

IVH-9000 Series

Quad Core 6th Gen Intel® Xeon®/ Core™ i7/ i5/ i3 Processor (Skylake-H) In-Vehicle Fanless Embedded System with Intel® CM236, 18 Gigabit 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 3 independent 4K displays
- Fanless, -25°C to 70°C Operating Temperature
- 18/ 10 GigE LAN with 16/ 8 IEEE 802.3at PoE+ compliant
- 4 Mini PCIe, 4 SIM Card Socket (3 External)
- 4 Front-access 2.5" SSD, 4 USB 3.0
- 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



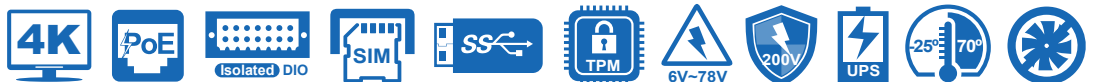
In-Vehicle Surveillance



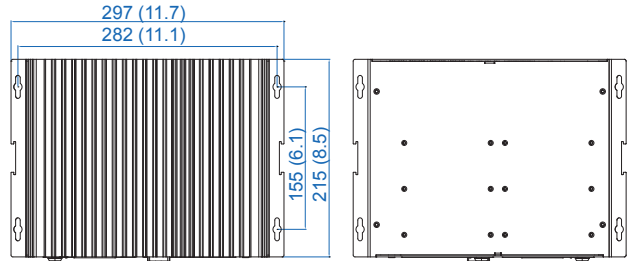
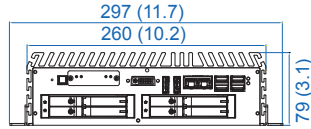
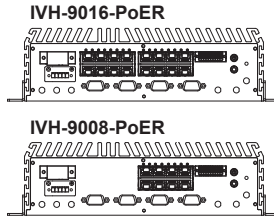
Fleet Management



Mobile DVR/ NVR



Dimensions & Drawing Unit: mm (inch)



Specifications

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

I/O Interface	
Serial	4 COM RS-232/ 422/ 485 w/ auto flow control (ESD protection: Air gap ±15kV, Contact ±8kV)
USB	<ul style="list-style-type: none"> 4 USB 3.0 (External) 1 USB 2.0 (Internal)
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
GPIO	16 GPIO
LED	Power, HDD, Wireless, PoE
SIM Card	4 SIM Card Socket (3 External, 1 Internal)

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

Graphics	
Processor	Intel® HD Graphics P530/ 530
Display Memory	Shared Memory, up to 1.7GB
Interface	<ul style="list-style-type: none"> DVI-D : Up to 1920 x 1200 @ 60Hz DisplayPort 1 : Up to 4096 x 2304 @ 60Hz DisplayPort 2 : Up to 4096 x 2304 @ 60Hz

Storage	
SATA	6 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	<ul style="list-style-type: none"> 1 CFast Socket, Push-in/ Push-out Ejector 4 Front-access 2.5" SSD/ HDD Tray

Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

Ethernet	
LAN 1	Intel® I219 Gigabit LAN supports iAMT
LAN 2	Intel® I210 Gigabit LAN

PoE	
IVH-9016 LAN 3 to 18	Gigabit IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350
IVH-9008 LAN 3 to 10	Gigabit IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350

Power	
Power Input	6V to 78V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	5-pin Terminal Block : On, Off, IGN, LED+, LED-
Surge Protection	Up to 200V/1ms Transient Power Supported (Optional)
UPS	

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.
GPS	Onboard GPS Module supports Accelerometer, Gyroscope and Odometer (Optional)

Software Support	
OS	Windows 10, Windows 8.1, Windows 7, Linux

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

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% at 70°C
Shock	<ul style="list-style-type: none"> IEC 60068-2-27 SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	<ul style="list-style-type: none"> IEC 60068-2-64 SSD : 5Grms, 5Hz to 500Hz, 3 Axis
EMC	CE, FCC, EN 50155, EN 50121-3-2

Order Information

IVH-9016-PoER505M	• IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 18 GbE LAN w/16 PoE+, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9016-PoER820Q	• IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 18 GbE LAN w/16 PoE+, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9016-PoER440Q	• IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 18 GbE LAN w/16 PoE+, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9008-PoER505M	• IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 10 GbE LAN w/8 PoE+, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9008-PoER820Q	• IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 10 GbE LAN w/8 PoE+, 4 SD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9008-PoER440Q	• IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 10 GbE LAN w/8 PoE+, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9000-2R505M	• IVH-9000, Quad Core Intel® Xeon® E3-1505M v5, 2 GbE LAN, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9000-2R820Q	• IVH-9000, Quad Core Intel® Core™ i7-6820EQ, 2 GbE LAN, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
IVH-9000-2R440Q	• IVH-9000, Quad Core Intel® Core™ i5-6440EQ, 2 GbE LAN, 4 SSD Tray, 4 COM, 4 USB 3.0, 4 SIM, Isolated DIO, 16 GPIO
DDR4 16G	• Certified DDR4 16GB 2133MHz RAM
DDR4 8G	• Certified DDR4 8GB 2133MHz RAM
DDR4 4G	• Certified DDR4 4GB 2133MHz RAM
PWA-160WB-WT	• 160W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
PWA-280WB-WT	• 280W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
VESA Mount	• VESA Mounting Kit
DIN-RAIL	• DIN Rail Kit
Rack Mount	• 2U Rackmount kit
TMBK-20P-100	• Terminal Block 20-pin to SCSI Cable, 100cm
TMBK-20P-500	• Terminal Block 20-pin to SCSI Cable, 500cm
TMB-SCSI-20P	• Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
3G Module	• Mini PCIe 3G/GPS Module with Antenna
4G Module	• Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth Module	• Intel® Mini PCIe WiFi & Bluetooth Module with Antenna

IVH-9000-20160202