

ECX-1200/1100 SERIES COMPUTER

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



Specifications

ECX-1200/1100 Series-20190719

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

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

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

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

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|-----------------|--------------------------------------|
| Audio Codec | Realtek ALC892, 5.1 Channel HD Audio |
| Audio Interface | 1 Mic-in, 1 Line-out |

Ethernet

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

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|------------------|---|
| 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-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 | Yes |
| | i3-8100 | 4 | 3.6 | 65 | i3-9100E | 4 | 3.7 | 65 | |
| | i3-8100T | 4 | 3.1 | 35 | i3-9100TE | | 3.2 | 35 | |

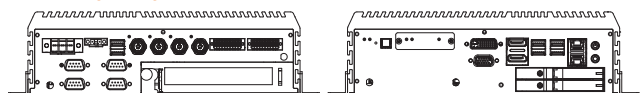
Accessories

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

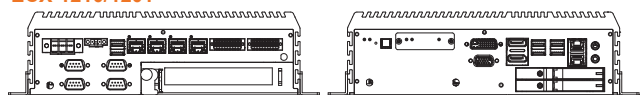
Dimensions & Drawing

Unit : mm (inch)

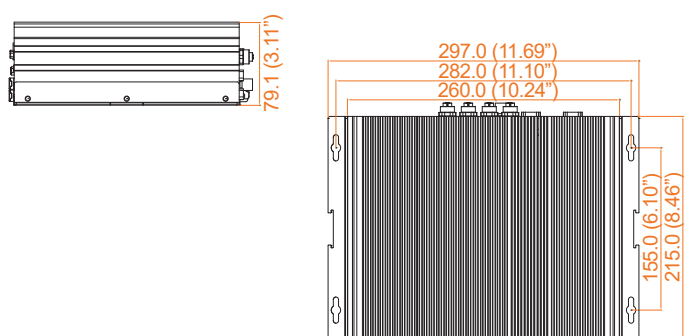
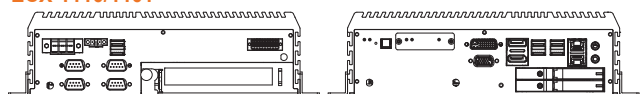
ECX-1210M/1201M



ECX-1210/1201



ECX-1110/1101



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