

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



Vecow

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 5W 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 |

* All product information may subject to change without prior notice.

* The rights of all brand names, product names and trademarks belong to their respective owners.
Copyright © 2022 Vecow Co., Ltd. All rights reserved.

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-2124G | 4 | 4.5 | 71 | E-2278GEL | 8 | 3.9 | 35 | |
| 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 | |
| | i3-8100T | 4 | 3.1 | 35 | i3-9100TE | 4 | 3.2 | 35 | Y |

Optional Software

| | |
|-------------------|---------------------|
| VHub AI Developer | AI Development Kit |
| VHub ROS | AMR Development Kit |

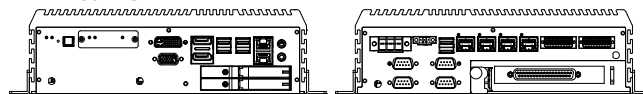
Accessories

| | |
|--------------------|--|
| 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



ECX-1100 AIO

