

BOX Computer
BX-T3020 Series (U.S Model)



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

Features

The space-saving design (29 × 178 × 115 mm (H × W × D)) of the BX-T3020 allows for installation in compact areas.

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

Equipped with the "Power failure protection system" function that protects data and prohibits writing to storage in the event of power failure. *1 Along with the lockdown (disk writing suppression) function of Windows IoT Enterprise, power can be safely turned off without a shutdown process. Moreover, file system damage or data damage caused by sudden power failure can be avoided.

High-security design contributes to a highly reliable system

The latest security functions such as TPM2.0 and Secure Boot, as well as CONTEC's original functions including the USB Boot Protect are provided. This product is designed with the high security required for industrial applications in mind.

CONTEC-customized BIOS provides useful utility

Useful utility of BIOS *2 customized by CONTEC is provided. The "CONTEC Fast Boot" achieves Windows startup in 10 seconds.*3 The "Disk Copy" function provides secure disk backup at the BIOS level, and also supports backup in file format or compressed file format. We also offer the CONTEC tools "BIOS update tool" for updating BIOS.*4

Helps reduce running costs and energy consumption

This product uses a low power consumption platform 8th generation Intel® CPU processor to achieve low power consumption while still providing sufficient performance.

Fan-less design reduces maintenance work

The product is fan-less to ensure a totally spindle-less design that simplifies maintenance, relieving the concern about dust or foreign matter to get into the product. Moreover, along with minimized use of degrading parts greatly reduce maintenance work.

Major types of peripherals are supported with rich interfaces It has a variety of extended interface such as HDMI, DisplayPort, dual LAN, USB 3.2 Gen2 (USB3.1), and RS-232C/422/485.

The attachment fitting and cable ties prevent problems caused by cable disconnections

For connectors with no locking mechanism such as USB cable, HDMI cable unnecessary trouble can be avoided by the use of cable ties for prevention of cable disconnection.

*1 The "Power Failure Protection system" function is only supported by OS pre-installed types. For

*2 details, see each setting in the [BIOS Setup] section. It is the actual measured value when

*3 Windows 10 and HORM function are enabled at the factory. Time may vary depending on configuration. Note that CSME, Network Stack, and SMART Self Test are not supported when the CONTEC Fast Boot is enabled.

*4 Contact your retailer for more information.

This product is a fan-less and high-performance embedded type computer with the eight-generation Intel® CPU processor Celeron processor 4305UE(2.0GHz). Along with its power-saving and high-performance features, this product has a rich variety of interfaces and achieves fan-less operation by way of natural air-cooling.

In a space-saving design that can be installed in spaces only 50-mm thick with roughly the same area as a paperback book.

The product includes varied interfaces such as HDMI, DisplayPort, dual LAN, USB 3.2 Gen 2 (USB3.1), RS-232C/422/485.

Embedded-type CPU has been adopted. The use of readily available parts ensures the product to be applied easily. In addition, 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 in the document.
- * The information in the data sheets is as of June, 2025.

Specifications

Function specification

Item	Description	
CPU	Intel® Celeron® 4305UE Processor 2.0GHz	
BIOS	BIOS (mfd. by AMI)	
Memory	8GB (260pin SO-DIMM), PC4-17000 (DDR4-2133)	
Graphics Controller	Intel® UHD Graphics 610 (CPU integrated)	
System resolution	HDMI	800×600, 1,024×768, 1,152×864, 1,280×600, 1,280×720, 1,280×768, 1,280×800, 1,280×960, 1,280×1,024, 1,360×768, 1,366×768, 1,400×1,050, 1,440×900, 1,600×900, 1,600×1,200, 1,680×1,050, 1,792×1,344, 1,856×1,392, 1,920×1,080, 1,920×1,200, 1,920×1,440, 1,920×2,160, 2,048×1,152, 2,048×1,536, 2,560×1,080, 2,560×1,440, 2,560×1,600, 2,560×1,920, 2,560×2,048, 3,840×2,160 (1,6770,000 colors)
	DisplayPort	800×600, 1,024×768, 1,152×864, 1,280×600, 1,280×720, 1,280×768, 1,280×800, 1,280×960, 1,280×1,024, 1,360×768, 1,366×768, 1,400×1,050, 1,440×900, 1,600×900, 1,600×1,200, 1,680×1,050, 1,792×1,344, 1,856×1,392, 1,920×1,080, 1,920×1,200, 1,920×1,440, 1,920×2,160, 2,048×1,152, 2,048×1,536, 2,560×1,080, 2,560×1,440, 2,560×1,600, 2,560×1,920, 2,560×2,048, 3,840×2,160 (1,6770,000 colors)
LAN	Intel® I210 controller x 1 Intel® I219 controller x 1 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 2 (supports Wake On LAN)	
USB	USB 3.2 Gen2 (USB3.1) compliant x 4 ports	
Serial	RS-232C/422/485 1port Baud rate: 50 - 115,200bps	
M.2 Card Slot	1 slot, M.2 2242/2280, Key M, PCIe(x1) Gen3 1 port NVMe SSD mounted (TLC, 128GB, 1 partition) *1 1 slot, M.2 2230, Key E, PCIe(x1) 1port, USB2.0 1 port	
Security (TPM)	TCG TPM2.0	
Hardware Monitoring	Monitoring CPU temperature, card temperature, power voltage	
Watchdog Timer (WDT)	Software programmable. 255 level (1sec - 255sec). Time up allows reset.	
Real Time Clock	Lithium backup battery life: 10 years or more *2 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	HDMI(v1.4) x 1, DisplayPort(v1.4) x 1
	LAN	2 port (RJ-45 connector)
	USB	USB3.2 Gen2 (USB3.1) compliant 4port (Type-A connector)
	RS-232C/422/485	1 port (9pin D-SUB connector (male))
	M.2 Card Slot	1 slot, M.2 2242/2280, Key M 1 slot, M.2 2230, Key E
Power Supply	Rated Voltage Range	12 - 24VDC ± 10% *3
	Input Voltage Range	10.8 - 31.2VDC
	Current Consumption	12V 4.6A (Max), 24V 2.3A (Max)

Item	Description
External Device Power Supply Capacity	M.2 slot Key M : +3.3V 2.5A (2,500mA x 1 per port) USB 3.2 Gen2 (USB3.1) I/F : +5V 3.6A (900mA x 4 per port)
Physical Dimensions (mm)	178(W) x 115(D) x 29(H) (Not including the attachment fitting or protrusions)
Weight	0.85kg (approx.) (Not including the attachment fitting)

- *1 The capacity of disk 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 fewer than an actual value.
- *2 It is when the power is disconnected for 15 hours a day.
- *3 Use a power cable of 3 meters or shorter.

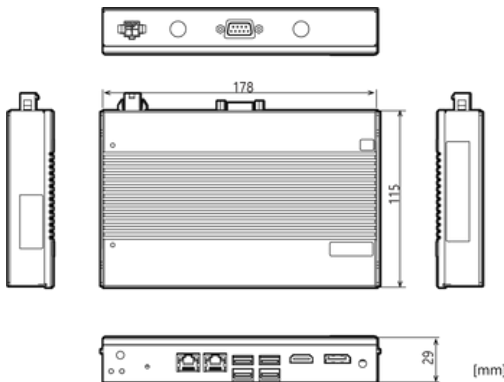
Installation Environment Requirements

Item	Description
Operating Temperature	0 - +45°C without air flow 0 - +55°C, airflow 0.7m/s
Storage Temperature	-10 - +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)*1, 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)
Vibration Resistance (The product alone)	Sweep 10 - 57Hz/semi-amplitude vibration 0.375mm, 57 - 500Hz/5.0G
	Resistance 60minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-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 VCCI Class A, FCC Class A,
Standard	CE Marking (EMC Directive Class A, RoHS Directive), UKCA, UL/c-UL, CCC*2

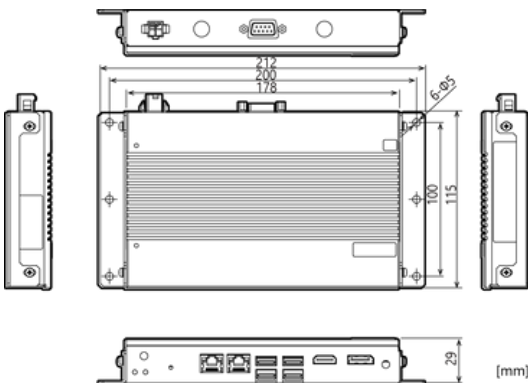
- *1 It is when the product is used with AC adapter PWA-65AWD1.
- *2 The Base models are excluded from CCC.

Physical Dimensions

Product only



When the main unit fixing metal fittings are installed



Included Items

- Main body: 1 pc
- AC adapter(PWA-65AWD1): 1 pc
- Power cord: 1 pc
- Attachment fitting: 2 pcs
- Cable ties for fixing cables: 1 pc
- Washer assembled screw(M3 x6, Black): 4 pcs
- Washer assembled screw for attachment(M4 x10, Black): 4 pcs
- Power supply connector: 1 pc
- Power supply contact: 4 pcs

Supported OS

- Windows 10 IoT Enterprise 2021 LTSC 64 bit
- Windows 11 IoT Enterprise 2024 LTSC 64 bit

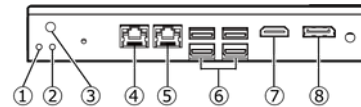
Optional Products

Item	Model
VESA mounting bracket	19403
DIN rail mounting bracket	20726

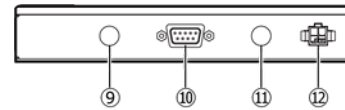
Product Lineup

Model	OS/BIOS	Storage device
94115	None	None
94115-01	None	M.2 NVMe 128GB
94115-02	Windows 10 IoT Ent. 2021 LTSC	M.2 NVMe 128GB
94115-03	ThinManager Ready BIOS	None
94115-04	ThinManager Ready BIOS	M.2 NVMe 128GB
94115-06	Windows 11 IoT Ent. 2024 LTSC	M.2 NVMe 128GB

Front



Side



No.	Name	Function
1	POWER LED	Power ON display LED
2	DRIVE ACCESS LED	Drive access display LED
3	POWER SW	PC Power switch
4	LAN A	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
5	LAN B	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
6	USB3.2 Gen2	USB 3.2 Gen2 (USB3.1) port connector x4
7	HDMI	Display (19-pin female)
8	DisplayPort	Display (20-pin female)
9	ANT1	Antenna connector * 1
10	SERIAL A	Serial port A connector (9-pin D-SUB male) (RS-232C/422/485)
11	ANT2	Antenna connector * 1
12	DC-IN	DC power connector

*1 This cannot be used with this product.

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