

# ECS-7000M (M12)

Intel® Core™ i7/ i5/ i3 Fanless Embedded System with Intel® QM77 Chipset, 6 GigE LAN with 4 M12 GigE LAN, 2 M12 Power, 4 M12 COM, 4 M12 USB 3.0, Isolated DIO, 2 2.5" SSD, High Performance, Rugged, Extended Temperature



## Features

- Quad Core Intel® Core™ i7/ i5/ i3 Processor (Ivy Bridge)
- Supports VGA/ DVI-D/ Dual DisplayPort/ LVDS interface, up to 3 independent displays
- Fanless, -25°C to 70°C Operating Temperature
- 6 GigE LAN with up to 4 M12 connections, iAMT 8.0 supported
- Up to 4 M12 COM, 4 M12 USB 3.0, 4 USB 2.0
- M12 6V to 36V DC-in with 80V Surge Protection, M12 Remote Power Switch
- 16 Isolated DIO, 16 GPIO
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 2 2.5" SSD/ HDD, 1 Front-access CFast Socket
- 2 Mini PCIe, 2 SATA III, 1 SATA II



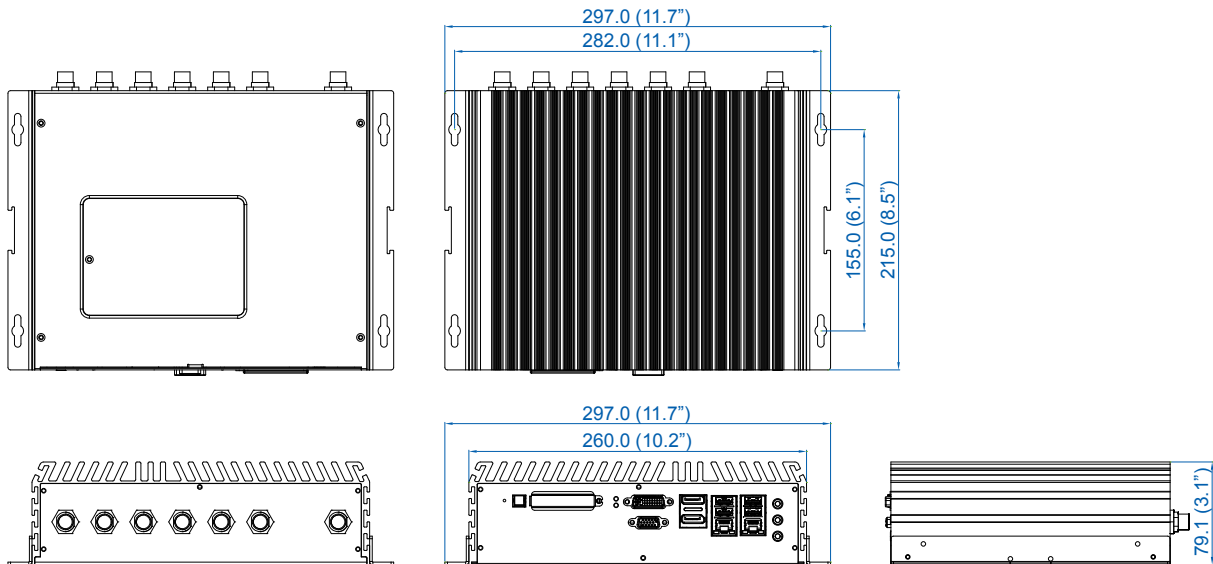
## Specifications

System	
Processor	Intel® Core™ i7-3610QE/ i5-3610ME/ i3-3120ME
Chipset	Intel® QM77
BIOS	AMI
SIO	IT8783
Memory	2 DDR3 1066/ 1333/ 1600 MHz or DDR3L 1066/ 1333 MHz SO-DIMM, up to 16GB
I/O Interface	
Serial	<ul style="list-style-type: none"> <li>▪ 1 COM RS-232/ 422/ 485, M12 Connector</li> <li>▪ 1 COM RS-232, M12 Connector</li> <li>▪ 2 COM RS-232, M12 Connector (By request)</li> </ul>
USB	<ul style="list-style-type: none"> <li>▪ 2 External USB 3.0, M12 Connector</li> <li>▪ 2 USB 3.0 (External)</li> <li>▪ 2 USB 2.0 (External)</li> <li>▪ 2 External USB 2.0, M12 Connector (From Internal JST Connector, by request)</li> </ul>
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (by request)
GPIO	16 GPIO (Internal)
LED	Power, HDD
SIM Card	1 SIM Card Socket (Internal)
Expansion	
Mini PCIe	2 Mini PCIe Socket : <ul style="list-style-type: none"> <li>▪ 1 Mini PCIe Socket for PCIe/ USB/ Internal SIM Card/ Optional mSATA</li> <li>▪ 1 Mini PCIe Socket for PCIe/ USB/ Optional mSATA</li> </ul>
Graphics	
Graphics Processor	Intel® HD Graphics 4000
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> <li>▪ VGA : DB-15, up to 1920 x 1200</li> <li>▪ DVI-D : Up to 1920 x 1200</li> <li>▪ DisplayPort 1 : Up to 2560 x 1600</li> <li>▪ DisplayPort 2 : Up to 1920 x 1200</li> <li>▪ LVDS : Dual channel 24-bit, up to 1920 x 1200</li> </ul>
Storage	
SATA	<ul style="list-style-type: none"> <li>▪ 2 SATA III (6Gbps)</li> <li>▪ 1 SATA II (3Gbps), supports horizontal type SATA DOM</li> </ul>
mSATA	2 SATA II (Mini PCIe Type, 3Gbps)
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 Line-in, 1 Line-out, 1 Mic-in

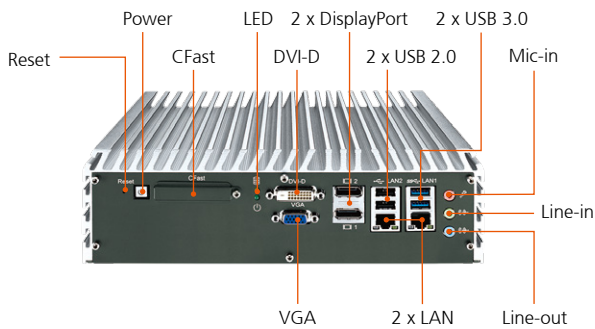
Ethernet	
LAN 1	Intel® 82579LM GigE LAN supports iAMT 8.0
LAN 2	Intel® 82574L GigE LAN
LAN 3	Intel® 82574L GigE LAN, M12 Connector
LAN 4	Intel® 82574L GigE LAN, M12 Connector
LAN 5	Intel® 82574L GigE LAN, M12 Connector (By request)
LAN 6	Intel® 82574L GigE LAN, M12 Connector (By request)
Power	
Power Input	<ul style="list-style-type: none"> <li>▪ 6V to 36V, DC-in</li> <li>▪ DC-in M12 Connector (By request)</li> </ul>
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	<ul style="list-style-type: none"> <li>▪ 3-pin Terminal Block</li> <li>▪ M12 Connector (By request)</li> </ul>
Surge Protection	Up to 80V/1ms Transient Power
Others	
TPM	Optional Infineon SLB9635 supports TPM 1.2, 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 8.1, Windows 7, Windows XP, Linux
Mechanical	
Dimensions (W x L x H)	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	3.5 kg (7.72 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	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	10% to 95% Humidity, non-condensing
Relative Humidity	95% @ 70°C
Shock	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-27</li> <li>▪ SSD : 50G @ wallmount, Half-sine, 11ms</li> </ul>
Vibration	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-64</li> <li>▪ SSD : 5Grms, 5Hz to 500Hz, 3 Axis</li> </ul>
Certification	E13, CE, FCC, EN50155, EN50121-3-2, VMware Ready

## Dimensions

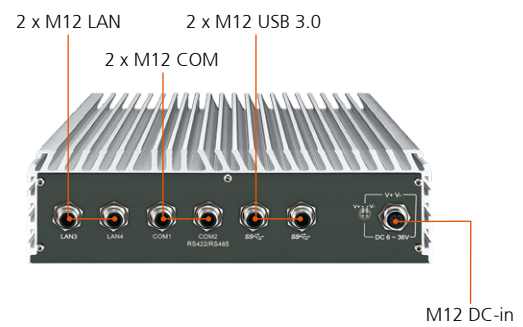
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

<b>ECS-7000M</b>	ECS-7000M, 2 M12 Power, 6 GigE LAN w/ 4 M12, 8 USB w/ 4 M12, 4 M12 COM, 1 SIM, Isolated DIO, 16 GPIO
<b>i7-3610QE</b>	Ivy Bridge 3rd Gen Intel® Mobile Quad Core™ i7 Processor
<b>i5-3610ME</b>	Ivy Bridge 3rd Gen Intel® Mobile Core™ i5 Processor
<b>i3-3120ME</b>	Ivy Bridge 3rd Gen Intel® Mobile Core™ i3 Processor
<b>M340S-W28M1</b>	Vecow DDR3 4GB 1333/ 1066 MHz RAM, Wide Temperature -40°C to +85°C
<b>Certified DDR3 4GB RAM</b>	Certified DDR3 4GB 1333/ 1600 MHz RAM
<b>Certified DDR3 8GB RAM</b>	Certified DDR3 8GB 1333/ 1600 MHz RAM
<b>PWA-120W</b>	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
<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>VESA Mount</b>	VESA Mounting Kit
<b>DIN-RAIL</b>	DIN Rail Kit
<b>Rack Mount</b>	2U Rackmount Kit
<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