

ECX-1000-4G

9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) Fanless Embedded System with Intel® C246 Chipset, 4 GigE LAN, 6 USB 3.1, 2 M.2 Socket, 16 GPIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



Features

- 8 Cores 9th Generation Intel® Xeon®/Core™ i7/i5/i3 Processor (Coffee Lake Refresh) with Intel® C246 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 4 Independent GigE LAN, iAMT 12.0 supported
- SIM Sockets for WiFi/4G/3G/LTE/GPRS/UMTS
- 2 SIM Socket, 1 CFast Socket, 2 M.2 Socket
- 6 USB 3.1, 4 COM RS-232/422/485, 16 GPIO
- Expansion : SUMIT A, B, M.2, up to 5 Mini PCIe
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



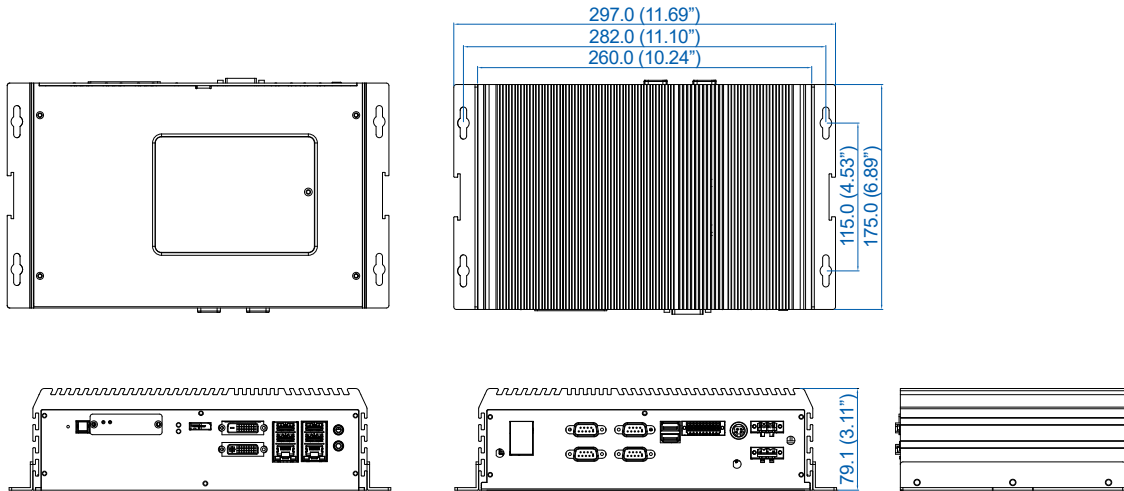
Specifications

| System | |
|--------------------|---|
| Processor | Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S) |
| Chipset | Intel® C246 |
| BIOS | AMI |
| SIO | IT8786E |
| Memory | 2 DDR4 2666MHz SO-DIMM, up to 64GB (ECC/Non-ECC) |
| 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 | 16 GPIO |
| LED | Power, HDD, Wireless |
| SIM Card | 2 External SIM Card Socket |
| Expansion | |
| Mini PCIe | 2 Full-size Mini PCIe Socket for PCIe/USB/External SIM Card/ mSATA |
| M.2 | 1 M.2 Key E Socket |
| SUMIT A, B | 2 SUMIT Slot (Optional) |
| Graphics | |
| Graphics Processor | Intel® UHD Graphics 630 |
| Interface | <ul style="list-style-type: none"> ▪ DVI-I : Up to 1920 x 1200 @60Hz ▪ DVI-D : Up to 1920 x 1080 @60Hz ▪ 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) |
| Storage Device | <ul style="list-style-type: none"> ▪ 1 CFast Socket, Push-in/Push-out Ejector ▪ 2 2.5" SSD/HDD Bracket (Internal) ▪ 1 M.2 Key M Socket |
| 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 |
| LAN 3 | Intel® I210 GigE LAN |
| LAN 4 | Intel® I210 GigE LAN |

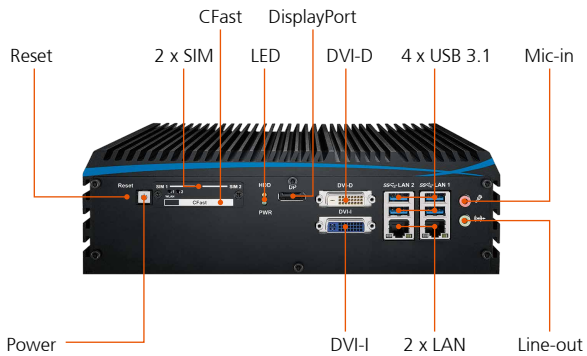
| Power | |
|------------------------|---|
| Power Input | 6V to 36V, DC-in |
| Power Interface | 3-pin Terminal Block : V+, V-, Frame Ground |
| Ignition Control | 16 Mode (Internal) |
| Remote Switch | 3-pin Terminal Block : On, Off, IGN |
| Surge Protection | Up to 80V/1ms Transient Power |
| Others | |
| 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 175mm x 79mm (10.2" x 6.9" x 3.1") |
| Weight | 3.8 kg (8.38 lb) |
| Mounting | <ul style="list-style-type: none"> ▪ Wallmount by mounting bracket ▪ DIN Rail Mount (Optional) ▪ 2U Rackmount (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

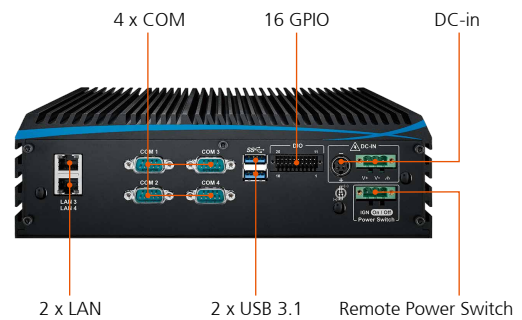
Unit : mm/ inch



Front I/O



Rear I/O



Order Information

| | |
|--------------------|--|
| ECX-1000-4G | ECX-1000, 4 GigE LAN, 4 COM, 2 SIM, 6 USB 3.1, 16 GPIO |
|--------------------|--|

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-120W | 120W, 24V, 90VAC to 264VAC Power Adapter with 3-pin Terminal Block |
| 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-180W | 180W, 24V, 90V AC to 132V AC/ 180V AC to 264V AC Power Adapter with 3-pin Terminal Block, 0°C to +40°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 |
| 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 |

CPU List

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