

# ECS-4500-2R

Intel® Core™ i7/i5/i3 Processor (Skylake) Slim Fanless Embedded System, 2 GigE LAN, 2 Front-access SSD Tray, 5 USB 3.0, GPIO, Rugged, Extended Temperature



## Features

- Intel® Core™ i7/i5/i3 U-series SoC (Skylake-U)
- DVI-D and dual DisplayPort display interfaces support up to 4K resolution
- Fanless, -25°C to 70°C Operating Temperature
- 2 Independent GigE LAN, iAMT 11.0 supported
- 2 Front-access 2.5" SSD Tray, 5 USB 3.0, 4 COM
- 2 Mini PCIe for WiFi/4G/3G/LTE/GPRS/UMTS
- 2 External SIM Socket, 1 External CFast Socket
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



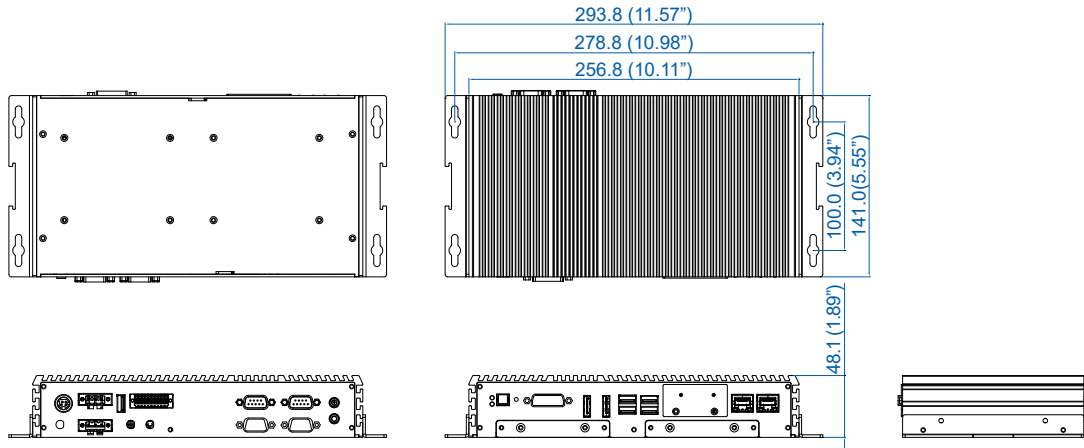
## Specifications

System	
<b>Processor</b>	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U Processor (Skylake-U)
<b>Chipset</b>	Intel® SoC (Skylake)
<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 3.0</b>	5 USB 3.0 (External)
<b>USB 2.0</b>	3 USB 2.0 (Internal)
<b>GPIO</b>	16 GPIO
<b>LED</b>	Power, HDD, Wireless
<b>SIM Card</b>	2 SIM Card Socket (External)
Expansion	
<b>Mini PCIe</b>	2 Mini PCIe Socket : <ul style="list-style-type: none"> <li>▪ 1 Full-size for PCIe/USB/External SIM Card</li> <li>▪ 1 Full-size for PCIe for PCIe/USB/External SIM Card/mSATA</li> </ul>
Graphics	
<b>Graphics Processor</b>	Intel® HD Graphics 520
<b>Interface</b>	<ul style="list-style-type: none"> <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>	2 SATA III (6Gbps)
<b>mSATA</b>	1 SATA III (Mini PCIe Type, 6Gbps)
<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 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

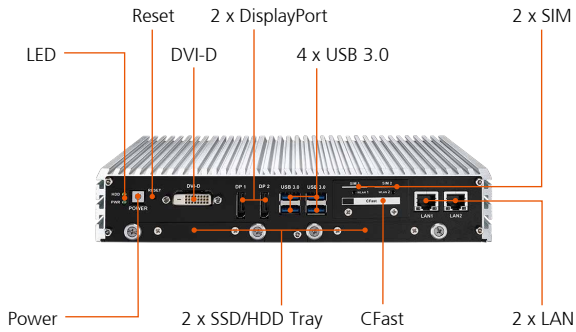
Power	
<b>Power Input</b>	6V to 36V, DC-in
<b>Power Interface</b>	<ul style="list-style-type: none"> <li>▪ 3-pin Terminal Block : V+, V-, Frame Ground</li> <li>▪ Mini-DIN 4-pin</li> </ul>
<b>Ignition Control</b>	16 Mode (Internal)
<b>Remote Switch</b>	3-pin Terminal Block : On, Off, IGN
<b>Surge Protection</b>	Up to 80V/1ms Transient Power
<b>UPS</b>	Supported (Optional)
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>	257mm x 141mm x 48mm (10.11" x 5.55" x 1.89")
<b>Weight</b>	2.1 kg (4.6 lb)
<b>Mounting</b>	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (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

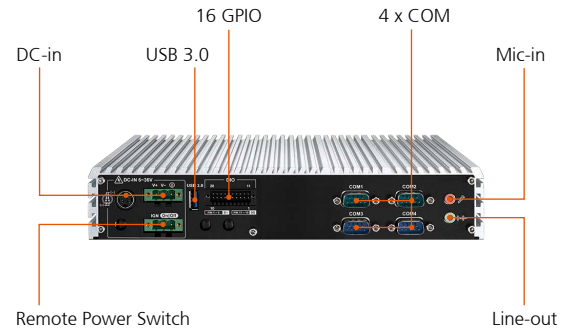
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

<b>ECS-4500-2R600U</b>	ECS-4500, Intel® Core™ i7-6600U, 2 GigE LAN, 2 SSD Tray, 4 COM, 5 USB 3.0, GPIO
<b>ECS-4500-2R300U</b>	ECS-4500, Intel® Core™ i5-6300U, 2 GigE LAN, 2 SSD Tray, 4 COM, 5 USB 3.0, GPIO
<b>ECS-4500-2R955U</b>	ECS-4500, Intel® Celeron® 3955U, 2 GigE LAN, 2SSD Tray, 4 COM, 5 USB 3.0, GPIO
<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-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-120WM4P</b>	120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector
<b>PWA-120W</b>	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
<b>TMBK-20P-100</b>	Terminal Block 20-pin to SCSI, 100cm
<b>TMBK-20P-500</b>	Terminal Block 20-pin to SCSI, 500cm
<b>TMB-SCSI-20P</b>	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
<b>VESA Mount</b>	VESA Mounting Kit
<b>DIN-RAIL</b>	DIN Rail Kit
<b>4G Module</b>	Mini PCIe 4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	WiFi & Bluetooth Module with Antenna