

# ECS-9000-PoE

Quad Core Intel® Xeon®/Core™ i7/i5/i3 (Kaby Lake) Fanless Embedded System with Intel® C236 Chipset, 6 GigE LAN with 4 PoE+, 3 SIM, 6 USB 3.0, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



## Features

- LGA 1151 Socket supports workstation-grade Intel® Xeon®/Core™ i7/i5/i3 Processor with Intel® C236 Chipset
- Fanless, -40°C to 75°C Operating Temperature
- 6 GigE LAN with 4 IEEE 802.3at PoE+, iAMT 11.0 supported
- DVI-I, DVI-D and DisplayPort display interface, up to 4K display
- Front-access : 3 SIM Socket, 1 CFast, 4 USB 3.0
- 3 Mini PCIe for WiFi/4G/3G/LTE/GPRS/UMTS
- 16 Isolated DIO, 4 COM, 6 USB 3.0
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



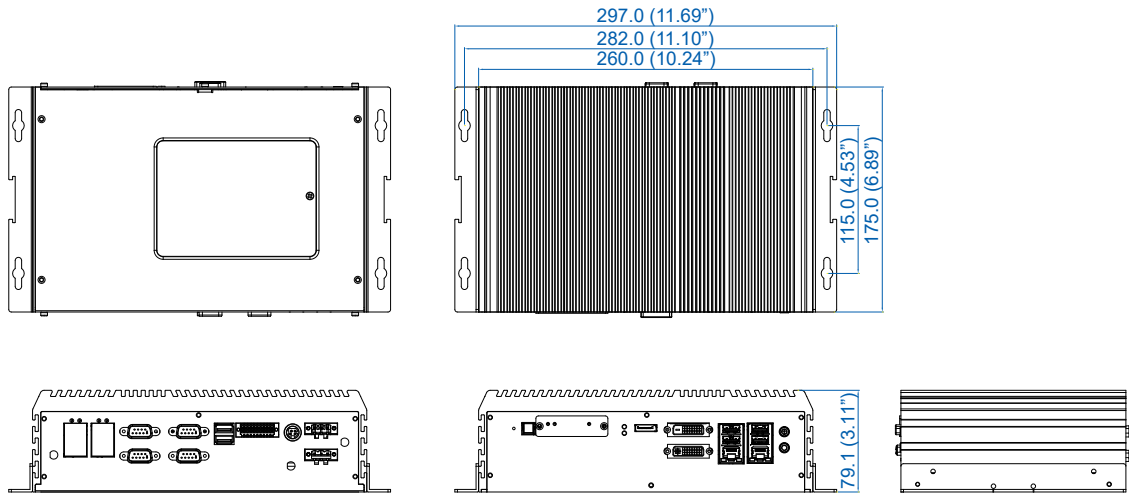
## Specifications

| System                    |   |
|---------------------------|---|
| <b>Processor</b>          | Intel® Xeon®/Core™ i7/i5/i3 Processor (Kaby Lake-S/Skylake-S)   |
| <b>Chipset</b>            | Intel® C236   |
| <b>BIOS</b>               | AMI   |
| <b>SIO</b>                | IT8786E   |
| <b>Memory</b>             | 2 DDR4 2400/2133 MHz SO-DIMM, up to 64GB  |
| I/O Interface             |   |
| <b>Serial</b>             | 4 COM RS-232/422/485  |
| <b>USB</b>                | <ul style="list-style-type: none"> <li>▪ 6 USB 3.0 (External)</li> <li>▪ 1 USB 2.0 (Internal)</li> </ul>  |
| <b>Isolated DIO</b>       | 16 Isolated DIO : 8 DI, 8 DO  |
| <b>LED</b>                | Power, HDD, Wireless, PoE   |
| <b>SIM Card</b>           | 3 SIM Card Socket (External)  |
| Expansion                 |   |
| <b>Mini PCIe</b>          | 3 Mini PCIe Socket : <ul style="list-style-type: none"> <li>▪ 2 Full-size for PCIe/USB/External SIM Card/mSATA</li> <li>▪ 1 Half-size for PCIe/USB 3.0/External SIM Card</li> </ul> |
| <b>SUMIT A, B</b>         | 2 SUMIT Slot (Optional)   |
| Graphics                  |   |
| <b>Graphics Processor</b> | Intel® HD Graphics P630/630/P530/530  |
| <b>Display Memory</b>     | Shared Memory, up to 1.7GB  |
| <b>Interface</b>          | <ul style="list-style-type: none"> <li>▪ DVI-I : Up to 1920 x 1200 @ 60Hz</li> <li>▪ DVI-D : Up to 1920 x 1200 @ 60Hz</li> <li>▪ DisplayPort : Up to 4096 x 2304 @ 60Hz</li> </ul>  |
| Storage                   |   |
| <b>SATA</b>               | 2 SATA III (6Gbps)  |
| <b>mSATA</b>              | 2 SATA III (Mini PCIe Type, 6Gbps)  |
| <b>SATA DOM</b>           | 1 SATA II (3Gbps)   |
| <b>Storage Device</b>     | <ul style="list-style-type: none"> <li>▪ 1 CFast Socket, Push-in/Push-out Ejector</li> <li>▪ 2 2.5" SSD/HDD Bracket (Internal)</li> </ul>   |
| Audio                     |   |
| <b>Audio Codec</b>        | Realtek ALC888S-VD, 7.1 Channel HD Audio  |
| <b>Audio Interface</b>    | 1 Mic-in, 1 Line-out  |
| Ethernet                  |   |
| <b>LAN 1</b>              | Intel® I219LM GigE LAN supports iAMT 11.0   |
| <b>LAN 2</b>              | Intel® I210 GigE LAN  |
| PoE                       |   |
| <b>LAN 3</b>              | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210   |
| <b>LAN 4</b>              | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210   |

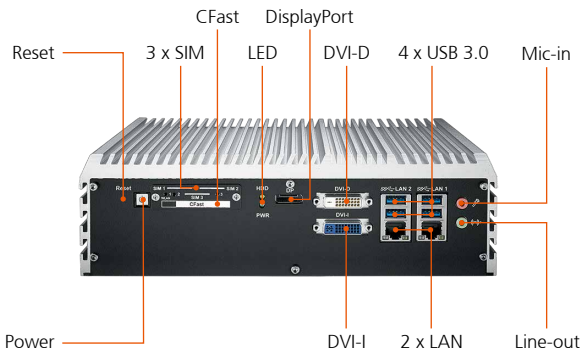
| <b>LAN 5</b>                 | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210  |
|------------------------------|--|
| <b>LAN 6</b>                 | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210  |
| Power                        |  |
| <b>Power Input</b>           | 6V to 36V, DC-in   |
| <b>Power Interface</b>       | <ul style="list-style-type: none"> <li>▪ 3-pin Terminal Block : V+, V-, Frame Ground</li> <li>▪ Mini-DIN 4-pin</li> </ul>  |
| <b>Ignition Control</b>      | 16 Mode (Internal)   |
| <b>Remote Switch</b>         | 3-pin Terminal Block : On, Off, IGN  |
| <b>Surge Protection</b>      | Up to 80V/1ms Transient Power  |
| Others                       |  |
| <b>TPM</b>                   | Optional Infineon SLB9665 supports TPM 2.0, LPC Interface  |
| <b>Watchdog Timer</b>        | Reset : 1 to 255 sec./min. per step  |
| <b>Smart Management</b>      | Wake on LAN, PXE supported   |
| <b>HW Monitor</b>            | Monitoring temperature, voltages. Auto throttling control when CPU overheats.  |
| Software Support             |  |
| <b>OS</b>                    | Windows 10, Windows 8.1, Windows 7, Linux  |
| Mechanical                   |  |
| <b>Dimensions</b>            | 260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")  |
| <b>Weight</b>                | 3.8 kg (8.38 lb)   |
| <b>Mounting</b>              | <ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> <li>▪ 2U Rackmount (Optional)</li> </ul>  |
| Environment                  |  |
| <b>Operating Temperature</b> | <b>35W TDP CPU :</b> <ul style="list-style-type: none"> <li>▪ Core™ i7, i5, i3 : -40°C to 75°C (-40°F to 167°F)</li> <li>▪ Xeon® E3-1268L v5 : -40°C to 70°C (-40°F to 158°F)</li> </ul> <b>65W TDP CPU :</b> <ul style="list-style-type: none"> <li>▪ Core™ i7, i5, i3 : -40°C to 55°C (-40°F to 131°F)</li> </ul> <b>80W TDP CPU :</b> <ul style="list-style-type: none"> <li>▪ Xeon® E3-1275 v6, E3-1275 v5, E3-1225 v5 : -40°C to 45°C (-40°F to 113°F)</li> </ul> |
| <b>Storage Temperature</b>   | -40°C to 85°C (-40°F to 185°F)   |
| <b>Humidity</b>              | 5% to 95% Humidity, non-condensing   |
| <b>Relative Humidity</b>     | 95% @ 75°C   |
| <b>Shock</b>                 | <ul style="list-style-type: none"> <li>▪ IEC 60068-2-27</li> <li>▪ SSD : 50G @ wallmount, Half-sine, 11ms</li> </ul>   |
| <b>Vibration</b>             | <ul style="list-style-type: none"> <li>▪ IEC 60068-2-64</li> <li>▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis</li> </ul>  |
| <b>Certification</b>         | E13, CE, FCC, EN50155, EN50121-3-2   |

# Dimensions

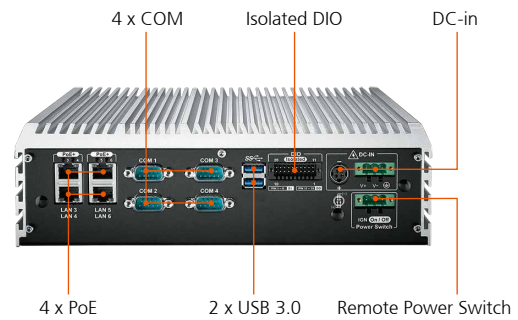
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

|                     |   |
|---------------------|---|
| <b>ECS-9000-PoE</b> | ECS-9000, 6 GigE LAN with 4 PoE*, 6 USB 3.0, 4 COM, 3 SIM, Isolated DIO |
|---------------------|---|

### Accessories

|                             |  |
|-----------------------------|--|
| <b>DDR4 32G</b>             | Certified DDR4 32GB 2666MHz RAM  |
| <b>DDR4 16G</b>             | Certified DDR4 16GB 2400/2133 MHz RAM  |
| <b>DDR4 8G</b>              | Certified DDR4 8GB 2400/2133 MHz RAM   |
| <b>DDR4 4G</b>              | Certified DDR4 4GB 2400/2133 MHz RAM   |
| <b>PWA-280W-WT</b>          | 280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C  |
| <b>PWA-180W</b>             | 180W, 24V, 90V AC to 132V AC/ 180V AC to 264V AC Power Adapter with 3-pin Terminal Block, 0°C to +40°C |
| <b>PWA-160W-WT</b>          | 160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C  |
| <b>PWA-120W</b>             | 120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block                                   |
| <b>PWA-120WM4P</b>          | 120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector                               |
| <b>VESA Mount</b>           | VESA Mounting Kit  |
| <b>DIN-RAIL Kit</b>         | DIN Rail and VESA Mounting Kit   |
| <b>Rack Mount</b>           | 2U Rackmount Kit   |
| <b>TMK2-20P-100</b>         | Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm  |
| <b>TMK2-20P-500</b>         | Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm  |
| <b>TMB-TMBK-20P</b>         | Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting                          |
| <b>4G Module</b>            | Mini PCIe 4G/GPS Module with Antenna   |
| <b>WiFi &amp; Bluetooth</b> | WiFi & Bluetooth Module with Antenna   |

### CPU List

| Series       | CPU         | Cache (MB) | Turbo Freq. (GHz) | TDP (W) | ECC Memory |
|--------------|-------------|------------|-------------------|---------|------------|
| Intel® Xeon® | E3-1275 v6  | 8          | 4.2               | 80      | Yes        |
|              | E3-1275 v5  |            | 4                 | 80      |            |
|              | E3-1225 v5  |            | 3.7               | 80      |            |
|              | E3-1268L v5 |            | 3.4               | 35      |            |
| Intel® Core™ | i7-7700     | 8          | 4.2               | 65      | NA         |
|              | i7-7700T    |            | 3.8               | 35      |            |
|              | i7-6700     |            | 4                 | 65      |            |
|              | i7-6700TE   |            | 3.4               | 35      |            |
|              | i5-7500     | 6          | 3.8               | 65      | NA         |
|              | i5-7500T    |            | 3.3               | 35      |            |
|              | i5-6500     |            | 3.6               | 65      |            |
|              | i5-6500TE   | 3.3        | 35                |         |            |
|              | i3-7101E    | 3          | 3.9               | 65      | Yes        |
|              | i3-7101TE   |            | 3.4               | 35      |            |
| i3-6100      | 4           | 3.7        | 65                |         |            |
| i3-6100TE    |             | 2.7        | 35                |         |            |