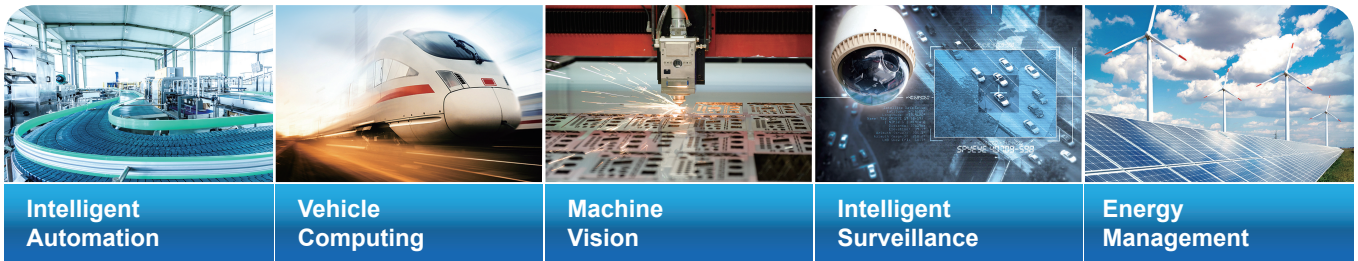


ECS-9000 Series

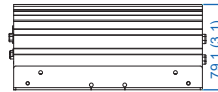
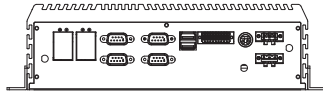
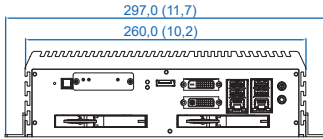
Quad Core Intel® Xeon®/Core™ i7/i5/i3 (Kayby Lake/Skylake) Fanless Embedded System with Intel® C236 Chipset, 9 GigE LAN with 4 PoE+, 2 Front-access SSD/HDD Tray, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



- LGA 1151 Socket supports workstation-grade Intel® Xeon®/Core™ i7/i5/i3 Processor with C236
- Fanless, -40°C to 75°C Operating Temperature
- 9 Independent GigE LAN with 4 IEEE 802.3at PoE+
- SIM Sockets for WiFi/4G/3G/LTE/GPRS/UMTS
- Front-access : 2 2.5 SSD Tray, 3 SIM, 1 CFast
- Supports multiple 10GigE Ethernet/10 GigE SFP+ Fiber LAN connections
- Up to 6 Mini PCIe expansions
- 16 Isolated DIO : 8 DI, 8 DO
- 6V to 36V DC-in with 80V Surge Protection
- Configurable Ignition Power Control



Dimensions & Drawing Unit: mm (inch)



Specifications

| System | |
|----------------------------|--|
| Processor | Quad Core Intel® Xeon®/Core™ i7/i5/i3 Processor (Kaby Lake-S/Skylake-S) |
| Chipset | Intel® C236 |
| BIOS | AMI |
| SIO | IT8786E |
| Memory | 2 DDR4 2400/2133 MHz SO-DIMM, up to 64GB |
| I/O Interface | |
| Serial | 4 COM RS-232/422/485 (ESD 8KV) |
| USB | • 6 USB 3.0 (External) • 1 USB 3.0 (Internal) |
| Isolated DIO | 16 Isolated DIO : 8 DI, 8 DO (Optional) |
| LED | Power, HDD, PoE |
| SIM Card | 3 SIM Card Socket (External) |
| Expansion | |
| Mini PCIe | 3 Mini PCIe Socket : • 2 Full-size for PCIe/USB/External SIM/mSATA • 1 Half-size for PCIe/USB 3.0/External SIM |
| SUMIT A, B | 2 SUMIT Slot (Optional) |
| Graphics | |
| Processor Interface | Intel® HD Graphics P630/630/P530/530 • DVI-I : Up to 1920 x 1200 @ 60Hz • DVI-D : Up to 1920 x 1200 @ 60Hz • DisplayPort : Up to 4096 x 2304 @ 60Hz |
| Storage | |
| SATA | 2 SATA III (6Gbps) |
| mSATA | 2 SATA III (Mini PCIe Type, 6Gbps) |
| SATA DOM | 1 SATA II (3Gbps)SSSS |
| Storage Device | • 1 CFast Socket, Push-in/ Push-out Ejector ECS-9000-9R, PoE, 6FR, 4R, 2R : 2 Front-access 2.5" SSD/HDD Tray ECS-9000-9GD, PoE, 6F, 4G, 2G : 2 2.5" SSD/HDD Bracket (Internal) |
| 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 11.0 |
| LAN 2 | Intel® I210 GigE LAN |
| LAN 7 to LAN 9 | Intel® I210 GigE LAN |

| PoE | |
|--------------------------|---|
| LAN 3 to LAN 6 | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210 |
| Fiber | |
| LAN 5 | 1000BASE SFP by Intel® I350 |
| LAN 6 | 1000BASE SFP by Intel® I350 |
| Power | |
| Power Input | 6V to 36V, DC-in |
| Power Interface | • 3-pin Terminal Block : V+, V-, Frame Ground • Mini-DIN 4-pin |
| 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, Windows 8.1, Windows 7, Linux |
| Mechanical | |
| Dimension | 260mm x 175mm x 79mm (10.2" x 6.9" x 3.1") |
| Weight | 3.8 kg (8.38 lb) |
| Mounting | • Wallmount by mounting bracket • DIN Rail Mount |
| Environment | |
| Operating Temp. | 35W TDP CPU : • Core™ i7, i5, i3 : -40°C to 75°C (-40°F to 167°F) • Xeon® E3-1268L v5 : -40°C to 70°C (-40°F to 158°F) 65W TDP CPU : Core™ i7, i5, i3 : -40°C to 55°C (-40°F to 131°F) 80W TDP CPU : Xeon® E3-1275 v6, E3-1275 v5, E3-1225 v5 : -40°C to 45°C (-40°F to 113°F) -40°C to 85°C (-40°F to 185°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 • IEC 60068-2-64 |
| Vibration | • SSD : 5Grms, 5Hz to 500Hz, 3 Axis |
| EMC | E13, CE, FCC, EN50155, EN50121-3-2 |

Order Information

| | |
|---------------------|---|
| ECS-9000-9R | • ECS-9000, 9 GigE LAN w/4 PoE+, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO |
| ECS-9000-9GD | • ECS-9000, 9 GigE LAN w/4 PoE+, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO |
| ECS-9000-PoE | • ECS-9000, 6 GigE LAN w/4 PoE+, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO |
| ECS-9000-PoE | • ECS-9000, 6 GigE LAN w/4 PoE+, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO |
| ECS-9000-6FR | • ECS-9000, 6 GigE LAN w/2 SFP, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO |
| ECS-9000-6F | • ECS-9000, 6 GigE LAN w/2 SFP, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO |
| ECS-9000-4R | • ECS-9000, 4 GigE LAN, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO |
| ECS-9000-4G | • ECS-9000, 4 GigE LAN, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO |
| ECS-9000-2R | • ECS-9000, 2 GigE LAN, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO |
| ECS-9000-2G | • ECS-9000, 2 GigE LAN, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO |

| | |
|-----------------------------|---|
| DDR4 32G | • Certified DDR4 32GB 2666MHz RAM |
| DDR4 16G | • Certified DDR4 16GB 2400/2133 MHz RAM |
| DDR4 8G | • Certified DDR4 8GB 2400/2133 MHz RAM |
| DDR4 4G | • Certified DDR4 4GB 2400/2133 MHz RAM |
| PWA-120W1 | • 120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block |
| PWA-120WM4P1 | • 120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector |
| 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 264V AC Power Adapter with 3-pin Terminal Block |
| PWA-280W-WT | • 280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C |
| 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 |
| VESA Mount | • VESA Mounting Kit |
| DIN-RAIL Kit | • DIN Rail and VESA Mounting Kit |
| Rack Mount | • 2U Rackmount Kit |
| 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® | E3-1275 v6 | 8 | 4.2 | 80 | Y |
| | 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 | Y |
| | i3-7101TE | | 3.4 | 35 | |
| i3-6100 | 3.7 | | 65 | | |
| i3-6100TE | 4 | 2.7 | 35 | | |

ECS-9000-20220118