

BOX-PC
Fanless, Industrial Intel® CPU processor mounted
BX-T1000 Series



- * Specifications, color and design of the products are subject to change without notice.
- * 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 November, 2020.

Model

- Base model with Intel Core i7 Processor 7600U 2.80GHz
BX-T1000-NA02
(Memory 8GB, without OS, without storage devices)
- OS-installed model with Intel Core i7 Processor 7600U 2.80GHz
BX-T1000-W10M02H07
(Memory 8GB, Windows 10 IoT Enterprise LTSC 2016 64bit (Japanese, English, Chinese, Korean), 2.5 inch HDD 100GB)
- BX-T1000-W10M02M08**
(Memory 8GB, Windows 10 IoT Enterprise LTSC 2016 64bit (Japanese, English, Chinese, Korean), 2.5 inch SSD (MLC) 256GB)
- BX-T1000-W19M02H07**
(Memory 8GB, Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, Korean), 2.5 inch HDD 100GB)
- BX-T1000-W19M02M08**
(Memory 8GB, Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, Korean), 2.5 inch SSD (MLC) 256GB)
- OS-installed model with Intel Core i5 7300U 2.60GHz
BX-T1010-W19M02H07
(Memory 8GB, Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, Korean), 2.5 inch HDD 100GB)
- BX-T1010-W19M02M08**
(Memory 8GB, Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, Korean), 2.5 inch SSD (MLC) 256GB)
- OS-installed model with Intel Celeron 3965U 2.20GHz
BX-T1020-W19M02H07
(Memory 8GB, Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, Korean), 2.5 inch HDD 100GB)
- BX-T1020-W19M02M08**
(Memory 8GB, Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, Korean), 2.5 inch SSD (MLC) 256GB)

This product is a fanless and high-performance embedded type computer with the seventh-generation Intel® CPU processor for industrial applications. Achieving great performances and power saving, it also contains rich interfaces, and realizes total natural cool down (FAN-less). CPU processor can be chosen from Core i7 7600U, Core i5 7300U, or Celeron 3965U.

It has extension interfaces such as dual-LAN, USB3.0, DisplayPort, DVI-D, and RS-232C. It employs slot-in type of 2.5-inch SATA disk slots, providing the appropriate ability to display images including digital signage.

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.

Features

- Seventh-generation Core i7, Core i5, 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.
- Fan-less design reduces maintenance work
The product is fanless to ensure a totally spindleless 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.
- A wide range of power supplies (10.8 - 31.2VDC) supported
As the product supports a wide range of power (10.8 - 31.2VDC), it can be used in a variety of power environments. The separately available AC adapter adds support for 100 - 240VAC power.
- Major types of peripherals are supported with rich interfaces
It has a variety of extended interface such as DVI-D x 1, DisplayPort x 1, 1000BASE-T x 2, USB3.0 x 4, USB2.0 x 2, and serial (RS-232C) x 2.
It has two slot-in type of 2.5-inch SATA disk slots, providing the ability to separate data from the operating system, as well as the convenience of being able to use one slot for system startup and the other for maintenance or for taking home system logs or collected data.
- With retention fitting and cable clamp to stay trouble-free
This product stays trouble-free, being equipped with cable clamp for connectors with no locking mechanism, such as USB cable.
- Safety design required for embedded applications
For Windows 10 IoT Enterprise LTSC 2016 or Windows 10 IoT Enterprise 2019 LTSC installed model, it is possible to use the WF*1 function of OS. It is designed for safety required for embedding purpose, for example, prohibiting unwanted writing to the HDD or SSD with WF function will relieve the concern about the writing limits to the HDD or SSD and prevent an unintentional system alteration.

*1 UWF (Unified Write Filter) is a function of Windows 10 IoT Enterprise LTSC 2016 or Windows 10 IoT Enterprise 2019 LTSC. They protect the disk from being actually written by redirecting the writing to RAM.

List of Options

AC adapter PWA-90AWD1	AC adapter (Input: 100 - 240VAC, Output: 12VDC 7.5A)
Hard Disk PC-HDD100GS-2	2.5 inch SATA Hard Disk Drive 100GB
SSD(MLC) SSD-256GS-2M	2.5 inch SATA SSD 256GB
Brackets BX-BKT-FIX04	Attachment fittings (designed to fit to the sides)

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

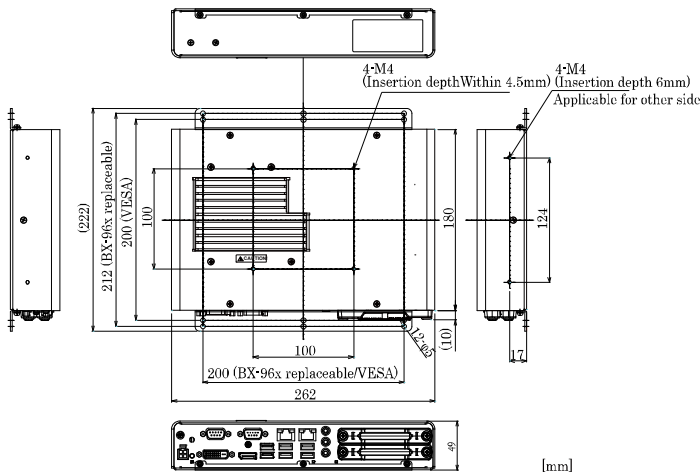
* Visit Contec website regarding information on the optional products.

Supported OS

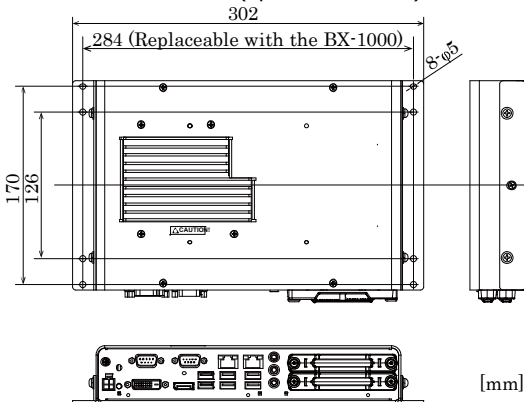
- Windows 10 IoT Enterprise LTSB 2016 64bit (Japanese, English, Chinese, and Korean)
- Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese, English, Chinese, and Korean)

Physical Dimensions

With the bundled attachment fittings



With the BX-BKT-FIX04 (optional brackets)



Specifications

Functional Specifications

Model	BX-T1000-xxxxxxx	BX-T1010-xxxxxxx	BX-T1020-xxxxxxx
CPU	Intel® Core™ i7 Processor 7600U (2.80GHz)	Intel® Core™ i5 Processor 7300U (2.60GHz)	Intel® Celeron Processor 3965U (2.20GHz)
BIOS	BIOS (mfd. by AMI)		
Memory	8GB(260 pin SO-DIMM), PC4-17000 (DDR4-2133)		
Graphic	Intel® HD Graphics 620 (built-in CPU)		Intel® HD Graphics 610 (built-in CPU)
System resolution	DVI-D	800x600, 1,024x768, 1,152x864, 1,280x600, 1,280x720, 1,280x800, 1,280x960, 1,280x1,024, 1,360x768, 1,366x768, 1,400x1,050, 1,440x900, 1,600x900, 1,600x1,200, 1,920x1,080, 1,920x1,200 (16,770,000 colors)	
	DisplayPort	800x600, 1,024x768, 1,152x864, 1,280x600, 1,280x720, 1,280x800, 1,280x960, 1,280x1,024, 1,360x768, 1,366x768, 1,400x1,050, 1,440x900, 1,600x900, 1,600x1,200, 1,680x1,050, 1,790x1,344, 1,856x1,392, 1,920x1,080, 1,920x1,200, 1,920x1,440, 2,048x1,152, 2,048x1,536, 2,560x1,440, 2,560x1,600, 2,560x1,920, 2,560x2,048, 3,840x2,160 (16,770,000 colors)	
Audio	HD Audio compliant, LINE OUT x 1, LINE IN x 1, MIC IN x 1		
SATA	Slot-in 2.5 inches SATA hard disk x 2 Serial ATA 3.0 compliant support BX-T10x0-NA02:- BX-T10x0-W1xM02H07: Built-in SATA HDD (100GB, 1 partition) *1 BX-T10x0-W1xM02M08: Built-in SATA SSD (MLC) (256GB, 1 partition) *1		
LAN	Intel I210IT Controller 1000BASE-T/100BASE-TX/10BASE-T 2 port (Wake On LAN support)		
USB	USB 3.0 compliant 4 port USB 2.0 compliant 2 port		
Serial I/F	RS-232C (general-purpose) : 2port (SERIAL PORTA, B), 9pin D-SUB connector (male) Baud rate : 50 - 115,200bps		
Hardware monitoring	Monitoring CPU temperature, power voltage		
Watchdog timer	Software programmable, 255 level (1sec - 255sec) Time up allows reset or shutdown.		
RTC/CMOS	Lithium backup battery life: 10 years or more. The real-time clock is accurate within ±3 minutes (at 25°C) per month		
Power Management	Power management setup via BIOS, Power On by Ring / Wake On LAN, Supports ACPI Power management		
Interface			
Display	DVI-D x 1 (25pin DVI-D connector), DisplayPort x 1		
Audio	LINE OUT : 3.5φ Stereo mini jack, Full-scale output level 1.2Vrms(Typ.) LINE IN : 3.5φ Stereo mini jack, Full-scale output level 1.4Vrms(Typ.) MIC IN : 3.5φ Stereo mini jack, Full-scale input level 1.4Vrms(Typ.)		
Serial ATA slot	Slot-in 2.5 inches SATA hard disk x 2		
LAN	2 port (RJ-45 connector)		
USB	USB3.0 compliant 4port (TYPE-A connector) USB2.0 compliant 2port (TYPE-A connector)		
RS-232C	2 port (9pin D-SUB connector [male])		
Power supply			
Rated input voltage	12 - 24VDC *2		
Range of input voltage	10.8 - 31.2VDC		
Power consumption	12V 5.2A, 24V 2.7A	12V 4.2A, 24V 2.2A	12V 4.1A, 24V 2.1A
External device power supply capacity	Serial ATA slot : +5V : 2A(1,00mA x 2) USB3.0 I/F : +5V : 3.6A (900mA x 4) USB2.0 I/F : +5V : 1.0A (500mA x 2)		
Physical dimensions (mm)	262 (W) x 180(D) x 49(H) (No protrusions)		
Weight	About 2.0kg (Excluding attachment fittings)		

*1: The capacity of CFast 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: Use a power cable shorter than 3m.

Installation Environment Requirements

Model	BX-T10x0-xxxxxxx		
Ambient specifications	Operating temperature	0 - 55°C (With 1000BASE-T : 0 - 50°C), airflow 0.7m/s 0 - 45°C (With 1000BASE-T : 0 - 40°C), no airflow	
	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 *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) Atmospheric discharge / ±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
	Vibration resistance	Sweep resistance	When the HDD is on : 10 - 50Hz / 0.5G 25 min. each in x, y, and z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
			When the HDD is off : 10 - 57Hz/semi-amplitude 0.15mm 57 - 150Hz/2.0G 40 min. each in x, y, and z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
	Impact resistance	10G, half-sine shock for 11 ms 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: When AC adapter "PWA-65AWD" is used.

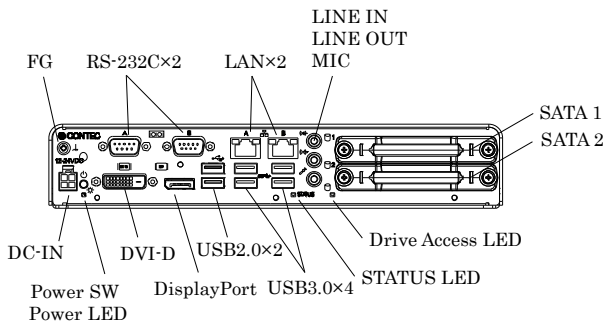
Packing List

- Product [BX-T1000Series]...1
- Attachment fitting...2
- DisplayPort retention fitting...1
- Screws for 2.5inches HDD (M3 x 4) ...8
- Washer assembled screw (M3 x 8, black) ...7
- Washer assembled and cross recessed hexagonal bolt (M4 x 10, black) ...6
- Power supply connector complete set...1 (Power connector 1, Contact 4)
- Cable Clamp for USB...1
- Cable Clamp for DisplayPort...1
- Product Guide...1
- IPC Precaution List...1
- Warranty Certificate...1
- Serial Number Label...1
- Royalty Consent Contract (OS)...1 *1
- Setup Procedure Document...1 *1
- Recovery Media...1 *1

*1 It is not included in the base model.

* The user's manual for this product is available as a PDF file through CONTEC's Web site. The user's manual provides such information as hardware settings, functions for each component, and BIOS settings. Refer to it as necessary.

Component Name



Component Function

Name	Function
POWER-SW	Power switch
POWER LED	Power ON display LED
STATUS LED	Status LED
ACCESS LED	HDD/SSD access display LED
DC-IN	DC power input connector
LINE IN	Line in (ø3.5 PHONE JACK)
LINE OUT	Line out (ø3.5 PHONE JACK)
MIC IN	Mike in (ø3.5 PHONE JACK)
LAN A	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
LAN B	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
USB3.0	USB3.0 port TYPE-A connector x 4
USB2.0	USB2.0 port TYPE-A connector x 2
SERIAL A	Serial port A connector (9pin D-SUB, male)
SERIAL B	Serial port B connector (9pin D-SUB, male)
DVI-D	Display (25 pin, female)
Display Port	Display (20 pin, female)
SATA1	HDD slot (Serial-ATA)
SATA2	HDD slot (Serial-ATA)

Intel, Intel Atom, Intel Core and Celeron are registered trademarks of Intel Corporation. MS, Microsoft and Windows are trademarks of Microsoft Corporation. Other brand and product names are trademarks of their respective holder.