BOX-PC
Fanless, Atom E3845 1.91GHz
DVI-I, DisplayPort
BX-825D

This product is a fanless computer for embedded applications. It features an Intel Atom processor E3845 chipset. Even though it has a slitless case, it supports a wide range of temperatures from 0 to 55°C and can be operated stably under harsh operating conditions.

Thanks to its Quad-Core CPU, it can perform stable, high-speed processing of four applications at the same time (one application is processed by each core). The Quad-Core CPU also greatly reduces power consumption, with power efficiency improved to at least twice that of the previous generation's architecture.

It has extension interfaces such as DVI-I, Display Port, 1000BASE-T, USB 3.0, and serial.   It employs a mSATA SSD and CFast card for storage and is fanless to ensure a totally spindleless design that simplifies maintenance.

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.

* 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.

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Model

- Intel Atom Processor E3845 1.91GHz, without OS
BX-825D-DC760000
(Memory 4GB, ECC, with mSATA SSD 32GB (MLC NAND), without OS)

- Intel Atom Processor E3845 1.91GHz with OS pre-installed
BX-825D-DC761824
(Memory 4GB ECC, with mSATA SSD 32GB (MLC NAND), Windows 10 IoT Enterprise LTSB 2016 64bit (Japanese, English, Chinese, Korean) + McAfee)

BX-825D-DC791824
(Memory 4GB ECC, with mSATA SSD 64GB (MLC NAND), Windows 10 IoT Enterprise LTSB 2016 64bit (Japanese, English, Chinese, Korean) + McAfee)

Features

- Secured IoT device for edge computing
The OS installed model contains the 64-bit version Windows 10 IoT Enterprise that supports in four languages (Japanese, English, Chinese, and Korean) and McAfee white list type anti-virus software.
This product is pre-equipped as an Internet-connection device.

- 3 Gigabit LAN ports interconnect differing network hierarchy
This product has three Gigabit LAN ports. It is ideal for IoT gateway which interconnects differing network hierarchy including fieldbus, between controllers, and higher information networks in the facilities.

- Contributing to reduction of running cost and promotion of energy efficiency
It adopts the low-power platform with Intel® Atom(TM) Processor E3845 that realizes lower power consumption while ensuring sufficient performance.

- Supports a wide range of temperatures with operations guaranteed from 0 to 55°C *1
Stable operations of this product are possible over a wide range of temperatures from 0 to 55°C.

*1   This specification applies when forced air cooling is used. Derating may be necessary depending on the usage environment.

- Slitless/fanless design that reduces maintenance work
This product's spindleless design eliminates the heat dissipating slit and CPU fan and adopts CFast card for the storage. There is no need to worry about the intrusion of dust or foreign objects, and the use of

parts that degrade over time is minimized to facilitate maintenance.

- Uses a multilingual OS to support users around the world
The OS-installed model uses an OS that supports multiple languages: English, Japanese, Chinese, and Korean. You can change the display language, which makes this product optimal for use at manufacturing worksites and in other situations where multiple languages are required.

- Remote power management function to reduce operation tasks
Supports system startup by external device over network (Wake-on-LAN) and by modem reception (power on by ring). It encourages significant labor saving in operation.

- Removal prevention fittings and cable ties are available to prevent problems caused by cable disconnections.
This product is equipped with a CFast card removal prevention fitting. This prevents problems from occurring by ensuring that the CFast card does not fall out.

- A wide range of power supplies (9.6 - 31.2VDC) supported
As the product supports a wide range of power (9.6 - 31.2VDC), it can be used in a variety of power environments. The separately available AC adapter adds support for 100 - 240VAC power.

List of Options

Power supply unit	
PWA-65AWD1	Power supply unit (Input: 100-240VAC, Output: 12VDC 5.417A)
PWA-90AWD1	Power supply unit (Input: 100-240VAC, Output: 12VDC 7.5A)
CFast Card (SLC)	
CFS-4GB-A	4GB CompactFlash for Fix Disk
CFS-8GB-A	8GB CompactFlash for Fix Disk
CFS-16GB-A	16GB CompactFlash for Fix Disk

Caution
Precautions when using products other than our options
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.

Specifications

Functional Specifications

Model	BX-825D-DCxxxxxx
CPU	Intel® Atom™ Processor E3845 1.91GHz
BIOS	BIOS (mfd. by AMI)
Memory	4GB, 204pin SO-DIMM socket x 1, PC3-10600(DDR3L 1333) ECC
Graphic	Intel® HD Graphics (Built-in CPU)
System resolution — Analog RGB	640x480, 800x600, 1,024x768, 1,152x864, 1,280x600, 1,280x720, 1,280x768, 1,280x800, 1,280x960, 1,280x1,024, 1,360x768, 1,366x768, 1,400x1,050, 1,440x900, 1,600x900, 1,680x1,050, 1,920x1,080, 1,920x1,200 (16,770,000 colors)
System resolution — DVI-D	640x480, 800x600, 1,024x768, 1,152x864, 1,280x600, 1,280x720, 1,280x768, 1,280x800, 1,280x960, 1,280x1,024, 1,360x768, 1,366x768, 1,400x1,050, 1,440x900, 1,600x900, 1,680x1,050, 1,920x1,080 (16,770,000 colors)
System resolution — DisplayPort	640x480, 800x600, 1,024x768, 1,152x864, 1,280x600, 1,280x720, 1,280x768, 1,280x800, 1,280x960, 1,280x1,024, 1,360x768, 1,366x768, 1,400x1,050, 1,440x900, 1,600x900, 1,680x1,050, 1,920x1,080, 1,920x1,200 (16,770,000 colors)
Internal storage	mSATA SSD × 1 BX-825D-DC76xxxx : 32GB (MLC NAND) built in *1 BX-825D-DC79xxxx : 64GB (MLC NAND) built in *1
CFast card slot	1 slot, CFast CARD Type I x 1 bootable
LAN *2	Intel I210IT Controller 1000BASE-T/100BASE-TX/10BASE-T 3 port (Wake On LAN support)
USB	USB 3.0 compliant 2 port USB 2.0 compliant 3 port
Serial I/F	RS-232C/422/485 : 1port (SERIAL PORTA), 9pin D-SUB connector (male) Baud rate : 50 - 115,200bps, switched from the BIOS
General-purpose I/O	General-purpose TTL type (non-isolated), Input 7 channels, Output 8 channels, Remote power on SW contact input
Hardware monitoring	Monitoring CPU temperature, power voltage
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 PC98/PC99 ACPI Power management
Interface — Display	DVI-I x 1 (29pin DVI-I connector), Display Port x1
Interface — mSATA	BX-825D-DC76xxxx : 32GB (MLC NAND) built in *1 BX-825D-DC79xxxx : 64GB (MLC NAND) built in *1
Interface — CFast card slot	1 slot
Interface — LAN *2	3 port (RJ-45 connector)
Interface — USB	USB3.0 compliant 2port (TYPE-A connector x2) USB2.0 compliant 3port (TYPE-A connector x3)
Interface — RS-232C/422/485	1 port (9pin D-SUB connector [male]), switched from the BIOS
Interface — General-purpose I/O	General-purpose TTL type (non-isolated), 7 input channels, 8 output channels (connector specifications: 25-pin D-SUB connector [male]), 1 remote power SW contact input
Power supply — Rated input voltage	12 - 24VDC *3
Power supply — Range of input voltage	9.6 - 31.2VDC (no power supply protection function)
Power supply — Power consumption	12V 3.0A, 24V 1.6A
Power supply — External device power supply capacity	CFast card slot: 3.3V: 0.5A(500mAx1) USB3.0 I/F: +5V: 1.8A (900mAx1) USB2.0 I/F: +5V: 1.5A (500mAx2)
Physical dimensions (mm)	220 (W) x 118.9(D) x 49.8(H) (No protrusions)
Weight	About 1.2kg (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: If you use the 1000BASE-T, be careful of the operating temperature.
For more details on this, refer to chapter3, Installation Requirements.
*3: Use a power cable shorter than 3m.

Installation Environment Requirements

Model	BX-825D-DCxxxxxx
Operating temperature	0 - 65°C (With 1000BASE-T: 0 - 60°C), airflow 0.7m/s 0 - 55°C (With 1000BASE-T: 0 - 50°C), no airflow
Storage temperature	-10 - +70°C
Operating humidity	10 - 90%RH (No condensation)
Floating dust particles	Not to be excessive (JEITA IT-1004A ClassA)
Corrosive gases	An environment with a low amount of corrosive gas (JEITA IT-1004A ClassB)
Noise resistance — Line noise	AC line / ±2kV *4, Signal line / ±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
Noise resistance — Static electricity resistance	Contact discharge / ±4kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 2) Atmospheric discharge / ±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance — Sweep resistance	10 - 57Hz/semi-amplitude 0.375 mm 57 - 500Hz/5.0G 60 min. each in x, y, and z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
Impact resistance	100G, half-sine shock for 6 ms in x, y, and z directions (JIS C60068-2-27-compliant, IEC60068-2-27-compliant)
Grounding	Class D grounding, SG-FG / continuity
Standard *5	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive), CCC, UL(component certification), KC, BSMI, CB

*4 : When AC adapter "PWA-65AWD" is used.
*5: The BX-825D-DC79xxxx model does not support KC or BSMI.

Packing List

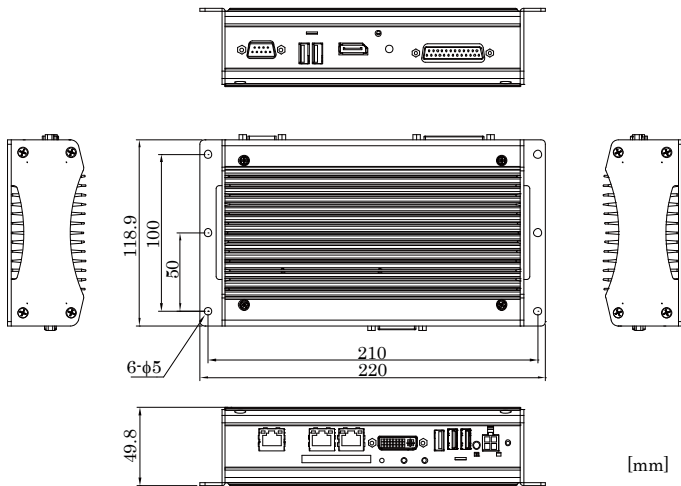| Name	BX-825D-DC760000 [Base Model] Pcs.	BX-825D-DC76xxxx *1 [OS Pre-install Model] Pcs.
The main body	1	1
CFast card removal prevention fitting	1	1
USB removal prevention fitting	1	1
USB / DisplayPort removal prevention fitting	1	1
Cable Tie	2	2
DVI-analog RGB conversion adapter	1	1
Washer assembled screw (M3 x 6)	3	3
Washer assembled and cross recessed hexagonal bolt (M4 x 10, black)	4	4
Power supply connector complete set — Power connector	1	1
Power supply connector complete set — Contact	4	4
Product Guide	1	1
IPC Precaution List	1	1
Warranty Certificate	1	1
Serial Number Label	1	1
Royalty consent contract (For OS)	- *2	1
Setup Procedure Document	- *2	1
Recovery Media Set	- *2	1

*1 Except for base model.
*2 It is not packed to the base model.

※ The User's Guide of this product is offered as the PDF file in our web page. With it, since information such as a setup of hardware, each component function and BIOS setup is indicated, please refer to it if needed.

Supported OS

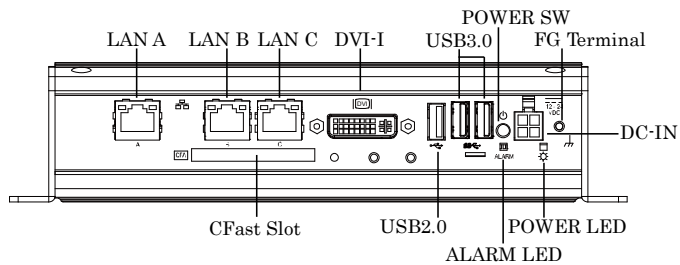- Windows 10 IoT Enterprise LTSB 2016 (Japanese, English, Chinese, Korean), 64bit
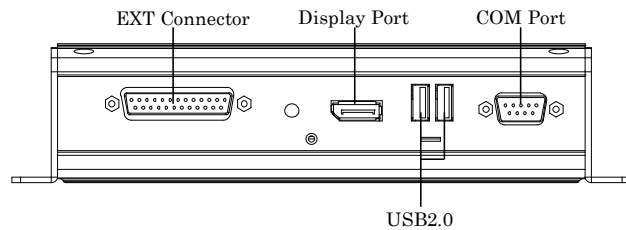
Physical Dimensions

[mm]

* When you fasten the bundled attachment fittings to be fixed to the body, you should use the attached screws (M4 x 10).

Component Name

Front view

Side view

Component Function

Name	Function
POWER LED	Power ON display LED
ALARM LED	Alarm LED
DC-IN	DC power input connector
POWER SW	Power switch
DVI-I	Display (29 pin, female)
Display Port	Display (20 pin, female)
USB3.0	USB3.0 port TYPE-A connector x 2
USB2.0	USB2.0 port TYPE-A connector x 3
LAN A	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
LAN B	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
LAN C	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
CFast Slot	CFast card slot (SATA connection)
COM Port	Serial port connector (9pin D-SUB, male)
EXT Connector	General-purpose I/O connector (25 pinD-SUB, male)