ECX 1200/1100 AIO

9th Generation Intel® Xeon®/Core™ i7/i5/i3 Processor (Coffee Lake Refresh)
Analog I/O Fanless Embedded System



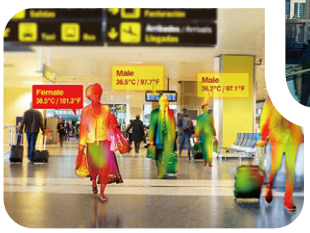
Smart Factory





- 8 Cores 9th Gen Intel® Xeon®/Core™ i7/i5/i3 Processor (Coffee Lake Refresh) with workstation-grade Intel® C246 Chipset
- Fanless, 0°C to 70°C Operating Temperature
- 32-channel 16-bit Analog Input, 2-channel 16-bit Analog Output
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+
- Optional VHub One-Stop AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications

Public Surveillance





Rolling Stock

intel partner Gold IoT Solutions

Analog IO 6V~36V PoE M.2 5G

Vecow

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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 Memory, 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-1200AIO :** 32 Isolated DIO : 16 DI, 16 DO **ECX-1100AIO :** 16 GPIO
Analog Input	- 32-channel Single End/16-channel Differential - Resolution : 16-bit - Input Range : -10V to 10V, -5V to 5V, 0V to 10V, 0V to 5V (Programmable)
Analog Output	- 2-channel - Resolution : 16-bit - Output Range : -10V to 10V
LED	Power, HDD, PoE, Wireless
SIM Card	3 External SIM Card Socket

Expansion

Mini PCIe	2 Mini PCIe sockets for PCIe/USB/SIM Card/Optional mSATA
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, 1 DVI-D : Up to 1920 x 1200 @60Hz - 2 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 - 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 ALC888S-VD, 7.1 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 LAN 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
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	4.6 kg (10.1 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional) - 2U Rackmount (Optional)

Environment

Operating Temp.	**35W TDP CPU :** 0°C to 70°C (32°F to 158°F) **65W TDP CPU :** 0°C to 55°C (32°F to 131°F) **80W TDP CPU :** 0°C to 45°C (32°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% @70°C
Shock/Vibration	- IEC 61373 : 2010 - Railway Applications : Rolling Stock Equipment, Shock and Vibration Tests
EMC	CE, FCC, EN50155, EN50121-3-2

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EN50155 CE FC RoHS

Order Information

Model	GigE LAN	PoE+	SSD Tray	USB 3.1	COM	SIM	AI	AO	Isolated DIO	GPIO
ECX-1200 AIO	6	4	2	6	4	3	32	2	32	-
ECX-1100 AIO	2	-	2	6	4	3	32	2	-	16

** Fan Sinks are required for high TDP CPU systems (80W, 95W)

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	Y
					E-2278GEL	8	3.9	35	
	E-2124G	4	4.5	71	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	4.0	35	i7-9700TE	8	3.8	35	
	i5-8500	6	4.1	65	i5-9500E	6	4.2	65	
	i5-8500T	6	3.5	35	i5-9500TE	6	3.6	35	
	i3-8100	4	3.6	65	i3-9100E	4	3.7	65	Y
	i3-8100T	4	3.1	35	i3-9100TE	4	3.2	35	

Optional Software

VHub AI Developer	AI Development Kit
VHub ROS	AMR Development Kit

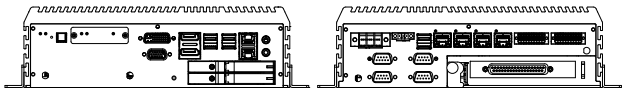
Accessories

DDR4 32G	Certified DDR4 32GB 2666MHz RAM
DDR4 16G	Certified DDR4 16GB 2666MHz RAM
DDR4 8G	Certified DDR4 8GB 2666MHz RAM
DDR4 4G	Certified DDR4 4GB 2666MHz 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-180WB	180W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
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-330WB	330W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
VESA Mount	VESA Mounting Kit
DIN-RAIL	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
TMK2-37P-150	Terminal Block 37-pin to Terminal Block 37-pin Cable, 150cm
TMK2-37P-300	Terminal Block 37-pin to Terminal Block 37-pin Cable, 300cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
TMB-TMBK-37P	Terminal Board with One 37-pin Terminal Block Connector and DIN-Rail Mounting
M.2 Storage Module	M.2 Key M/Key B PCIe Storage Module
5G Module	5G Module with Antenna
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

Dimensions & Drawing

Unit : mm (inch)

ECX-1200 AIO



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