

BOX-PC
Fan-less, Atom E3845 1.91GHz
BX-R100 Series



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

Features

- Railway standard applicable

This product obtained various standards required for the railway applications. EN55032, EN61000-3-2, EN61000-3-3, EN55024 EN50155 *, EN45545-2, EN60068-2-1, and EN61373 (* Type test conducted)

- Fan-less design that reduces maintenance and inspection work

This product's spindle-less design eliminates CPU fan, and relieves the concern about dust or foreign matter to get into the product. The using parts that degrade over time is minimized to facilitate maintenance.

- PoE(IEEE802.3at) power reception and adaptable to a wide-range power of 10.8 - 33.6VDC

The product is adaptable to PoE(IEEE802.3at) power reception and capable of dealing with a wide range of power between 10.8 and 33.6VDC in the differing environment. In addition, both power supplies can be switched seamlessly (such as turning on the both power and disconnecting one of them. Applying DC power during PoE operation and disconnecting PoE).

- M12 connector interface

M12 connector is adopted for LAN(1000BASE-T/100BASE-TX/10BASE-T) and for DC power.

- For LAN : M12 8pin X-Coded connector x 2
- For DC : M12 4pin A-Coded connector x 1

- Excellent environmental capabilities

Capable of operating in the various ambient temperature environment of with vibration and shock resistance.

- 40 - +70°C (With 1000BASE-T: -40 - +65°C), airflow 0.5m/s
- 40 - +60°C (With 1000BASE-T: -40 - +55°C), no airflow

Vibration resistance 5G, Shock resistance 100G

- Contributing to running cost reduction and energy efficiency

Adopting the low-power platform of Intel® Atom™ Processor E3845 achieves lower power consumption while still ensuring sufficient performance.

This product is a fan-less computer for embedded applications and it conforms to EN50155(Class TX) standard. With an Intel Atom processor E3845 of Quad-Core CPU, it can perform stable, high-speed processing of four applications at the same time. The "resource-saving PC" contributes to downsizing and power-saving of equipment to reduce your running cost and to promote energy efficiency. Embedded-type CPU have been adopted. The use of readily available parts ensures the ease of the use of the product. In addition, the use of Contec-customized BIOS allows support to be provided at the BIOS level.

- * The contents in this document are subject to change without notice.
- * Visit the CONTEC website to check the latest details.
- * Visit the CONTEC website to check the latest OS.
- * The information in the data sheets is as of July 2022.

Packing List

Name	BX-R100-NA01M03	BX-R100-W10M01M03
	[Base Model]	[OS pre-install Model]
	Pcs.	Pcs.
The Main Body	1	1
Cross Recess Washer Assembled Bolt (M4 x 10, black)	4	4
RS-232C Connector Cover (attached to the product)	1	1
LAN Connector (attached to the product)	2	2
Power Connector Cover (attached to the product)	1	1
DP Connector Cover (attached to the product)	1	1
SD Connector Cover (attached to the product)	1	1
Product Guide	1	1
IPC Precaution List	1	1
Warranty Certificate	1	1
Serial Number Label	1	1
Royalty Consent Contract (OS)	- *1	1
Recovery Disk	- *1	1

*1 Not packed in the Base Model

Supported OS

- Windows 10 IoT Enterprise LTSC 2016 64bit (Japanese / English / Chinese / Korean)

List of Options

AC adapter

ACAP19-01 AC adapter (Input:100-240VAC, Output:19VDC 3.42A)

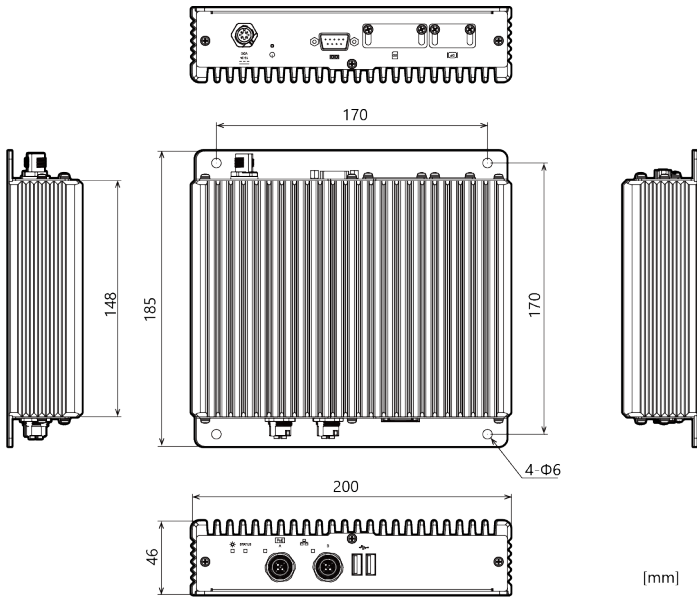
PoE power supply unit

POW-CB60AT IEEE802.3at-complied (Input:100 - 125VAC, Output:55VDC 0.6A)

* Visit the CONTEC website for the latest optional products.

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Physical Dimension



Installation Environment Requirements

Item	Description
Operating temperature *3	-40 - +70°C (With 1000BASE-T: -40 - +65°C, airflow 0.5m/s) -40 - +60°C (With 1000BASE-T: -40 - +55°C, no airflow)
Non-operating ambient temperature	-40 - +80°C
Operating Humidity	10 - 90%RH (No condensation)
Non-operating ambient 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) *4 Signal Line /±1kV (IEC61000-4-4 Level 4, 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 0.375mm, 57 - 500Hz/5.0G 60minutes each in X, Y, and Z directions (JIS C60068-2-27-compliant, IEC60068-2-27-compliant)
	Shock resistance: 100G half-sine shock for 6ms 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 B, CE Marking (EMC Directive Class A, RoHS Directive), UKCA, EN45545-2, EN50155 (Class TX) *5 *6

*3 Vary depending on the orientation.

*4 When AC adapter "ACAP19-01" is used.

*5 Use a cable less than 3 meters to connect to USB 2.0 / F.

*6 The noise resistance test, withstand voltage test, and isolation resistance test are conducted by connecting the PoE power unit "POW-CB60AT" (optional item).

This standard is applicable for the BX-R100 main body only. Use a power supply that conforms to EN50155.

Specification

Function Specifications

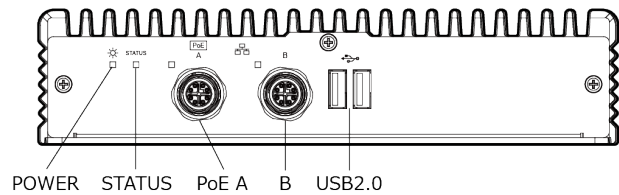
Item	Description	
CPU	Intel® Atom™ Processor E3845(1.91GHz)	
BIOS	BIOS (mfd. by AMI)	
Memory	4GB, 204-pin SO-DIMM x 1, PC3-10600(DDR3L 1333) ECC	
Graphics Controller	Intel® HD Graphics (CPU integrated)	
System resolution	DisplayPort: 640 x 480, 800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 800, 1,280 x 960, 1,280 x 1,024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900, 1,600 x 1,050, 1,920 x 1,080, 1,920 x 1,200 (16,770,000 colors)	
mSATA (integrated) *1	mSATA slot x 1, 32GB (MLC) x 1 Pre-installed	
LAN	Intel I210IT controller 1000BASE-T/100BASE-TX/10BASE-T x 2 ports	
USB	USB 2.0-compliant x 2 ports	
Serial	RS-232C 1 port, Baud rate: 50 - 115,200bps	
Hardware monitoring	Monitoring CPU temperature, board temperature, power voltage	
Watchdog timer (WDT)	Software programmable, 255 level (1sec - 255sec) Time up allows reset shutdown.	
Real Time Clock	Lithium backup battery life: 10 years or longer The real-time clock is accurate within ±3 minutes (at 25°C) per month (CPU built-in RTC).	
Power Management	Power management setup via BIOS Power On by Ring/Wake On LAN Supports ACPI Power management	
Interface	Display	Display Port x 1
	SD	SD Card Slot x 1
	LAN	2-port (M12 connector, X-coded)
	USB	USB2.0 compliant 2port (TYPE-A connector)
	RS-232C	1-port (9pin D-SUB connector [male])
Power supply	PoE (1-port 25.5W input, M12 8pin X-Coded connector x 1) (M12 connector, A-Coded)	
	DC IN (1-port M12 4pin A-Coded connector x 1) Rated input voltage: 12 - 24VDC *2 Range of input voltage: 10.8 - 33.6VDC Power consumption: 12V 1.4A, 24V 0.8A	
External device power supply capacity	USB2.0 I/F: +5V 1.0A (500mA x 2 per port)	
Physical dimensions (mm)	200(W) x 185(D) x 46(H)	
Weight	1.7kg (approx.)	

*1 The capacity of storage device in the OS pre-installed type is a value when 1GB is calculated by 1 billion bytes. The capacity that can be recognized from OS might be displayed less than the actual value.

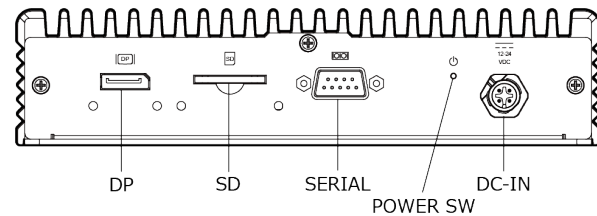
*2 Use a power cable shorter than 3m.

Nomenclature of Product Components

Front View



Rear View



Component Function

Name	Function
Front	
POWER	Power ON display LED
STATUS	User control LED
PoE A (LAN A)	PoE (IEEE802.3at) Power reception port Ethernet 1000BASE-T/100BASE-TX/10BASE-T M12 connector LED: LINK/ACT
B (LAN B)	Ethernet 1000BASE-T/100BASE-TX/10BASE-T M12 connector LED: LINK/ACT
USB2.0	USB 2.0 port connector x 2
Rear	
DP	Display port connector (20-pin, female)
SD	SD Card slot
SERIAL (SERIAL A)	Serial port connector (9-pinD-SUB, male)
POWER SW	Power Switch
DC-IN	DC power input M12 connector