Vecow

ECX-1200/1100 Series

9th Generation Intel® Xeon®/Core™ i7/i5/i3 Processor Expandable Fanless Embedded System

- 8 Cores 9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) with workstation-grade Intel® C246 Chipset
- 2 DDR4 2666MHz Memory, up to 64GB (ECC/Non-ECC)
- 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 M12 IEEE 802.3at PoE+
- 32 Isolated DIO, 6 USB 3.1, 4 COM RS-232/422/485
- PCIe x16 expansion supports up to 200W Power Budget
- Expansion : 1 PCIe/PCI, 2 Mini PCIe/mSATA, 1 M.2
- Storage : 2 2.5" SSD Tray, 1 CFast, 2 M.2, 2 SATA III
- Display : VGA, DVI-D & 2 DisplayPort interfaces, up to 4K resolution
- 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

Rolling Stock

Factory Automation

Intelligent Control

Smart Manufacturing

M12 | 10 | 4K | PoE | Isolated DIO | M.2 | SIM | TPM | 6V~36V | 80V | -40° | 75°

EN50155 | CE | FC | RoHS

Specifications

System

Processor	8 Cores Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S)
Chipset	Intel® C246
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2666MHz SO-DIMM, up to 64GB (ECC/Non-ECC)
OS	Windows 10, Linux

I/O Interface

Serial	4 COM RS-232/422/485 (ESD 8KV)
USB	- 6 USB 3.1 (External) - 1 USB 2.0 (Internal)
Isolated DIO	**ECX-1200 :** 32 Isolated DIO : 16 DI, 16 DO **ECX-1100 :** 16 GPIO
LED	Power, HDD, PoE, Wireless
SIM Card	3 External SIM Card Socket

Expansion

Mini PCIe	2 Full-size for PCIe/USB/External SIM Card/mSATA
PCI/PCIe	1 PCIe/PCI Slot
M.2	1 M.2 Key E Socket
SUMIT A, B	2 SUMIT Slot (Optional)

Graphics

Graphics Processor	Intel® UHD Graphics 630
Interface	- 1 VGA : Up to 1920 x 1200 @60Hz - 1 DVI-D : Up to 1920 x 1200 @60Hz - 2 DisplayPort : Up to 4096 x 2304 @60Hz

Storage

SATA	2 SATA III (6Gbps) supports S/W RAID 0, 1
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
M.2	- 1 M.2 Key M Socket - 1 M.2 Key B Socket
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 (ECX-1200)

LAN 3 to LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350, M12 Connector (ECX-1200M)

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
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 Mgmt.	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

Mechanical

Dimensions	260mm x 215mm x 79mm (10.24" 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 Temp.	**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 Temp.	-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

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Order Information

Model Name	GigE LAN	M12 PoE+	PoE+	SSD Tray	PCIe x16	PCI	USB 3.1	COM	SIM	Isolated DIO	GPIO
ECX-1210M	6	4	-	2	1	-	6	4	3	32	-
ECX-1210	6	-	4	2	1	-	6	4	3	32	-
ECX-1201M	6	4	-	2	-	1	6	4	3	32	-
ECX-1201	6	-	4	2	-	1	6	4	3	32	-
ECX-1110	2	-	-	2	1	-	6	4	3	-	16
ECX-1101	2	-	-	2	-	1	6	4	3	-	16

CPU List

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

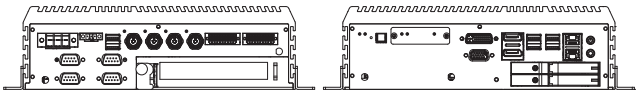
Accessories

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

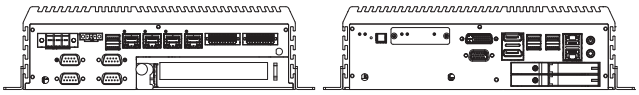
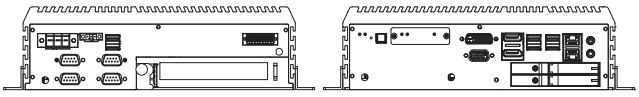
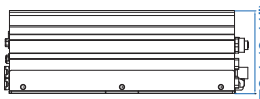
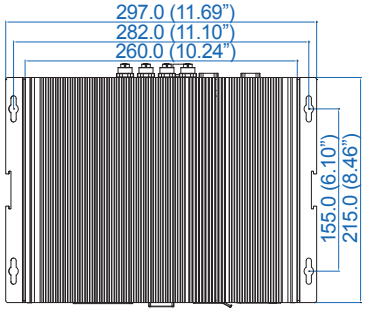
Dimensions & Drawing

Unit : mm (inch)

ECX-1210M/1201M



ECX-1210/1201



ECX-1110/1101