

Industrial Edge AI Computers
Jetson AGX Orin equipped model
DX-M2300



* Specifications, color and design of the products are subject to change without notice.

Features

Edge AI accelerator equipped with NVIDIA® Jetson AGX Orin™
This product is equipped with NVIDIA® Jetson AGX Orin™ that offers the highest performance in the Jetson series.

As an edge AI computer, it can be used in fields that need powerful AI inference processing capabilities.

"Power failure protection system" features power-off without OS shutdown

This feature protects the NVMe SSD from sudden power failures. The built-in "power failure protection system" function prevents system crashes. The power failure protection system can now be used by applying the JetPack/L4T version (JetPack 5.1.3 [L4T 35.5.0] or later) provided by Contec. When enabled, the power failure protection system saves to RAM the data to write to the NVMe SSD, preventing data from being written to the NVMe SSD.

Standard-equipped with NVMe storage

The standard-equipped high-capacity NVMe storage offers reliable operation with no need to worry about the capacity of the Jetson Xavier NX™ module's eMMC.

Long-term supply and maintenance

Long-term product supply is provided, as well as repair and maintenance services. This can significantly reduce life cycle costs, including verification and modification man-hours that were needed with every model change.

Highly reliable and long-life components

The high-reliability long-life design utilizes accumulated knowledge about BOX-PC embedded computers. The product can be reliably used for high-availability systems.

Two Gigabit LAN ports for alternating connections between different network layers

This product is equipped with two Gigabit LAN ports. This makes it ideal for edge computing that alternates connections between different network layers such as between video acquisition from a camera and higher-order information system networks.

Supports ambient temperatures from -20°C to +60°C

This product achieves stable operation in a wide temperature range of -20 to +60°C (an airflow of 0.7m/s) and it can be used in the various environment.

* Derating occurs due to the load conditions. See the "Installation Requirements" in this manual for details.

This product is an industrial computer suitable for AI inference processing equipped with the NVIDIA® Jetson AGX Orin™ module.

It is equipped with two Gigabit LAN ports, an HDMI port, four USB ports, MicroSD, general I/O ports, a serial port, CAN port, Audio and an RTC (real-time calendar/clock) for flexible installation in addition to advanced environmental resistance. The computer also comes standard with a high-capacity NVMe storage for stress-free use in practical applications.

- * The contents in this document are subject to change without notice.
- * Visit the CONTEC website to check the latest details in the document.
- * The information in the data sheets is as of October, 2024.

Specifications

Function specification

Item		Description	
Jetson Module	Module	NVIDIA® Jetson AGX Orin™	
	CPU	DX-M2300-5Mxxxx: 8 Core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3 DX-M2300-6Mxxxx: 12 Core Arm® Cortex®-A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3	
	GPU	DX-M2300-5Mxxxx: 1792 Core NVIDIA Ampere architecture GPU with 56 Tensor Core DX-M2300-6Mxxxx: 2048 Core NVIDIA Ampere architecture GPU with 64 Tensor Core	
	DL Accelerator	NVIDIA v2.0 x 2	
	Memory	DX-M2300-5Mxxxx: 32GB 256bit LPDDR5 2048 GB/S DX-M2300-6Mxxxx: 64GB 256bit LPDDR5 2048 GB/S	
	eMMC Storage	64GB	
NVMe Storage		DX-M2300-xM0623: 256GB 3D TLC DX-M2300-xM0723: 512GB 3D TLC DX-M2300-xM0823: 1TB 3D TLC DX-M2300-xM0923: 2TB 3D TLC	
Interface	Display	HDMI2.0 x 1	
	USB	USB 3.2 Gen2 (USB3.1) Type A x 4 USB 2.0 Micro-B x 1 (For OS writing)	
	LAN	1000BASE-T/100BASE-TX/10BASE-T x 2 (Built-in Jetson module x 1, Intel® I210 Controller x 1)	
	MicroSD	MicroSD memory card slot (SD/SDHC/SDXC compatible)	
	Digital Input	Opto-coupler isolation input (Compatible with current sink output)	
		Input voltage resistance	1000V
		The number of input signal ports	4 (2 ports of DI can be used for DO)
		Open-circuit impedance	10kΩ or more
		Short-circuit impedance	500Ω or less
	Response time (DI)	within 200μsec	
	Digital Output	Solid State Relay output	
		Output voltage resistance	1000V
		The number of output signal channels	2 (switchable with DI)
External power supply		12 - 24 VDC	
Maximum output voltage/current		26.4V/100mA	
Response time		within 2msec	
ON resistance		8Ω or less (at 25°C)	
OFF leakage current	4μA or less (at 25°C)		
RS-232C	1port (Non-insulation, 4800bps - 921.6kbps)		
RS-422A/485	1port (Non-insulation, 4800bps - 921.6kbps)		
CAN	2 channels CAN2.0B (Non-insulation, Max.1Mbps) CAN FD (Non-insulation, Max. 2Mbps)		
Audio	Microphone input/headphone output jack, speaker output jack (3W 4Ω) *Microphone input/headphone output terminals and speaker output terminals are exclusive.		
M.2 Slot	M.2 Key-E, M.2 Key-B * M.2 Key-E can be equipped with Wi-Fi or Bluetooth, and M.2 Key-B can be equipped with 4G LTE.		
Switch	Power switch, setting switch, RS-422/485 setting switch (Full/half duplex setting, Terminal setting: 100Ω±5%), CAN terminal switch: 120Ω±5%		

Item		Description
	LED	Power LED, Status LED, ACCESS LED
Real Time Clock		Lithium backup battery life: 10 years or more The real-time clock is accurate within ±3 minutes (at 25°C) per month.
Power Supply	Rated Input Voltage	12 - 36VDC
	Input Voltage Range	10.8 - 39.6VDC
	Current Consumption	DX-M2300-5Mxxxx: 12VDC 4.7A (Max.), DX-M2300-6Mxxxx: 12VDC 5.4A (Max.)
Physical Dimensions (mm)		200(W) x 200 (D) x 65(H) (No bracket or projection included)
Weight		3.0kg approx. (No bracket included)
Installation Method		Horizontal, wall installation
Software	OS	Ubuntu 20.04
	SDK	JetPacK 5.1.3

*1 The product is equipped with M2 Key-E and M2 Key-B slots.
When considering the use of wireless functions, contact your retailer because we offer them as setup items.

Installation Environment Requirements

Item		Description
Operating Temperature *2		-20 - +60°C, airflow 0.7m/s, Environment: 90% of average load
Storage Temperature		-20 - +60°C
Humidity		10 - 90%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-noise resistance	Line noise	AC Line /±2kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3) Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Contact discharge /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air discharge /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
	Sweep resistance	10 - 57Hz /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
Impact resistance		15G half-sine shock for 11ms in X, Y, and Z directions (JIS C 60068-2-27-compliant, IEC 60068-2-27-compliant)
Grounding		Class D grounding, SG-FG / continuity
Standard		VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive) *3, UKCA

*2 Derating may occur. See the "Installation Requirements" in this manual for details.

*3 To meet CE's requirements, DIO cable should be 30 meters or shorter.

Optional Products

Item	Model	Description
AC adapter	PWA-150AWD1	Switching AC adapter 150W(12V/12.5A)

CAUTION

If you use an item other than our optional ones, the normal operation may be impaired or the functions may be limited.

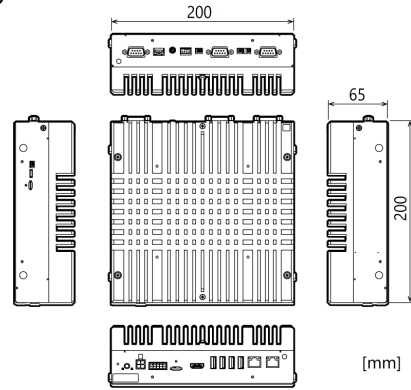
Visit the CONTEC website for the latest optional products.

Included Items

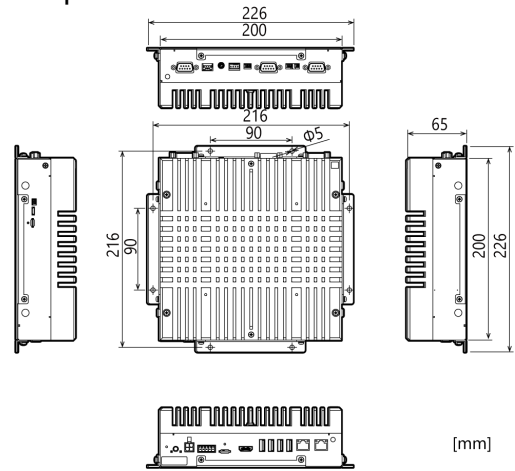
Name	DX-M2300-xMxxxx	
	[Base Model]	
		Pcs.
The Main Body		1
L-Shape Fitting		2
DIO Connector / SD Slot Disconnect Fitting		1
Card Cover		1
Connector for Power Supply		1
Connector for Power Supply Contact		4
DIO Connector		1
Countersunk Head Screw (M2.6 x 4, Black)		2
Screw with Captive Washer (M3 x 6, Black)		4
Cable Tie		2
Product Guide		1

Physical Dimensions

Main unit only

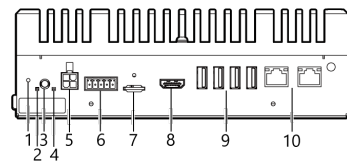


When an L-shaped bracket is attached

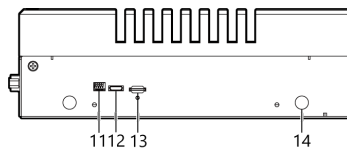


Component Name

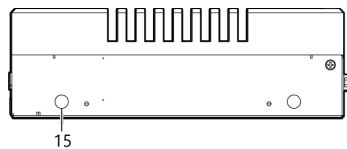
Front



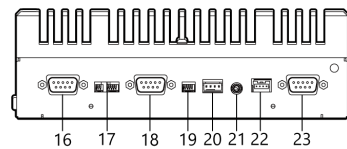
Left side



Right side



Back side



No.	Name	Function
1	FG	This is the frame ground connector used to ground the product.
2	POWER LED	This LED indicates the product is switched on or off.
3	POWER SW	This controls the power of the product.
4	STATUS LED	This LED indicates the status of the product.
5	DC-IN	This connector is used to supply the power.
6	DIO	Connectors for digital input and digital output
7	MicroSD	Slot for MicroSD
8	HDMI	Display (19-pin receptacle)
9	USB3.1	USB3.2 Gen2 (USB3.1) Type-A connector x 4
10	LAN	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 2
11	Setting Switch (SW1)	This switch is used for settings.
12	Micro USB	USB2.0 Micro-B connector (For OS writing)
13	SIM	nanoSIM slot (Not used)
14	ANT	Connector for antenna (Not used)
15	ANT	Connector for antenna (Not used)
16	RS-422/485	Serial port connector (9-pin D-SUB male) (RS-422/485)
17	RS-422/485 Setting Switch (SW2, SW3)	Half/full duplex and termination switches for RS-422/485
18	CAN	Port for CAN communication
19	CAN Terminal Switch (SW4)	Termination switch for CAN communication
20	FAN	Terminal for FAN connection (Not used)
21	Headphone	Microphone input, headphone output jack
22	Speaker	Speaker terminals
23	RS-232C	Serial port connector (9-pin D-SUB male) (RS-232C)

Product Lineup

The product has eight models.

Model	Jetson Module	Storage
DX-M2300-6M0623	Jetson AGX Orin 64GB	M.2 NVMe 256GB (TLC)
DX-M2300-6M0723		M.2 NVMe 512GB (TLC)
DX-M2300-6M0823		M.2 NVMe 1TB (TLC)
DX-M2300-6M0923		M.2 NVMe 2TB (TLC)
DX-M2300-5M0623	Jetson AGX Orin 32GB	M.2 NVMe 256GB (TLC)
DX-M2300-5M0723		M.2 NVMe 512GB (TLC)
DX-M2300-5M0823		M.2 NVMe 1TB (TLC)
DX-M2300-5M0923		M.2 NVMe 2TB (TLC)