PANEL-PC, Fanless
Atom E3845, 12 - 24VDC input
PT-XXXA-120 Series

* The photo is PT-F10SA-120.

This product is a fan-less PANEL computer that is equipped with an Intel® Atom TM processor E3845 1.91GHz. Along with the compact 7-inch LCD model, the 10.4-inch and the 12.1-inch LCD models are also offered to suit the user's needs. Various extendable interfaces such as DVI-I, LAN, USB3.2 Gen1 (USB3.0), USB2.0, and Serial are provided. It employs a CFast card for storage and is fan-less to ensure a totally spindle-less design that simplifies maintenance.

This product's safety has been certified to meet the UL standard for Europe and the U.S.
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.

* 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 October 2022.

*1 For details, see each setting in the [BIOS Setup] section.
*2 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 TXE, TPM, Network Stack, and SMART Self Test are not supported when the CONTEC Fast Boot is enabled.
*3 Contact your retailer for more information.

Features

- 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.

- Fanless design that reduces maintenance and inspection work
This product employs a CFast card for storage and the spindle-less design eliminates CPU fan. It relieves the concern about dust or foreign matter to get into the product. Furthermore, using the parts that degrade over time is minimized to reduce maintenance load.

- Remote power management function to reduce operation tasks
It supports system start-up externally via network (Wake On LAN) and modem (Power On by Ring). It encourages significant labor saving in operation.

- High definition supported DVI external display output
This product has the up to 1920 x 1080 pixels DVI external display output as standard feature. A standalone two-display application which, for example, displays the screen on a big LCD TV separately from the main LCD, can be built.

- 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.

- Major types of peripherals are supported with rich interfaces
It has a variety of extended interface such as DVI-D x 1, LAN x 2, USB3.2 Gen1 (USB3.0) x 1, USB2.0 x 3, serial x 2 *.

It has two slot-in type of CFast card 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.
* The 7-inch model has one serial port.

- Major types of peripherals are supported with rich interfaces
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.

- CONTEC-customized BIOS provides useful utility
It has a variety of extended interface such as DVI-D x 1, LAN x 2, USB3.2 Gen1 (USB3.0) x 1, USB2.0 x 3, serial x 2 *.

Useful utility of BIOS *1 customized by CONTEC is provided. The "CONTEC Fast Boot" achieves Windows startup in less than half the normal time.*2

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.*3

Supported OS

- Windows Embedded Standard 7 32bit
- Windows 10 IoT Enterprise 2016 LTSB 64bit
  (Japanese / English / Chinese / Korean)

Included Items

Product...1
The Attachment Fittings...4 *1
Power Connector...1
CFast Card Removal Prevention Fitting...1
Product Guide...1

*1 Only packed with the PT-M07WA.
    All necessary materials to install the PT-F10SA [10.4inch model] and PT-F12SA [12.1inch model] need to be provided yourself.

Specifications

Functional Specifications

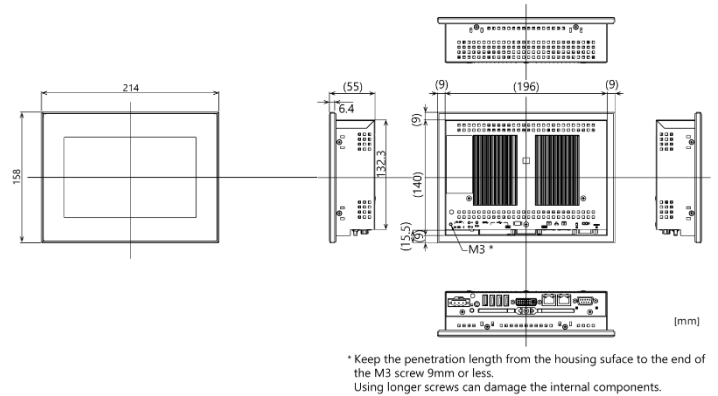| Item		Description
Frame type		PT-M07WA : Bezel PT-F10SA, PT-F12SA : Open frame
Assembly type		Panel mounted
CPU		Intel® Atom™ Processor E3845 1.91GHz
BIOS		BIOS (mfd. by AMI)
Memory		4GB (204-pin SO-DIMM x 1), PC3L-10600 DDR3L 1333 ECC
Graphics Controller		Intel® HD Graphics (CPU integrated)
LCD type	LCD	PT-M07WA : 7-inch TFT color LCD, WVGA (800 x 480) PT-F10SA : 10.4-inch TFT color LCD, XGA (1,024 x 768) PT-F12SA : 12.1-inch TFT color LCD, XGA (1,024 x 768)
	Backlight	LED method, The ON/OFF can be controlled by software command.
Touch-screen *1	Resolution	PT-M07WA : 4,096 x 4,096 (emulated in 800 x 480 mode) PT-F10SA, PT-F12SA : 4,096 x 4,096 (emulated in 1,024 x 768 mode)
	Detection method	Four-wire resistive film analog method
	Connection	Internal serial port
System resolution		1 port (29-pin DVI-I connector)
	DVI-D *2	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 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, 1,680 x 1,050, 1,920 x 1,080 (16,770,000 colors)
	Analog RGB	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 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, 1,680 x 1,050, 1,920 x 1,080, 1,920 x 1,200 (16,770,000 colors)
Audio		HD Audio compliant, LINE OUT x 1 LINE OUT : 3.5φ stereo minijack Full-scale output level 1.2Vrms (Typ.)
CFast Card slot		2 slots, CFast CARD Type I, bootable PT-xxxxA-120-J103NA : - PT-xxxxA-120-J103L07W16 : CFast Card built-in. (TCL, 128GB, 1 partition) *3
LAN		RJ-45 connector x 2 Intel I210 controller 1000BASE-T/100BASE-TX/10BASE-T, supports Wake On LAN
USB		USB 3.2 Gen1 (USB3.0)-compliant x 1 port (Type-A connector) USB 2.0-compliant x 3 ports (Type-A connector)
Serial		PT-M07WA : RS-232C 1 port (9-pin D-SUB connector [male]) PT-F10SA, PT-F12SA : RS-232C 2 ports (9-pin D-SUB connector [male]) RS-232C 2 ports (pin header) 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
Power supply	Rated input voltage	12 - 24VDC *3
	Input voltage range	10.8 - 31.2VDC
	Current consumption	PT-M07WA : 12V 2.6A, 24V 1.4A(Max.) PT-F10SA : 12V 3.1A, 24V 1.7A(Max.) PT-F12SA : 12V 3.6A, 24V 1.8A(Max.)
	External device power supply capacity	CFast card slot: +3.3V 1.0A (500mA x 2 per slot) USB3.2 Gen1 (USB3.0) I/F: +5V 0.9A (900mA x 1 per port) USB2.0 I/F: +5V 1.5A (500mA x 3 per port)
Drip-proofing and dust-proofing		PT-M07WA : IP65 standard (Front panel) PT-F10SA/PT-F12SA : -
Cutting dimensions of the screen (mm)		PT-M07WA : 197(W) x 141(H) PT-F10SA : 225.2(W) x 176.5(H) PT-F12SA : 265.5(W) x 206(H)
Physical dimensions (mm)		PT-M07WA : 214(W) x 55(D) x 158(H) PT-F10SA : 233.5(W) x 48.4(D) x 220(H) PT-F12SA : 302(W) x 48.4(D) x 260(H) (Not including the attachment fittings or protrusions)
Weight		PT-M07WA : 1.6kg (approx.) PT-F10SA : 2.0kg (approx.) PT-F12SA : 2.5kg (approx.) (Not including the attachment fittings)

*1 Linearity: ±2.0% max.   The operating life is 10 million continuous keying (with touch screen inputs).
*2 The DVI display will be shown on the screen after you start Windows.
*3 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.
*4 Use a power cable shorter than 3m.

Environment Requirements

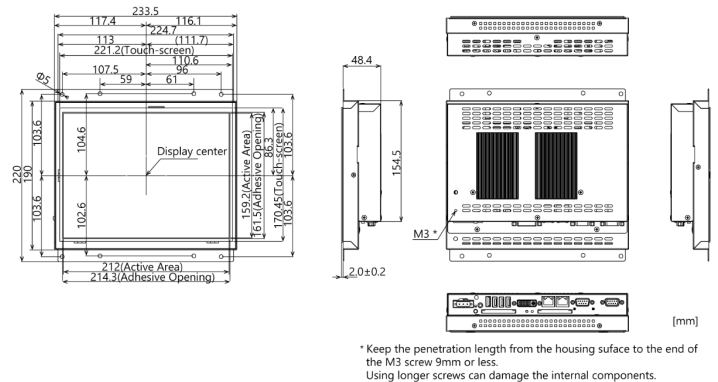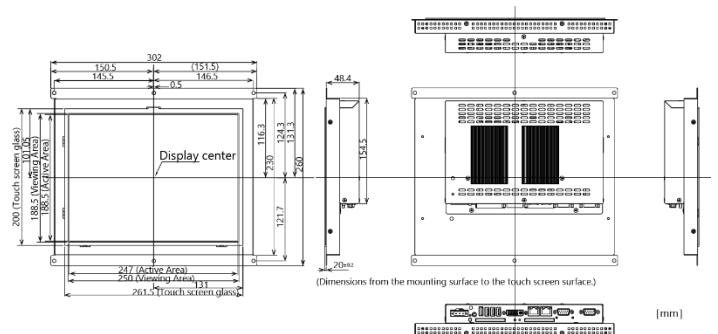| Item		Description
Operating Temperature		0 - 55°C
Storage Temperature		-10 - +60°C
Humidity		5 - 85%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-noise resistance	Line noise	AC Line /±2kV, Signal line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	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 resistance	10 - 57Hz /semi-amplitude vibration 0.075mm, 57 - 150Hz/1.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
Impact resistance		10G 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, CE Marking (EMC Directive Class A, RoHS Directive), UKCA, UL/c-UL (UL61010-1)

Physical Dimensions

PT-M07WA-120 [7inch model]

* Keep the penetration length from the housing suface to the end of the M3 screw 9mm or less.
Using longer screws can damage the internal components.

PT-F10SA-120 [10.4inch model]

* Keep the penetration length from the housing suface to the end of the M3 screw 9mm or less.
Using longer screws can damage the internal components.
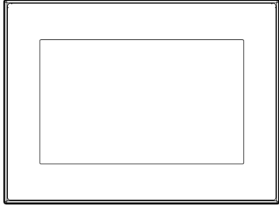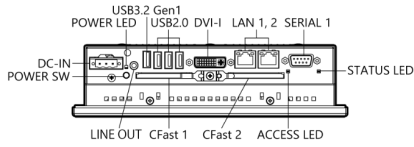
PT-F12SA-120 [12.1inch model]

(Dimensions from the mounting surface to the touch screen surface.)

Component Name

PT-M07WA-120 [7inch model]

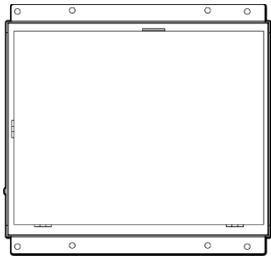Front   Bottom of the display

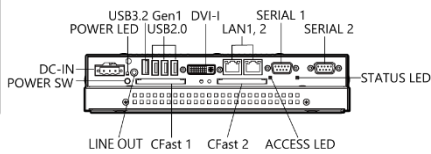### PT-F10SA-120 [10.4inch model]

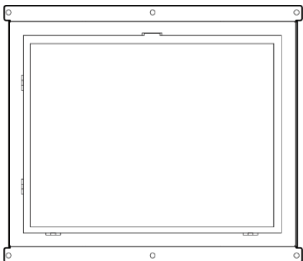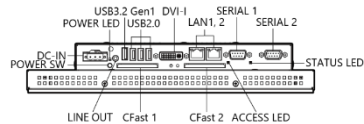Front   Bottom of the display

PT-F12SA-120 [12.1inch model]

Front   Bottom of the display

Product Lineups

Model	LCD size / Resolution	Memory	Storage	OS
PT-M07WA-120-J103NA	7-inch WVGA (800 x 480)	4GB	None	None
PT-M07WA-120-J103L07W16			128GB	Windows 10 IoT Enterprise 2016 LTSB 64bit (Japanese / English / Chinese / Korean)
PT-F10SA-120-J103NA	10.4-inch XGA (1,024 x 768)	4GB	None	None
PT-F10SA-120-J103L07W16			128GB	Windows 10 IoT Enterprise 2016 LTSB 64bit (Japanese / English / Chinese / Korean)
PT-F12SA-120-J103NA	12.1-inch XGA (1,024 x 768)	4GB	None	None
PT-F12SA-120-J103L07W16			128GB	Windows 10 IoT Enterprise 2016 LTSB 64bit (Japanese / English / Chinese / Korean)

Name	Function
Bottom of the display	
POWER SW	PC Power switch
POWER LED	Power ON display LED
ACCESS LED	SATA access display LED
STATUS LED	Status LED
DC-IN	DC power input
LINE OUT	LINE OUT (3.5Φ PHONE JACK)
LAN 1	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
LAN 2	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
USB3.2 Gen1	USB 3.2 Gen1 (USB3.0) port connector x 1
USB2.0	USB 2.0 port connector x 3
SERIAL 1	Serial port A connector (9-pin D-SUB, male)
SERIAL 2	Serial port B connector (9-pin D-SUB, male) *1
DVI-I	Display (29-pin, female)
CFast 1	CFast card slot (SATA connection)
CFast 2	CFast card slot (SATA connection)

*1 10.4-inch and 12.1-inch models only.