

# ECS-9601

Quad Core Intel® Xeon®/ Core™ i7/ i5 (Skylake-H) Fanless Embedded System with Intel® CM236, 2 GigE LAN, 2 Front-access SSD Tray, 1 PCI, 4 SIM, 6 USB 3.0, 16 Isolated DIO, High Performance, Rugged, Extended Temperature



## Features

- Quad Core Intel® Xeon®/ Core™ i7/ i5 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- 1 PCI Expansion Slot, 4 Mini PCIe/ mSATA
- Front-access : 2 2.5" SSD Tray, 3 SIM Socket, 4 USB 3.0
- 4 SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- 16 Isolated DIO, 6 USB 3.0, 4 COM
- Optional supports full function SUMIT A, B



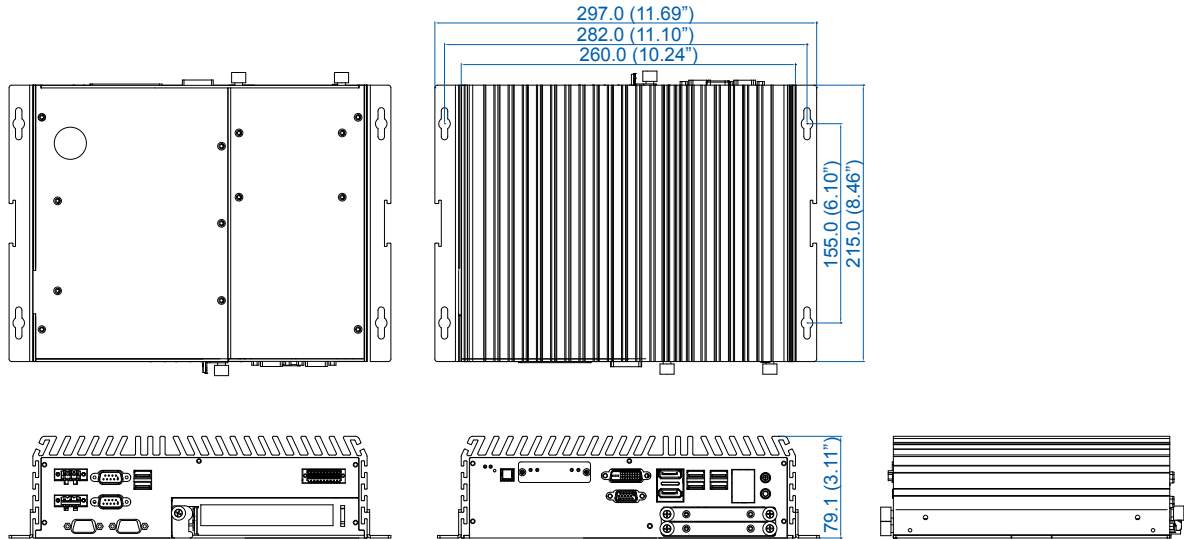
## Specifications

System	
<b>Processor</b>	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
<b>Chipset</b>	Intel® CM236
<b>BIOS</b>	AMI
<b>SIO</b>	IT8786E
<b>Memory</b>	2 DDR4 2133MHz SO-DIMM, up to 32GB
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 : 4 Front, 4 Rear)</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
<b>SIM Card</b>	4 SIM Card Socket (3 External, 1 Internal)
Expansion	
<b>Mini PCIe</b>	4 Mini PCIe Socket : <ul style="list-style-type: none"> <li>▪ 3 Full-size for PCIe/ USB/ External SIM Card/ mSATA</li> <li>▪ 1 Full-size for PCIe/ Internal SIM Card/ mSATA</li> </ul>
<b>PCI/ PCIe</b>	1 PCI Slot
<b>SUMIT A, B</b>	2 SUMIT Slot (Optional)
Graphics	
<b>Graphics Processor</b>	Intel® HD Graphics P530/ 530
<b>Interface</b>	<ul style="list-style-type: none"> <li>▪ VGA : Up to 1920 x 1200 @ 60Hz</li> <li>▪ DVI-D : Up to 1920 x 1200 @ 60Hz</li> <li>▪ DisplayPort 1 : Up to 4096 x 2304 @ 60Hz</li> <li>▪ DisplayPort 2 : Up to 4096 x 2304 @ 60Hz</li> </ul>
Storage	
<b>SATA</b>	4 SATA III support Software RAID 0, 1, 5, 10 : <ul style="list-style-type: none"> <li>▪ 3 SATA III (6Gbps)</li> <li>▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)</li> </ul>
<b>mSATA</b>	4 mSATA : <ul style="list-style-type: none"> <li>▪ 3 SATA III (Mini PCIe Type, 6Gbps)</li> <li>▪ 1 SATA III Co-Lay with SATA (Mini PCIe Type, 6Gbps)</li> </ul>
<b>Storage Device</b>	<ul style="list-style-type: none"> <li>▪ 1 CFast Socket, Push-in/ Push-out Ejector</li> <li>▪ 2 Front-access 2.5" SSD/ HDD Tray</li> </ul>
Audio	
<b>Audio Codec</b>	Realtek ALC892, 5.1 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

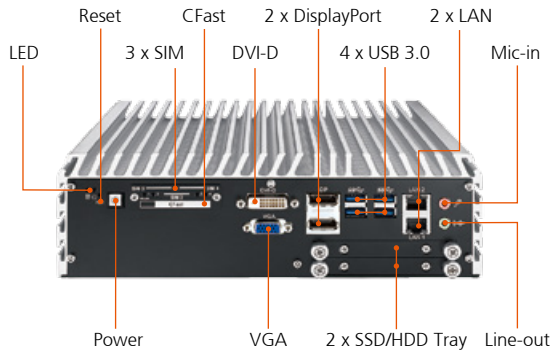
Power	
<b>Power Input</b>	6V to 36V, DC-in
<b>Power Interface</b>	3-pin Terminal Block : V+, V-, Frame Ground
<b>Ignition Control</b>	16 Mode (Internal)
<b>Remote Switch</b>	3-pin Terminal Block : On, Off, IGN
<b>Surge Protection</b>	Up to 80V/1ms Transient Power
Others	
<b>TPM</b>	Optional Infineon 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 (W x L x H)</b>	260mm x 215mm x 79mm (10.24" x 8.46" x 3.11")
<b>Weight</b>	3.5 kg (7.72 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>	-25°C to 70°C (-13°F to 158°F)
<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% @ 70°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>	CE, FCC, EN50155, EN50121-3-2

## Dimensions

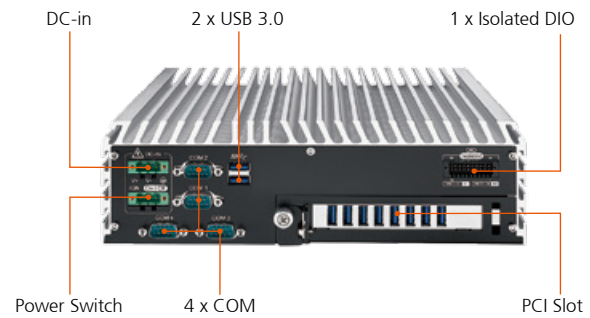
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

<b>ECS-9601-505M</b>	ECS-9600, Quad Core Intel® Xeon® E3-1505M v5, 2 GigE LAN, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
<b>IVH-9601-820Q</b>	ECS-9600, Quad Core Intel® Core™ i7-6820EQ, 2 GigE LAN, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
<b>IVH-9601-440Q</b>	ECS-9600, Quad Core Intel® Core™ i5-6440EQ, 2 GigE LAN, 2 SSD Tray, 1 PCI, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO
<b>DDR4 16G</b>	Certified DDR4 16GB 2133MHz RAM
<b>DDR4 8G</b>	Certified DDR4 8GB 2133MHz RAM
<b>DDR4 4G</b>	Certified DDR4 4GB 2133MHz 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>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>3G Module</b>	Mini PCIe 3G/GPS Module with Antenna
<b>4G Module</b>	Mini PCIe 4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth Module</b>	Intel® Mini PCIe WiFi & Bluetooth Module with Antenna