ECX-1210/1201

9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) Expandable Fanless System with Intel® C246 Chipset, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 1 PCI/PCIe, 6 USB 3.1, 3 M.2 Socket, 3 SIM, 32 Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- 8 Cores 9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) with workstation-grade Intel® C246 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- Multiple USB 3.1 Gen 2 supports up to 10Gbps SuperSpeed data transfer
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+
- 32 Isolated DIO, 6 USB 3.1, 4 COM RS-232/422/485
- Expansion : 1 PCIe/PCI, 2 Mini PCIe/mSATA, 1 M.2
- PCIe x16 expansion supports up to 200W Power Budget
- Storage : 2 2.5" SSD Tray, 1 CFast, 2 M.2, 2 SATA III
- 3 External SIM Socket for WiFi/4G/3G/LTE/GPRS/UMTS
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control

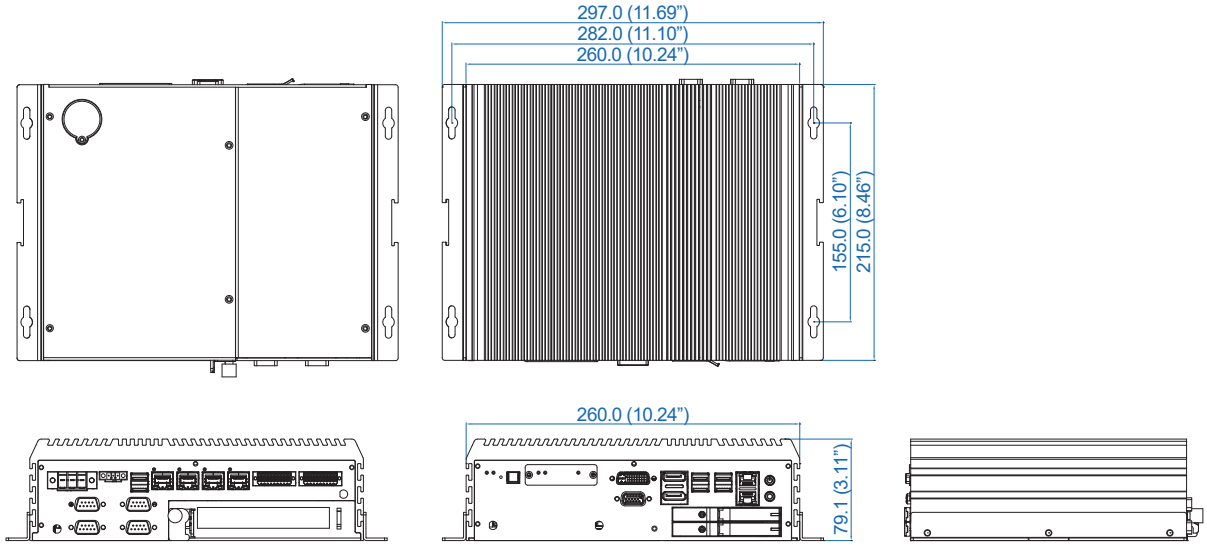
Specifications

System	
Processor	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Chipset	Intel® C246
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2666MHz SO-DIMM, up to 64GB
I/O Interface	
Serial	4 COM RS-232/422/485 (ESD 8KV)
USB	▪ 6 USB 3.1 (6 External) ▪ 1 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, PoE, Wireless
SIM Card	3 External SIM Card Socket
Expansion	
Mini PCIe	2 Full-size Mini PCIe Socket for PCIe/USB/External SIM Card/ mSATA
PCI/PCIe	ECX-1210 : 1 PCIe x16 ECX-1201 : 1 PCI
M.2	1 M.2 Key E Socket (2230), (PCIex1, USB2.0, I2C Bus)
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® UHD Graphics 630
Interface	▪ VGA : Up to 1920 x 1200 @60Hz ▪ DVI-I : 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	2 SATA III (Mini PCIe Type, 6Gbps)
M.2	▪ 1 M.2 Key M Socket (2280) (PCIe x4/SATA) ▪ 1 M.2 Key B Socket (2280) (PCIe x1/SATA, USB2.0, I2C Bus)
Storage Device	▪ 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 12.0
LAN 2	Intel® I210 GigE LAN

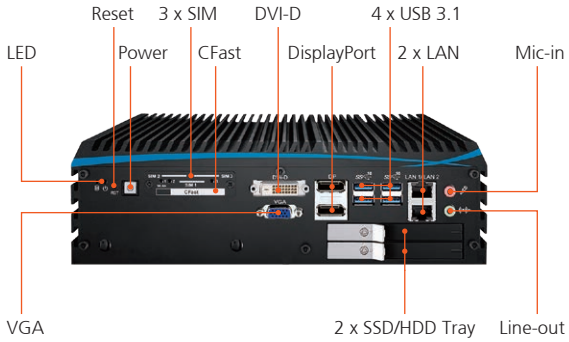
PoE	
LAN 3 to 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350
Power	
Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin terminal block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient Power
Others	
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, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.46" x 3.11")
Weight	4.5 kg (9.92 lb)
Mounting	▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional) ▪ 2U Rackmount (Optional)
Environment	
Operating Temperature	35W TDP CPU : -40°C to 75°C (-40°F to 167°F) 65W TDP CPU : -40°C to 55°C (-40°F to 131°F) 80W TDP CPU : -40°C to 45°C (-40°F to 113°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 75°C
Shock	▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis
EMC	CE, FCC, EN50155, EN50121-3-2

Dimensions

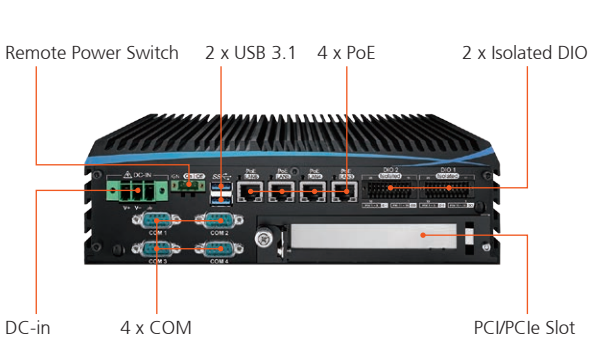
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

ECX-1210	ECX-1200, 6 GigE LAN w/4 PoE+, 2 SSD Tray, 1 PCIe x16, 6 USB 3.1, 4 COM, 3 SIM, 32 Isolated DIO
ECX-1201	ECX-1200, 6 GigE LAN w/4 PoE+, 2 SSD Tray, 1 PCI, 6 USB 3.1, 4 COM, 3 SIM, 32 Isolated DIO

Accessories

DDR4 32G	Certified DDR4 32GB 2666MHz RAM
DDR4 16G	Certified DDR4 16GB 2666/2400/2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2666/2400/2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2666/2400/2133MHz 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
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
VESA Mount	VESA Mounting Kit
DIN-RAIL Kit	DIN Rail and VESA Mounting 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
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

CPU List

Series	CPU	Cores	GHz	TDP (W)	ECC RAM
Intel® Xeon®	E-2176G	6	4.6	80	Yes
	E-2124G	4	4.5	71	
	E-2278GE	8	4.7	80	
	E-2278GEL	8	3.9	35	
	E-2226GE	6	4.6	80	
Intel® Core™	i7-8700	6	4.6	65	N/A
	i7-8700T	6	4	35	
	i7-9700E	8	4.4	65	
	i7-9700TE	8	3.8	35	
	i5-8500	6	4.1	65	
	i5-8500T	6	3.5	35	
	i5-9500E	6	4.2	65	
	i5-9500TE	6	3.6	35	
	i3-8100	4	3.6	65	Yes
	i3-8100T	4	3.1	35	
	i3-9100E	4	3.7	65	
	i3-9100TE	4	3.2	35	

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