

# IVH-9204MX (M12)

Quad Core Intel® Xeon®/Core™ i7/i5/i3 (Kaby Lake) In-Vehicle Fanless Embedded System with Intel® C236 Chipset, 6 GigE LAN with 4 X-coded M12 PoE+, 4 Front-access SSD Tray, 8 USB 3.0, 3 SIM, 32 Isolated DIO, High Performance, Rugged, -40°C to 75°C Extended Temperature



## Features

- LGA 1151 Socket supports workstation-grade Intel® Xeon®/Core™ i7/i5/i3 Processor (Kaby Lake/Skylake) with Intel® C236 Chipset
- 6 Independent GigE LAN with 4 X-coded M12 IEEE 802.3at PoE+
- 2 DDR4 2133MHz SO-DIMM, up to 32GB (ECC/Non-ECC)
- Fanless, -40°C to 75°C Extended Temperature
- 32 Isolated DIO, 8 USB 3.0, 4 COM, 3 Mini PCIe
- DVI-I, DVI-D & DisplayPort interfaces, up to 4K display
- 4 Front-access SSD Tray, 1 CFast, 4 SATA III
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control
- 3 External SIM Socket for WiFi/4G/3G/LTE/GPRS/UMTS
- UPS supported (Optional)



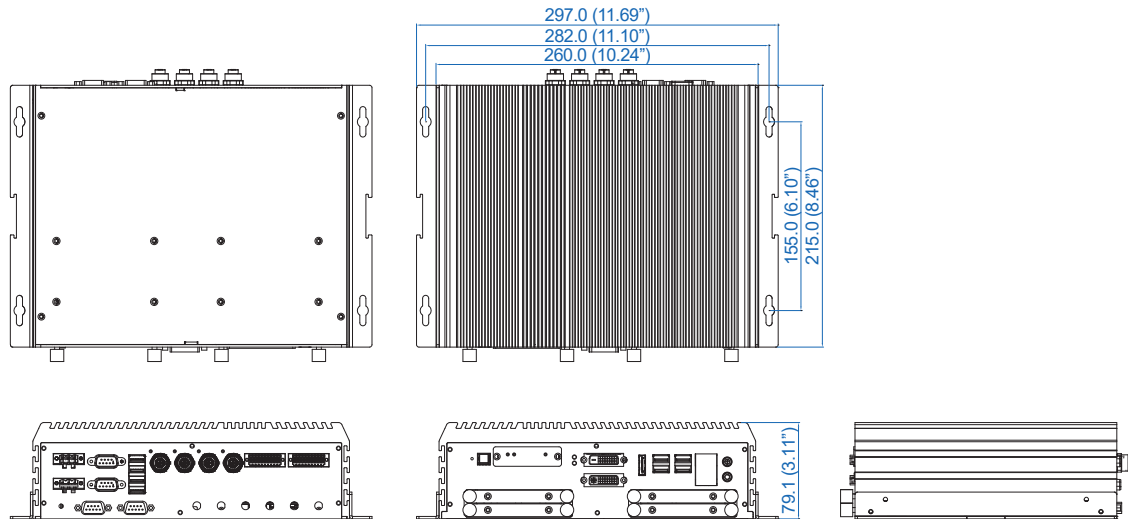
## Specifications

System	
Processor	Intel® Xeon®/Core™ i7/i5/i3 Processor (Kaby Lake-S/Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2400/2133 MHz SO-DIMM, up to 64GB
I/O Interface	
Serial	4 COM RS-232/422/485 (ESD 8KV)
USB	<ul style="list-style-type: none"> <li>▪ 8 USB 3.0 (4 Front, 4 Rear)</li> <li>▪ 1 USB 2.0 (Internal)</li> </ul>
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD, Wireless, PoE
SIM Card	3 External SIM Card Socket
Expansion	
Mini PCIe	3 Full-size Mini PCIe Socket for PCIe/USB/External SIM Card/mSATA
Graphics	
Graphics Processor	Intel® HD Graphics P630/630/P530/530
Interface	<ul style="list-style-type: none"> <li>▪ DVI-I : Up to 1920 x 1200 @ 60Hz</li> <li>▪ DVI-D : Up to 1920 x 1200 @ 60Hz</li> <li>▪ DisplayPort : Up to 4096 x 2304 @ 60Hz</li> </ul>
Storage	
SATA	4 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10
mSATA	3 SATA III (Mini PCIe Type, 6Gbps, Optional)
Storage Device	<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	
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
PoE	
LAN 3 to 6	GigE IEEE 802.3at (25.5W/48V) PoE+ (X-coded M12) by Intel® I210 with Power On/Off Control

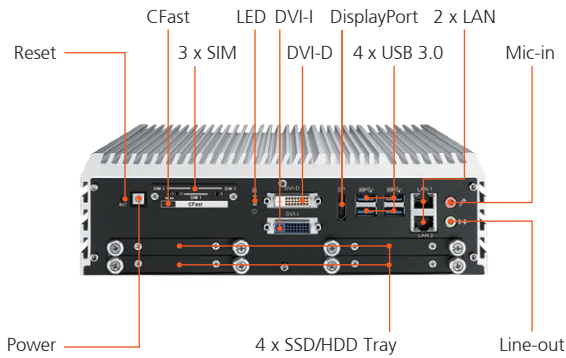
Power		
Power Input	6V to 36V, DC-in	
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground	
Ignition Control	16 Mode (Internal)	
Remote Switch	3-pin Terminal Block : On, Off, IGN	
Surge Protection	Up to 80V/1ms Transient Power	
Others		
TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface	
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	
Mechanical		
Dimensions	260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")	
Weight	4.5 kg (9.92 lb)	
Mounting	<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		
Operating Temperature	<b>35W TDP CPU :</b> 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) <b>65W TDP CPU :</b> Core™ i7, i5, i3 : -40°C to 55°C (-40°F to 131°F) <b>80W TDP CPU :</b> Xeon® E3-1275 v6, E3-1275 v5, E3-1225 v5 : -40°C to 45°C (-40°F to 113°F)	
	Storage Temperature	-40°C to 85°C (-40°F to 185°F)
	Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @ 75°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	

## Dimensions

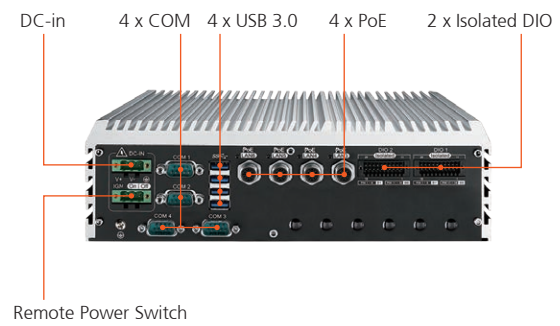
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

<b>IVH-9204MX</b>	IVH-9200, 6 GigE LAN w/4 X-coded M12 PoE+, 4 SSD Tray, 8 USB 3.0, 4 COM, 3 SIM, 32 Isolated DIO
-------------------	---

### Accessories

<b>DDR4 32G</b>	Certified DDR4 32GB 2666MHz RAM
<b>DDR4 16G</b>	Certified DDR4 16GB 2400/2133 MHz RAM
<b>DDR4 8G</b>	Certified DDR4 8GB 2400/2133 MHz RAM
<b>DDR4 4G</b>	Certified DDR4 4GB 2400/2133 MHz RAM
<b>PWA-280W-WT</b>	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>PWA-160W-WT</b>	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>VESA Mount</b>	VESA Mounting Kit
<b>DIN-RAIL Kit</b>	DIN Rail and VESA Mounting Kit
<b>Rack Mount</b>	2U Rackmount Kit
<b>TMK2-20P-100</b>	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
<b>TMK2-20P-500</b>	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
<b>TMB-TMBK-20P</b>	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
<b>4G Module</b>	Mini PCIe 4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	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	Yes
	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	Yes	
	i3-7101E	3	3.9		65
	i3-7101TE		3.4		35
i3-6100	4	3.7	65		
i3-6100TE		2.7	35		