

ECS-9160 Series

Quad Core Intel® Xeon®/Core™ i7/i5/i3 (Skylake/Kaby Lake) Fanless LAN Switch System with Intel® C236, 2 GigE LAN, 4 GigE LAN Switch with PoE+/Bypass, 2 Front-access SSD/HDD Tray, 8 USB 3.0, M.2 Socket, 3 SIM, 16 GPIO, High Performance, Rugged, -40°C to 75°C Extended Temperature

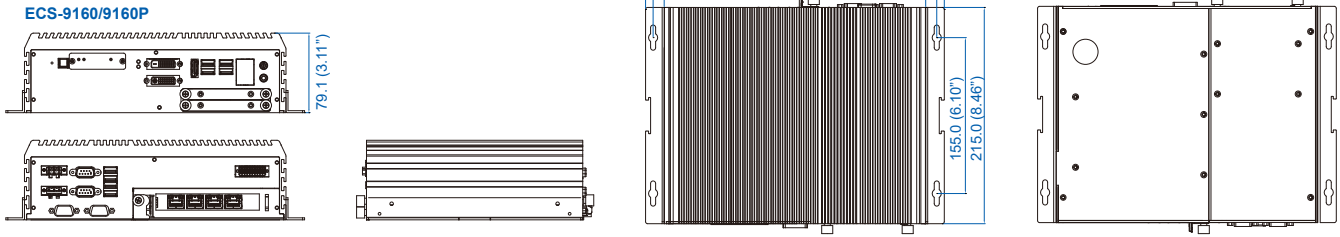


- 2 GigE LAN, 4 GigE LAN Switch with IEEE 802.3at PoE+
- Support hardware LAN Bypass mode
- Expansion: 3 Mini PCIe/mSATA, 1 Key-M M.2
- Storage: 2 2.5" SSD Tray, 1 CFAST, 2 SATA III
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- Fanless, -40°C to 75°C Operating Temperature
- 16 GPIO, 8 USB 3.0
- LGA 1151 Socket supports workstation-grade Intel® Xeon®/Core™ i7/i5/i3 Processor with C236
- DVI-I, DVI-D & DisplayPort interfaces, up to 4K display
- 3 External SIM Socket for 3G/4G/LTE/WiFi/GPRS/UMTS



Dimensions & Drawing

Unit: mm (inch)



Specifications

System

Processor	Quad Core Intel® Xeon®/Core™ i7/i5/i3 Processor (Skylake-S/Kaby Lake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2400/2133 MHz SO-DIMM, up to 64GB
OS	Windows 10, Windows 8.1, Windows 7, Linux

I/O Interface

Serial	4 COM RS-232/422/485 (ESD 8KV)
USB	• 8 USB 3.0 (4 Front, 4 Rear) • 1 USB 2.0 (Internal)
DIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	3 External SIM Card Socket

Expansion

Mini PCIe	3 Full-size for PCIe/USB/External SIM Card/mSATA
M.2	1 M.2 Socket (Key ID : M)

Graphics

Processor Interface	Intel® HD Graphics P630/630/P530/530
	• DVI-I : Up to 1920 x 1200 @ 60Hz
	• DVI-D : Up to 1920 x 1200 @ 60Hz
	• DisplayPort : Up to 4096 x 2304 @ 60Hz

Storage

SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	3 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	• 1 CFast Socket, Push-in/Push-out Ejector • 2 Front-access 2.5" SSD/HDD Tray

Audio

Audio Codec	Realtek ALC888S-VD, 7.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

Ethernet

LAN 1	Intel® I219LM GigE LAN supports iAMT 11.0
LAN 2	Intel® I210 GigE LAN

LAN Switch

LAN 3 to LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I210, supporting LAN bypass mode
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Power

Power Input	6V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block
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.

Mechanical

Dimensions	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
Weight	4.2 kg (9.26 lb)
Mounting	• Wallmount by mounting bracket • DIN Rail Mount (Optional) • 2U Rackmount (Optional)

Environment

Operating Temp.	35W TDP CPU : • Core™ i7, i5, i3 : -40°C to 75°C (-40°F to 167°F) • Xeon® E3-1268L v5 : -40°C to 70°C (-40°F to 158°F) 65W TDP CPU : Core™ i7, i5, i3 : -40°C to 55°C (-40°F to 131°F) 80W TDP CPU : Xeon® E3-1275 v6, E3-1275 v5, E3-1225 v5 : -40°C to 45°C (-40°F to 113°F) E3-1268L v5 : -40°C to 85°C (-40°F to 185°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 75°C
Shock	• IEC 60068-2-27 • SSD : 50G @ wallmount, Half-sine, 11ms • IEC 60068-2-64
Vibration	• SSD : 5Grms, 5Hz to 500Hz, 3 Axis
EMC	E13, CE, FCC, EN50155, EN50121-3-2

Order Information

ECS-9160	• ECS-9100, 2 GigE LAN, 4 GigE LAN Switch w/PoE+, 2 SSD Tray, 8 USB 3.0, 4 COM, 3 SIM, 16 GPIO
ECS-9160P	• ECS-9100, 2 GigE LAN, 4 GigE LAN Switch w/LAN Bypass, 2 SSD Tray, 8 USB 3.0, 4 COM, 3 SIM, 16 GPIO
DDR4 32G	• Certified DDR4 32GB 2666MHz RAM
DDR4 16G	• Certified DDR4 16GB 2400/2133 MHz RAM
DDR4 8G	• Certified DDR4 8GB 2400/2133 MHz RAM
DDR4 4G	• Certified DDR4 4GB 2400/2133 MHz RAM
PWA-280W-WT	• 280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-160W-WT	• 160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	• 120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
VESA Mount	• VESA Mounting Kit
DIN-RAIL Kit	• DIN Rail and VESA Mounting Kit
Rack Mount	• 2U Rackmount Kit
TMK2-20P-100	• Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	• Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	• Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
4G Module	• Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth	• WiFi & Bluetooth Module with Antenna

CPU List

Series	CPU	Cache (MB)	Turbo Freq. (GHz)	TDP (W)	ECC Memory
Intel® Xeon®	E3-1275 v6	8	4.2	80	Y
	E3-1275 v5		4	80	
	E3-1225 v5		3.7	80	
	E3-1268L v5		3.4	35	
Intel® Core™	i7-7700	8	4.2	65	NA
	i7-7700T		3.8	35	
	i7-6700		4	65	
	i7-6700TE		3.4	35	
	i5-7500	6	3.8	65	NA
	i5-7500T		3.3	35	
	i5-6500		3.6	65	
	i5-6500TE		3.3	35	
	i3-7101E	3	3.9	65	Y
	i3-7101TE		3.4	35	
i3-6100	3.7		65		
i3-6100TE	4	2.7	35		

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