

PANEL-PC, Fanless  
Atom E3940, 18.5" Full HD, 12-24VDC input  
**PT-V18WB-210D Series**



\* The photo shows the PT-V18WB-210DR.

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

**Features**

- The entire housing adopts the IPX2 water-proof structure, and the front side of the monitor meets IP65 standard and ensures waterproofing and dust-proofing. The entire housing adopts the IPX2 water-proof structure, and the front side of the monitor meets IP65 standard and resists power dust and water damages.
- Rust-resistant stainless steel is used for the housing  
Rust-resistant stainless steel is used for the housing and the waterproof cover is provided to protect interfaces from water damages.
- Capacitive touch screen adopted  
To avoid wrong detection due to water droplets, the screen is tuned to be operable with rubber gloves. Furthermore, the surface is covered with an anti-glare film to reduce glare from lighting and other sources.
- "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\*1 customized by CONTEC is provided. The "CONTEC Fast Boot" achieves Windows startup in 10 seconds.\*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
- 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.
- VESA standard support  
Conforming to the VESA standard (100×100), the product can be set on the various types of arms or stands.

\*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.

This product is the "All-in-One" type PC, which has a 18.5-inch size (Full HD 1920×1080) LCD touch screen integrated.  
Rust-resistant stainless steel is used for the chassis and it fulfills the IPX2 drip-proof.

Moreover, the front side of the display adopts a fully flat structure, which meets the IP65 standard and ensures drip-proofing and dust-proofing. This is the ideal product to be used in the places where water damages may occur.

Various extendable interfaces such as 1000BASE-T, USB3.2 Gen1(USB3.0), and Serial are provided. Furthermore, the product employs a M.2 card for storage and is fan-less to ensure a totally spindle-less design that simplifies maintenance.

Embedded-type CPU has been adopted. The use of readily available parts ensures the product to be applied easily. In addition, the use of 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 October, 2022.

**Specification**

**Functional Specifications**

Item	Description	
CPU	Intel Atom® x5-E3940 Processor 1.6GHz	
BIOS	BIOS (mfd. by AMI)	
Memory	8GB (204-pin SO-DIMM), PC3L-12800 (DDR3L-1600)	
Graphic controller	Intel® HD Graphics 500 (CPU integrated)	
LCD type	LCD type	18.5-inch TFT color LCD, Full HD (1920 x 1080)
	Backlight	LED method, The ON/OFF software can control.
Touch screen	Resolution	Full HD (1920 x 1080)
	Detection method	Capacitive type, 10-point touch (2-point touch when water-droplets are on the screen)
	Connection	Internal USB port
External display output	DisplayPort	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, 1,600x1,200, 1,680x1,050, 1,792x1,344, 1,856x1,392, 1,920x1,080, 1,920x1,200, 1,920x1,440, 1,920x2,160, 2,048x1,152, 2,048x1,536, 2,560x1,080, 2,560x1,440, 2,560x1,600, 2,560x1,920, 2,560x2,048, 3,840x2,160 (16,770,000 colors)
	Analog RGB	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, 1,600x1,200, 1,680x1,050, 1,920x1,080, 1,920x1,200 (16,770,000 colors)
Audio	HD Audio compliant, LINE OUT x 1, MIC IN x 1 3.5p stereo minijack, Full-scale output level 1.1Vrms (Typ)	
LAN	Intel I210T controller 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 2 (supports Wake On LAN)	
Wireless LAN *1	IEEE 802.11ac/a/b/g/n	
Bluetooth *1	4.2	
USB	Type-A controller USB 3.2 Gen1(USB3.0) compliant x 4ports USB 2.0 compliant x 2ports	
Serial	9pin D-SUB connector [Male] RS-232C/422/485 x 1port, RS-232C x 1port Baud rate: 50 - 115,200bps	
Storage	1 slot, M.2 2242, SATAIII, M.2 card 64GB(MLC) on-board *2 1 slot, CFast CARD Type I	
Security (TPM)	TCG TPM2.0	
Hardware monitoring	Monitoring CPU temperature, board temperature, power voltage	
Watchdog timer	Software programmable, 255 level (1sec - 255sec) Time up allows reset	
RTC/CMOS	Lithium backup battery life: 10 years or more*3 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 Supports ACPI Power management	
Rated input voltage	12 - 24VDC	
Range of input voltage	10.8 - 31.2V	
Power consumption (Max)	12V 5.1A, 24V 2.7A	
External device power supply capacity	CFast Card slot : +3.3V 0.5A USB3.2 Gen1 I/F : +5V : 3.6A(900mA per port x 4) USB 2.0 I/F : +5V 1.0A(500mA per port x 2)	
Physical dimensions (mm)	472(W) x 302(H) x 65(D) (Not including protrusions)	
Weight	5.3kg approx.	

\*1 Wireless LAN and Bluetooth are only available in the wireless models.

\*2 It is already built into the product. The capacity that can be recognized from OS might be displayed fewer than an actual value.

\*3 It is when the power is disconnected for 16 hours a day.

Installation Environment Requirements

Item	Description	
Operating ambient temperature	0 - +45°C	
Non-operating ambient temperature	-10 - +60°C	
Operating ambient humidity	10 - 90%RH (No condensation)	
Non-operating ambient humidity	10 - 90%RH (No condensation)	
Floating dust particles	Not to be excessive	
Corrosive gases	None	
Line-noise resistance	Line noise	AC line / ±2kV, Signal line / ±1kV *4 (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	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)
	Shock 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	
Standard	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive) *5, UKCA, TELEC (set with the certified wireless module) *6	

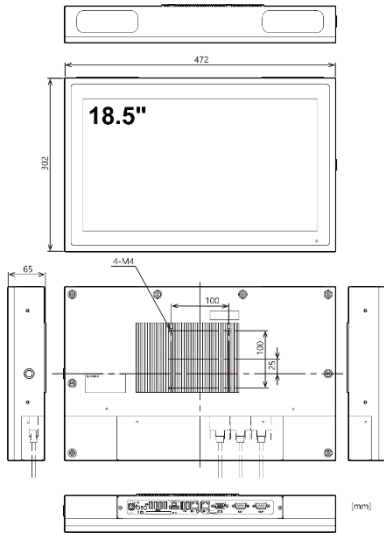
\*4 It is when the product is used with AC adapter PWA-65AWD1.

\*5 The wireless model is excluded from CE Standard.

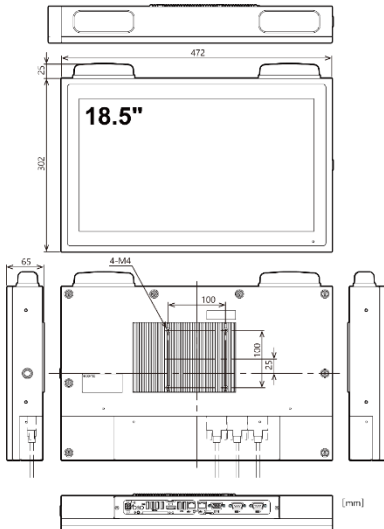
\*6 The wireless module is set only in the wireless models.

Physical Dimensions

PT-V18WB-210D



PT-V18WB-210DR



Supported OS

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

Included Items

Name	PT-V18WB-210D-J104xxx	PT-V18WB-210D-J104xxxxxx	PT-V18WB-210DR-J104xxx	PT-V18WB-210DR-J104xxxxxx
	[Base Model]	[OS Pre-install Model]	[Wireless Model]	[OS Pre-install, Wireless Model]
	Pcs.	Pcs.	Pcs.	Pcs.
The Main Body	1	1	1	1
Waterproof Cover For Horizontal Installation *1	1	1	1	1
Waterproof Cover For Vertical Installation	1	1	1	1
C/Fast Removal Prevention Fitting	1	1	1	1
Power Supply Connector Complete Set	Power Connector	1	1	1
	Contact	4	4	4
Washer Assembled Screw (M2.6x6)	1	1	1	1
Cable Tie	1	1	1	1
Product Guide	1	1	1	1

\*1 Preset upon shipment

List of Options

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)

Caution

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

\* Check the CONTEC's Web site for the latest information on these options.

Product Lineup

Model	Memory	Storage	Wireless	OS
PT-V18WB-210D-J104M05	8GB	64GB	Not available	None
PT-V18WB-210D-J104M05W19				Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean)
PT-V18WB-210DR-J104M05			Available	None
PT-V18WB-210DR-J104M05W19				Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean)

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