Advantech Automation Panel

Modular Panel PCs Provide Exceptional Flexibility for Industry 4.0.

ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

Realizing Visualization to Enable Industry 4.0

With the arrival of Industry 4.0, and the resulting shift in market demands, a rapid time-to-market and customer responsiveness have become key concerns for the manufacturing industry. To address this need, Advantech created its TPC series of modular panel PC solutions based on three performance-segmented computing box modules — control panels (TPC-5000), industrial thin-clients (TPC-2000), and industrial monitors (FPM-7002). The modular design of the TPC series allows the computing box modules to be interchangeably combined with Advantech's panel modules to provide comprehensive platform solutions according to usage requirements.

This innovative modular design provides numerous advantages, including flexible configuration, rapid customization and deployment, reduced maintenance costs and system downtime, and cost-effective equipment upgrades for truly future-proof infrastructure.

Exceptional Flexibility

The panel modules (available in 5 sizes) can be interchangeably combined with box modules (3 types available) to provide up to 15 platform solutions that can be adapted for diverse applications.

Rapid Customization

TPC platforms can be rapidly customized and configured according to specific usage requirements without the need for reverification and recertification, drastically reducing the hardware and software integration time.

Easy Maintenance

For system maintenance, defective modules can be detached and replaced on site, without needing to unmount the entire platform, thereby minimizing maintenance efforts and costs.

Forward Compatibility

To upgrade or expand the TPC platforms, existing modules can be simply detached and replaced with a new advanced module, extending the overall product lifecycle.

Control Panel

TPC-5000 series

- 6th generation Intel® Celeron® 3955U/Core™i3-6100U/ Core™ i5-6300U/ Core™i7-6600U processor with 4/8 GB DDR4
- iDOOR, PCIe, removable SSD, and M.2 for flexible expansion
- TPM2.0, 3 x GbE, and isolated power design for control software compatibility
- IEC 61010-2 and IEC 60950-2 certified

Industrial Thin Client

TPC-2000 series

- Intel® Celeron® J3455/Atom™ E3940 processor with 4 GB DDR3L
- Compact, universal design with low power consumption
- Industrial-grade, wide operating temperature range (-20 ~ 60 °C/-4 ~ 140 °F)
- PXE boot-ready to facilitate centralized management of multiple devices
- Supports M.2 storage and an optional iDOOR communication module

Modular Design

The panel and box modules are docked by a board-to-board connector that can be easily integrated into various platform configurations.

IP66-Rated True-Flat Screen

In addition to IP66 certification for dust and water resistance, the platforms are equipped with a true-flat screen with P-CAP/resistive touch control.
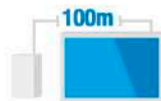
IP-66

Wide Input Power Range (24 V$_{DC}$ ± 20%)

Support for a wide input power range of 24 V$_{DC}$ ± 20% ensures the systems can be operated in unstable power environments.

24V+/-20%

Wi-Fi/NFC Communication Technology

The Wi-Fi/NFC antenna built into the front panel offers direct wireless communication without additional wiring, facilitating easy implementation.

Wi-Fi / NFC

Long-Distance Display

100m

With Advantech's iLink technology, the system can support long-distance (up to 100 m) video transmissions to either a single client or multiple clients.

Rapid Logo Customization

The TPC platforms can be customized with predefined features or corporate logos upon request to align with customers' existing branding.

Supports iDoor Technology

With Advantech's iDoor technology, customers can integrate peripherals and expand the system functions via the diverse I/O.
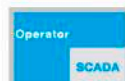
Intelligent Keys

With the inclusion of intelligent keys, Advantech's TPCs provide an intuitive GUI that saves time by simplifying operations.

IEC 61010 Certified

IEC61010-2

The achievement of IEC 61010 certification verifies the system's robustness and safety to ensure unrivaled reliability for control and monitoring applications.

Supports Dual Displays

Operator / **SCADA**

The provision of picture-in-picture technology allows for simultaneous dual displays and dual input control, enabling easy monitoring and reduced KVM costs.

Industrial Monitor

FPM-7002 series

- Supports both 4:3 and 16:9 display ratios
- Supports dual displays and control with picture-in-picture functionality
- Module-in-Module design with customizable I/O
- iLINK technology enables long-distance
  (up to 100 m) one-to-one/one-to-many (up to 4) data transmissions

Selection Guide

■ Configurable Systems

Panel Modules

P/N	FPM-D12T-AE		FPM-D17T-AE		FPM-D21W-AE
Panel Size	12"	15"	17"	18.5"	21.5"
Resolution	1024 x 768	1024 x 768	1280 x 1024	1366 x 768	1920 x 1080
Touch Type	5-wire resistive touch	Projected capacitive touch	Projected capacitive touch	Projected capacitive touch	Projected capacitive touch
Wi-Fi Antenna	No	Yes	Yes	Yes	Yes
NFC Reader	No	Optional	Optional	Optional	Optional
IP Rating	IP66-rated front panel				

Box Computing Modules

Part Number	TPC-B200-E12AE		TPC-B500-6C2AE	TPC-B500-633AE		
CPU	Intel® Atom® 1.60 GHz	Intel® Celeron® J3455 1.50 GHz	Intel® Celeron® 3955U 2.00 GHz	Intel® Core™ i3-6100U 2.30 GHz	Intel® Core™ i5-6300U 2.40 GHz	Intel® Core™ i7-6600U 2.60 GHz
Memory	4G DDR3L		4G DDR4	8G DDR4		
I/O	2 x RS-232/422/485,2 x USB 3.0,2 x USB 2.0, 2 x GbE, 1 x Line Out,1 x DP		1 x RS-232,1 x RS-232/422/485,2 x USB 3.0,2 x USB 2.0, 3 x GbE, 1 x Line Out,1 x DP			
Expansion	1 x Full-size mini PCIe		1 x Half-size PCIe,2 x full-size mini PCIe			
Power Input	24 V$_{DC}$ ± 20%		24 V$_{DC}$ ± 20%			
Operating System	Microsoft® Windows 10 IoT Enterprise LTSB		Microsoft® Windows WES7 (32/64 bit)/Windows 7 (32/64 bit)/ Ubuntu 16.04/ Windows 10 IoT Enterprise LTSB			
Mount Options	Panel, stand, and VESA mount (with optional mounting kit)					

Monitor Box Module

Part Number	FPM-B700-AE
Video Interface	HDMI (FPM-M700-HDAE), DP (FPM-M700-DPAE), iLink (FPM-M700-RXAE and FPM-M700-TRAE)
Power Input	24 V$_{DC}$ ± 20%
Mount Options	Panel, stand, and VESA mount
iLINK Technology	Supported

■ Pre-Configured Systems

TPC-2000 Series			TPC-5000 Series			FPM-7000 Series
TPC-2121T-J12AE	TPC-2151T-J12AE	TPC-2181W-J12AE	TPC-5152T-633AE	TPC-5172T-633AE	TPC-5212W-633AE	FPM-7212W-PHAE
12.1" XGA LCD touch panel with Intel® Celeron® J3455 quad-core processor and 4 GB RAM	15" XGA LCD touch panel with Intel® Celeron® J3455 quad-core processor and 4 GB RAM	18.5" HD LCD touch panel with Intel® Celeron® J3455 quad-core processor and 4 GB RAM	15" XGA touch panel with Intel® Core™ i3-6100U dual-core processor and 8 GB RAM	17" SXGA touch panel with Intel® Core™ i3-6100U dual-core processor and 8 GB RAM	21.5" FHD touch panel with Intel® Core™ i3-6100U dual-core processor and 8 GB RAM	21.5" FHD touch panel with PCAP touch control, 1 x HDMI, and 1 x extension slot

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