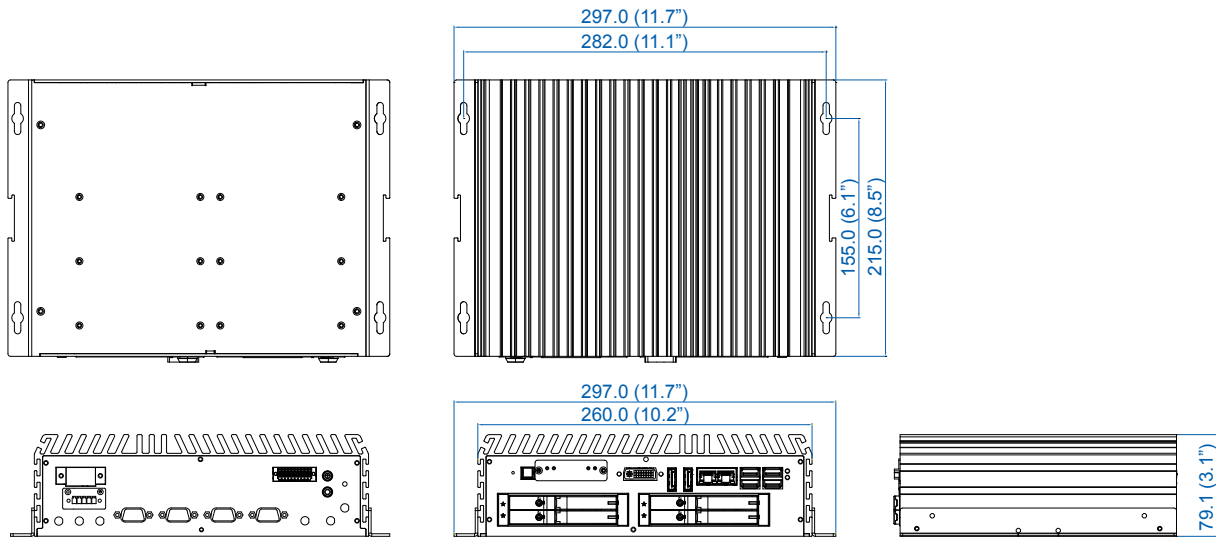
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	6 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

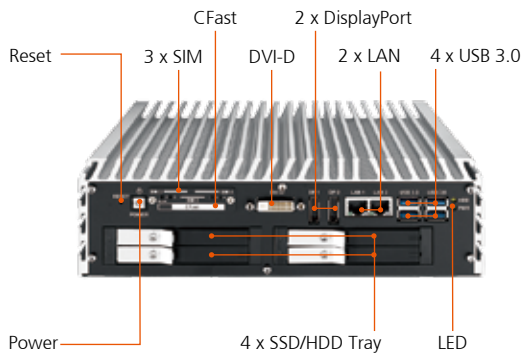
Power	
Power Input	6V to 78V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	5-pin Terminal Block : On, Off, IGN, LED+, LED-
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

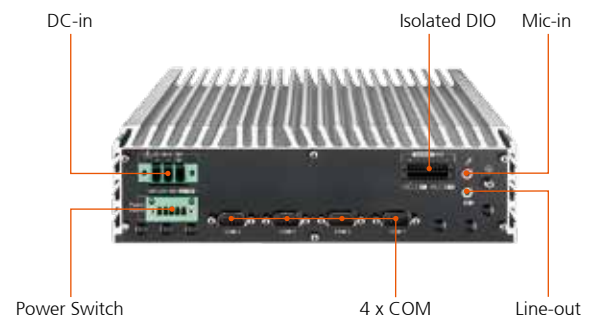
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-9000-2R505M	IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 2 GigE LAN, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
IVH-9000-2R820Q	IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 2 GigE LAN, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
IVH-9000-2R440Q	IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 2 GigE LAN, 4 Front-access SSD Tray, 4 USB 3.0, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

IVH-7700-QRDM-ICY (M12)

Quad Core Intel® Core™ i7/ i5/ i3 Fanless In-Vehicle Embedded System with Intel® QM77, 6 GigE LAN with 4 M12 PoE+, 4 Front-access 15mm SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 M12 IEEE 802.3at PoE+, iAMT 8.0 supported
- 4 Front-access 2.5" SSD Tray (15mm in height)
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 Independent USB 3.0
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



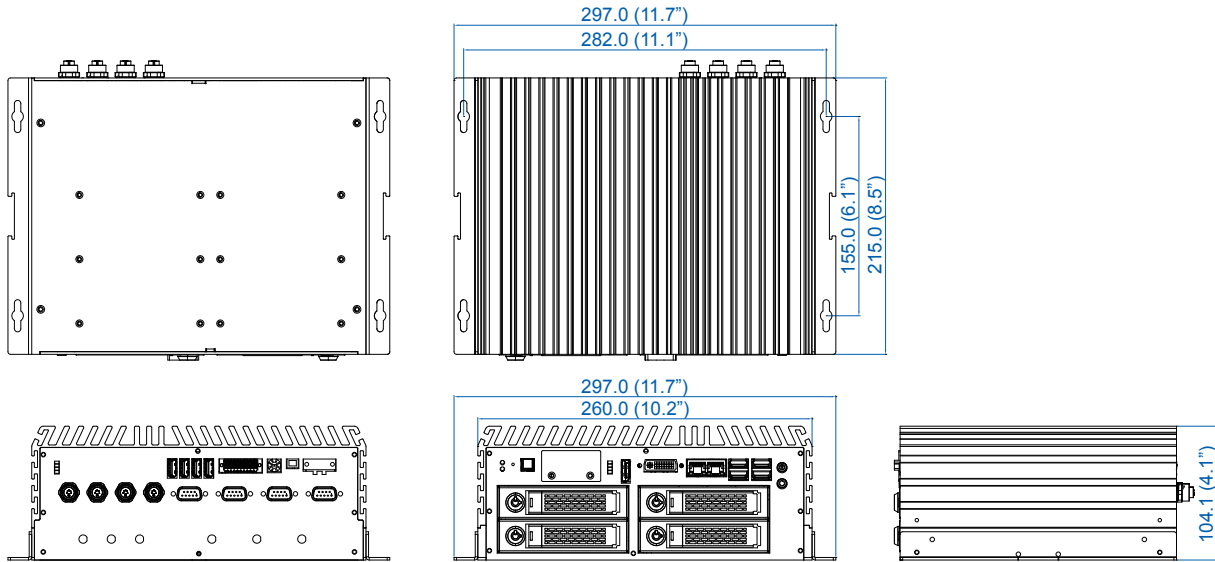
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External, 4 w/ independent controller) ▪ 3 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 ▪ DisplayPort : Up to 2560 x 1600 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 2 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray (15mm in height)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® I210 GigE LAN
PoE (M12)	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector

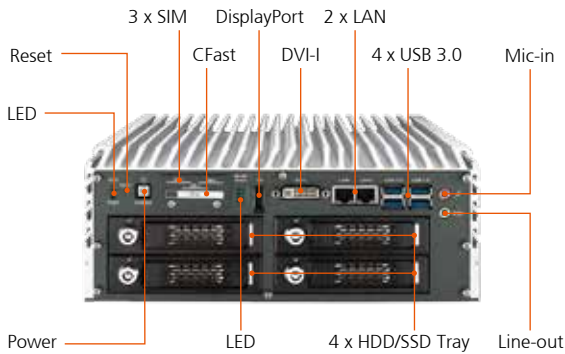
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
Power	
Power Input	6V to 78V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, IGN ▪ DC-in M12 Connector (Optional)
Ignition Control	16 Mode
Remote Switch	2-pin Terminal Block
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 104.1mm (10.2" x 8.5" x 4.1")
Weight	5.5 kg (12.13 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

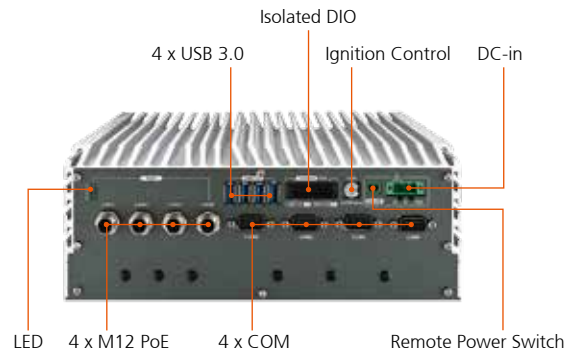
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-7700-QRDM-ICY	IVH-7700, 6 GigE LAN with M12 PoE*, 4 Front-access 15mm SSD Tray, 11 USB, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

IVH-7700-QRD-ICY

Quad Core Intel® Core™ i7/ i5/ i3 Fanless In-Vehicle Embedded System with Intel® QM77, 6 GigE LAN with 4 PoE+, 4 Front-access 15mm SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 8.0 supported
- 4 Front-access 2.5" SSD Tray (15mm in height)
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 Independent USB 3.0
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



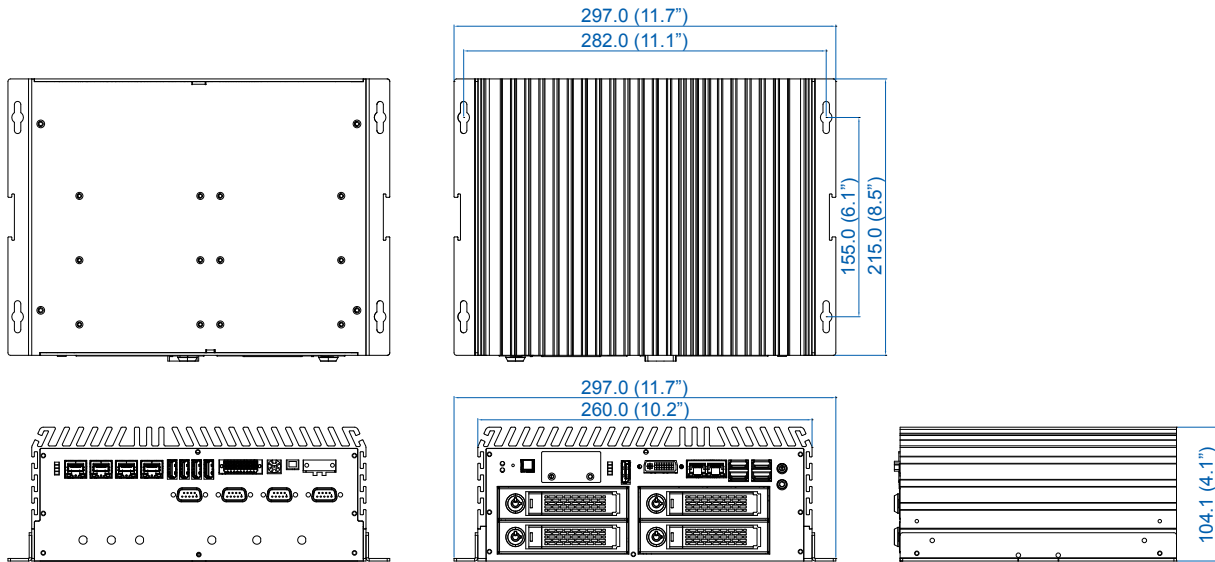
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External, 4 w/ independent controller) ▪ 3 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 ▪ DisplayPort : Up to 2560 x 1600 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 2 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray (15mm in height)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® I210 GigE LAN
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210

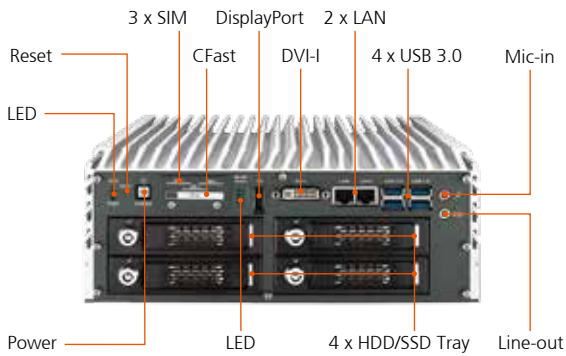
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 78V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode
Remote Switch	2-pin Terminal Block
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 104.1mm (10.2" x 8.5" x 4.1")
Weight	5.5 kg (12.13 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

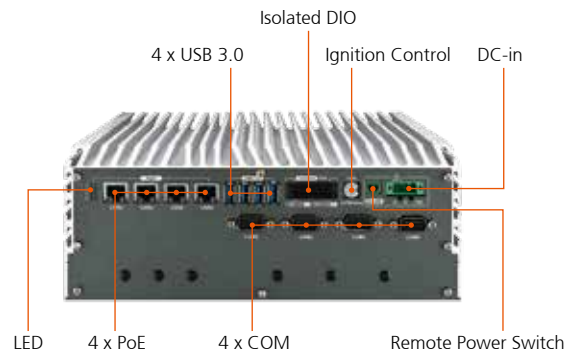
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-7700-QRD-ICY	IVH-7700, 6 GigE LAN with 4 PoE+, 4 Front-access 15mm SSD Tray, 11 USB, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

IVH-7700-QRDM (M12)

Quad Core Intel® Core™ i7/ i5/ i3 Fanless In-Vehicle Embedded System with Intel® QM77, 6 GigE LAN with 4 M12 PoE+, 4 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 M12 IEEE 802.3at PoE+, iAMT 8.0 supported
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD Tray
- 4 Independent USB 3.0
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



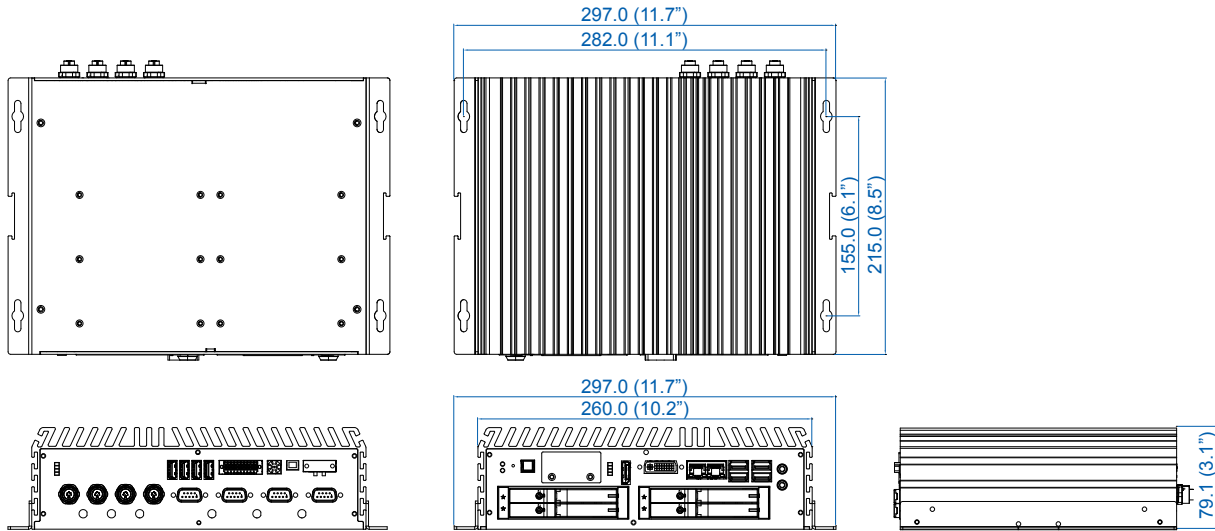
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External, 4 w/ independent controller) ▪ 3 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 ▪ DisplayPort : Up to 2560 x 1600 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 2 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® I210 GigE LAN
PoE (M12)	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector

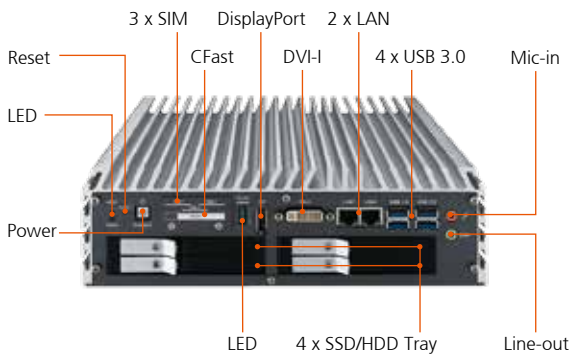
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
Power	
Power Input	6V to 78V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, IGN ▪ DC-in M12 Connector (Optional)
Ignition Control	16 Mode
Remote Switch	2-pin Terminal Block
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

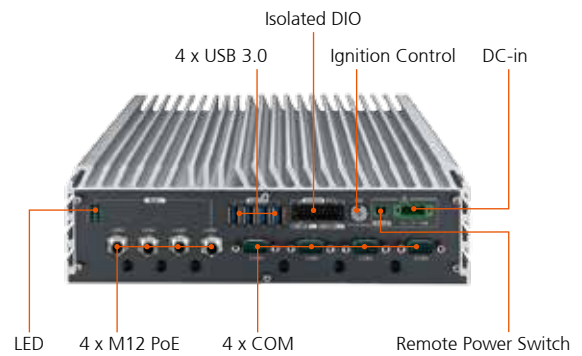
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-7700-QRDM	IVH-7700, 6 GigE LAN with 4 M12 PoE*, 4 Front-access SSD Tray, 11 USB, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

IVH-7700-QRD

Quad Core Intel® Core™ i7/ i5/ i3 Fanless In-Vehicle Embedded System with Intel® QM77, 6 GigE LAN with 4 PoE*, 4 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE*, iAMT 8.0 supported
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD Tray
- 4 Independent USB 3.0
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



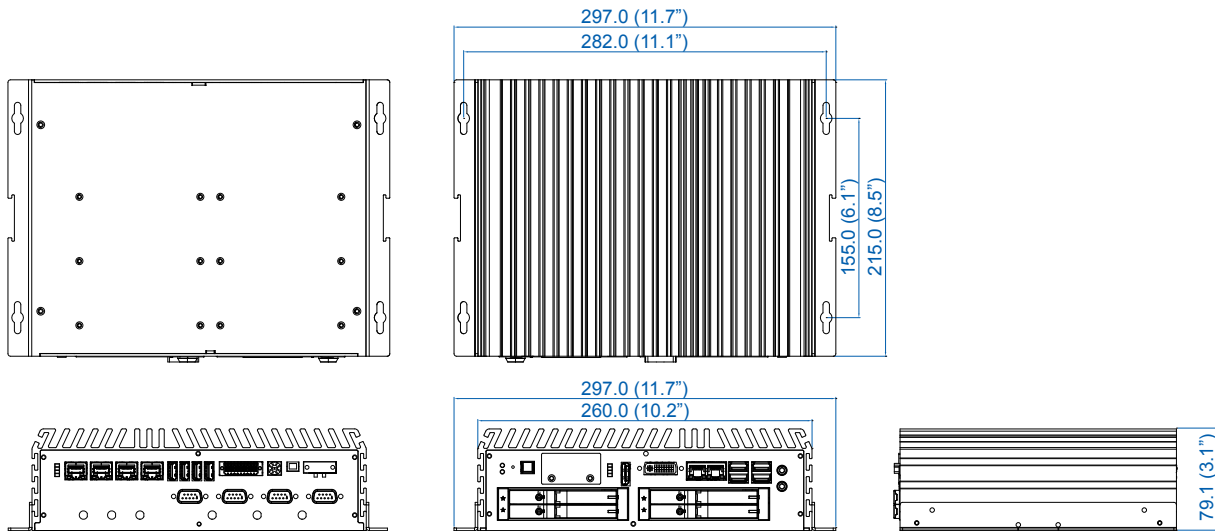
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External, 4 w/ independent controller) ▪ 3 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 3 Mini PCIe Socket for PCIe/ USB/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 ▪ DisplayPort : Up to 2560 x 1600 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 2 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 4 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® I210 GigE LAN
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210

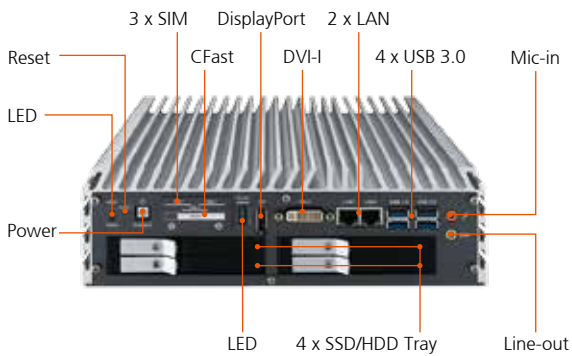
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
Power	
Power Input	6V to 78V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode
Remote Switch	2-pin Terminal Block
Surge Protection	Up to 200V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

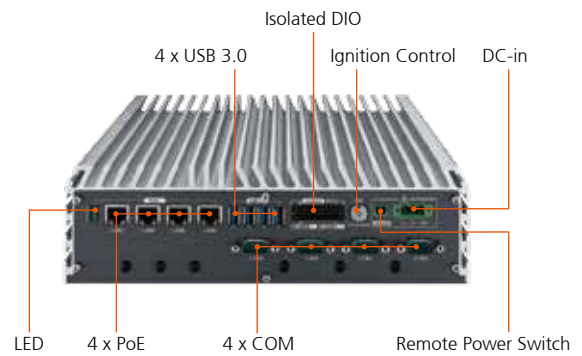
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

IVH-7700-QRD	IVH-7700, 6 GigE LAN with 4 PoE+, 4 Front-access SSD Tray, 11 USB, 4 COM, 4 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9000-9GD

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 9 GigE LAN with 4 PoE+, 3 SIM, 6 USB 3.0, M2DOM, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 9 Independent GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 16 Isolated DIO, 4 COM, 6 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



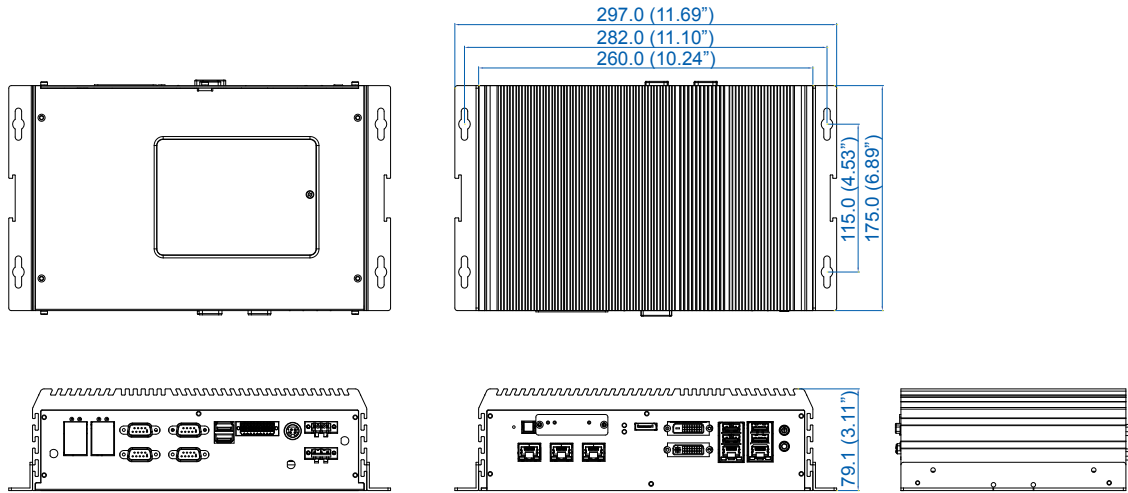
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 3 Mini PCIe Socket : ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

PoE	
LAN 3 to 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 7 to 9	Intel® 82574L GigE LAN
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

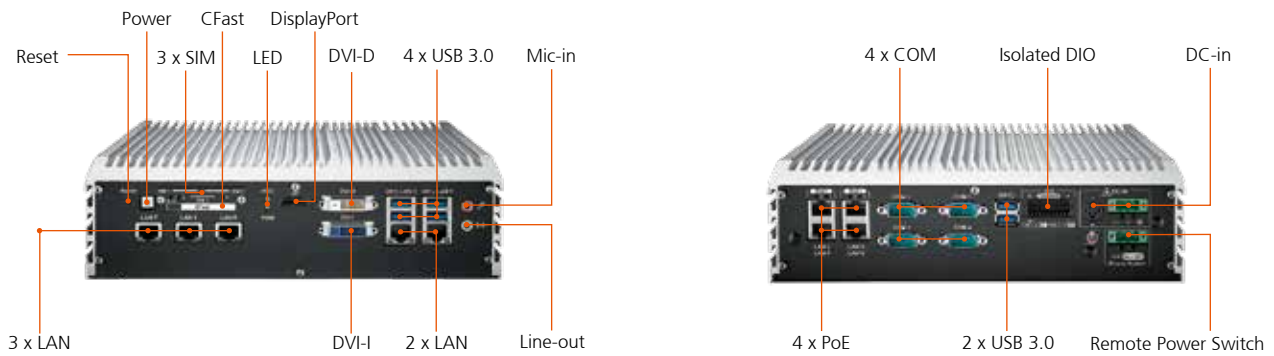
Dimensions

Unit : mm/ inch



Front I/O

Rear I/O



Order Information

ECS-9000-9GD	ECS-9000, 9 GigE LAN with 4 PoE+, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9000-9R

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 9 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 3 SIM, 6 USB 3.0, M2DOM, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 9 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 16 Isolated DIO, 4 COM, 6 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



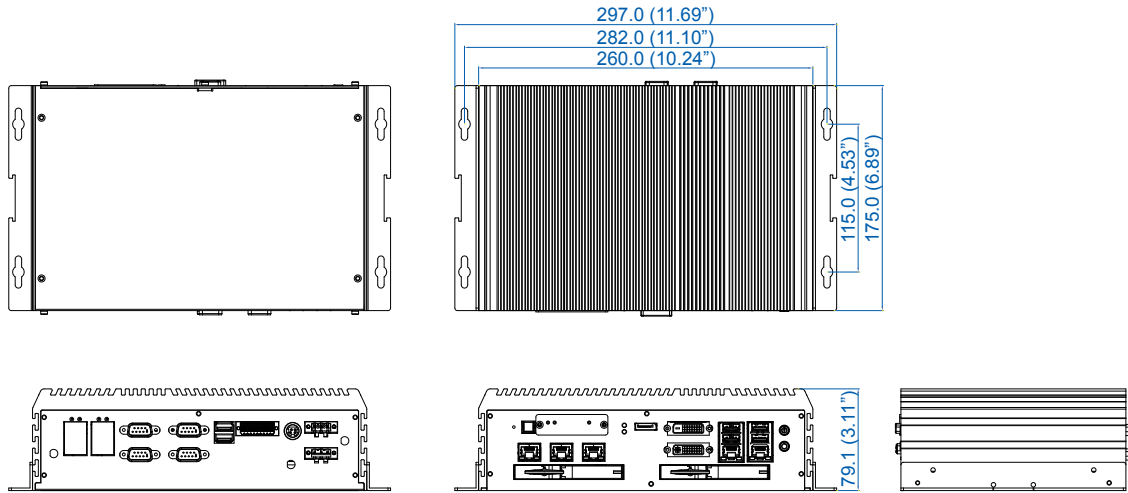
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 3 Mini PCIe Socket : ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

PoE	
LAN 3 to 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 7 to 9	Intel® 82574L GigE LAN
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

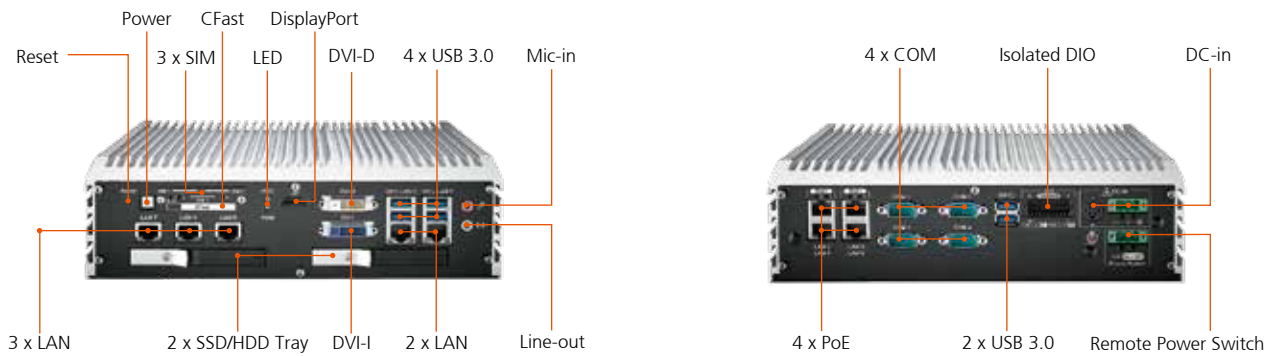
Dimensions

Unit : mm/ inch



Front I/O

Rear I/O



Order Information

ECS-9000-9R	ECS-9000, 9 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

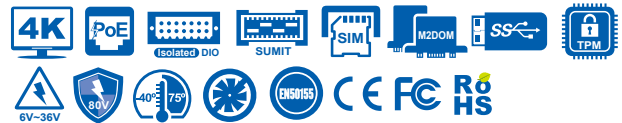
ECS-9000-PoER

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 3 SIM, 6 USB 3.0, M2DOM, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 16 Isolated DIO, 4 COM, 6 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



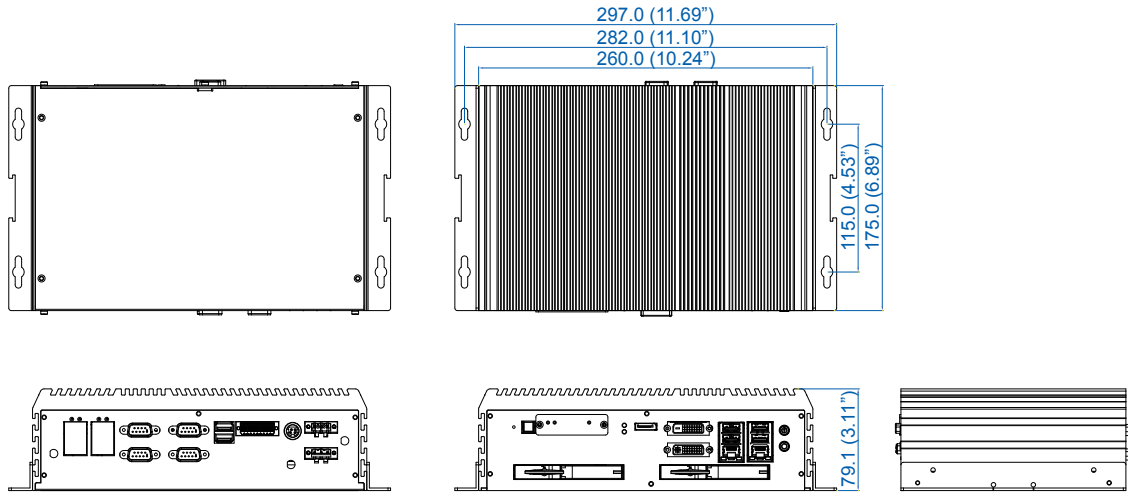
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5"SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

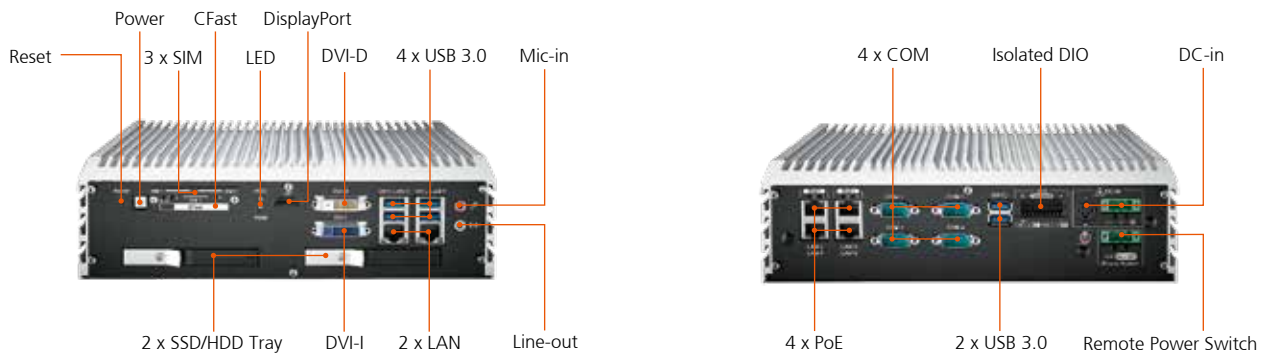
Dimensions

Unit : mm/ inch



Front I/O

Rear I/O



Order Information

ECS-9000-PoER	ECS-9000, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

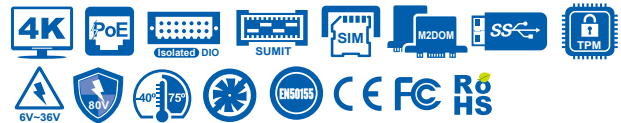
ECS-9000-PoE

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 4 PoE+, 3 SIM, 6 USB 3.0, M2DOM, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 16 Isolated DIO, 4 COM, 6 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



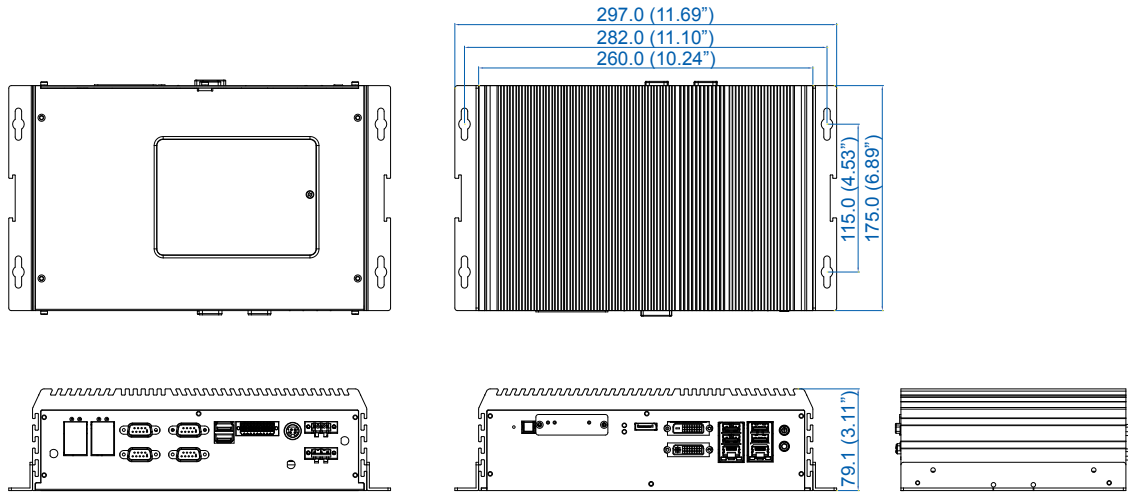
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

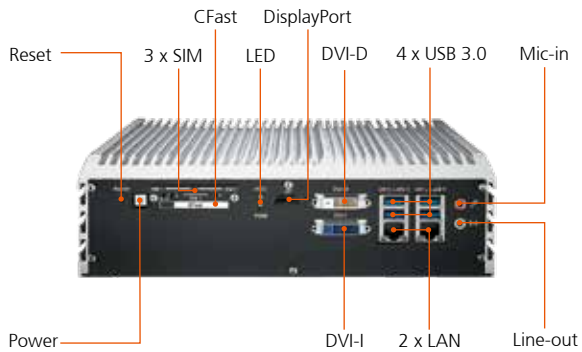
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

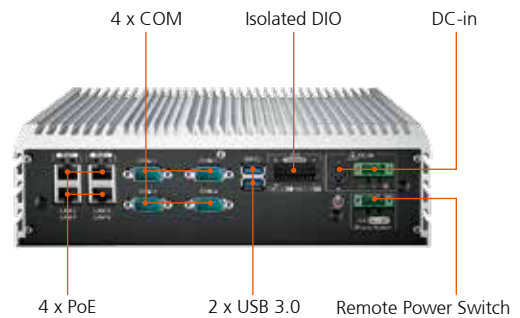
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-PoE	ECS-9000, 6 GigE LAN with 4 PoE+, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

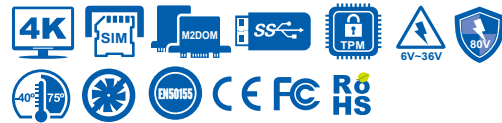
ECS-9000-6F

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 2 SFP, 3 SIM, 6 USB 3.0, M2DOM, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 2 SFP*, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



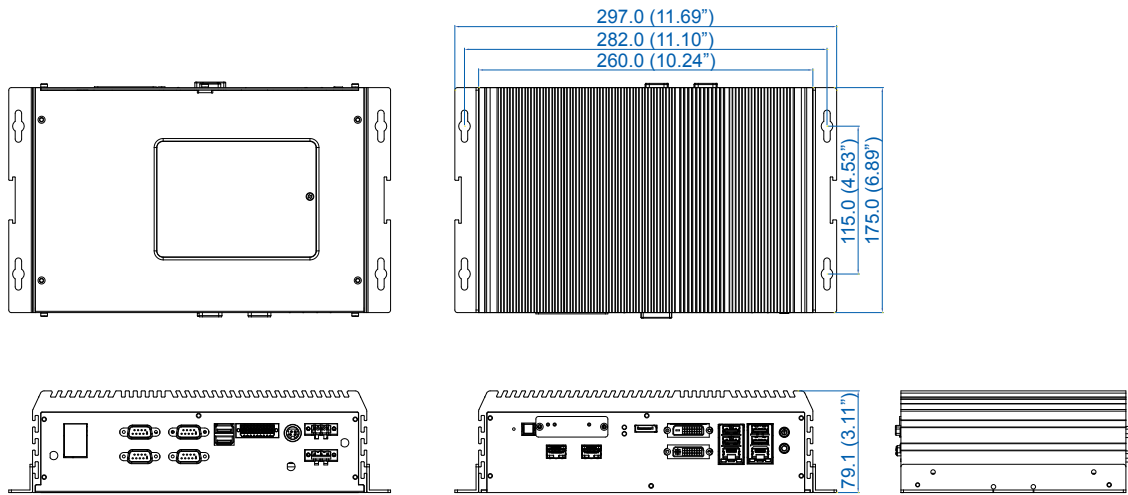
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

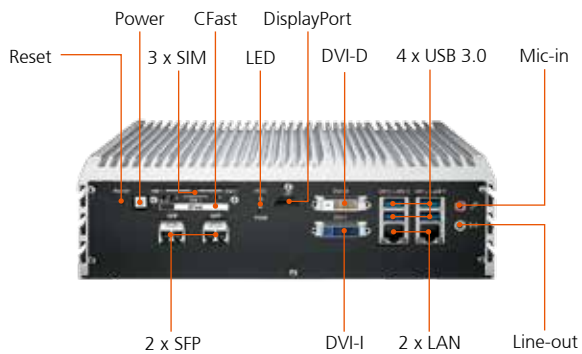
LAN 5	Intel® I350 GigE LAN supports SFP
LAN 6	Intel® I350 GigE LAN supports SFP
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

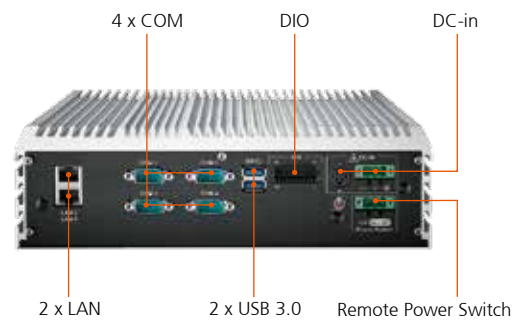
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-6F	ECS-9000, 6 GigE LAN with 2 SFP, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

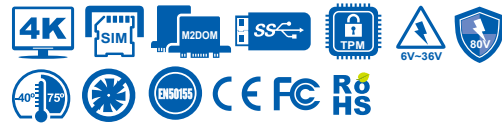
ECS-9000-6FR

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 2 SFP, 2 Front-access SSD Tray, 3 SIM, 6 USB 3.0, M2DOM, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 2 SFP*, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



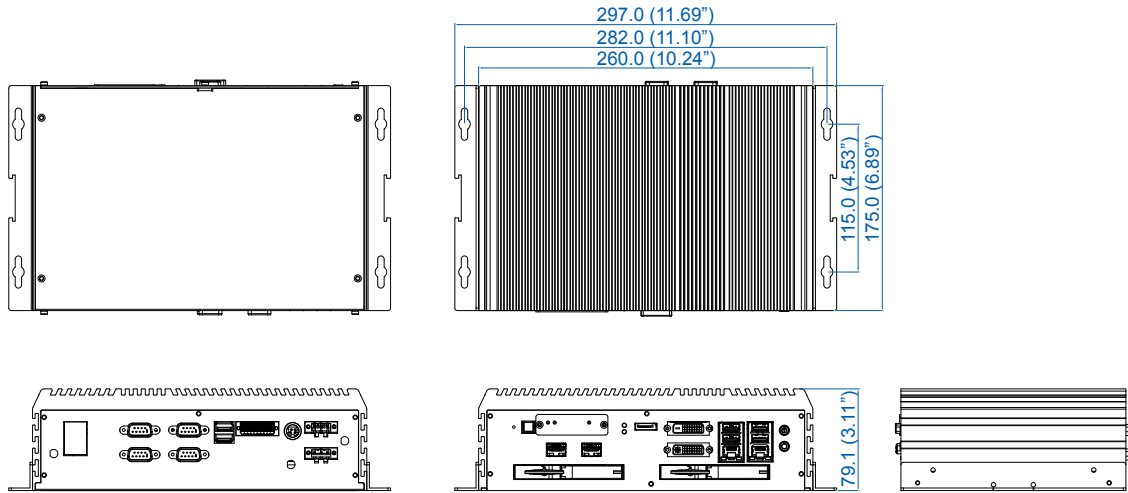
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 3 Mini PCIe Socket : ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

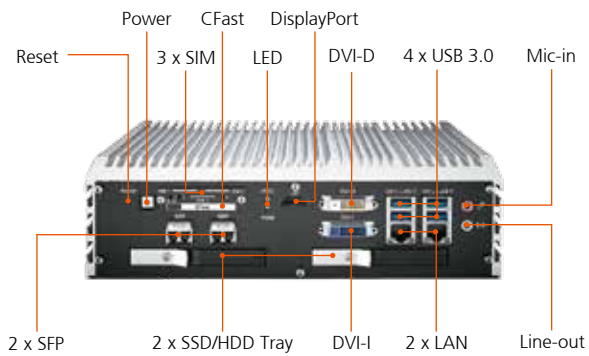
LAN 5	Intel® I350 GigE LAN supports SFP
LAN 6	Intel® I350 GigE LAN supports SFP
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

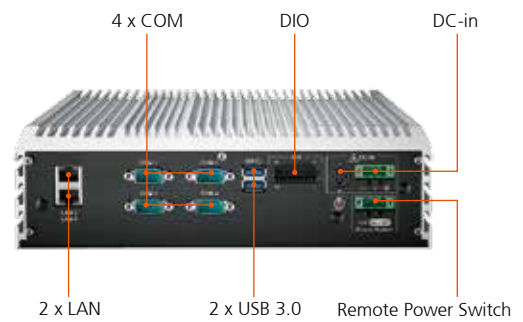
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-6FR	ECS-9000, 6 GigE LAN with 2 SFP, 2 Front-access SSD Tray, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9000-4G

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 4 GigE LAN, 3 SIM, 6 USB 3.0, M2DOM, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 4 Independent GigE LAN, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



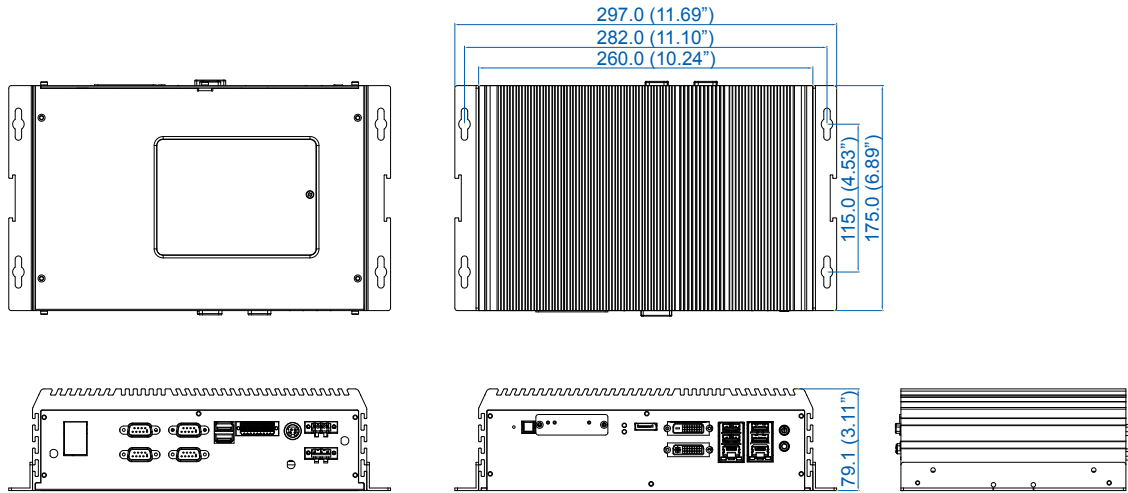
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s) /SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

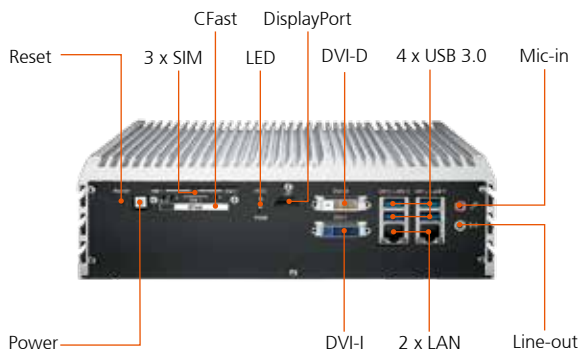
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

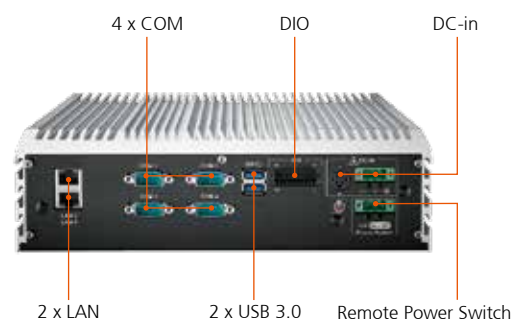
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-4G	ECS-9000, 4 GigE LAN, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9000-4R

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 4 GigE LAN, 2 Front-access SSD Tray, 3 SIM, 6 USB 3.0, M2DOM, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 4 Independent GigE LAN, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



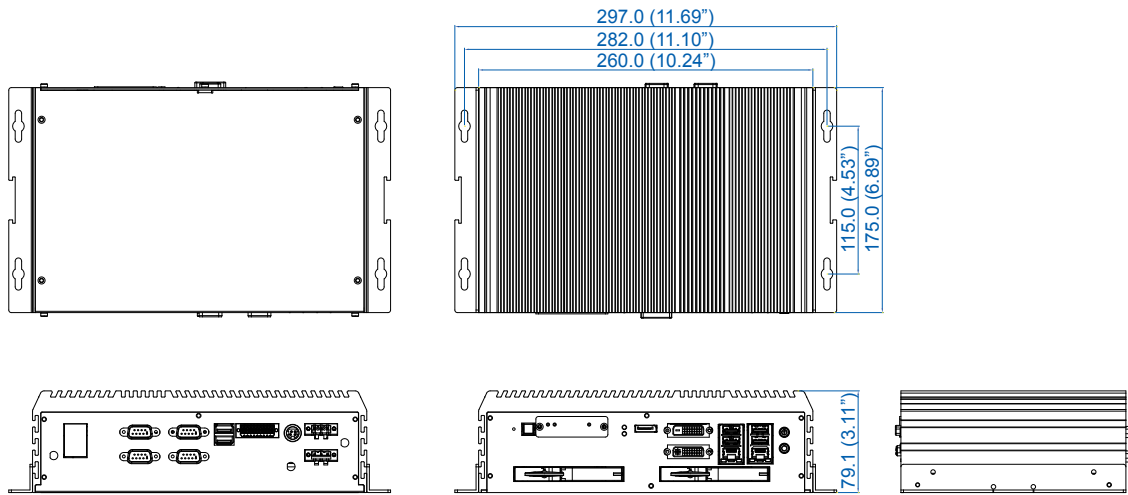
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 3 Mini PCIe Socket : ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

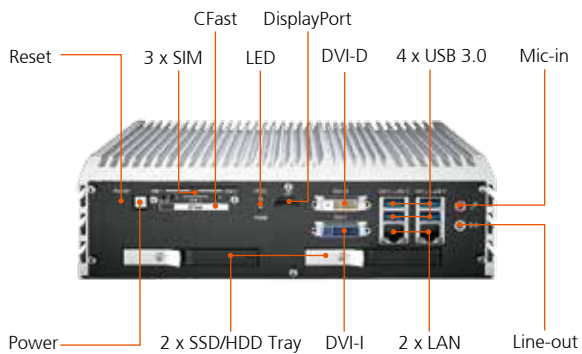
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

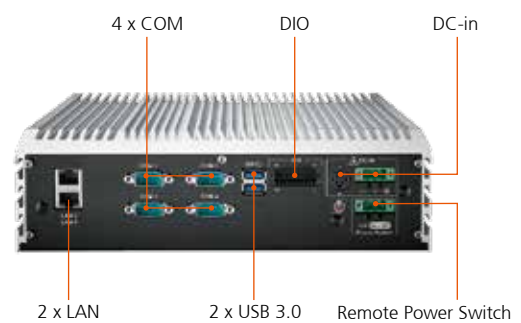
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-4R	ECS-9000, 4 GigE LAN, 2 Front-access SSD Tray, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9000-2G

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 2 GigE LAN, 3 SIM, 6 USB 3.0, M2DOM, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



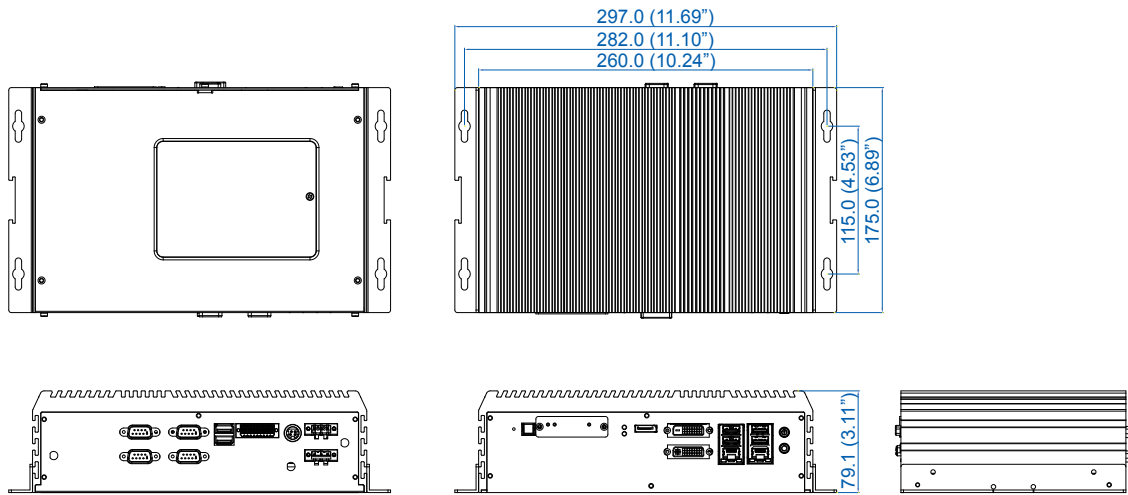
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

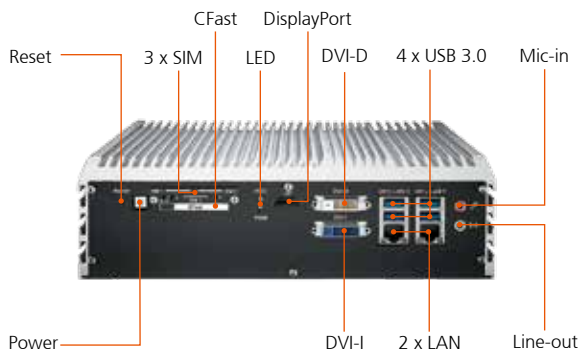
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

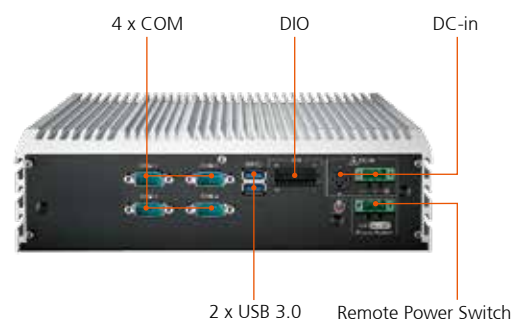
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-2G	ECS-9000, 2 GigE LAN, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9000-2R

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 2 GigE LAN, 2 Front-access SSD Tray, 3 SIM, 6 USB 3.0, M2DOM, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



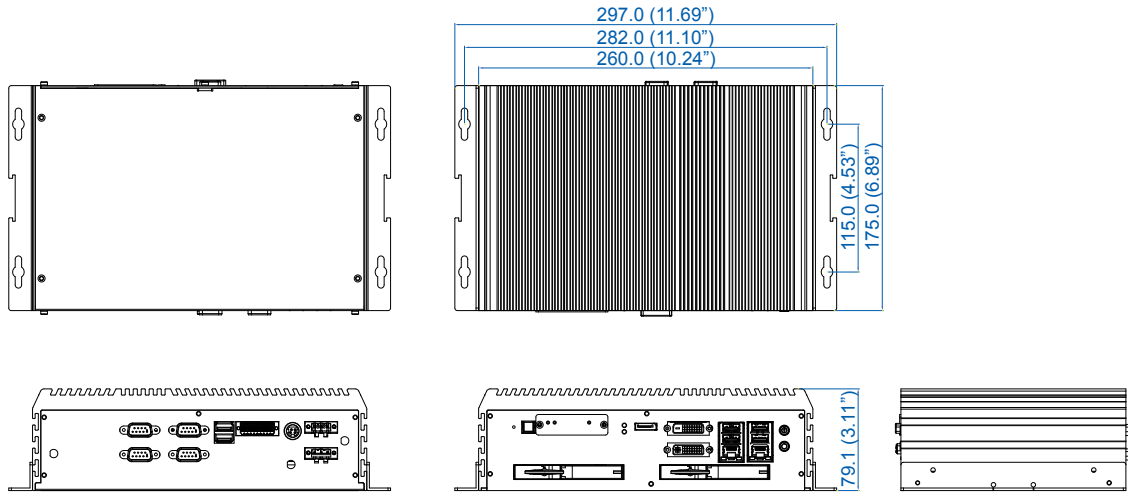
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB 3.0/ External SIM Card
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

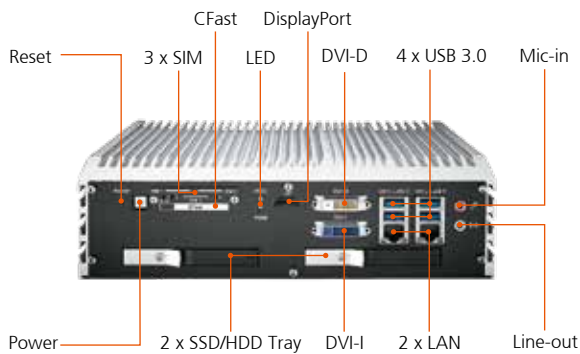
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

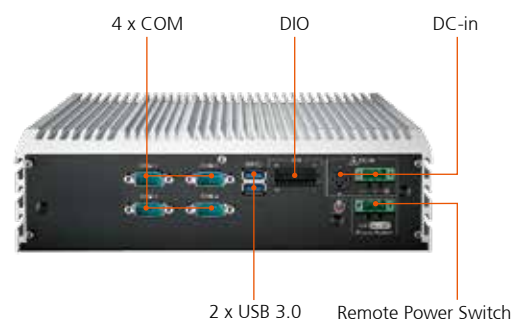
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9000-2R	ECS-9000, 2 GigE LAN, 2 Front-access SSD Tray, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-8000-PoER/ PoE/ 2G/ 2R

Quad Core Intel® Core™ i7 (Broadwell-H) Fanless Embedded System with Intel® QM87 Chipset, 6 GigE LAN with 4 PoE*, 2 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7 Mobile Processor (Broadwell-H)
- VGA/ DVI-D/ DisplayPort/ eDP Interface, up to 3 independent 4K displays
- 6 GigE LAN with 4 IEEE 802.3at PoE*
- 3 Mini PCIe Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 External SIM Card Socket
- 2 Front-access 2.5" SSD Tray, 1 Front-access CFast Socket
- 16 Isolated DIO (8 DI, 8 DO)
- Fanless, -25°C to 70°C Operating Temperature
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



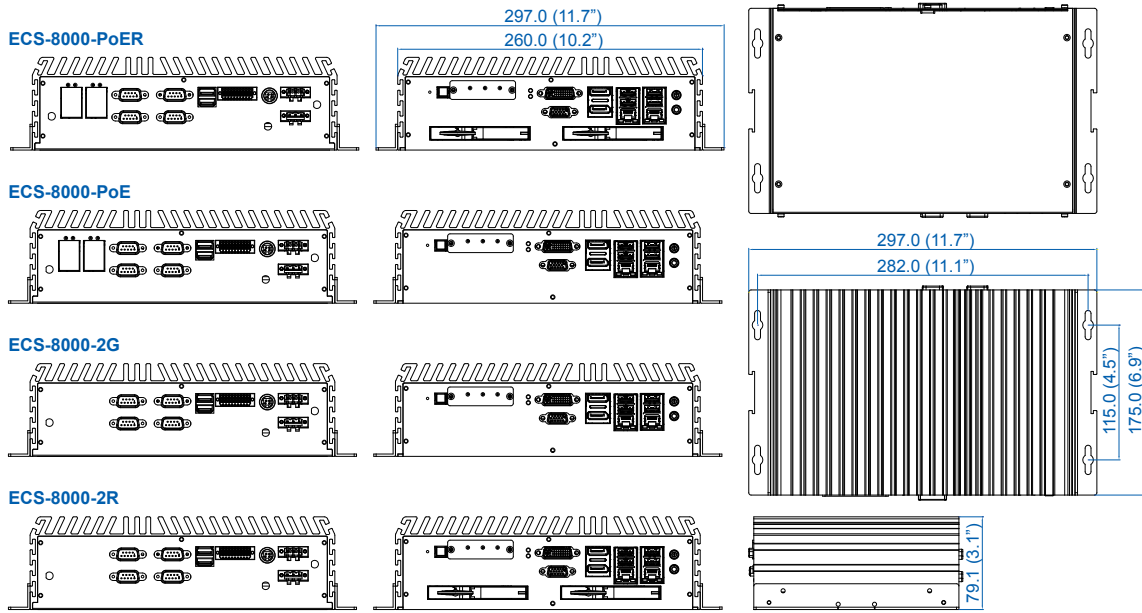
Specifications

System	
Processor	Quad Core Intel® Core™ i7-5850EQ/ i7-5700EQ (Broadwell-H)
Chipset	Intel® QM87
BIOS	AMI
SIO	IT8786E
Memory	2 DDR3L 1600MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 ▪ 3 USB 2.0 (2 External, 1 Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (ECS-8000-PoER, ECS-8000-PoE)
GPIO	16 GPIO (Internal)
LED	Power, HDD, Wireless, PoE
SIM Card	2 SIM Card Socket (External)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 3 Mini PCIe Socket : ▪ 2 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Half-size for PCIe/ USB
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	<ul style="list-style-type: none"> ▪ Intel® Iris™ Pro Graphics 6200 (5850EQ) ▪ Intel® HD Graphics 5600 (5700EQ)
Interface	<ul style="list-style-type: none"> ▪ VGA : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1080 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz ▪ eDP : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ECS-8000-PoER, 2R : 2 Front-access 2.5" SSD/ HDD Tray ECS-8000-PoE, 2G : 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I218 GigE LAN supports iAMT 9.5
LAN 2	Intel® I210 GigE LAN

PoE (ECS-8000-PoER, ECS-8000-PoE)	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2, VMware Ready

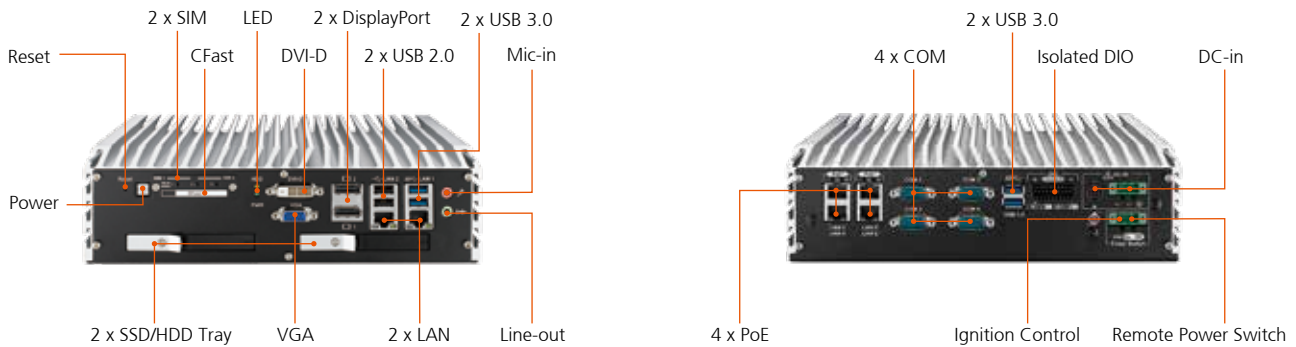
Dimensions

Unit : mm/ inch



Front I/O (ECS-8000-PoER)

Rear I/O (ECS-8000-PoER)



Order Information

ECS-8000-PoER850Q	ECS-8000, Intel® Core™ i7-5850EQ Processor (Broadwell-H), 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 7 USB, 4 COM, 2 SIM, Isolated DIO, 16 GPIO
ECS-8000-PoER700Q	ECS-8000, Intel® Core™ i7-5700EQ Processor (Broadwell-H), 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 7 USB, 4 COM, 2 SIM, Isolated DIO, 16 GPIO
ECS-8000-PoE850Q	ECS-8000, Intel® Core™ i7-5850EQ Processor (Broadwell-H), 6 GigE LAN with 4 PoE+, 7 USB, 4 COM, 2 SIM, Isolated DIO, 16 GPIO
ECS-8000-PoE700Q	ECS-8000, Intel® Core™ i7-5700EQ Processor (Broadwell-H), 6 GigE LAN with 4 PoE+, 7 USB, 4 COM, 2 SIM, Isolated DIO, 16 GPIO
ECS-8000-2G850Q	ECS-8000, Intel® Core™ i7-5850EQ Processor (Broadwell-H), 2 GigE LAN, 7 USB, 4 COM, 2 SIM, 32 GPIO
ECS-8000-2G700Q	ECS-8000, Intel® Core™ i7-5700EQ Processor (Broadwell-H), 2 GigE LAN, 7 USB, 4 COM, 2 SIM, 32 GPIO
ECS-8000-2R850Q	ECS-8000, Intel® Core™ i7-5850EQ Processor (Broadwell-H), 2 Front-access SSD Tray, 2 GigE LAN, 7 USB, 4 COM, 2 SIM, 32 GPIO
ECS-8000-2R700Q	ECS-8000, Intel® Core™ i7-5700EQ Processor (Broadwell-H), 2 Front-access SSD Tray, 2 GigE LAN, 7 USB, 4 COM, 2 SIM, 32 GPIO
M340L-W28M1	Vecow DDR3L 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
DDR3L4G	Certified DDR3L 4G RAM
DDR3L8G	Certified DDR3L 8G RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
TMBK-20P-100	Terminal Block 20-pin to SCSI, 100cm
TMBK-20P-500	Terminal Block 20-pin to SCSI, 500cm
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

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1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-7800-PoER/ PoE

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE*
- 2 Front-access 2.5" SSD/ HDD Tray
- 16 Isolated DIO, 16 GPIO
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- 4 COM, 4 USB 3.0, 4 USB 2.0, 1 Front-access CFAST
- 2 Mini PCIe, 2 SATA III, 1 SATA II, 2 SUMIT (Optional)



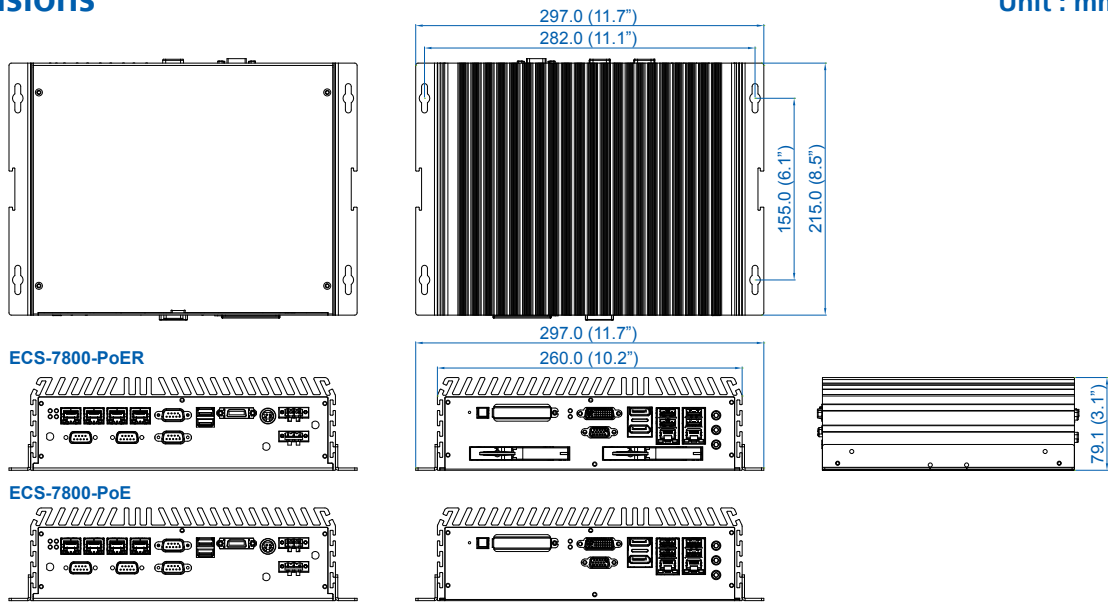
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
SUMIT A, B	2 (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/ Push-out Ejector ▪ ECS-7800-PoER : 2 2.5" SSD/ HDD Tray ▪ ECS-7800-PoE : 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in

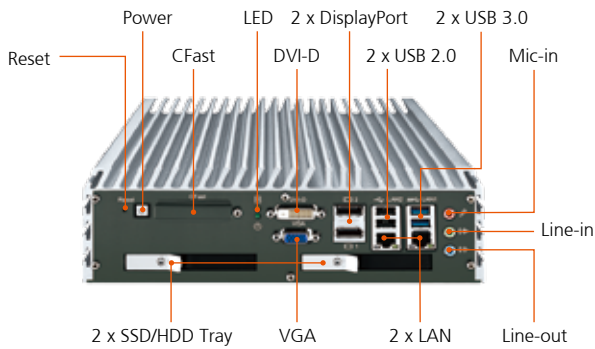
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	3.0 kg (6.6 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

Dimensions

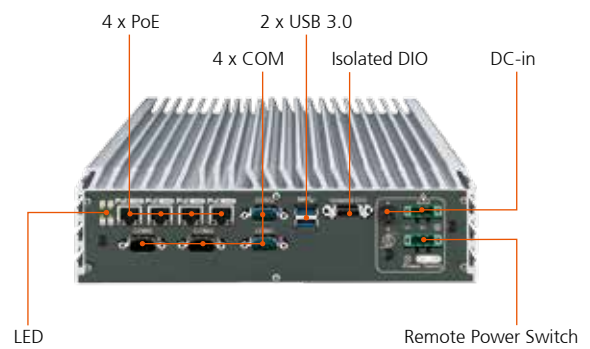
Unit : mm/ inch



Front I/O (ECS-7800-PoER)



Rear I/O (ECS-7800-PoER)



Order Information

ECS-7800-PoER	ECS-7800, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
ECS-7800-PoE	ECS-7800, 6 GigE LAN with 4 PoE+, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-7000M (M12)

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 6 GigE LAN with 4 M12 GigE LAN, 2 M12 Power, 4 M12 COM, 4 M12 USB 3.0, Isolated DIO, 2 2.5" SSD, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with up to 4 M12 connections, iAMT 8.0 supported
- Up to 4 M12 COM, 4 M12 USB 3.0, 4 USB 2.0
- M12 6V to 36V DC-in with 80V Surge Protection, M12 Remote Power Switch
- 16 Isolated DIO, 16 GPIO
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 2.5" SSD/ HDD, 1 Front-access CFast Socket
- 2 Mini PCIe, 2 SATA III, 1 SATA II



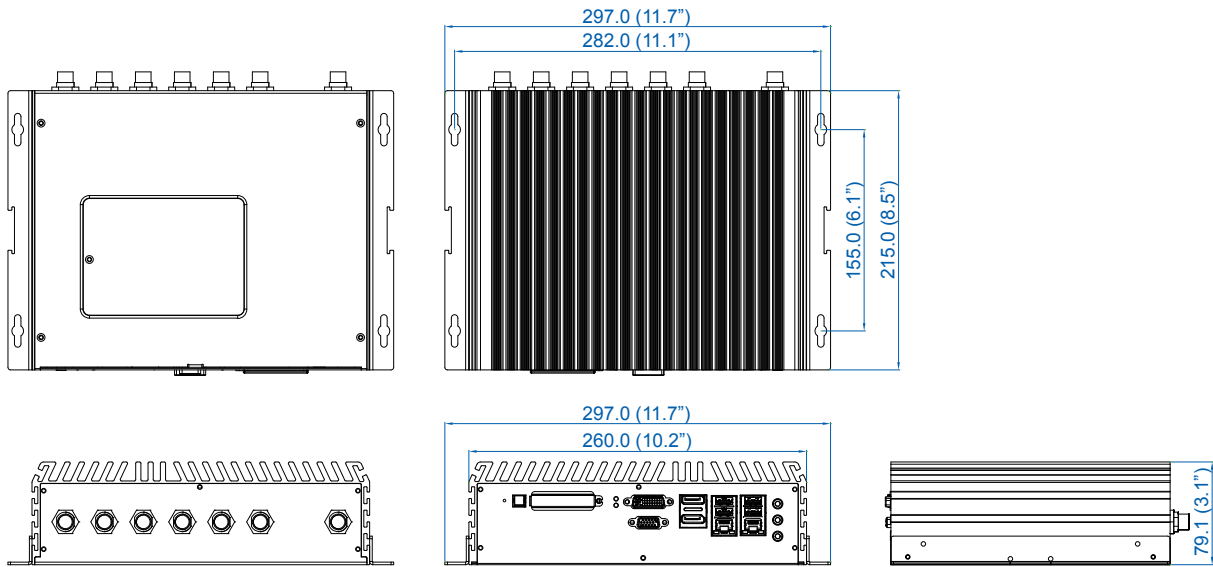
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485, M12 Connector ▪ 1 COM RS-232, M12 Connector ▪ 2 COM RS-232, M12 Connector (By request)
USB	<ul style="list-style-type: none"> ▪ 2 External USB 3.0, M12 Connector ▪ 2 USB 3.0 (External) ▪ 2 USB 2.0 (External) ▪ 2 External USB 2.0, M12 Connector (From Internal JST Connector, by request)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (by request)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in

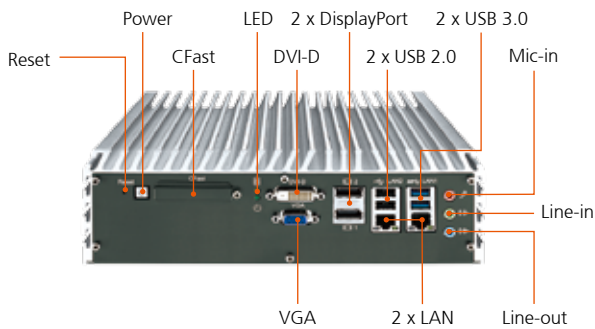
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN
LAN 3	Intel® 82574L GigE LAN, M12 Connector
LAN 4	Intel® 82574L GigE LAN, M12 Connector
LAN 5	Intel® 82574L GigE LAN, M12 Connector (By request)
LAN 6	Intel® 82574L GigE LAN, M12 Connector (By request)
Power	
Power Input	<ul style="list-style-type: none"> ▪ 6V to 36V, DC-in ▪ DC-in M12 Connector (By request)
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block ▪ M12 Connector (By request)
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	3.5 kg (7.72 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

Dimensions

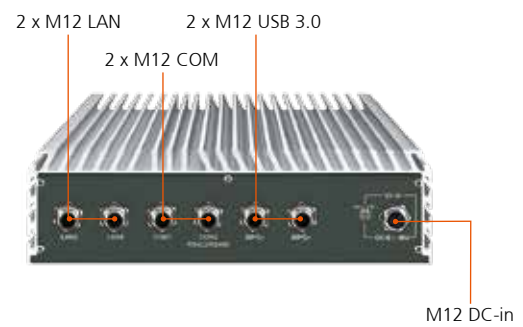
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-7000M	ECS-7000M, 2 M12 Power, 6 GigE LAN w/ 4 M12, 8 USB w/ 4 M12, 4 M12 COM, 1 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-7000-9GD/ 9R

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 9 GigE LAN, 2 Front-access SSD/ HDD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 9 Independent GigE LAN, iAMT 8.0 supported
- 16 Isolated DIO, 16 GPIO
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- 4 COM, 4 USB 3.0, 4 USB 2.0
- Front-access : 2 2.5" SSD/ HDD Tray, 1CFast Socket
- 2 Mini PCIe, 2 SATA III, 1 SATA II



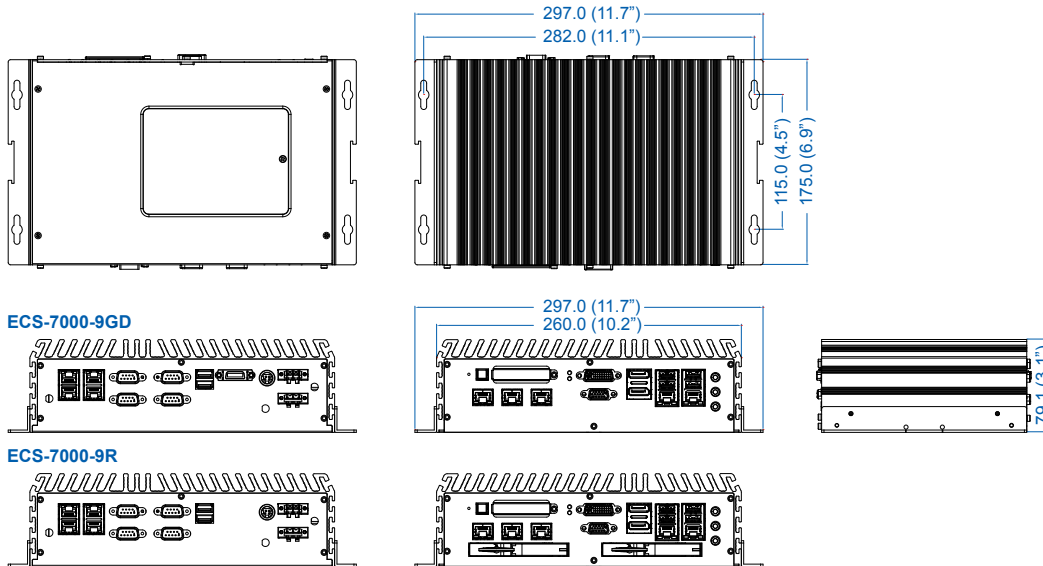
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (ECS-7000-9GD only)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ ECS-7000-9R : 2 Front-access 2.5" SSD/ HDD Tray ▪ ECS-7000-9GD : 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2 to 9	Intel® 82574L GigE LAN

Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

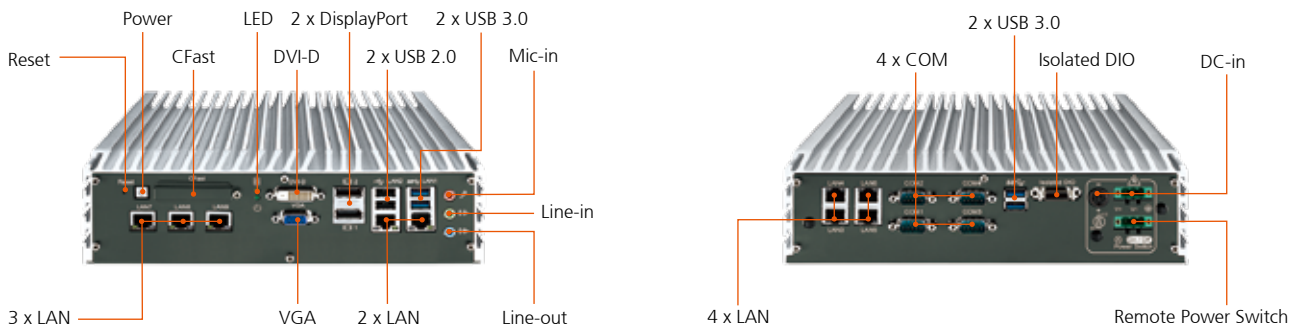
Dimensions

Unit : mm/ inch



Front I/O (ECS-7000-9GD)

Rear I/O (ECS-7000-9GD)



Order Information

ECS-7000-9GD	ECS-7000, 9 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
ECS-7000-9R	ECS-7000, 9 GigE LAN, 2 Front-access SSD Tray, 8 USB, 4 COM, 1 SIM, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WMM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-7000-6GDE/ 6GD/ 6R/ 6G/ 6F

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 6 GigE LAN, 2 Front-access SSD/ HDD Tray, Isolated DIO/ SUMIT/ 2 SFP, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 Independent GigE LAN, iAMT 8.0 supported
- 16 Isolated DIO, 16 GPIO
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- 4 COM, 4 USB 3.0, 4 USB 2.0
- 2 2.5" SSD/ HDD, 1 Front-access CFast Socket
- SUMIT A, B, 2 Mini PCIe, 2 SATA III, 1 SATA II



Specifications

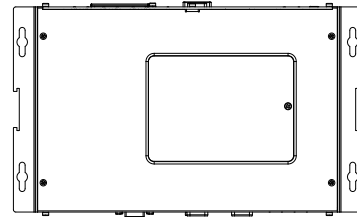
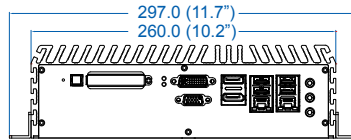
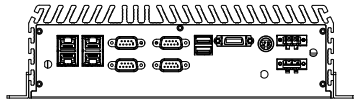
System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (ECS-7000-6GDE, ECS-7000-6GD)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
SUMIT A, B	2 SUMIT Slot (ECS-7000-6GDE only)
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ ECS-7000-6R : 2 Front-access 2.5" SSD/ HDD Tray ▪ ECS-7000-6GDE, 6GD, 6G, 6F : 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in

Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2 to 4	Intel® 82574L GigE LAN
LAN 5, LAN 6	ECS-7000-6GDE, 6GD, 6G, 6R : Intel® 82574L GigE LAN ECS-7000-6F : Intel® I350 GigE LAN supports 1000BASE SFP
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

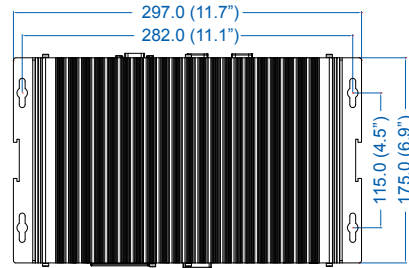
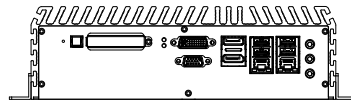
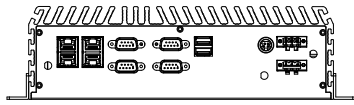
Dimensions

Unit : mm/ inch

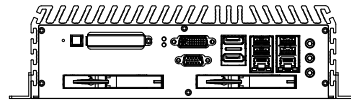
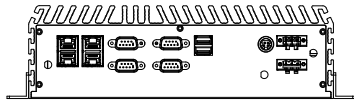
ECS-7000-6GDE/ ECS-7000-6GD



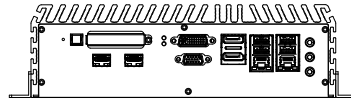
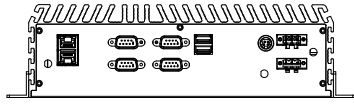
ECS-7000-6G



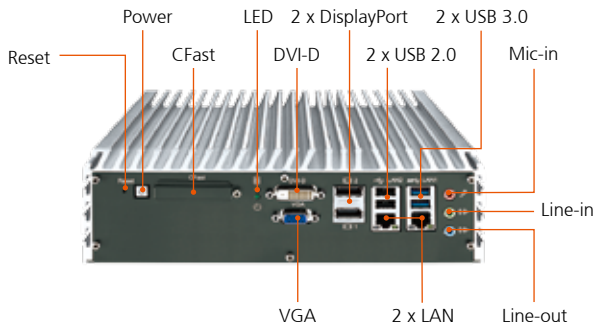
ECS-7000-6R



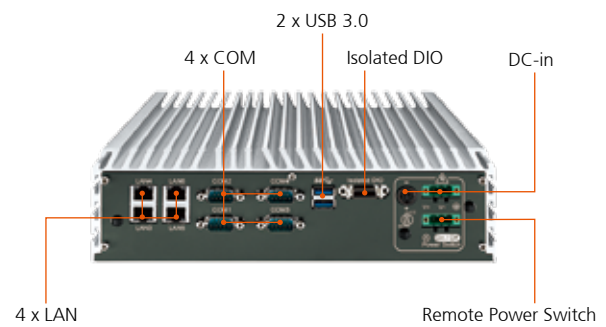
ECS-7000-6F



Front I/O (ECS-7000-6GDE)



Rear I/O (ECS-7000-6GDE)



Order Information

ECS-7000-6GDE	ECS-7000, 6 GigE LAN, SUMIT, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
ECS-7000-6GD	ECS-7000, 6 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
ECS-7000-6R	ECS-7000, 6 GigE LAN, 2 Front-access SSD Tray, 8 USB, 4 COM, 1 SIM, 16 GPIO
ECS-7000-6G	ECS-7000, 6 GigE LAN, 8 USB, 4 COM, 1 SIM, 16 GPIO
ECS-7000-6F	ECS-7000, 6 GigE LAN with 2 SFP, 8 USB, 4 COM, 1 SIM, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-7000-4G

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 4 GigE LAN, 2 2.5" SSD, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 4 Independent GigE LAN, iAMT 8.0 supported
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- 4 COM, 4 USB 3.0, 4 USB 2.0
- 2 2.5" SSD/ HDD, 1 Front-access CFast Socket
- 2 Mini PCIe, 16 GPIO
- 2 SATA III, 1 SATA II



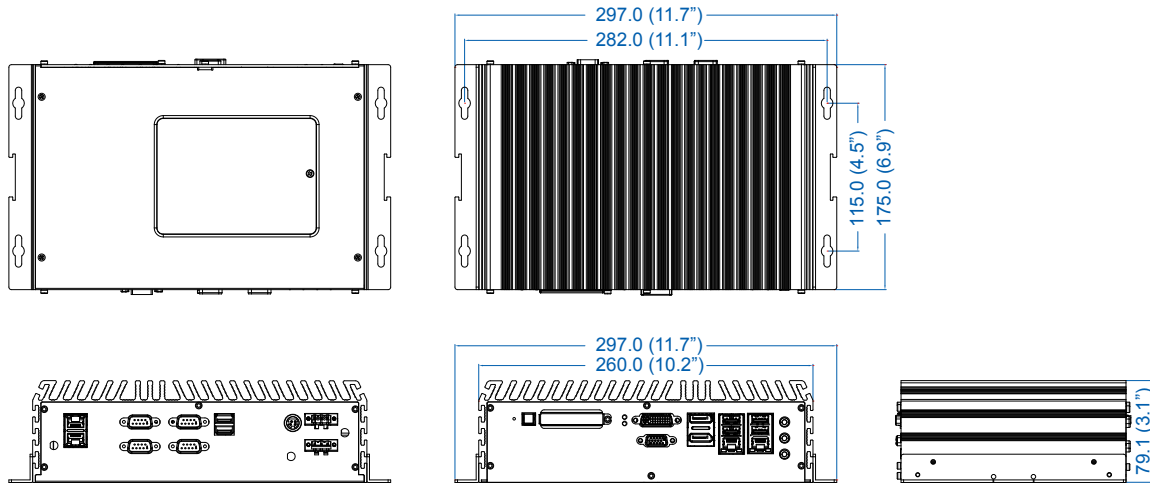
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN
LAN 3	Intel® 82574L GigE LAN
LAN 4	Intel® 82574L GigE LAN

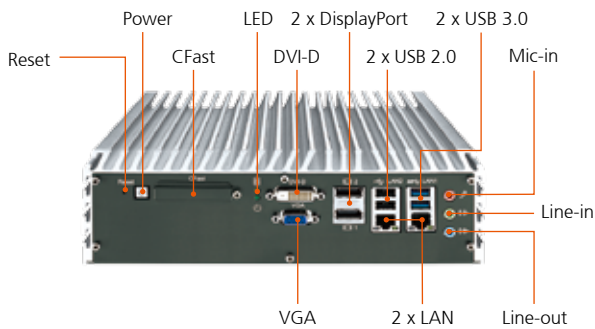
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

Dimensions

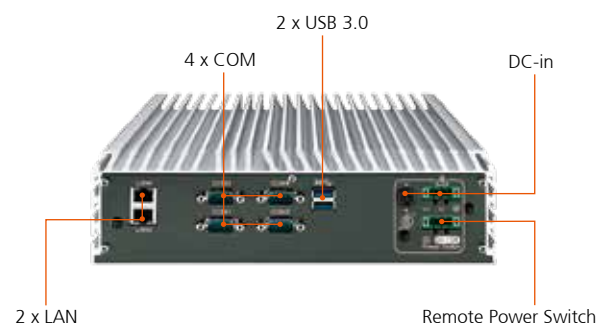
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-7000-4G	ECS-7000, 4 GigE LAN, 8 USB, 4 COM, 1 SIM, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-7000-2G/ 2R/ 2V

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 2 GigE LAN, 2 Front-access SSD Tray, 4 CH Video Capture, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN, iAMT 8.0 supported
- 4 CH 120/100 fps Full D1 Resolution Video Capture
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- 4 COM, 4 USB 3.0, 4 USB 2.0
- Front-access : 2 2.5" SSD/ HDD Tray, 1 CFast Socket
- 2 Mini PCIe, 2 SATA III, 1 SATA II, 16 GPIO



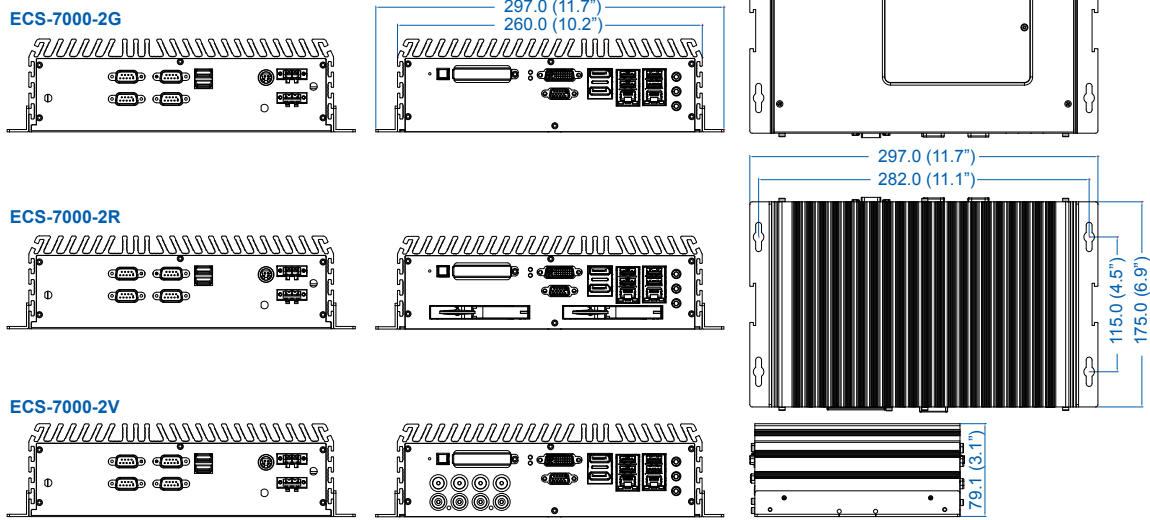
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 2 Mini PCIe Socket : ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ECS-7000-2R : 2 Front-access 2.5" SSD/ HDD Tray ECS-7000-2G, 2V : 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN

Video Capture (ECS-7000-2V)	
Video Channel	Up to 4
Video Input Interface	BNC
Video Resolution	<ul style="list-style-type: none"> ▪ D1 (NTSC : 720 x 480/ PAL : 720 x 576) ▪ CIF (NTSC : 360 x 240/ PAL : 360 x 288) ▪ 4CIF (NTSC : 704 x 280/ PAL : 704 x 576) ▪ DCIF (NTSC : 528 x 320/ PAL : 528 x 384) ▪ QCIF (NTSC : 180 x 120/ PAL : 180 x 144)
Frame Rate	<ul style="list-style-type: none"> ▪ NTSC : 120 fps (4 CH Full D1 Resolution) ▪ PAL : 100 fps (4 CH Full D1 Resolution)
Audio Channel	4 Mono/ 2 Stereo
Audio Input Interface	RCA
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

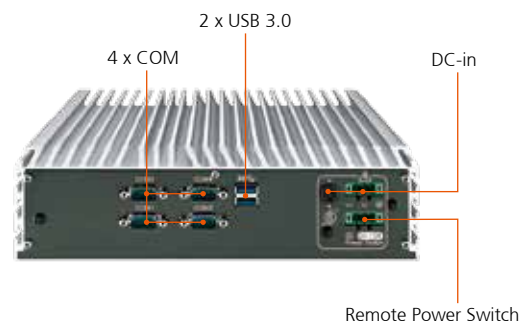
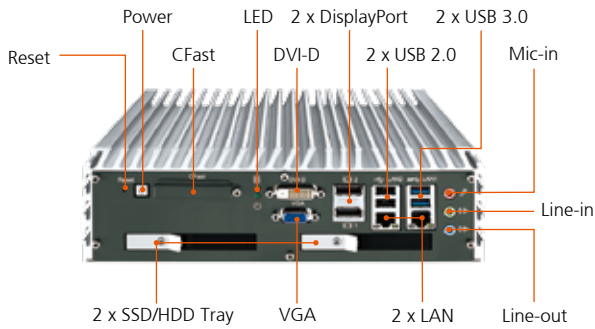
Dimensions

Unit : mm/ inch



Front I/O (ECS-7000-2R)

Rear I/O (ECS-7000-2R)



Order Information

ECS-7000-2G	ECS-7000, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, 16 GPIO
ECS-7000-2R	ECS-7000, 2 GigE LAN, 2 Front-access SSD Tray, 8 USB, 4 COM, 1 SIM, 16 GPIO
ECS-7000-2V	ECS-7000, 2 GigE LAN, 4 CH Video Capture, 8 USB, 4 COM, 1 SIM, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems





3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

Expandable Embedded Systems

Series		ECS-9700		ECS-9600		
Model No.		ECS-9710	ECS-9701	ECS-9610	ECS-9601	
Product Image						
System	CPU	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ	
	Chipset	Intel® CM236	Intel® CM236	Intel® CM236	Intel® CM236	
	BIOS	AMI	AMI	AMI	AMI	
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	
	Graphics	Intel® HD P530/ 530	Intel® HD P530/ 530	Intel® HD P530/ 530	Intel® HD P530/ 530	
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	
Display I/O	VGA	1	1	1	1	
	DVI-I	NA	NA	NA	NA	
	DVI-D	1	1	1	1	
	LVDS	NA	NA	NA	NA	
	DisplayPort	2	2	2	2	
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	
	USB 3.0	6 (External)	6 (External)	6 (External)	6 (External)	
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	
	GigE LAN	6 (4 w/ PoE*)	6 (4 w/ PoE*)	2	2	
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA	
	M12	NA	NA	NA	NA	
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	
	GPIO	NA	NA	NA	NA	
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	
	Others	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	
Storage	SATA III	4	4	4	4	
	SATA II	NA	NA	NA	NA	
	CFast	1	1	1	1	
	mSATA	4 (Mini PCIe)	4 (Mini PCIe)	4 (Mini PCIe)	4 (Mini PCIe)	
	M2DOM	NA	NA	NA	NA	
	Mini PCIe	4	4	4	4	
Expansion	PCIe	1 PCIe x16	NA	1 PCIe x16	NA	
	PCI	NA	1 PCI	NA	1 PCI	
	M.2	NA	NA	NA	NA	
	SIM Card	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	
	Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
		Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Surge Protection		80V	80V	80V	80V	
Ignition Control		Yes	Yes	Yes	Yes	
Remote Switch		Yes	Yes	Yes	Yes	
Dimensions (W x L x H)	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")		
Weight	3.5 kg (7.72 lb)	3.5 kg (7.72 lb)	3.5 kg (7.72 lb)	3.5 kg (7.72 lb)		
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount		
Operating Temperature	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)		
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)		
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing		
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64		
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27		
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2		

ECS-9200

ECS-9210M	ECS-9210	ECS-9201M	ECS-9201
			
Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE
Intel® C236	Intel® C236	Intel® C236	Intel® C236
AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
NA	NA	NA	NA
1	1	1	1
1	1	1	1
NA	NA	NA	NA
1	1	1	1
4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
8 (External)	8 (External)	8 (External)	8 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
6 (4 w/ M12 PoE*)	6 (4 w/ PoE*)	6 (4 w/ M12 PoE*)	6 (4 w/ PoE*)
4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)
4 (PoE*)	NA	4 (PoE*)	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)
2	2	2	2
NA	NA	NA	NA
1	1	1	1
3 (Mini PCIe)	3 (Mini PCIe)	3 (Mini PCIe)	3 (Mini PCIe)
1	1	1	1
3	3	3	3
1 PCIe x16	1 PCIe x16	NA	NA
NA	NA	1 PCI	1 PCI
1	1	1	1
3 (External)	3 (External)	3 (External)	3 (External)
NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block
80V	80V	80V	80V
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")
4.5 kg (9.92 lb)	4.2 kg (9.26 lb)	4.5 kg (9.92 lb)	4.2 kg (9.26 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems





4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

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Expandable Embedded Systems

Series		ECS-9100		RCS-9000	
Model No.		ECS-9110	ECS-9101	RCS-9440R/ 9440RH	RCS-9440/ 9440H
Product Image					
System	CPU	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE
	Chipset	Intel® C236	Intel® C236	Intel® Q170	Intel® Q170
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
	Graphics	Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	DVI-D	1	1	1	1
	LVDS	NA	NA	NA	NA
	DisplayPort	1	1	1	1
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	8 (External)	8 (External)	7 (6 External, 1 Internal)	7 (6 External, 1 Internal)
	USB 2.0	1 (Internal)	1 (Internal)	2 (Internal)	2 (Internal)
	GigE LAN	2	2	2	2
	PoE LAN	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	4 SSD/ HDD Tray (External)	NA
	Storage	SATA III	2	2	4
SATA II	NA	NA	NA	NA	
CFast	1	1	1	1	
mSATA	3 (Mini PCIe)	3 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	
M2DOM	1	1	NA	NA	
Expansion	Mini PCIe	3	3	3	3
	PCIe	1 PCIe x16	NA	1 PCIe x8, 3 PCIe x4	1 PCIe x8, 3 PCIe x4
	PCI	NA	1 PCI	NA	NA
	M.2	1	1	NA	NA
	SIM Card	3 (External)	3 (External)	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)
	SUMIT	NA	NA	NA	NA
	Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block	
Surge Protection	80V	80V	80V	80V	
Ignition Control	Yes	Yes	Yes	Yes	
Remote Switch	Yes	Yes	Yes	Yes	
Dimensions (W x L x H)	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	260 x 215 x 79 mm (10.24" x 8.46" x 3.11")	172 x 250 x 210 mm (6.77" x 9.86" x 8.27")	172 x 250 x 210 mm (6.77" x 9.86" x 8.27")	
Weight	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.4 lb)/ 5 kg (11 lb)	3.8 kg (8.4 lb)/ 5 kg (11 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount	Wallmount	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-25°C to 75°C (-13°F to 167°F)	-25°C to 75°C (-13°F to 167°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

RCS-9000				
RCS-9422R/ 9422RH	RCS-9422/ 9422H	RCS-9404R/ 9404RH	RCS-9404/ 9404H	RCS-9220A/ 9220AH
				
Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE
Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530	Intel® HD 530
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
NA	NA	NA	NA	NA
1	1	1	1	1
4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
7 (6 External, 1 Internal)	7 (6 External, 1 Internal)	7 (6 External, 1 Internal)	7 (6 External, 1 Internal)	7 (6 External, 1 Internal)
2 (Internal)	2 (Internal)	2 (Internal)	2 (Internal)	2 (Internal)
2	2	2	2	2
NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA	NA
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
4 SSD/ HDD Tray (External)	NA	4 SSD/ HDD Tray (External)	NA	NA
4	4	4	4	4
NA	NA	NA	NA	NA
1	1	1	1	1
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
NA	NA	NA	NA	NA
3	3	3	3	3
1 PCIe x16, 1 PCIe x4	1 PCIe x16, 1 PCIe x4	NA	NA	2 PCIe x8
2 PCI	2 PCI	4 PCI	4 PCI	NA
NA	NA	NA	NA	NA
3 (2 External, 1 Internal)	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)
NA	NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
80V	80V	80V	80V	80V
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
172 x 250 x 210 mm (6.77" x 9.86" x 8.27")	172 x 250 x 210 mm (6.77" x 9.86" x 8.27")	172 x 250 x 210 mm (6.77" x 9.86" x 8.27")	172 x 250 x 210 mm (6.77" x 9.86" x 8.27")	137 x 250 x 210 mm (5.40" x 9.86" x 8.27")
3.8 kg (8.4 lb)/ 5 kg (11 lb)	3.8 kg (8.4 lb)/ 5 kg (11 lb)	3.8 kg (8.4 lb)/ 5 kg (11 lb)	3.8 kg (8.4 lb)/ 5 kg (11 lb)	3.1 kg (6.8 lb)/ 4.3 kg (9.5 lb)
Wallmount	Wallmount	Wallmount	Wallmount	Wallmount
-25°C to 75°C (-13°F to 167°F)	-25°C to 75°C (-13°F to 167°F)	-25°C to 75°C (-13°F to 167°F)	-25°C to 75°C (-13°F to 167°F)	-25°C to 75°C (-13°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1 High Performance Embedded Systems

2 Expandable Embedded Systems





3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

Expandable Embedded Systems

Series		RCS-9000		ECS-7700	
Model No.		RCS-9220/ 9220H	RCS-9211/ 9211H	ECS-7710	ECS-7701
Product Image					
System	CPU	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
	Chipset	Intel® Q170	Intel® Q170	Intel® QM77	Intel® QM77
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
	Graphics	Intel® HD 530	Intel® HD 530	Intel® HD 4000	Intel® HD 4000
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8783	IT8783
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux
Display I/O	VGA	NA	NA	1	1
	DVI-I	1	1	NA	NA
	DVI-D	1	1	1	1
	LVDS	NA	NA	1	1
	DisplayPort	1	1	2	2
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)
	USB 3.0	7 (6 External, 1 Internal)	7 (6 External, 1 Internal)	4 (External)	4 (External)
	USB 2.0	2 (Internal)	2 (Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
	GigE LAN	2	2	6 (4 w/ PoE*)	6 (4 w/ PoE*)
	PoE LAN	NA	NA	4	4
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in
	GPIO	NA	NA	16 GPIO (Internal)	16 GPIO (Internal)
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
	Others	NA	NA	NA	NA
Storage	SATA III	4	4	2	2
	SATA II	NA	NA	1	1
	CFast	1	1	1	1
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
	Mini PCIe	3	3	2	2
Expansion	PCIe	1 PCIe x16, 1 PCIe x4	1 PCIe x16	1 PCIe x16	NA
	PCI	NA	1 PCI	NA	1 PCI
	SIM Card	3 (2 External, 1 Internal)	3 (2 External, 1 Internal)	1 (Internal)	1 (Internal)
	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Power	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Surge Protection	80V	80V	80V	80V
	Ignition Control	Yes	Yes	NA	NA
	Remote Switch	Yes	Yes	Yes	Yes
	Dimensions (W x L x H)	137 x 250 x 210 mm (5.40" x 9.86" x 8.27")	137 x 250 x 210 mm (5.40" x 9.86" x 8.27")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")
Weight	3.1 kg (6.8 lb)/ 4.3 kg (9.5 lb)	3.1 kg (6.8 lb)/ 4.3 kg (9.5 lb)	2.8 kg (6.0 lb)	2.8 kg (6.0 lb)	
Mounting	Wallmount	Wallmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	
Operating Temperature	-25°C to 75°C (-13°F to 167°F)	-25°C to 75°C (-13°F to 167°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	

1 High Performance Embedded Systems






2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers





5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-7100		RCS-7000		
ECS-7110	ECS-7101	RCS-7440	RCS-7422A	RCS-7422
				
Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
AMI	AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000
Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8783	IT8783	IT8783	IT8783	IT8783
Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux
1	1	1	1	1
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
2	2	2	2	2
4	4	4	4	4
(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)	(1 RS-232/ 422/ 485, 3 RS-232)
4 (External)	4 (External)	4 (External)	4 (External)	4 (External)
4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
2	2	2	2	2
NA	NA	NA	NA	NA
1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
NA	NA	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
NA	NA	NA	NA	NA
2	2	2	2	2
1	1	2	2	2
1	1	1	1	1
2 (Mini PCIe)	2 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
2	2	2	2	2
1 PCIe x16	NA	1 PCIe x8, 3 PCIe x4	1 PCIe x8, 1 PCIe x4	2 PCIe x4
NA	1 PCI	NA	2 PCI	2 PCI
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
80V	80V	80V	80V	80V
NA	NA	NA	NA	NA
Yes	Yes	Yes	Yes	Yes
260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	172 x 252 x 210 mm (6.77" x 9.86" x 8.27")	172 x 252 x 210 mm (6.77" x 9.86" x 8.27")	172 x 252 x 210 mm (6.77" x 9.86" x 8.27")
2.8 kg (6.0 lb)	2.8 kg (6.0 lb)	3.8 kg (8.4 lb)	3.8 kg (8.4 lb)	3.8 kg (8.4 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount	Wallmount	Wallmount
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready	CE, FCC	CE, FCC	CE, FCC

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Expandable Embedded Systems

Series		RCS-7000			
Model No.		RCS-7404	RCS-7220A	RCS-7220	RCS-7211
Product Image					
System	CPU	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
	Chipset	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz	204-pin SO-DIMM, DDR3 1066/ 1333/ 1600 MHz/ DDR3L 1066/ 1333 MHz
	Memory Capacity	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
	Graphics	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000	Intel® HD 4000
	Ethernet	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L	Intel® 82579LM, Intel® 82574L
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8783	IT8783	IT8783	IT8783
	OS Support	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux	Windows 8.1, Windows 7, Windows XP, Linux
Display I/O	VGA	1	1	1	1
	DVI-D	1	1	1	1
	LVDS	1	1	1	1
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)	4 (1 RS-232/ 422/ 485, 3 RS-232)
	USB 3.0	4 (External)	4 (External)	4 (External)	4 (External)
	USB 2.0	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
	GigE LAN	2	2	2	2
	PoE LAN	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	NA	NA	NA	NA
Storage	SATA III	2	2	2	2
	SATA II	2	2	2	2
	CFast	1	1	1	1
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
Expansion	Mini PCIe	2	2	2	2
	PCIe	NA	2 PCIe x8	1 PCIe x16, 1 PCIe x4	1 PCIe x16
	PCI	4 PCI	NA	NA	1 PCI
	SIM Card	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Surge Protection	80V	80V	80V	80V
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		172 x 252 x 210 mm (6.77" x 9.86" x 8.27")	134 x 252 x 210 mm (5.28" x 9.86" x 8.27")	134 x 252 x 210 mm (5.28" x 9.86" x 8.27")	134 x 252 x 210 mm (5.28" x 9.86" x 8.27")
Weight		3.8 kg (8.4 lb)	3.5 kg (7.7 lb)	3.5 kg (7.7 lb)	3.5 kg (7.7 lb)
Mounting		Wallmount	Wallmount	Wallmount	Wallmount
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC	CE, FCC	CE, FCC	CE, FCC

RCS-2000

RCS-2211	RCS-2202	RCS-2011	RCS-2002
			
Quad Core Intel® Atom™ E3845	Quad Core Intel® Atom™ E3845	Quad Core Intel® Atom™ E3845	Quad Core Intel® Atom™ E3845
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz
Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
Intel® HD	Intel® HD	Intel® HD	Intel® HD
Intel® 82574L	Intel® 82574L	Intel® 82574L	Intel® 82574L
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E
Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
1	1	1	1
1	1	1	1
1	1	NA	NA
NA	NA	NA	NA
6 (2 RS-232/ 422/ 485, 2 Isolated RS-232/ 422/ 485, 2 RS-232)	6 (2 RS-232/ 422/ 485, 2 Isolated RS-232/ 422/ 485, 2 RS-232)	4 (2 RS-232/ 422/ 485, 2 RS-232)	4 (2 RS-232/ 422/ 485, 2 RS-232)
4 (External)	4 (External)	4 (External)	4 (External)
2 (External)	2 (External)	2 (External)	2 (External)
2	2	2	2
NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)	16 GPIO (Internal)
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	NA
Onboard GPS (Optional)	Onboard GPS (Optional)	Onboard GPS (Optional)	Onboard GPS (Optional)
NA	NA	NA	NA
1	1	1	1
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
NA	NA	NA	NA
2	2	2	2
1 PCIe x1	NA	1 PCIe x1	NA
1 PCI	2 PCI	1 PCI	2 PCI
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block
80V	80V	80V	80V
Yes	Yes	Yes	Yes
134 x 252 x 210 mm (5.28" x 9.86" x 8.27")	134 x 252 x 210 mm (5.28" x 9.86" x 8.27")	134 x 252 x 210 mm (5.28" x 9.86" x 8.27")	134 x 252 x 210 mm (5.28" x 9.86" x 8.27")
3.5 kg (7.7 lb)	3.5 kg (7.7 lb)	3.5 kg (7.7 lb)	3.5 kg (7.7 lb)
Wallmount	Wallmount	Wallmount	Wallmount
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC	CE, FCC	CE, FCC	CE, FCC

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

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ECS-9710

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) Fanless Embedded System with Intel® CM236, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCIe x16, 4 SIM, 6 USB 3.0, 32 Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0 supported
- 1 PCIe x16 Expansion Slot, 4 Mini PCIe/ mSATA
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 4 USB 3.0
- 4 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- 32 Isolated DIO, 6 USB 3.0, 4 COM
- Optional supports full function SUMIT A, B



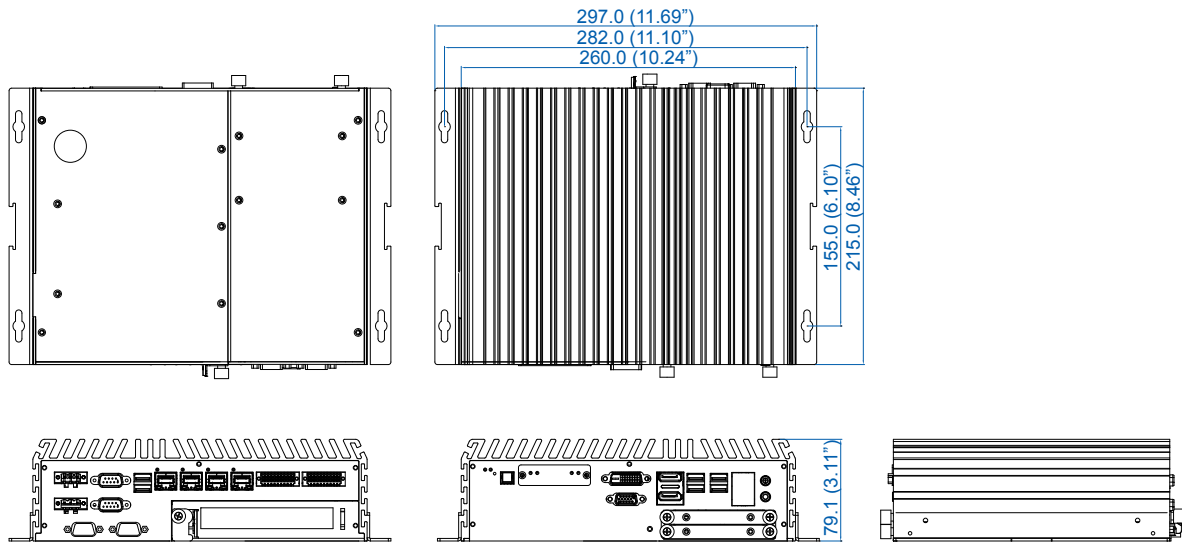
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	4 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 3 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Full-size for PCIe/ Internal SIM Card/ mSATA
PCI/ PCIe	1 PCIe x16 Slot
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Interface	<ul style="list-style-type: none"> ▪ VGA : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III support Software RAID 0, 1, 5, 10 : <ul style="list-style-type: none"> ▪ 3 SATA III (6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
mSATA	4 mSATA : <ul style="list-style-type: none"> ▪ 3 SATA III (Mini PCIe Type, 6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

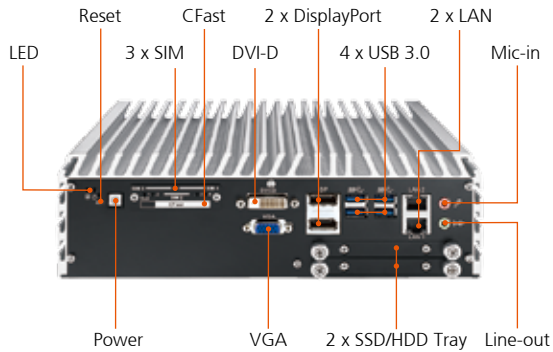
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	3.5 kg (7.72 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

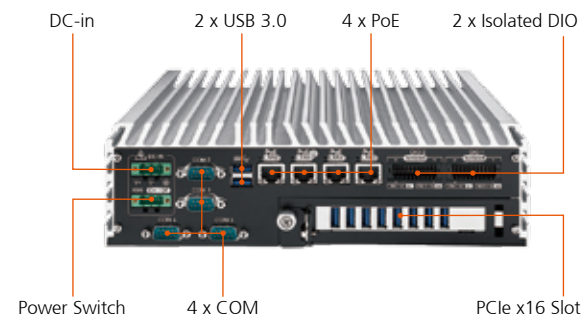
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9710-505M	ECS-9700, Quad Core Intel® Xeon® E3-1505M v5, 6 GigE LAN w/ 4 PoE+, 2 SSD Tray, 1 PCIe x16, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO
IVH-9710-820Q	ECS-9700, Quad Core Intel® Core™ i7-6820EQ, 6 GigE LAN w/ 4 PoE+, 2 SSD Tray, 1 PCIe x16, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO
IVH-9710-440Q	ECS-9700, Quad Core Intel® Core™ i5-6440EQ, 6 GigE LAN w/ 4 PoE+, 2 SSD Tray, 1 PCIe x16, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

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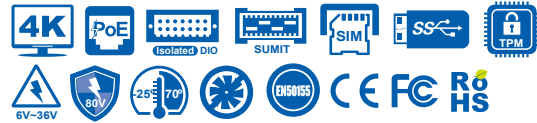
ECS-9701

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) Fanless Embedded System with Intel® CM236, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCI, 4 SIM, 6 USB 3.0, 32 Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0 supported
- 1 PCI Expansion Slot, 4 Mini PCIe/ mSATA
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 4 USB 3.0
- 4 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- 32 Isolated DIO, 6 USB 3.0, 4 COM
- Optional supports full function SUMIT A, B



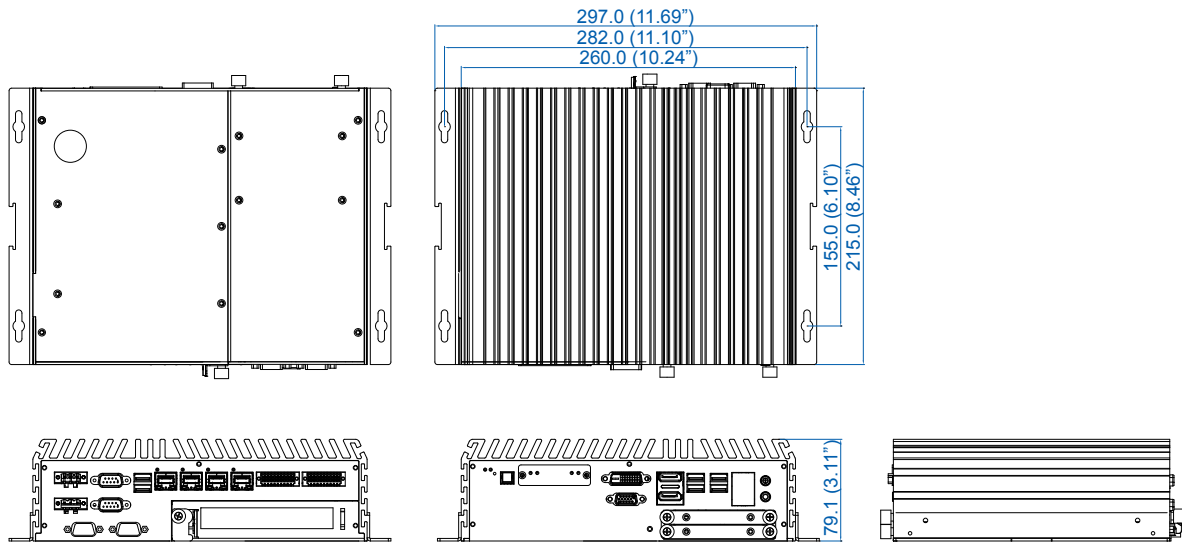
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	4 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 3 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Full-size for PCIe/ Internal SIM Card/ mSATA
PCI/ PCIe	1 PCI Slot
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Interface	<ul style="list-style-type: none"> ▪ VGA : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III support Software RAID 0, 1, 5, 10 : <ul style="list-style-type: none"> ▪ 3 SATA III (6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
mSATA	4 mSATA : <ul style="list-style-type: none"> ▪ 3 SATA III (Mini PCIe Type, 6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

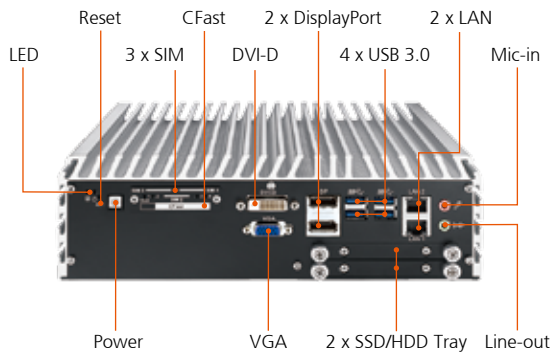
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	3.5 kg (7.72 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

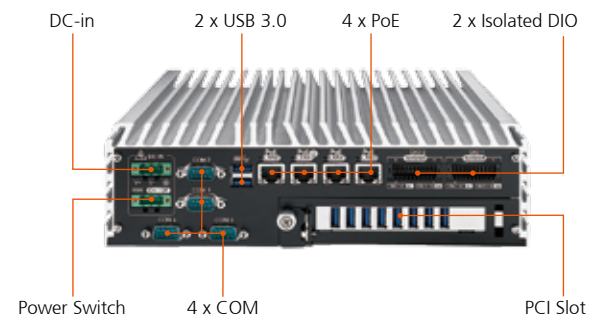
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9701-505M	ECS-9700, Quad Core Intel® Xeon® E3-1505M v5, 6 GigE LAN w/ 4 PoE+, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO
IVH-9701-820Q	ECS-9700, Quad Core Intel® Core™ i7-6820EQ, 6 GigE LAN w/ 4 PoE+, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO
IVH-9701-440Q	ECS-9700, Quad Core Intel® Core™ i5-6440EQ, 6 GigE LAN w/ 4 PoE+, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-9610

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) Fanless Embedded System with Intel® CM236, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCIe x16, 4 SIM, 6 USB 3.0, 16 Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- 1 PCIe x16 Expansion Slot, 4 Mini PCIe/ mSATA
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 4 USB 3.0
- 4 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- 16 Isolated DIO, 6 USB 3.0, 4 COM
- Optional supports full function SUMIT A, B



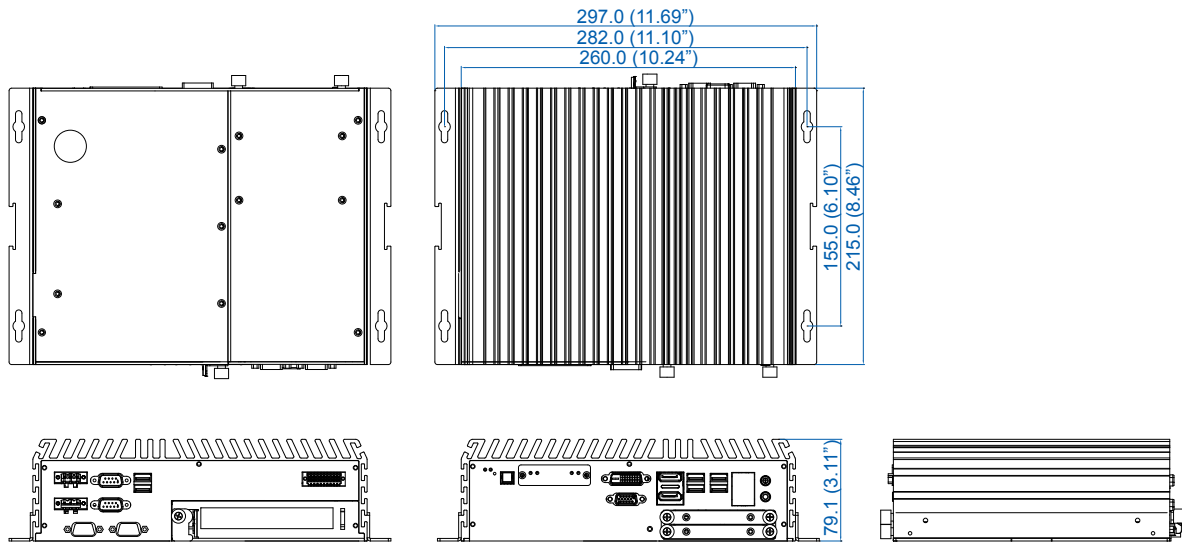
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, Wireless
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	4 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 3 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Full-size for PCIe/ Internal SIM Card/ mSATA
PCI/ PCIe	1 PCIe x16 Slot
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Interface	<ul style="list-style-type: none"> ▪ VGA : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III support Software RAID 0, 1, 5, 10 : <ul style="list-style-type: none"> ▪ 3 SATA III (6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
mSATA	4 mSATA : <ul style="list-style-type: none"> ▪ 3 SATA III (Mini PCIe Type, 6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

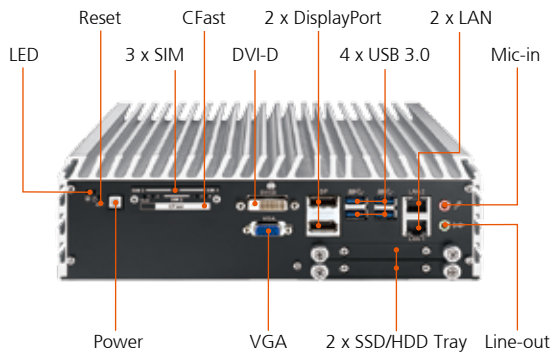
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	3.5 kg (7.72 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

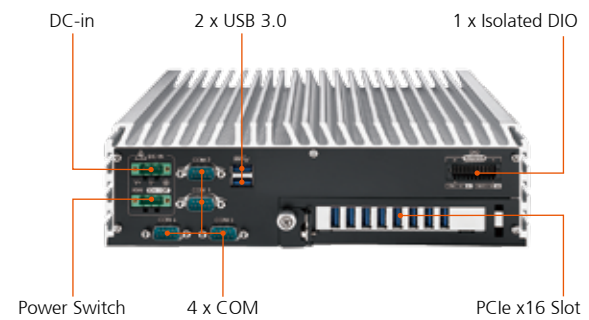
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9610-505M	ECS-9600, Quad Core Intel® Xeon® E3-1505M v5, 2 GigE LAN, 2 SSD Tray, 1 PCIe x16, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
IVH-9610-820Q	ECS-9600, Quad Core Intel® Core™ i7-6820EQ, 2 GigE LAN, 2 SSD Tray, 1 PCIe x16, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
IVH-9610-440Q	ECS-9600, Quad Core Intel® Core™ i5-6440EQ, 2 GigE LAN, 2 SSD Tray, 1 PCIe x16, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-9601

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) Fanless Embedded System with Intel® CM236, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCI, 4 SIM, 6 USB 3.0, 16 Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- 1 PCI Expansion Slot, 4 Mini PCIe/ mSATA
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 4 USB 3.0
- 4 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- 16 Isolated DIO, 6 USB 3.0, 4 COM
- Optional supports full function SUMIT A, B



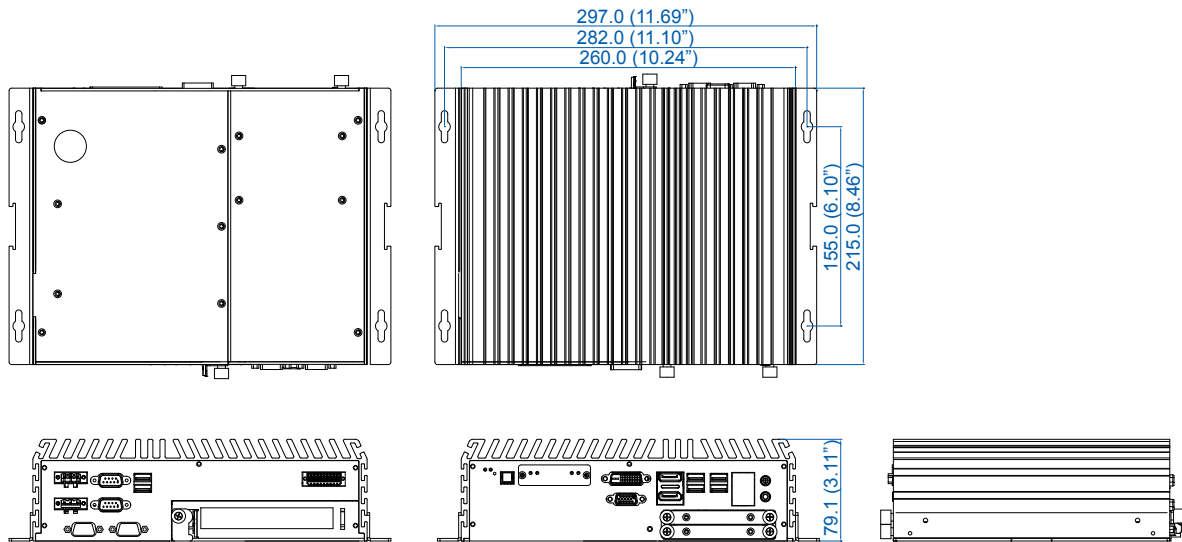
Specifications

System	
Processor	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
Chipset	Intel® CM236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, Wireless
SIM Card	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
Mini PCIe	4 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 3 Full-size for PCIe/ USB/ External SIM Card/ mSATA ▪ 1 Full-size for PCIe/ Internal SIM Card/ mSATA
PCI/ PCIe	1 PCI Slot
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P530/ 530
Interface	<ul style="list-style-type: none"> ▪ VGA : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III support Software RAID 0, 1, 5, 10 : <ul style="list-style-type: none"> ▪ 3 SATA III (6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
mSATA	4 mSATA : <ul style="list-style-type: none"> ▪ 3 SATA III (Mini PCIe Type, 6Gbps) ▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

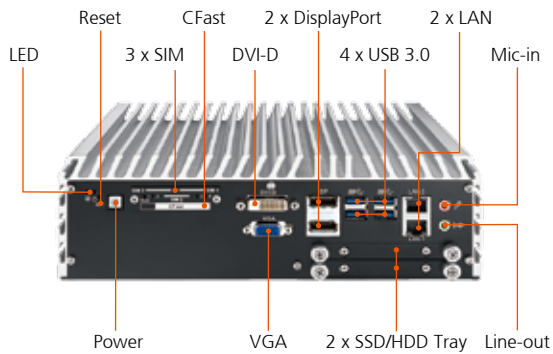
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	3.5 kg (7.72 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

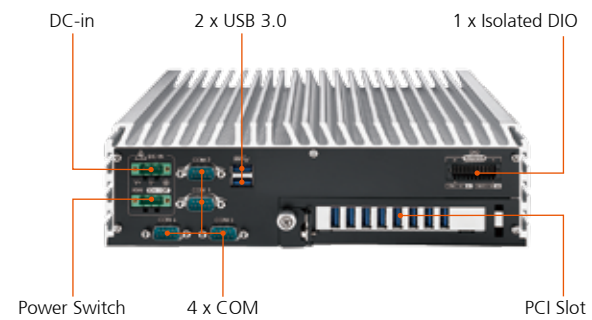
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9601-505M	ECS-9600, Quad Core Intel® Xeon® E3-1505M v5, 2 GigE LAN, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
IVH-9601-820Q	ECS-9600, Quad Core Intel® Core™ i7-6820EQ, 2 GigE LAN, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
IVH-9601-440Q	ECS-9600, Quad Core Intel® Core™ i5-6440EQ, 2 GigE LAN, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

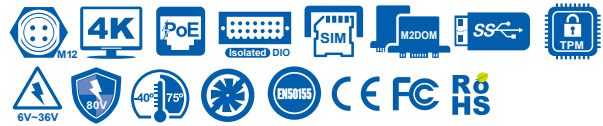
ECS-9210M

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 4 M12 PoE+, 2 Front-access SSD Tray, 1 PCIe x16, 3 SIM, 8 USB 3.0, M2DOM, M.2 Socket, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- DVI-I, DVI-D and DisplayPort display interface, up to 4K displays
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 4 M12 IEEE 802.3at PoE+, iAMT 11.0
- Expansion : 1 PCIe x16, 3 Mini PCIe/ mSATA, 1 M.2
- PCIe x16 expansion supports up to 160W Power Budget
- Storage : 2 2.5" SSD Tray, 1 CFAST, 1 M2DOM, 2 SATA III
- 3 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 32 Isolated DIO, 8 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



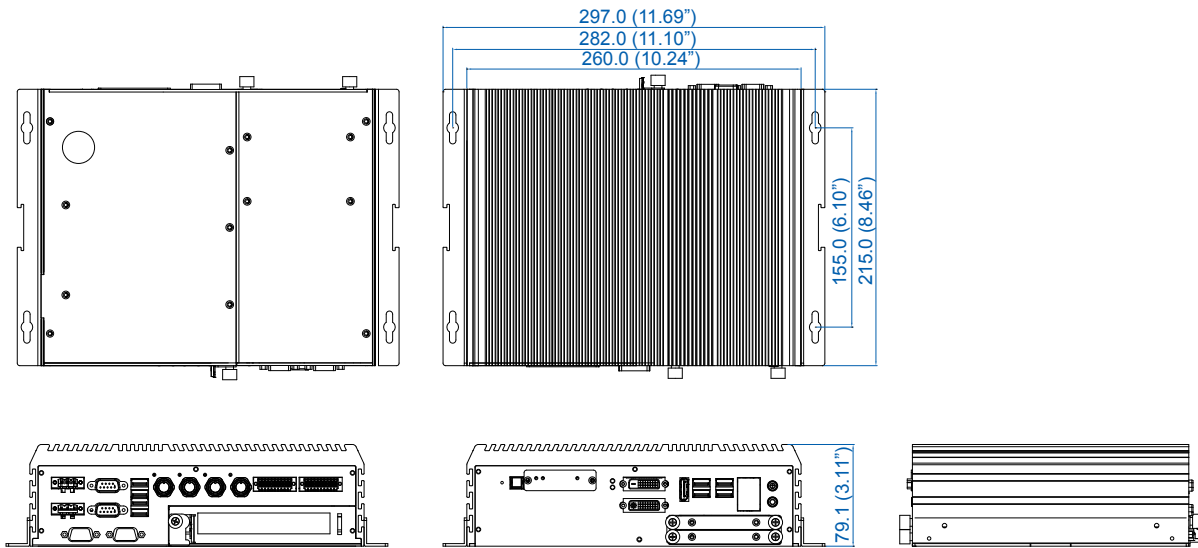
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/ USB/ External SIM Card/ mSATA
PCI/ PCIe	1 PCIe x16 Slot (Up to 160W Power Budget)
M.2	1 M.2 Socket (Key ID : M)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector

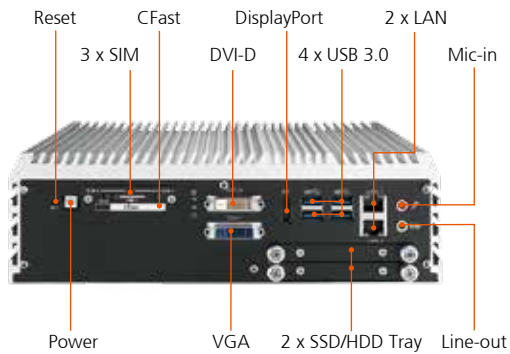
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	4.5 kg (9.92 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

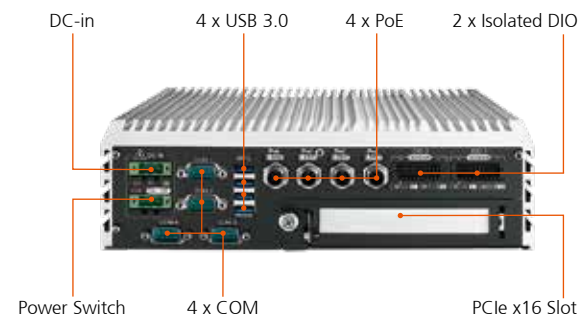
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9210M	ECS-9200, 6 GigE LAN with 4 M12 PoE*, 2 Front-access SSD Tray, 1 PCIe x16, 8 USB 3.0, M2DOM, M.2, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9210

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCIe x16, 3 SIM, 8 USB 3.0, M2DOM, M.2 Socket, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- DVI-I, DVI-D and DisplayPort display interface, up to 4K displays
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0
- Expansion : 1 PCIe x16, 3 Mini PCIe/ mSATA, 1 M.2
- PCIe x16 expansion supports up to 160W Power Budget
- Storage : 2 2.5" SSD Tray, 1 CFAST, 1 M2DOM, 2 SATA III
- 3 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 32 Isolated DIO, 8 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



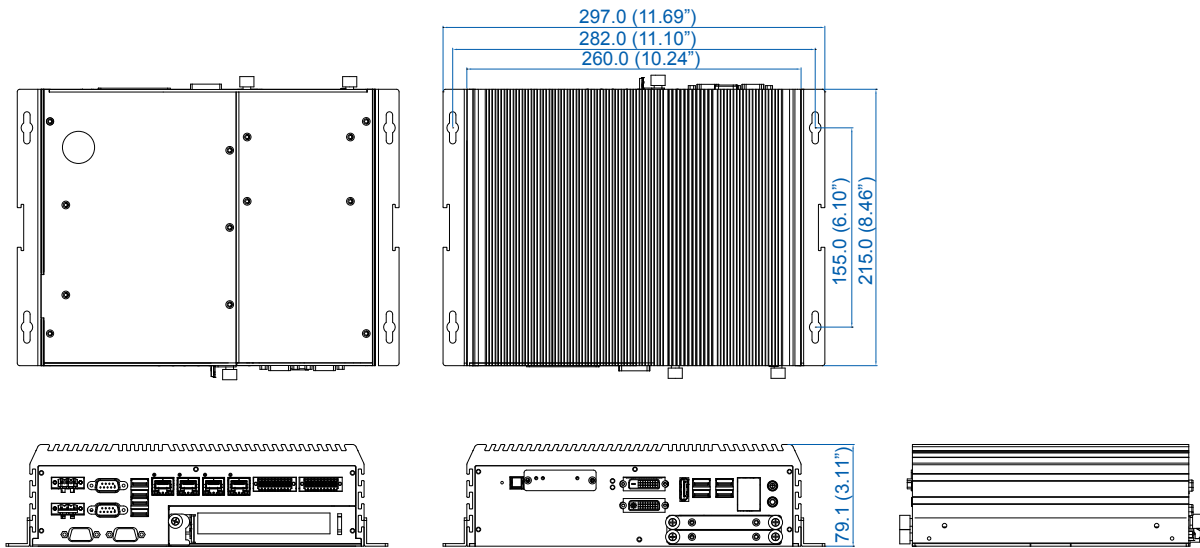
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/ USB/ External SIM Card/ mSATA
PCI/ PCIe	1 PCIe x16 Slot (Up to 160W Power Budget)
M.2	1 M.2 Socket (Key ID : M)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

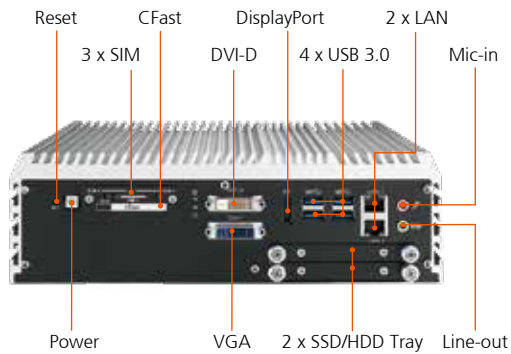
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 75°C (-40°F to 167°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

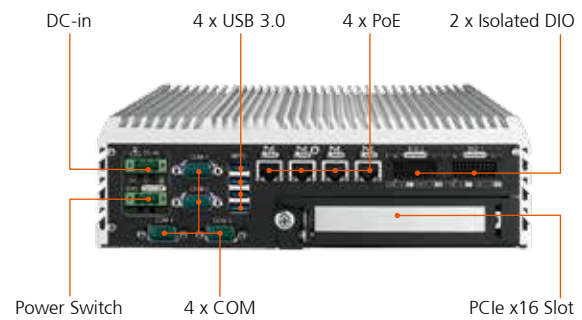
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9210	ECS-9200, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCIe x16, 8 USB 3.0, M2DOM, M.2, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

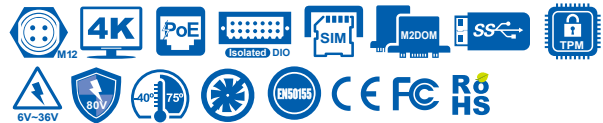
ECS-9201M

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 4 M12 PoE+, 2 Front-access SSD Tray, 1 PCI, 3 SIM, 8 USB 3.0, M2DOM, M.2 Socket, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- DVI-I, DVI-D and DisplayPort display interface, up to 4K displays
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 4 M12 IEEE 802.3at PoE+, iAMT 11.0
- Expansion : 1 PCI, 3 Mini PCIe/ mSATA, 1 M.2
- Storage : 2 2.5" SSD Tray, 1 CFast, 1 M2DOM, 2 SATA III
- 3 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 32 Isolated DIO, 8 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



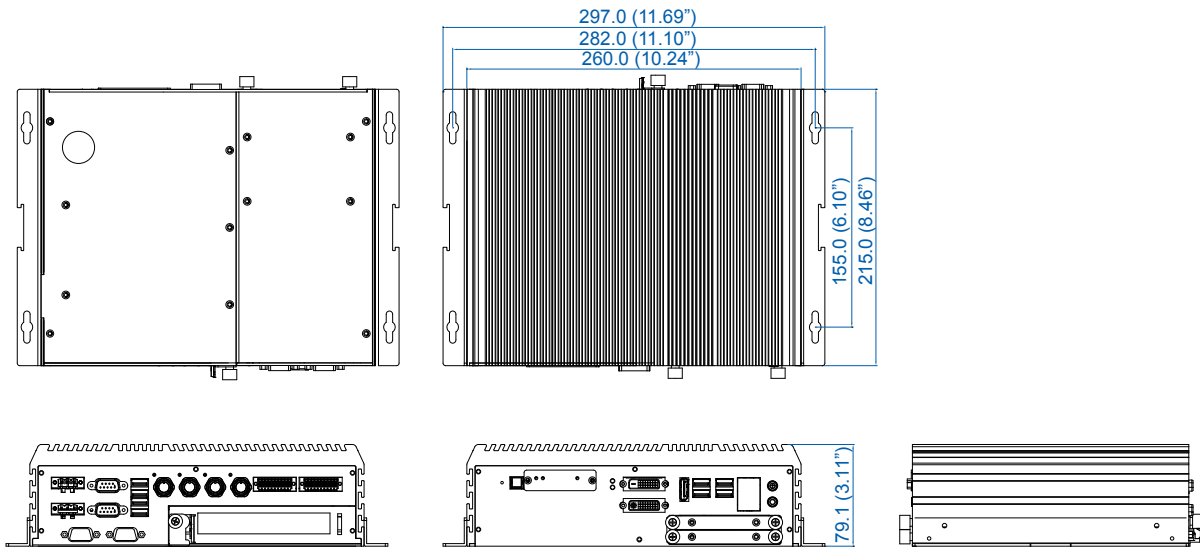
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/ USB/ External SIM Card/ mSATA
PCI/ PCIe	1 PCI Slot
M.2	1 M.2 Socket (Key ID : M)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector

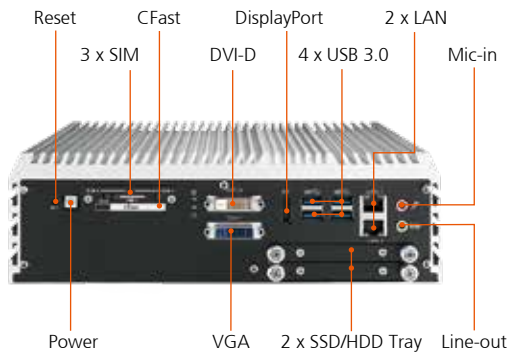
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, M12 Connector
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	4.5 kg (9.92 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

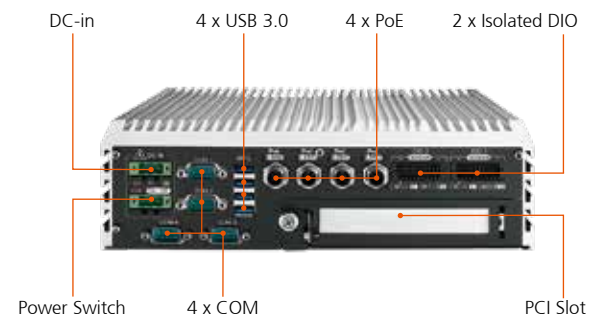
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9201M	ECS-9200, 6 GigE LAN with 4 M12 PoE*, 2 Front-access SSD Tray, 1 PCI, 8 USB 3.0, M2DOM, M.2, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-9201

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCI, 3 SIM, 8 USB 3.0, M2DOM, M.2 Socket, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- DVI-I, DVI-D and DisplayPort display interface, up to 4K displays
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0
- Expansion : 1 PCI, 3 Mini PCIe/ mSATA, 1 M.2
- Storage : 2 2.5" SSD Tray, 1 CFast, 1 M2DOM, 2 SATA III
- 3 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 32 Isolated DIO, 8 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



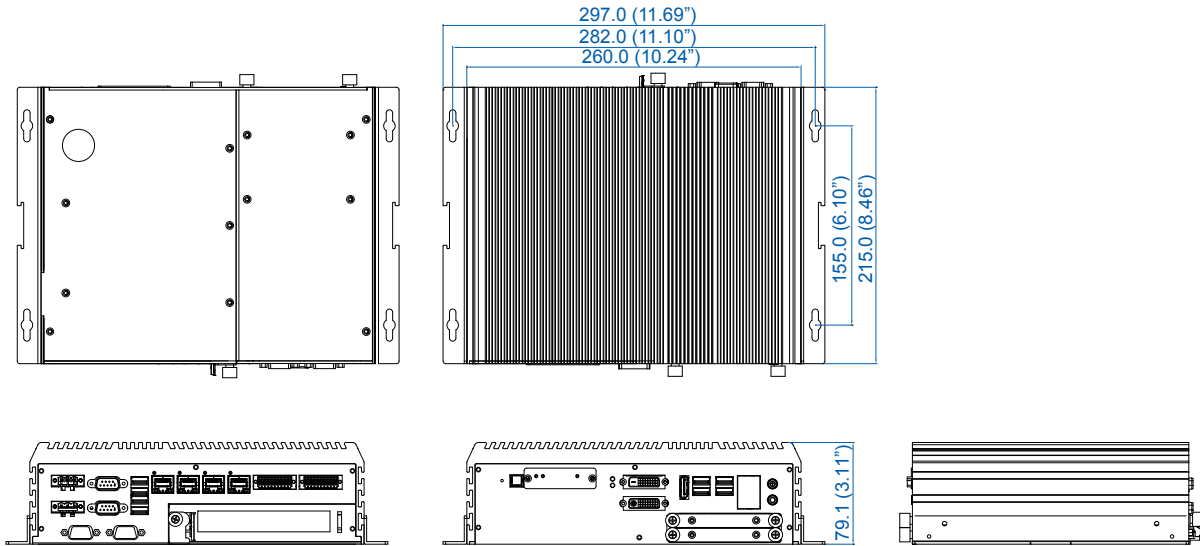
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/ USB/ External SIM Card/ mSATA
PCI/ PCIe	1 PCI Slot
M.2	1 M.2 Socket (Key ID : M)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

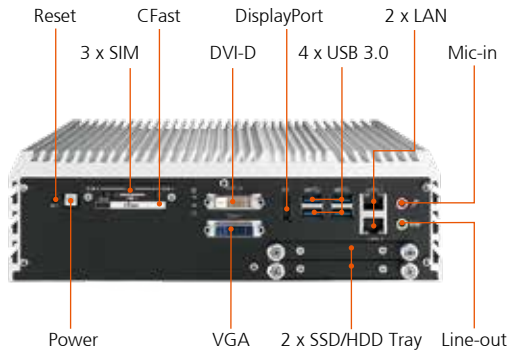
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	4.2 kg (9.26 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

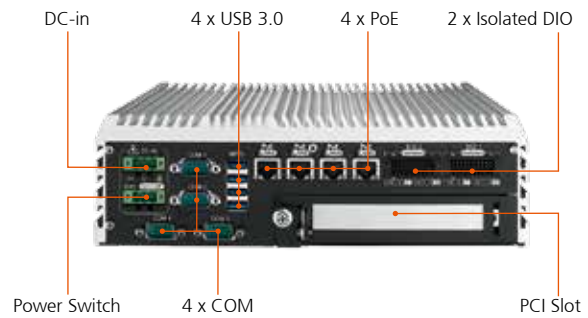
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9201	ECS-9200, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCI, 8 USB 3.0, M2DOM, M.2, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-9110

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCIe x16, 3 SIM, 8 USB 3.0, M2DOM, M.2 Socket, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- DVI-I, DVI-D and DisplayPort display interface, up to 4K displays
- Fanless, -40°C to 75°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- Expansion : 1 PCIe x16, 3 Mini PCIe/ mSATA, 1 M.2
- PCIe x16 expansion supports up to 160W Power Budget
- Storage : 2 2.5" SSD Tray, 1 CFAST, 1 M2DOM, 2 SATA III
- 3 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 8 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



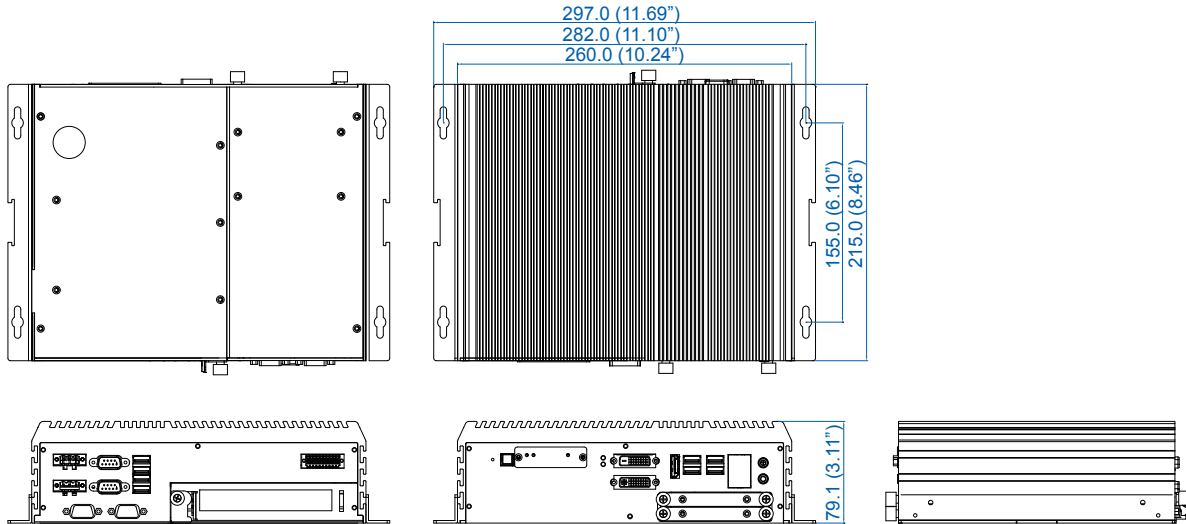
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO (External)
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/ USB/ External SIM Card/ mSATA
PCI/ PCIe	1 PCIe x16 Slot (Up to 160W Power Budget)
M.2	1 M.2 Socket (Key ID : M)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

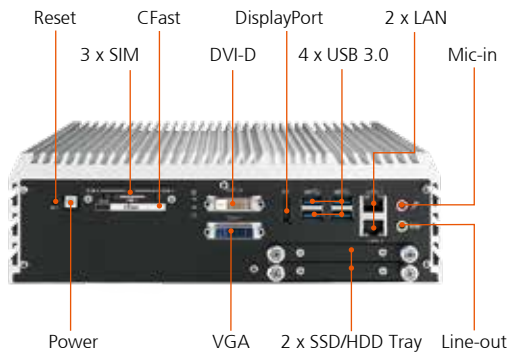
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

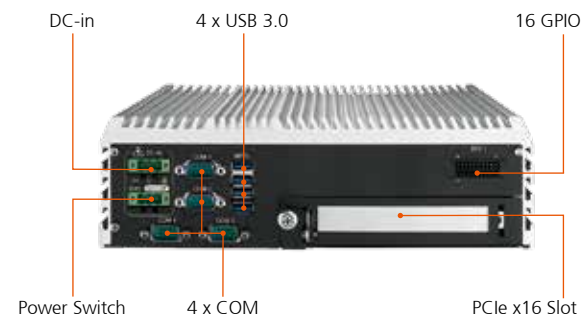
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9110	ECS-9100, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCIe x16, 8 USB 3.0, M2DOM, M.2, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

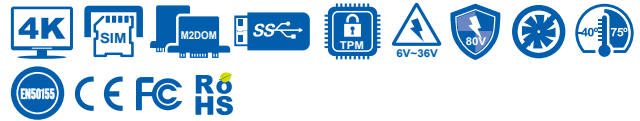
ECS-9101

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Embedded System with Intel® C236, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCI, 3 SIM, 8 USB 3.0, M2DOM, M.2 Socket, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S) with C236 Chipset
- DVI-I, DVI-D and DisplayPort display interface, up to 4K displays
- Fanless, -40°C to 75°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- Expansion : 1 PCI, 3 Mini PCIe/ mSATA, 1 M.2
- Storage : 2 2.5" SSD Tray, 1 CFast, 1 M2DOM, 2 SATA III
- 3 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 8 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



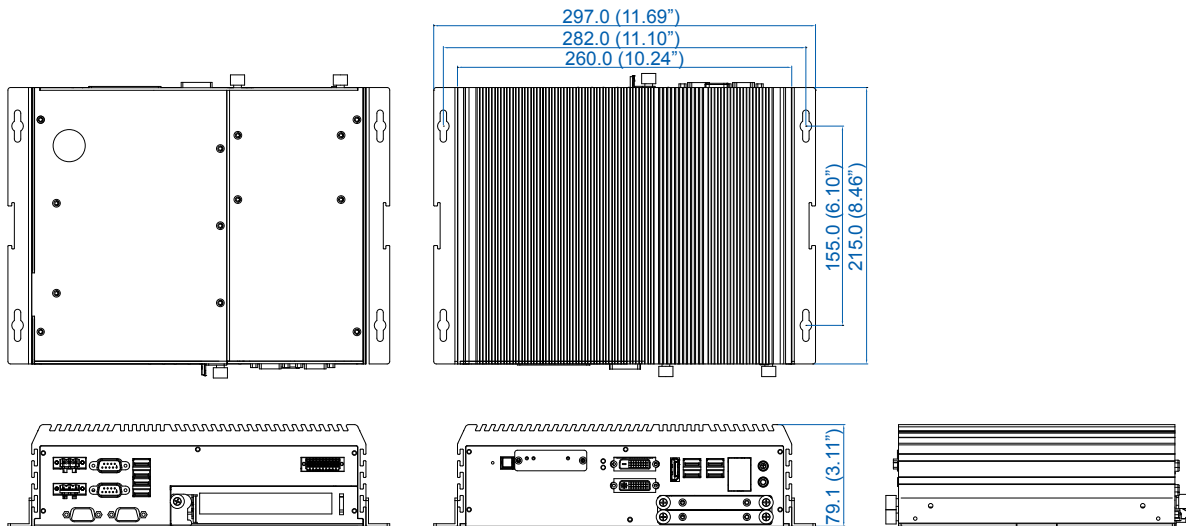
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 8 USB 3.0 (External : 4 Front, 4 Rear) ▪ 1 USB 2.0 (Internal)
GPIO	16 GPIO (External)
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/ USB/ External SIM Card/ mSATA
PCI/ PCIe	1 PCI Slot
M.2	1 M.2 Socket (Key ID : M)
Graphics	
Graphics Processor	Intel® HD Graphics 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 Front-access 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

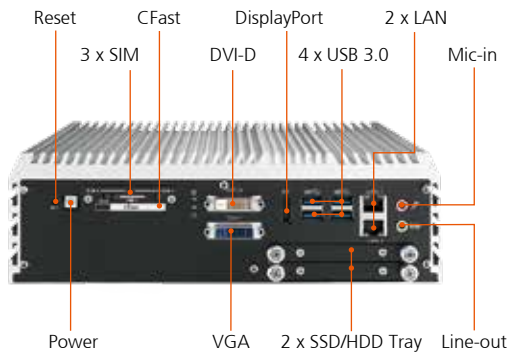
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -40°C to 75°C (-40°F to 167°F) ▪ 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

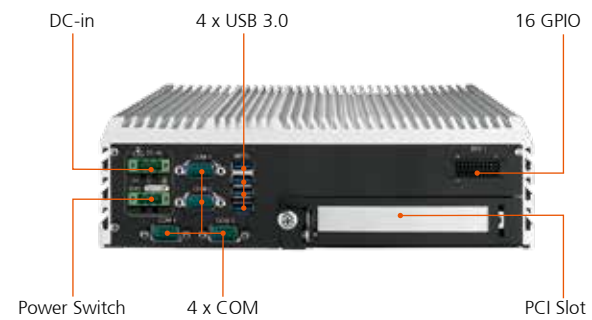
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-9101	ECS-9100, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCI, 8 USB 3.0, M2DOM, M.2, 3 SIM, 16 GPIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9440R/ 9440RH

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Front-access : 4 2.5" SSD/ HDD Tray, 2 SIM Socket, 6 USB 3.0, 4 COM
- Expansion : 1 PCIe x8, 3 PCIe x4
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



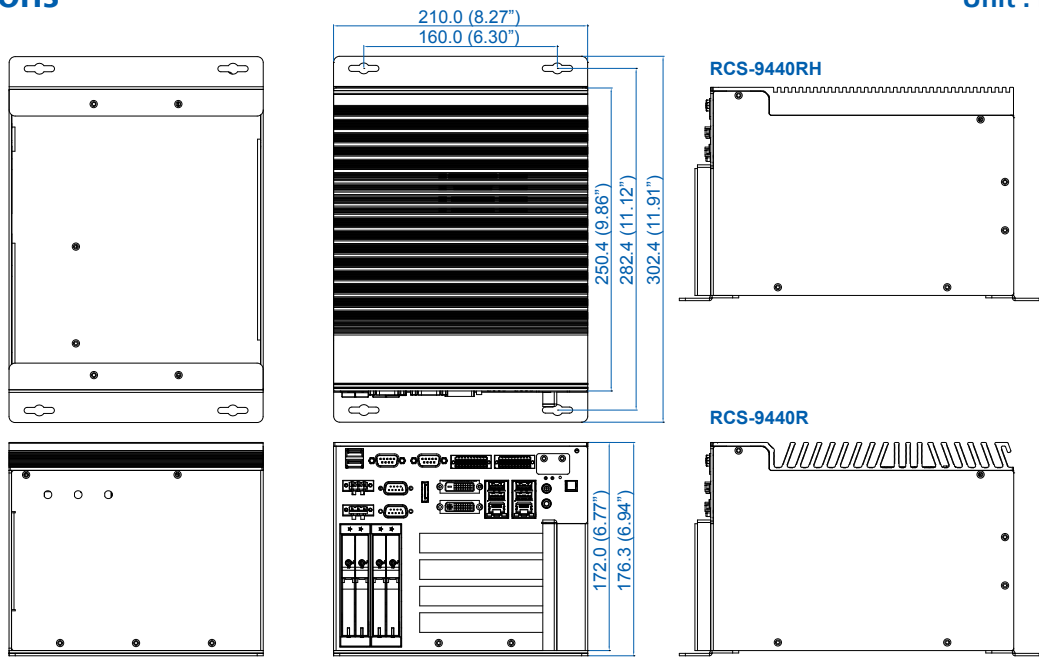
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	<ul style="list-style-type: none"> ▪ 1 PCIe x8 Slot ▪ 3 PCIe x4 Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 4 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

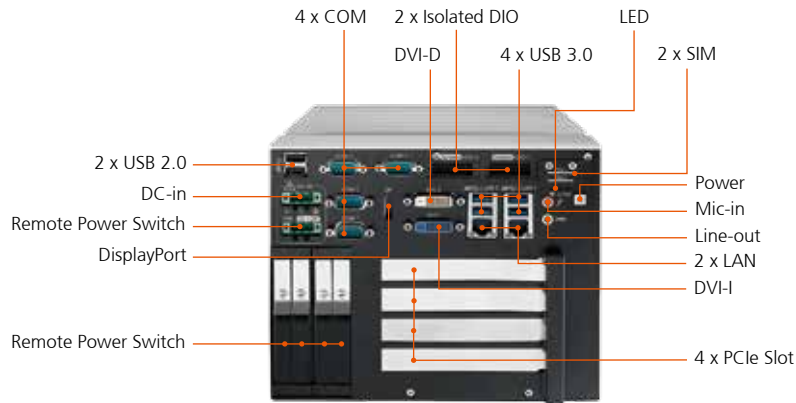
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 250mm x 210mm (6.77" x 9.86" x 8.27")
Weight	RCS-9440R : 3.8 kg (8.4 lb) RCS-9440RH : 5.0 kg (11.0 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9440R with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9440RH with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9440R	RCS-9000, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9440RH	RCS-9000 w/ 65W CPU, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9440/ 9440H

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Expansion : 1 PCIe x8, 3 PCIe x4
- Front-access : 2 SIM Socket, 6 USB 3.0, 4 COM
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



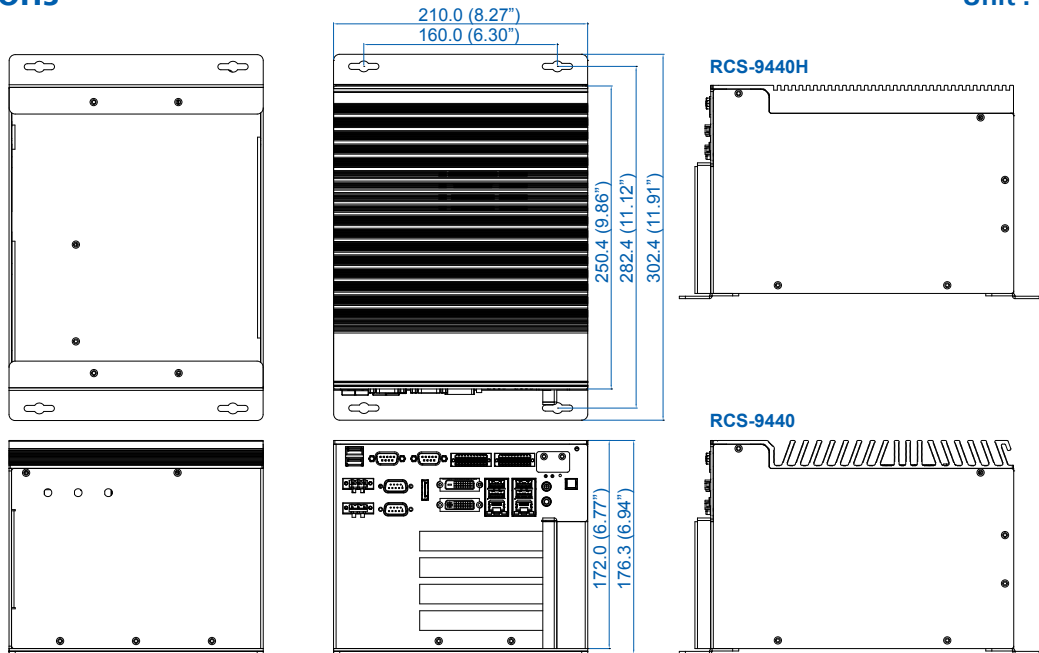
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	<ul style="list-style-type: none"> ▪ 1 PCIe x8 Slot ▪ 3 PCIe x4 Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 4 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

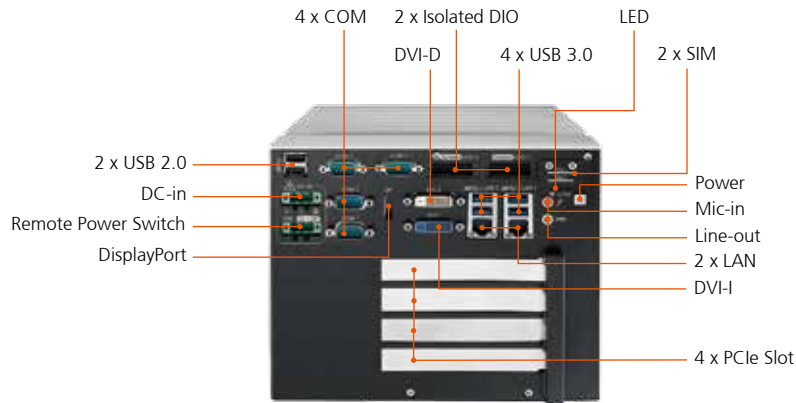
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 250mm x 210mm (6.77" x 9.86" x 8.27")
Weight	RCS-9440 : 3.8 kg (8.4 lb) RCS-9440H : 5.0 kg (11.0 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9440 with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9440H with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9440	RCS-9000, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9440H	RCS-9000 w/ 65W CPU, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9422R/ 9422RH

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Front-access : 4 2.5" SSD/ HDD Tray, 2 SIM Socket, 6 USB 3.0, 4 COM
- Expansion : 1 PCIe x16, 1 PCIe x4, 2 PCI
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



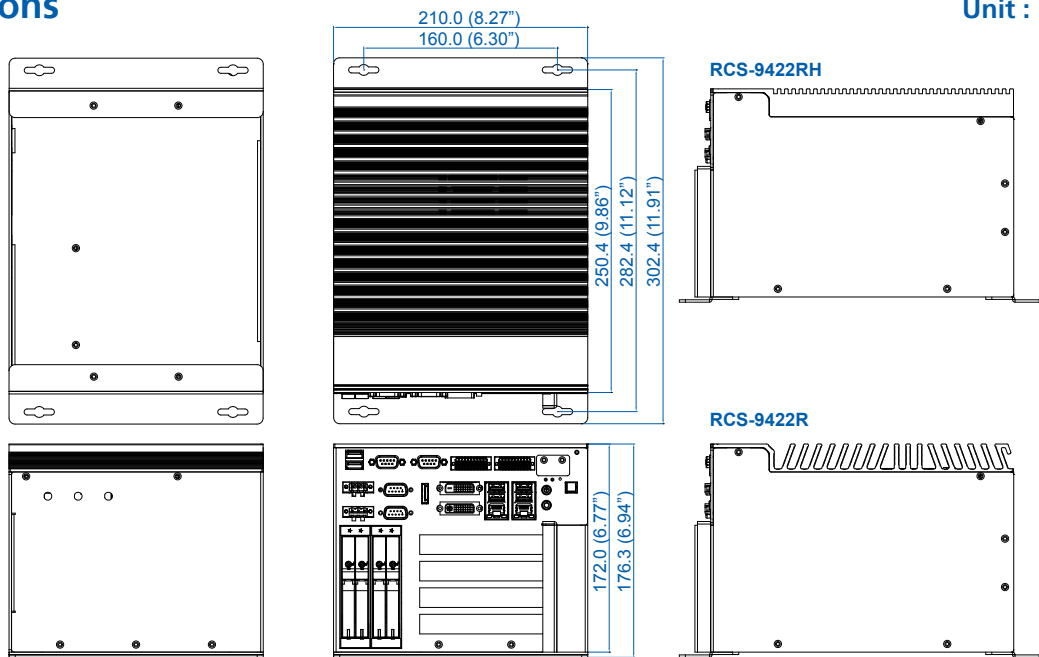
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	<ul style="list-style-type: none"> ▪ 1 PCIe x16 Slot ▪ 1 PCIe x4 Slot
PCI	2 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 4 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

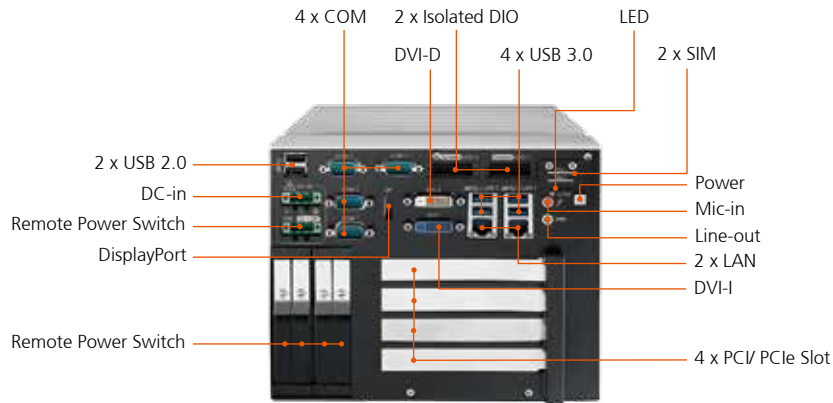
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 250mm x 210mm (6.77" x 9.86" x 8.27")
Weight	RCS-9422R : 3.8 kg (8.4 lb) RCS-9422RH : 5.0 kg (11.0 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9422R with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9422RH with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9422R	RCS-9000, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9422RH	RCS-9000 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9422/ 9422H

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Expansion : 1 PCIe x16, 1 PCIe x4, 2 PCI
- Front-access : 2 SIM Socket, 6 USB 3.0, 4 COM
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



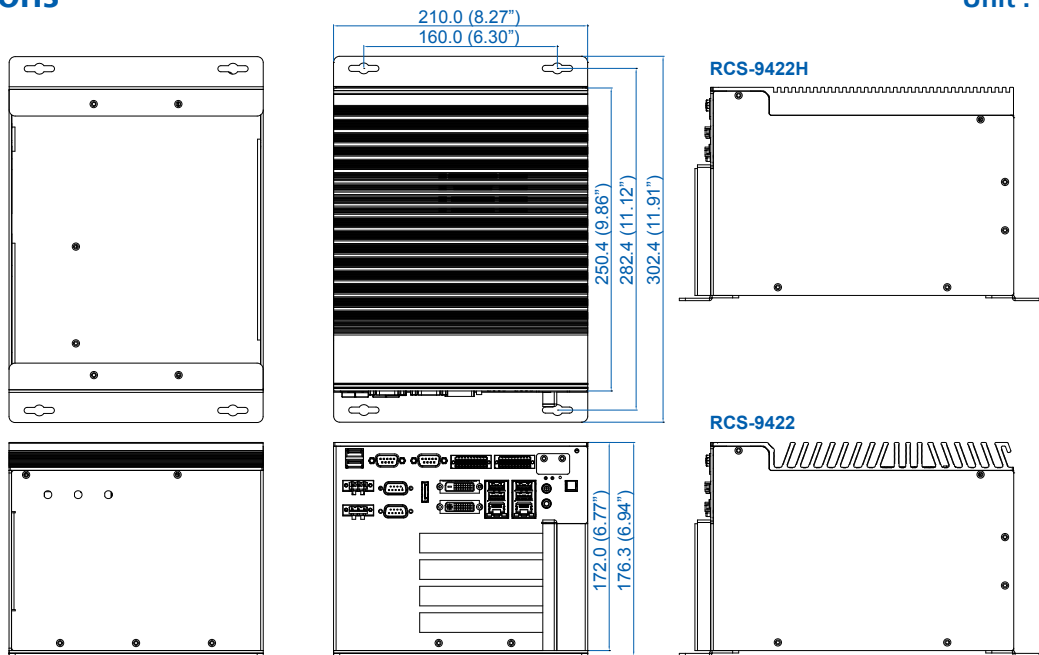
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	<ul style="list-style-type: none"> ▪ 1 PCIe x16 Slot ▪ 3 PCIe x4 Slot
PCI	2 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 4 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

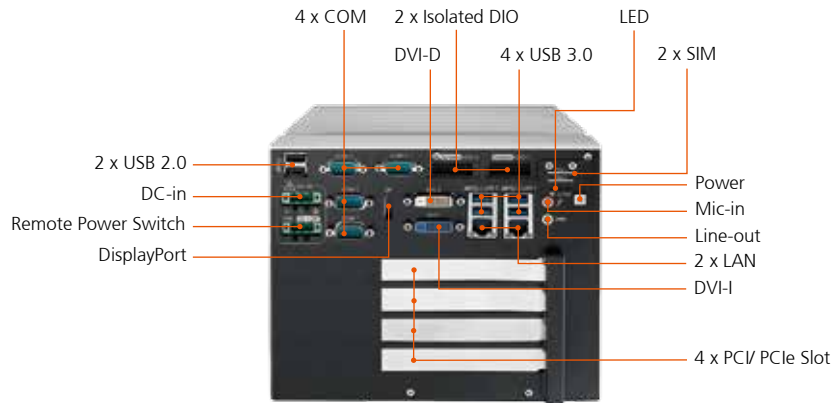
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 250mm x 210mm (6.77" x 9.86" x 8.27")
Weight	RCS-9422 : 3.8 kg (8.4 lb) RCS-9422H : 5.0 kg (11.0 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9422 with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9422H with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9422	RCS-9000, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9422H	RCS-9000 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9404R/ 9404RH

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 4 PCI, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Front-access : 4 2.5" SSD/ HDD Tray, 2 SIM Socket, 6 USB 3.0, 4 COM
- 4 PCI Expansion Slot
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



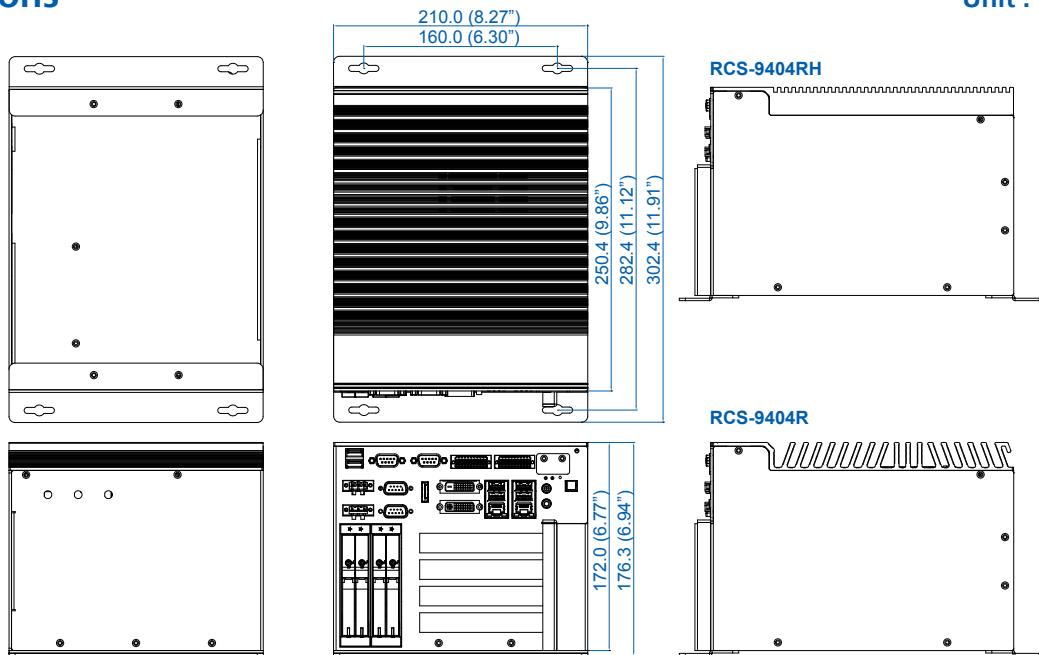
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCI	4 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 4 2.5" SSD/ HDD Tray
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

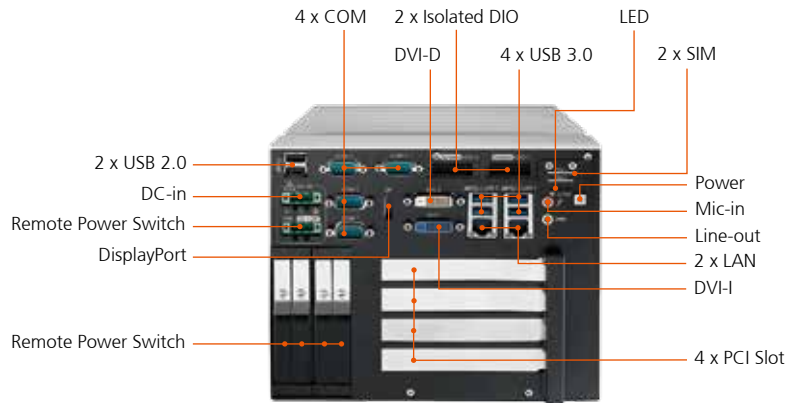
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 250mm x 210mm (6.77" x 9.86" x 8.27")
Weight	RCS-9404R : 3.8 kg (8.4 lb) RCS-9404RH : 5.0 kg (11.0 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9404R with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9404RH with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9404R	RCS-9000, 2 GigE LAN, 4 PCI, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9404RH	RCS-9000 w/ 65W CPU, 2 GigE LAN, 4 PCI, 4 Front-access SSD Tray, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9404/ 9404H

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 4 PCI, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- 4 PCI Expansion Slot
- Front-access : 2 SIM Socket, 6 USB 3.0, 4 COM
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



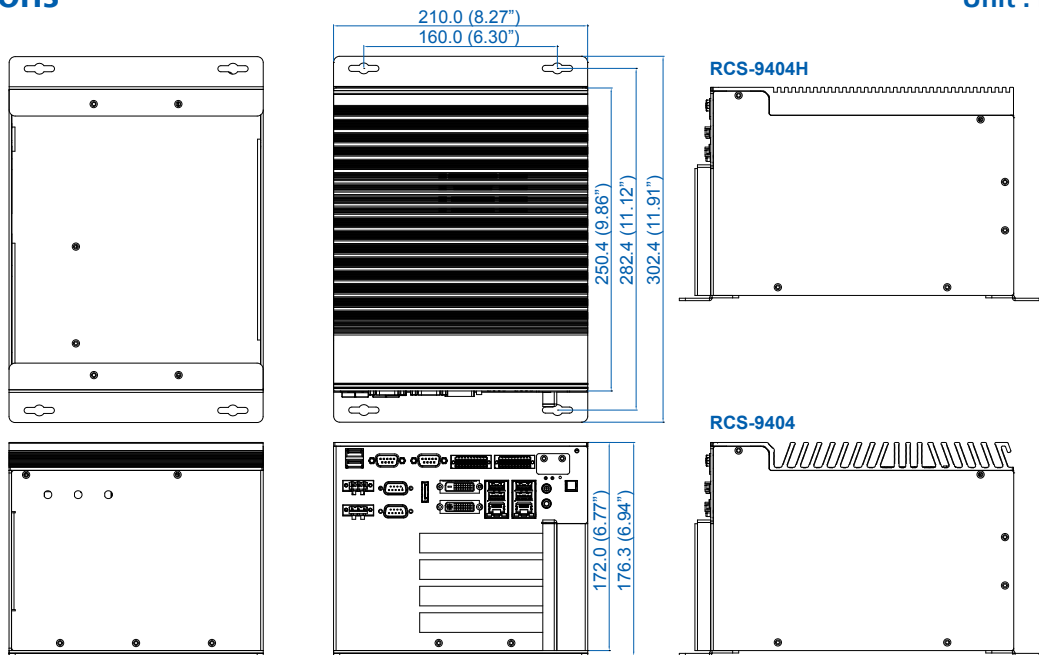
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCI	4 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 4 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

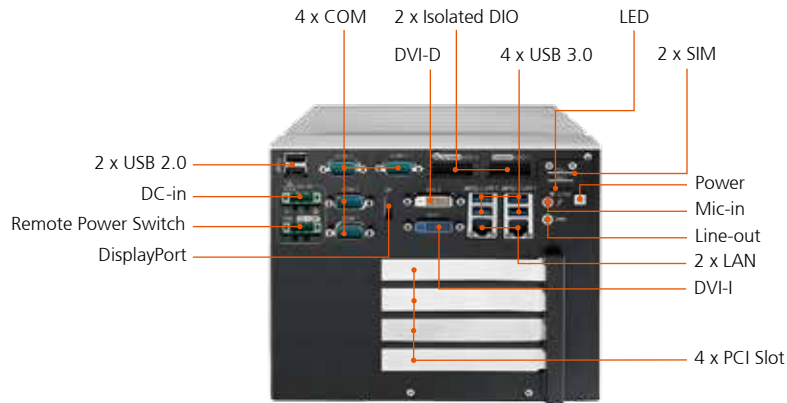
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 250mm x 210mm (6.77" x 9.86" x 8.27")
Weight	RCS-9404 : 3.8 kg (8.4 lb) RCS-9404H : 5.0 kg (11.0 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9404 with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9404H with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9404	RCS-9000, 2 GigE LAN, 4 PCI, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9404H	RCS-9000 w/ 65W CPU, 2 GigE LAN, 4 PCI, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9220A/ 9220AH

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 2 PCIe x8, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- 2 PCIe x8 Expansion Slot
- Front-access : 2 SIM Socket, 6 USB 3.0, 4 COM
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



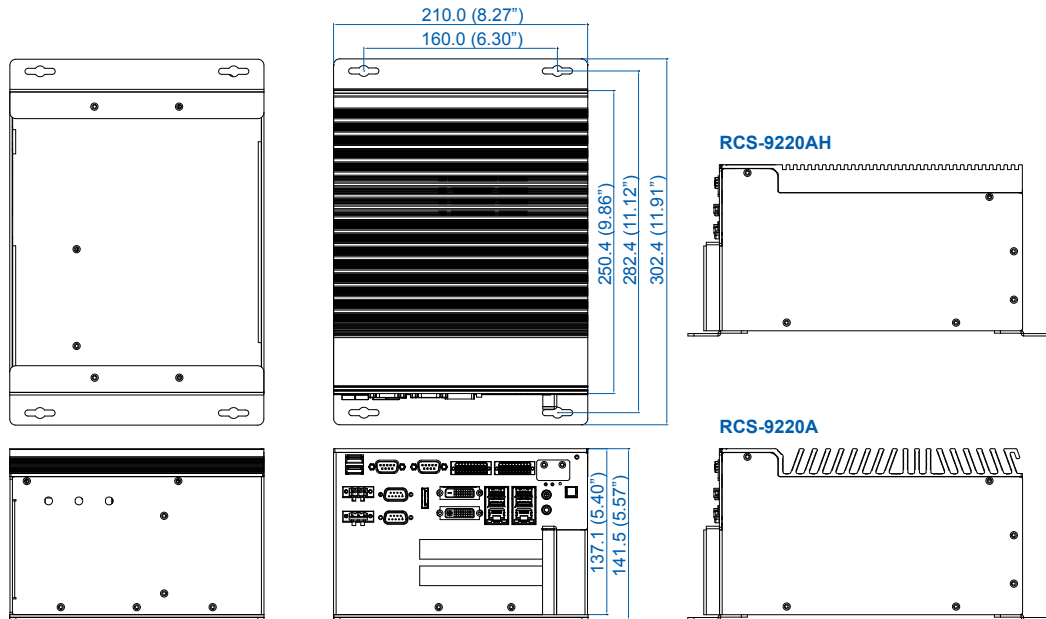
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	2 PCIe x8 Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

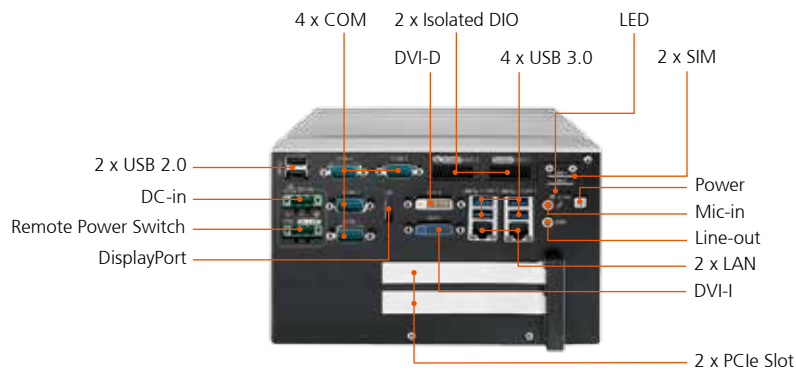
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	137mm x 250mm x 210mm (5.40" x 9.86" x 8.27")
Weight	RCS-9220A : 3.1 kg (6.8 lb) RCS-9220AH : 4.3 kg (9.5 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9220A with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9220AH with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9220A	RCS-9000, 2 GigE LAN, 2 PCIe x8, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9220AH	RCS-9000 w/ 65W CPU, 2 GigE LAN, 2 PCIe x8, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9220/ 9220H

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Expansion : 1 PCIe x16, 1 PCIe x4
- Front-access : 2 SIM Socket, 6 USB 3.0, 4 COM
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



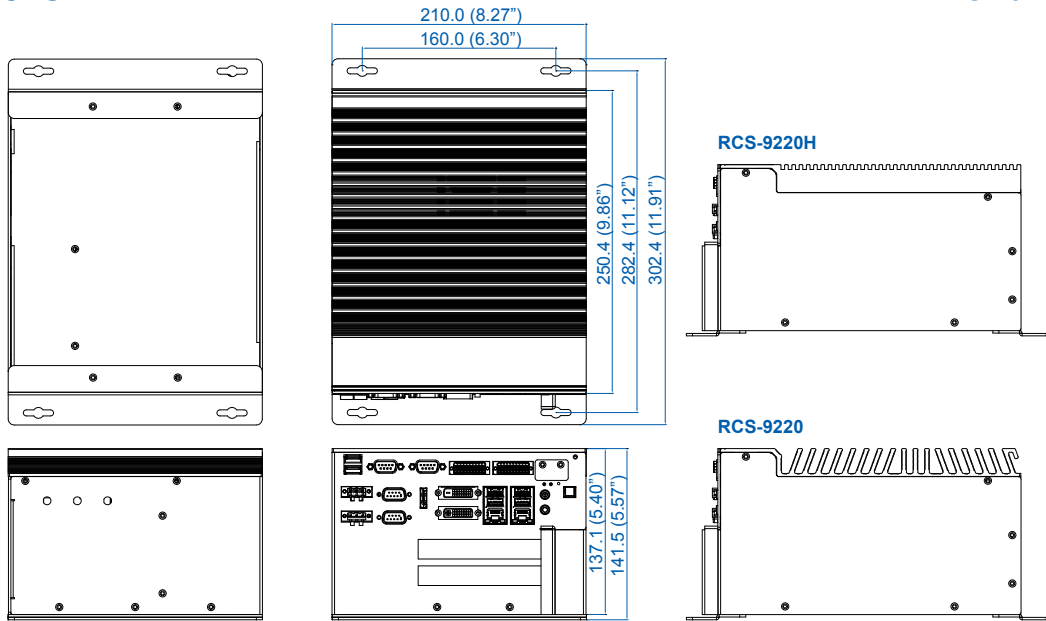
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	<ul style="list-style-type: none"> 3 Mini PCIe Socket : ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	<ul style="list-style-type: none"> ▪ 1 PCIe x16 Slot ▪ 1 PCIe x4 Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

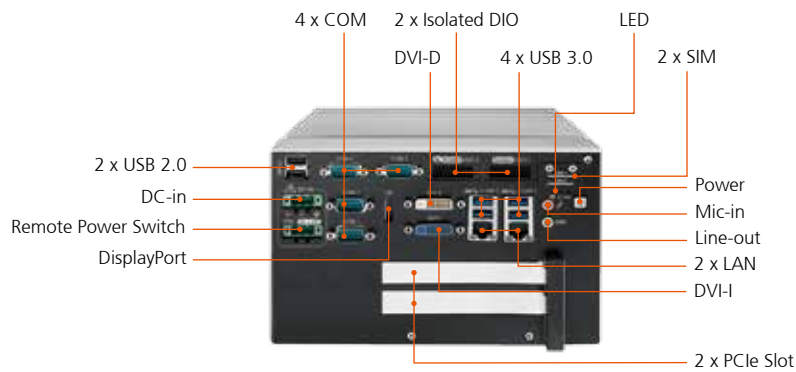
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	137mm x 250mm x 210mm (5.40" x 9.86" x 8.27")
Weight	RCS-9220 : 3.1 kg (6.8 lb) RCS-9220H : 4.3 kg (9.5 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9220 with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9220H with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9220	RCS-9000, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9220H	RCS-9000 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-9211/ 9211H

Quad Core Intel® Core™ i7/ i5/ i3 (Skylake-S) Fanless Robust Computing System with Intel® Q170 Chipset, 2 GigE LAN, 1 PCIe x16, 1 PCI, 7 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO, -25°C to 75°C Extended Temperature



Features

- LGA 1151 Socket supports Quad Core Intel® Core™ i7/ i5/ i3 Processor (Skylake-S)
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- Fanless, -25°C to 75°C Operating Temperature
- 6V to 36V DC Power Input with 80V Surge Protection
- 2 Independent GigE LAN, iAMT 11.0 supported
- Expansion : 1 PCIe x16, 1 PCI
- Front-access : 2 SIM Socket, 6 USB 3.0, 4 COM
- 3 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 7 USB 3.0, 3 Mini PCIe, 1 mSATA, 1 CFast Socket
- 32 Isolated DIO, Remote Power Switch
- Configurable Ignition Power Control



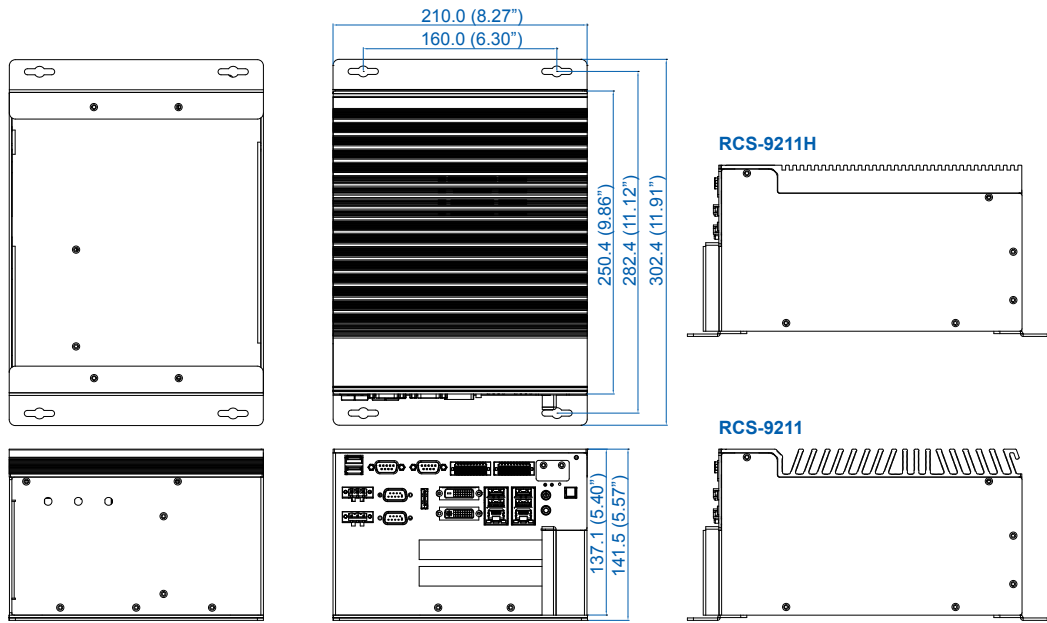
Specifications

System	
Processor	Intel® Core™ i7-6700/ i7-6700TE/ i5-6500/ i5-6500TE/ i3-6100/ i3-6100TE Processor (Skylake-S)
Chipset	Intel® Q170
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133 MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 7 USB 3.0 (6 External, 1 Internal) ▪ 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (2 External, 1 Internal)
Expansion	
Mini PCIe	3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 2 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card/ mSATA
PCIe	1 PCIe x16 Slot
PCI	1 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 530
Interface	<ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @ 60Hz ▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	4 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket (Internal) ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

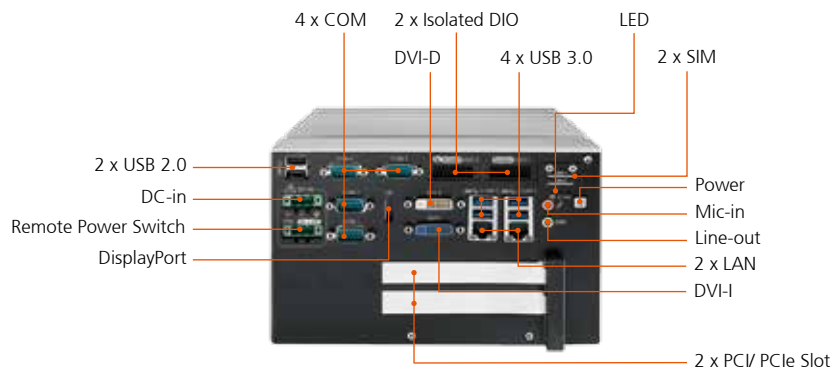
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	137mm x 250mm x 210mm (5.40" x 9.86" x 8.27")
Weight	RCS-9211 : 3.1 kg (6.8 lb) RCS-9211H : 4.3 kg (9.5 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	RCS-9211 with 35W TDP CPU (i7-6700TE, i5-6500TE, i3-6100TE) : -25°C to 75°C (-13°F to 167°F) RCS-9211H with 65W TDP CPU (i7-6700, i5-6500, i3-6100) : -25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-9211	RCS-9000, 2 GigE LAN, 1 PCIe x16, 1 PCI, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
RCS-9211H	RCS-9000 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCI, 7 USB 3.0, 4 COM, 3 SIM, Isolated DIO
i7-6700	6th Gen Intel® Core™ i7-6700 Processor (8M Cache, up to 4.00 GHz)
i7-6700TE	6th Gen Intel® Core™ i7-6700TE Processor (8M Cache, up to 3.40 GHz)
i5-6500	6th Gen Intel® Core™ i5-6500 Processor (6M Cache, up to 3.60 GHz)
i5-6500TE	6th Gen Intel® Core™ i5-6500TE Processor (6M Cache, up to 3.30 GHz)
i3-6100	6th Gen Intel® Core™ i3-6100 Processor (3M Cache, 3.70 GHz)
i3-6100TE	6th Gen Intel® Core™ i3-6100TE Processor (4M Cache, 2.70 GHz)
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-280W-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-7710/7701

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 6 GigE LAN with 4 PoE+, 1 PCI/ PCIe, 2 2.5" SSD, Isolated DIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+
- 16 Isolated DIO, 16 GPIO
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- Expansion : 1 PCI/ PCIe x16, 2 Mini PCIe
- 4 COM, 4 USB 3.0, 4 USB 2.0
- 2 2.5" SSD/ HDD, 1 Front-access CFast Socket



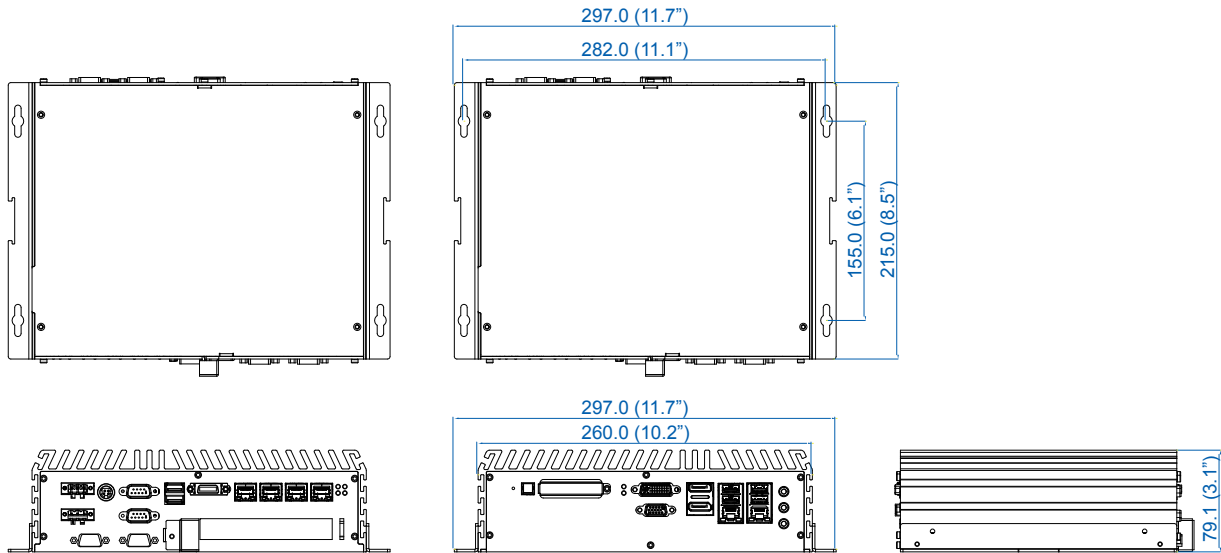
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO (Internal)
LED	Power, HDD, PoE
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
PCI/ PCIe	ECS-7710 : 1 PCIe x16 Slot ECS-7701 : 1 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN

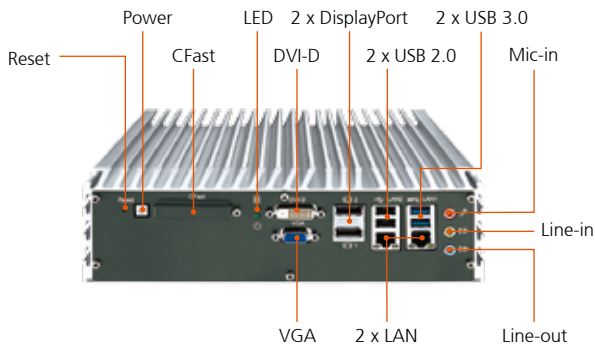
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® 82574L
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

Dimensions

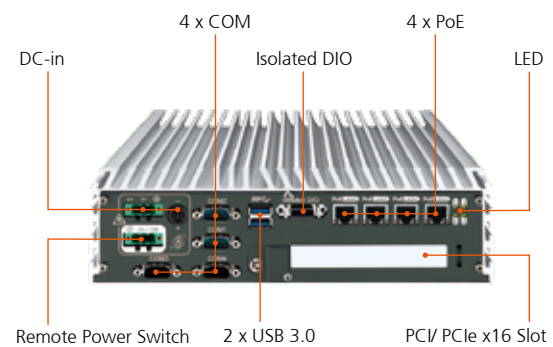
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-7710	ECS-7700, 6 GigE LAN with 4 PoE ⁺ , 1 PCIe x16, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
ECS-7701	ECS-7700, 6 GigE LAN with 4 PoE ⁺ , 1 PCI, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-7110/7101

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 2 GigE LAN, 1 PCI/ PCIe, 2 2.5" SSD, 16 GPIO, High Performance, Rugged, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 GigE LAN, iAMT 8.0 supported
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC-in, 80V Surge Protection
- Expansion : 1 PCI/ PCIe x16, 2 Mini PCIe
- 4 COM, 4 USB 3.0, 4 USB 2.0
- 2 2.5" SSD/ HDD, 1 Front-access CFast Socket
- 16 GPIO



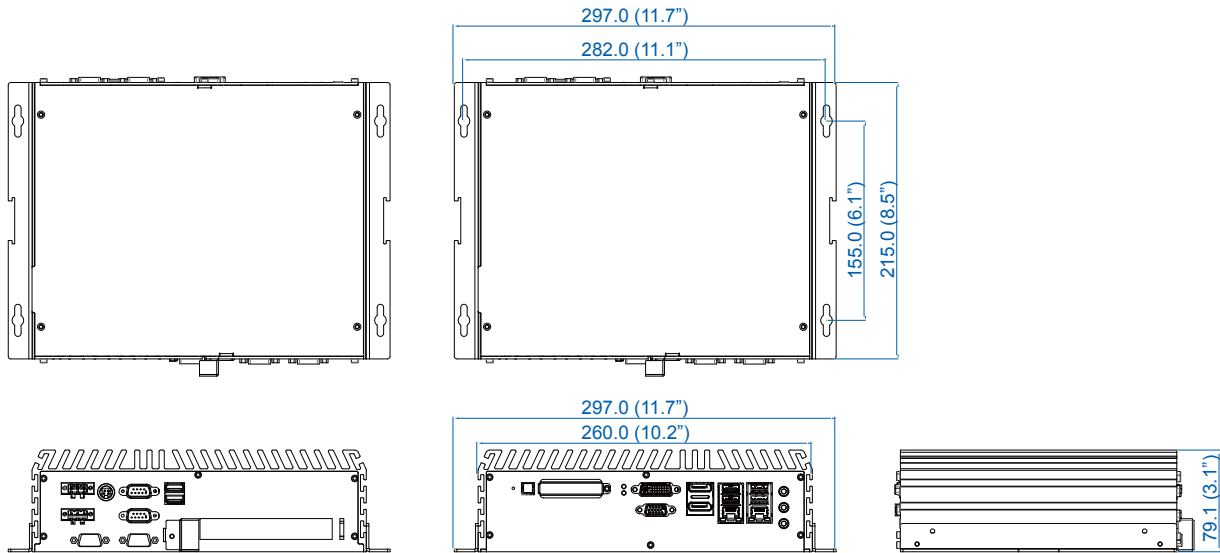
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA ▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA
PCI/ PCIe	ECS-7110 : 1 PCIe x16 Slot ECS-7101 : 1 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-in, 1 Line-out, 1 Mic-in
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN

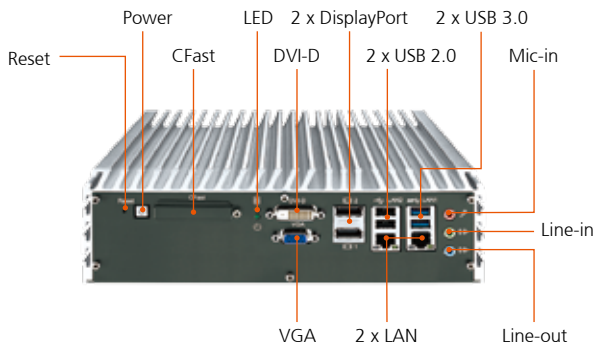
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	2.8 kg (6.2 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

Dimensions

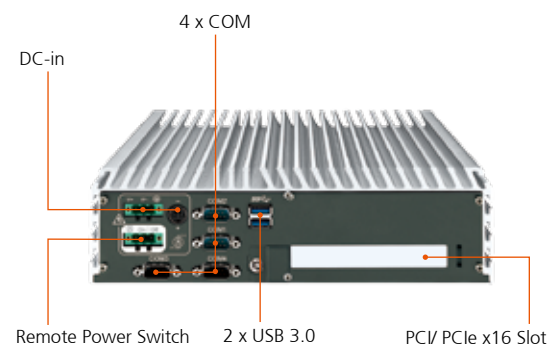
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-7110	ECS-7100, 2 GigE LAN, 1 PCIe x16, 8 USB, 4 COM, 1 SIM, 16 GPIO
ECS-7101	ECS-7100, 2 GigE LAN, 1 PCI, 8 USB, 4 COM, 1 SIM, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

RCS-7440/ 7422A/ 7422/ 7404

Intel® Core™ i7/ i5/ i3 Fanless Robust Computing System with Intel® QM77 Chipset, 2 GigE LAN, 8 USB, 4 COM, 4 PCI/ PCIe, 32 Isolated DIO, 16 GPIO, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 GigE LAN, iAMT 8.0 supported
- 32 Isolated DIO, 16 GPIO
- Expansion : 4 PCIe x8/ PCIe x4/ PCI Slot
- 4 COM, 4 USB 3.0, 4 USB 2.0
- 6V to 36V DC-in, 80V Surge Protection
- 2 SATA III for 2.5" SSD/ HDD, 1 CFAST Socket
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS



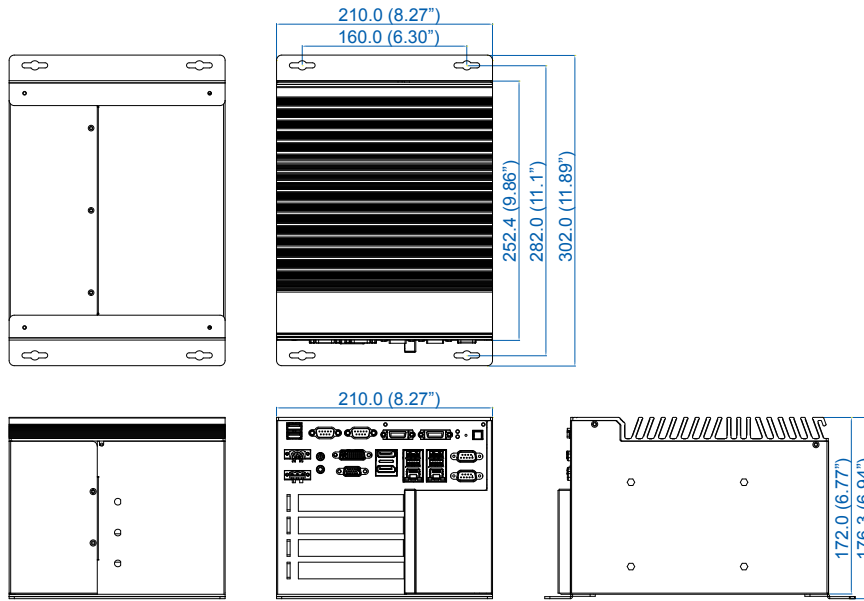
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
Isolated DIO	Dual 16 Isolated DIO : <ul style="list-style-type: none"> ▪ Isolated DIO 1 : 16 Isolated DIO (8 DI, 8 DO) ▪ Isolated DIO 2 : 16 Isolated DIO (8 DI, 8 DO)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ Internal SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ mSATA
PCI/ PCIe	RCS-7440 : 1 PCIe x8 Slot, 3 PCIe x4 Slot RCS-7422A : 1 PCIe x8 Slot, 1 PCIe x4 Slot, 2 PCI Slot RCS-7422 : 2 PCIe x4 Slot, 2 PCI Slot RCS-7404 : 4 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 2 SATA II (3Gbps)
mSATA	1 mSATA (Mini PCIe Type, SATA II 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/ Push-out Ejector (Internal) ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

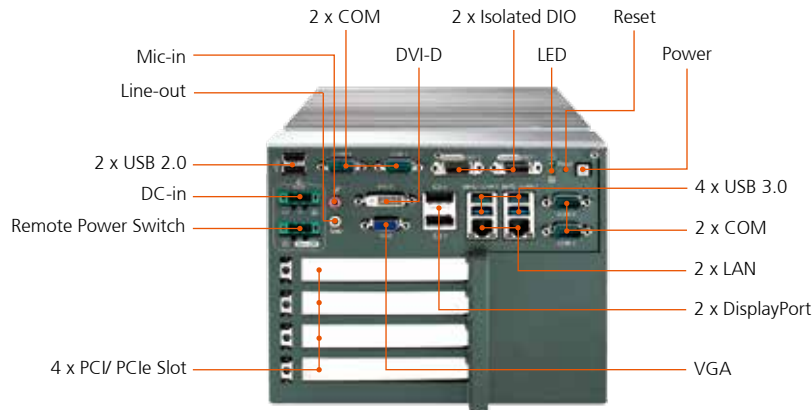
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	172mm x 252mm x 210mm (6.77" x 9.86" x 8.27")
Weight	3.8 kg (8.4 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-7440	RCS-7000, 1 PCIe x8, 3 PCIe x4, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
RCS-7422A	RCS-7000, 1 PCIe x8, 1 PCIe x4, 2 PCI, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
RCS-7422	RCS-7000, 2 PCIe x4, 2 PCI, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
RCS-7404	RCS-7000, 4 PCI, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

RCS-7220A/ 7220/ 7211

Intel® Core™ i7/ i5/ i3 Fanless Robust Computing System with Intel® QM77 Chipset, 2 GigE LAN, 8 USB, 4 COM, 2 PCI/ PCIe, 32 Isolated DIO, 16 GPIO, Extended Temperature



Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 GigE LAN, iAMT 8.0 supported
- 32 Isolated DIO, 16 GPIO
- Expansion : 2 PCI/ PCIe x16/ PCIe x8/ PCIe x4 Slot
- 4 COM, 4 USB 3.0, 4 USB 2.0
- 6V to 36V DC-in, 80V Surge Protection
- 2 SATA III for 2.5" SSD/ HDD, 1 CFAST Socket
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS



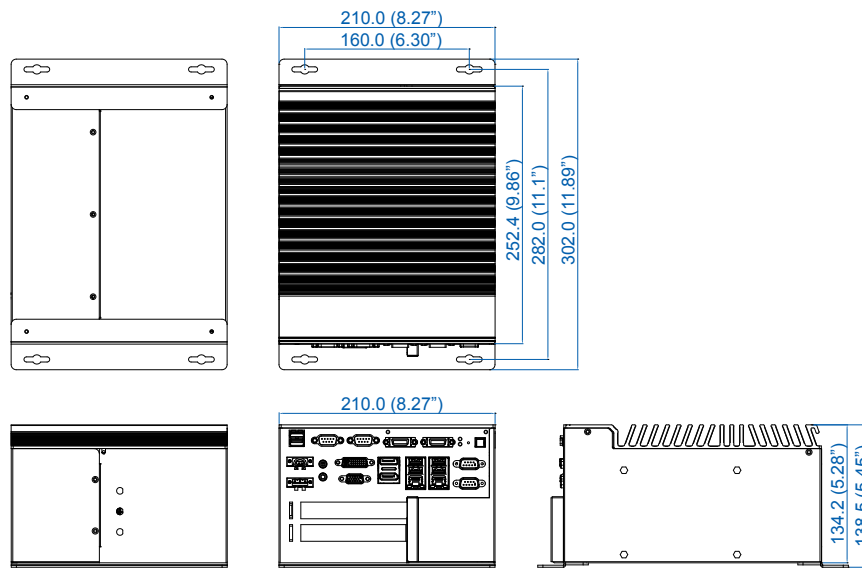
Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> ▪ 1 COM RS-232/ 422/ 485 ▪ 3 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 4 USB 2.0 (2 External, 2 Internal by JST Connector)
Isolated DIO	Dual 16 Isolated DIO : <ul style="list-style-type: none"> ▪ Isolated DIO 1 : 16 Isolated DIO (8 DI, 8 DO) ▪ Isolated DIO 2 : 16 Isolated DIO (8 DI, 8 DO)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ Internal SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ mSATA
PCI/ PCIe	RCS-7220A : 2 PCIe x8 Slot RCS-7220 : 1 PCIe x16 Slot, 1 PCIe x4 Slot RCS-7211 : 1 PCIe x16 Slot, 1 PCI Slot
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> ▪ VGA : DB-15, up to 1920 x 1200 ▪ DVI-D : Up to 1920 x 1200 ▪ DisplayPort 1 : Up to 2560 x 1600 ▪ DisplayPort 2 : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit, up to 1920 x 1200
Storage	
SATA	<ul style="list-style-type: none"> ▪ 2 SATA III (6Gbps) ▪ 2 SATA II (3Gbps)
mSATA	1 mSATA (Mini PCIe Type, SATA II 3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/ Push-out Ejector (Internal) ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

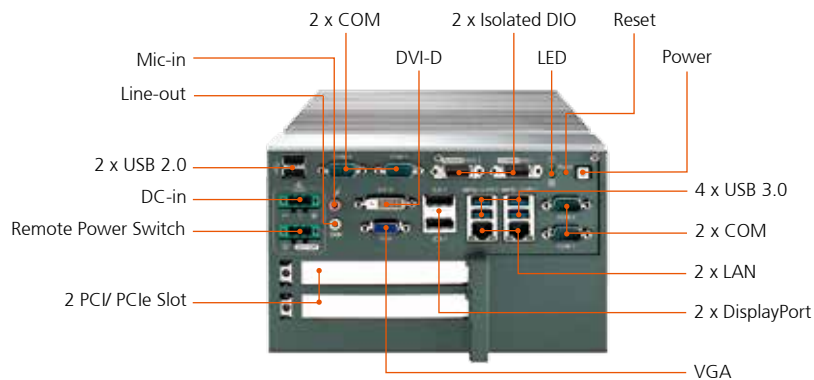
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	134mm x 252mm x 210mm (5.28" x 9.86" x 8.27")
Weight	3.5 kg (7.7 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-7220A	RCS-7000, 2 PCIe x8, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
RCS-7220	RCS-7000, 1 PCIe x16, 1 PCIe x4, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
RCS-7211	RCS-7000, 1 PCIe x16, 1 PCI, 2 GigE LAN, 8 USB, 4 COM, 1 SIM, Isolated DIO, 16 GPIO
i7-3610QE	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
i5-3610ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
i3-3120ME	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
M340S-W28M1	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
Certified DDR3 4GB RAM	Certified DDR3 4GB 1333/ 1600 MHz RAM
Certified DDR3 8GB RAM	Certified DDR3 8GB 1333/ 1600 MHz RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

RCS-2211/ 2202

Fanless Robust Computing System with Quad Core Intel® Atom™ E3845, 2 GigE LAN, 6 USB, 6 COM w/ 2 Isolated, 2 PCI/ PCIe, 32 Isolated DIO, 16 GPIO, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Fanless, -25°C to 70°C Operating Temperature
- 6V to 36V DC-in, 80V Surge Protection
- Dual Display : VGA/ DVI-D/ LVDS
- 32 Isolated DIO, 16 GPIO
- 6 External COM with 2 Isolated RS-232/ 422/ 485
- Expansion : 2 PCI/ PCIe x1, 2 Mini PCIe
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 GigE LAN, 4 USB 3.0, 2 USB 2.0
- 1 2.5" SSD, 1 CFast Socket
- Optional Onboard GPS



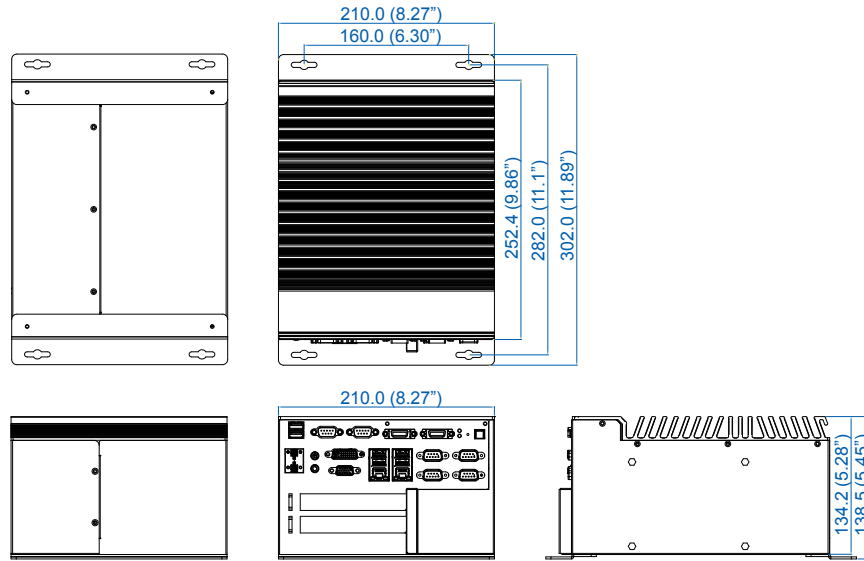
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	6 External COM : <ul style="list-style-type: none"> ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232 ▪ 2 Isolated COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 4 USB 3.0 (External) ▪ 2 USB 2.0 (External)
Isolated DIO	Dual 16 Isolated DIO : <ul style="list-style-type: none"> ▪ Isolated DIO 1 : 16 Isolated DIO (8 DI, 8 DO) ▪ Isolated DIO 2 : 16 Isolated DIO (8 DI, 8 DO)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB
PCI/ PCIe	RCS-2211 : 1 PCIe x1 Slot, 1 PCI Slot RCS-2202 : 2 PCI Slot
Graphics	
Graphics Processor	Intel® HD
Interface	Dual Display : <ul style="list-style-type: none"> ▪ VGA : Up to 2560 x 1600 ▪ DVI-D : Up to 1920 x 1200 ▪ LVDS : Dual channel 24-bit (Optional)
Storage	
SATA	1 SATA II (3Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector (Internal) ▪ 1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	GigE LAN by Intel® 82574L
LAN 2	GigE LAN by Intel® 82574L

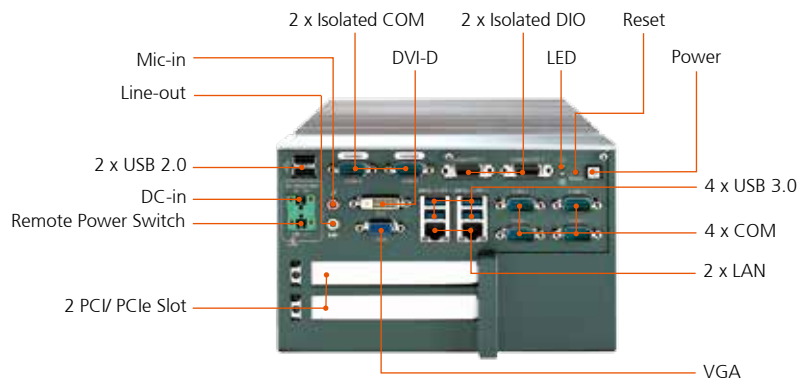
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	134mm x 252mm x 210mm (5.28" x 9.86" x 8.27")
Weight	3.5 kg (7.7 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95%, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-2211	RCS-2000, Intel® Atom™ E3845, 2 GigE LAN, 6 COM w/ 2 Isolated, 1 PCIe x1, 1 PCI, 6 USB, 1 SIM, Isolated DIO, 16 GPIO
RCS-2202	RCS-2000, Intel® Atom™ E3845, 2 GigE LAN, 6 COM w/ 2 Isolated, 2 PCI, 6 USB, 1 SIM, Isolated DIO, 16 GPIO
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1

High Performance
Embedded Systems

2

Expandable
Embedded Systems

3

Ultra Compact
Embedded Systems

4

3.5" Single Board
Computers

5

Industrial Multi-Touch
Computers/ Displays

6

Frame Grabbers/
Accessories

RCS-2011/2002

Fanless Robust Computing System with Quad Core Intel® Atom™ E3845, 2 GigE LAN, 6 USB, 4 COM, 2 PCI/ PCIe, 16 GPIO, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Fanless, -25°C to 70°C Operating Temperature
- 6V to 36V DC-in, 80V Surge Protection
- Supports VGA + DVI-D Dual Display
- 2 Independent GigE LAN
- 4 External COM with Auto Flow Control
- 6 External USB : 4 USB 3.0, 2 USB 2.0
- Expansion : 2 PCI/ PCIe x1, 2 Mini PCIe
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 1 2.5" SSD, 1 CFast Socket
- Optional Onboard GPS



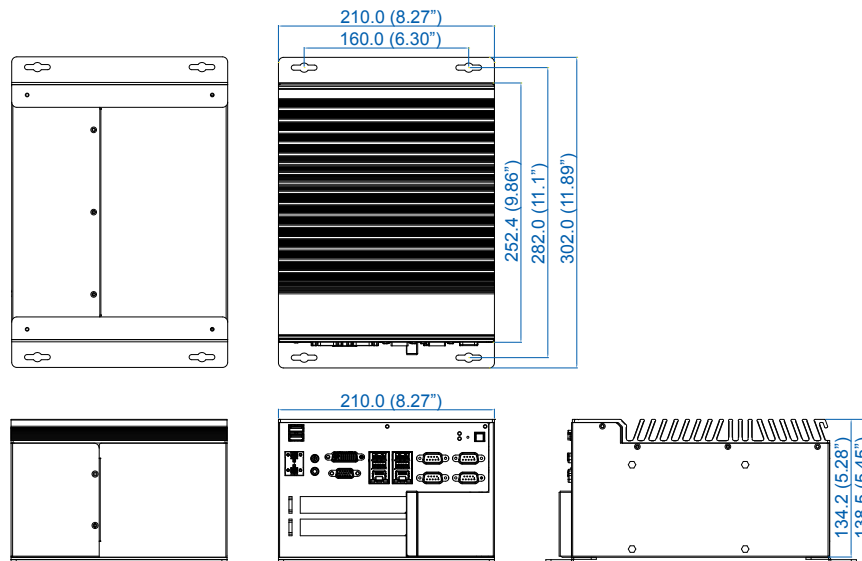
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	4 External COM : ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232
USB	▪ 4 USB 3.0 (External) ▪ 2 USB 2.0 (External)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe : ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB
PCI/ PCIe	RCS-2011 : 1 PCIe x1 Slot, 1 PCI Slot RCS-2002 : 2 PCI Slot
Graphics	
Graphics Processor	Intel® HD
Interface	Dual Display : ▪ VGA : Up to 2560 x 1600 ▪ DVI-D : Up to 1920 x 1200
Storage	
SATA	1 SATA II (3Gbps)
Storage Device	▪ 1 CFast Socket, Push-in/ Push-out Ejector (Internal) ▪ 1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	GigE LAN by Intel® 82574L
LAN 2	GigE LAN by Intel® 82574L

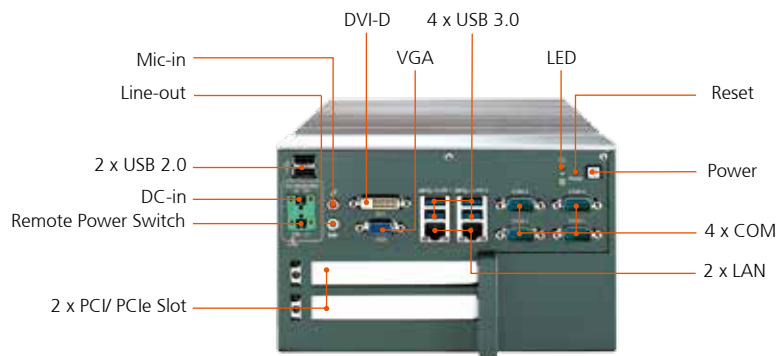
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	134mm x 252mm x 210mm (5.28" x 9.86" x 8.27")
Weight	3.5 kg (7.7 lb)
Mounting	Wallmount by mounting bracket
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95%, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



Front I/O



Order Information

RCS-2011	RCS-2000, Intel® Atom™ E3845, 2 GigE LAN, 1 PCIe x1, 1 PCI, 6 USB, 4 COM, 1 SIM, 16 GPIO
RCS-2002	RCS-2000, Intel® Atom™ E3845, 2 GigE LAN, 2 PCI, 6 USB, 4 COM, 1 SIM, 16 GPIO
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

Ultra Compact Embedded Systems

Series		ECS-4600			
Model No.		ECS-4610-PD	ECS-4610-2G	ECS-4601-PD	ECS-4601-2G
Product Image					
System	CPU	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
	Memory Capacity	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
	Graphics	Intel® HD 520	Intel® HD 520	Intel® HD 520	Intel® HD 520
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
Display I/O	DVI-D	1	1	1	1
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	4 (External)	4 (External)	4 (External)	4 (External)
	USB 2.0	Max 4 (1 External, 3 Internal)	Max 4 (1 External, 3 Internal)	Max 4 (1 External, 3 Internal)	Max 4 (1 External, 3 Internal)
	GigE LAN	2 (PD)	2	2 (PD)	2
	PoE LAN	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	16 GPIO (Internal)	32 GPIO (16 Internal)	16 GPIO (Internal)	32 GPIO (16 Internal)
	Isolated DIO	16 (8 DI, 8 DO)	NA	16 (8 DI, 8 DO)	NA
	Others	NA	NA	NA	NA
Storage	SATA III	2	2	2	2
	CFast	1	1	1	1
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
Expansion	Mini PCIe	2	2	2	2
	PCIe	1 PCIe x16	1 PCIe x16	NA	NA
	PCI	NA	NA	1 PCI	1 PCI
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Surge Protection	80V	80V	80V	80V
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	257 x 141 x 80 mm (10.1" x 5.6" x 3.2")	257 x 141 x 80 mm (10.1" x 5.6" x 3.2")	257 x 141 x 80 mm (10.1" x 5.6" x 3.2")	257 x 141 x 80 mm (10.1" x 5.6" x 3.2")	
Weight	2.3 kg (5.1 lb)	2.3 kg (5.1 lb)	2.3 kg (5.1 lb)	2.3 kg (5.1 lb)	
Mounting	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

ECS-4500

ECS-4500-PoER	ECS-4500-PoE	ECS-4500-PDR	ECS-4500-PD
			
Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM	Max 32GB, 2 SO-DIMM
Intel® HD 520	Intel® HD 520	Intel® HD 520	Intel® HD 520
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
1	1	1	1
2	2	2	2
4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
4 (External)	4 (External)	4 (External)	4 (External)
Max 4 (1 External, 3 Internal)	Max 4 (1 External, 3 Internal)	Max 4 (1 External, 3 Internal)	Max 4 (1 External, 3 Internal)
6 (4 w/ PoE*)	6 (4 w/ PoE*)	2 (PD)	2 (PD)
4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO (Internal)	16 GPIO (Internal)	32 GPIO (16 Internal)	32 GPIO (16 Internal)
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	NA
2 SSD/ HDD Tray (External)	NA	2 SSD/ HDD Tray (External)	NA
2	2	2	2
1	1	1	1
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
2	2	2	2
NA	NA	NA	NA
NA	NA	NA	NA
2 (External)	2 (External)	2 (External)	2 (External)
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
80V	80V	80V	80V
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
257 x 141 x 48 mm (10.11" x 5.55" x 1.89")	257 x 141 x 48 mm (10.11" x 5.55" x 1.89")	257 x 141 x 48 mm (10.11" x 5.55" x 1.89")	257 x 141 x 48 mm (10.11" x 5.55" x 1.89")
2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems





4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

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Ultra Compact Embedded Systems

Series		ECS-4000			
Model No.		ECS-4000-PoER	ECS-4000-PoE	ECS-4000-2G	ECS-4000-2R
Product Image					
System	CPU	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	204-pin SO-DIMM, DDR3L 1600MHz	204-pin SO-DIMM, DDR3L 1600MHz	204-pin SO-DIMM, DDR3L 1600MHz	204-pin SO-DIMM, DDR3L 1600MHz
	Memory Capacity	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
	Graphics	Intel® HD 6000	Intel® HD 6000	Intel® HD 6000	Intel® HD 6000
	Ethernet	Intel® I218, Intel® I210	Intel® I218, Intel® I210	Intel® I218, Intel® I210	Intel® I218, Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
Display I/O	DVI-D	1	1	1	1
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	2 (External)	2 (External)	2 (External)	2 (External)
	USB 2.0	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)	4 (3 External, 1 Internal)
	GigE LAN	6 (4 w/ PoE+)	6 (4 w/ PoE+)	2	2
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	16 GPIO	16 GPIO
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	NA
	Others	2 SSD/ HDD Tray (External)	NA	NA	2 SSD/ HDD Tray (External)
Storage	SATA III	2	2	2	2
	CFast	1	1	1	1
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
Expansion	Mini PCIe	2	2	2	2
	PCIe	NA	NA	NA	NA
	PCI	NA	NA	NA	NA
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
	SUMIT	NA	NA	NA	NA
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Surge Protection	80V	80V	80V	80V
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")
Weight		2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)
Mounting		Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

SPC-3500			SPC-3000
SPC-3530	SPC-3520	SPC-3510	SPC-3030
			
Intel® Core™ i7-6600U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM
Intel® HD 520	Intel® HD 520	Intel® HD 520	Intel® HD 520
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
1	1	1	1
1	1	1	1
9 RS-232/ 422/ 485	5 RS-232/ 422/ 485	2 RS-232/ 422/ 485	9 RS-232/ 422/ 485
4 (External)	4 (External)	4 (External)	4 (External)
4 (Internal)	Up to 4 (Internal)	Up to 4 (Internal)	4 (Internal)
4	4	2	4
NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	16 GPIO (Internal)	NA
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	16 (8 DI, 8 DO)
NA	NA	NA	NA
2	2	2	2
NA	NA	NA	NA
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
2	2	2	2
NA	NA	NA	NA
NA	NA	NA	NA
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 9V to 36V	DC-in 9V to 36V	DC-in 9V to 36V	DC-in 9V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block
NA	NA	NA	NA
NA	NA	NA	NA
Yes	Yes	Yes	Yes
150 x 106 x 100 mm (5.92" x 4.18" x 3.94")	150 x 106 x 86 mm (5.92" x 4.18" x 3.39")	150 x 106 x 62 mm (5.92" x 4.18" x 2.44")	150 x 106 x 82 mm (5.92" x 4.18" x 3.23")
2.1 kg (4.6 lb)	1.8 kg (4.0 lb)	1.4 kg (3.1 lb)	1.7 kg (3.8 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1 High Performance Embedded Systems

2 Expandable Embedded Systems





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4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

Ultra Compact Embedded Systems

Series		SPC-3000		SPC-2000	
Model No.		SPC-3020	SPC-3010	SPC-2900-LGN	SPC-2900
Product Image					
System	CPU	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U	Intel® Celeron® J1900	Intel® Celeron® J1900
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz
	Memory Capacity	Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
	Graphics	Intel® HD 520	Intel® HD 520	Intel® HD	Intel® HD
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I210	Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
Display I/O	DVI-I	NA	NA	1	1
	DVI-D	1	1	NA	NA
	DisplayPort	1	1	NA	NA
I/O Interface	Serial	5 RS-232/ 422/ 485	2 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	4 (External)	4 (External)	7 (External)	3 (External)
	USB 2.0	Up to 4 (Internal)	Up to 4 (Internal)	1 (External)	1 (External)
	GigE LAN	4	2	2	2
	PoE LAN	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Line-out	1 Line-out
	GPIO	NA	16 GPIO (Internal)	NA	NA
	Isolated DIO	16 (8 DI, 8 DO)	NA	8 (4 DI, 4 DO)	8 (4 DI, 4 DO)
	Others	NA	NA	NA	NA
Storage	SATA III	2	2	NA	NA
	SATA II	NA	NA	1	1
	CFast	NA	NA	NA	NA
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	NA	1 (Mini PCIe)
Expansion	Mini PCIe	2	2	NA	2
	PCIe	NA	NA	NA	NA
	PCI	NA	NA	NA	NA
	SIM Card	1 (Internal)	1 (Internal)	NA	1 (Internal)
	SUMIT	2 (Optional)	2 (Optional)	NA	NA
Power	Input	DC-in 9V to 36V	DC-in 9V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	150 x 106 x 68 mm (5.92" x 4.18" x 2.68")	150 x 106 x 44 mm (5.92" x 4.18" x 1.73")	106 x 150 x 91 mm (4.2" x 5.9" x 3.6")	106 x 150 x 91 mm (4.2" x 5.9" x 3.6")	
Weight	1.3 kg (2.9 lb)	0.9 kg (2.0 lb)	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 1U Rackmount	Wallmount, DIN Rail	Wallmount, DIN Rail	
Operating Temperature	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

SPC-2000

SPC-2845	SPC-2845X	SPC-2845R	SPC-2845RS
			
Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3845
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz
Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
Intel® HD	Intel® HD	Intel® HD	Intel® HD
Intel® I210	Intel® I210	Intel® I210	Intel® I210
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E
Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
1	1	1	1
NA	NA	NA	NA
NA	NA	NA	NA
4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
4 (External)	4 (External)	4 (External)	4 (External)
NA	NA	NA	NA
2 (w/ PoE*)	2 (w/ PoE*)	2 (w/ PoE*)	2 (w/ PoE*)
2 (IEEE 802.3at)	2 (IEEE 802.3at)	2 (IEEE 802.3at)	2 (IEEE 802.3at)
1 Line-out	1 Line-out	1 Line-out	1 Line-out
NA	NA	NA	NA
8 (4 DI, 4 DO)	8 (4 DI, 4 DO)	8 (4 DI, 4 DO)	8 (4 DI, 4 DO)
NA	NA	NA	1 SSD/ HDD Tray (External)
NA	NA	NA	NA
1	1	NA	1
NA	NA	1 (External)	NA
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
2	2	2	2
NA	NA	NA	NA
NA	NA	NA	NA
1 (Internal)	1 (External)	1 (Internal)	1 (Internal)
NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	Yes
106 x 150 x 66 mm (4.2" x 5.9" x 2.6")	106 x 150 x 66 mm (4.2" x 5.9" x 2.6")	106 x 150 x 66 mm (4.2" x 5.9" x 2.6")	106 x 150 x 86 mm (4.2" x 5.9" x 3.4")
1.4 kg (3.1 lb)	1.4 kg (3.1 lb)	1.4 kg (3.1 lb)	1.5 kg (3.3 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

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Ultra Compact Embedded Systems

Series		SPC-2000			
Model No.		SPC-2145	SPC-2145X	SPC-2145R	SPC-2145RS
Product Image					
System	CPU	Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3845
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz
	Memory Capacity	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
	Graphics	Intel® HD	Intel® HD	Intel® HD	Intel® HD
	Ethernet	Intel® I210	Intel® I210	Intel® I210	Intel® I210
	Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	HDMI	NA	NA	NA	NA
	LVDS	NA	NA	NA	NA
I/O Interface	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	4 (External)	4 (External)	4 (External)	4 (External)
	USB 2.0	NA	NA	NA	NA
	GigE LAN	2	2	2	2
	Audio	1 Line-out	1 Line-out	1 Line-out	1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	NA	NA	NA	NA
	Others	NA	NA	NA	1 SSD/ HDD Tray (External)
Storage	SATA II	1	1	NA	1
	CFast	NA	NA	1 (External)	NA
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
Expansion	Mini PCIe	2	2	2	2
	SIM Card	1 (Internal)	1 (External)	1 (Internal)	1 (Internal)
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		106 x 150 x 66 mm (4.2" x 5.9" x 2.6")	106 x 150 x 66 mm (4.2" x 5.9" x 2.6")	106 x 150 x 66 mm (4.2" x 5.9" x 2.6")	106 x 150 x 86 mm (4.2" x 5.9" x 3.4")
Weight		1.4 kg (3.1 lb)	1.4 kg (3.1 lb)	1.4 kg (3.1 lb)	1.5 kg (3.3 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

ABP-2000

ABP-2845A	ABP-2845	ABP-2045A	ABP-2045	ABP-2015
				
Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3845	Intel® Atom™ E3815
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI	AMI
204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz	204-pin SO-DIMM, DDR3L 1333MHz
Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
Intel® HD	Intel® HD	Intel® HD	Intel® HD	Intel® HD
Intel® 82574L, Intel® 82583V	Intel® 82574L	Intel® 82574L, Intel® 82583V	Intel® 82574L	Intel® 82574L
Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
1	1	1	1	1
NA	NA	NA	NA	NA
2	2	2	2	2
1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)
6 (2 RS-232/ 422/ 485, 2 Isolated RS-232/ 422/ 485, 2 RS-232)	6 (2 RS-232/ 422/ 485, 2 Isolated RS-232/ 422/ 485, 2 RS-232)	6 (4 RS-232/ 422/ 485, 2 RS-232)	6 (4 RS-232/ 422/ 485, 2 RS-232)	6 (4 RS-232/ 422/ 485, 2 RS-232)
3 (External)	3 (External)	3 (External)	3 (External)	3 (External)
2 (External)	2 (External)	2 (External)	2 (External)	2 (External)
4	2	4	2	2
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
8 GPIO (External)	8 GPIO (External)	8 GPIO (External)	8 GPIO (External)	8 GPIO (External)
NA	NA	NA	NA	NA
Onboard GPS (Optional)	Onboard GPS (Optional)	Onboard GPS (Optional)	Onboard GPS (Optional)	Onboard GPS (Optional)
1	1	1	1	1
NA	NA	NA	NA	NA
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
1	2	1	2	2
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
DC-in 9V to 28V	DC-in 9V to 28V	DC-in 9V to 28V	DC-in 9V to 28V	DC-in 9V to 28V
Terminal Block	Terminal Block	DC Jack	DC Jack	Terminal Block
Yes	Yes	NA	NA	Yes
257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")	257 x 141 x 48 mm (10.1" x 5.6" x 1.9")
2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)	2.1 kg (4.6 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing	10% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-4500-PoER

Intel® Core™ i7/ i5/ i3 Processor (Skylake-U) Slim Embedded System, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- DVI-D, dual DisplayPort, and LVDS display interfaces support up to 4K resolution
- Fanless, -25°C to 70°C Operating Temperature
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0
- 2 Front-access 2.5" SSD Tray, 1 Front-access CFast Socket
- 16 Isolated DIO, 16 GPIO
- 2 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 External SIM Card Socket, 4 USB 3.0
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



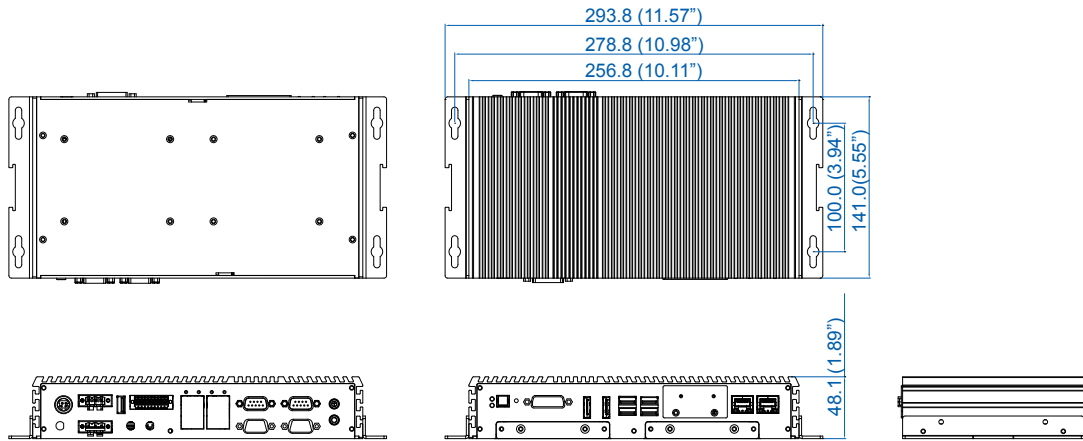
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	ECS-4500-PoER600U, ECS-4500-PoER300U : 4 USB 2.0 (1 External, 3 Internal) ECS-4500-PoER955U : 2 USB 2.0 (1 External, 1 Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO (Internal)
LED	Power, HDD, Wireless, PoE
SIM Card	2 SIM Card Socket (External)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ External SIM Card ▪ 1 Full-size for PCIe for PCIe/ USB/ External SIM Card/ mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz ▪ LVDS : Dual channel 24-bit, up to 1920 x 1080 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Tray (External)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

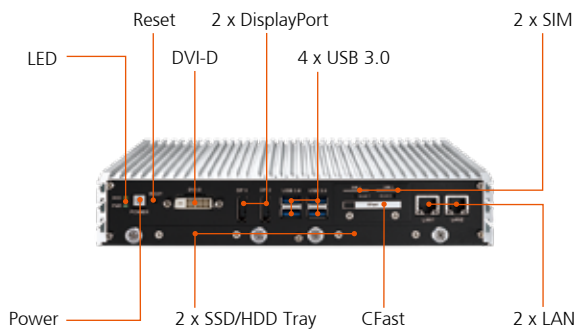
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	257mm x 141mm x 48mm (10.11" x 5.55" x 1.89")
Weight	2.1 kg (4.6 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

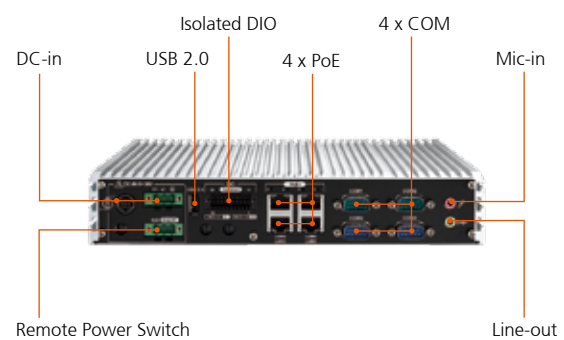
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-4500-PoER600U	ECS-4500, Intel® Core™ i7-6600U Processor (Skylake-U), 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 4 COM, 4 USB 3.0, 4 USB 2.0, Isolated DIO
ECS-4500-PoER300U	ECS-4500, Intel® Core™ i5-6300U Processor (Skylake-U), 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 4 COM, 4 USB 3.0, 4 USB 2.0, Isolated DIO
ECS-4500-PoER955U	ECS-4500, Intel® Celeron® 3955U Processor (Skylake-U), 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 4 COM, 4 USB 3.0, 2 USB 2.0, Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMBK-20P-100	Terminal Block 20-pin to SCSI, 100cm
TMBK-20P-500	Terminal Block 20-pin to SCSI, 500cm
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

ECS-4500-PoE

Intel® Core™ i7/ i5/ i3 Processor (Skylake-U) Slim Embedded System, 6 GigE LAN with 4 PoE*, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- DVI-D, dual DisplayPort, and LVDS display interfaces support up to 4K resolution
- Fanless, -25°C to 70°C Operating Temperature
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE*, iAMT 11.0
- 16 Isolated DIO, 16 GPIO
- 2 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 External SIM Card Socket, 4 USB 3.0
- 2 2.5" SSD, 1 Front-access CFast Socket
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



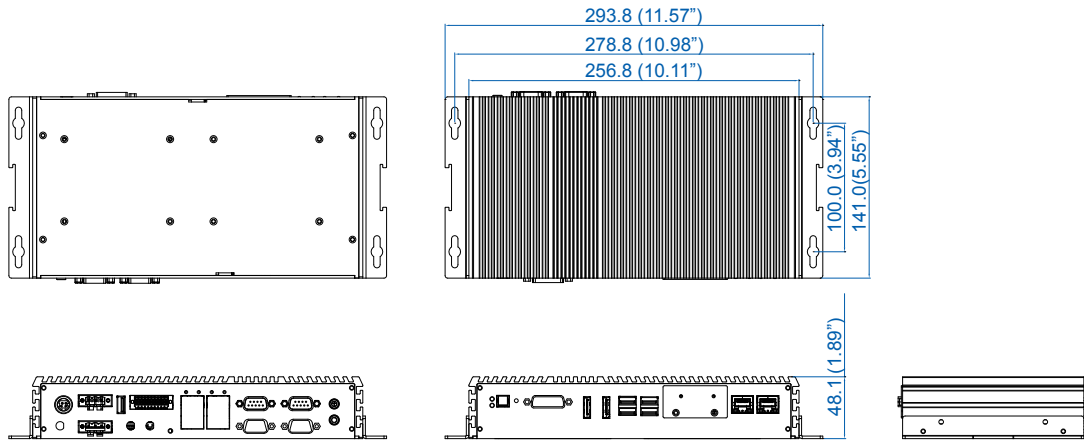
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	ECS-4500-PoE600U, ECS-4500-PoE300U : 4 USB 2.0 (1 External, 3 Internal) ECS-4500-PoE955U : 2 USB 2.0 (1 External, 1 Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO (Internal)
LED	Power, HDD, Wireless, PoE
SIM Card	2 SIM Card Socket (External)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card/ mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz ▪ LVDS : Dual channel 24-bit, up to 1920 x 1080 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

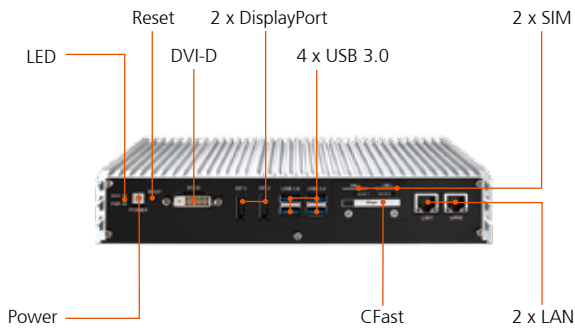
PoE	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	257mm x 141mm x 48mm (10.11" x 5.55" x 1.89")
Weight	2.1 kg (4.6 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

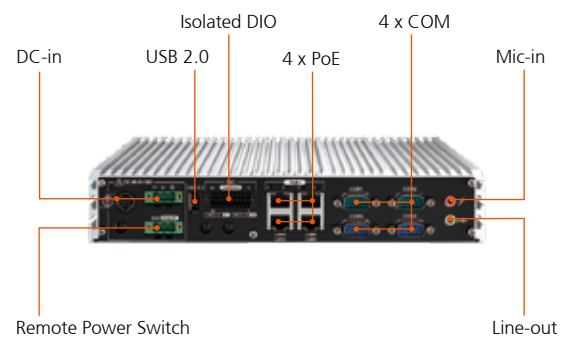
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-4500-PoE600U	ECS-4500, Intel® Core™ i7-6600U Processor (Skylake-U), 6 GigE LAN with 4 PoE+, 4 COM, 4 USB 3.0, 4 USB 2.0, Isolated DIO
ECS-4500-PoE300U	ECS-4500, Intel® Core™ i5-6300U Processor (Skylake-U), 6 GigE LAN with 4 PoE+, 4 COM, 4 USB 3.0, 4 USB 2.0, Isolated DIO
ECS-4500-PoE955U	ECS-4500, Intel® Celeron® 3955U Processor (Skylake-U), 6 GigE LAN with 4 PoE+, 4 COM, 4 USB 3.0, 2 USB 2.0, Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMBK-20P-100	Terminal Block 20-pin to SCSI, 100cm
TMBK-20P-500	Terminal Block 20-pin to SCSI, 500cm
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

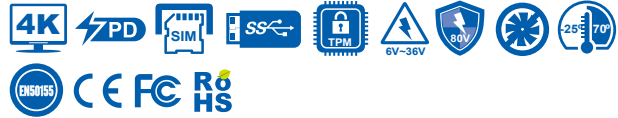
ECS-4500-PDR

Intel® Core™ i7/ i5/ i3 Processor (Skylake-U) Slim Embedded System, 2 GigE Powered Device LAN, 2 Front-access SSD Tray, GPIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- DVI-D, dual DisplayPort, and LVDS display interfaces support up to 4K resolution
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN support Powered Device (PD) and iAMT 11.0
- 2 Front-access 2.5" SSD Tray, 1 Front-access CFast Socket
- 2 External SIM Card Socket
- 2 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 32 GPIO
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



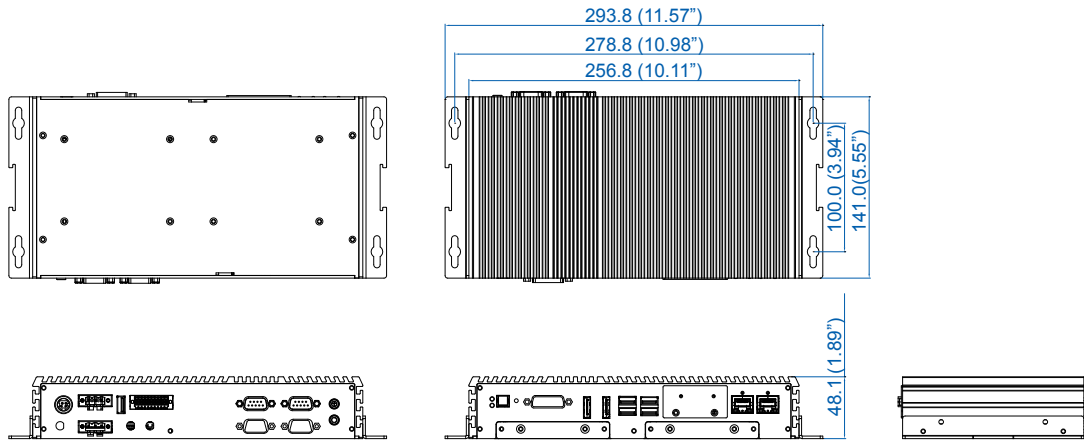
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	ECS-4500-PDR600U, ECS-4500-PDR300U : 4 USB 2.0 (1 External, 3 Internal) ECS-4500-PDR955U : 2 USB 2.0 (1 External, 1 Internal)
GPIO	32 GPIO (16 Internal)
LED	Power, HDD, Wireless, PD
SIM Card	2 SIM Card Socket (External)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card/ mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz ▪ LVDS : Dual channel 24-bit, up to 1920 x 1080 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Tray (External)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports Powered Device (PD) and iAMT 11.0
LAN 2	Intel® I210 GigE LAN supports Powered Device (PD)

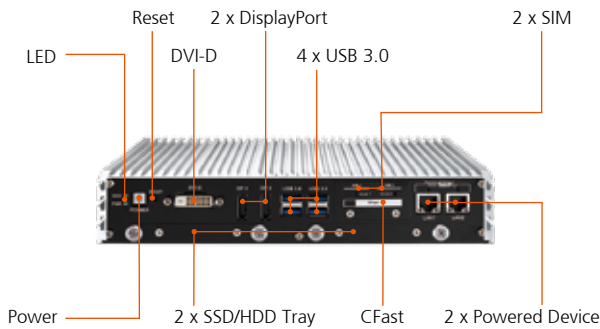
Power	
Power Input	6V to 36V, DC-in
Power Interface	▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	257mm x 141mm x 48mm (10.11" x 5.55" x 1.89")
Weight	2.1 kg (4.6 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

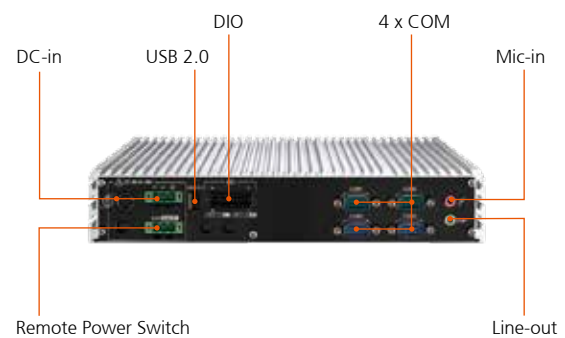
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-4500-PDR600U	ECS-4500, Intel® Core™ i7-6600U Processor (Skylake-U), 2 PD LAN, 2 Front-access SSD Tray, 4 COM, 4 USB 3.0, 4 USB 2.0, 32 GPIO
ECS-4500-PDR300U	ECS-4500, Intel® Core™ i5-6300U Processor (Skylake-U), 2 PD LAN, 2 Front-access SSD Tray, 4 COM, 4 USB 3.0, 4 USB 2.0, 32 GPIO
ECS-4500-PDR955U	ECS-4500, Intel® Celeron® 3955U Processor (Skylake-U), 2 PD LAN, 2 Front-access SSD Tray, 4 COM, 4 USB 3.0, 2 USB 2.0, 32 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMBK-20P-100	Terminal Block 20-pin to SCSI, 100cm
TMBK-20P-500	Terminal Block 20-pin to SCSI, 500cm
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

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2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

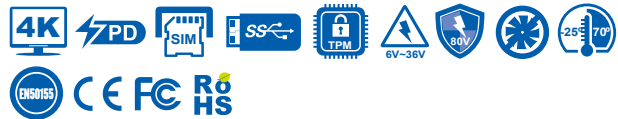
ECS-4500-PD

Intel® Core™ i7/ i5/ i3 Processor (Skylake-U) Slim Embedded System, 2 GigE Powered Device LAN, GPIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- DVI-D, dual DisplayPort, and LVDS display interfaces support up to 4K resolution
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN support Powered Device (PD) and iAMT 11.0
- 2 External SIM Card Socket
- 2 Mini PCIe for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 32 GPIO
- 2 2.5" SSD, 1 Front-access CFast Socket
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



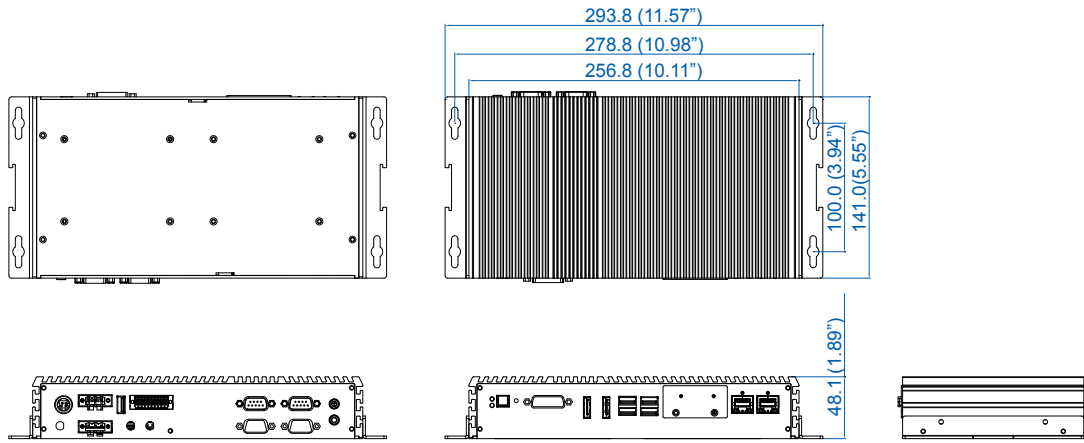
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	ECS-4500-PD600U, ECS-4500-PD300U : 4 USB 2.0 (1 External, 3 Internal) ECS-4500-PD955U : 2 USB 2.0 (1 External, 1 Internal)
GPIO	32 GPIO (16 Internal)
LED	Power, HDD, Wireless, PD
SIM Card	2 SIM Card Socket (External)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card/ mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz ▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz ▪ LVDS : Dual channel 24-bit, up to 1920 x 1080 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	▪ 1 CFast Socket, Push-in/ Push-out Ejector ▪ 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports Powered Device (PD) and iAMT 11.0
LAN 2	Intel® I210 GigE LAN supports Powered Device (PD)

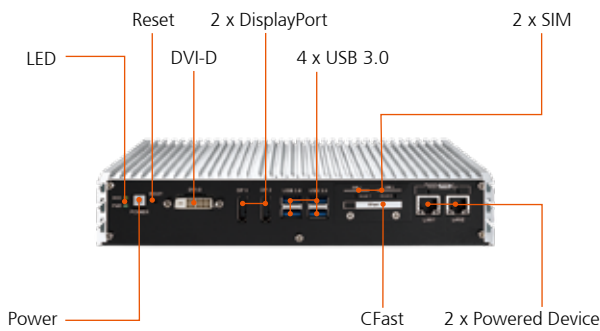
Power	
Power Input	6V to 36V, DC-in
Power Interface	▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
UPS	Supported (Optional)
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	257mm x 141mm x 48mm (10.11" x 5.55" x 1.89")
Weight	2.1 kg (4.6 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

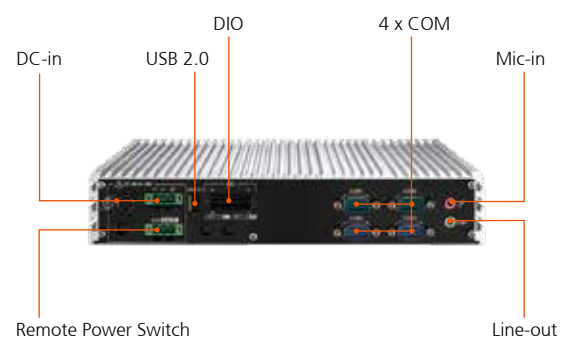
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECS-4500-PD600U	ECS-4500, Intel® Core™ i7-6600U Processor (Skylake-U), 2 PD LAN, 4 COM, 4 USB 3.0, 4 USB 2.0, 32 GPIO
ECS-4500-PD300U	ECS-4500, Intel® Core™ i5-6300U Processor (Skylake-U), 2 PD LAN, 4 COM, 4 USB 3.0, 4 USB 2.0, 32 GPIO
ECS-4500-PD955U	ECS-4500, Intel® Celeron® 3955U Processor (Skylake-U), 2 PD LAN, 4 COM, 4 USB 3.0, 2 USB 2.0, 32 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMBK-20P-100	Terminal Block 20-pin to SCSI, 100cm
TMBK-20P-500	Terminal Block 20-pin to SCSI, 500cm
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ECS-4000-PoER/ PoE/ 2G/ 2R

Slim Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U), 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Broadwell-U)
- Supports 4K Resolution, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+
- 2 Front-access 2.5" SSD Tray, 1 Front-access CFast Socket
- 16 Isolated DIO : 8 DI, 8 DO
- 2 Mini PCIe Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 External SIM Card Socket
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



Specifications

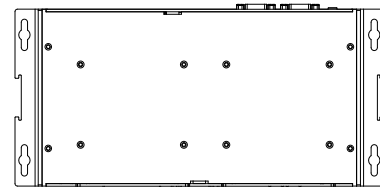
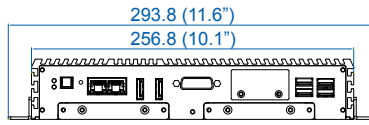
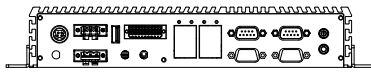
System	
Processor	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U (Broadwell-U)
Chipset	Intel® SoC (Broadwell)
BIOS	AMI
SIO	IT8786E
Memory	2 DDR3L 1333/1600 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	<ul style="list-style-type: none"> ▪ 2 USB 3.0 ▪ 4 USB 2.0 (3 External, 1 Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (ECS-4000-PoER, ECS-4000-PoE)
LED	Power, HDD, PoE
SIM Card	2 SIM Card Socket (External)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card/ mSATA
Graphics	
Graphics Processor	Intel® HD Graphics 6000
Interface	<ul style="list-style-type: none"> ▪ DVI-D : Up to 1920 x 1080 @ 60Hz ▪ DisplayPort 1 : Up to 3840 x 2160 @ 60Hz ▪ DisplayPort 2 : Up to 3840 x 2160 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/ Push-out Ejector ECS-4000-PoER, 2R : 2 Front-access 2.5" SSD/ HDD Tray ECS-4000-PoE, 2G : 2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I218 GigE LAN supports iAMT
LAN 2	Intel® I210 GigE LAN
PoE (ECS-4000-PoER, ECS-4000-PoE)	
LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210

Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> ▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	257mm x 141mm x 48mm (10.1" x 5.6" x 1.9")
Weight	2.1 kg (4.6 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

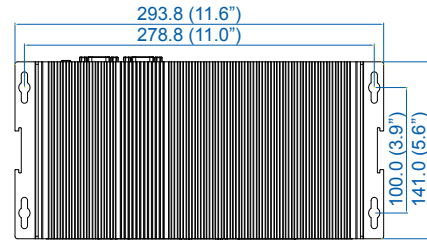
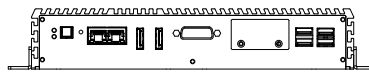
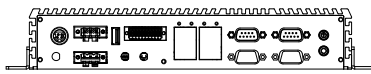
Dimensions

Unit : mm/ inch

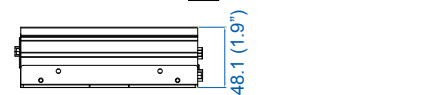
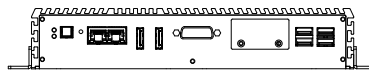
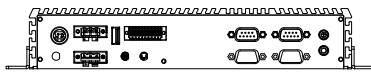
ECS-4000-PoER



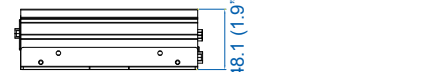
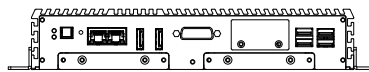
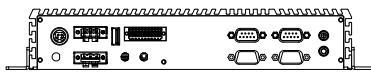
ECS-4000-PoE



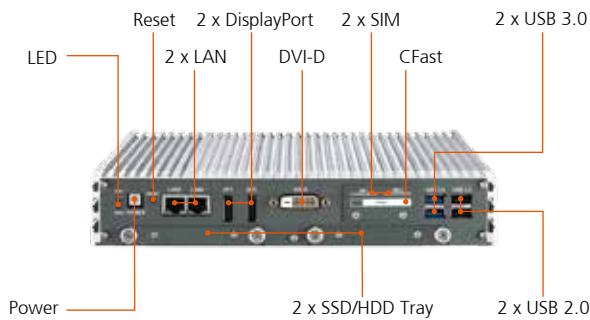
ECS-4000-2G



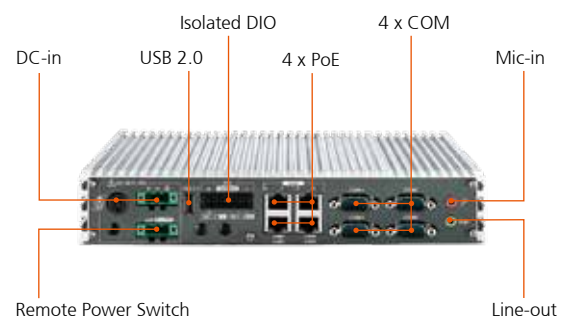
ECS-4000-2R



Front I/O (ECS-4000-PoER)



Rear I/O (ECS-4000-PoER)



Order Information

ECS-4000-PoER650U	ECS-4000, Intel® Core™ i7-5650U Processor (Broadwell-U), 6 GigE LAN with 4 PoE*, 2 Front-access SSD Tray, 4 COM, 6 USB, Isolated DIO
ECS-4000-PoER350U	ECS-4000, Intel® Core™ i5-5350U Processor (Broadwell-U), 6 GigE LAN with 4 PoE*, 2 Front-access SSD Tray, 4 COM, 6 USB, Isolated DIO
ECS-4000-PoER010U	ECS-4000, Intel® Core™ i3-5010U Processor (Broadwell-U), 6 GigE LAN with 4 PoE*, 2 Front-access SSD Tray, 4 COM, 6 USB, Isolated DIO
ECS-4000-PoE650U	ECS-4000, Intel® Core™ i7-5650U Processor (Broadwell-U), 6 GigE LAN with 4 PoE*, 4 COM, 6 USB, Isolated DIO
ECS-4000-PoE350U	ECS-4000, Intel® Core™ i5-5350U Processor (Broadwell-U), 6 GigE LAN with 4 PoE*, 4 COM, 6 USB, Isolated DIO
ECS-4000-PoE010U	ECS-4000, Intel® Core™ i3-5010U Processor (Broadwell-U), 6 GigE LAN with 4 PoE*, 4 COM, 6 USB, Isolated DIO
ECS-4000-2G650U	ECS-4000, Intel® Core™ i7-5650U Processor (Broadwell-U), 2 GigE LAN, 4 COM, 6 USB, 16 GPIO
ECS-4000-2G350U	ECS-4000, Intel® Core™ i5-5350U Processor (Broadwell-U), 2 GigE LAN, 4 COM, 6 USB, 16 GPIO
ECS-4000-2G010U	ECS-4000, Intel® Core™ i3-5010U Processor (Broadwell-U), 2 GigE LAN, 4 COM, 6 USB, 16 GPIO
ECS-4000-2R650U	ECS-4000, Intel® Core™ i7-5650U Processor (Broadwell-U), 2 GigE LAN, 2 Front-access SSD Tray, 4 COM, 6 USB, 16 GPIO
ECS-4000-2R350U	ECS-4000, Intel® Core™ i5-5350U Processor (Broadwell-U), 2 GigE LAN, 2 Front-access SSD Tray, 4 COM, 6 USB, 16 GPIO
ECS-4000-2R010U	ECS-4000, Intel® Core™ i3-5010U Processor (Broadwell-U), 2 GigE LAN, 2 Front-access SSD Tray, 4 COM, 6 USB, 16 GPIO
M340L-W28M1	Vecow DDR3L 4GB 1333/1066 MHz RAM, Wide Temperature -40°C to +85°C
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
TMBK-20P-100	Terminal Block 20-pin to SCSI, 100cm
TMBK-20P-500	Terminal Block 20-pin to SCSI, 500cm
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

SPC-3530

Ultra-compact Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Skylake-U), -40°C to 85°C, 4 GigE LAN, 2 SSD, 1 SIM, 4 USB 3.0, 9 COM, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- Fanless design, -40°C to 85°C Operating Temperature
- 9V to 36V DC Power Input, 16 Isolated DIO
- DDR4 2133MHz memory, up to 16GB
- Onboard DVI-D and DisplayPort display interfaces support up to 4K resolution
- Up to 5 Independent GigE LAN, iAMT 11.0 supported
- SIM socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 9 COM RS-232/ 422/ 485
- Optional supports full function SUMIT A, B expansions
- One-stop SUMIT Expansion Design and Manufacturing Services



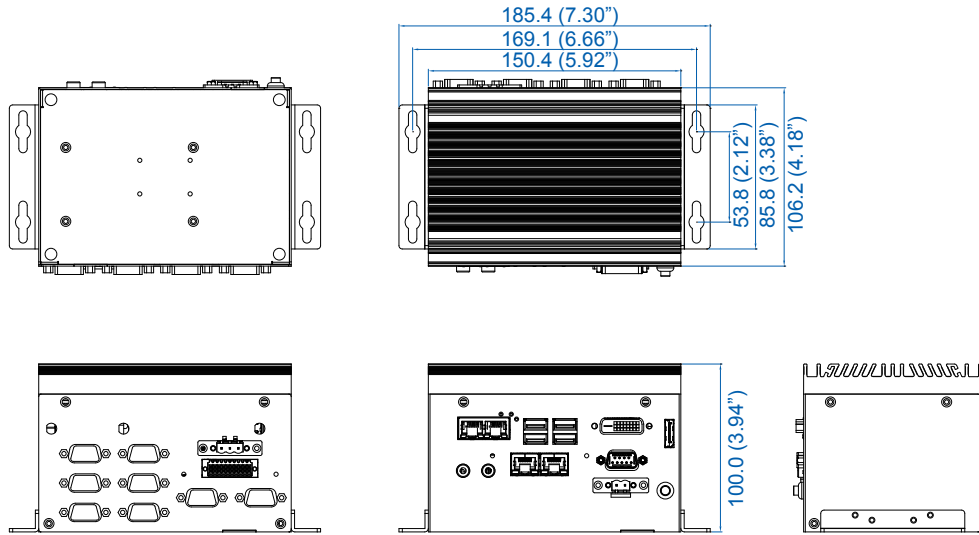
Specifications

System	
Processor	Intel® Core™ i7-6600U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	9 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	4 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card ▪ 1 Full-size for PCIe/ USB/ mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

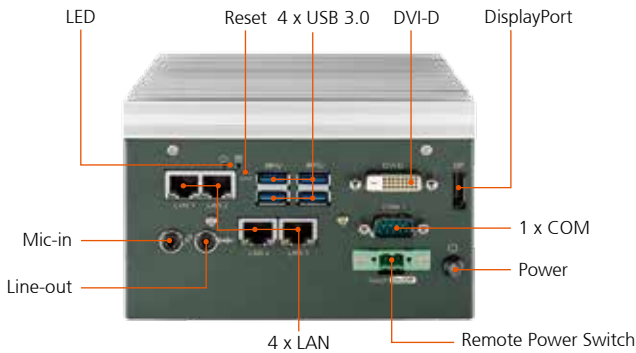
Power	
Power Input	9V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block : On, Off
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	150mm x 106mm x 100mm (5.92" x 4.18" x 3.94")
Weight	2.1 kg (4.6 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Rear I/O



Order Information

SPC-3530-600U	SPC-3500, Intel® Core™ i7-6600U, 4 GigE LAN, 2 SSD, 4 USB 3.0, 9 COM, 1 SIM, Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® MiniPCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-3520

Ultra-compact Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Skylake-U), -40°C to 85°C, 4 GigE LAN, 1 SSD, 1 SIM, 4 USB 3.0, 5 COM, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- Fanless design, -40°C to 85°C Operating Temperature
- 9V to 36V DC Power Input, 16 Isolated DIO
- DDR4 2133MHz memory, up to 16GB
- Onboard DVI-D and DisplayPort display interfaces support up to 4K resolution
- Up to 5 Independent GigE LAN, iAMT 11.0 supported
- SIM socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 5 COM RS-232/ 422/ 485
- Optional supports full function SUMIT A, B expansions
- One-stop SUMIT Expansion Design and Manufacturing Services



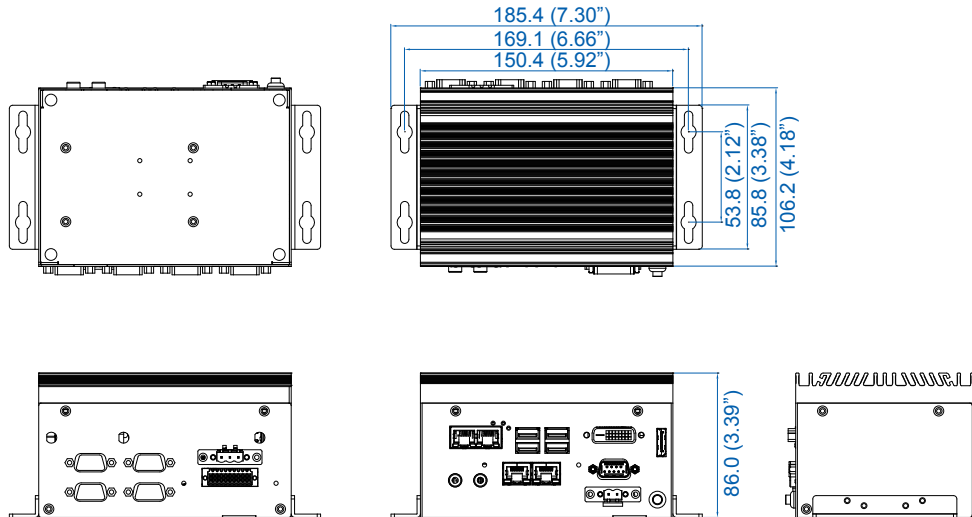
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	5 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	SPC-3520-600U, SPC-3520-300U : 4 USB 2.0 (Internal) SPC-3520-955U : 2 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card ▪ 1 Full-size for PCIe/ USB/ mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

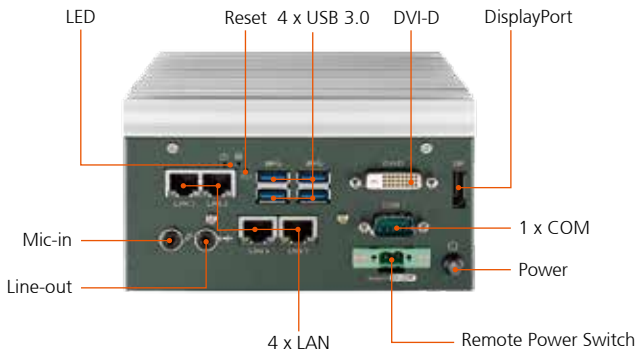
Power	
Power Input	9V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block : On, Off
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	150mm x 106mm x 86mm (5.92" x 4.18" x 3.39")
Weight	1.8 kg (4.0 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

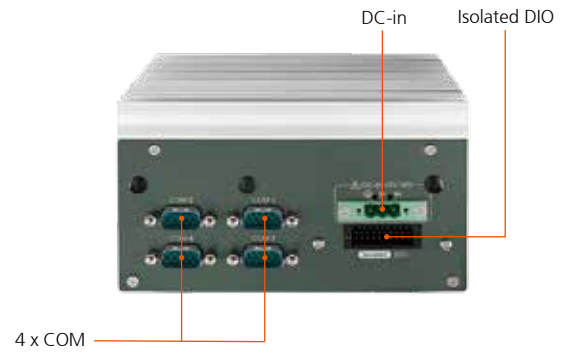
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

SPC-3520-600U	SPC-3500, Intel® Core™ i7-6600U, 4 GigE LAN, 1 SSD, 4 USB 3.0, 5 COM, 1 SIM, Isolated DIO
SPC-3520-300U	SPC-3500, Intel® Core™ i5-6300U, 4 GigE LAN, 1 SSD, 4 USB 3.0, 5 COM, 1 SIM, Isolated DIO
SPC-3520-955U	SPC-3500, Intel® Celeron® 3955U, 4 GigE LAN, 1 SSD, 4 USB 3.0, 5 COM, 1 SIM, Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® MiniPCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-3510

Ultra-compact Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Skylake-U), -40°C to 85°C, 2 GigE LAN, 1 SSD, 1 SIM, 4 USB 3.0, 2 COM, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- Fanless design, -40°C to 85°C Operating Temperature
- 9V to 36V DC Power Input
- DDR4 2133MHz memory, up to 16GB
- Onboard DVI-D and DisplayPort display interfaces support up to 4K resolution
- 2 Independent GigE LAN, iAMT 11.0 supported
- SIM socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 2 COM RS-232/ 422/ 485, 16 GPIO
- Optional supports full function SUMIT A, B expansions
- One-stop SUMIT Expansion Design and Manufacturing Services



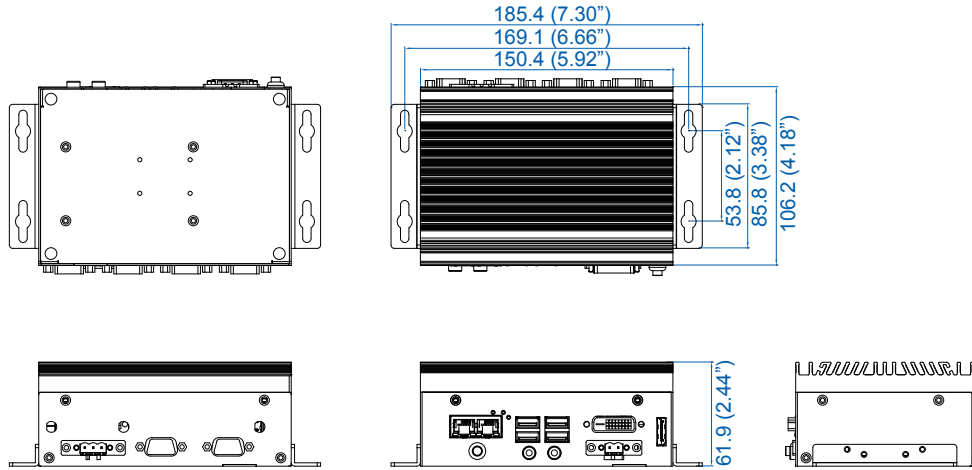
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	2 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	SPC-3510-600U, SPC-3510-300U : 4 USB 2.0 (Internal) SPC-3510-955U : 2 USB 2.0 (Internal)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card ▪ 1 Full-size for PCIe/ USB/ mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

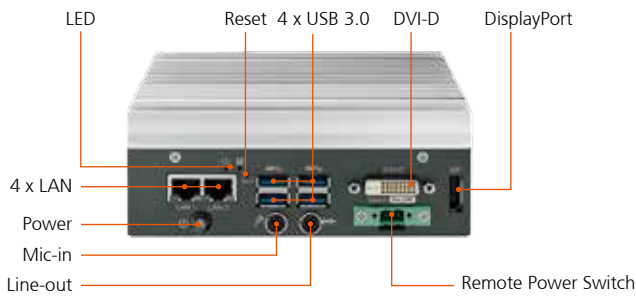
Power	
Power Input	9V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block : On, Off
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	150mm x 106mm x 62mm (5.92" x 4.18" x 2.44")
Weight	1.4 kg (3.1 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Rear I/O



Order Information

SPC-3510-600U	SPC-3500, Intel® Core™ i7-6600U, 2 GigE LAN, 1 SSD, 4 USB 3.0, 2 COM, 1 SIM, 16 GPIO
SPC-3510-300U	SPC-3500, Intel® Core™ i5-6300U, 2 GigE LAN, 1 SSD, 4 USB 3.0, 2 COM, 1 SIM, 16 GPIO
SPC-3510-955U	SPC-3500, Intel® Celeron® 3955U, 2 GigE LAN, 1 SSD, 4 USB 3.0, 2 COM, 1 SIM, 16 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-3030

Ultra-compact Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Skylake-U), -40°C to 70°C, 4 GigE LAN, 2 SSD, 1 SIM, 4 USB 3.0, 9 COM, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- Fanless design, -40°C to 70°C Operating Temperature
- 9V to 36V DC Power Input, 16 Isolated DIO
- DDR4 2133MHz memory, up to 16GB
- Onboard DVI-D and DisplayPort display interfaces support up to 4K resolution
- Up to 5 Independent GigE LAN, iAMT 11.0 supported
- SIM socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 9 COM RS-232/ 422/ 485
- Optional supports full function SUMIT A, B expansions
- One-stop SUMIT Expansion Design and Manufacturing Services



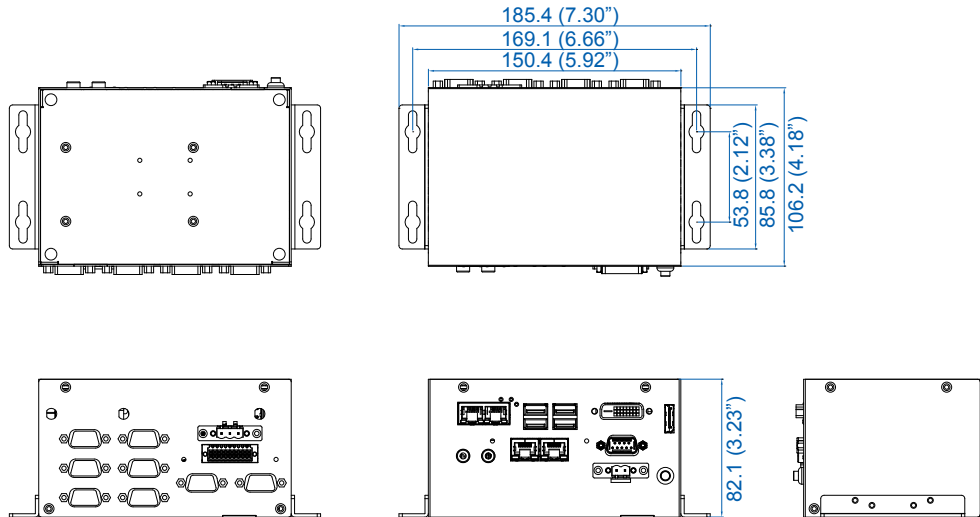
Specifications

System	
Processor	Intel® Core™ i7-6600U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	9 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	4 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card ▪ 1 Full-size for PCIe/ USB/ mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	2 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

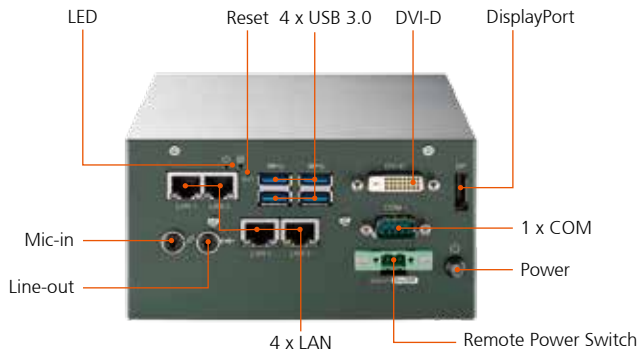
Power	
Power Input	9V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block : On, Off
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	150mm x 106mm x 82mm (5.92" x 4.18" x 3.23")
Weight	1.7 kg (3.8 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-40°C to 70°C (-40°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

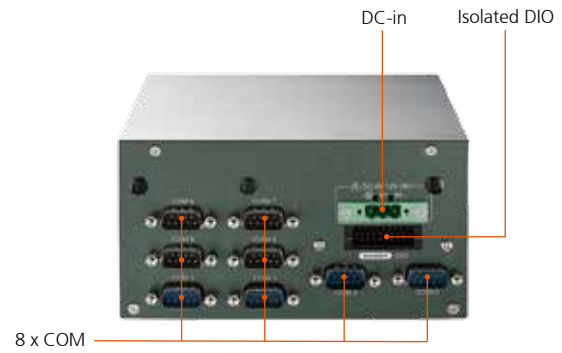
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

SPC-3030-600U	SPC-3000, Intel® Core™ i7-6600U, 4 GigE LAN, 2 SSD, 4 USB 3.0, 9 COM, 1 SIM, Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-3020

Ultra-compact Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Skylake-U), -40°C to 70°C, 4 GigE LAN, 1 SSD, 1 SIM, 4 USB 3.0, 5 COM, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- Fanless design, -40°C to 70°C Operating Temperature
- 9V to 36V DC Power Input, 16 Isolated DIO
- DDR4 2133MHz memory, up to 16GB
- Onboard DVI-D and DisplayPort display interfaces support up to 4K resolution
- Up to 5 Independent GigE LAN, iAMT 11.0 supported
- SIM socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 5 COM RS-232/ 422/ 485
- Optional supports full function SUMIT A, B expansions
- One-stop SUMIT Expansion Design and Manufacturing Services



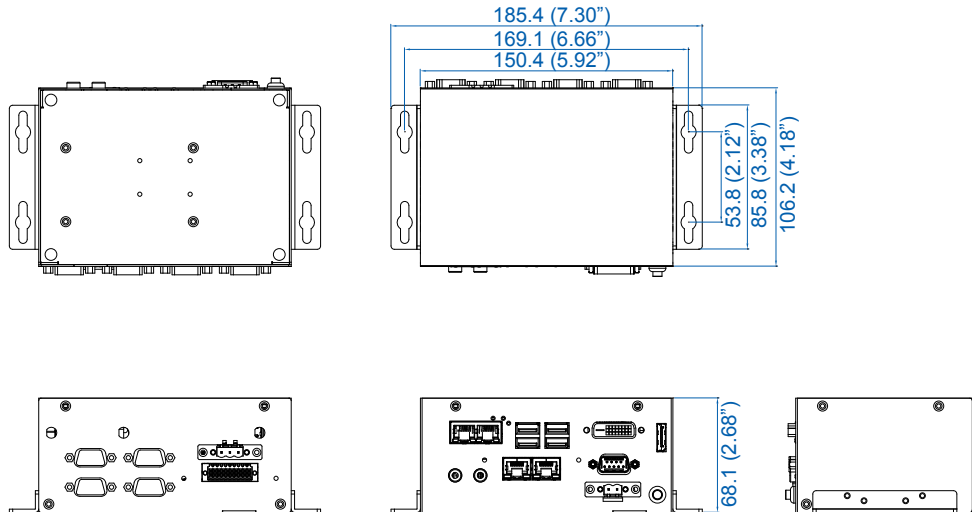
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	5 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	SPC-3020-600U, SPC-3020-300U : 4 USB 2.0 (Internal) SPC-3020-955U : 2 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card ▪ 1 Full-size for PCIe/ USB/ mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I210 GigE LAN

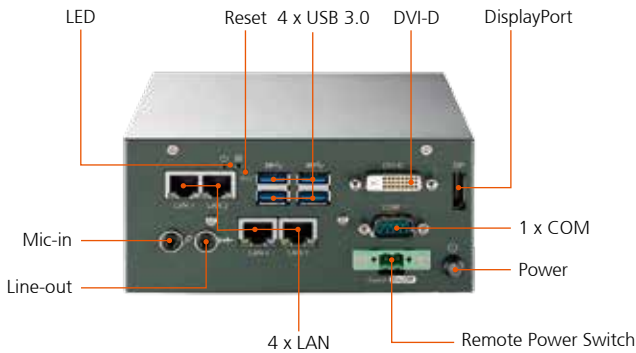
Power	
Power Input	9V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block : On, Off
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	150mm x 106mm x 68mm (5.92" x 4.18" x 2.68")
Weight	1.3 kg (2.9 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	-40°C to 70°C (-40°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Rear I/O



Order Information

SPC-3020-600U	SPC-3000, Intel® Core™ i7-6600U, 4 GigE LAN, 1 SSD, 4 USB 3.0, 5 COM, 1 SIM, Isolated DIO
SPC-3020-300U	SPC-3000, Intel® Core™ i5-6300U, 4 GigE LAN, 1 SSD, 4 USB 3.0, 5 COM, 1 SIM, Isolated DIO
SPC-3020-955U	SPC-3000, Intel® Celeron® 3955U, 4 GigE LAN, 1 SSD, 4 USB 3.0, 5 COM, 1 SIM, Isolated DIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-3010

Ultra-compact Embedded System with Intel® Core™ i7/ i5/ i3 Processor (Skylake-U), -40°C to 70°C, 2 GigE LAN, 1 SSD, 1 SIM, 4 USB 3.0, 2 COM, Fanless, Rugged, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U)
- Fanless design, -40°C to 70°C Operating Temperature
- 9V to 36V DC Power Input
- DDR4 2133MHz memory, up to 16GB
- Onboard DVI-D and DisplayPort display interfaces support up to 4K resolution
- 2 Independent GigE LAN, iAMT 11.0 supported
- SIM socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 2 COM RS-232/ 422/ 485, 16 GPIO
- Optional supports full function SUMIT A, B expansions
- One-stop SUMIT Expansion Design and Manufacturing Services



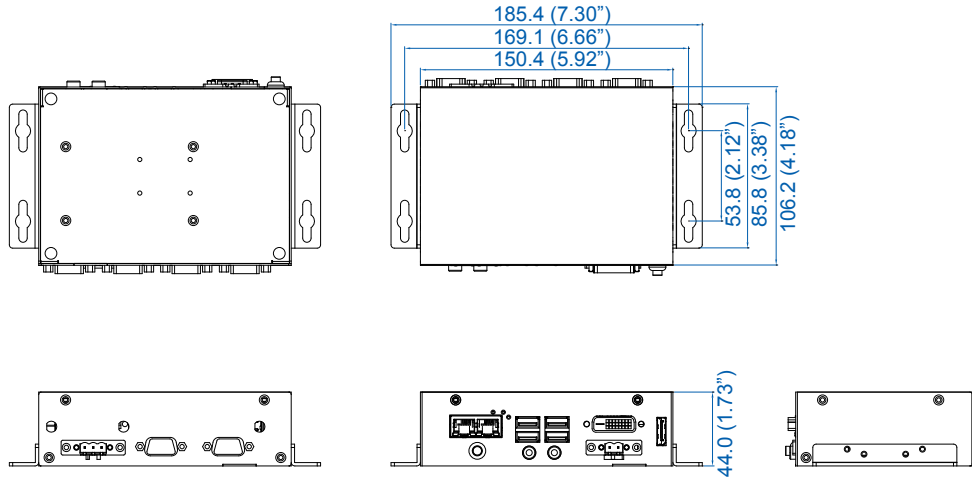
Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	2 COM RS-232/ 422/ 485
USB 3.0	4 USB 3.0 (External)
USB 2.0	SPC-3010-600U, SPC-3010-300U : 4 USB 2.0 (Internal) SPC-3010-955U : 2 USB 2.0 (Internal)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Full-size for PCIe/ USB/ Internal SIM Card ▪ 1 Full-size for PCIe/ USB/ mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	▪ DVI-D : Up to 1920 x 1200 @ 60Hz ▪ DisplayPort : Up to 4096 x 2304 @ 60Hz
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

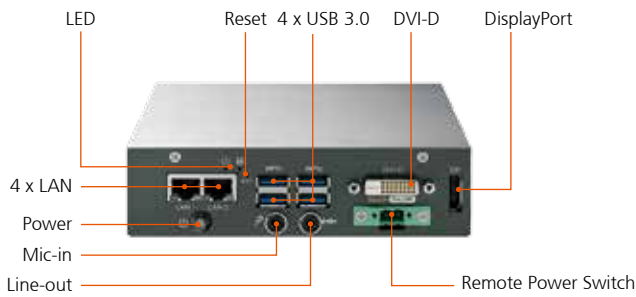
Power	
Power Input	9V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block : On, Off
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	150mm x 106mm x 44mm (5.92" x 4.18" x 1.73")
Weight	0.9 kg (2.0 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional) ▪ 1U Rackmount (Optional)
Environment	
Operating Temperature	-40°C to 70°C (-40°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

Unit : mm/ inch



Front I/O



Rear I/O



Order Information

SPC-3010-600U	SPC-3000, Intel® Core™ i7-6600U, 2 GigE LAN, 1 SSD, 4 USB 3.0, 2 COM, 1 SIM, 16 GPIO
SPC-3010-300U	SPC-3000, Intel® Core™ i5-6300U, 2 GigE LAN, 1 SSD, 4 USB 3.0, 2 COM, 1 SIM, 16 GPIO
SPC-3010-955U	SPC-3000, Intel® Celeron® 3955U, 2 GigE LAN, 1 SSD, 4 USB 3.0, 2 COM, 1 SIM, 16 GPIO
DDR4 16G	Certified DDR4 16GB 2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2133MHz RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
Rack Mount	1U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-2900-LGN/ 2900

Ultra-compact Embedded System with Quad Core Intel® Celeron® J1900, 2 GigE LAN, 7 USB 3.0, Renesas USB Controllers, 4 COM, Isolated DIO, Fanless, Rugged, Extended Temperature



Features

- Quad Core Intel® Celeron® Processor J1900
- Rugged, -25°C to 70°C Operating Temperature
- Fanless and Ultra-compact
- 6V to 36V DC Power Input
- DVI-I for VGA/ DVI/ HDMI Video Output
- Renesas USB 3.0 Technology, up to 7 USB 3.0
- Dual Independent GigE LAN
- 8 Isolated DIO
- 4 COM RS-232/ 422/ 485 with Auto Flow Control
- Supports External SIM Socket/ CFast Socket/ SSD Tray (Optional)
- SIM Card Socket for 3G/ 4G/ LTE/ WIFI/ GPRS/ UMTS



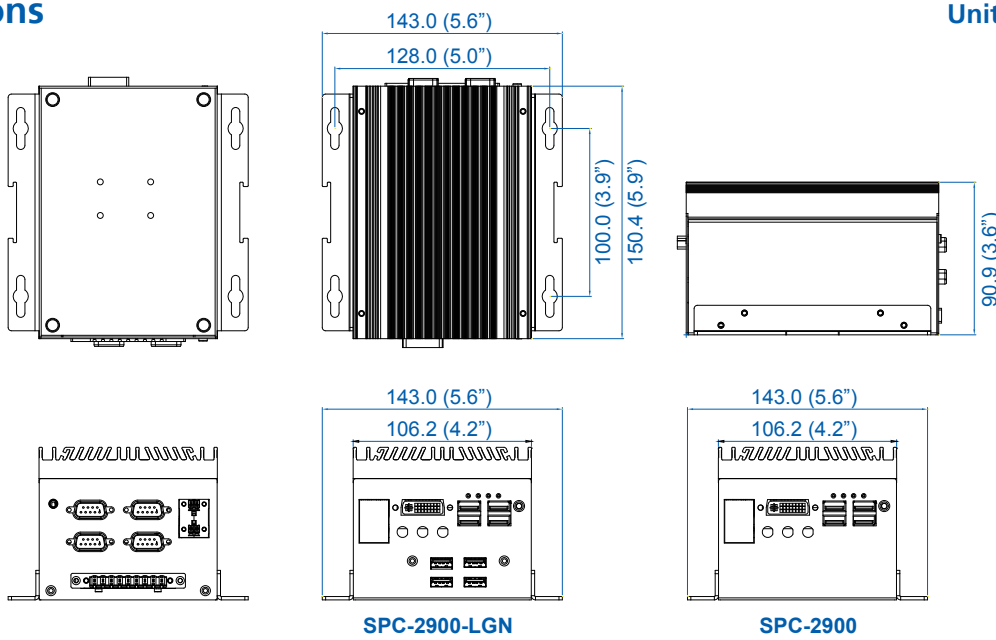
Specifications

System	
Processor	Quad Core Intel® Celeron® Processor J1900 (2M Cache, up to 2.42GHz)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	SPC-2900-LGN : 7 USB 3.0 (External), 1 USB 2.0 (External) SPC-2900 : 3 USB 3.0 (External), 1 USB 2.0 (External)
Isolated DIO	8 Isolated DIO : 4 DI, 4 DO
LED	Power, HDD, WTD
SIM Card	1 Internal SIM Card Socket
Expansion (SPC-2900 Only)	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD
Interface	DVI-I for VGA/ DVI/ HDMI output : ▪ DVI : Up to 1920 x 1080 ▪ VGA : Up to 2560 x 1600
Storage	
SATA	1 SATA II (3Gbps)
mSATA	SPC-2900-LGN : NA SPC-2900 : 1 SATA II (Mini PCIe Type, 3Gbps)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-out
Ethernet	
LAN 1	GigE LAN by Intel® I210
LAN 2	GigE LAN by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block : On, Off

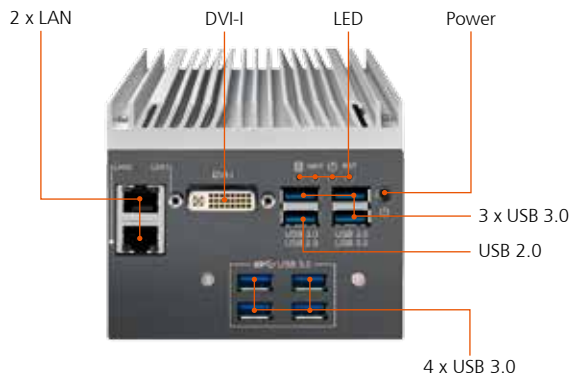
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	106mm x 150mm x 91mm (4.2" x 5.9" x 3.6")
Weight	1.6 kg (3.5 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

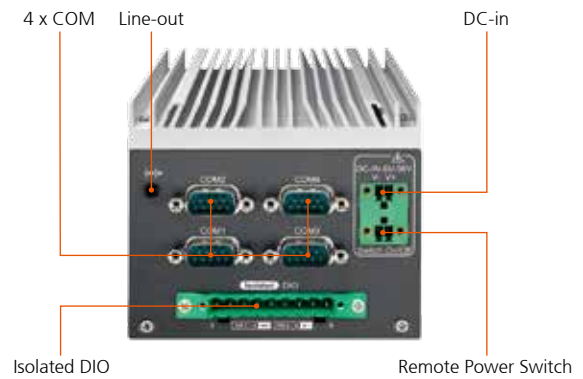
Unit : mm/ inch



Front I/O (SPC-2900-LGN)



Rear I/O



Order Information

SPC-2900-LGN	SPC-2900, 7 USB 3.0, 2 GigE LAN, 4 COM, Isolated DIO, Onboard Quad Core Intel® Celeron® J1900
SPC-2900	SPC-2900, 3 USB 3.0, 2 GigE LAN, 4 COM, Isolated DIO, Onboard Quad Core Intel® Celeron® J1900
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-2845/ 2145

Ultra Compact Embedded System with Quad Core Intel® Atom™ E3845, 2 GigE PoE+ LAN, Isolated DIO, 4 USB 3.0, 4 COM, Fanless, Rugged, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Rugged, -25°C to 70°C Operating Temperature
- Fanless and Ultra-compact
- 6V to 36V DC Power Input
- 2 GigE LAN with IEEE 802.3at PoE+
- 4 COM RS-232/ 422/ 485 with Auto Flow Control
- DVI-I for VGA/ DVI/ HDMI Video Output
- 8 Isolated DIO
- 4 External USB 3.0
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS



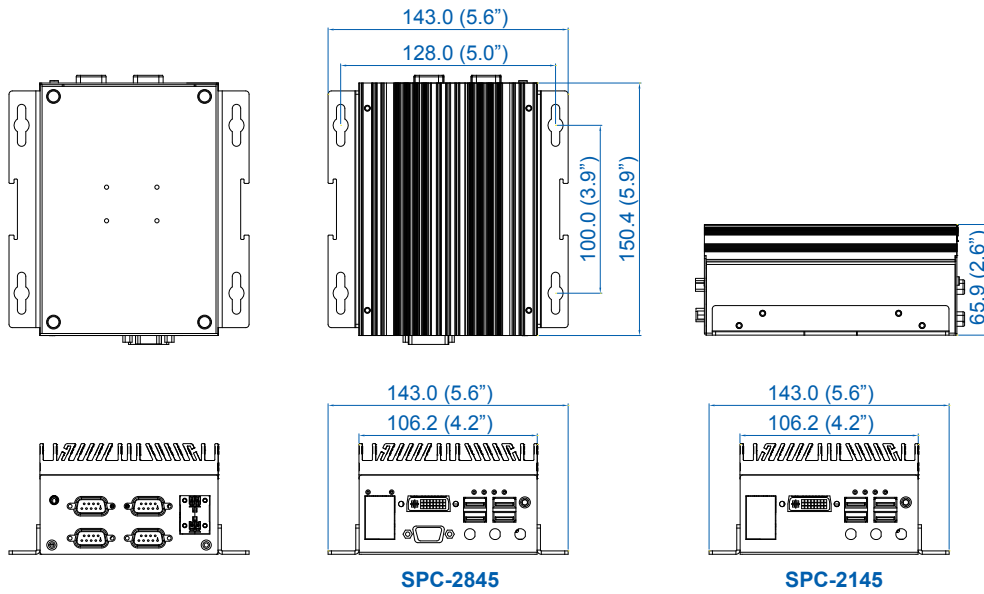
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	4 USB 3.0
Isolated DIO	8 Isolated DIO : 4 DI, 4 DO (SPC-2845)
LED	Power, HDD, WTD, PoE
SIM Card	1 Internal SIM Card Socket
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD
Interface	DVI-I for VGA/ DVI/ HDMI output : <ul style="list-style-type: none"> ▪ DVI : Up to 1920 x 1080 ▪ VGA : Up to 2560 x 1600
Storage	
SATA	1 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-out
Ethernet (PoE)	
LAN 1	SPC-2845 : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145 : GigE LAN by Intel® I210
LAN 2	SPC-2845 : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145 : GigE LAN by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block : On, Off

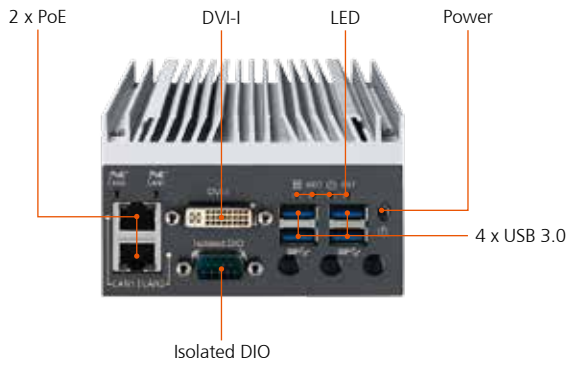
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	106mm x 150mm x 66mm (4.2" x 5.9" x 2.6")
Weight	1.4 kg (3.1 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

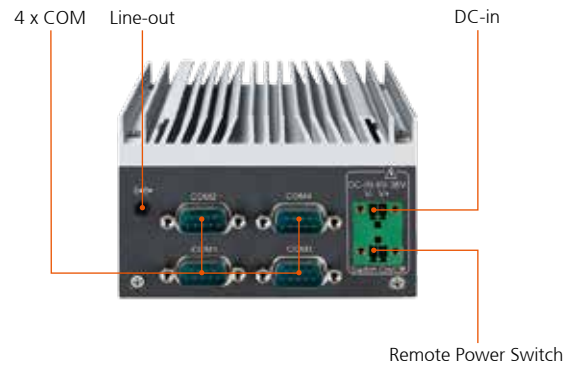
Unit : mm/ inch



Front I/O (SPC-2845)



Rear I/O



Order Information

SPC-2845	SPC-2000, 2 PoE+ GigE LAN, 4 COM, 4 USB, Isolated DIO, Onboard Quad Core Intel® Atom™ E3845
SPC-2145	SPC-2000, 2 GigE LAN, 4 COM, 4 USB, Onboard Quad Core Intel® Atom™ E3845
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-2845X/ 2145X

Ultra Compact Embedded System with Quad Core Intel® Atom™ E3845, 2 GigE PoE+ LAN, Isolated DIO, External SIM Socket, 4 USB 3.0, 4 COM, Fanless, Rugged, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Rugged, -25°C to 70°C Operating Temperature
- Fanless and Ultra-compact
- 6V to 36V DC Power Input
- 2 GigE LAN with IEEE 802.3at PoE+
- 1 External SIM Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 COM RS-232/ 422/ 485 with Auto Flow Control
- DVI-I for VGA/ DVI/ HDMI Video Output
- 8 Isolated DIO
- 4 External USB 3.0



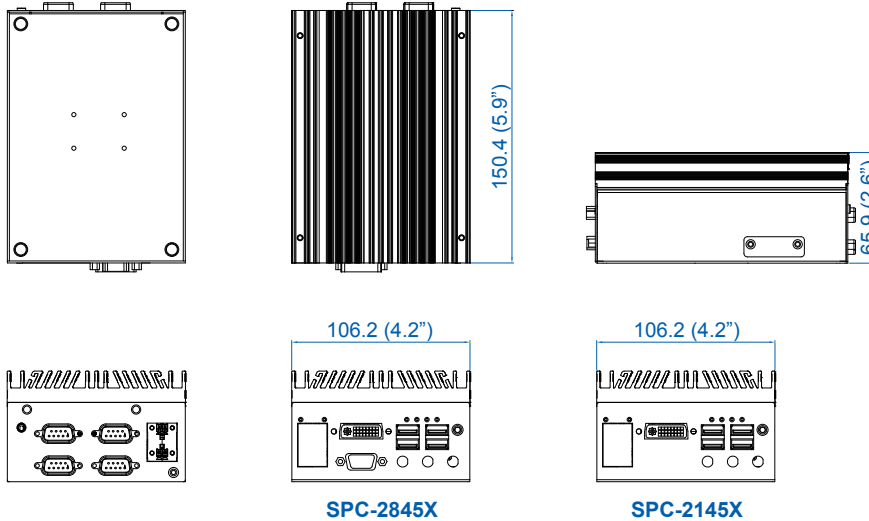
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	4 USB 3.0
Isolated DIO	8 Isolated DIO : 4 DI, 4 DO (SPC-2845X)
LED	Power, HDD, WTD, PoE
SIM Card	1 External SIM Card Socket
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ External SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD
Interface	DVI-I for VGA/ DVI/ HDMI output : <ul style="list-style-type: none"> ▪ DVI : Up to 1920 x 1080 ▪ VGA : Up to 2560 x 1600
Storage	
SATA	1 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-out
Ethernet (PoE)	
LAN 1	SPC-2845X : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145X : GigE LAN by Intel® I210
LAN 2	SPC-2845X : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145X : GigE LAN by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block : On, Off

Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	106mm x 150mm x 66mm (4.2" x 5.9" x 2.6")
Weight	1.4 kg (3.1 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

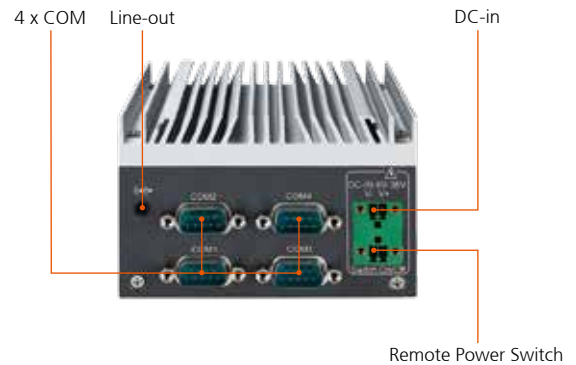
Unit : mm/ inch



Front I/O (SPC-2845X)



Rear I/O



Order Information

SPC-2845X	SPC-2000, 2 PoE+ GigE LAN, 4 COM, 4 USB, 1 External SIM, Isolated DIO, Onboard Quad Core Intel® Atom™ E3845
SPC-2145X	SPC-2000, 2 GigE LAN, 4 COM, 4 USB, 1 External SIM, Onboard Quad Core Intel® Atom™ E3845
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-2845R/ 2145R

Ultra Compact Embedded System with Quad Core Intel® Atom™ E3845, 2 GigE PoE+ LAN, Isolated DIO, Front-access CFast Socket, 4 USB 3.0, 4 COM, Fanless, Rugged, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Rugged, -25°C to 70°C Operating Temperature
- Fanless and Ultra-compact
- 6V to 36V DC Power Input
- 2 GigE LAN with IEEE 802.3at PoE+
- 1 Front-access CFast Socket
- 4 COM RS-232/ 422/ 485 with Auto Flow Control
- DVI-I for VGA/ DVI/ HDMI Video Output
- 4 External USB 3.0, 8 Isolated DIO
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS



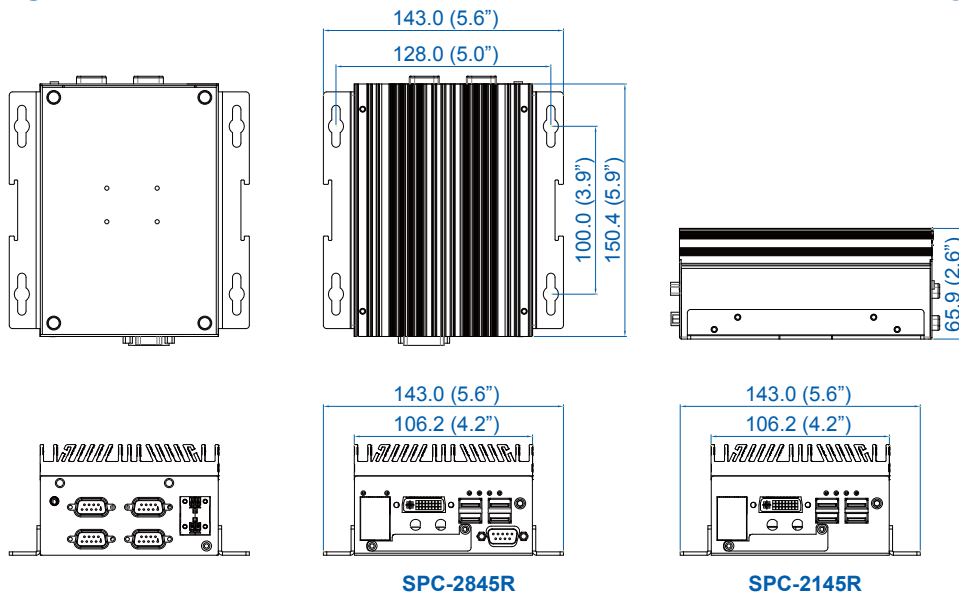
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	4 USB 3.0
Isolated DIO	8 Isolated DIO : 4 DI, 4 DO (SPC-2845R)
LED	Power, HDD, WTD, PoE
SIM Card	1 Internal SIM Card Socket
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD
Interface	DVI-I for VGA/ DVI/ HDMI output : <ul style="list-style-type: none"> ▪ DVI : Up to 1920 x 1080 ▪ VGA : Up to 2560 x 1600
Storage	
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	1 Front-access CFast Socket, Push-in/ Push-out Ejector
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-out
Ethernet (PoE)	
LAN 1	SPC-2845R : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145R : GigE LAN by Intel® I210
LAN 2	SPC-2845R : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145R : GigE LAN by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block : On, Off

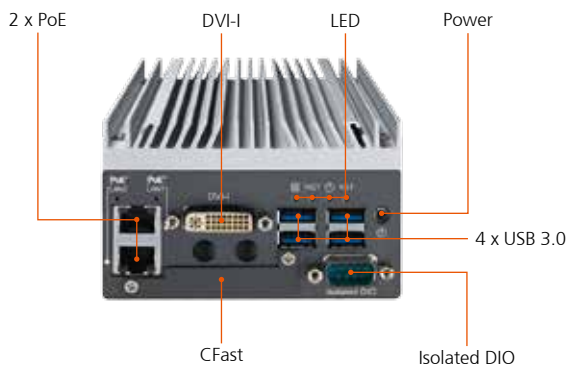
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	106mm x 150mm x 66mm (4.2" x 5.9" x 2.6")
Weight	1.4 kg (3.1 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

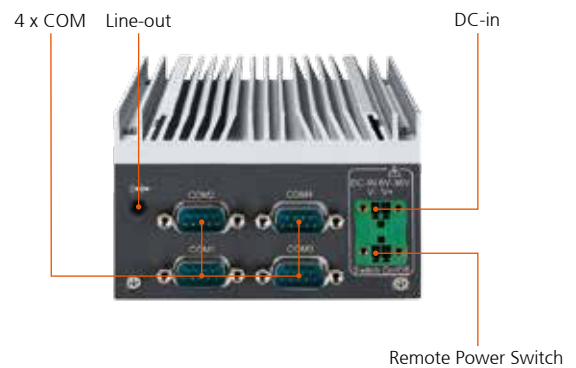
Unit : mm/ inch



Front I/O (SPC-2845R)



Rear I/O



Order Information

SPC-2845R	SPC-2000, 2 PoE* GigE LAN, 4 COM, 4 USB, 1 Front-access CFast, Isolated DIO, Onboard Quad Core Intel® Atom™ E3845
SPC-2145R	SPC-2000, 2 GigE LAN, 4 COM, 4 USB, 1 Front-access CFast, Onboard Quad Core Intel® Atom™ E3845
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SPC-2845RS/ 2145RS

Ultra Compact Embedded System with Quad Core Intel® Atom™ E3845, 2 GigE PoE+ LAN, Isolated DIO, Front-access 2.5" SSD Tray, 4 USB 3.0, 4 COM, Fanless, Rugged, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Rugged, -25°C to 70°C Operating Temperature
- Fanless and Ultra-compact
- 6V to 36V DC Power Input
- 2 GigE LAN with IEEE 802.3at PoE+
- 1 Front-access 2.5" SSD Tray
- 4 COM RS-232/ 422/ 485 with Auto Flow Control
- DVI-I for VGA/ DVI/ HDMI Video Output
- 4 External USB 3.0, 8 Isolated DIO
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS



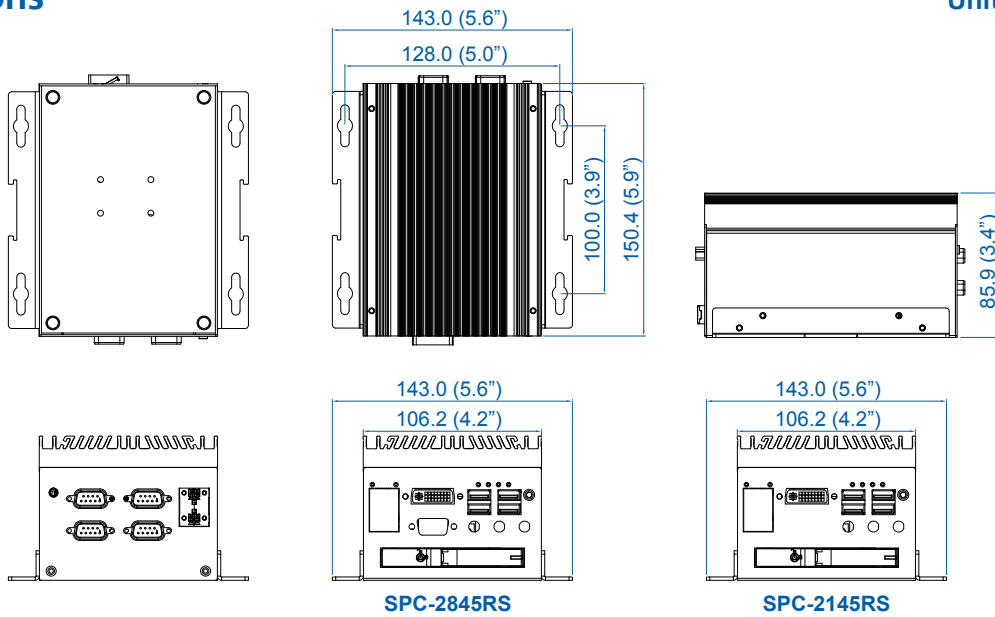
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	4 USB 3.0
Isolated DIO	8 Isolated DIO : 4 DI, 4 DO (SPC-2845RS)
LED	Power, HDD, WTD, PoE
SIM Card	1 Internal SIM Card Socket
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ Optional mSATA
Graphics	
Graphics Processor	Intel® HD
Interface	DVI-I for VGA/ DVI/ HDMI output : <ul style="list-style-type: none"> ▪ DVI : Up to 1920 x 1080 ▪ VGA : Up to 2560 x 1600
Storage	
SATA	1 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	1 2.5" SSD/ HDD Tray (External)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Line-out
Ethernet (PoE)	
LAN 1	SPC-2845RS : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145RS : GigE LAN by Intel® I210
LAN 2	SPC-2845RS : GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 SPC-2145RS : GigE LAN by Intel® I210
Power	
Power Input	6V to 36V, DC-in
Power Interface	2-pin Terminal Block : V+, V-
Remote Switch	2-pin Terminal Block : On, Off

Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	106mm x 150mm x 86mm (4.2" x 5.9" x 3.4")
Weight	1.5 kg (3.3 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

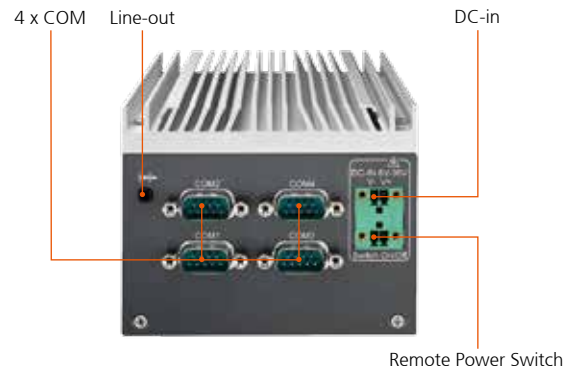
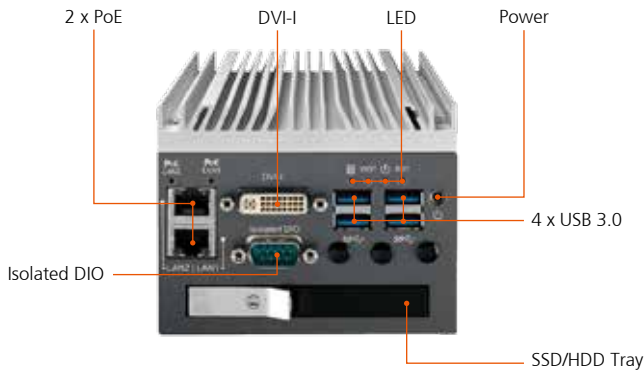
Dimensions

Unit : mm/ inch



Front I/O (SPC-2845RS)

Rear I/O



Order Information

SPC-2845RS	SPC-2000, 2 PoE* GigE LAN, 4 COM, 4 USB, 1 Front-access SSD Tray, Isolated DIO, Onboard Quad Core Intel® Atom™ E3845
SPC-2145RS	SPC-2000, 2 GigE LAN, 4 COM, 4 USB, 1 Front-access SSD Tray, Onboard Quad Core Intel® Atom™ E3845
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
DIN-RAIL	DIN Rail Kit
Rack Mount	2U Rackmount Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ABP-2845A/ 2845/ 2045A/ 2045/ 2015

Slim Embedded System with Quad Core Intel® Atom™ E3845, 4 GigE LAN, 6 COM with 2 Isolated, 5 USB, 8 GPIO, Fanless, Rugged, Extended Temperature



Features

- Quad Core Intel® Atom™ E3845 1.91GHz Processor
- Rugged, -25°C to 70°C Operating Temperature
- Fanless, Slim and Compact Design
- Dual Display : VGA/ dual HDMI/ LVDS
- 4 Independent GigE LAN
- 6 External COM with 2 Isolated RS-232/ 422/ 485
- 3 USB 3.0, 2 USB 2.0, 8 External GPIO
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 9V to 28V DC Power Input
- Optional Onboard GPS



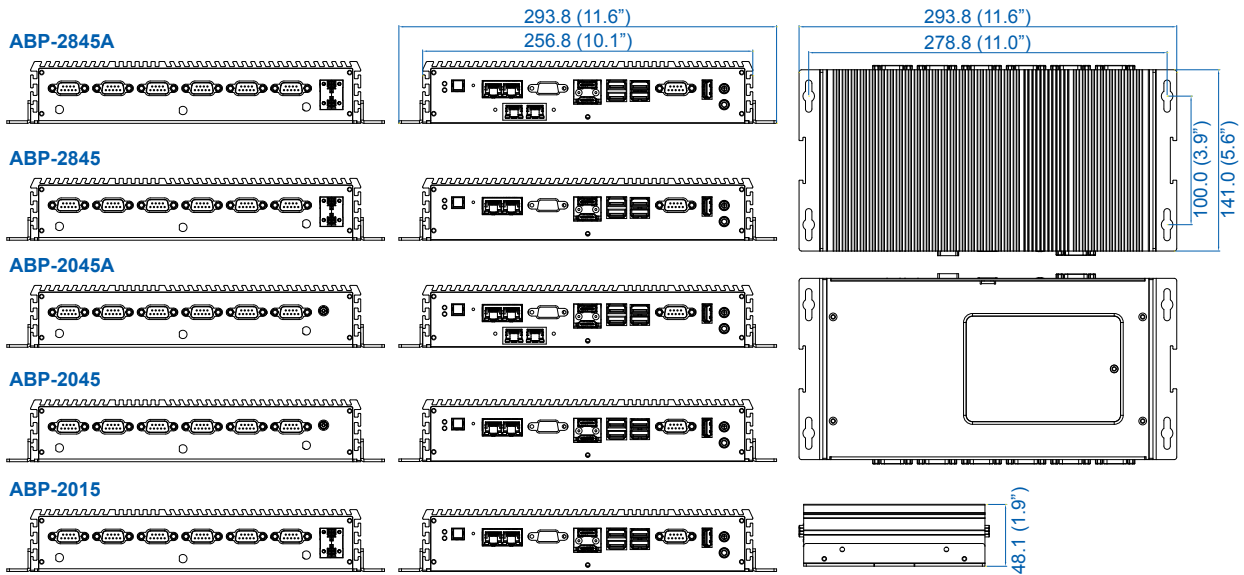
Specifications

System	
Processor	Quad Core Intel® Atom™ E3845 1.91GHz/ E3815 1.46GHz Processor (Valleyview)
Chipset	Intel® SoC (Bay Trail)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1333MHz SO-DIMM, up to 8GB
I/O Interface	
Serial	ABP-2845A, ABP-2845 : 6 External COM : <ul style="list-style-type: none"> ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232 ▪ 2 Isolated COM RS-232/ 422/ 485 ABP-2045A, ABP-2045, ABP-2015 : 6 External COM : <ul style="list-style-type: none"> ▪ 4 COM RS-232/ 422/ 485 ▪ 2 COM RS-232
USB	<ul style="list-style-type: none"> ▪ 3 USB 3.0 (External) ▪ 2 USB 2.0 (External)
GPIO	8 (External)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	ABP-2845, ABP-2045, ABP-2015 : 3 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB ▪ 1 Mini PCIe for mSATA ABP-2845A, ABP-2845 : 2 Mini PCIe Socket : <ul style="list-style-type: none"> ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for mSATA
Graphics	
Graphics Processor	Intel® HD
Interface	Dual Display : <ul style="list-style-type: none"> ▪ VGA : Up to 2560 x 1600 ▪ HDMI 1 : Up to 1920 x 1080 ▪ HDMI 2 : Up to 1920 x 1080 ▪ LVDS : Dual channel 24-bit (Optional)
Storage	
SATA	1 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	1 2.5" SSD/ HDD Bracket (Internal)
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

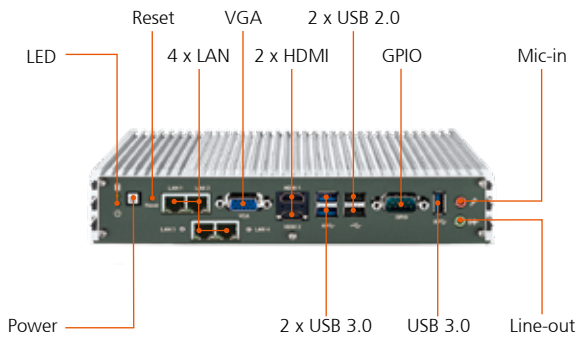
Ethernet	
LAN 1	GigE LAN by Intel® 82574L
LAN 2	GigE LAN by Intel® 82574L
LAN 3	ABP-2845A, ABP-2045A : GigE LAN by Intel® 82583V ABP-2845, ABP-2045, ABP-2015 : NA
LAN 4	ABP-2845A, ABP-2045A : GigE LAN by Intel® 82583V ABP-2845, ABP-2045, ABP-2015 : NA
Power	
Power Input	9V to 28V, DC-in
Power Interface	ABP-2845A, ABP-2845, ABP-2015 : 2-pin Terminal Block : V+, V ABP-2045A, ABP-2045 : 1 DC Jack
Remote Switch	ABP-2845A, ABP-2845, ABP-2015 : 2-pin Terminal Block : On, Off ABP-2045A, ABP-2045 : NA
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Software Support	
OS	Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L x H)	257mm x 141mm x 48mm (10.1" x 5.6" x 1.9")
Weight	2.1 kg (4.6 lb)
Mounting	<ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ Din Rail Mount (Optional)
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
Certification	CE, FCC, EN50155, EN50121-3-2

Dimensions

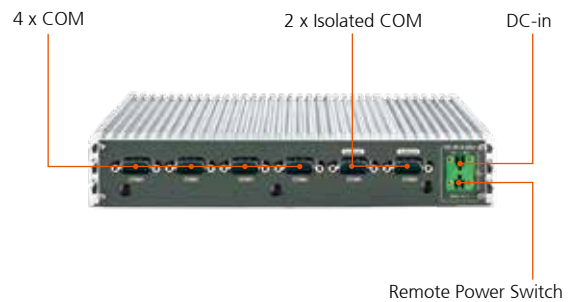
Unit : mm/ inch



Front I/O (ABP-2845A)



Rear I/O



Order Information

ABP-2845A	ABP-2000, 4 GigE LAN, 6 COM w/ 2 Isolated, 5 USB, 8 GPIO, Onboard Quad Core Intel® Atom™ E3845
ABP-2845	ABP-2000, 2 GigE LAN, 6 COM w/ 2 Isolated, 5 USB, 8 GPIO, Onboard Quad Core Intel® Atom™ E3845
ABP-2045A	ABP-2000, 4 GigE LAN, 6 COM, 5 USB, 8 GPIO, Onboard Quad Core Intel® Atom™ E3845
ABP-2045	ABP-2000, 2 GigE LAN, 6 COM, 5 USB, 8 GPIO, Onboard Quad Core Intel® Atom™ E3845
ABP-2015	ABP-2000, 2 GigE LAN, 6 COM, 5 USB, 8 GPIO, Onboard Intel® Atom™ E3815
M340L-W28M1	Vecow DDR3L 4GB 1333/1066 MHz RAM, Wide Temperature -40°C to +85°C
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP2	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 2-pin 3.5mm Terminal Block
PWA-60W	60W, 12V/5A 100V AC to 240V AC Power Adapter for DC-Jack
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail Kit
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

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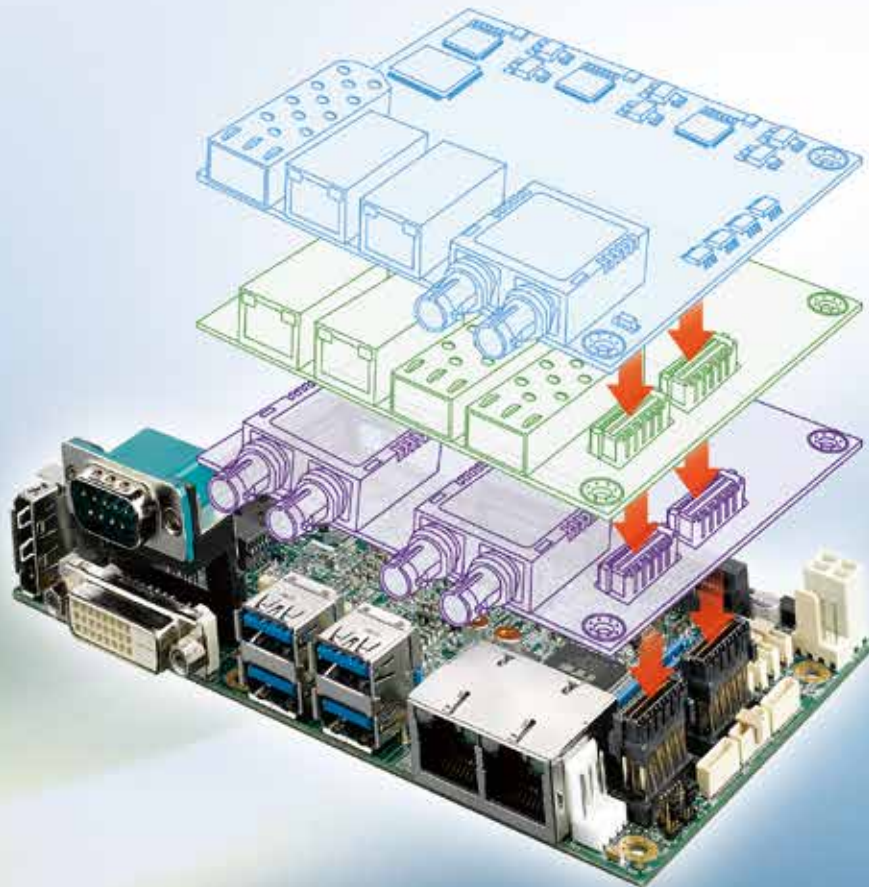
4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays





6 Frame Grabbers/ Accessories

Enabling Ultra-Compact Industry 4.0 Solutions

One-stop Customized Service Seamless Teamwork, Faster Time-to-Market



3.5" Single Board Computers

Series		EMBC-1000			
Model No.		EMBC-1000-600U	EMBC-1000-300U	EMBC-1000-955U	EMBC-1000E-600U
Product Image					
System	CPU	Intel® Core™ i7-6600U	Intel® Core™ i5-6300U	Intel® Celeron® 3955U	Intel® Core™ i7-6600U
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz
	Memory Capacity	Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM	Max 16GB, 1 SO-DIMM
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux
Display	Graphics Engine	Intel® HD 520	Intel® HD 520	Intel® HD 520	Intel® HD 520
	4K Resolution	Yes	Yes	Yes	Yes
	DVI-D	1	1	1	1
	LVDS	1	1	1	1
	DisplayPort	1	1	1	1
Ethernet	LAN 1	Intel® I219LM GigE LAN	Intel® I219LM GigE LAN	Intel® I219LM GigE LAN	Intel® I219LM GigE LAN
	LAN 2	Intel® I210 GigE LAN	Intel® I210 GigE LAN	Intel® I210 GigE LAN	Intel® I210 GigE LAN
	Connector	2 RJ45	2 RJ45	2 RJ45	2 RJ45
	iAMT	11.0	11.0	11.0	11.0
Audio	Codec	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Connector	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in	1 Line-in, 1 Line-out, 1 Mic-in
Storage	SATA III	2	2	2	2
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
I/O Interface	Serial	5 RS-232/ 422/ 485	5 RS-232/ 422/ 485	5 RS-232/ 422/ 485	5 RS-232/ 422/ 485
	USB 3.0	4	4	4	4
	USB 2.0	4	4	2	0
	GPIO	16 GPIO	16 GPIO	16 GPIO	16 GPIO
Expansion	Mini PCIe	2	2	2	2
	SIM Card	1	1	1	1
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	2
Power	Input	DC-in 9V to 36V	DC-in 9V to 36V	DC-in 9V to 36V	DC-in 9V to 36V
	Connector	ATX 4-pin	ATX 4-pin	ATX 4-pin	ATX 4-pin
Dimensions (W x L)		146 x 102 mm (5.75" x 4.02")	146 x 102 mm (5.75" x 4.02")	146 x 102 mm (5.75" x 4.02")	146 x 102 mm (5.75" x 4.02")
Mounting		Wallmount	Wallmount	Wallmount	Wallmount
Operating Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC	CE, FCC	CE, FCC	CE, FCC

1 High Performance Embedded Systems

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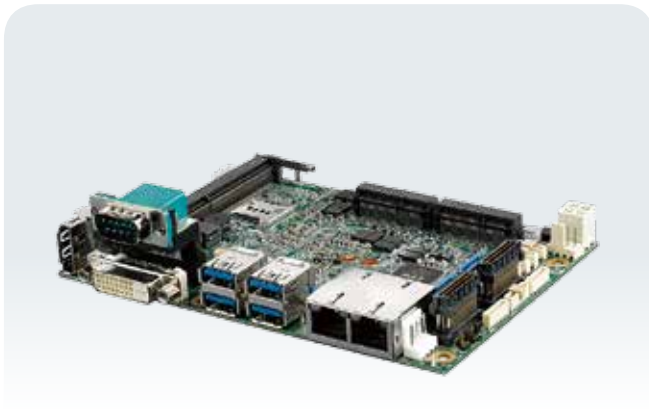
4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

EMBC-1000

3.5" Embedded Single Board Computer with Intel® Core™ i7/ i5/ i3 SoC (Skylake-U), 2 GigE LAN, 4 USB 3.0, 5 COM, 16 GPIO, 2 Mini PCIe, SUMIT, High Performance, Fanless, Extended Temperature



Features

- Intel® Core™ i7/ i5/ i3 U-series SoC (Skylake-U) supports up to 3 independent Full HD displays
- Fanless, -40°C to 85°C Operating Temperature
- 9V to 36V DC Power Input
- DDR4 2133MHz memory, up to 16GB
- DisplayPort, DVI, and dual channel 24-bit LVDS display interfaces, up to 4K displays
- Dual independent GigE LAN support iAMT 11.0
- 2 Mini PCIe sockets for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 4 USB 3.0, 5 COM, 16 GPIO
- Easy to customize for low-profile system applications
- Full function SUMIT A, B expansion
- One-stop SUMIT expansion Design & Manufacturing Services



Specifications

System	
Processor	Intel® Core™ i7-6600U/ i5-6300U/ Celeron® 3955U SoC (Skylake-U, up to 4M Cache, 3.4GHz)
Chipset	Intel® SoC
BIOS	AMI
SIO	IT8786E
Memory	1 DDR4 2133MHz SO-DIMM, up to 16GB
Graphics	
Graphics Processor	Intel® HD Graphics 520
Interface	<ul style="list-style-type: none"> DVI-D : Up to 1920 x 1080 @ 60Hz DisplayPort : Up to 3840 x 2160 @ 60Hz LVDS : Dual channel 24-bit, up to 1920 x 1200 @ 60Hz
Ethernet	
LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out, 1 Mic-in
I/O Interface	
Front I/O	<ul style="list-style-type: none"> 1 DVI-D Connector 1 DisplayPort Connector 4 USB 3.0 Connector 2 RJ45 Connector 1 COM RS-232/422/485 Connector
Internal I/O	<ul style="list-style-type: none"> 1 ATX 4-Pin Power Connector 1 SUMIT A Connector 1 SUMIT B Connector 4 COM RS-232/422/485 Connector 2 Mini PCIe Connector 1 SIM Card Socket 1 DDR4 SO-DIMM Socket 1 LVDS Connector 1 LVDS Backlight Connector 2 SATA Connector 1 SATA Power Connector 2 USB 2.0 Connector for 4 USB Port 1 GPIO Connector 1 Fan Connector
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)

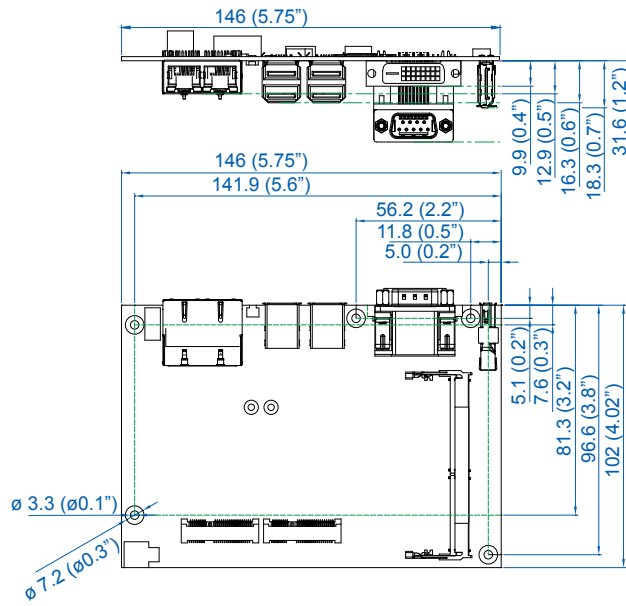
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> 1 Full-size for PCIe/ USB/ SIM Card 1 Full-size for PCIe/ USB/ Optional mSATA
SUMIT A, B	2 SUMIT Slot (Optional)
Power	
Power Input	9V to 36V, DC-in
Power Interface	ATX Power Connector
Others	
Watchdog Timer	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Smart Management	Reset : 1 to 255 sec./min. per step
HW Monitor	Wake on LAN, PXE supported
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L)	146mm x 102mm (5.75" x 4.02")
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Certification	CE, FCC

Packing List

EMBC-1000 3.5" SBC		x1
Driver/ User Manual DVD		x1
Cable Kit	<ul style="list-style-type: none"> COM Port Cable x2 SATA Data Cable x1 SATA Power Cable x1 USB 2.0 Cable x1 Audio Cable x1 	x1

Dimensions

Unit : mm/ inch



Front I/O



Order Information

EMBC-1000-600U	EMBC-1000 SBC, Intel® Core™ i7-6600U, 2 GigE LAN, 5 COM, 4 USB 3.0, 4 USB 2.0
EMBC-1000-300U	EMBC-1000 SBC, Intel® Core™ i5-6300U, 2 GigE LAN, 5 COM, 4 USB 3.0, 4 USB 2.0
EMBC-1000-955U	EMBC-1000 SBC, Intel® Celeron® 3955U, 2 GigE LAN, 5 COM, 4 USB 3.0, 2 USB 2.0
EMBC-1000E-600U	EMBC-1000 SBC, Intel® Core™ i7-6600U, 2 GigE LAN, 5 COM, 4 USB 3.0, SUMIT
61-13Q1009-0DA	COM Port Cable
61-13B0707-386	SATA Data Cable
61-13P0430-08A	SATA Power Cable
61-193102U-156	USB 2.0 Cable
61-13T10LM-3CG	Audio Cable
61-13S33KM-3CG	KB/MS Cable
62-A110100-011	Heat Sink
62-A210100-011	Heat Spreader
ESM-100	SUMIT Card with 3 Mini PCIe
FSM-100	SUMIT Card with 2 100BASE-FX Fiber LAN
FSM-200	SUMIT Card with 2 GigE Fiber LAN
FSM-710-BM2	SUMIT Card with 2 10GigE SFP+ LAN
LSM-100	SUMIT Card with 3 GigE LAN
LSM-550-AT2	SUMIT Card with 2 10GigE LAN
VSM-200	SUMIT Card with 8/4 Channel Software Compression/ Video Capture
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems





3 Ultra Compact Embedded Systems

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Multi-Touch Computers/ Displays

Series		MTC-4000			
Model No.		MTC-4021-PoE	MTC-4021-2G	MTC-4015-PoER	MTC-4015-2R
Product Image					
Panel	LCD Size	21.5" (16 : 9)	21.5" (16 : 9)	15" (4 : 3)	15" (4 : 3)
	Max Resolution	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1024 x 768	1024 x 768
	Brightness (cd/m ²)	250	250	250	250
	Contrast Ratio	3000 : 1	3000 : 1	600 : 1	600 : 1
	LCD Color	16.7M	16.7M	16.7M	16.7M
	Sunlight Readable	Yes	Yes	NA	NA
	Viewing Angle (H/V)	178°/178°	178°/178°	160°/160°	160°/160°
Touch Screen	Screen Type	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive
	Touch Type	10-point	10-point	20-point	20-point
	Interface	USB	USB	USB	USB
	7H Anti-scratch	Yes	Yes	Yes	Yes
	Glove Workable	Yes	Yes	Yes	Yes
System	CPU	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U
	Memory Type	204-pin SO-DIMM, DDR3L 1333/ 1600 MHz	204-pin SO-DIMM, DDR3L 1333/ 1600 MHz	204-pin SO-DIMM, DDR3L 1333/ 1600 MHz	204-pin SO-DIMM, DDR3L 1333/ 1600 MHz
	Memory Capacity	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM	Max 16GB, 2 SO-DIMM
	Display	1 DVI-D, 1 DisplayPort	1 DVI-D, 1 DisplayPort	1 DVI-D, 1 DisplayPort	1 DVI-D, 1 DisplayPort
	OS Support	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux	Windows 8.1, Windows 7, Linux
Storage	SATA III	1	1	2	2
	SATA II	NA	NA	NA	NA
	CFast	1	1	1	1
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
External I/O	Serial	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485	4 RS-232/ 422/ 485
	USB 3.0	2	2	2	2
	USB 2.0	2	2	3	3
	GigE LAN	6 (4 w/ PoE*)	2	6 (4 w/ PoE*)	2
	PoE LAN	4 (IEEE 802.3at)	NA	4 (IEEE 802.3at)	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	16 GPIO
	Isolated DIO	NA	NA	16 (8 DI, 8 DO)	NA
Others	NA	NA	2 SSD/ HDD Tray (External)	2 SSD/ HDD Tray (External)	
Expansion	Mini PCIe	2	2	2	2
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
Power	Input Range	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Surge Protection	80V	80V	80V	80V
	Ignition Control	NA	NA	Yes	Yes
	Remote Switch	NA	NA	Yes	Yes
Dimensions (W x H x L)	537.6 x 329.1 x 53.1 mm (21.2" x 13" x 2.1")	537.6 x 329.1 x 53.1 mm (21.2" x 13" x 2.1")	350.0 x 274.0 x 97.6 mm (13.8" x 10.8" x 3.8")	350.0 x 274.0 x 97.6 mm (13.8" x 10.8" x 3.8")	
Weight	5.8 kg (12.8 lb)	5.8 kg (12.8 lb)	5.3 kg (11.7 lb)	5.3 kg (11.7 lb)	
Front Panel Protection	IP65 (Optional)	IP65 (Optional)	IP65 (Optional)	IP65 (Optional)	
Mounting	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	
Operating Temperature	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)	-20°C to 70°C (-4°F to 158°F)	-20°C to 70°C (-4°F to 158°F)	
Storage Temperature	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-30°C to 80°C (-22°F to 176°F)	-30°C to 80°C (-22°F to 176°F)	
Humidity	10% to 90%, non-condensing	10% to 90%, non-condensing	10% to 90%, non-condensing	10% to 90%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC	CE, FCC	CE, FCC	CE, FCC	

1
High Performance
Embedded Systems





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Ultra Compact
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3.5" Single Board
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Frame Grabbers/
Accessories

MTC-2000	MTD-4000		
MTC-2021	MTD-4024E	MTD-4024C	MTD-4021
			
21.5" (16 : 9)	24" (16 : 9)	24" (16 : 9)	21.5" (16 : 9)
1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)
250	300	250	250
3000 : 1	3000 : 1	1000 : 1	3000 : 1
16.7M	16.7M	16.7M	16.7M
Yes	NA	NA	Yes
178°/178°	178°/178°	170°/160°	178°/178°
Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive
10-point	10-point	10-point	10-point
USB	USB	USB	USB
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Quad Core Intel® Atom™ E3845	NA	NA	NA
204-pin SO-DIMM, DDR3L 1333MHz	NA	NA	NA
Max 8GB, 1 SO-DIMM	NA	NA	NA
1 VGA, 1 HDMI	NA	NA	NA
Windows 8.1, Windows 7, WES7, Linux	NA	NA	NA
NA	NA	NA	NA
1	NA	NA	NA
NA	NA	NA	NA
1 (Mini PCIe)	NA	NA	NA
6 (2 RS-232/ 422/ 485, 2 Isolated RS-232/422/ 485, 2 RS-232)	NA	NA	NA
1	NA	NA	NA
2	NA	NA	NA
2	NA	NA	NA
NA	NA	NA	NA
1 Mic-in, 1 Line-out	NA	NA	NA
8 GPIO	NA	NA	NA
NA	NA	NA	NA
NA	<ul style="list-style-type: none"> ▪ Video-in : 1 VGA, 1 DVI-D, 1 HDMI ▪ OSD Keypad 	<ul style="list-style-type: none"> ▪ Video-in : 1 VGA, 1 DVI-D, 1 HDMI ▪ OSD Keypad 	<ul style="list-style-type: none"> ▪ Video-in : 1 VGA, 1 DVI-D ▪ OSD Keypad
2	NA	NA	NA
1 (Internal)	NA	NA	NA
DC-in 9V to 28V	DC-in 12V	DC-in 12V	DC-in 12V
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
537.6 x 329.1 x 44.1 mm (21.2" x 13" x 1.7")	576.5 x 369.7 x 51.6 mm (22.7" x 14.6" x 2.0")	576.5 x 369.7 x 45.1 mm (22.7" x 14.6" x 1.78")	537.6 x 329.1 x 44.1 mm (21.2" x 13" x 1.7")
5.8 kg (12.8 lb)	9.0 kg (19.8 lb)	8.6 kg (19.0 lb)	6 kg (13.2 lb)
IP65 (Optional)	IP65 (Optional)	IP65 (Optional)	IP65 (Optional)
VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount
0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)
-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
10% to 90%, non-condensing	5% to 90%, non-condensing	5% to 90%, non-condensing	5% to 90%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC	CE, FCC	CE, FCC	CE, FCC

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MTC-4021-PoE/ 2G

21.5" Fanless Multi-Touch Computer, Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U), 6 GigE LAN with 4 PoE+, 2 External SIM Socket, 4 COM, 4 USB, 6V to 36V DC-in with 80V Surge Protection



Features

- 21.5" 16 : 9 Full HD (1920 x 1080) LCD Panel with LED Backlight
- Projected Capacitive 10-point Multi-Touch Screen with 7H Anti-Scratch Surface
- Fanless, Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U)
- 6V to 36V DC-in, 80V Surge Protection
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+
- 2 External SIM Socket support 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- External CFast, 4 COM, 2 USB 3.0, 2 USB 2.0
- Touchscreen works with gloves
- Sunlight Readable (Optional)
- IP65 Front Panel Protection (Optional)



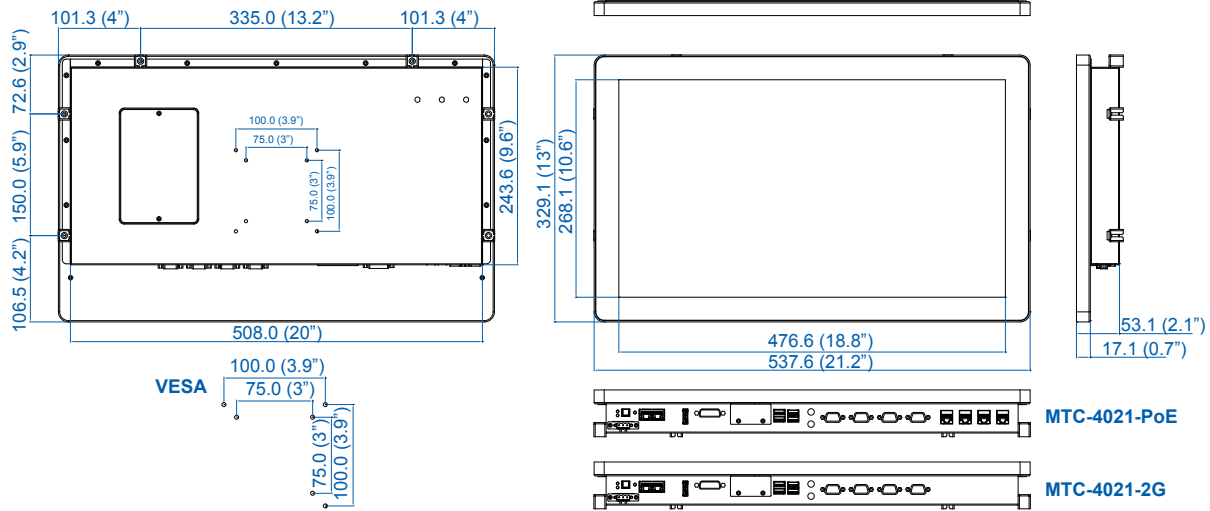
Specifications

Panel	
Panel Type	TFT LCD
Active Area	21.5" (16 : 9)
Max. Resolution	1920 x 1080 (Full HD)
Display Color	16.7M (RGB 8-bit)
Backlight	LED Backlight
Brightness (cd/m ²)	250 (Optional, up to 1200)
Viewing Angle	178°/178° (H/V)
Contrast Ratio	3000 : 1
Touch Screen	
Touch Screen Type	10-point Projected Capacitive
Transparency	≥ 85%
Surface Hardness	7H Surface Hardness
Control Interface	USB Interface
System	
Processor	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U Processor (Broadwell-U)
Chipset	Intel® SoC
Memory	2 DDR3L 1333/ 1600 MHz SO-DIMM, up to 16GB
Graphics	Intel® HD Graphics 6000
Ethernet	MTC-4021-PoE : 1 Intel® I218 GigE LAN, 5 Intel® I210 GigE LAN MTC-4021-2G : 1 Intel® I218 GigE LAN, 1 Intel® I210 GigE LAN
Audio	Realtek ALC892, 5.1 Channel HD Audio
OS Support	Windows 8.1, Windows 7, Linux
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	▪ 2 USB 3.0 ▪ 2 USB 2.0
LAN	MTC-4021-PoE : 6 Independent GigE LAN, 4 support IEEE 802.3at PoE+ MTC-4021-2G : 2 Independent GigE LAN
Audio	1 Mic-in, 1 Line-out
Display	▪ DVI-D : Up to 1920 x 1080 @ 60Hz ▪ DisplayPort : Up to 3840 x 2160 @ 60Hz
LED	Power, HDD
CFast	1 External CFast Socket, Push-in/ Push-out Ejector
SIM Card	2 External SIM Card Socket

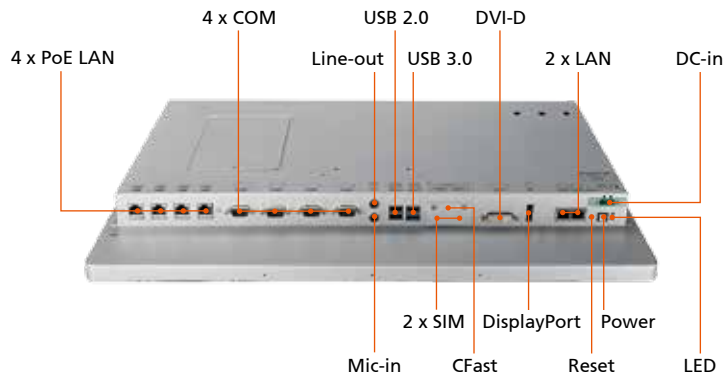
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card/ mSATA
Storage	
SATA	1 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	▪ 1 External CFast Socket ▪ 1 Internal 2.5" SSD/ HDD Bracket
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Power Adapter	AC to DC 120W Power Adapter (Optional)
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Mechanical	
Dimensions (W x H x L)	537.6mm x 329.1mm x 53.1mm (21.2" x 13" x 2.1")
Weight	5.8 kg (12.8 lb)
Front Panel Protection	IP65 Compliant (Optional)
Mounting	▪ VESA Mount (75 x 75mm, 100 x 100mm) ▪ Panel Mount
Environment	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	10% to 90% Humidity, non-condensing
Shock	▪ IEC 60068-2-27 ▪ 20G, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ Non-operation : 10Hz to 200Hz, 1.5Grms, X, Y, Z, 30 mins each Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



I/O (MTC-4021-PoE)



Order Information

MTC-4021-PoE650U	MTC-4021, 21.5" Fanless Multi-Touch Computer, 6 GigE LAN with 4 PoE*, 2 SIM, 4 COM, 4 USB, Intel® Core™ i7-5650U
MTC-4021-PoE350U	MTC-4021, 21.5" Fanless Multi-Touch Computer, 6 GigE LAN with 4 PoE*, 2 SIM, 4 COM, 4 USB, Intel® Core™ i5-5350U
MTC-4021-PoE010U	MTC-4021, 21.5" Fanless Multi-Touch Computer, 6 GigE LAN with 4 PoE*, 2 SIM, 4 COM, 4 USB, Intel® Core™ i3-5010U
MTC-4021-2G650U	MTC-4021, 21.5" Fanless Multi-Touch Computer, 2 GigE LAN, 2 SIM, 4 COM, 4 USB, Intel® Core™ i7-5650U
MTC-4021-2G350U	MTC-4021, 21.5" Fanless Multi-Touch Computer, 2 GigE LAN, 2 SIM, 4 COM, 4 USB, Intel® Core™ i5-5350U
MTC-4021-2G010U	MTC-4021, 21.5" Fanless Multi-Touch Computer, 2 GigE LAN, 2 SIM, 4 COM, 4 USB, Intel® Core™ i3-5010U
MTC-4021P	MTC-4021, 21.5" Fanless Multi-Touch Computer, Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U), IP65 Front Panel
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
Panel-Mount	Panel Mount Kit
VESA Stand	VESA Table Stand
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

MTC-4015-PoER/ 2R

15" Fanless Multi-Touch Computer, Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U), 6 GigE LAN with 4 PoE+, 2 External SSD Tray, 2 External SIM Socket, 4 COM, 5 USB, Isolated DIO, 6V to 36V DC-in with 80V Surge Protection, Extended Temperature



Features

- 15" 1024 x 768 (4 : 3) LCD Panel with LED Backlight
- Projected Capacitive Multi-Touch Screen with 7H Anti-Scratch Surface, up to 20-point Multi-touch
- Fanless, Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U)
- 6V to 36V DC-in, 80V Surge Protection
- 6 GigE LAN with 4 IEEE 802.3at PoE+
- 2 External SIM Socket support 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- External CFast Socket, 2 SSD Tray, 4 COM, 2 USB 3.0
- 16 Isolated DIO, Ignition Control
- Touchscreen works with gloves
- IP65 Front Panel Protection (Optional)



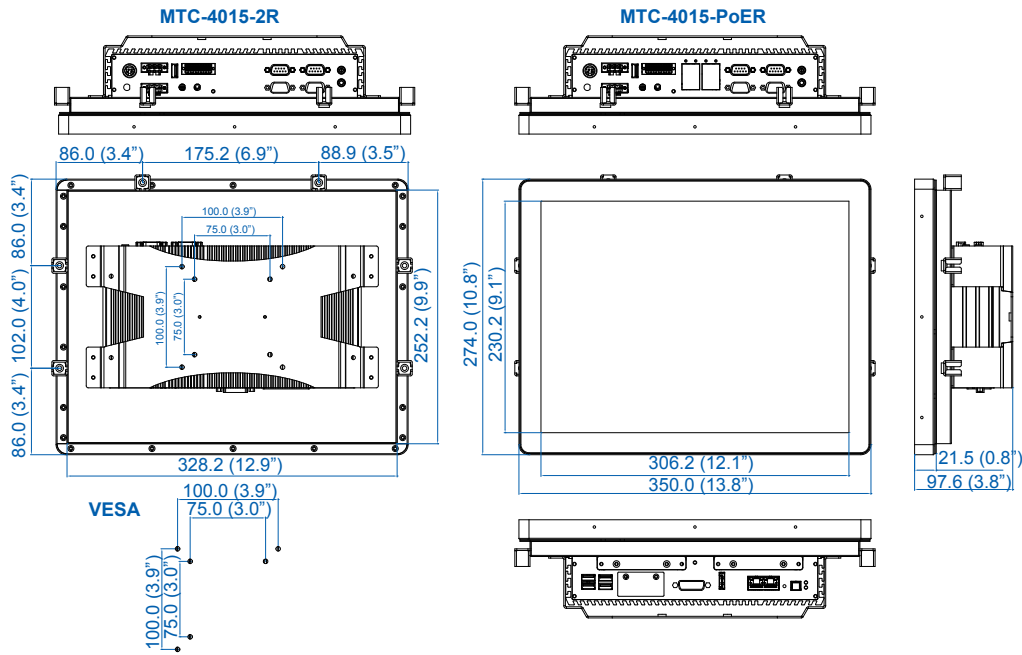
Specifications

Panel	
Panel Type	TFT LCD
Active Area	15" (4 : 3)
Max. Resolution	1024 x 768
Display Color	16.7M (RGB 8-bit)
Backlight	LED Backlight
Brightness (cd/m ²)	250
Viewing Angle	160°/160° (H/V)
Contrast Ratio	600 : 1
Touch Screen	
Touch Screen Type	20-point Projected Capacitive
Transparency	≥ 91%
Surface Hardness	7H Surface Hardness
Control Interface	USB Interface
System	
Processor	Intel® Core™ i7-5650U/ i5-5350U/ i3-5010U Processor (Broadwell-U)
Chipset	Intel® SoC
Memory	2 DDR3L 1333/ 1600 MHz SO-DIMM, up to 16GB
Graphics	Intel® HD Graphics 6000
Ethernet	MTC-4015-PoER : 1 Intel® I218 GigE LAN, 5 Intel® I210 GigE LAN MTC-4015-2R : 1 Intel® I218 GigE LAN, 1 Intel® I210 GigE LAN
Audio	Realtek ALC892, 5.1 Channel HD Audio
OS Support	Windows 8.1, Windows 7, Linux
I/O Interface	
Serial	4 COM RS-232/ 422/ 485
USB	▪ 2 USB 3.0 ▪ 3 USB 2.0
DIO	MTC-4015-PoER : 16 Isolated DIO : 8 DI, 8 DO MTC-4015-2R : 16 GPIO
LAN	MTC-4015-PoER : 6 Independent GigE LAN, 4 support IEEE 802.3at PoE+ MTC-4015-2R : 2 Independent GigE LAN
Audio	1 Mic-in, 1 Line-out
Display	▪ DVI-D : Up to 1920 x 1080 @ 60Hz ▪ DisplayPort : Up to 3840 x 2160 @ 60Hz
LED	Power, HDD, PoE
CFast	1 External CFast Socket, Push-in/ Push-out Ejector
SIM Card	2 External SIM Card Socket

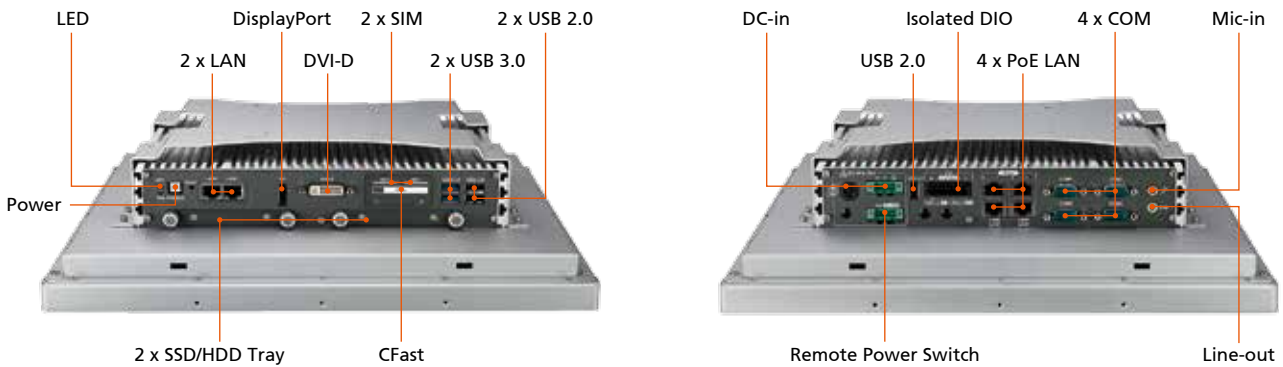
Expansion	
Mini PCIe	2 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card/ mSATA
Storage	
SATA	2 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	▪ 1 External CFast Socket ▪ 2 2.5" SSD/ HDD Tray (External)
Power	
Power Input	6V to 36V, DC-in
Power Interface	▪ 3-pin Terminal Block : V+, V-, Frame Ground ▪ Mini-DIN 4-pin
Power Adapter	AC to DC 120W Power Adapter (Optional)
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
Mechanical	
Dimensions (W x H x L)	350.0mm x 274.0mm x 97.6mm (13.8" x 10.8" x 3.8")
Weight	5.3 kg (11.7 lb)
Front Panel Protection	IP65 Compliant (Optional)
Mounting	▪ VESA Mount (75 x 75mm, 100 x 100mm) ▪ Panel Mount
Environment	
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-30°C to 80°C (-22°F to 176°F)
Humidity	10% to 90% Humidity, non-condensing
Shock	▪ IEC 60068-2-27 ▪ 20G, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ Non-operation : 10Hz to 200Hz, 1.5Grms, X, Y, Z, 30 mins each Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



I/O (MTC-4015-PoER)



Order Information

MTC-4015-PoER650U	MTC-4015, 15" Fanless Multi-Touch Computer, 6 GigE LAN with 4 PoE*, 2 SSD Tray, 2 SIM, 4 COM, 5 USB, Isolated DIO, Intel® Core™ i7-5650U
MTC-4015-PoER350U	MTC-4015, 15" Fanless Multi-Touch Computer, 6 GigE LAN with 4 PoE*, 2 SSD Tray, 2 SIM, 4 COM, 5 USB, Isolated DIO, Intel® Core™ i5-5350U
MTC-4015-PoER010U	MTC-4015, 15" Fanless Multi-Touch Computer, 6 GigE LAN with 4 PoE*, 2 SSD Tray, 2 SIM, 4 COM, 5 USB, Isolated DIO, Intel® Core™ i3-5010U
MTC-4015-2R650U	MTC-4015, 15" Fanless Multi-Touch Computer, 2 GigE LAN, 2 SSD Tray, 2 SIM, 4 COM, 5 USB, Intel® Core™ i7-5650U
MTC-4015-2R350U	MTC-4015, 15" Fanless Multi-Touch Computer, 2 GigE LAN, 2 SSD Tray, 2 SIM, 4 COM, 5 USB, Intel® Core™ i5-5350U
MTC-4015-2R010U	MTC-4015, 15" Fanless Multi-Touch Computer, 2 GigE LAN, 2 SSD Tray, 2 SIM, 4 COM, 5 USB, Intel® Core™ i3-5010U
MTC-4015P	MTC-4015, 15" Fanless Multi-Touch Computer, Intel® Core™ i7/ i5/ i3 Processor (Broadwell-U), IP65 Front Panel
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-120WM4P	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
Panel-Mount	Panel Mount Kit
VESA Stand	VESA Table Stand
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

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1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

MTC-2021

21.5" Fanless Multi-Touch Computer with Quad Core Intel® Atom™ E3845 Processor (Bay Trail), 2 GigE LAN, 6 COM with 2 Isolated RS-232/ 422/ 485, 1 USB 3.0, 2 USB 2.0, 8 GPIO



Features

- 21.5" 16 : 9 Full HD (1920 x 1080) LCD Panel with LED Backlight
- Projected Capacitive 10-point Multi-Touch Screen with 7H Anti-Scratch Surface
- Fanless, Quad Core Intel® Atom™ E3845 Processor (Bay Trail)
- 9V to 28V DC Power Input
- 2 GigE LAN, 1 USB 3.0, 2 USB 2.0
- SIM Card Socket supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6 COM with 2 Isolated RS-232/ 422/ 485, 8 GPIO
- Touchscreen works with gloves
- Sunlight Readable (Optional)
- IP65 Front Panel Protection (Optional)



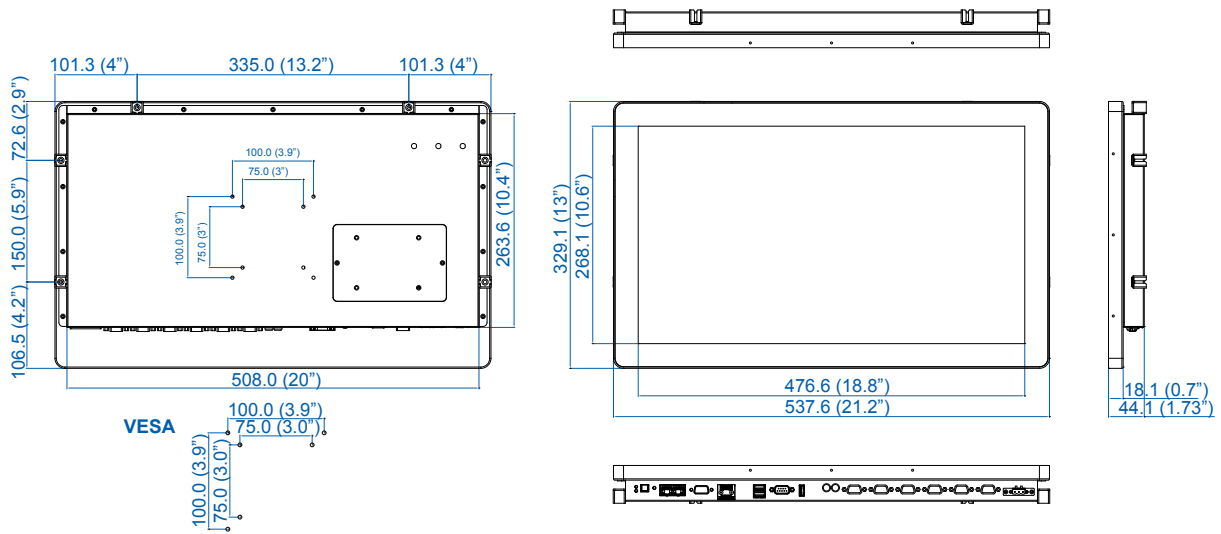
Specifications

Panel	
Panel Type	TFT LCD
Active Area	21.5" (16 : 9)
Max. Resolution	1920 x 1080 (Full HD)
Display Color	16.7M (RGB 8-bit)
Backlight	LED Backlight
Brightness (cd/m ²)	250 (Optional, up to 1200)
Viewing Angle	178°/178° (H/V)
Contrast Ratio	3000 : 1
Touch Screen	
Touch Screen Type	10-point Projected Capacitive
Transparency	≥ 85%
Surface Hardness	7H Surface Hardness
Control Interface	USB Interface
System	
Processor	Quad Core Intel® Atom™ E3845 Processor (1.91GHz, Bay Trail)
Chipset	Intel® SoC
Memory	1 DDR3L 1333 SO-DIMM, up to 8GB
Graphics	Intel® HD Graphics
Ethernet	2 Intel® 82574L GigE LAN
Audio	Realtek ALC892, 5.1 Channel HD Audio
OS Support	Windows 8.1, Windows 7, Linux
I/O Interface	
Serial	6 External COM : ▪ 2 COM RS-232/ 422/ 485 ▪ 2 COM RS-232 ▪ 2 Isolated COM RS-232/ 422/ 485
USB	▪ 1 USB 3.0 ▪ 2 USB 2.0
GPIO	8 GPIO
LAN	2 Independent GigE LAN
Audio	1 Mic-in, 1 Line-out
Display	▪ VGA : Up to 2560 x 1600 ▪ HDMI : Up to 1920 x 1080
LED	Power, HDD
SIM Card	1 Internal SIM Card Socket

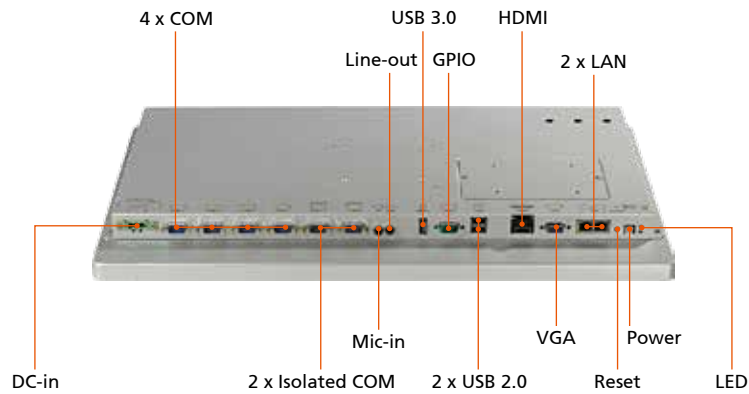
Expansion	
Mini PCIe	3 Mini PCIe Socket : ▪ 1 Mini PCIe for PCIe/ USB/ SIM Card ▪ 1 Mini PCIe for PCIe/ USB ▪ 1 Mini PCIe for mSATA
Storage	
SATA	1 SATA II (3Gbps)
mSATA	1 SATA II (Mini PCIe Type, 3Gbps)
Storage Device	1 Internal 2.5" SSD/ HDD Bracket
Power	
Power Input	9V to 28V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Power Adapter	AC to DC 60W Power Adapter (Optional)
Others	
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.
GPS	Onboard GPS Module (Optional)
Mechanical	
Dimensions (W x H x L)	537.6mm x 329.1mm x 44.1mm (21.2" x 13" x 1.7")
Weight	5.8 kg (12.8 lb)
Front Panel Protection	IP65 Compliant (Optional)
Mounting	▪ VESA Mount (75 x 75mm, 100 x 100mm) ▪ Panel Mount
Environment	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	10% to 90% Humidity, non-condensing
Shock	▪ IEC 60068-2-27 ▪ 20G, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ Non-operation : 10Hz to 200Hz, 1.5Grms, X, Y, Z, 30 mins each Axis
Certification	CE, FCC

Dimensions

Unit : mm/ inch



I/O



Order Information

MTC-2021	MTC-2021, 21.5" Fanless Multi-Touch Computer, 2 GigE LAN, 6 COM with 2 Isolated, 3 USB, GPIO, Intel® Atom™ E3845
DDR3L4G	Certified DDR3L-1600 4G RAM
DDR3L8G	Certified DDR3L-1600 8G RAM
PWA-60WP3B	60W, 24V/2.5A 100V AC to 240V AC Power Adapter for 3-pin 5.0mm Terminal Block
Panel-Mount	Panel Mount Kit
VESA Stand	VESA Table Stand
3G Module	Mini PCIe 3G/GPS Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

MTD-4024E/ 4024C

24" Multi-Touch 16:9 Full HD Projected Capacitive Industrial Display, optional IP65 Waterproof



Features

- 24" LCD Display supports up to 16 : 9 Full HD 1920 x 1080 resolution
- Industrial grade LCD Panel with high reliable LED Backlight, up to 50,000hrs
- Projected Capacitive 10-point Multi-Touch Screen
- 7H Hardness Anti-Scratch Surface
- Touchscreen works with gloves
- Supports VGA, DVI-D and HDMI Interface
- Landscape Mode and Portrait Mode supported
- Mounting : VESA Mount, Panel Mount
- IP65 Front Panel Protection (Optional)



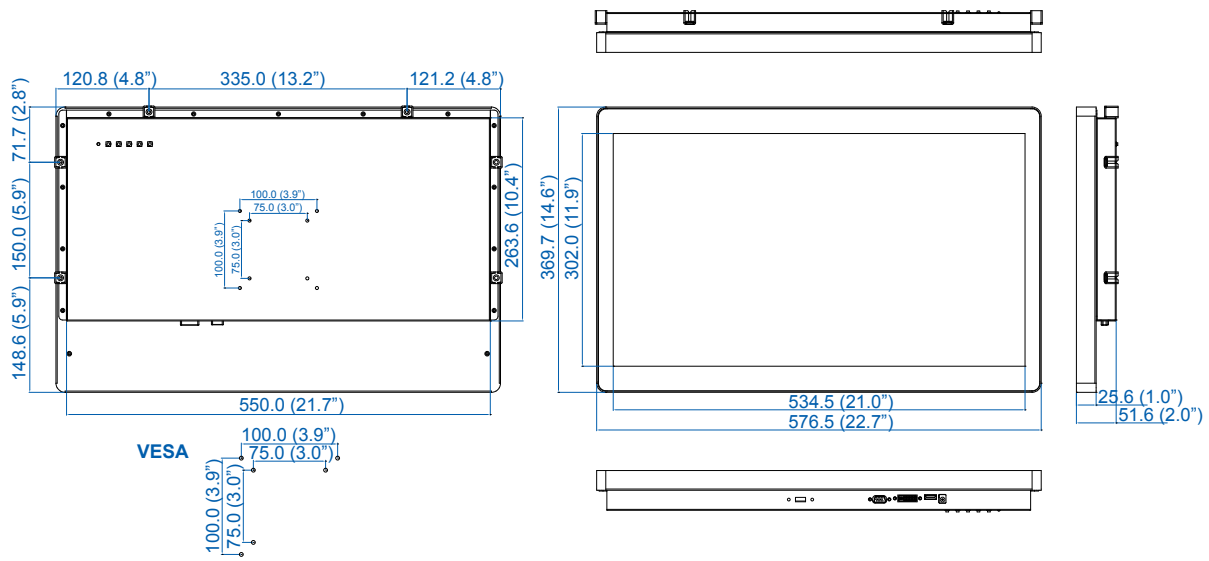
Specifications

Panel	
Panel Type	TFT LCD
Active Area	24" (16 : 9)
Max. Resolution	1920 x 1080 (Full HD)
Display Color	MTD-4024E : 16.7M (RGB 8-bit) MTD-4024C : 16.7M (RGB 6-bit + Hi_FRC)
Brightness (cd/m ²)	MTD-4024E : 300 MTD-4024C : 250
Contrast Ratio	MTD-4024E : 3000 : 1 MTD-4024C : 1000 : 1
Viewing Angle	MTD-4024E : 178°/178° (H/V) MTD-4024C : 170°/160° (H/V)
Backlight	LED Backlight
Backlight Life	MTD-4024E : 50,000hrs MTD-4024C : 30,000hrs
Touch Screen	
Touch Screen Type	10-point Projected Capacitive
Transparency	≥ 85%
Surface Hardness	7H Surface Hardness
Control Interface	USB Interface
System	
Power Input	DC-in 12V
Power Interface	DC Jack
Power Adapter	AC to DC 60W Power Adapter
Video Interface	1 VGA, 1 DVI-D, 1 HDMI
OSD Control	5 OSD Keypad for Function Management
OSD Language	Multi Language
Mechanical	
Dimensions (W x H x L)	MTD-4024E : 576.5mm x 369.7mm x 51.6mm (22.7" x 14.6" x 2.0") MTD-4024C : 576.5mm x 369.7mm x 45.1mm (22.7" x 14.6" x 1.78")
Weight	MTD-4024E : 9.0 kg (19.8 lb) MTD-4024C : 8.6 kg (19.0 lb)
Front Panel Protection	IP65 Compliant (Optional)
Mounting	▪ VESA Mount (75 x 75mm, 100 x 100mm) ▪ Panel Mount

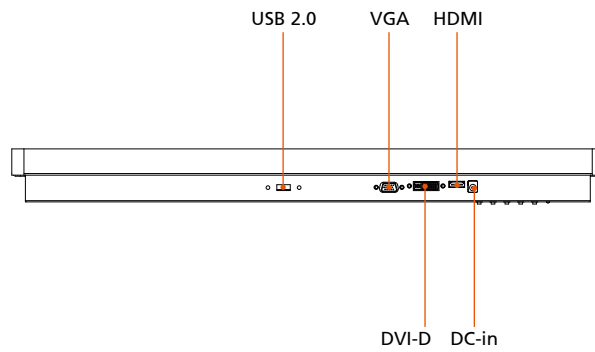
Environment	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	5% to 90% Humidity, non-condensing
Shock	▪ IEC 60068-2-27 ▪ 20G, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ Non-operation : 10Hz to 200Hz, 1.5Grms, X, Y, Z, 30 mins each Axis
Certification	CE, FCC
Accessory List	
VGA Cable x1	
USB-A Cable (M) x1	

Dimensions

Unit : mm/ inch



I/O



Order Information

MTD-4024E	24" Multi-Touch 16:9 Full HD Projected Capacitive Display with Industrial Grade LCD
MTD-4024EP	24" Multi-Touch 16:9 Full HD Projected Capacitive Display with Industrial Grade LCD, IP65 Front Panel
MTD-4024C	24" Multi-Touch 16:9 Full HD Projected Capacitive Display
MTD-4024CP	24" Multi-Touch 16:9 Full HD Projected Capacitive Display, IP65 Front Panel
PWA-60W	60W, 12V 100V AC to 240V AC Power Adapter for DC Jack
Panel-Mount	Panel Mount Kit
VESA Stand	VESA Table Stand
CAB_DVI	DVI Cable (M)
CAB_HDMI	HDMI Cable

1
High Performance
Embedded Systems

2
Expandable
Embedded Systems

3
Ultra Compact
Embedded Systems

4
3.5" Single Board
Computers

5
Industrial Multi-Touch
Computers/ Displays

6
Frame Grabbers/
Accessories

MTD-4021

21.5" Multi-Touch 16:9 Full HD Projected Capacitive Display, optional IP65 Waterproof



Features

- 21.5" 16 : 9 Full HD (1920 x 1080) LCD Panel with LED Backlight
- Projected Capacitive 10-point Multi-Touch Screen
- 7H Hardness Anti-Scratch Surface
- Touchscreen works with gloves
- Supports VGA and DVI-D Interface
- Landscape Mode and Portrait Mode supported
- Mounting : VESA Mount, Panel Mount
- Sunlight Readable (Optional)
- IP65 Front Panel Protection (Optional)



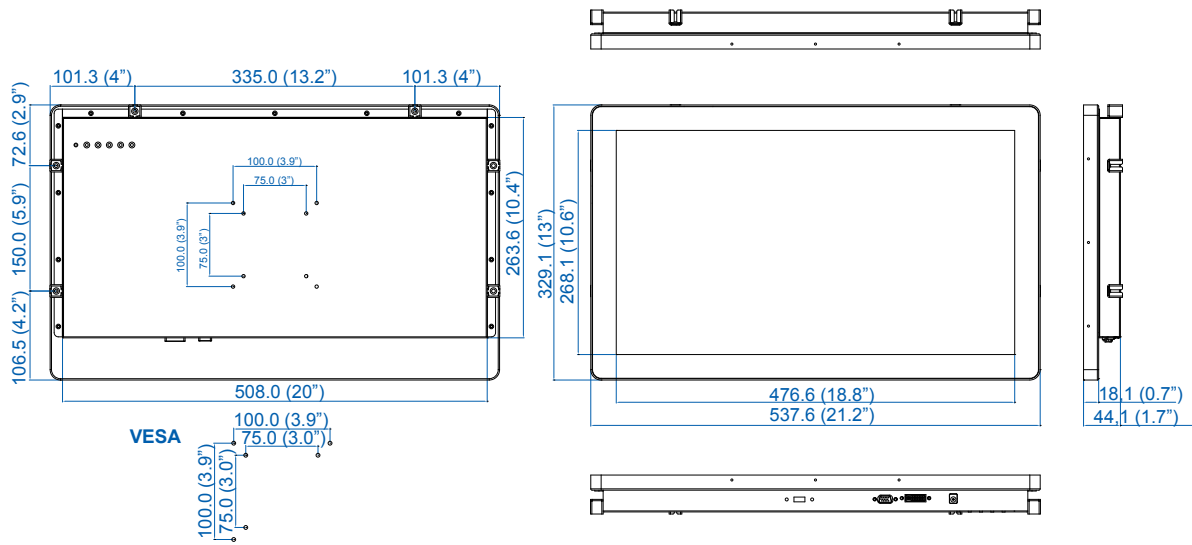
Specifications

Panel	
Panel Type	TFT LCD
Active Area	21.5" (16 : 9)
Max. Resolution	1920 x 1080 (Full HD)
Display Color	16.7M (RGB 8-bit)
Brightness (cd/m ²)	250 (Optional, up to 1200)
Contrast Ratio	3000 : 1
Viewing Angle	178°/178° (H/V)
Backlight	LED Backlight
Backlight Life	30,000hrs
Touch Screen	
Touch Screen Type	10-point Projected Capacitive
Transparency	≥ 85%
Surface Hardness	7H Surface Hardness
Control Interface	USB Interface
System	
Power Input	DC-in 12V
Power Interface	DC Jack
Power Adapter	AC to DC 60W Power Adapter
Video Interface	1 VGA, 1 DVI-D
OSD Control	5 OSD Keypad for Function Management
OSD Language	Multi Language
Mechanical	
Dimensions (W x H x L)	537.6mm x 329.1mm x 44.1mm (21.2" x 13" x 1.7")
Weight	6 kg (13.2 lb)
Front Panel Protection	IP65 Compliant (Optional)
Mounting	<ul style="list-style-type: none"> ▪ VESA Mount (75 x 75mm, 100 x 100mm) ▪ Panel Mount

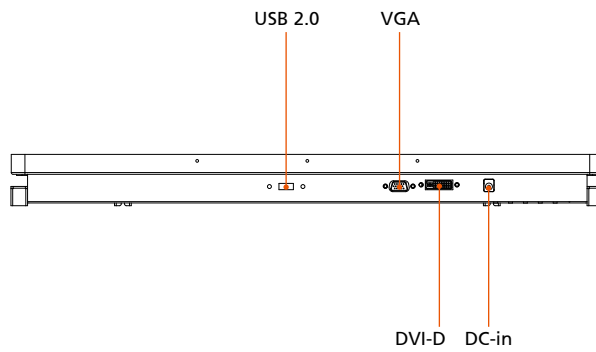
Environment	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	5% to 90% Humidity, non-condensing
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ 20G, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ Non-operation : 10Hz to 200Hz, 1.5Grms, X, Y, Z, 30 mins each Axis
Certification	CE, FCC
Accessory List	
VGA Cable x1	
USB-A Cable (M) x1	

Dimensions

Unit : mm/ inch



I/O



Order Information

MTD-4021	21.5" Multi-Touch 16:9 Full HD Projected Capacitive Display
MTD-4021P	21.5" Multi-Touch 16:9 Full HD Projected Capacitive Display, IP65 Front Panel
PWA-60W	60W, 12V 100V AC to 240V AC Power Adapter for DC Jack
Panel-Mount	Panel Mount Kit
CAB_DVI	DVI Cable (M)
VESA Stand	VESA Table Stand

1 High Performance Embedded Systems

2 Expandable Embedded Systems





3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays



6 Frame Grabbers/ Accessories

PoE Expansion Card

Series		PE-2000		PE-1000	
Model No.		PE-2004	PE-2002	PE-1004	PE-1002
Product Image					
Ethernet	Interface	PCI Express x4	PCI Express x4	PCI Express x4	PCI Express x4
	Controller	Intel® I210 Gigabit LAN	Intel® I210 Gigabit LAN	Intel® 82574L Gigabit LAN	Intel® 82574L Gigabit LAN
	Controller Qty	4	2	4	2
	PoE Standard	IEEE 802.3at	IEEE 802.3at	IEEE 802.3at	IEEE 802.3at
	Port Qty	4	2	4	2
	Connector	RJ45	RJ45	RJ45	RJ45
	Data Rate	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
	Jumbo Frame	9.5KB	9.5KB	9KB	9KB
	Teaming	Yes	Yes	Yes	Yes
Power	Output	Up to 25.5W	Up to 25.5W	Up to 25.5W	Up to 25.5W
	Connector	4-pin 12V	4-pin 12V	4-pin 12V	4-pin 12V
	Isolated DIO	16 (8 DI, 8 DO) (Optional)	16 (8 DI, 8 DO) (Optional)	16 (8 DI, 8 DO) (Optional)	16 (8 DI, 8 DO) (Optional)
	Power On/ Off	Yes (Per Port, Optional)	Yes (Per Port, Optional)	NA	NA
Dimensions (W x L)		168 x 121 mm (6.6" x 4.8")	168 x 121 mm (6.6" x 4.8")	168 x 121 mm (6.6" x 4.8")	168 x 121 mm (6.6" x 4.8")
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
EMC		CE, FCC	CE, FCC	CE, FCC	CE, FCC



USB Expansion Card

Series		UE-1000	
Model No.		UE-1008	UE-1004
Product Image			
USB	Interface	PCI Express x4	PCI Express x4
	Controller	Renesas μ PD720202	Renesas μ PD720202
	Controller Qty	4	4
	USB Standard	USB 3.0	USB 3.0
	Connector	USB 3.0 Type A	USB 3.0 Type A
	Port Qty	8	4
	Data Rate	Up to 5Gbps	Up to 5Gbps
	Current Protection	Yes	Yes
Dimensions (W x L)		168 x 121 mm (6.6" x 4.8")	168 x 121 mm (6.6" x 4.8")
Operating Temperature		0°C to 70°C (32°F to 158°F)	0°C to 70°C (32°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
EMC		CE, FCC	CE, FCC



1
High Performance
Embedded Systems

2
Expandable
Embedded Systems

3
Ultra Compact
Embedded Systems

4
3.5" Single Board
Computers

5
Industrial Multi-Touch
Computers/ Displays

6
Frame Grabbers/
Accessories

PE-2004

Intel® I210 PCI Express PoE+ Expansion Card, PCI Express x4, 4 GigE LAN, IEEE 802.3at compliant



Features

- PCI Express x4 Interface
- 4 Independent Intel® I210 Gigabit LAN
- IEEE 802.3at compliant for PoE+
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 25.5W Power Output at 48V DC per port
- 9.5KB Jumbo Frame, Link Aggregation
- Teaming Functions
- -25°C to 70°C Operating Temperature
- 16 Isolated DIO : 8 DI, 8 DO (Optional)
- Software Programmable PoE Power Switch (Optional)

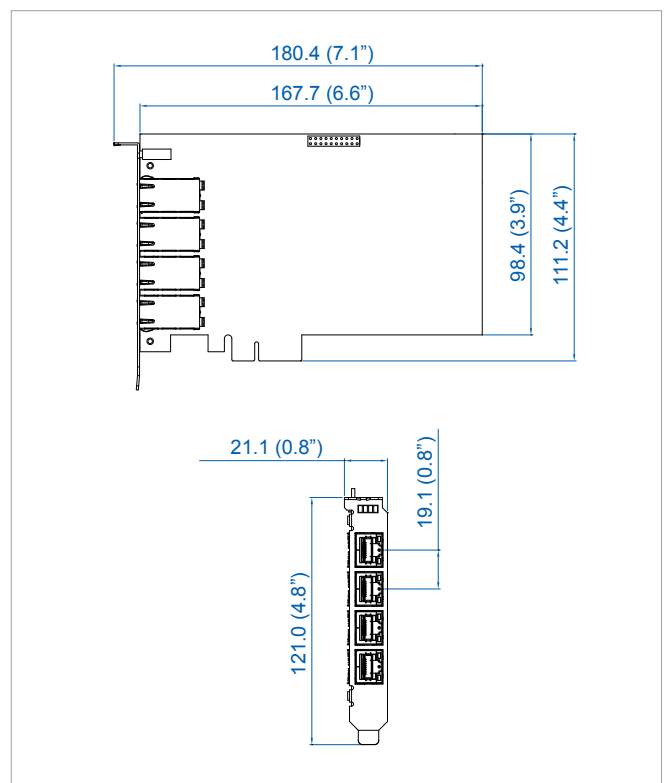


Specifications

Ethernet	
Interface	PCI Express x4
Controller	4 Intel® I210 Gigabit LAN
Data Rate	10/ 100/ 1000 Mbps (Vary by attached Ethernet device)
Jumbo Frame	9.5KB supported
Link Aggregation (LAG)	Present
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> ▪ 4 RJ45 PoE Port ▪ Up to 25.5W Power Output at 48V DC per port
Power Connector	1 4-pin 12V Power Connector
DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
EMC	CE, FCC

Dimensions

Unit : mm/ inch

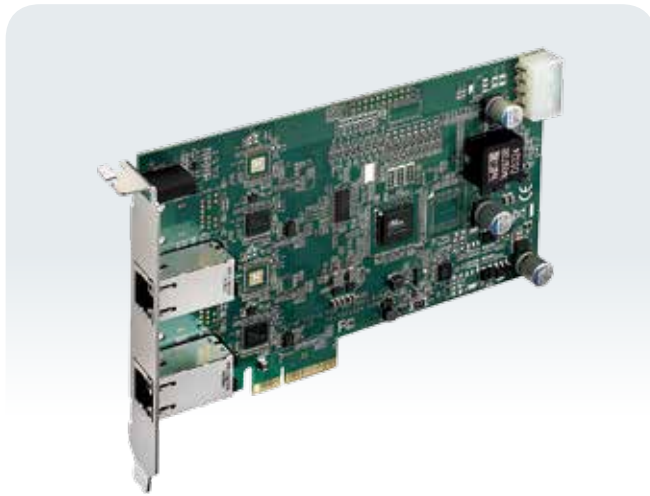


Order Information

PE-2004	Intel® I210 4-CH PCI Express PoE+ Card
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PE-2002

Intel® I210 PCI Express PoE+ Expansion Card, PCI Express x4, 2 GigE LAN, IEEE 802.3at compliant



Features

- PCI Express x4 Interface
- 2 Independent Intel® I210 Gigabit LAN
- IEEE 802.3at compliant for PoE+
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 25.5W Power Output at 48V DC per port
- 9.5KB Jumbo Frame, Link Aggregation
- Teaming Functions
- -25°C to 70°C Operating Temperature
- 16 Isolated DIO : 8 DI, 8 DO (Optional)
- Software Programmable PoE Power Switch (Optional)

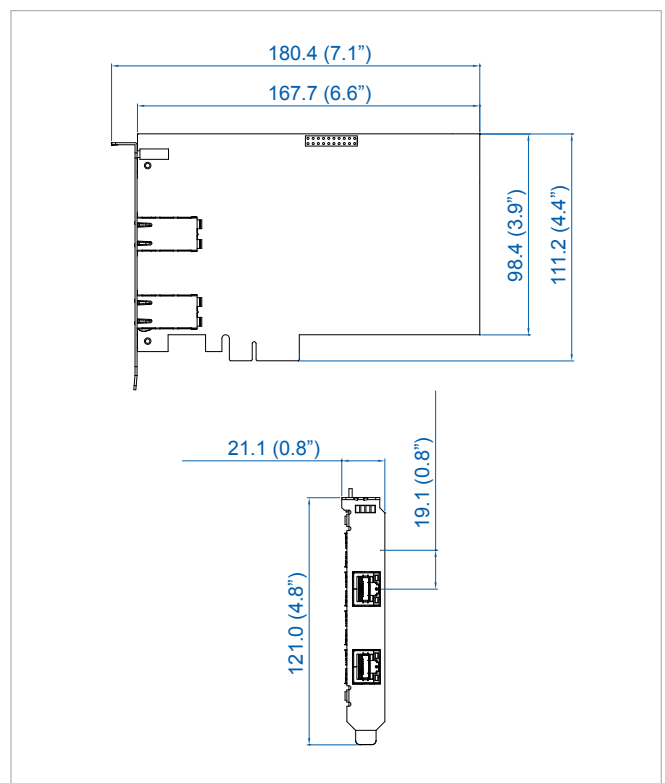


Specifications

Ethernet	
Interface	PCI Express x4
Controller	2 Intel® I210 Gigabit LAN
Data Rate	10/ 100/ 1000 Mbps (Vary by attached Ethernet device)
Jumbo Frame	9.5KB supported
Link Aggregation (LAG)	Present
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> ▪ 2 RJ45 PoE Port ▪ Up to 25.5W Power Output at 48V DC per port
Power Connector	1 4-pin 12V Power Connector
DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
EMC	CE, FCC

Dimensions

Unit : mm/ inch



Order Information

PE-2002	Intel® I210 2-CH PCI Express PoE+ Card
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1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

PE-1004

PCI Express 4-port PoE+ Expansion Card, PCI Express x4, 4 GigE LAN, IEEE 802.3at compliant



Features

- PCI Express x4 Interface
- IEEE 802.3at compliant for PoE+
- 4 Independent Intel® 82574L Gigabit LAN
- -25°C to 70°C Operating Temperature
- Up to 25.5W Power Output at 48V DC per port
- 9KB Jumbo Frame
- Link Aggregation
- Teaming Functions
- 16 Isolated DIO : 8 DI, 8 DO (Optional)

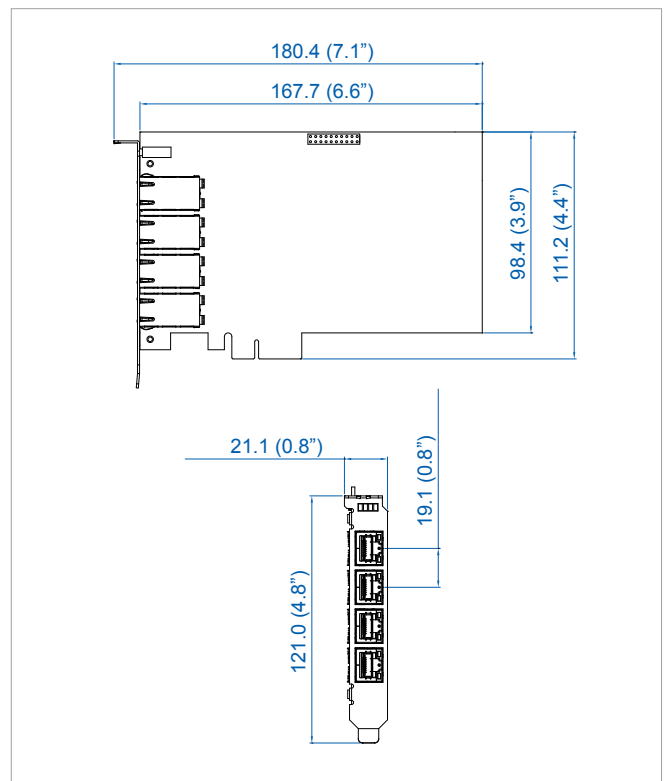


Specifications

Ethernet	
Interface	PCI Express x4
Controller	4 Intel® 82574L Gigabit LAN
Data Rate	10/ 100/ 1000 Mbps (Vary by attached Ethernet device)
Jumbo Frame	9KB supported
Link Aggregation (LAG)	Present
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> ▪ 4 RJ45 PoE Port ▪ Up to 25.5W Power Output at 48V DC per port
Power Connector	1 4-pin 12V Power Connector
DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
EMC	CE, FCC

Dimensions

Unit : mm/ inch

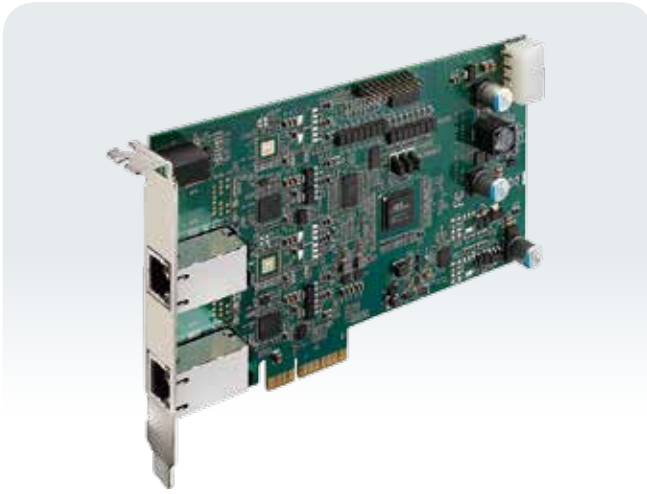


Order Information

PE-1004	4-CH PCI Express PoE+ Card
PE-1004S	4-CH PCI Express PoE+ Card, Non-DIO

PE-1002

PCI Express 2-port PoE+ Expansion Card, PCI Express x4, 2 GigE LAN, IEEE 802.3at compliant



Features

- PCI Express x4 Interface
- IEEE 802.3at compliant for PoE+
- 2 Independent Intel® 82574L Gigabit LAN
- -25°C to 70°C Operating Temperature
- Up to 25.5W Power Output at 48V DC per port
- 9KB Jumbo Frame
- Link Aggregation
- Teaming Functions
- 16 Isolated DIO : 8 DI, 8 DO (Optional)

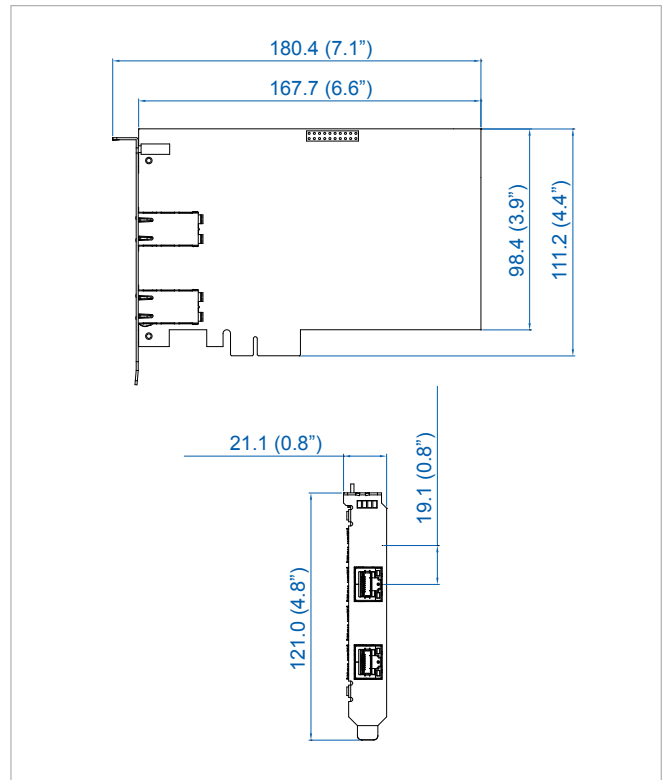


Specifications

Ethernet	
Interface	PCI Express x4
Controller	2 Intel® 82574L Gigabit LAN
Data Rate	10/ 100/ 1000 Mbps (Vary by attached Ethernet device)
Jumbo Frame	9KB supported
Link Aggregation (LAG)	Present
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> ▪ 2 RJ45 PoE Port ▪ Up to 25.5W Power Output at 48V DC per port
Power Connector	1 4-pin 12V Power Connector
DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
EMC	CE, FCC

Dimensions

Unit : mm/ inch



Order Information

PE-1002	2-CH PCI Express PoE+ Card
PE-1002S	2-CH PCI Express PoE+ Card, Non-DIO

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

UE-1008

PCI Express 8-port USB Expansion Card, PCI Express x4, 4 Independent USB 3.0



Features

- 4 Independent USB 3.0 controllers
- Smart Current Protection : 900mA/ 1500mA
- Remote Power-on/ Power-off Management by each port (Optional)
- 8 USB 3.0 ports
- USB 3.0 Rev. 1.0 compliant
- Intel® xHCI Rev. 1.0 compliant
- PCI Express x4 Interface

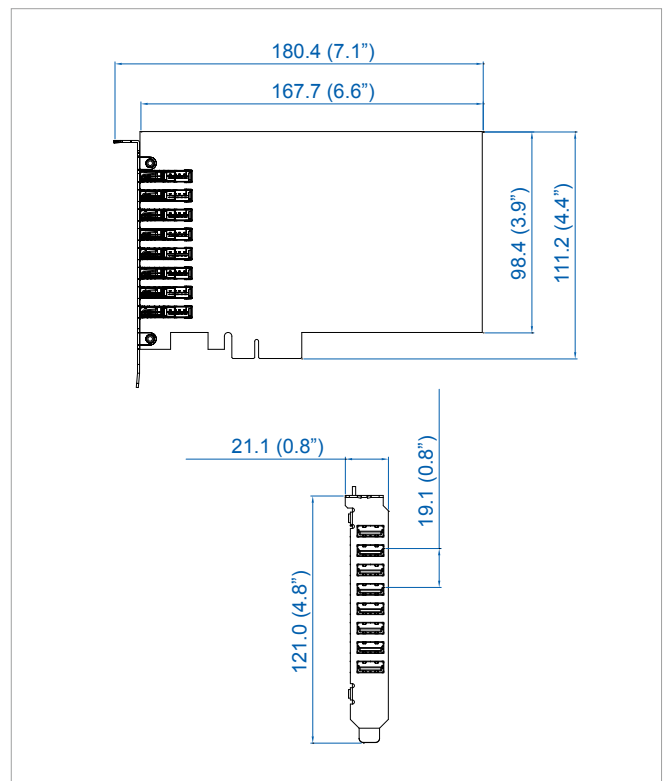


Specifications

USB	
Interface	PCI Express x4
Controller	4 Renesas μPD720202 Host Controller
Connector	8 USB 3.0 Type-A Connector
Current Protection	User-configurable 900mA/1500mA per port current limit (Jumper)
Data Rate	Super Speed (5Gbps)/ High Speed (480Mbps)/ Full Speed (12Mbps)/ Low Speed (1.5Mbps)
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
EMC	CE, FCC

Dimensions

Unit : mm/ inch

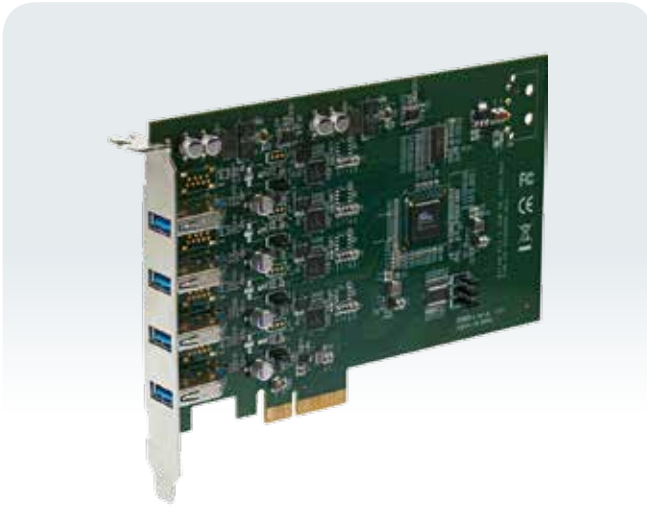


Order Information

UE-1008	8-port USB 3.0 Host Adapter with 4 Independent USB 3.0 Controllers
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UE-1004

PCI Express 4-port USB Expansion Card, PCI Express x4, 4 Independent USB 3.0



Features

- 4 Independent USB 3.0 controllers
- Smart Current Protection : 900mA/ 1500mA
- Remote Power-on/ Power-off Management by each port (Optional)
- 4 USB 3.0 ports
- USB 3.0 Rev. 1.0 compliant
- Intel® xHCI Rev. 1.0 compliant
- PCI Express x4 Interface

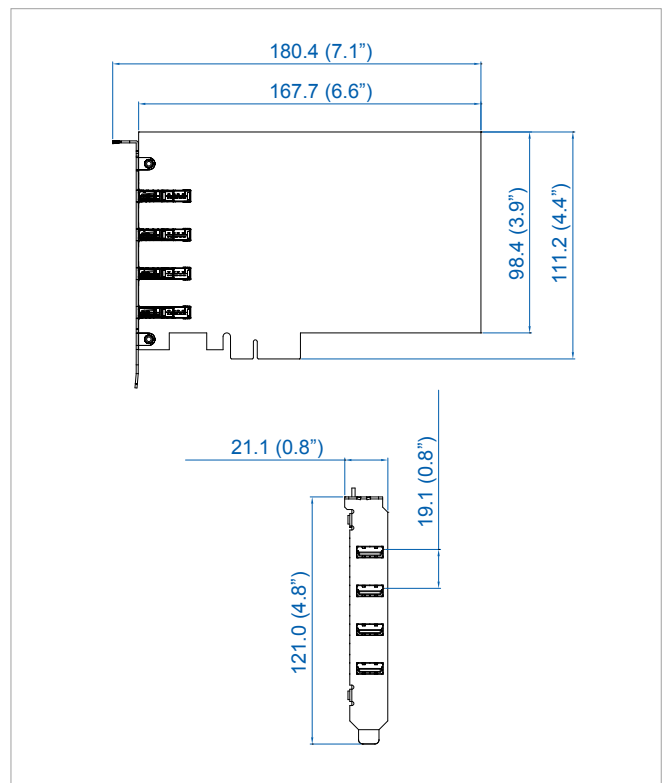


Specifications

USB	
Interface	PCI Express x4
Controller	4 Renesas μPD720202 Host Controller
Connector	4 USB 3.0 Type-A Connector
Current Protection	User-configurable 900mA/1500mA per port current limit (Jumper)
Data Rate	Super Speed (5Gbps)/ High Speed (480Mbps)/ Full Speed (12Mbps)/ Low Speed (1.5Mbps)
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
EMC	CE, FCC

Dimensions

Unit : mm/ inch



Order Information

UE-1004	4-port USB 3.0 Host Adapter with 4 Independent USB 3.0 Controllers
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1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

SMX-100

4-port RS-232/ 422/ 485 Serial Card



Features

- PCI Express® Mini Card 1.2 compliant, compact size
- 4 high-speed RS-232/ 422/ 485 ports
- Up to 31.25Mbps super fast data transmission
- -40°C to 85°C Operating Temperature
- 3kV ESD Protection
- Interrupt Status Register for Performance Enhancement

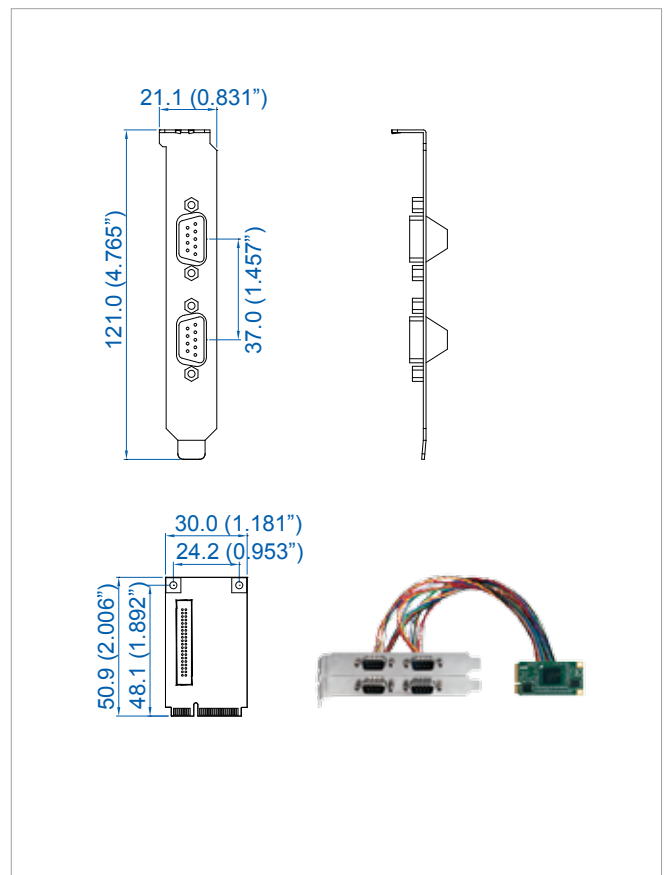


Specifications

Serial	
Interface	Mini PCIe
Chipset	EXAR XR17V354
Standard	RS-232/ 422/ 485
Number of Port	4
Baud Rate	Up to 921.6kbps
FIFOs	256 byte
Flow Control	CTS/ RTS, Xon/ Xoff
Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux
Mechanical	
Dimensions (W x L)	Mini Card : 30mm x 51mm Cable Length : 300mm
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC
Packing List	
1 SMX-100 Serial Card 2 Cable Set 1 Driver CD 1 Screw Kit 1 Bracket	

Dimensions

Unit : mm/ inch



Order Information

SMX-100	4-port RS-232/ 422/ 485 Serial Mini PCIe Card
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LMX-200

Intel® I210 Mini PCIe 2-port GigE LAN Card, dual 10/100/1000 BASE-T, IEEE 802.3, IEEE 802.3u, IEEE 802.3ab Compliant



Features

- -40°C to 85°C Operating Temperature
- 9.5KB Jumbo Frame, Link Aggregation
- Teaming Functions
- IEEE 1588 Precision Time Protocol (PTP)
- IEEE 802.3, 802.3u and 802.3ab compliant
- Supports IEEE 802.3x Full Duplex Flow control
- Supports IEEE 802.1P Layer 2 Priority Encoding
- Supports IEEE 802.1Q VLAN Tagging
- Crossover Detection and Auto Correction Operation

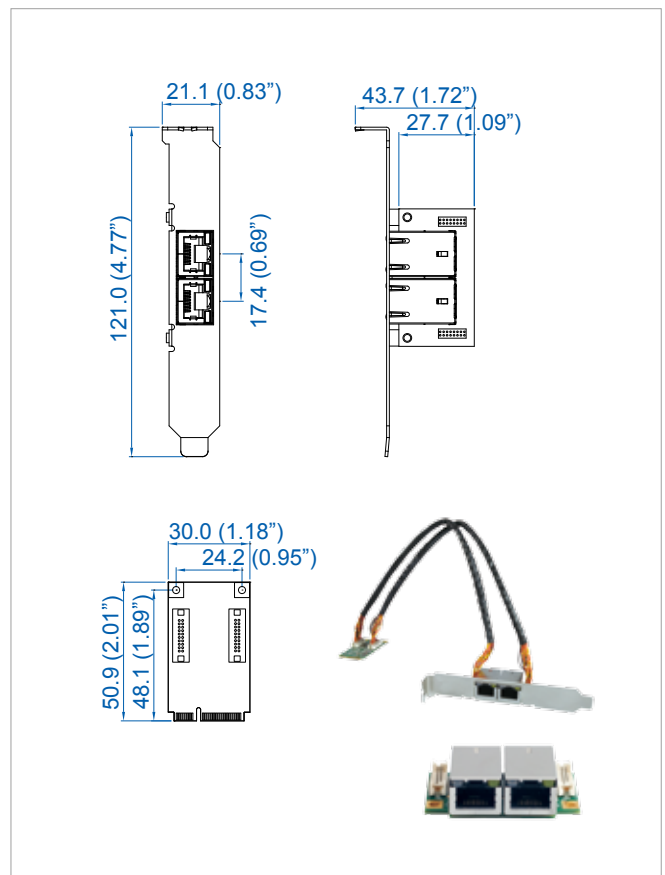


Specifications

Ethernet	
Interface	PCI Express x1
Chipset	2 Intel® I210 Gigabit LAN
Data Rate	10/100/1000 Mbps
Number of Port	2
Jumbo Frame	9.5KB supported
Link Aggregation (LAG)	Present
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	Mini Card : 30mm x 51mm Daughter Card : 50mm x 28mm Cable Length : 300mm
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC
Packing List	
1 LMX-200 Mini PCIe LAN Card 1 RJ45 Connector Card 1 Connection Cable 1 Driver CD 1 Screw Kit 1 Bracket	

Dimensions

Unit : mm/ inch



Order Information

LMX-200	Intel® I210 Mini PCIe 2-port GigE LAN Card
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1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

ESM-100

SUMIT Expansion Card with 3 Mini PCIe Slot, 3 SIM Socket, 1 USB 2.0, -25°C to 70°C



Features

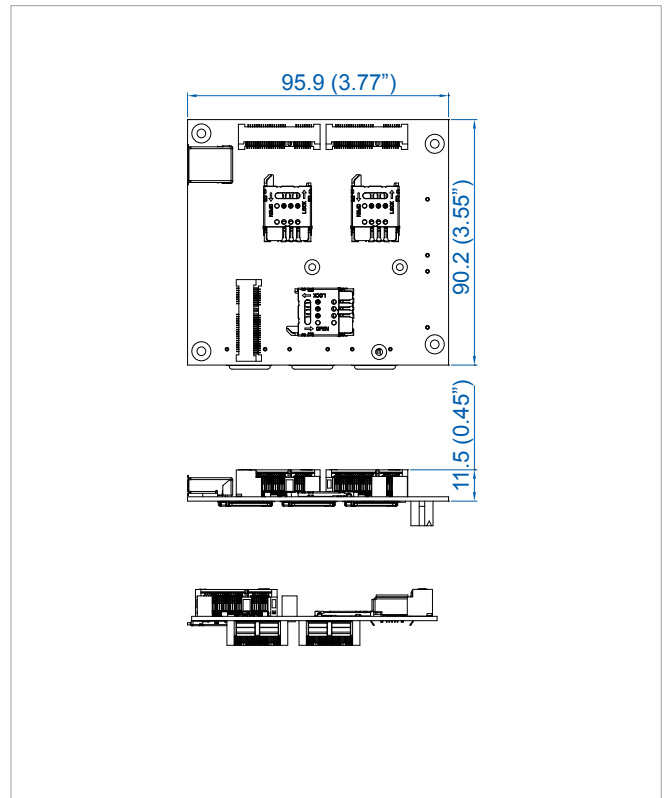
- SUMIT A, B function compliant
- 3 Mini PCIe support up to 3 SIM Socket
- Onboard 1 USB 2.0 Connector
- -25°C to 70°C Operating Temperature
- PCI Express compliant
- Optional supports External SIM Socket



Specifications

I/O Interface	
Mini PCIe	3 Full Size Mini PCIe Slot
SIM Card	3 SIM Card Socket (Internal, optional supports External I/O Type)
USB	1 USB 2.0 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	145 g
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC

Dimensions



Recommended Configurations

High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000, ECS-7800, ECS-7000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

ESM-100	SUMIT (PCIe) Expansion Card with 3 Mini PCIe, 3 SIM, 1 USB 2.0
ESM-101	SUMIT (PCIe) Expansion Card with 3 Mini PCIe, 3 External SIM, 1 USB 2.0

LSM-550-AT2

SUMIT Expansion Card with 2 10GigE LAN, 1 Mini PCIe Slot, 1 SIM Socket, 1 USB 2.0, -25°C to 55°C



Features

- Intel® X550-AT2 10GBASE-T controller supports up to 10Gbps data rate
- IEEE 802.3an Fast Ethernet standard compliant
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 9728 bytes Jumbo Frame, Link Aggregation
- Supports Wake-on-LAN (WoL) & PXE
- Intel® Ethernet Power Management
- Intel® Data Direct I/O Technology
- Intel® Virtualization Technology for Connectivity (VT-c)
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- -25°C to 55°C Operating Temperature

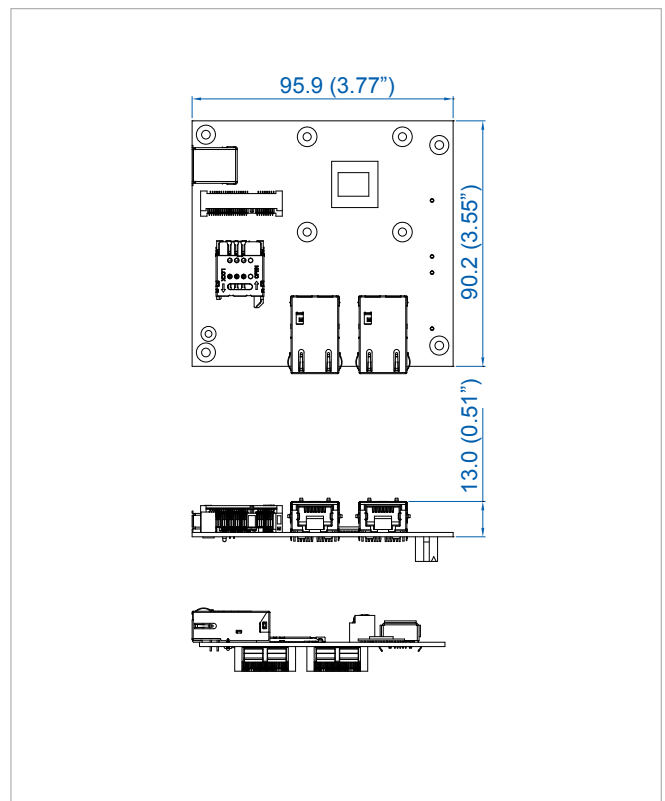


Specifications

Ethernet	
Controller	Intel® Ethernet Controller X550-AT2
Controller Qty	1
Data Rate	10Gbps/ 5Gbps/ 2.5Gbps/ 1Gbps/100Mbps
Jumbo Frame	Up to 9728 bytes
Link Aggregation	Present
I/O Interface	
Bus Type	LSM-550-AT2 : SUMIT B LSM-550-AT2-E : SUMIT A, B
LAN	2 RJ45 Connector
Mini PCIe	1 Full-size Mini PCIe Socket
SIM Card	1 SIM Card Socket (Internal, optional supports External I/O Type)
USB	1 USB 2.0 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	-25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 55°C
EMC	CE, FCC

Dimensions

Unit : mm/ inch



Recommended Configurations

High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000, ECS-7800, ECS-7000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

LSM-550-AT2	SUMIT (PCIe) Expansion Card with 2 10G LAN
LSM-550-AT2-E	SUMIT (PCIe) Expansion Card with 2 10G LAN, 1 Mini PCIe, 1 SIM Socket, 1 USB 2.0

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

LSM-100

SUMIT Expansion Card with 3 10/100/1000BASE-TX GigE LAN, -25°C to 85°C



Features

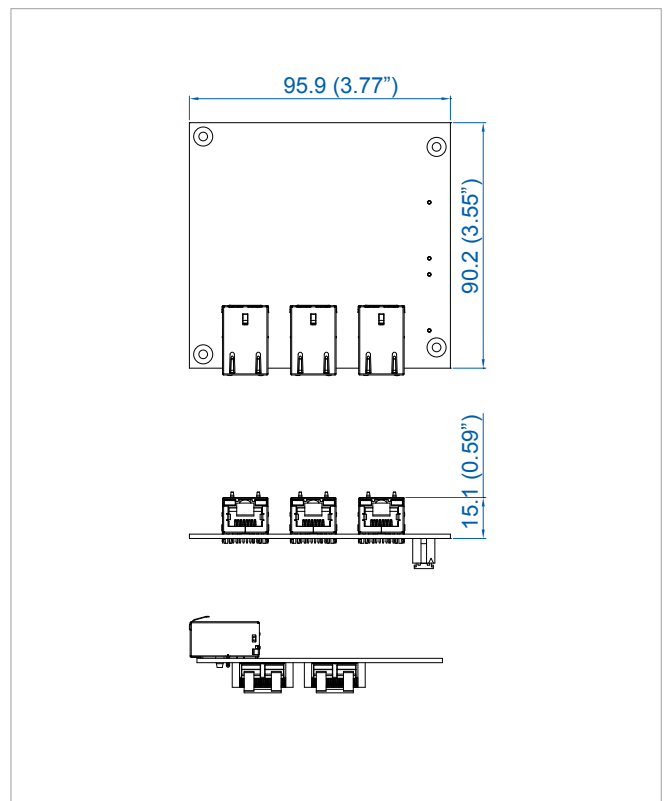
- Intel® 82574 Gigabit Ethernet Controller supports up to 1Gbps data rate
- IEEE 802.3ab Gigabit Ethernet standard compliant
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 9KB Jumbo Frame
- Triple independent GigE LAN Connection
- Supports Wake-on-LAN (WoL) & PXE
- -25°C to 85°C Operating Temperature



Specifications

Ethernet	
Controller	Intel® 82574L Gigabit Ethernet Controller
Controller Qty	3
Data Rate	1Gbps/ 100Mbps/ 10Mbps
Jumbo Frame	Up to 9 KB
Link Aggregation	Present
I/O Interface	
Bus Type	SUMIT A, B
LAN	3 RJ45 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	-25°C to 85°C (-13°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC

Dimensions



Recommended Configurations

High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000, ECS-7800, ECS-7000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

LSM-100-3	SUMIT (PCIe) Expansion Card with 3 GigE LAN
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FSM-710-BM2

SUMIT Expansion Card with 2 10GigE SFP+ Fiber LAN, 1 Mini PCIe Slot, 1 SIM Socket, 1 USB 2.0, -25°C to 55°C



Features

- Intel® X710-BM2 Dual Port 10Gigabit Ethernet Controller supports up to 10Gbps data rate
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 9728 bytes Jumbo Frame, Link Aggregation
- Supports Wake-on-LAN (WoL) & PXE
- Intel® Ethernet Power Management
- Intel® Data Direct I/O Technology
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- -25°C to 55°C Operating Temperature

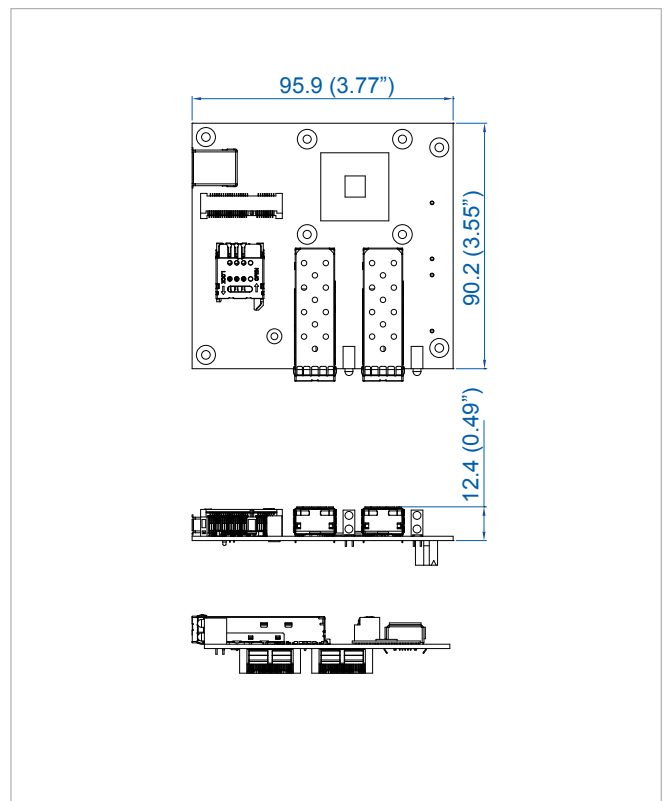


Specifications

Ethernet	
Controller	Intel® Ethernet Controller X710-BM2
Data Rate	10Gbps
Jumbo Frame	Up to 9728 bytes
Link Aggregation	Present
I/O Interface	
Bus Type	FSM-710-BM2 : SUMIT B FSM-710-BM2-E : SUMIT A, B
LAN	2 10GBASE SFP+ Fiber Connector
Mini PCIe	1 Full-size Mini PCIe Socket
SIM Card	1 SIM Card Socket (Internal, optional supports External I/O Type)
USB	1 USB 2.0 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	160 g
Environment	
Operating Temperature	-25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 55°C
EMC	CE, FCC

Dimensions

Unit : mm/ inch



Recommended Configurations

High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

FSM-710-BM2	SUMIT (PCIe) Expansion Card with 2 10GigE SFP+ LAN
FSM-710-BM2-E	SUMIT (PCIe) Expansion Card with 2 10GigE SFP+ LAN, 1 Mini PCIe, 1 SIM Socket, 1 USB 2.0

1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

FSM-200

SUMIT Expansion Card with 2 1000BASE SFP Fiber LAN



Features

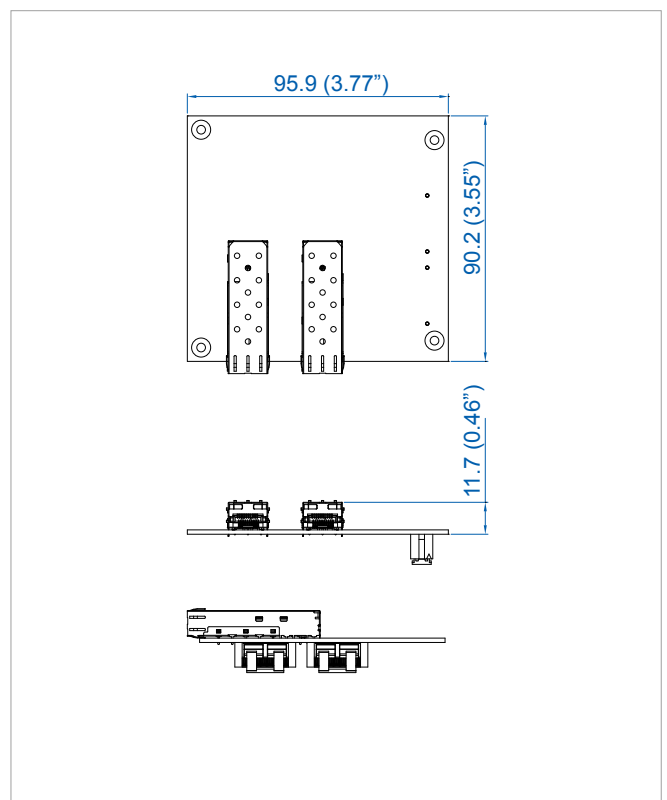
- Intel® 82574 Gigabit Ethernet Controller supports 1Gbps data rate
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 9.5KB Jumbo Frame
- Dual 100BASE-FX fiber ports
- Supports Wake-on-LAN (WoL) & PXE
- PS/2 KB/MS Connector (Optional)



Specifications

Ethernet	
Controller	Intel® Ethernet Controller I350
Controller Qty	1
Data Rate	1Gbps
Jumbo Frame	Up to 9.5 KB
I/O Interface	
Bus Type	SUMIT B
LAN	2 1000BASE SFP Fiber Connector
PS/2	1 PS/2 KB/MS Connector (Optional)
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC

Dimensions



Recommended Configurations

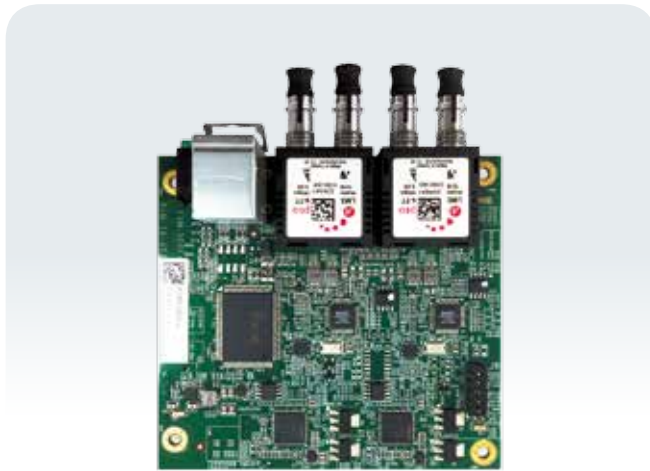
High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000, ECS-7800, ECS-7000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

FSM-200	SUMIT (PCIe) Expansion Card with 2 1000BASE SFP Fiber LAN
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FSM-100

SUMIT Expansion Card with 2 100BASE-FX GigE Fiber LAN, 1 PS/2 KB/MS



Features

- Intel® 82574 Gigabit Ethernet Controller supports 1Gbps data rate
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- IEEE 1588 Precision Time Protocol (PTP)
- Up to 9KB Jumbo Frame
- Dual 100BASE-FX fiber ports
- Supports Wake-on-LAN (WoL) & PXE
- PS/2 KB/MS Connector (Optional)

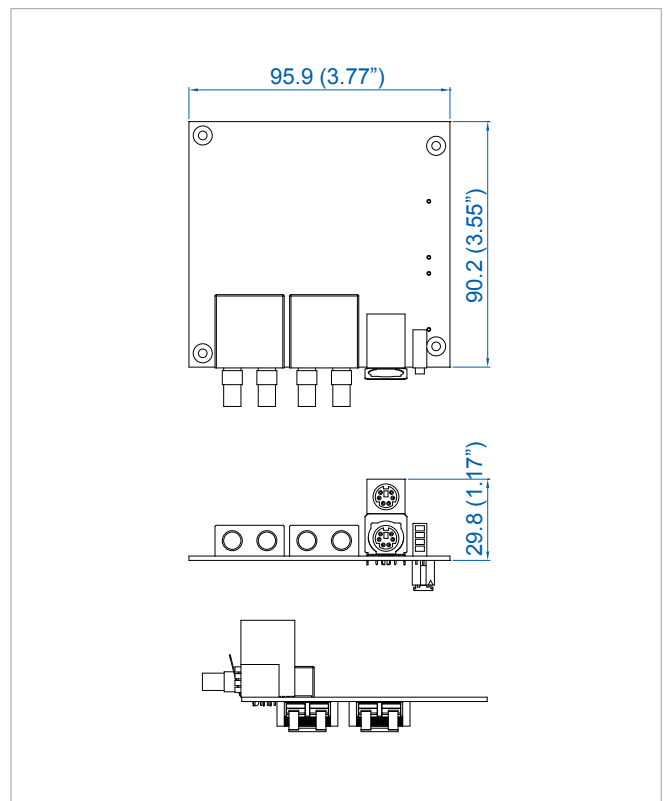


Specifications

Ethernet	
Controller	Intel® 82574L Gigabit Ethernet Controller
Controller Qty	2
Data Rate	1Gbps
Jumbo Frame	Up to 9 KB
I/O Interface	
Bus Type	SUMIT A, B
LAN	2 100BASE-FX Fiber Connector
PS/2	1 PS/2 KB/MS Connector (Optional)
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	170 g
Environment	
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC

Dimensions

Unit : mm/ inch



Recommended Configurations

High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000, ECS-7800, ECS-7000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

FSM-100FX	SUMIT (PCIe) Expansion Card with 2 100BASE-FX Fiber LAN, 1 PS/2 KB/MS
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1 High Performance Embedded Systems

2 Expandable Embedded Systems

3 Ultra Compact Embedded Systems

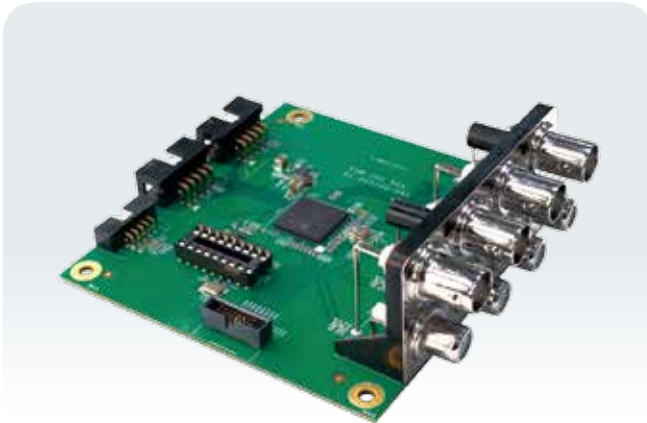
4 3.5" Single Board Computers

5 Industrial Multi-Touch Computers/ Displays

6 Frame Grabbers/ Accessories

VSM-200

SUMIT Expansion Card with 8-CH/ 4-CH H.264/ MPEG-4 Video Capture, -25°C to 70°C



Features

- 8-channel/ 4-channel video input with H.264/ MPEG-4 software compression
- 200 (PAL)/ 240 (NTSC) at up to D1 resolution for video recording and display
- Audio : 8 Mono/ 2 Stereo
- Programmable motion detection
- Windows XP/ Windows VISTA/ Windows 7/ Linux OS supported
- Supports SDK VC++, NET

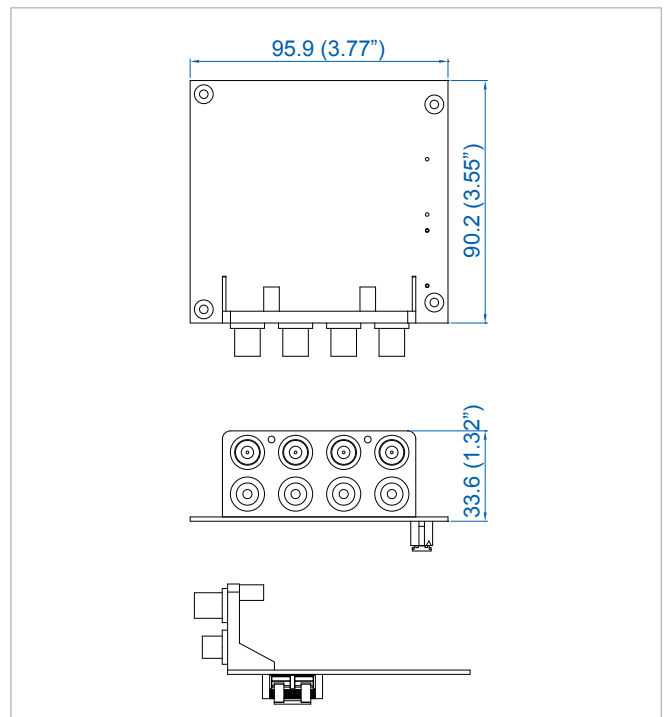


Specifications

Video	
Video Standard	Composite for NTSC/PAL
Channel Qty	VSM-200-8 : 8 VSM-200-4 : 4
Compression	S/W H.264/ MPEG-4
Max. Display Rate	25/30 fps (PAL/NTSC) @ D1 per Channel
Max. Recording Rate	25/30 fps (PAL/NTSC) @ D1 per Channel
Audio	
Format	8 Mono/ 2 Stereo
Channel Qty	VSM-200-8 : 8 VSM-200-4 : 4
I/O Interface	
Bus Type	SUMIT A, B
Video	<ul style="list-style-type: none"> ▪ 4 BNC, 4 RCA onboard ▪ 1 16-pin header to D-Sub 15 cable
Audio	<ul style="list-style-type: none"> ▪ Channel 1 to 4 : 4 input BNC ▪ Channel 5 to 8 : 4 input BNC to D-Sub 15
System Requirements	
OS	<ul style="list-style-type: none"> ▪ Windows : Windows XP/ Windows VISTA/ Windows 7 (64-bit/ 32-bit) ▪ Linux : Standard Linux kernel 2.6.38/ 2.6.33
Memory	2 GB
VGA	1024 x 768, DirectX 9.0c
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
EMC	CE, FCC

Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	165 g

Dimensions



Recommended Configurations

High Performance Embedded Systems	IVH-9000, ECS-9000, ECS-8000, ECS-7800, ECS-7000	Ultra Compact Embedded System	SPC-3500, SPC-3000
Expanable Embedded System	ECS-9700, ECS-9600	3.5" Single Board Computer	EMBC-1000

Order Information

VSM-200-4	SUMIT (PCIe) Expansion Card with 4-CH H.264/ MPEG-4 Video Capture
VSM-200-8	SUMIT (PCIe) Expansion Card with 8-CH H.264/ MPEG-4 Video Capture