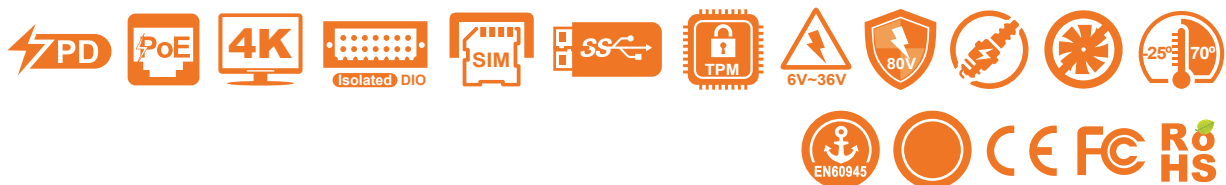


## ECS-4500-PD RUGGED EMBEDDED COMPUTER

6th Generation Intel® Core™ i7/i5/i3 U-series Processor (Skylake-U) Slim Fanless Embedded System, 6 GigE LAN with 4 PoE+, 2 Independent Powered Device (PD) LAN, 2 Front-access SSD/HDD Tray, 2 External SIM Socket, 5 USB 3.0, 16 Isolated DIO, High Performance, Rugged, Extended Temperature

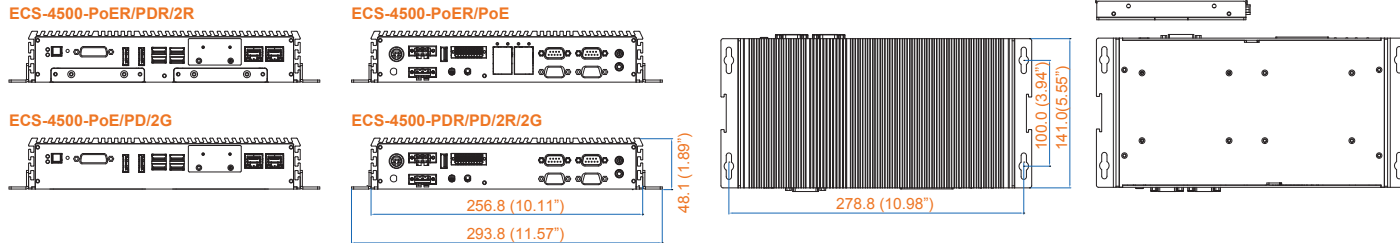


- Intel® Core™ i7/i5/i3 U-series SoC (Skylake-U)
- 2 Independent GigE LAN support IEEE 802.3at Powered Device (PD) and iAMT 11.0
- 4 Independent GigE LAN with IEEE 802.3at PoE+, Power on/off enabled
- Front-access : 2 2.5" SSD Tray, 2 SIM Socket, 5 USB 3.0, 1 CFAST Socket
- Slim design, Fanless, -25°C to 70°C Operating Temp
- 16 Isolated DIO, 16 GPIO
- DDR4 2133MHz memory, up to 32GB
- DVI-D and Dual DisplayPort interfaces, up to 4K display
- 2 Mini PCIe for 3G/4G/LTE/WiFi/GPRS/UMTS
- 6V to 36V DC-in with 80V Surge Protection
- Configurable Ignition Power Control



# Dimensions & Drawing

Unit: mm (inch)



## Specifications

### System

Processor	Intel® Core™ i7/i5/i3 U-series Processor (Skylake-U)
Chipset	Intel® SoC (Skylake)
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB

### I/O Interface

Serial	4 COM RS-232/422/485
USB	<ul style="list-style-type: none"> <li>5 USB 3.0 (External)</li> <li>3 USB 2.0 (Internal)</li> </ul>
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
GPIO	16 GPIO (Internal)
LED	Power, HDD, Wireless, PoE, PD
SIM Card	2 External SIM Card Socket

### Expansion

Mini PCIe	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/USB/External SIM Card/mSATA</li> </ul>
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### Graphics

Processor Interface	Intel® HD Graphics 520 <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>
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### Storage

SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<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

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 IEEE 802.3at (25.5W/48V) Powered Device (PD) and iAMT 11.0
LAN 2	Intel® I210 GigE LAN supports IEEE 802.3at (25.5W/48V) Powered Device (PD)

### PoE

LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210

### 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
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### Mechanical

Dimension	257mmx 141mmx 48mm (10.1" x 5.6" x 1.9") (W x L x H)
Weight	2.1 kg (4.6 lb)
Mounting	<ul style="list-style-type: none"> <li>Wallmount by mounting bracket</li> <li>DIN Rail Mount (Optional)</li> </ul>

### Environment

Operating Temp.	-25°C to 70°C (-13°F to 158°F)
Storage Temp.	-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</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>
EMC	CE, FCC, EN50155, EN50121-3-2, EN60945

## Order Information

Part No.	CPU	LAN	PoE+	PD	SSD Tray	COM	USB 3.0	Isolated DIO	GPIO
ECS-4500-PoER-600U/300U/955U	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U	6	4	N/A	2	4	5	16	16
ECS-4500-PoE-600U/300U/955U	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U	6	4	N/A	Internal	4	5	16	16
ECS-4500-PDR-600U/300U/955U	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U	2	N/A	2	2	4	5	N/A	32
ECS-4500-PD-600U/300U/955U	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U	2	N/A	2	Internal	4	5	N/A	32
ECS-4500-2R-600U/300U/955U	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U	2	N/A	N/A	2	4	5	N/A	32
ECS-4500-2G-600U/300U/955U	Intel® Core™ i7-6600U/i5-6300U/Celeron® 3955U	2	N/A	N/A	Internal	4	5	N/A	32

ECS-4500-20180214

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