

BOX-PC
 Fanless Core i7-8665UE, Core i5-8365UE,
 Core i3-8145UE, Celeron 4305UE processor
BX-T3000 Series



Features

- **Eighth-generation Core i7, Core i5, Core i3, Celeron processor adopted**
 This product adopts the CPU that saves power consumption and also provides high computing and graphic performances. Embedded-type CPU makes the stable supply possible.
- **Ultra-compact design about as large as A5 size contributes to space-saving**
 With a space-saving design of a thickness of 30.3 mm, a width of 182 mm, and a depth of 155 mm that is about A5 size.
- **Operation capable in a wide temperature range between -20 and +60°C**
 Achieves stable operation in a wide temperature range of -20 to +60°C *1
- **"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. 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
- **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.
- **Rich interfaces for easy connection to various peripherals**
 In addition to DisplayPort x1, USB3.2 Gen1 (USB3.0) x 4, USB2.0 x 2, and LAN x 2, Analog RGB port and RS-232C x 2 (one port can be used as RS-422A or 485), DIO x1 are equipped. The CFast card slot, which is easily replaceable, is used for storage and can be used as a writing area for logs and collected data. The wireless model (BX-T210R) can be connected to wireless LAN and Bluetooth compatible devices.

*1 In an airflow environment of 0.7m/s
 *2 For details, see each setting in the [BIOS Setup] section.
 *3 It is the actual measured value when Windows 10 and HORM function are enabled at the factory. Time may vary depending on configuration. Note that ME, TPM, 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 computer for embedded applications with an 8th generation Intel CPU processor. It provides an ultra-compact design with a capability of operating in a wide temperature range (between -20 and +60°C in an airflow environment of 0.7m/s). CPUs can be selected from Core i7-8665UE, Core i5-8365UE, Core i3-8145UE and Celeron 4305UE processors. Addition to DisplayPort, a wide variety of interfaces including USB3.2 Gen2 x 4, LANx2 are provided. The wireless models are equipped with wireless LAN and Bluetooth for easy connection to digital devices, making them ideal as IoT gateway devices for connecting to peripherals. 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.
- * Visit the CONTEC website to check the latest OS.
- * The information in the data sheets is as of April, 2024

Specification

Function Specifications

| Item | | Description |
|----------------------|---------------|--|
| CPU | | BX-T3000x-J60xxxxxx : Intel® Core™ i7-8665UE Processor (1.7GHz) BX-T3000x-J50xxxxxx : Intel® Core™ i5-8365UE Processor (1.6GHz) BX-T3000x-J40xxxxxx : Intel® Core™ i3-8145UE Processor (2.2GHz) BX-T3000x-J20xxxxxx : Intel® Celeron™ 4305UE Processor (2.0GHz) |
| BIOS | | BIOS (mfd. by AMI) |
| Memory | | BX-T3000x-Jx04xxxxxx : 8GB(260pin SO-DIMM), PC4-19200 (DDR4-2400) BX-T3000x-Jx05xxxxxx : 16GB(260pin SO-DIMM), PC4-19200 (DDR4-2400) |
| Graphics Controller | | Intel® UHD Graphics 620 (CPU integrated, Core i3 or higher) Intel® UHD Graphics 610 (CPU integrated, Celeron only) |
| System Resolution | DisplayPort | 800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 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 1,200, 1,680 x 1,050, 1,792 x 1,344, 1,856 x 1,392, 1,920 x 1,080, 1,920 x 1,200, 1,920 x 1,440, 1,920 x 2,160, 2,048 x 1,152, 2,048 x 1,536, 2,560 x 1,080, 2,560 x 1,440, 2,560 x 1,600, 2,560 x 1,920, 2,560 x 2,048, 3,840 x 2,160 (1,6770,000 colors) |
| | Analog RGB | 800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 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 1,200, 1,680 x 1,050, 1,920 x 1,080, 1,920 x 1,200 (1,6770,000 colors) |
| Audio | | HD Audio compliant, LINE OUT x 1, MIC IN x 1 |
| M.2 Card Slot | | 1 slot, M.2 2242 Key M, SATAIII BX-T3000x-Jx0xL07xxx : M.2 SSD built-in (TLC, 128GB, 1 partition) *1 BX-T3000x-Jx0xL08xxx : M.2 SSD built-in (TLC, 256GB, 1 partition) *1 BX-T3000x-Jx0xL09xxx : M.2 SSD built-in (TLC, 512GB, 1 partition) *1 1 slot, M.2 2230, Key E, PCIe(x1) 2 port, USB2.0 1 port BX-T3000R-Jx0xxxxxx : M.2 Wireless LAN card mounted |
| CFast Card Slot | | 1 slot, CFast CARD Type I, bootable |
| LAN | | Intel® I210 controller x 2 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 2 (supports Wake On LAN) |
| USB | | USB3.2 Gen2 (USB3.2) compliant x 4 ports USB 2.0 compliant x 2 ports |
| Serial | | RS-232C/422/485 1port, RS-232C 1ports Baud rate: 50 - 115,200bps |
| Wireless LAN *2 | | IEEE 802.11ac/a/b/g/n |
| Bluetooth *2 | | 4.2 |
| General Purpose I/O | | Non-isolated 6 points of input and output, Power switch signal |
| Security (TPM) | | TCG TPM2.0 |
| Hardware monitoring | | Monitoring CPU temperature, board 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 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 | DisplayPort (v1.2) x 1 Analog RGB x 1 |
| | Audio | LINE OUT: 3.5p Stereo mini jack MIC IN: 3.5p Stereo mini jack |
| | M.2 Card Slot | 1 slot, M.2 2242, Key M |

| Item | Description | |
|--------------------------|---|---|
| | 1 slot, M.2 2230, Key E | |
| CFast Card Slot | 1 slot, CFast CARD Type I | |
| LAN | 2-port (RJ-45 connector) | |
| USB | USB3.2 Gen2 compliant 4port (TYPE-A connector) USB2.0 compliant 2port (TYPE-A connector) | |
| RS-232C/422/485 | 1 port (9pin D-SUB connector [Male]) | |
| RS-232C | 1 port (9pin D-SUB connector [Male]) | |
| DIO | 1 port (9pin D-SUB connector [Female]) | |
| Power supply | Rated Voltage Range | 12 - 24VDC ±10% *3 |
| | Input Voltage Range | 108 - 31.2VDC |
| | Current Consumption (Max.) | 12V 4.9A, 24V 2.6A |
| | External Device Power Supply Capacity | M.2 slot Key M : +3.3V : 2.5A (2,500mA x 1) M.2 slot Key E : +3.3V : 2.0A (2,000mA x 1) CFast card slot : +3.3V : 0.5A (500mA x 1) USB3.2 Gen2 I/F : +5V : 3.6A (900mA x 4 per port) USB2.0 I/F : +5V : 1.0A (500mA x 2 per port) |
| Physical dimensions (mm) | 182(W) x 155(D) x 30.3(H) (Not including the attachment fitting or protrusions) | |
| Weight | 1.3kg (approx.) (Not including the attachment fitting) | |

- *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 fewer than an actual value.
- *2 Wireless LAN and Bluetooth are only available on wireless models.
- *3 Use a power cable 3 meters or shorter.

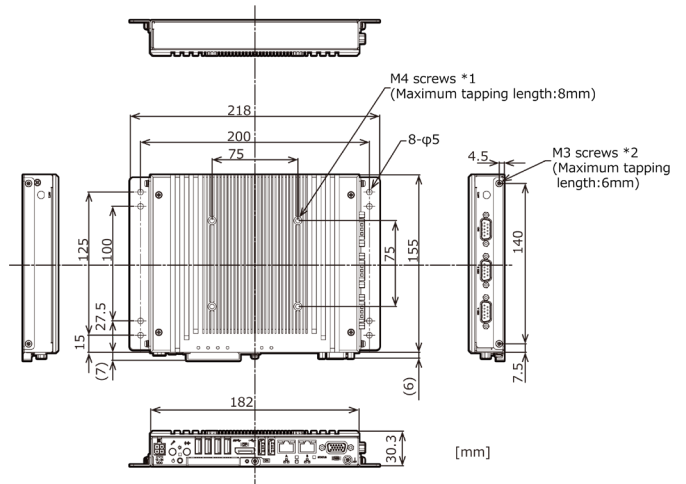
Environment Requirements

| Item | Description |
|--------------------------------------|---|
| Operating Temperature *1 | -20 - +50°C no airflow -20 - +60°C airflow 0.7m/s |
| Non-operating Ambient Temperature *1 | -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 *2 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 | Sweep Resistance 10 - 57Hz /semi-amplitude vibration 0.375mm, 57 - 150Hz/5.0G 60minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant) |
| Impact Resistance | 100G 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 *3, TELEC (set with certified wireless module) *4 UL/c-UL *3, CCC *5, KC *3*6 |

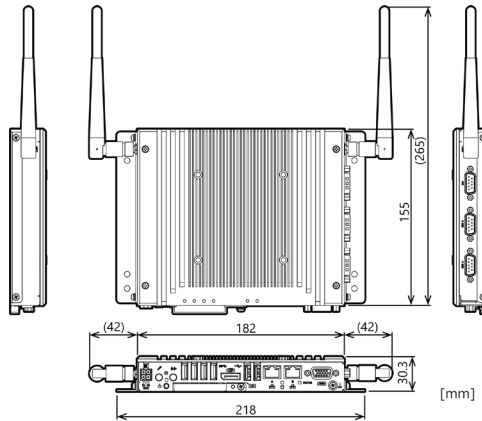
- *1 The ambient temperature should be 0°C and higher when using or storing the audio.
- *2 It is when the product is used with AC adapter PWA-90AWD1.
- *3 The wireless models are excluded from CE Standard, UKCA, c-UL and CK.
- *4 The wireless module is set only in the wireless models.
- *5 The Base models and the wireless models are excluded from CCC.
- *6 BX-T3000-J504L08W21 is excluded from KC.

Physical Dimension

BX-T3000-Jxxxxxxx



BX-T3000R-Jxxxxxxx



Packing List

| Name | BX-T3000-Jx0xxxx | BX-T3000-Jx0xxxxWxx | BX-T3000R-Jx0xxxxWxx |
|--|------------------|------------------------|----------------------------------|
| | [Base Model] | [OS Pre-install Model] | [OS Pre-install, Wireless Model] |
| | Pcs. | Pcs. | Pcs. |
| The Main Body | 1 | 1 | 1 |
| The Attachment Fitting | 2 | 2 | 2 |
| USB Removal Prevention Fitting | 6 | 6 | 6 |
| Cable Clamp | 2 | 2 | 2 |
| Washer Assembled Screw (M3x5) | 6 | 6 | 6 |
| Washer Assembled Screw (M3x6) | 2 | 2 | 1 |
| Washer Assembled Screw (M3x6, Black) | 4 | 4 | 4 |
| Washer Assembled Screw for Attachment (M4x10, Black) | 4 | 4 | 4 |
| Power Supply Connector Complete Set | Power Connector | 1 | 1 |
| | Contact | 4 | 4 |
| Antenna | - | - | 2 |
| Product Guide | 1 | 1 | 1 |

Supported OS

- Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean)
- Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean)

Optional Products

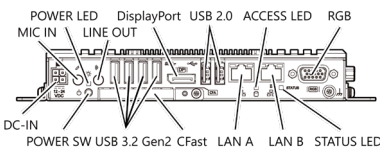
| Item | Model | Description |
|-------------------------|---------------|--|
| AC adapter | PWA-90AWD1 | Switching AC adapter 12VDC 7.5A |
| Storage | CFS-4GB-A | 4GB SATA CFast card (SLC) |
| | CFS-8GB-A | 8GB SATA CFast card (SLC) |
| | CFS-16GB-A | 16GB SATA CFast card (SLC) |
| | CFS-32GBM2-A | 32GB SATA CFast card (MLC) |
| | CFS-16GBQ-A | 16GB SATA CFast card (Q-MLC) |
| | CFS-32GBQ-B | 32GB SATA CFast card (Q-MLC) (Wide temperature range specification) |
| Antenna extension cable | IPC-RPSMA-2 | RP-SMA connector coaxial cable |
| Bracket | BX-BKT-VESA02 | Bracket for VESA ("75 x 75", "100 x 100") |

CAUTION

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

Nomenclature Of Product Components

Front



Side



| Name | Function |
|--------------|---|
| Front | |
| DC-IN | DC power connector |
| POWER LED | Power ON display LED |
| ACCESS LED | SATA device access display LED |
| STATUS LED | Status LED |
| POWER SW | PC power switch |
| MIC IN | Mic in (3.5φ PHONE JACK) |
| LINE OUT | Line out (3.5φPHONE JACK) |
| USB 3.2 Gen2 | USB 3.2 Gen2 port connector x4 |
| USB 2.0 | USB 2.0 port connector x2 |
| CFast | CFast card slot (SATA connection) |
| DisplayPort | Display (20-pin female) |
| LAN A | Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector |
| LAN B | Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector |
| RGB | Display (15-pin D-SUB, female) |
| Side | |
| SERIAL A | Serial port A connector (9-pin D-SUB, male) (RS-232C/422/485) |
| SERIAL B | Serial port B connector (9-pin D-SUB, male) (RS-232C) |
| DIO | GPIO port connector (9-pin D-sub male) |
| ANT1 | Antenna connector (for both wireless LAN and Bluetooth) * 1 |
| Side | |
| ANT2 | Antenna connector (for wireless LAN) * 1 |

*1 Antenna connectors are available only on the wireless model.

Model

<Non-wireless models>

| Model | CPU | Memory | OS | Storage device |
|---------------------|--------------------------|---|---|--------------------|
| BX-T3000-J204L07 | Celeron 4305UE processor | 8GB | None | M.2 SSD 128GB(TLC) |
| BX-T3000-J204L07W19 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J204L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J205L07 | | 16GB | None | |
| BX-T3000-J205L07W19 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J205L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J404L07 | Core i3 8145UE processor | 8GB | None | |
| BX-T3000-J404L07W19 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J404L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J405L07 | | 16GB | None | |
| BX-T3000-J405L07W19 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J405L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J504L07 | Core i5 8365UE processor | 8GB | None | |
| BX-T3000-J504L07W19 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J504L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J504L08W21 | | 16GB | None | |
| BX-T3000-J505L07 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J505L07W19 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J505L07W21 | 16GB | None | | |
| BX-T3000-J505L09W21 | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | | |
| BX-T3000-J605L07 | Core i7 8665UE processor | 16GB | None | |
| BX-T3000-J605L07W19 | | | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000-J605L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |

< Wireless models >

| Model | CPU | Memory | OS | Storage device |
|----------------------|--------------------------|--------|---|--------------------|
| BX-T3000R-J204L07W19 | Celeron 4305UE processor | 8GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | M.2 SSD 128GB(TLC) |
| BX-T3000R-J204L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J205L07W19 | | 16GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J205L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J404L07W19 | Core i3 8145UE processor | 8GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J404L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J405L07W19 | | 16GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J405L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J504L07W19 | Core i5 8365UE processor | 8GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J504L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J505L07W19 | | 16GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J505L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J605L07W19 | Core i7 8665UE processor | 16GB | Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) | |
| BX-T3000R-J605L07W21 | | | Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) | |

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