

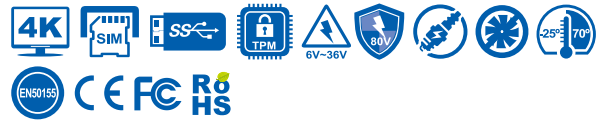
# ECS-4500-2G

Intel® Core™ i7/i5/i3 Processor (Skylake) Slim Fanless Embedded System, 2 GigE LAN, 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
- 5 USB 3.0, 4 COM, 16 GPIO
- 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



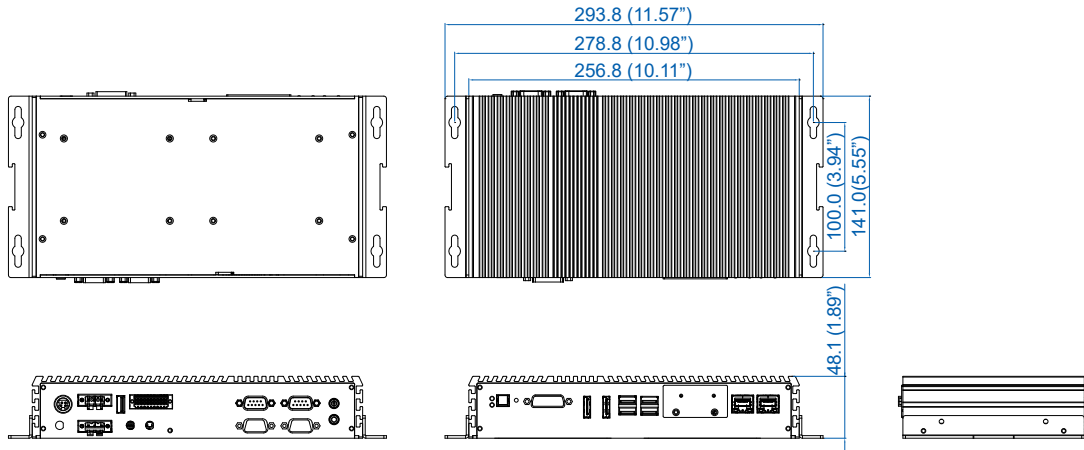
## Specifications

| 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 :<br><ul style="list-style-type: none"> <li>▪ 1 Mini PCIe for PCIe/USB/External SIM Card</li> <li>▪ 1 Mini 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 2.5" SSD/HDD Bracket (Internal)</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   |

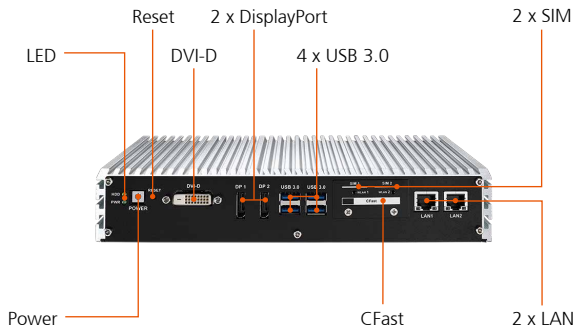
| Power                         |   |
|-------------------------------|---|
| <b>Power Input</b>            | 6V to 36V, DC-in  |
| <b>Power Interface</b>        | <ul style="list-style-type: none"> <li>▪ 3-pin Terminal Block : V+, V-, Frame Ground</li> <li>▪ Mini-DIN 4-pin</li> </ul> |
| <b>Ignition 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

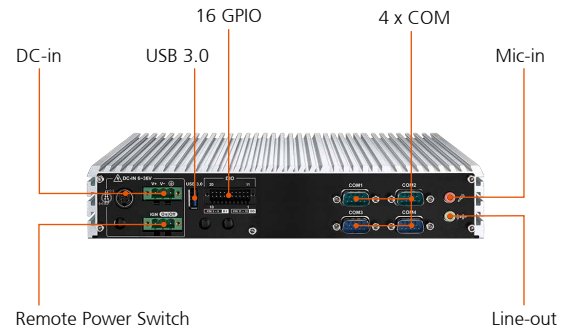
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

|                             |   |
|-----------------------------|---|
| <b>ECS-4500-2G600U</b>      | ECS-4500, Intel® Core™ i7-6600U, 2 GigE LAN, 4 COM, 5 USB 3.0, 16 GPIO                                |
| <b>ECS-4500-2G300U</b>      | ECS-4500, Intel® Core™ i5-6300U, 2 GigE LAN, 4 COM, 5 USB 3.0, 16 GPIO                                |
| <b>ECS-4500-2G955U</b>      | ECS-4500, Intel® Celeron® 3955U, 2 GigE LAN, 4 COM, 5 USB 3.0, 16 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  |