CAPTEC

cincoze™

DS-1300 Series

Rugged Embedded Computers

Key Benefits

- **High Performance** with 10th Gen Intel® Xeon® and Core™ processors supporting up to 10 cores
- **Modular Expansion** with up to two PCI/PCIe slots and optional CMI/CFM modules
- **Flexible Connectivity** with dual GbE LAN, multiple USB ports and triple independent display support
- **Versatile Storage** with dual SATA drive bays, three mSATA sockets and M.2 NVMe support
- **Rugged Reliability** with 9–48 V DC input, MIL-STD-810G shock and vibration testing



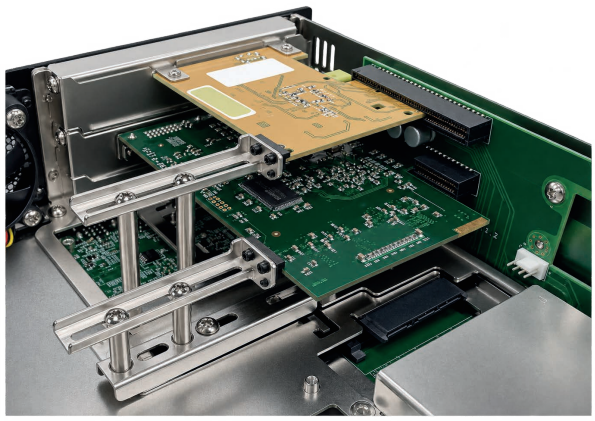
Overview

The DS-1300 Series comprises rugged embedded computers designed for industrial automation, factory automation and rolling stock applications. Powered by 10th Generation Intel® Xeon® and 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-1301 and DS-1302 configurations provide one or two PCI/PCIe expansion slots. Fanless construction, wide-range DC power input and industrial-grade protection support reliable operation in demanding environments.

Certifications

-40~70°C
MIL-STD 810G
CMI TECHNOLOGY
CFM TECHNOLOGY
EN 50121-3-2
EN 62368-1
c UL us LISTED





TRIED, TESTED & **TRUSTED**

Specifications

Model Name	DS-1300	DS-1301	DS-1302
System			
Processor	Intel® Xeon® Series Processor (80W / 35W): ▪ Intel® Xeon® W-1270E 8 Cores Up to 4.8 GHz, TDP 80W ▪ Intel® Xeon® W-1250E 6 Cores Up to 4.7 GHz, TDP 80W ▪ Intel® Xeon® W-1290TE 10 Cores Up to 4.5 GHz, TDP 35W ▪ Intel® Xeon® W-1270TE 8 Cores Up to 4.4 GHz, TDP 35W ▪ Intel® Xeon® W-1250TE 6 Cores Up to 3.8 GHz, TDP 35W Intel® Core® Series Processor (65W / 35W): ▪ Intel® Core™ i9-10900E 10 Cores Up to 4.7 GHz, TDP 65W ▪ Intel® Core™ i7-10700E 8 Cores Up to 4.5 GHz, TDP 65W ▪ Intel® Core™ i5-10500E 6 Cores Up to 4.2 GHz, TDP 65W ▪ Intel® Core™ i3-10100E 4 Cores Up to 3.8 GHz, TDP 65W ▪ Intel® Core™ i9-10900TE 10 Cores Up to 4.5 GHz, TDP 35W ▪ Intel® Core™ i7-10700TE 8 Cores Up to 4.5 GHz, TDP 35W ▪ Intel® Core™ i5-10500TE 6 Cores Up to 3.7 GHz, TDP 35W ▪ Intel® Core™ i3-10100TE 4 Cores Up to 3.6 GHz, TDP 35W		
Chipset	▪ Intel® W480E Chipset		
Memory	▪ 2x DDR4 2933/2666/2400 SO-DIMM Socket * Xeon / i9 / i7 Processor Supports Up to 2933MHz * i5 / i3 Processor Supports Up to 2666 MHz ▪ Supports Un-buffered and Non-ECC Type Up to 64GB		
BIOS	▪ AMI BIOS		
Graphics			
Graphics Engine	▪ Integrated Intel® UHD-630 Graphics		
Maximum Display Output	▪ Supports Triple Independent Display		
HDMI®	▪ 1 x HDMI® Connector (4096 x 2160@30Hz)		
DP	▪ 2x DisplayPort Connector (4096 x 2304 @ 60Hz, According to CPU Specifications) * Verified maximum resolution: 3840x2160.		
VGA	▪ 1 x VGA Connector (1920 x 1200 @60Hz)		
Audio			
Audio Codec	▪ Realtek® ALC888, High Definition Audio		
Line-out	▪ 1 x Line-out, Phone Jack 3.5mm		
Mic-in	▪ 1 x Mic-in, Phone Jack 3.5mm		
I/O			
LAN	▪ 2 x GbE LAN, RJ45 - GbE1: Intel® I219 - GbE2: Intel® I210		
COM	▪ 2 x RS-232/422/485 with Auto Flow Control (Supports 5V / 12V), DB9		
USB	▪ 2 x 10Gbps USB 3.2 Gen2, Type A ▪ 4 x 5Gbps USB 3.2 Gen1, Type A ▪ 2 x 480Mbps USB 2.0, Type A		
PS/2	▪ 1 x PS/2, 6 Pin Mini-DIN Female Connector		
Storage			
SSD/HDD	▪ 1x 2.5" Front Accessible SATA HDD/SSD Bay (SATA 3.0) ▪ 1x 2.5" Internal SATA HDD/SSD Bay (SATA 3.0)		
mSATA	▪ 3x mSATA Socket (SATA 3.0, shared by Mini-PCIe socket)		
M.2 SSD	▪ 1x M.2 Key M Type 2280 Socket, Support PCIe x4 NVMe SSD or SATA SSD (SATA 3.0)		

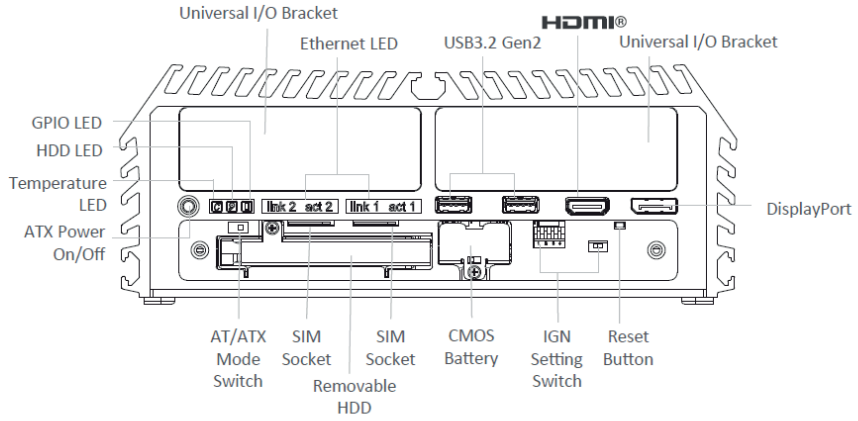
RAID	▪ Support RAID 0/1/5/10		
Expansion			
PCI Express		▪ 1 x PCI/PCIe Expansion Slot with Optional Riser Card * Supports maximum dimensions of add-on card (L x H) : 235 x 124 mm	▪ 2 x PCI/PCIe Expansion Slot with Optional Riser Card * Supports maximum dimensions of add-on card (L x H) : 235 x 124 mm
Mini PCI Express	▪ 3 x Full-size Mini-PCIe Socket		
SIM Socket	▪ 2 x SIM Socket		
CMI (Combined Multiple I/O) Interface	▪ 2 x High Speed CMI Interface for optional CMI Module Expansion ▪ 2 x Low Speed CMI Interface for optional CMI Module Expansion		
CFM (Control Function Module) Interface	▪ 1 x CFM IGN Interface for optional CFM-IGN Module Expansion		
Other Function			
External FAN Connector	▪ 1 x External FAN Connector, 4-pin Terminal Block (Support Smart Fan by BIOS)		
Power Ignition Sensing	▪ Support Power Ignition Sensing Function with Delay Time Management and Selectable 12V/24V (With Optional CFM Module)		
Clear CMOS Switch	▪ 1 x Clear CMOS Switch		
Reset Button	▪ 1 x Reset Button		
Instant Reboot	▪ Support 0.2sec Instant Reboot Technology		
Watchdog Timer	▪ Software Programmable Supports 256 Levels System Reset		
Power			
Power Button	▪ 1 x ATX Power On/Off Button		
Power Mode Switch	▪ 1 x AT/ATX Mode Switch		
Power Input	▪ 9 - 48VDC, 3-pin Terminal Block		
Remote Power On/Off	▪ 1 x Remote Power On/Off, 2-pin Terminal Block		
Remote Power LED	▪ 1 x Remote Power LED, 2-pin Terminal Block		
Total Power Budget	▪ 180W		
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 Information	▪ 4.5 kg	▪ 5.04 kg	▪ 5.4 kg
Mechanical Construction	▪ Extruded Aluminum with Heavy Duty Metal		
Mounting	▪ Wall Mount		
Physical Design	▪ Fanless Design ▪ Cableless Design ▪ Jumper-less Design ▪ Unibody Design		
Reliability & 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		
CMOS Battery Backup	▪ SuperCap Integrated for CMOS Battery Maintenance-free Operation		
MTBF	▪ 371,393 Hours - Database: Telcordia SR-332 Issue 3, Method 1, Case 3		

Operating System	
Windows	▪ Windows® 10
Linux	▪ Supports by project
Environment	
Operating Temperature	▪ 35W TDP Processor: -40°C to 70°C ▪ 58W – 65W TDP Processor: -40~50°C (With External Fan Kit) ▪ 80W TDP Processor: -40~40°C (With External Fan Kit) * 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)
Ingress Protection	▪ IP30 Compliant * According to IEC60529
Shock	▪ MIL-STD-810G
Vibration	▪ MIL-STD-810G
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	▪ UL, cUL, CB, IEC, EN 62368-1

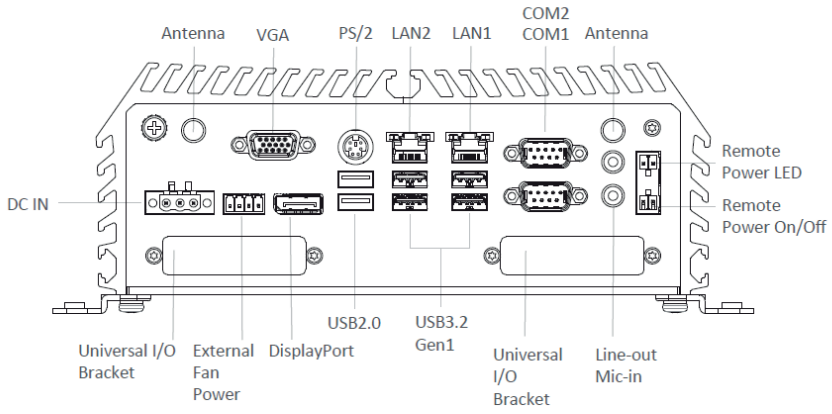
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DS-1200 External Layout

Front I/O

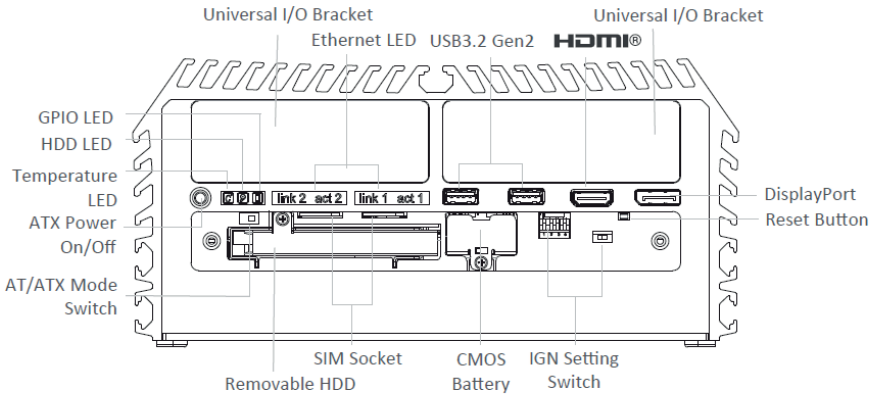


Rear I/O

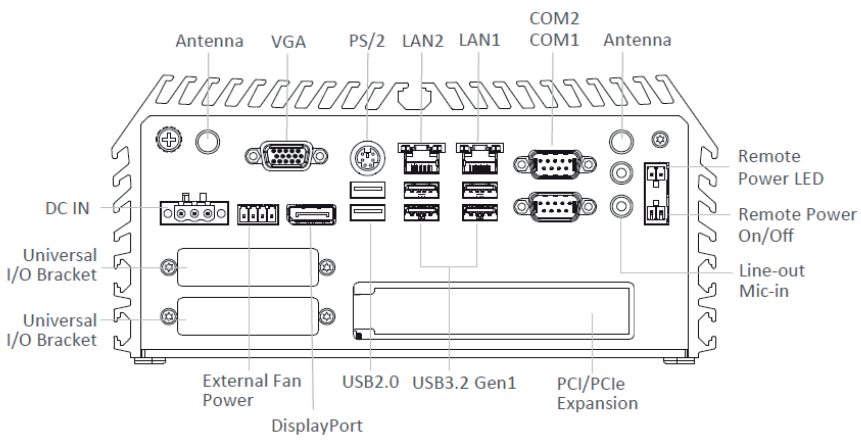


DS-1301 External Layout

Front I/O

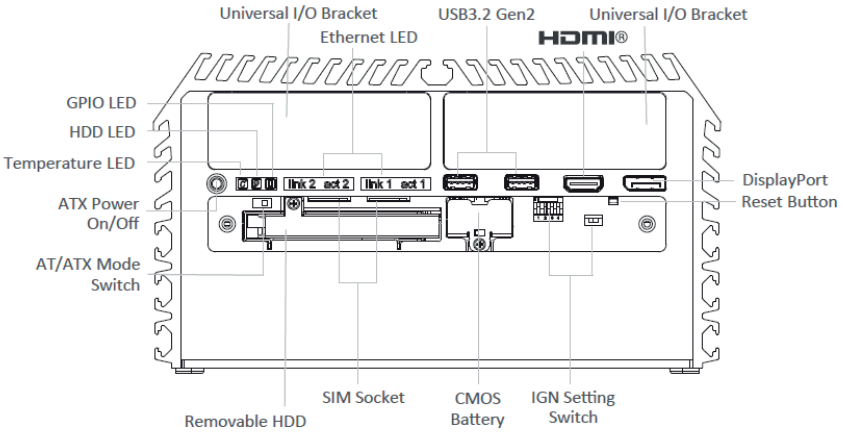


Rear I/O

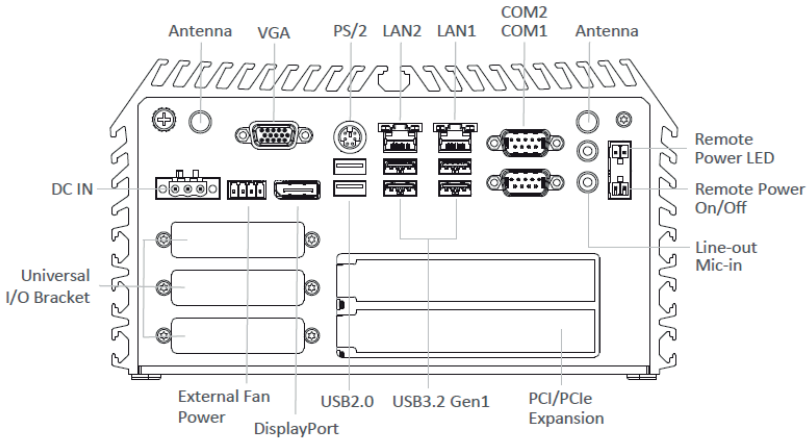


DS-1302 External Layout

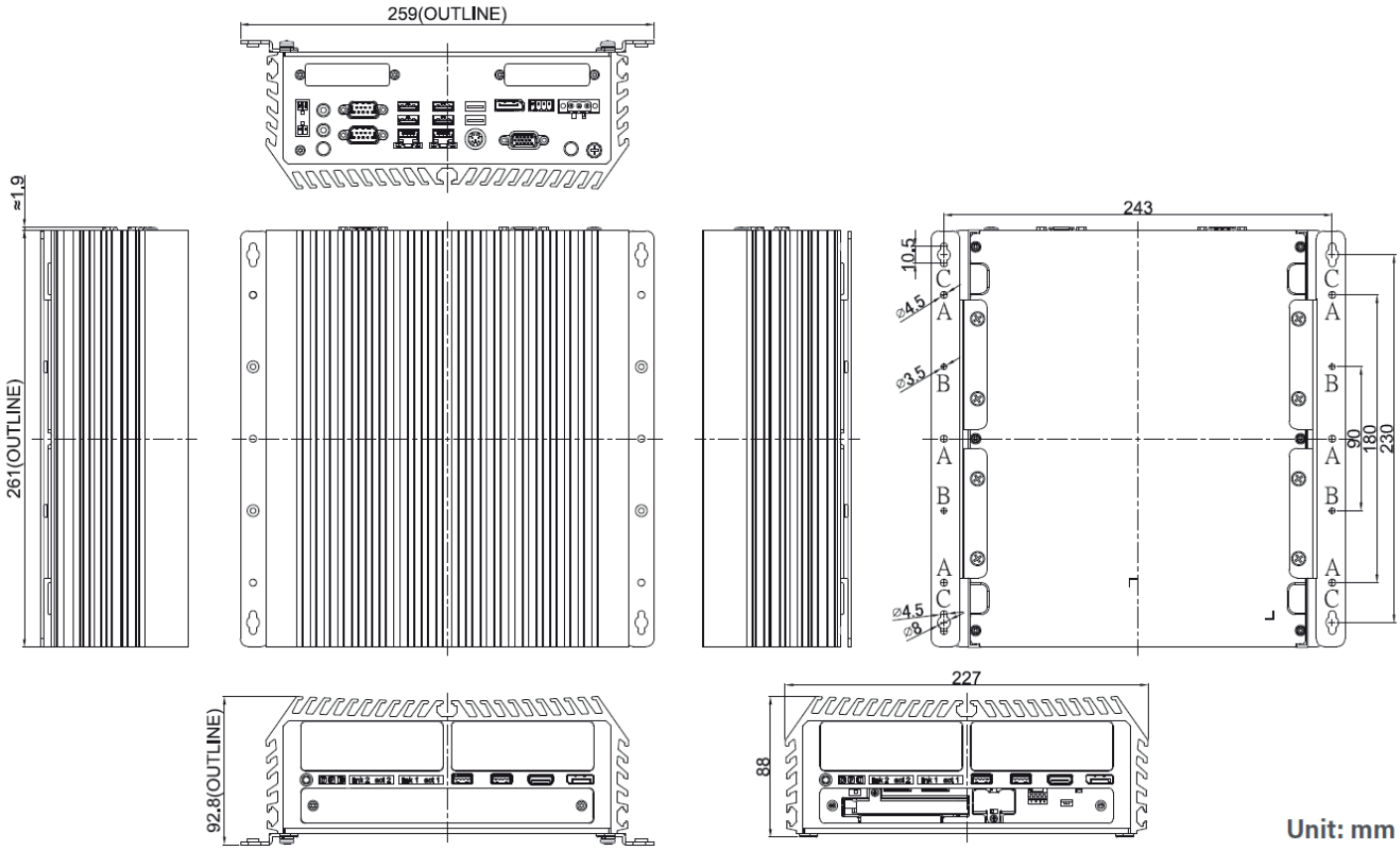
Front I/O



Rear I/O

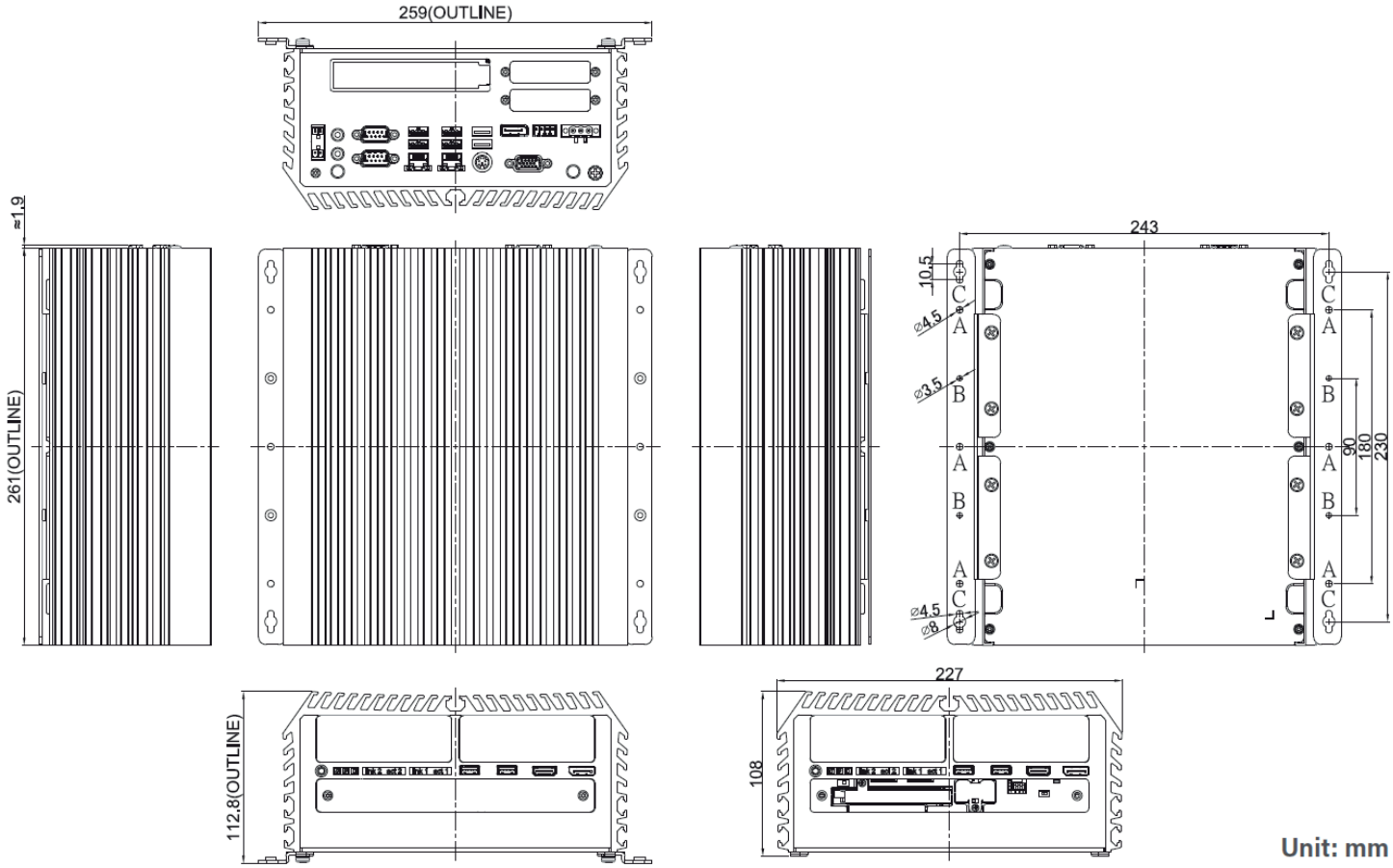


DS-1300 Dimensions



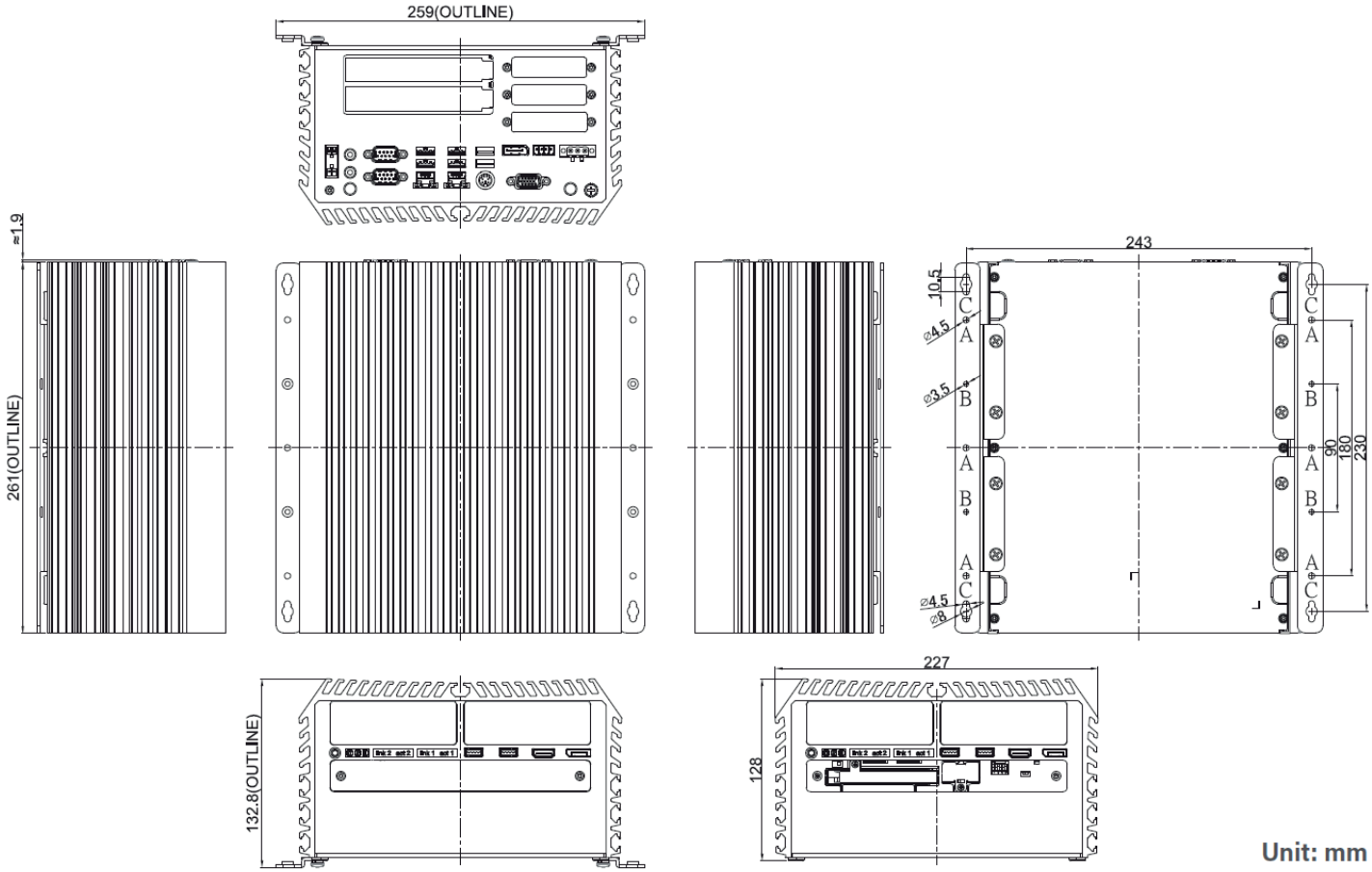
Unit: mm

DS-1301 Dimensions



Unit: mm

DS-1302 Dimensions



Unit: mm

Ordering Information

Available Models

Model No.	Description
DS-1300-R10	10th Generation Intel® Xeon/Core™ Series Processors, High Performance, Expandable and Modular Rugged Embedded Computer
DS-1301-R10	10th Generation Intel Xeon/Core Series Processors, High Performance, Expandable and Modular Rugged Embedded Computer with 1x PCI/PCIe Expansion Slot
DS-1302-R10	10th Generation Intel Xeon/Core Series Processors, High Performance, Expandable and Modular Rugged Embedded Computer with 2 PCI/PCIe Expansion Slot

Package Checklist

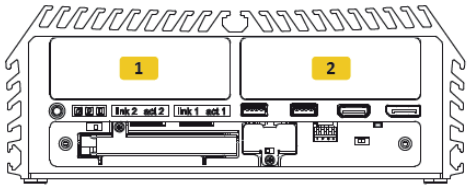
- DS-1300 Series Embedded System x1
- Heatsink Pack x1
- Wall Mounting Kit x 1
- Screw Pack x1
- Remote Function Terminal Block Connector x 2
- Power Terminal Block Connector x1
- Fan Terminal Block Connector x 1

Optional Modules and Accessories

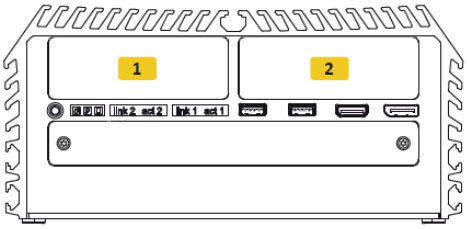
Model No.	Description
CMI-LAN01-R12	CMI Module with 4x RJ45 Intel I210 GbE LAN Ports
CMI-M12LAN01-R12	CMI Module with 4x M12 Intel I210 GbE LAN Ports
CMI-XM12LAN01-R10	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports
CMI-2P5GLAN03-R10	CMI Module with 4x Intel 2.5GbE LAN, RJ45 Port
CMI-10GLAN03-R10	CMI Module with 2x Intel X550 10GbE LAN, RJ45 Port
CMI-10GXM12LAN03-R10	CMI Module with 2x Intel 10GbE LAN, M12 X-Coded Connector
CMI-CAN01-R10	CMI Module with 2x CAN FD Ports
CMI-COM02	CMI Module with 4x RS232/422/485 Serial Ports
CMI-ICOM01	CMI Module with 4x Electrical Isolated RS232/422/485 Serial Ports
CMI-DIO02	CMI Module with 16x Optical Isolated DIO (8 in/8 out)
MEC-LAN-M102-30	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable
MEC-USB-M102-30	Mini-PCIe Module with 2x USB 3.2 Gen1 Ports, 1x 30cm cable
MEC-COM-M212-DB9	Mini-PCIe Module with 2x RS-232 Serial Ports, 1x Standard DB9 Cable
UB1004	Universal Bracket with 4x DB9 Cutout
UB1010	Universal Bracket with 4x M12 Cutout
UB1012	Universal Bracket with 4x RJ45 Cutout
UB1018	Universal Bracket with DIO Cutout
UB1028	Universal Bracket with 2x RJ45 Cutout
UB1030-R10	Universal Bracket with 2x M12 X-coded Cutout
UB1032-R10	Universal Bracket with 3x Antenna Cutout

UB1037-R10	Universal Bracket with 4x M12 X-Coded Cutout
UB1038-R10	Universal Bracket with 2x DB9 and 1× Switch Cutout for CMI-CAN Expansion
UB0303	2x Universal Bracket each with 1x DB9 Cutout
UB0311	Universal Bracket with 2x RJ45 Cutout
UB0314	Universal Bracket with 2x USB Cutout
UB0331-R10	Universal Bracket with 2x Antenna Cutout
CFM-PoE03	CFM Module with PoE Control Function, Individual Port 25.5W
CFM-IGN101	CFM Module with Power Ignition Sensing Control Function, 12V/24V Selectable
FAN-EX101	External Fan with 4pin Terminal Block Plug, Mounting Bracket, Support smart fan
FAN-UB100	Internal Exhaust Fan with 4pin Connector
FAN-UB101	Internal Intake Fan with 4pin Connector
GST120A24-CIN	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug and Tubes, Level VI
GST220A24-CIN	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug and 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 2 x 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

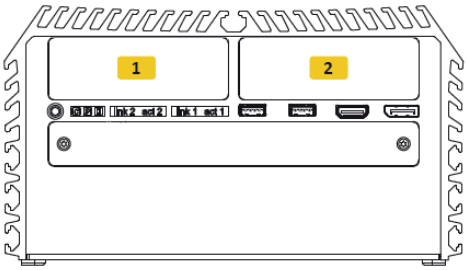
Optional Module Configuration – Front side



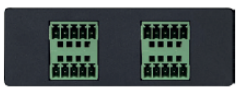
DS-1300



DS-1301



DS-1302

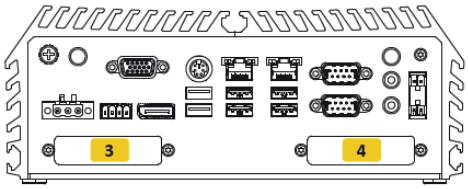
Model No.	Description	1	2
CMI-LAN01-R12/UB1012 	CMI Module with 4x Intel I210 GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout	V	V
CMI-M12LAN01-R12/UB1010 	CMI Module with M12 Connector, 4x Intel GbE LAN / 1x Universal Bracket with 4x M12 Cutout	V	V
CMI-XM12LAN01-R10/UB1030-R10 	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports / Universal Bracket with 4x M12 X-Coded Cutout	V	V
CMI-2P5GLAN03-R10/UB1012 	CMI Module with 4x Intel 2.5GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout	V	-
CMI-10GLAN03-R10/UB1028 	CMI Module with 2x Intel X550 10GbE LAN, RJ45 Port / 1x Universal Bracket with 2x RJ45 Cutout	V	-
CMI-10GXM12LAN03-R10/UB1037-R10 	CMI Module with 2x Intel 10GbE LAN, M12 X-Coded Connector / Universal Bracket with 2x M12 X-coded Cutout	V	-
CMI-CAN01-R10/UB1038-R10 	CMI Module with 2x CAN FD Ports / Universal Bracket with 2x DB9 and 1x 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	
CMI-ICOM01/UB1004 	CMI Module with 4 x isolated RS232/422/485/ 1x Universal Bracket with 4x DB9 Cutout	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:

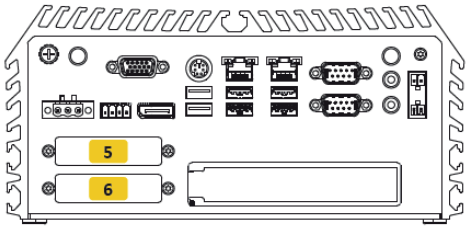
V : Compatible

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

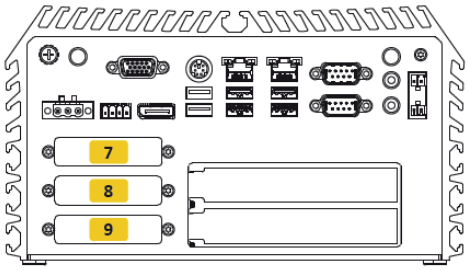
Optional Module Configuration – Rear side



DS-1300



DS-1301



DS-1302

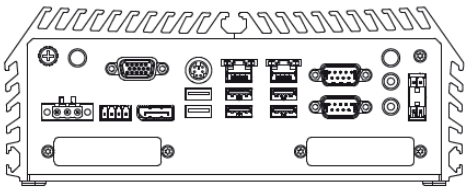
Model No.	Description	DS-1400		DS-1401		DS-1402		
		3	4	5	6	7	8	9
MEC-LAN-M102-30/UB0311 	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable / 1x Universal Bracket with 2x RJ45 Cutout	V	V	V	V	V	V	V
MEC-USB-M102-30/UB0314 	Mini-PCIe Module with 2x USB 3.2 Gen1 Ports, 1x 30cm cable, 1x Universal Bracket 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:

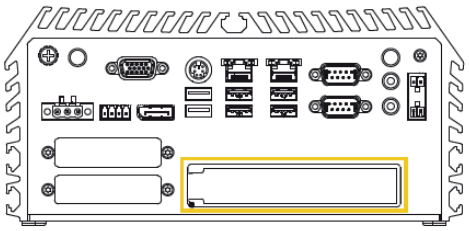
V : Compatible

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

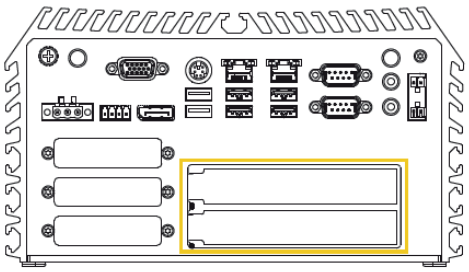
Riser Card Configuration



DS-1300



DS-1301



DS-1302

Model No.	Description	DS-1300	DS-1301	DS-1302
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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