



# ARES-1970E-M12-PISC

In-Vehicle Box PC with Intel® Xeon® E3/6<sup>th</sup> & 7<sup>th</sup> Generation Core™ i7/i5/i3 Processors



## Features

- Fanless Design
- Wide Range DC Power Input(9~36V)
- Wide temperature range from -40°C to +70°C
- RTC Battery service windows Support
- 2 x mPCIe slots for Optional WiFi/BT/3G/4G/GPS Modules
- 1 x M.2 (NGFF) M-Key(2242) socket for storage Module
- 1 x SIM card sockets

## System

CPU	Intel® Xeon® E3/6 <sup>th</sup> & 7 <sup>th</sup> generation Core™ i7/i5/i3 processor in LGA1151 socket
Memory	2 x 260-pin DDR4 SO-DIMM sockets,
Chipset	Intel® C236
Graphics	Integrated Intel® HD Graphics
ATA	3 x Serial ATA port with 600MB/s HDD transfer rate
LAN Chipset	1 x Intel® i219LM GbE controller w/ iAMT 11.0 (except i3) 2 x Intel® WGI211AT GbE controllers
Watchdog Timer	1~255 levels reset

## I/O

USB Port	4 x USB 3.0 ports, front side
LAN	2 x RJ-45 ports for GbE, front side 1 x M12-male 8P connector, IP67 for GbE, A-coded, rear side
Video Port	1 x DB-15 female connector for Analog RGB, Max. resolution : 1920 x 1080 @ 60Hz 1 x DVI-D female connector for digital video output, Max. resolution : 1920 x 1080 @ 60Hz
Antenna	3 x SMA-female connectors' holes for external antennas
Audio	Mic-in/Line-out
Serial Port	8 x RS-485 ports via one DB-25 connector
DIO Port	1 x DB-25 Connector for DIO (8 in/8 out)
Expansion Bus	1 x mini-PCI Express Slots interconnected with SIM card sockets for optional WiFi/BT/3G/LTE/GPS (PCIex1+USB2.0, Full Size) 1 x mini-PCI Express slot for optional WiFi/BT/GPS (PCIex1+USB2.0, Half Size)

## Environmental

Operating Temp.	-40 ~ 60°C, ambient w/ air flow, w/ 35W TDP Core™ i CPU -40 ~ 70°C, ambient w/ air flow, w/ Xeon™ E3-1268L-V5 (CPU throttling may be happened while it run full loaded)
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Storage Temp.	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10 ~ 95% @ 70°C (non-condensing)
Vibration	IEC61373 Category 1 Class B
Shock	IEC61373 Category 1 Class B

## Qualification

Certification	EN-50155 certified. test with AC adapter
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## Power Requirement

Power Input	DC 9~36V input ( w/ 5-pin M12-male A-code connector)
Power Consumption	Typ. 70W (w/o I/O card)

## Storage

Type	1 x M.2 M-Key socket for storage module(SATA signal only) 1 x external 2.5" SATA3 6Gb/s Drive Bay 1 x internal 2.5" SATA3 6Gb/s Drive Bay
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## Mechanical

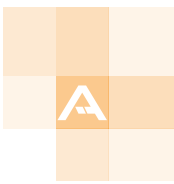
Construction	Aluminum alloy
Mounting	Support Wall-mount
Weight	6.4kg( 14.1lb )
Dimensions	225(W) x 292 (D) x 90 (H) mm

## OS Support

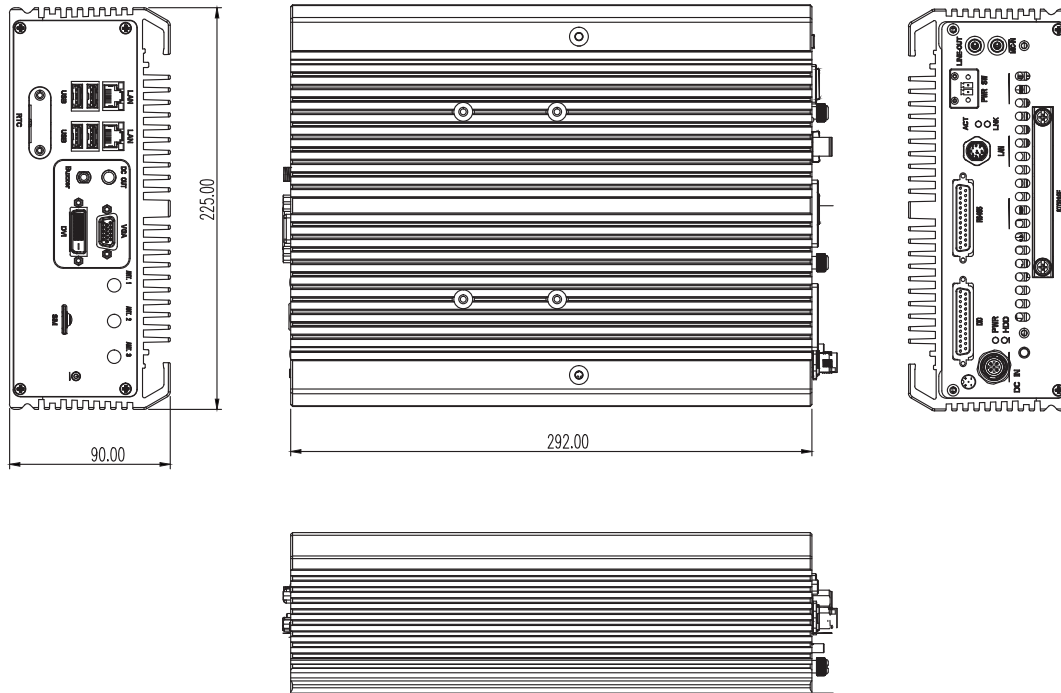
Windows 10 IOT (For 6 <sup>th</sup> /7 <sup>th</sup> Gen Intel CPU)	
Windows 7 / Windows 8.1 (For 6 <sup>th</sup> Gen Intel CPU)	
Linux (Kernal 4.x )	

## Ordering Information

ARES-1970E-M12-PISC	Barebone Fanless In-Vehicle BOX PC
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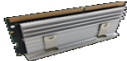








# Dimensions



Unit: mm

## Optional Configuration (CTOS\* Kit)

Xeon™ E3-1268L-V5	Intel® 6 <sup>th</sup> Gen Xeon™ E3-1268L processor, L2/8M, 2.4G	
Core™ i7-7700T	Intel® 7 <sup>th</sup> Gen. Core i7-7700T processor, L2/8M, 2.9G	
Core™ i5-7500T	Intel® 7 <sup>th</sup> Gen. Core i5-7500T processor, L2/6M, 2.7G	
Core™ i3-7101TE	Intel® 7 <sup>th</sup> Gen. Core i3-7101TE processor, L2/3M, 3.4G	
WMK-7000	Wall-mount kit for FPC-7XXX Series	
MK-4I-4G	Industrial-grade DDR4-2400 4GB SDRAM	
MK-4I-8G	Industrial-grade DDR4-2400 8GB SDRAM	
MK-4I-16G	Industrial-grade DDR4-2400 16GB SDRAM	
64/128/256GB SSD	2.5" WT 64/128/256GB SATAIII SSD	
WiFi-AT4550	Atheros, QCNFA324 WiFi module w/ 2 x 30cm internal wiring Kit	
LTE-1450	LTE Quectel EC25-E Cat 4 Mini-PCIe Wireless Kit(EMEA) w/ GPS	
ANT-D11	1 x Wi-Fi Dual-band 2.4G/5G antenna Kit	
ANT-H11	1 x 2dBi HSUPA antenna	
ANT-G11	1 x 3000mm 27dB SMA Remote GPS Antenna	

\*CTOS means Configure-to-Order Service.