



## Key Features

- Supports 9th/ 8th Gen Intel® CFL-R/S LGA 1151 Processors
- Triple Display Supported by VGA, DVI and DisplayPort
- 2x DDR4 2400/ 2666MHz SO-DIMM, Max up to 64GB
- 3x Intel GbE Ports, Support Wake-on-LAN and PXE
- 16x Intel GbE M12 Ports
- 4x Removable 2.5" SATA HDD bay supporting RAID 0, 1, 5, 10
- 2x CFast/ mSATA Connector
- 8x Isolated DI and 8x Isolated DO Port
- 6x USB 3.2 and 2x USB 2.0 Port
- 6x RS232/ 422/ 485 with Auto Flow Control
- 4x Full-size Mini-PCIe and 4x SIM socket
- 9~48V DC Input with build-in ignition power control

### Specifications

#### Processor

Support 9th/ 8th Intel® Core™ i3 / i5 / i7 Desktop 35W/ 65W LGA 1151 Processors

- Intel® Core™ i7-9700TE (8-Cores, up to 3.8 GHz, 35W TDP)
- Intel® Core™ i7-9700E (8-Cores, up to 4.4 GHz, 65W TDP)
- Intel® Core™ i5-9500TE (6-Cores, up to 3.6 GHz, 35W TDP)
- Intel® Core™ i5-9500E (6-Cores, up to 4.2 GHz, 65W TDP)
- Intel® Core™ i3-9100TE (4-Cores, up to 3.2 GHz, 35W TDP)
- Intel® Core™ i3-9100E (4-Cores, up to 3.7 GHz, 65W TDP)
- Intel® Core™ i7-8700T (6-Cores, up to 4.0 GHz, 35W TDP)
- Intel® Core™ i7-8700 (6-Cores, up to 4.6 GHz, 65W TDP)
- Intel® Core™ i5-8500T (6-Cores, up to 3.5 GHz, 35W TDP)
- Intel® Core™ i5-8500 (6-Cores, up to 4.1 GHz, 65W TDP)
- Intel® Core™ i3-8100T (4-Cores, up to 3.1 GHz, 35W TDP)
- Intel® Core™ i3-8100 (4-Cores, up to 3.6 GHz, 65W TDP)

#### BIOS

- AMI BIOS, 256Mbit SPI Flash ROM on board.

#### Chipset

- Intel® Q370 Express Chipset

#### Memory

- 2x DDR4-2400/2666MHz 260-Pin SO-DIMM Socket
- Support up to 64GB (un-buffered and non-ECC)

#### Graphics

- Integrated Intel® UHD Graphics 630 (Core™ i7/ i5/ i3)
- Integrated Intel® UHD Graphics 610 (Pentium/ Celeron)
- Supports Triple Independent Display
- 1x VGA
- 1x DVI-D
- 1x DisplayPort

#### Audio

- Realtek ALC888S
- High Definition Audio

#### Ethernet

- GbE1: Intel® i219-LM (Support Wake-on-LAN and PXE)
- GbE2~GbE3: Intel® i210-AT GbE (Support Wake-on-LAN and PXE)
- GbE4~GbE19: Intel® I350-AM4

#### Watchdog Timer

- Software Programmable Supports 1~255 sec. System Reset

#### Expansion

- 2x Full-size Mini-PCIe Socket (mux with mSATA)
- 2x Full-size Mini-PCIe Socket
- 4x SIM Socket
- 8x Antenna Hole

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 3x GbE RJ45
- 16x GbE M12 (Module)
- 6x USB 3.2 Port
- 2x USB 2.0 Port
- 6x RS232/422/485 with Auto Flow Control, DB9
- 1x Line-out and 1x Mic-in, Phone Jack 3.5mm
- 8x Isolated DI and 8x Isolated DO Port, 2x9-Pin Terminal Block
- 1x Power On/Off Button
- 1x AT/ATX Mode Switch
- 1x PC/Car Mode Switch
- 1x Removable CMOS Battery
- 1x External Clear CMOS Switch
- 1x Remote Power on/off Connector, 2-Pin Terminal Block
- 3x Universal I/O Bracket

#### Storage

- 4x Removable 2.5" SATA HDD Bay
- 2x CFAST Socket (Shared by 2x mSATA)
- 2x mSATA Socket (Shared by 2x Mini-PCIe and 2x CFAST)

#### Power Requirement

- Support Hardware AT, ATX Power Mode
- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- Power Ignition Sensing
- 1x Optional AC/DC 24V/5A, 120W Power Adapter
- 1x Optional AC/DC 24V/9.2A, 220W Power Adapter

#### Protection

- Over Voltage Protection (OVP) Up to 52V
- Reverse Voltage Protection (RVP) up to -48V
- Over Current Protection (OCP) 20A

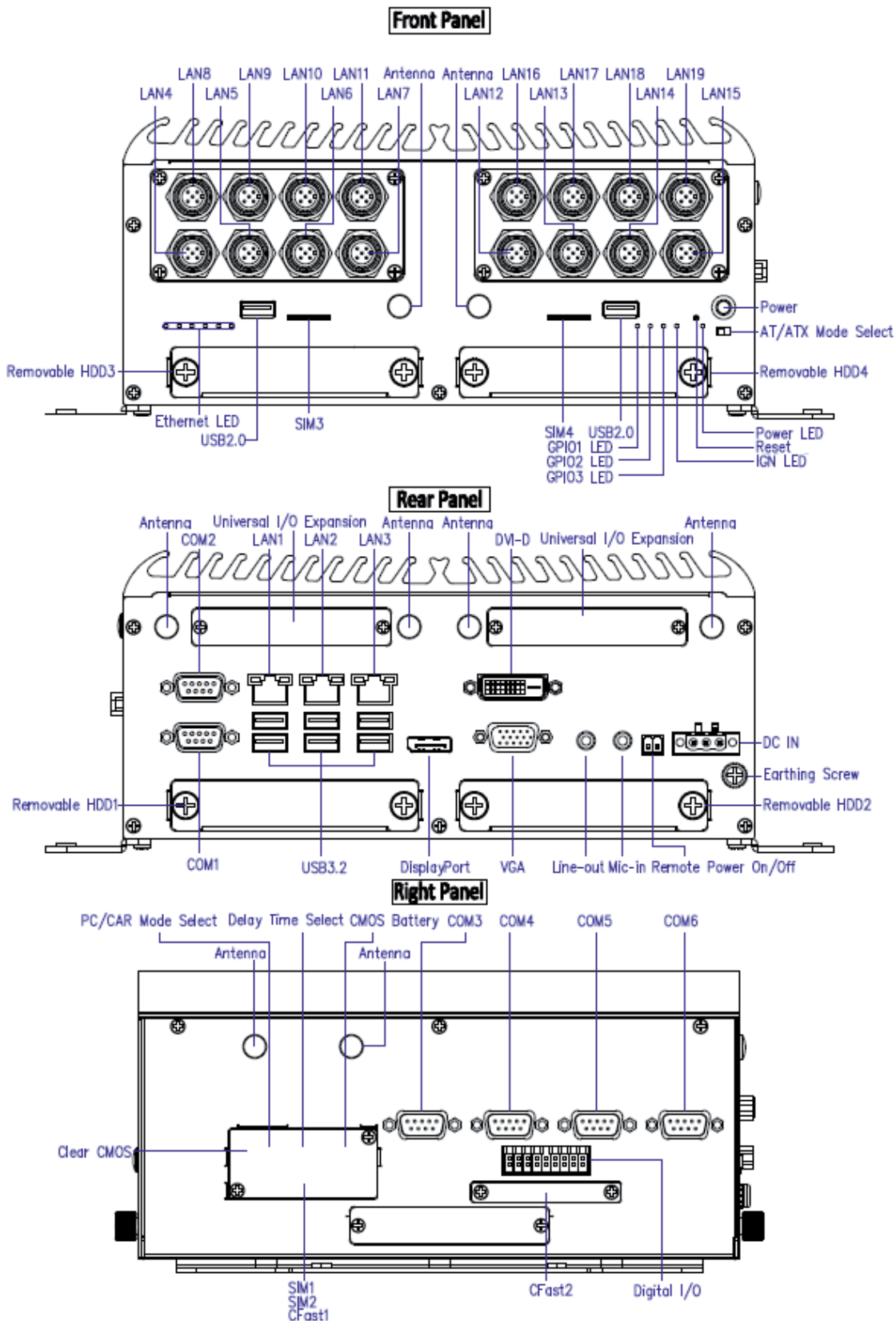
#### Environment

- Operating Temperature (Ambient with Air Flow):  
35W CPU: -40°C to 70°C  
65W CPU: -40°C to 60°C (Optional internal fan kit is required)
- Storage Temperature: -40°C to 80°C
- Relative humidity: 10%~95% (non-condensing)
- Shock: 50 Grms, Half-sine 11 ms
- Vibration: 5 Grms, 5-500 Hz, 3 Axis

#### Physical

- Dimension (WxDxH): 241.5 x 230 x 110.1 mm
- Weight: 5.0 kg
- Extruded Aluminum with Heavy Duty Metal
- Wall mounting
- Stand mounting

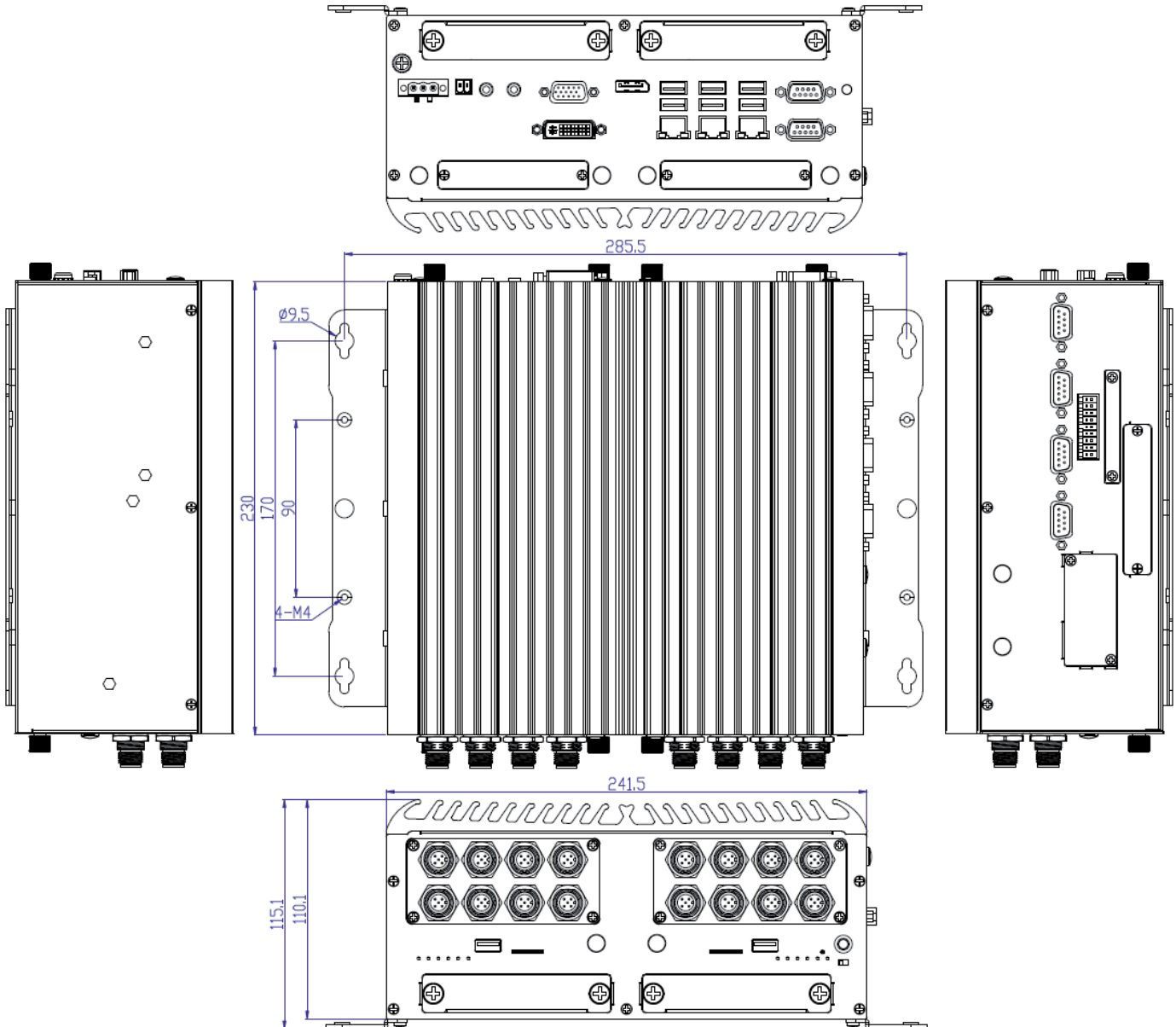
## External I/O Layout



# AVB-3120-16L-M12

Superior Box PC

## Dimension



## Superior Box PC

### Available Model

Model No.	Product Description
AVB-3120-16L-M12	Intel® 9th/8th Core™ i3 / i5 / i7 Rugged Box PC with 3x GbE RJ45, 16x GbE M12, 6x USB 3.2, 2x USB 2.0, 6x RS232/422/485, 2x CFast/mSATA and 4x Removable 2.5" SATA HDD Bay

### Optional Accessories

Model No.	Product Description
GST120A24-AV	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch
GST220A24	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch
E6-AVM3X1X0700	Internal Fan (70 x 70 x25 mm) Module Kit
APCNEMA5-15P	Power Cord, 3-pin US Type, 180cm
APCCEE7-7	Power Cord, European Type, 180cm

### Package Checklist

Item	Product Description	Q'ty
1	AVB-3120-16L-M12 Rugged Box PC	1
2	Utility DVD Driver	1
3	Wall Mount Kit	1
4	Screw Pack	1