

## **IVH-9008-PoER RUGGED EMBEDDED COMPUTER**

Quad Core 6th Gen Intel® Xeon®/ Core™ i7/ i5/ i3 Processor (Skylake-H) In-Vehicle Fanless Embedded System with Intel® CM236, 18 GigE LAN with 16 PoE+, 4 Front-access SSD Tray, Isolated DIO, High Performance, Rugged, Extended Temperature



- Quad Core 6th Generation Intel® Xeon®/ Core™ i7/ i5/ i3 Processor (Skylake-H) with CM236 Chipset supports up to 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 18 GigE LAN with 16 IEEE 802.3at PoE+ compliant
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD Tray, 5 USB
- Supports 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- 16 Isolated DIO, 16 GPIO
- Configurable Ignition Power Control
- 6V to 78V DC-in, 200V Surge Protection
- UPS Supported (Optional)



**ITS (Intelligent Transportation System)**



**Rolling Stock System**



**In-Vehicle Surveillance**



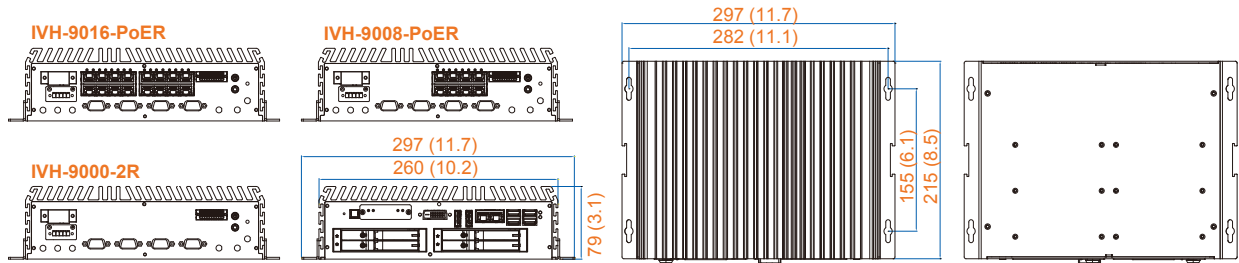
**Fleet Management**



**Mobile DVR/ NVR**



# Dimensions & Drawing Unit: mm (inch)



## Specifications

### System

<b>Processor</b>	Intel® Xeon® E3-1505M v5/ Core™ i7-6820EQ/ i5-6440EQ Processor (Skylake-H)
<b>Chipset</b>	Intel® CM236
<b>BIOS</b>	AMI
<b>SIO</b>	IT8786E
<b>Memory</b>	2 DDR4 2133MHz SO-DIMM, up to 32GB (ECC Function enable depends on processor support)

### I/O Interface

<b>Serial</b>	4 COM RS-232/ 422/ 485 w/ auto flow control
<b>USB</b>	<ul style="list-style-type: none"> <li>• 4 USB 3.0 (External)</li> <li>• 1 USB 2.0 (Internal)</li> </ul>
<b>Isolated DIO</b>	16 Isolated DIO : 8 DI, 8 DO
<b>GPIO</b>	16 GPIO
<b>LED</b>	Power, HDD, Wireless, PoE
<b>SIM Card</b>	4 SIM Card Socket (3 External, 1 Internal)

### Expansion

<b>Mini PCIe</b>	<ul style="list-style-type: none"> <li>• 1 Mini PCIe for PCIe/ USB/ Internal SIM Card/ Optional mSATA</li> <li>• 3 Mini PCIe for PCIe/ USB/ External SIM Card</li> </ul>
<b>SUMIT A, B</b>	2 SUMIT Slot (Optional)

### Graphics

<b>Processor</b>	Intel® HD Graphics P530/ 530
<b>Display Memory</b>	Shared Memory, up to 1.7GB
<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>	6 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10
<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>• 4 Front-access 2.5" SSD/ HDD Tray</li> </ul>

### Audio

<b>Audio Codec</b>	Realtek ALC892, 5.1 Channel HD Audio
<b>Audio Interface</b>	1 Mic-in, 1 Line-out

### Ethernet

<b>LAN 1</b>	Intel® I219 GigE LAN supports iAMT 11.0
<b>LAN 2</b>	Intel® I210 GigE LAN

### PoE

<b>IVH-9016 LAN 3 to 18</b>	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I350
<b>IVH-9008 LAN 3 to 10</b>	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I350

### Power

<b>Power Input</b>	6V to 78V, DC-in
<b>Power Interface</b>	3-pin Terminal Block : V+, V-, Frame Ground
<b>Ignition Control</b>	16 Mode (Internal)
<b>Remote Switch</b>	5-pin Terminal Block : On, Off, IGN, LED+, LED-
<b>Surge Protection</b>	Up to 200V/1ms Transient Power Supported (Optional)
<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.
<b>GPS</b>	Onboard GPS Module supports Accelerometer, Gyroscope and Odometer (Optional)

### Software Support

<b>OS</b>	Windows 10, Windows 8.1, Windows 7, Linux
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### Mechanical

<b>Dimensions (WxLxH)</b>	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")
<b>Weight</b>	4.2 kg (9.26 lb)
<b>Mounting</b>	<ul style="list-style-type: none"> <li>• Wallmount by mounting bracket</li> <li>• DIN Rail Mount (Optional)</li> <li>• 2U Rackmount (Optional)</li> </ul>

### Environment

<b>Operating Temp.</b>	-25°C to 70°C (-13°F to 158°F)
<b>Storage Temp.</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% at 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> <li>• IEC 60068-2-64</li> </ul>
<b>Vibration</b>	<ul style="list-style-type: none"> <li>• SSD : 5Grms, 5Hz to 500Hz, 3 Axis</li> </ul>
<b>EMC</b>	CE, FCC, EN 50155, EN 50121-3-2

## Order Information

<b>IVH-9016-PoER505M</b>	• IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 18 GigE LAN w/16 PoE*, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9016-PoER820Q</b>	• IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 18 GigE LAN w/16 PoE*, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9016-PoER440Q</b>	• IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 18 GigE LAN w/16 PoE*, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9008-PoER505M</b>	• IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 10 GigE LAN w/8 PoE*, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9008-PoER820Q</b>	• IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 10 GigE LAN w/8 PoE*, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9008-PoER440Q</b>	• IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 10 GigE LAN w/8 PoE*, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9000-2R505M</b>	• IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 2 GigE LAN, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9000-2R820Q</b>	• IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 2 GigE LAN, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
<b>IVH-9000-2R440Q</b>	• IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 2 GigE LAN, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO

IVH-9000-20160901

\* All product information may subject to change without prior notice.

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