

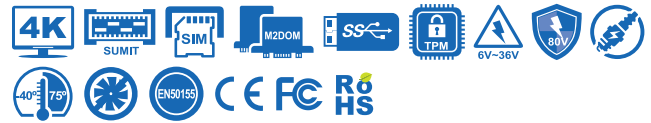
# ECS-9000-2G

Quad Core Intel® Xeon®/Core™ i7/i5/i3 (Kaby Lake) Fanless Embedded System with Intel® C236 Chipset, 2 GigE LAN, 3 SIM, 6 USB 3.0, M2DOM, 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
- 2 Independent GigE LAN, 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
- M2DOM supports up to 8GT/s data rate
- 4 COM, 6 USB 3.0, 16 GPIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



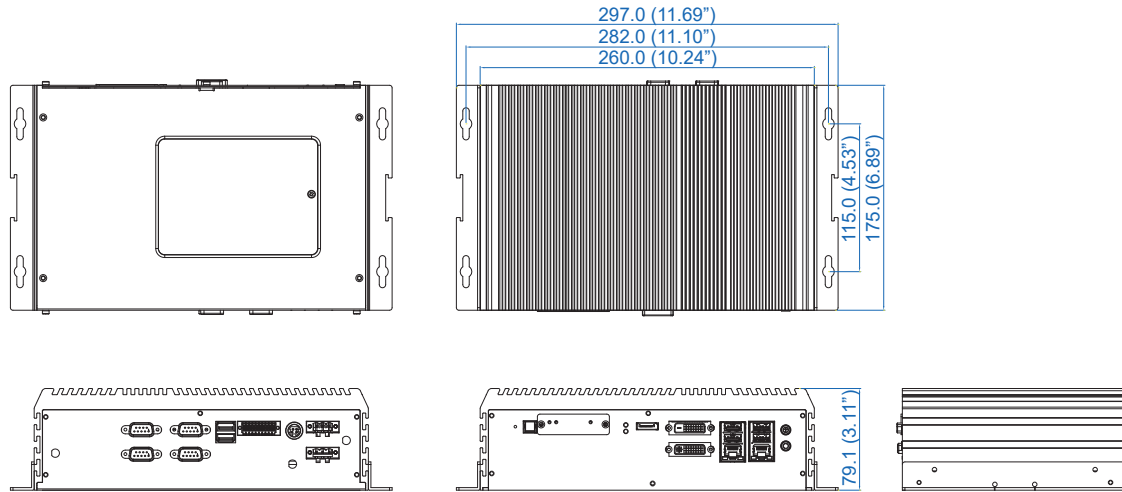
## Specifications

System	
Processor	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 32GB
I/O Interface	
Serial	4 COM RS-232/422/485 (Optional supports additional 4 COM RS-232/422/485)
USB	<ul style="list-style-type: none"> <li>▪ 6 USB 3.0 (External)</li> <li>▪ 1 USB 2.0 (Internal)</li> </ul>
GPIO	16 GPIO
LED	Power, HDD, Wireless
SIM Card	3 SIM Card Socket (External)
Expansion	
Mini PCIe	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>
SUMIT A, B	2 SUMIT Slot (Optional)
Graphics	
Graphics Processor	Intel® HD Graphics P630/630/P530/530
Display Memory	Shared Memory, up to 1.7GB
Interface	<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	
SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/SATA III (6Gbps)
Storage Device	<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	
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 11.0
LAN 2	Intel® I210 GigE LAN

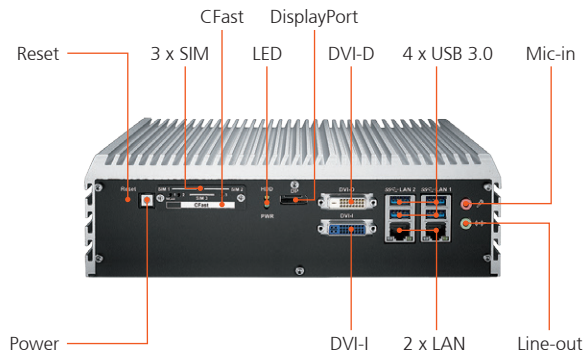
Power	
Power Input	6V to 36V, DC-in
Power Interface	<ul style="list-style-type: none"> <li>▪ 3-pin Terminal Block : V+, V-, Frame Ground</li> <li>▪ Mini-DIN 4-pin</li> </ul>
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block : On, Off, IGN
Surge Protection	Up to 80V/1ms Transient 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	
Dimensions (W x L x H)	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	<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	
Operating Temperature	<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>
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-27, EN50155 compliant</li> <li>▪ SSD : 50G @ wallmount, Half-sine, 11ms</li> </ul>
Vibration	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-64, EN50155 compliant</li> <li>▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis</li> </ul>
Certification	CE, FCC, EN50155, EN50121-3-2

## Dimensions

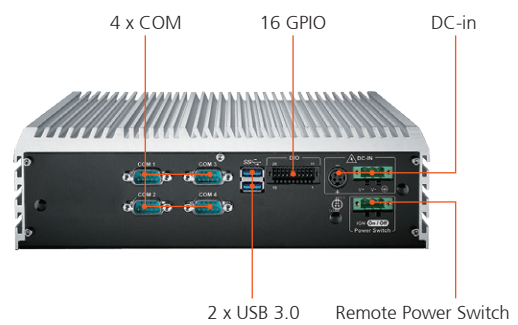
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

ECS-9000-2G	ECS-9000, 2 GigE LAN, M2DOM, 6 USB 3.0, 4 COM, 3 SIM, 16 GPIO
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### Accessories

<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-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-120W-M4P</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</b>	DIN Rail 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	Yes	
	i3-7101E	3	3.9		65
	i3-7101TE		3.4		35
i3-6100	4	3.7	65		
i3-6100TE		2.7	35		