

ECS-9000-6F RUGGED EMBEDDED COMPUTER

Quad Core Intel® Xeon®/Core™ i7/i5/i3 (Skylake/Kaby Lake) Fanless Embedded System with Intel® C236 Chipset, 9 GigE LAN with 4 PoE+, 2 Front-access SSD/HDD Tray, M2DOM, Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



- LGA 1151 Socket supports workstation-grade Intel® Xeon®/Core™ i7/i5/i3 Processor with C236
- Fanless, -40°C to 75°C Operating Temperature
- 9 Independent GigE LAN with 4 IEEE 802.3at PoE+
- SIM Sockets for 3G/4G/LTE/WiFi/GPRS/UMTS
- Front-access : 2 2.5 SSD Tray, 3 SIM, 1 CFast
- 10 GigE LAN/10 GigE SFP+ Fiber Connection
- Up to 6 Mini PCIe expansion
- M2DOM supports up to 8GT/s data rate
- 16 Isolated DIO : 8 DI, 8 DO
- 6V to 36V DC-in, 80V Surge Protection
- Configurable Ignition Power Control



Intelligent Automation



Vehicle Computing



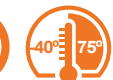
Machine Vision



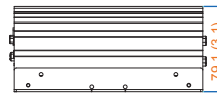
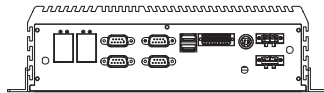
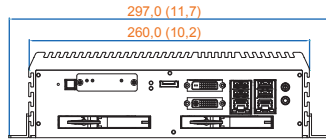
Intelligent Surveillance



Energy Management



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 2133MHz SO-DIMM, up to 32GB

I/O Interface

Serial	4 COM RS-232/ 422/ 485 (ESD 8KV)
USB	• 6 USB 3.0 (External) • 1 USB 3.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
LED	Power, HDD, PoE
SIM Card	3 SIM Card Socket (External)

Expansion

Mini PCIe	3 Mini PCIe Socket : • 2 Full-size for PCIe/ USB/ External SIM/ mSATA • 1 Half-size for PCIe/ USB 3.0/ External SIM
SUMIT A, B	2 SUMIT Slot (Optional)

Graphics

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

SATA	2 SATA III (6Gbps)
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
SATA DOM	1 SATA II (3Gbps)
M2DOM	1 PCIe 3.0 (8GT/s)/ SATA III (6Gbps)
Storage Device	• 1 CFAST Socket, Push-in/ Push-out Ejector ECS-9000-9R, PoER, 6FR, 4R, 2R : 2 Front-access 2.5" SSD/ HDD Tray ECS-9000-9GD, PoE, 6F, 4G, 2G : 2 2.5" SSD/ HDD Bracket (Internal)

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 iAMT 11.0
LAN 2	Intel® I210 GigE LAN
LAN 7 to LAN 9	Intel® 82574L GigE LAN

PoE

LAN 3 to LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
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Fiber

LAN 5	1000BASE SFP by Intel® I350
LAN 6	1000BASE SFP by Intel® I350

Power

Power Input	6V to 36V, DC-in
Power Interface	• 3-pin Terminal Block : V+, V-, Frame Ground • Mini-DIN 4-pin
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	260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")
Weight	3.8 kg (8.38 lb)
Mounting	• Wallmount by mounting bracket • DIN Rail Mount

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) -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
Vibration	• IEC 60068-2-64 • SSD : 5Grms, 5Hz to 500Hz, 3 Axis
EMC	E13, CE, FCC, EN50155, EN50121-3-2

Order Information

ECS-9000-9R	• ECS-9000, 9 GigE LAN w/4 PoE*, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO
ECS-9000-9GD	• ECS-9000, 9 GigE LAN w/4 PoE*, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO
ECS-9000-PoER	• ECS-9000, 6 GigE LAN w/4 PoE*, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO
ECS-9000-6FR	• ECS-9000, 6 GigE LAN w/4 PoE*, 4 COM, 3 SIM, 6 USB 3.0, 16 Isolated DIO
ECS-9000-6FR	• ECS-9000, 6 GigE LAN w/2 SFP, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO
ECS-9000-6F	• ECS-9000, 6 GigE LAN w/2 SFP, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO
ECS-9000-4R	• ECS-9000, 4 GigE LAN, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO
ECS-9000-4G	• ECS-9000, 4 GigE LAN, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO
ECS-9000-2R	• ECS-9000, 2 GigE LAN, 2 SSD Tray, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO
ECS-9000-2G	• ECS-9000, 2 GigE LAN, 4 COM, 3 SIM, 6 USB 3.0, 16 GPIO

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	4	3.7	65	
	i3-6100TE		2.7	35	

ECS-9000-20180710

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