

Industrial Edge AI Computer DX-U1100 Series



DX-U1100-2E0211

DX-U1100P1-2E0211

Features

- **Edge AI accelerator equipped with NVIDIA® Jetson Nano™**
Equipped with NVIDIA® Jetson Nano™, the DX-U1100 series can be used in fields requiring on-site AI inference processing, such as image inspection and predictive maintenance.
- **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 DX-U1100 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.
- **Flexible installation**
With the L-shaped mounting bracket (included as standard), the product can be installed on a wall or on the back of a VESA (100 mm) mount-compatible LCD monitor. It can also be mounted on a 35-mm DIN rail with a DIN rail adapter (included as standard).
- **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. (Note that the temperature range is between -20°C and 50°C when the product is used with the PCI Express Low Profile card). * Derating occurs due to the load conditions. See the "Installation Requirements" in this manual for details.

Packing List

Name	DX-U1100-2E02xx [Base Model]	DX-U1100P1-2E02 xx [Expansion Slot Model]
	Pcs.	Pcs.
Product	1	1
Power Connector	1	1
DIO Connector	1	1
Power/DIO Connector Removal Prevention Fitting	1	1
L-Shape Fitting	2	2
DIN-Rail Mounting Bracket	2	2
Fillister Head Screw (M2.6x4, black)	3	3
Countersunk Screw (M3x5, black)	4	4
Washer Assembled Screw (M3x6, Ni)	3	3
Hexagon Head Screw with Captive Washer (M4x10, black)	4	4
Cable Tie	1	1
Product Guide	1	1
Warranty Certificate	1	1
Serial Number Label	1	1

This product is an industrial computer suitable for AI inference processing equipped with the NVIDIA® Jetson Nano™ module. The product contains Gigabit LAN×2, HDMI, embedded DisplayPort(eDP), USB×2, general-purpose I/O, and RTC. It features installation flexibility and environmental resistance so that practical applications can be realized with confidence. Similar to the developer kit for the software environment, Ubuntu is pre-installed and JetPack SDK is available to run applications created with the developer kit. The product model with a PCI Express slot is also available, and functions can be added by installing CONTEC's various Low Profile PCI Express cards.

- * 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 November, 2024.

Specifications

Function Specifications

Item	Description			
	DX-U1100-2E02xx	DX-U1100P1-2E02xx		
Jetson Module	Module	NVIDIA® Jetson Nano™		
	CPU	Quad-Core ARM Cortex-A57 MPCore Processor		
	GPU	128 NVIDIA® CUDA® cores NVIDIA Maxwell™ architecture		
	Memory	4GB 64-bit LPDDR4		
	Storage	16 GB eMMC		
Interface	Display	HDMI x 1, embedded DisplayPort (eDP) x 1		
	USB	USB 3.2 GEN1 (USB3.0) Type A x 1, USB 2.0 Type A x 1, USB 2.0 microB x 1 (for OS writing)		
	LAN	1000BASE-T/100BASE-TX/10BASE-T x 2		
	microSD	microSD memory card slot, SDHC/SDXC support		
	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	
	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)		
M.2 Slot *1	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.			
	PCIe Slot	-	Low Profile PCI Express(x1) x 1	
Switch	Power switch, Setting switch			
LED	Power LED, Status 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 - 24VDC		
	Input Voltage Range	10.8 - 26.4VDC		
	Current Consumption (Max.)	12VDC 2.1A, 24VDC 1.0A	12VDC 4.2A, 24VDC 2.1A	
	Connector	2-piece 3.5mm pitch 3-pin terminal (V+, V-, FG)		
Physical Dimensions (mm)	160(W)×92(D)×43(H) (No bracket or projection included)	160(W)×92(D)×75(H) (No bracket or projection included)		
Weight	0.9kg approx. (No bracket included)		1.2kg approx. (No bracket included)	
Installation Method	DIN-rail mounting, Wall/VESA installation			
Software	OS	DX-U1100-2E0211, DX-U1100P1-2E0211: Ubuntu 18.04.5, DX-U1100-2E0212, DX-U1100P1-2E0212: Ubuntu 18.04.6		
	SDK	DX-U1100-2E0211, DX-U1100P1-2E0211 : JetPack 4.4.1 DX-U1100-2E0212, DX-U1100P1-2E0212: JetPack 4.6.5		

*1 The product is equipped with M.2 Key E and M.2 Key B slots. Please contact your retailer when considering installation of an M.2 module.

Other brand and product names are trademarks of their respective holder.

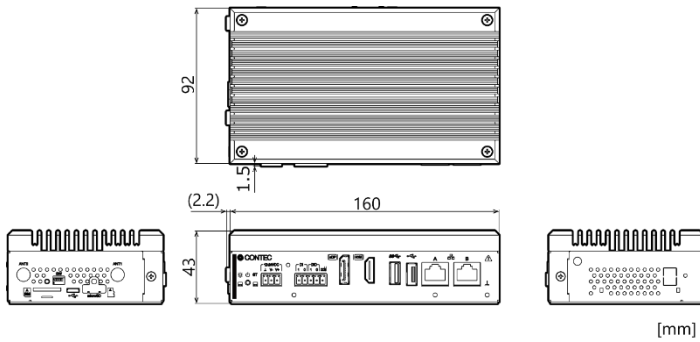
Environment Requirements

Item	Description
Operating temperature *2	-20 - +60°C airflow 0.7m/s -20 - +50°C no airflow -20 - +55°C no airflow (With the fan unit (an optional product))
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)
	Static electricity resistance Touch /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance 10 - 57Hz /semi-amplitude vibration 0.15mm, 57 - 500Hz/5.0G 60minutes 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), UKCA

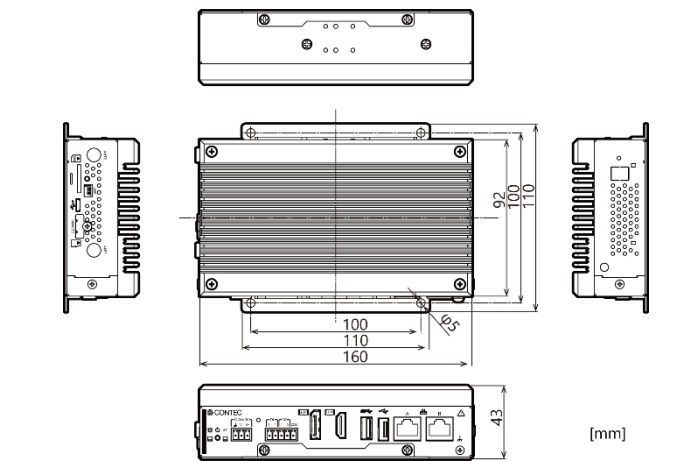
*2 Derating occurs due to the load conditions. For more details on this, refer to "Installation Requirements".

Physical Dimension

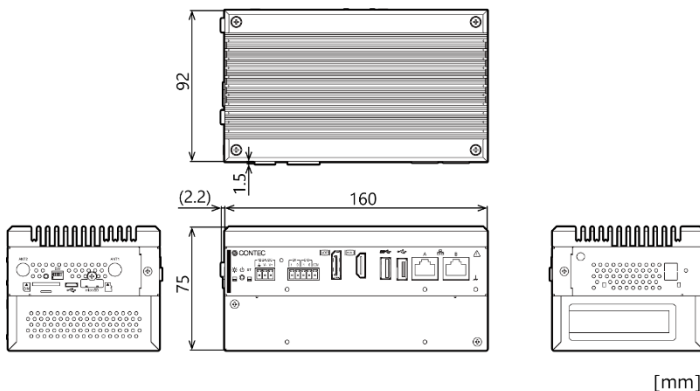
DX-U1100-2E02xx



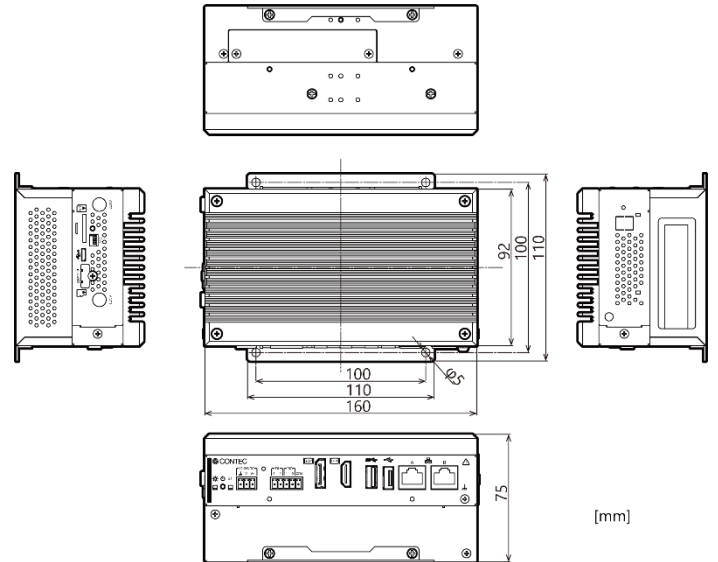
DX-U1100-2E02xx(When mounting the L-shape fitting)



DX-U1100P1-2E02xx



DX-U1100P1-2E02xx(When mounting the L-shape fitting)



List of Options

Item	Model	Description
AC-DC power unit	CPS-PWD-90AW24-01	DIN rail fitting power supply AC-DC power unit 24V 3.8A
AC adapter	PWA-65AWD9	Switching AC adapter 19VDC 3.42A
Fan unit	BX-FAN-05	External fan for forced air cooling

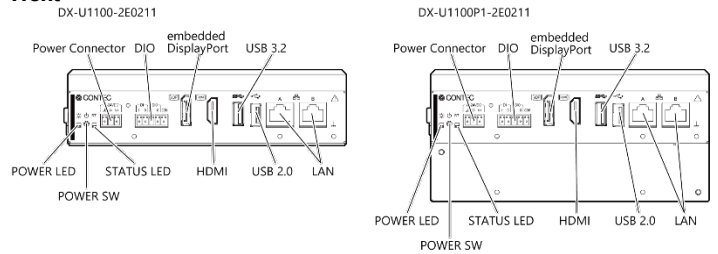
CAUTION

If a product other than our optional one is used, the normal operation may be impaired or the functions may be limited.

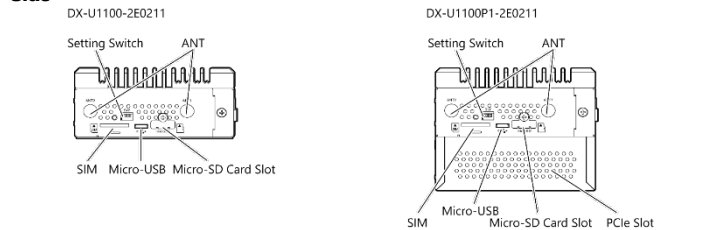
* Visit the CONTEC website for the latest optional products.

Nomenclature of Product Components

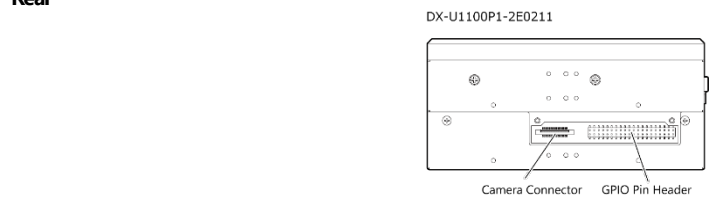
Front



Side



Rear



Component Function

Name	Function
Front	
POWER SW	This controls the power of the product.
POWER LED	This LED indicates the product is switched on or off.
STATUS LED	This LED indicates the status of the product.
Power Connector	This connector is used to supply the power.
DIO	This is a connector for digital inputs and outputs.
HDMI	Display (19-pin, Receptacle)
embedded DisplayPort(eDP)	Display (20-pin, Receptacle)
USB 3.2	USB 3.2 Gen1 (USB3.0) TYPE-A Connector
USB 2.0	USB 2.0 TYPE-A Connector
LAN Port	This is a connector port for LAN.
Side	
Setting Switch	This switch is used for settings.
Micro-USB	This is a connector port for USB 2.0 Micro-B. It is used for OS writing.
Micro-SD Card Slot	This slot is used to insert a micro-SD card.
ANT	Unused
SIM	Unused
PCIe Slot	This slot is used to insert a PCIe Low Profile card.
Rear (Only available for the model with an expansion slot)	
Camera Connector	This is a connector port for MIPI-CSI camera interface (Evaluation purposes).
GPIO Pin Header	This is used for GPIO interface (Evaluation purposes).