CAPTEC

cincoze™

DS-1200 Series

Rugged Embedded Computers

Key Benefits

- **High Performance** with 9th/8th Gen Intel® Core™ processors supporting up to 8 cores
- **Modular Expansion** with up to two PCI/PCIe slots and CMI/CFM modules for additional functionality
- **Flexible Connectivity** with dual GbE LAN, multiple USB ports and triple independent display support
- **Versatile Storage** with dual SATA drive bays, M.2 NVMe/SATA support and mSATA expansion
- **Rugged Reliability** with 9–48 V DC input, 5 Grms vibration and 50 Grms shock tolerance



Overview

The DS-1200 Series comprises rugged, fanless embedded computers designed for industrial automation, transportation and demanding computing applications. Powered by 9th/8th Generation Intel® Core™ processors with up to 64 GB DDR4 memory, the series combines high-performance computing with flexible storage and connectivity. CMI and CFM modular expansion supports additional I/O and functionality, while DS-1201 and DS-1202 configurations provide one or two PCI/PCIe expansion slots. Wide-range DC power input and robust construction support reliable operation in demanding industrial environments.

Certifications

Power Ignition Sensing · PoE · EN62368-1 · EN50121-3-2 · FC · CE · CMI TECHNOLOGY · CFM TECHNOLOGY



8X CORES



TRIED, TESTED & **TRUSTED**

Specifications

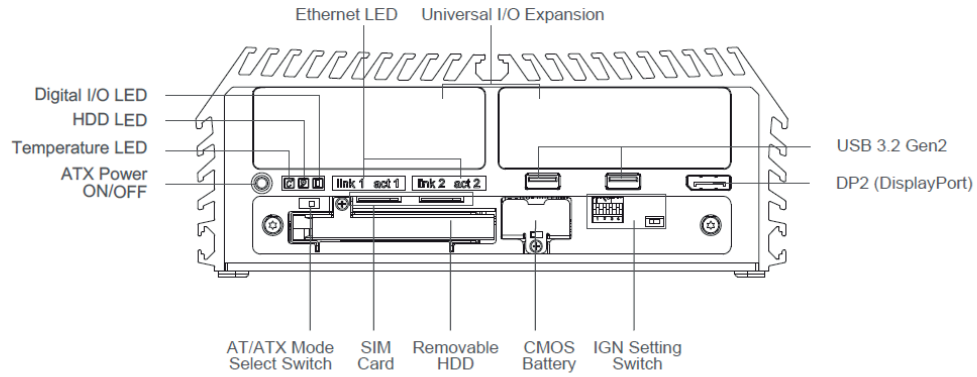
Model Name	DS-1200	DS-1201	DS-1202
System			
Processor	▪ 9th Generation Intel® Coffee Lake-R S Series CPU: - Intel® Core™ i7-9700E 8 Cores Up to 4.4 GHz, TDP 65W - Intel® Core™ i5-9500E 6 Cores Up to 4.2 GHz, TDP 65W - Intel® Core™ i3-9100E 4 Cores Up to 3.7 GHz, TDP 65W - Intel® Core™ i7-9700TE 8 Cores Up to 3.8 GHz, TDP 35W - Intel® Core™ i5-9500TE 6 Cores Up to 3.6 GHz, TDP 35W - Intel® Core™ i3-9100TE 4 Cores Up to 3.2 GHz, TDP 35W ▪ 8th Generation Intel® Coffee Lake S Series CPU: - Intel® Core™ i7-8700 6 Cores Up to 4.6 GHz - 12M Cache, TDP 65W - Intel® Core™ i5-8500 6 Cores Up to 4.1 GHz - 9M Cache, TDP 65W - Intel® Core™ i3-8100 4 Cores 3.6 GHz - 6M Cache, TDP 65W - Intel® Core™ i7-8700T 6 Cores Up to 4.0 GHz - 12M Cache, TDP 35W - Intel® Core™ i5-8500T 6 Cores Up to 3.5 GHz - 9M Cache, TDP 35W - Intel® Core™ i3-8100T 4 Cores 3.1 GHz - 6M Cache, TDP 35W - Intel® Pentium® G5400 2 Cores 3.7 GHz - 4M Cache, TDP 58W - Intel® Pentium® G5400T 2 Cores 3.1 GHz - 4M Cache, TDP 35W - Intel® Celeron® G4900 2 Cores 3.1 GHz - 2M Cache, TDP 54W - Intel® Celeron® G4900T 2 Cores 2.9 GHz - 2M Cache, TDP 35W		
Chipset	▪ Intel® Q370		
BIOS	▪ AMI 32MB SPI BIOS		
Memory	▪ 2x DDR4 2400/2666 MHz SO-DIMM Sockets ▪ Supports Un-buffered and Non-ECC Type Up to 64 GB		
Graphics			
Graphics Engine	▪ Integrated Intel® UHD Graphics 630: Core™ i7/i5/i3 ▪ Integrated Intel® UHD Graphics 610: Pentium® /Celeron® ▪ Supports Triple Independent Display (1x DVI-I, 2x DisplayPort)		
Audio			
Audio Codec	▪ Realtek® ALC888 ▪ High Definition Audio		
I/O			
Connector	▪ 1x DVI-I (DVI-D: 1920 x 1200 @60Hz / VGA: 1920 x 1080 @60Hz)		
DisplayPort	▪ 2x DisplayPort Connector (4096 x 2304 @ 60Hz, According to CPU Specifications) * Verified maximum resolution: 3840x2160.		
LAN	▪ 2x GbE LAN (Supports WoL, Teaming, Jumbo Frame & PXE), RJ45 - GbE1: Intel® I210 - GbE2: Intel® I219-LM		
COM	▪ 2x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9		
USB	▪ 2x USB 3.2 Gen2 (TypeA) ▪ 4x USB 3.2 Gen1 (TypeA) ▪ 2x USB 2.0 (Type A)		
mini-DIN	▪ 1x PS/2, 6-pin mini-DIN Female Connector		
Mic-in	▪ 1x Line-out & 1x Mic-in, Phone Jack 3.5mm		
Power On/Off Switch Button	▪ 1x ATX Power On/Off Switch		
Mode Switch	▪ 1x AT/ATX Mode Switch		
CMOS Switch	▪ 1x Clear CMOS Switch		
Remote Power On/Off Connector	▪ 1x Remote Power On/Off Connector, 2-Pin Terminal Block		

Terminal Block	▪ 1x Remote Reset Connector, 2-pin Terminal Block ▪ 1x External Fan Connector, 4-Pin Terminal Block (Supports smart fan function)		
Storage			
SSD / HDD	▪ 2x 2.5" SATA HDD/SSD bay (Gen3), 1x Internal, 1x Front Accessable Supports RAID 0/1		
mSATA	▪ 3x mSATA (shared by Mini-PCIe socket) (Gen3), BIOS Selectable		
M.2	▪ 1x M.2 Key M 2280 Socket, Supports PCIe x4 NVMe SSD or SATA SSD (Gen3)		
Expansion			
Mini PCIe	▪ 3x Full-size Mini-PCIe Socket		
SIM Socket	▪ 2x SIM Socket		
CFM (Control Function Module) Interface	▪ 1x CFM (Control Function Module) Interface		
CMI (Combined Multiple I/O) Interface	▪ 2x CMI (Combined Multiple I/O) High Speed Interface ▪ 2x CMI (Combined Multiple I/O) Low Speed Interface		
Antenna	▪ 2x Antenna Hole		
PCI/PCIe Expansion		▪ 1x PCI/PCIe Expansion slot (with Optional Riser Card) * Supports maximum dimensions of add-on card (H x L) : 111 x 235 mm	▪ 2x PCI/PCIe Expansion slot (with Optional Riser Card) * Supports maximum dimensions of add-on card (H x L) : 111 x 235 mm
Other Function			
Instant Reboot	▪ Support Instant Reboot Technology (0.2 sec)		
CMOS	▪ SuperCap Integrated for CMOS Battery Maintenance-free Operation		
WatchDog Timer	▪ Software Programmable Supports 256 Levels System Reset		
Power Requirement			
Power Type	▪ AT / ATX		
Power Supply Voltage	▪ 9~48VDC		
Terminal	▪ 1x 3-Pin Terminal Block		
Power Adapter	▪ Power Adapter AC/DC 24V/5A 120W or 24V/9.2A 220W (Optional)		
Physical			
Dimension (W x D x H)	▪ 227 x 261 x 88 mm	▪ 227 x 261 x 108 mm	▪ 227 x 261 x 128 mm
Weight	▪ 4.3 kg	▪ 4.92 kg	▪ 5.14 kg
Construction	▪ Extruded Aluminum with Heavy Duty Metal		
Mounting	▪ Wall Mounting		
Physical Design	▪ Unibody Design ▪ Fanless Design ▪ Jumper-less Design		
Protection			
Reverse Power Input Protection	▪ Yes		
Over Voltage Protection	▪ Protection Range: 51~58V ▪ Protection Type: shut down operating voltage, re-power on at the preset level to recover		
Over Current Protection	▪ 15A		
Operating System			
Windows	▪ Windows® 10		

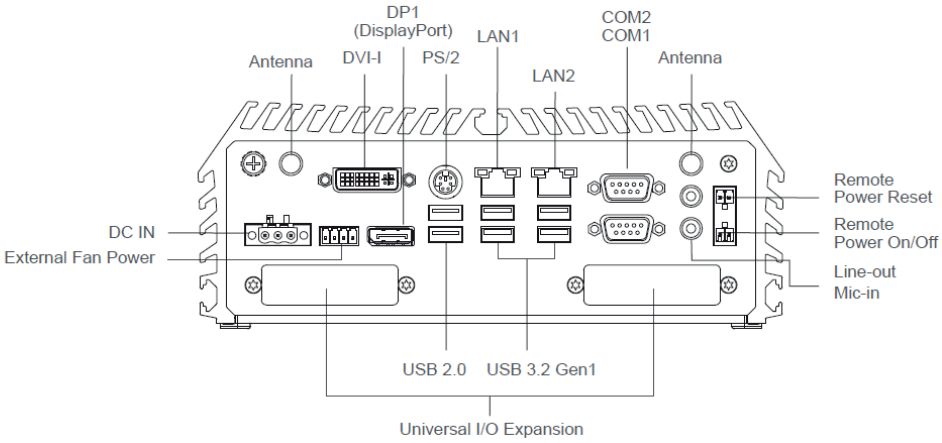
Linux	▪ Supports by project
Environment	
Operating Temperature	▪ 35W TDP Processor: -40°C to 70°C ▪ 51~65W TDP Processor: -40°C to 45°C * PassMark BurnInTest: 100% CPU, 2D/3D Graphics (without thermal throttling) * With extended temperature peripherals; Ambient with air flow * According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14
Storage Temperature	▪ -40°C to 85°C
Relative Humidity	▪ 95%RH @ 70°C (non-Condensing)
Shock	▪ Operating, 50 Grms, Half-sine 11 ms Duration * w/ SSD, according to IEC60068-2-27
Vibration	▪ Operating, 5 Grms, 5-500 Hz, 3 Axes * w/ SSD, according to IEC60068-2-64
MTBF	▪ 396,565 Hours
EMC	▪ CE, UKCA, FCC, ICES-003 Class A ▪ EN 50155 (EN 50121-3-2 Only)
EMI	▪ CISPR 32 Conducted & Radiated: Class A ▪ EN/BS EN 50121-3-2 Conducted & Radiated: Class A ▪ EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A ▪ EN/BS EN61000-3-3 Voltage fluctuations & flicker ▪ FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A
EMS	▪ EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV ▪ EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m ▪ EN/IEC 61000-4-4 EFT (with optional PPM module): AC Power: 2 kV; DC Power: 1 kV; Signal: 2 kV ▪ EN/IEC 61000-4-5 Surges: AC Power: 2 kV ▪ EN/IEC 61000-4-6 CS: 10V ▪ EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m ▪ EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz
Safety	▪ LVD IEC/EN 62368-1

DS-1200 External Layout

Front I/O

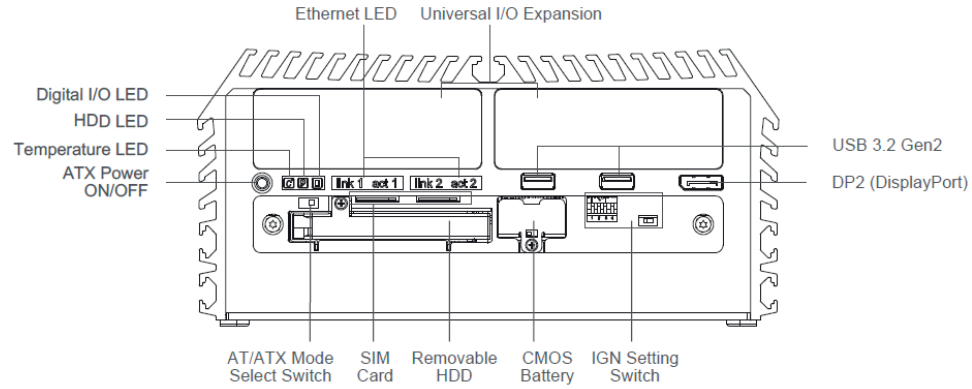


Rear I/O

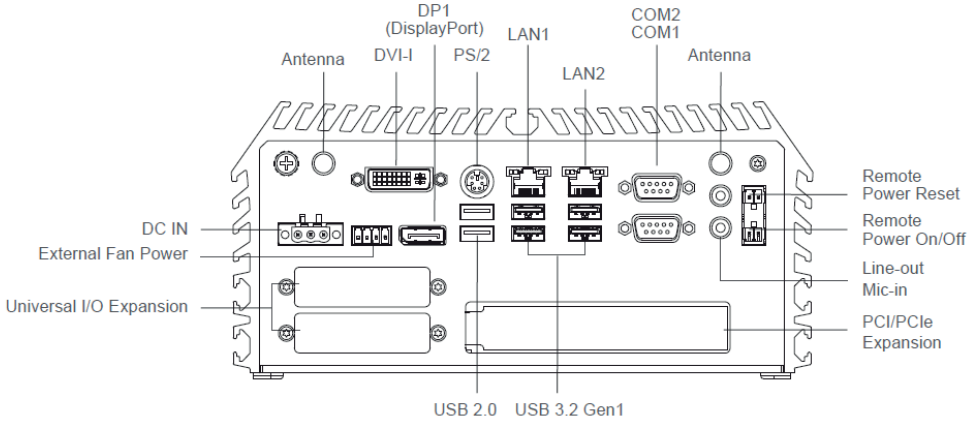


DS-1201 External Layout

Front I/O

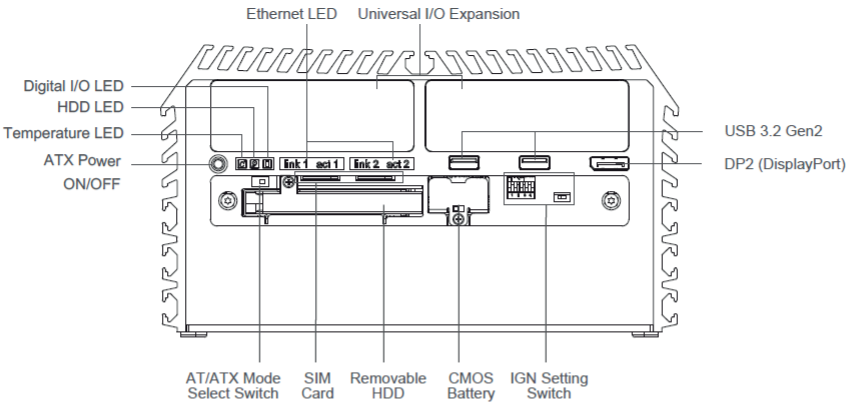


Rear I/O

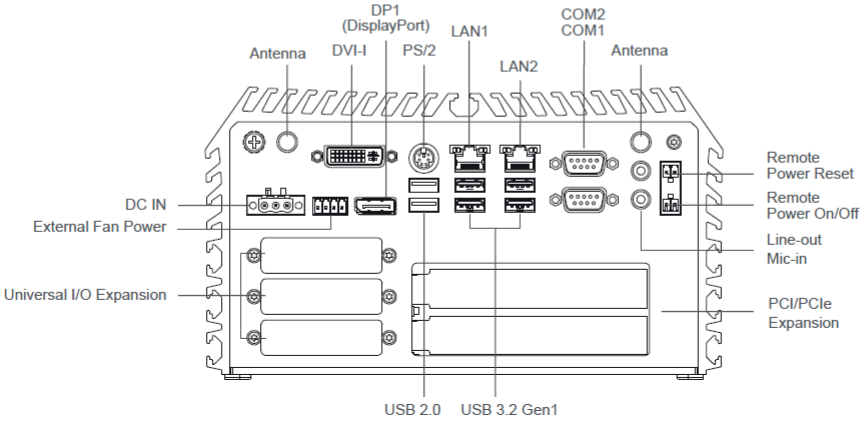


DS-1202 External Layout

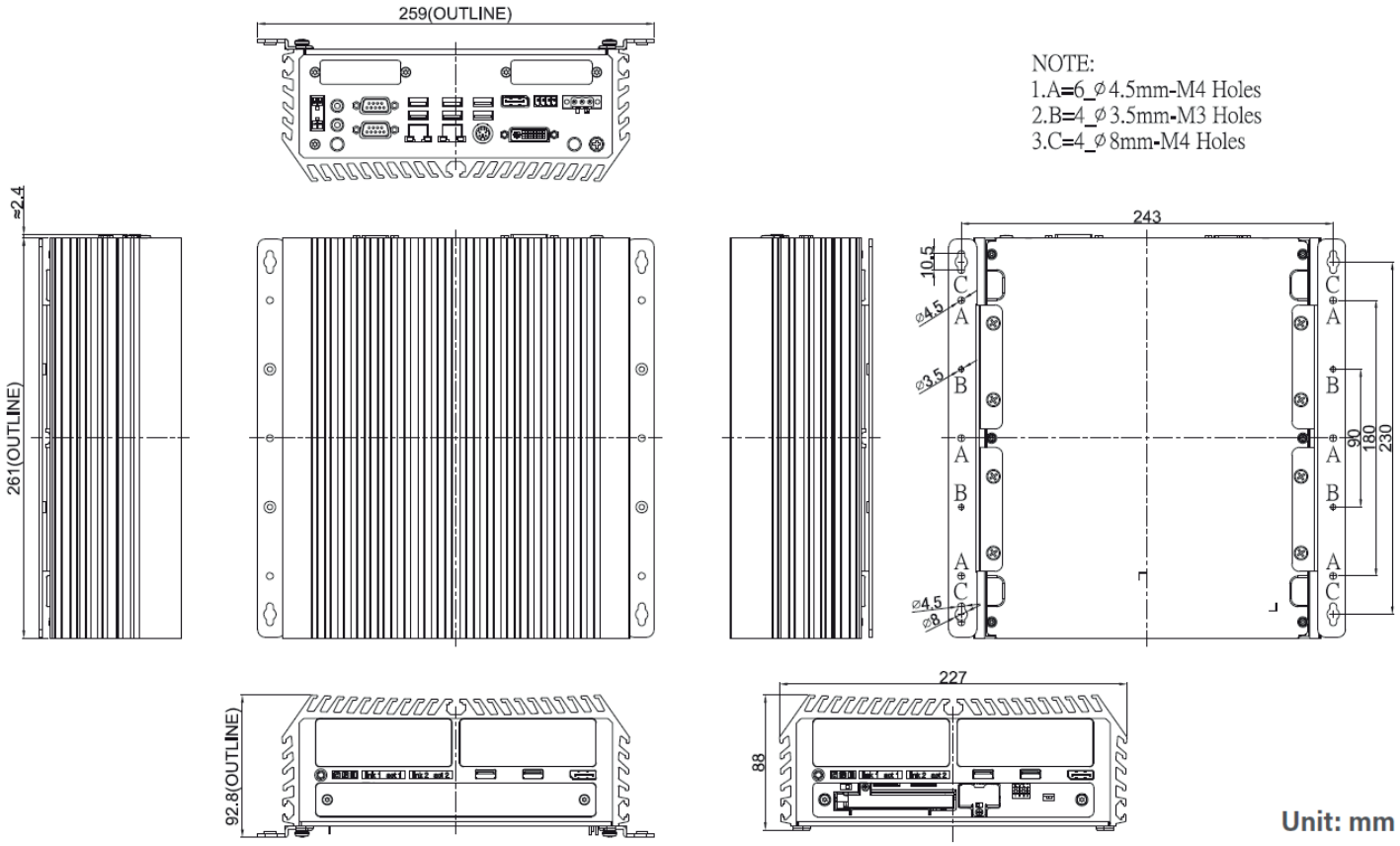
Front I/O



Rear I/O

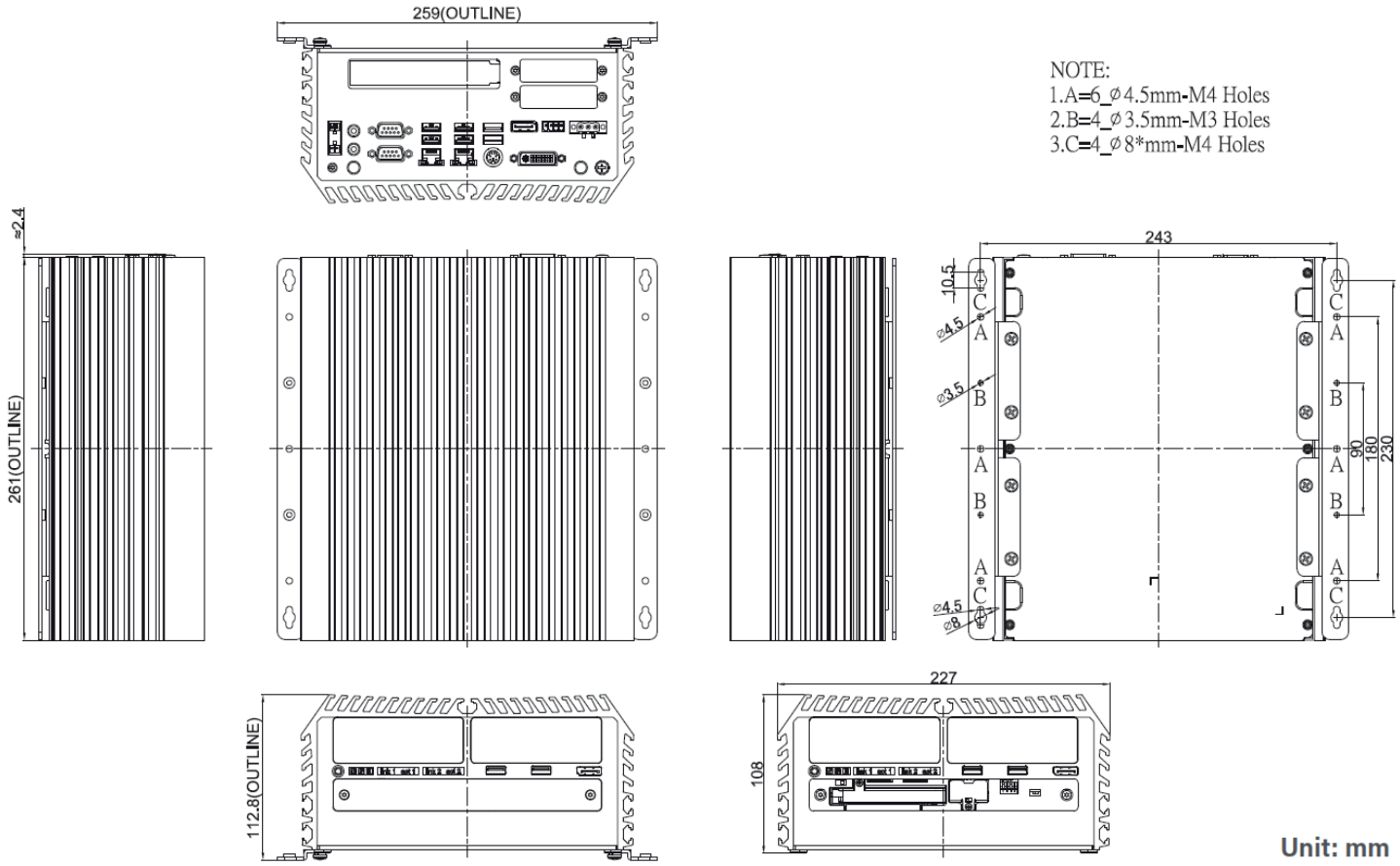


DS-1200 Dimensions



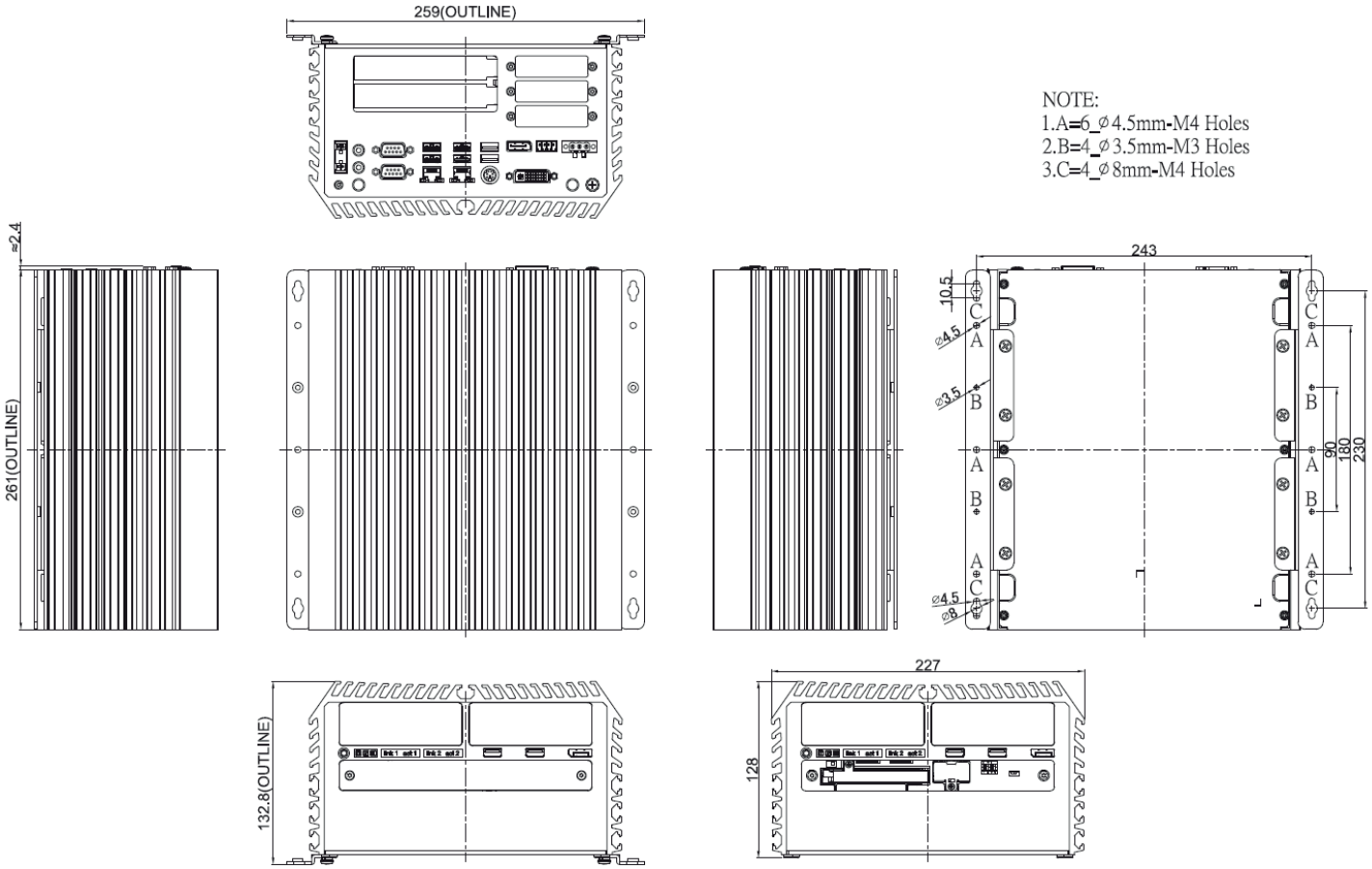
Unit: mm

DS-1201 Dimensions



Unit: mm

DS-1200 Dimensions



Unit: mm

Ordering Information

Available Models

Model No.	Description
DS-1200-R10	9/8th Generation Intel® Core™ Series Processors, High Performance, Expandable and Modular Rugged Embedded Computer
DS-1201-R10	9/8th Generation Intel® Core™ Series Processors, High Performance, Expandable and Modular Rugged Embedded Computer with 1x PCI/PCIe Expansion Slot
DS-1202-R10	9/8th Generation Intel® Core™ Series Processors, High Performance, Expandable and Modular Rugged Embedded Computer with 2x PCI/PCIe Expansion Slots

Package Checklist

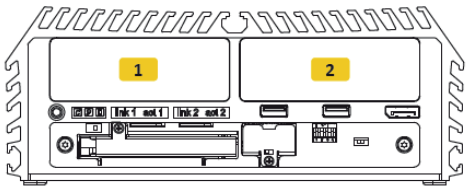
▪ DS-1200 Series Embedded System x 1	▪ Power Terminal Block Connector x 1
▪ Heat Sink Pack x 1	▪ Remote Power On/Off Terminal Block Connector x 1
▪ Screw Pack x 1	▪ Remote Power Reset Terminal Block Connector x 1
▪ Wall Mounting Kit x 1	▪ Fan Terminal Block Connector x 1
▪ DVI-I to VGA Adaptor	

Optional Modules and Accessories

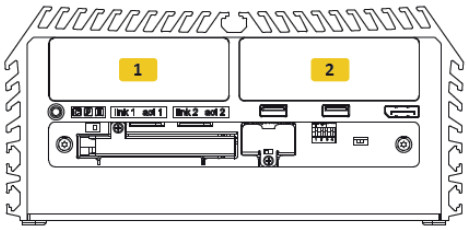
Model No.	Description
CFM-PoE03	CFM Module with PoE Function, Individual Port 25.5W
CFM-IGN101	CFM Module with Power Ignition Sensing Function, 12V/24V Selectable
CMI-LAN01-R12/UB1012	CMI Module with 4x Intel I210 GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout
CMI-M12LAN01-R12/UB1010	CMI Module with M12 Connector, 4x Intel GbE LAN / 1x Universal Bracket with 4x M12 Cutout
CMI-XM12LAN01-R10/ UB1030-R10	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports / Universal Bracket with 4x M12 X-Coded Cutout
CMI-CAN01-R10/UB1038-R10	CMI Module with 2x CAN FD Ports / Universal Bracket with 2x DB9 and 1× Switch Cutout for CMI-CAN Expansion
CMI-DIO02/UB1018	CMI Module with 16DIO (8in 8out) / 1x Universal Bracket with DIO Cutout
CMI-COM02/UB1004	CMI Module with 4x RS232/422/485 Ports (Support 5V/12V) / 1x Universal Bracket with 4x DB9 Cutout
CMI-ICOM01/UB1004	CMI Module with 4x Electrical Isolated RS232/422/485 Serial Ports / 1x Universal Bracket with 4x DB9 Cutout
MEC-COM-M212-DB9/UB0303	Mini-PCIe Module with 2x RS-232 Ports, 1x Standard DB9 Cable / 2x Universal Bracket each with 1x DB9 Cutout
MEC-USB-M102-30/UB0314	Mini-PCIe Module with 2x USB 3.2 Gen1 Ports, 1x30 cm cable, 1x Universal Bracket with 2x USB Cutout
MEC-LAN-M102-30/UB0311	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable / 1x Universal Bracket with 2x RJ45 Cutout
UB0331-R10	Universal Bracket with 2x Antenna Cutout
UB1032-R10	Universal Bracket with 3x Antenna Cutout
FAN-EX101	External Fan with 4pin Terminal Block Plug and Mounting Bracket, Support Smart Fan
FAN-UB100	Internal Exhaust Fan with 4pin Connector
FAN-UB101	IInternal Intake Fan with 4pin Connector
PAH01	Power Adapter Holder for GST120A24

PAH02	Power Adapter Holder for GST220A24
GST120A24-CIN	Adapter AC/DC 24V 5A 120W, with 3pin Terminal Block Plug 5.0mm Pitch, with TUBES, level VI
GST220A24-CIN	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch, with TUBES, level VI
GST360A24-CIN	Adapter AC/DC 24V 15A 360W with 3pin Terminal Block Plug and TUBES, Level VI
RSD-200D-24	Railway Single Output DC-DC Converter 200W / DC 24V
RC-E16-01	Riser Card with 1 x PCIex16 Slot
RC-PI-01	Riser Card with 1 x PCI Slot
RC-E8E8-R10	Riser Card with 2x PCIex8 Slots
RC-E16E1-01	Riser Card with 1x PCIex16, 1x PCIex1 slots, supports GPU card up to 75W
RC-E16PI-01	Riser Card with 1x PCIex16 and 1x PCI Slots (PCIe x16 Slot Supports Single Deck Add-on Card)
RC-PIPI-01	Riser Card with 2x PCI Slots
PPM-I360-02-R10	360W Power Protection Module for DS Series

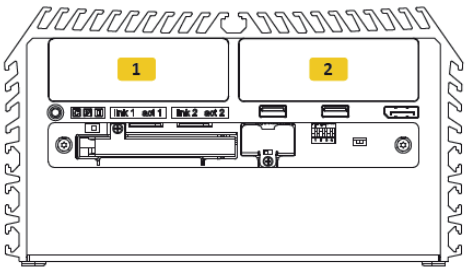
Optional Module Configuration – Front side



DS-1200



DS-1201



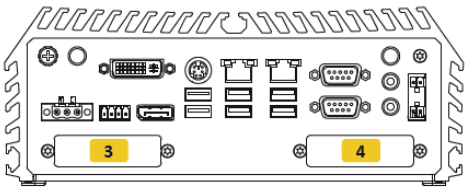
DS-1202

Model No.	Description	1	2
CMI-LAN01-R12/UB1012 	CMI Module with 4x Intel I210 GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout	V	V
CMI-M12LAN01-R12/UB1010 	CMI Module with M12 Connector, 4x Intel GbE LAN / 1x Universal Bracket with 4x M12 Cutout	V	V
CMI-XM12LAN01-R10/UB1030-R10 	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports / Universal Bracket with 4x M12 X-Coded Cutout	V	V
CMI-CAN01-R10/UB1038-R10 	CMI Module with 2x CAN FD Ports / Universal Bracket with 2x DB9 and 1× Switch Cutout for CMI-CAN Expansion	V	V
CMI-COM02/UB1004 	CMI Module with 4x RS232/422/485 Ports (Support 5V/12V) / 1x Universal Bracket with 4x DB9 Cutout	V	V
CMI-ICOM01/UB1004 	CMI Module with 4x Electrical Isolated RS232/422/485 Serial Ports / 1x Universal Bracket with 4x DB9 Cutout	V	V
CMI-DIO02/UB1018 	CMI Module with 16DIO (8in 8out) / 1x Universal Bracket with DIO Cutout	V	V
UB1032-R10 	Universal Bracket with 3x Antenna Cutout	V	V

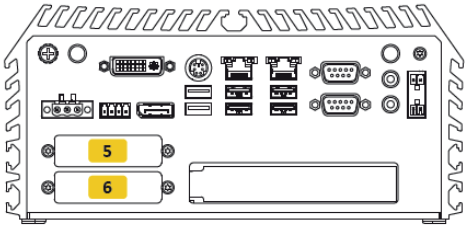
Remark:

V : Compatible

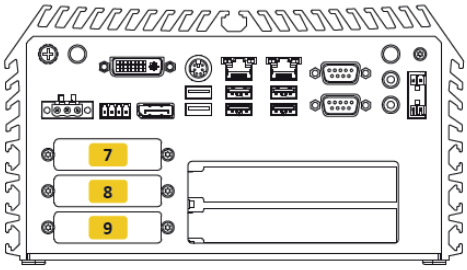
Optional Module Configuration – Rear side



DS-1200



DS-1201



DS-1202

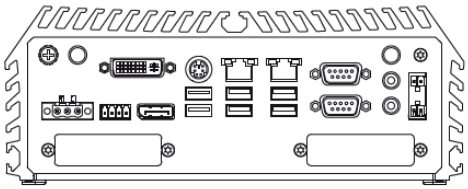
Model No.	Description	DS-1200		DS-1201		DS-1202		
		3	4	5	6	7	8	9
MEC-LAN-M102-30/UB0311 	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable / 1x Universal Bracket with 2x RJ45 Cutout	V	V	V	V	V	V	V
MEC-USB-M102-30/UB0314 	Mini-PCIe Module with 2x USB 3.2 Gen1 Ports, 1x 30cm cable, 1x Universal Bracket with 2x USB Cutout	V	-	V	V	V	V	V
MEC-COM-M212-DB9/UB0303 	Mini-PCIe Module with 2x RS-232 Ports, 1x Standard DB9 Cable / 2x Universal Bracket each with 1x DB9 Cutout	V	V	V	V	V	V	V
UB0331-R10 	Universal Bracket with 2x Antenna Cutout	V	V	V	V	V	V	V
FAN-UB100 	Internal Exhaust Fan with 4pin Connector	-	-	-	-	V		
FAN-UB101 	Internal Intake Fan with 4pin Connector	-	-	-	-	V		

Remark:

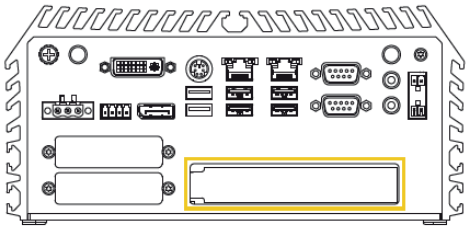
Maximum one CMI-COM02 or CMI-ICOM01 module can be installed in this system.

V : Compatible

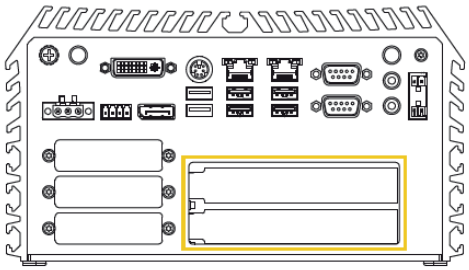
Riser Card Configuration



DS-1200



DS-1201



DS-1202

Model No.	Description	DS-1200	DS-1201	DS-1202
RC-E16-01 	Riser Card with 1 x PCIex16 Slot	-	V	-
RC-PI-01 	Riser Card with 1 x PCI Slot	-	V	-
RC-E8E8-R10 	Riser Card with 2 x PCIex8 Slots	-	-	V
RC-E16E1-01 	Riser Card with 1x PCIex16, 1x PCIex1 slots, supports GPU card up to 75W	-	-	V

RC-E16PI-01 	Riser Card with 1x PCIex16 and 1x PCI Slots (PCIe x16 Slot Supports Single Deck Add-on Card)	-	-	V
RC-E16PI-01 	Riser Card with 2x PCI Slots	-	-	V

Remark:
Maximum one CMI-COM02 or CMI-ICOM01 module can be installed in this system.

V : Compatible

Delivering end-to-end, like no one else.
Bring us your challenge & experience the difference.

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