DX-1100

9/8th Generation Intel® Xeon® and Core™ Processors, Extreme Performance, Compact and Modular Rugged Workstation



- Supports 9/8th Generation Intel® Xeon® and Core™ Octa-core Processor
- Triple Independent Display with 4K/2K UHD Resolution (HDMI / DP / DVI-I)
- 2x 2.5" Hot Swap SATA HDD/SSD Tray, 3x mSATA Socket
- 2x USB 3.1 (10Gb/s) for Ultimate Data-transfer Speed
- 1x M.2 E Key Socket (CNVi), 3x Full-size Mini-PCIe Socket, 1x SIM Card Socket
- Supports CMI Interface for I/O Expandability
- Supports PoE+ and Power Ignition Sensing (with optional CFM modules)
- Wide Operating Temperature -40°C to 70°C
- E-Mark (E13, No.10R-0515210), LVD EN60950-1, EN50155 / EN50121-3-2

Overview

The Cincoze DX-1100 is a rugged workstation specifically designed to satisfy demands for the high-performance computing platform. Based on LGA 1151 socket and Intel® C246 chipset, the system supports 9/8th Generation Intel Xeon® and Core™ processors (formerly codenamed Coffee Lake S) with up to 8 cores and 64GB memory capacity.

Despite its remarkably compact size, the DX-1100 still delivers the maximum flexibility of modular I/O expansions and provides dual hot-swap 2.5" HDD/SSD tray with RAID function. Thanks to Cincoze' exclusive CFM (Control Function Module) technologies, the DX-1100 can be configured instantly with Power over Ethernet and power ignition sensing functions to be applied in many industrial applications, such as machine vision, in-vehicle transportation, and mobile surveillance.

Featuring rugged construction, fanless/cable-less/jumper-less design, wide operating temperature (-40 to +70°C), wide range DC power input (9~48 VDC), high tolerance to vibration and shock (5/50 Grms), the DX-1100 is maintenance-free and ideal to be deployed in harsh environments.

Highlights



Workstation Performance & Compact

Supporting 9/8th Generation Intel® Xeon® E-series processors (up to 8-core), the DX-1100 delivers workstation performance available in a compact size for multi-task applications and space-limited environments.



Modular Computing

Based on Cincoze' trusted, innovative, and reliable modular design, the DX-1100 brings the maximum flexibility and allows users to configure I/O interfaces according to specific application requirements.



Application-driven Functions

Capable of application-ready functions, such as PoE, power ignition, power over serial, RAID, M12 connection, and Multi-LAN, the DX1100 can speed up your application deployment and reduce the overall integration cost.

Specifications

Processor
- 9th Generation Intel® Coffee Lake-R S Series CPU:
  - Intel® Xeon® E-2278GEL 8 Cores Up to 3.9 GHz, TDP 35W
  - 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® Xeon® E-2176G 6 Cores Up to 4.7 GHz - 12M Cache, TDP 80W
  - Intel® Xeon® E-2124G 4 Cores Up to 4.5 GHz - 8M Cache, TDP 71W
  - 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® C246

BIOS
AMI 32 MB BIOS

Memory
- 2x DDR4-2666/2400 MHz SO-DIMM Sockets
- Support up to 64 GB (Un-buffered and Non-ECC type)
  * i3/Pentium/Celeron: DDR4 2400 MHz

Graphics
- Integrated Intel® UHD Graphics

(Xeon: UHD P630; i7/i5/i3: UHD 630; Pentium/Celeron: UHD 610)
- Supports Triple Independent Display (DVI-I/DisplayPort/HDMI)

Audio Codec
- Realtek® ALC888, High Definition Audio

I/O Interface
- 1x DVI-I Connector

(VGA: 1920 x1080 @ 60 Hz; DVI-D: 1920 x1200 @ 60 Hz)
- 1x DisplayPort Connector (3840 x 2160 @30Hz)
- 1x HDMI Connector (3840 x 2160 @30Hz)
- 2x GbE LAN (Support WoL, Teaming, Jumbo Frame, IEEE 1588v2 and PXE), RJ45
  - GbE1: Intel® I219-LM
  - GbE2: Intel® I210-IT
- 4x RS-232/422/485 with Auto Flow Control (Support 5V/12V), DB9
- 2x USB 3.1 (Type-A)
- 6x USB 3.0 (Type-A)
- 1x Line-out & 1x Mic-in, Phone Jack 3.5mm
- 1x ATX Power On/Off Button
- 1x Reset Button
- 1x AT/ATX Mode Switch
- 1x Clear CMOS Switch
- 1x Remote Power On/Off Connector, 2-pin Terminal Block
- 1x External FAN Connector, 4-pin Terminal Block (Supports Smart Fan by BIOS)

Storage
- 2x 2.5" Front Accessible SATA HDD/SSD Bay (SATA 3.0)
- 3x mSATA Socket (SATA 3.0, shared by Mini-PCIe socket)
- Supports S/W RAID 0, 1, 5 & 10

Expansion
- 1x Control Function Module (CFM) Interface
- 2x Combined Multiple I/O (CMI) High Speed Interface
- 1x Combined Multiple I/O (CMI) Low Speed Interface
- 1x M.2 2230 Socket (Key E), supports WiFi/Bluetooth module or BIOS Selectable Intel® CNVi (Integrated WiFi/Bluetooth)
- 3x Full-size Mini-PCIe Socket
- 1x SIM Socket
- 3x Antenna Hole

Other Function
- Supports Instant Reboot Technology (0.2 sec)
- SuperCap Integrated for CMOS Battery Maintenance-free Operation
- Watchdog Timer: Software Programmable Supports 256 Levels System Reset

Power Requirement
- Supports AT/ATX Power Type
- Power Input Voltage 9~48VDC
- 1x 3-pin Terminal Block
- Power Adapter AC/DC 24V/5A 120W or 24V/9.2A 220W (Optional)

Physical
- Dimension (WxDxH): 242 x 173 x 77 mm
- Weight: 3.6 kg
- Extruded Aluminum with Heavy Duty Metal
- Wall mount / VESA mount / DIN Rail Mount / Side Mount
- Unibody Chassis
- Fanless Design
- Jumper-less Design
- Cable less Design

Protection
- Reverse Power Input Protection
- Over Voltage Protection: 58V
- Over Current Protection: 15A
- ESD Protection: +/-15kV (air), +/-8kV (contact)
- Surge Protection: 3.84 kV (impedance 12 ohm 1.2/50us waveform)

Operating System
- Windows® 10
- Linux: Supports by Project

Environment
- Operating Temperature:
  35W TDP Processor: -40°C to 70°C
  54~65W TDP Processor: -40°C to 45°C
  71~80W TDP Processor: -40°C to 40°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 @ 40˚C (Non-condensing)
- Shock: Operating, 50 Grms, Half-sine 11 ms Duration

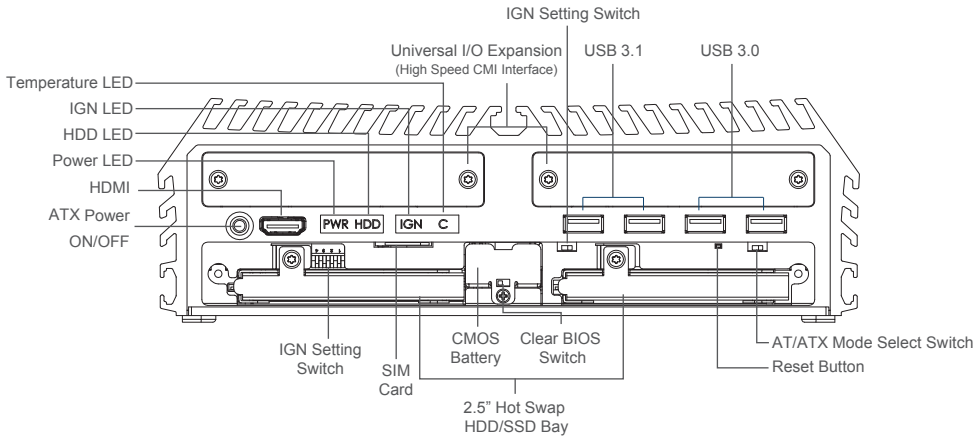
* w/ SSD, according to IEC60068-2-27
- Vibration: Operating, 5 Grms, 5-500 Hz, 3 Axes

* w/ SSD, according to IEC60068-2-64
- MTBF: 407,391 Hours
  Database: Telcordia SR-332 Issue 3, Method 1, Case 3

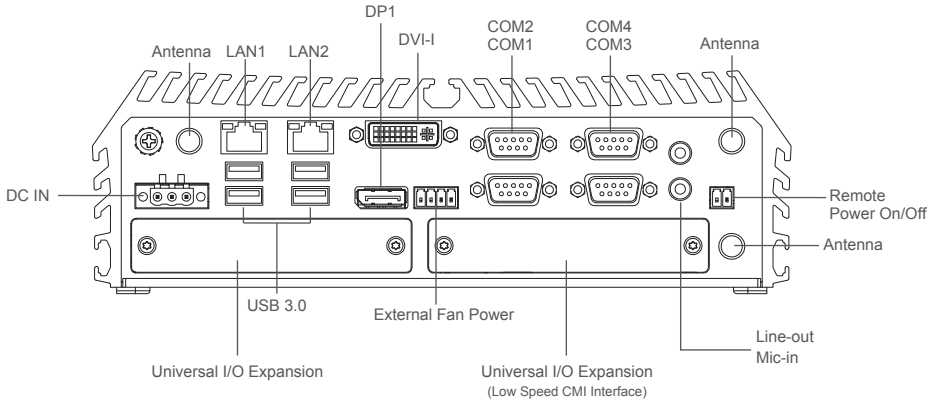
Certification
- EMC: CE, FCC Class A
- Safety: LVD (EN60950-1)
- Railway: EN50155, EN50121-3-2
- In-Vehicle: E-Mark (E13, No.10R-0515210)

External Layout

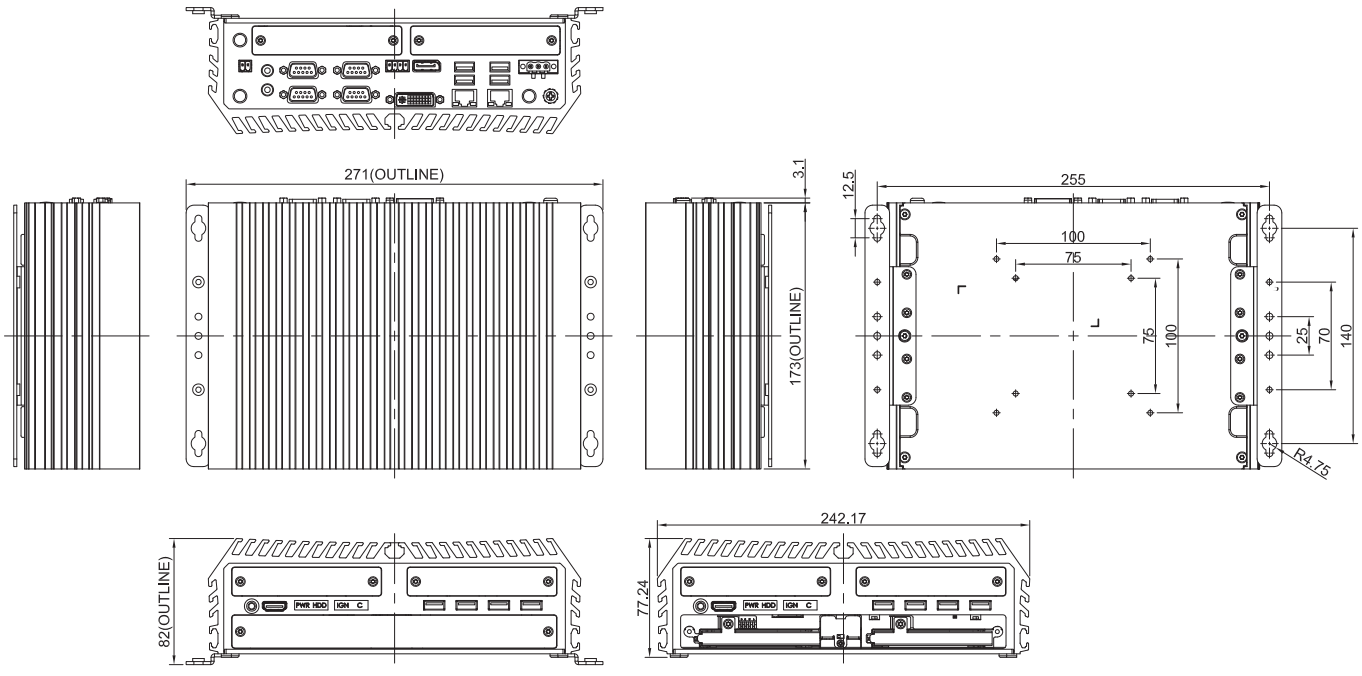
Front I/O



Rear I/O



Dimensions



Unit: mm

Ordering Information

Available Models

Model No.	Description
DX-1100-R10	9/8th Generation Intel® Xeon® and Core™ Processors, Extreme Performance, Compact and Modular Rugged Workstation

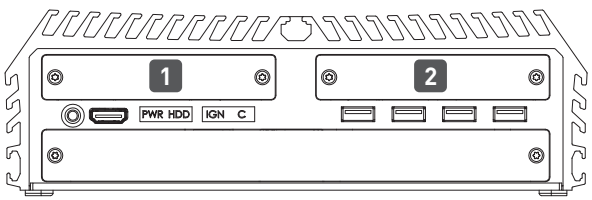
Package Checklist

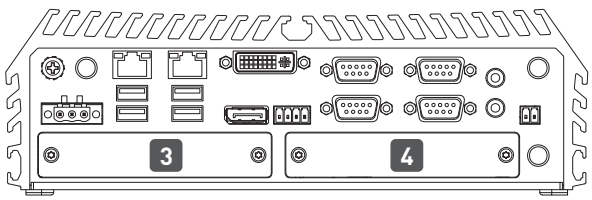
- DX-1100 Rugged Workstation x1
- CPU Heatsink Pack x1
- Utility DVD Driver x1
- Screw Pack x1
- Wall Mounting Kit x1
- Power Terminal Block Connector x1
- Remote Power On/Off Terminal Block Connector x1
- Fan Terminal Block Connector x1
- DVI-I to VGA Adaptor x1

Optional Modules & Accessories

Model No.	Description
CFM-PoE01	CFM Module with PoE Control Function, Individual Port 25.5W
CFM-IGN01	CFM Module with Power Ignition Sensing Control Function, 12V/24V Selectable
CMI-LAN01-R12/UB0912	CMI Module with 4x Intel I210-IT GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout for DX Series
CMI-M12LAN01-R12/UB0910	CMI Module with M12 Connector, 4x Intel GbE LAN / 1x Universal Bracket with 4x M12 Cutout for DX Series
CMI-DIO01/UB0918	CMI Module with 16DIO (8in 8out) / 1xUniversal Bracket with DIO Cutout for DX Series
CMI-COM01/UB0903	CMI Module with 2x RS232/422/485 (Support 5V/12V) / 1x Universal Bracket with 2x DB9 Cutout for DX Series
MEC-COM-M212-TDB9/UB0903	Mini-PCIe Module with 2x RS-232 Serial Ports, 1x Thin DB9 Cable / 1x Universal Bracket with 2x DB9 Cutout for DX Series
MEC-COM-M334-TDB9/2xUB0903	Mini-PCIe Module with 4x RS-232 Serial Ports, 2x Thin DB9 Cable / 2x Universal Bracket with 2x DB9 Cutout for DX Series
MEC-LAN-M002-30/UB0911	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable / 1x Universal Bracket with 2x RJ45 Cutout for DX Series
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
FAN-EX101	External Fan with 4pin Terminal Block Plug and Mounting Bracket, Support smart fan
SIDE-DX	DX Series side mount kit
DIN01	DIN-RAIL Mount Kit, KMRH-K175

Optional Module Configuration





Model No.	Description	1	2	3	4
CFM-PoE01	CFM Module with PoE Control Function, Individual Port 25.5W	V	V	-	-
CMI-LAN01-R12/UB0912	CMI Module with 4x Intel I210-AT GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout for DX Series	V	V	-	-
CMI-M12LAN01-R12/UB0910	CMI Module with M12 Connector, 4x Intel GbE LAN / 1x Universal Bracket with 4x M12 Cutout for DX Series	V	V	-	-
CMI-DIO01/UB0918	CMI Module with 16DIO (8in 8out) / 1xUniversal Bracket with DIO Cutout for DX Series	-	-	-	V
CMI-COM01/UB0903	CMI Module with 2x RS232/422/485 (Support 5V/12V) / 1x Universal Bracket with 2x DB9 Cutout for DX Series	-	-	-	-
MEC-COM-M212-TDB9/UB0903	Mini-PCIe Module with 2x RS-232 Serial Ports, 1x Thin DB9 Cable / 1x Universal Bracket with 2x DB9 Cutout for DX Series	V	V	V	V
MEC-COM-M334-TDB9/2xUB0903	Mini-PCIe Module with 4x RS-232 Serial Ports, 2x Thin DB9 Cable / 2x Universal Bracket with 2x DB9 Cutout for DX Series	V		V	
MEC-LAN-M002-30/UB0911	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable / 1x Universal Bracket with 2x RJ45 Cutout for DX Series	-	-	V	-

V : Compatible

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