

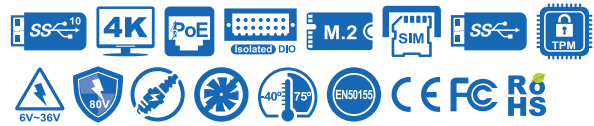
ECX-1420/1320

8th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake) Expandable Fanless System with Intel® C246 Chipset, 6 GigE LAN with 4 PoE+, 4 Front-access SSD Tray, 1 PCIe x16, 1 PCIe x4, 6 USB 3.1, 2 M.2 Socket, 3 SIM, 32 Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- 6 Cores 8th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake-S) with workstation-grade Intel® C246 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+
- 32 Isolated DIO, 6 USB 3.1, 4 COM RS-232/422/485
- Storage : 4 2.5" SSD Tray, 1 CFAST, 1 M.2, 4 SATA III
- Expansion : 1 PCIe x16, 1 PCIe x4, 2 Mini PCIe/mSATA, 1 M.2
- PCIe x16 expansion supports up to 200W Power Budget
- 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



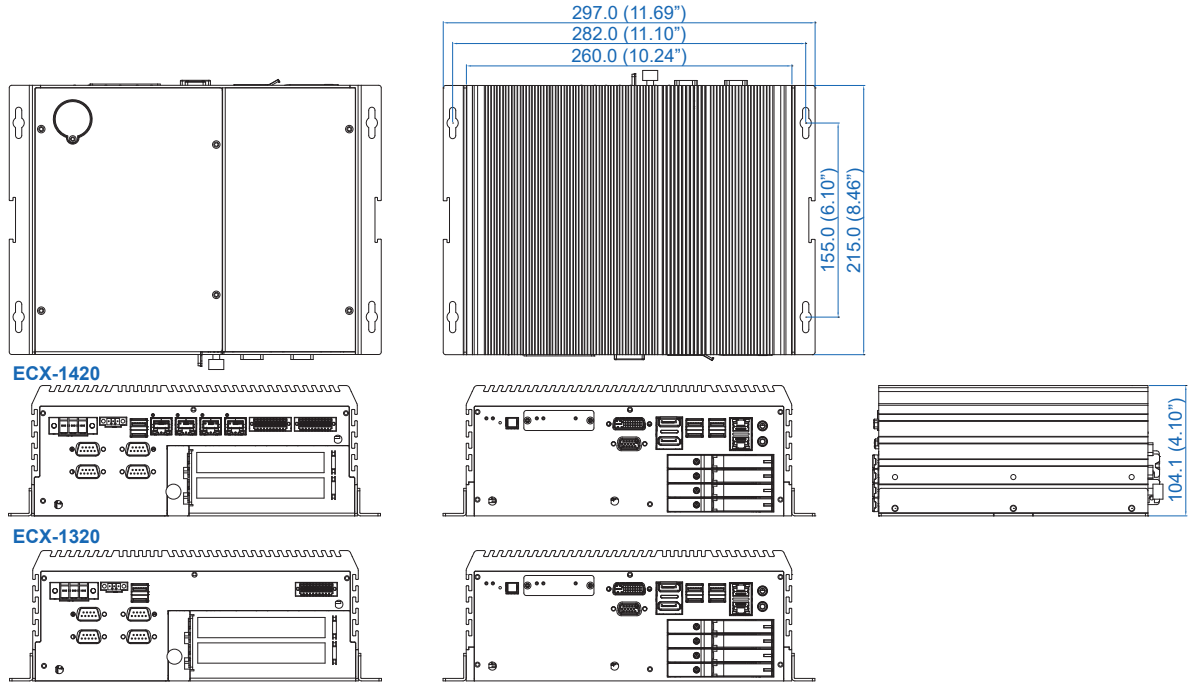
Specifications

| System | |
|--------------------|--|
| Processor | Intel® Xeon®/Core™ i7/i5/i3 Processor (Coffee Lake-S) |
| Chipset | Intel® C246 |
| BIOS | AMI |
| SIO | IT8786E |
| Memory | 2 DDR4 2666MHz SO-DIMM, up to 32GB |
| I/O Interface | |
| Serial | 4 COM RS-232/422/485 (ESD 8KV) |
| USB | <ul style="list-style-type: none"> ▪ 6 USB 3.1 (6 External) ▪ 1 USB 2.0 (Internal) |
| Isolated DIO | ECX-1420 : 32 Isolated DIO : 16 DI, 16 DO ECX-1320 : 16 GPIO |
| LED | Power, HDD, Wireless, PoE (ECX-1400) |
| SIM Card | 3 External SIM Card Socket |
| Expansion | |
| Mini PCIe | 2 Full-size for PCIe/USB/External SIM Card/mSATA |
| PCIe | <ul style="list-style-type: none"> ▪ 1 PCIe x16 ▪ 1 PCIe x4 |
| M.2 | 1 M.2 Key E Socket |
| SUMIT A, B | 2 SUMIT Slot (Optional) |
| Graphics | |
| Graphics Processor | Intel® UHD Graphics P630/630 |
| Interface | <ul style="list-style-type: none"> ▪ 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 | 4 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10 |
| mSATA | 2 SATA III (Mini PCIe Type, 6Gbps) |
| M.2 | 1 M.2 Key B Socket |
| Storage Device | <ul style="list-style-type: none"> ▪ 1 CFAST Socket, Push-in/Push-out Ejector ▪ 4 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 |

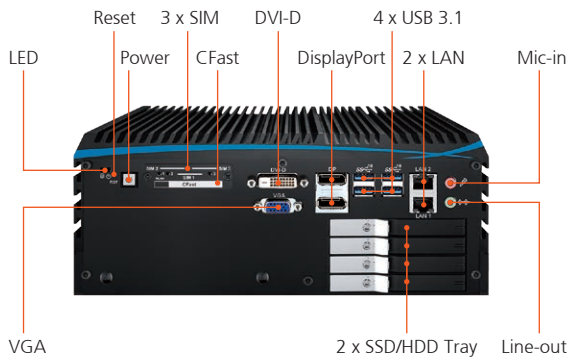
| PoE (ECX-1400) | |
|------------------------|---|
| LAN 3 to 6 | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 |
| Power | |
| Power Input | 6V to 36V, DC-in |
| Power Interface | 3-pin Terminal Block : V+, V-, Frame Ground |
| Ignition Control | 16 Mode (Internal) |
| Remote Switch | 3-pin terminal 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 104.1mm (10.2" x 8.46" x 4.0") |
| Weight | 5.5 kg (12.13 lb) |
| Mounting | <ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (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 | <ul style="list-style-type: none"> ▪ IEC 60068-2-27 ▪ SSD : 50G @ wallmount, Half-sine, 11ms |
| Vibration | <ul style="list-style-type: none"> ▪ IEC 60068-2-64 ▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis |
| EMC | CE, FCC, EN50155, EN50121-3-2 |

Dimensions

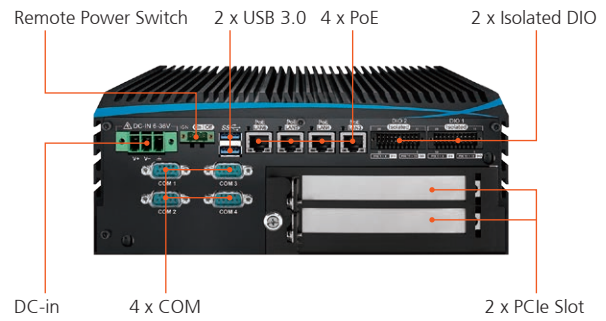
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

| | |
|-----------------|--|
| ECX-1420 | ECX-1400, 6 GigE LAN w/4 PoE+, 4 SSD Tray, 1 PCIe x16, 1 PCIe x4, 6 USB 3.1, 4 COM, 3 SIM, 32 Isolated DIO |
| ECX-1320 | ECX-1300, 2 GigE LAN, 4 SSD Tray, 1 PCIe x16, 1 PCIe x4, 6 USB 3.1, 4 COM, 3 SIM, 16 GPIO |

Accessories

| | |
|-----------------------------|---|
| DDR4 16G | Certified DDR4 16GB 2666MHz RAM |
| DDR4 8G | Certified DDR4 8GB 2666MHz RAM |
| DDR4 4G | Certified DDR4 4GB 2666MHz RAM |
| PWA-160W-WT | 160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C |
| PWA-280W-WT | 280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C |
| VESA Mount | VESA Mounting Kit |
| DIN-RAIL | DIN Rail 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 | Cache (MB) | Turbo Freq. (GHz) | TDP (W) | ECC Memory |
|--------------|----------|------------|-------------------|---------|------------|
| Intel® Xeon® | E-2176G | 12 | 4.6 | 80 | Yes |
| | E-2124G | 8 | 4.5 | 71 | |
| Intel® Core™ | i7-8700 | 12 | 4.6 | 65 | NA |
| | i7-8700T | 12 | 4.0 | 35 | |
| | i5-8500 | 9 | 4.1 | 65 | NA |
| | i5-8500T | 9 | 3.5 | 35 | |
| | i3-8100 | 6 | 3.6 | 65 | |
| | i3-8100T | 6 | 3.1 | 35 | Yes |