

# TPC-5152T TPC-5172T TPC-5212W

Preliminary

## Modular 21.5" Full HD/17" SXGA/15" XGA LED LCD with 6<sup>th</sup> Gen. Intel® Core™ i3-6100U Multi-Touch Panel Computer



### Features

- Intel® Core™ i3-6100U processor with 8 GB of DDR4 SODIMM
- Industrial-grade LED LCD with a lifespan of 50,000 hours
- Modular design for flexible configuration and easy maintenance
- Display panel modules available in various sizes with either projected capacitive touch functionality for multi-touch control or 5-wire resistive touch functionality
- Intelligent home key and iKey provide intuitive user interfaces for system control
- Built-in Trusted Platform Module (TPM) 2.0
- 1 x full-size mini-PCIe with iDoor technology and 1 x half-size PCIe
- Supports SSD expansion
- IP66-compliant front panel protection
- Optional Wi-Fi/NFC module on the front panel
- 3 x LAN with multiple fieldbus protocol support and LAN surge protection
- IEC 61010-2 compliant (only panels of certain sizes)
- Logo can be customized without changing the touchscreen

### Introduction

The TPC-5000 is the first modularized model of Advantech's control panel products. Equipped with a low-power 6<sup>th</sup> Gen Intel® Core™ i processor, 8 GB of DDR4 SODIMM memory, and an industrial-grade LCD, TPC-5000 is a compact fanless system that provides a display panel solution with excellent computing performance. The modularized design ensures flexible expansion and configuration, as well as easy maintenance and upgrades. To withstand a wide-range of environments, the system also features an IP66-rated front panel for water and dust resistance, a glass panel with 7H surface harness that supports projected capacitive or 5-wire resistive touch control, and a robust system enclosure with die-cast aluminum alloy front bezel. To satisfy a wide range of industrial automation applications, the TPC-5000's box module supports flexible expansion with the inclusion of iDoor technology (optional), 3 x LANs with redundancy and multiple fieldbus protocol support, MRAM and TPM 2.0 technology for ensuring data security, and an isolated power design with LAN surge protection to ensure safe system upgrades. Additionally, the TPC-5000's panel module can be fitted with an optional Wi-Fi/NFC module to enhance wireless communication.

### Specifications

#### General

- BIOS**: AMI UEFI
- Certification**: BSMI, CCC, CE, FCC Class A, UL, EAC, 61010
- Cooling System**: Fanless design
- Enclosure**: Die-cast aluminum alloy front bezel  
SECC rear housing
- Mounting Options**: Supports panel, stand (with optional kit), and VESA (with optional kit) mounting
- OS Support**: Microsoft® Windows WES7 (32/64 bit)/Windows 7 (32/64 bit)/Windows 8.1 (64 bit)/Windows 10 IoT Enterprise LTSB
- Power Input**: 24 V<sub>DC</sub> ± 20%
- Watchdog Timer**: 1 ~ 255 sec (system)

#### Hardware

- CPU**: 6<sup>th</sup> Gen Intel® Core™ i3-6100U 2.30 GHz
- Memory**: 8 GB DDR4 2133MHz SODIMM SDRAM (up to 16 GB)
- LAN**: 3 x 10/100/1000 Base-T (2 x Intel® I210, 1 x Intel® I219)
- Expansion Slots**: 1 x Half-size PCIe  
2 x Full-size mini PCIe
- Storage**: 1 x M.2 (2280) SATA slot  
1 x 2.5" SATA SSD slot  
1 x CFast (optional via iDoor)
- I/O**: 1 x RS-232, 1 x RS-232/422/485  
2 x USB 3.0, 2 x USB 2.0  
1 x Audio Line-Out  
1 x DisplayPort 1.4 Out

#### Environment

- Humidity**: 10 ~ 95% RH @ 40 °C, non-condensing
- Ingress Protection**: IP66-rated front panel
- Vibration Protection**: With SSD: 3 Grms (5 ~ 500 Hz) (operating, random vibration)

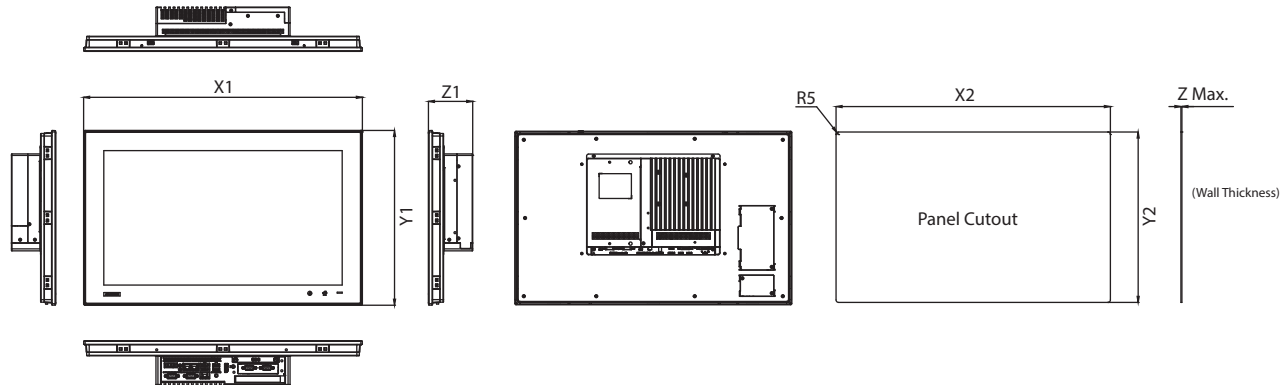
### Front Panel Selections

Category	Item	15"	17"	21.5"
LCD	Display Type	XGA TFT LED LCD	SXGA TFT LED LCD	Full HD TFT LED LCD
	Max. Resolution	1024 x 768	1280 x 1024	1920 x 1080
	Max. Color	16.2 M	16.7 M	16.7 M
	Luminance (cd/m <sup>2</sup> )	400	350	300
	Viewing Angle (H/V°)	160/140	160/140	178/178
	Backlight Life	50,000 hrs	50,000 hrs	50,000 hrs
	Contrast Ratio	700:1	800:1	5000:1
Touch	Type	Projected Capacitive	Projected Capacitive	Projected Capacitive
	Light Transmission	90% ± 3%	90% ± 3%	90% ± 3%
System	Temperature	Operating	0 ~ 55 °C (32 ~ 131 °F)	0 ~ 55 °C (32 ~ 131 °F)
		Storage	-20 ~ 60 °C (-4 ~ 140 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
		Power Consumption	32W Typical, 90W Max.	42W Typical, 90W Max.
	Wi-Fi/NFC Support on Front Panel	Optional	Optional	
	Built-in iKey	Yes	Yes	
IEC-61010-2 Compliance	Yes	Yes		
		Yes	No	

\*Note: 12" and 18.5" panel by request support

## Dimensions

Unit: mm



Display type	System Dimensions				Cutout		Supported Wall Thickness
	X1	Y1	Z1	Z2	X2	Y2	Z Max.
15"	383.2	307.3	85.9	7	374.5	298.5	6
17"	410.4	343.4	87.5	7	401.3	334.8	6
21.5W"	558.4	349.8	88.8	7	550.3	341.8	6

## Ordering Information

- **TPC-5152T-633AE** 15" XGA modular TPC, Intel® Core i3-6100U 2.30 GHz, dual-core processor with 8 GB RAM
- **TPC-5172T-633AE** 17" SXGA modular TPC, Intel® Core i3-6100U 2.30 GHz, dual-core processor with 8 GB RAM
- **TPC-5212W-633AE** 21.5" FHD modular TPC, Intel® Core i3-6100U 2.30 GHz, dual-core processor with 8 GB RAM

\* To order other sizes, please contact your local sales representative.

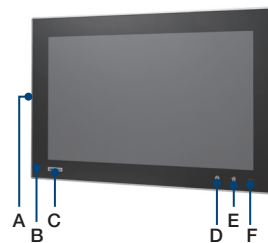
## Optional Accessories

- **1702002600** Power cable (US) 1.8 M
- **1702002605** Power cable (EU) 1.8 M
- **1702031801** Power cable (UK) 1.8 M
- **1700000596** Power cable (China/Australia) 1.8 M
- **EWM-W150H02E** Wi-Fi module 802.11 bgn/RT5390 1T1R with USB signal
- **9680016642** USB NFC/RFID module ADT-006 for HIT-W101C
- **TPC-RUSB-W10LTSBV** Win10 IoT Enterprise LTSB OS with recovery image for Intel Core i5/i3/Celeron
- **TPC-RUSB-W10LTSBH** Win10 IoT Enterprise LTSB OS with recovery image for Intel Core i7

## iDoor Modules

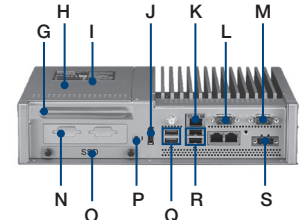
- **PCM-24D2R4-AE** 2-Port isolated RS-422/485 mPCIe, DB9
- **PCM-27D24DI-AE** 24-Channel isolated DI/O w/ counter mPCIe, DB37
- **PCM-26D2CA-AE** 2-Port isolated CANBUS mPCIe, CANopen, DB9
- **PCM-24R1TP-AE** 1-Port Gigabit Ethernet, Intel® 82574L, mPCIe, RJ45
- **PCM-26D1DB-MAE** 1-Port Hilscher netX100 fieldBus mPCIe, PROFIBUS, DB9, master

## Front View




- A. Wi-Fi antenna
- B. NFC card reader
- C. Logo
- D. iKey
- E. Home key
- F. Power indicator

## Rear View



- G. Half-size PCIe
- H. 2 x mPCIe
- I. M.2 for storage
- J. DisplayPort
- K. 3 x LAN
- L. RS-232
- M. RS-232/422/485
- N. iDoor
- O. SSD bay
- P. Audio out
- Q. 2 x USB 3.0
- R. 2 x USB 2.0
- S. Power input

## Application Software

<b>WebAccess/SCADA</b>	Advantech WebAccess is a 100% web-based SCADA (supervisory control and data acquisition) software that serves as an IIoT platform by providing open interfaces for partners to develop IIoT applications for diverse vertical markets.
<b>WebAccess/HMI</b>	WebAccess/HMI is human-machine interface (HMI) software based on Microsoft's Windows operating system. This software features excellent communication and monitoring capabilities, supports more than 350 PLC communication protocols, and offers a wide choice of screen design objects to satisfy diverse integrations of factory automation and HMI operation and monitoring requirements.
	CODESYS is an open control solution that allows users to easily develop a PC-based real-time control system, enables real-time PLC or PLC/SoftMotion control with flexible fieldbus options such as PROFINET, EtherCAT, EtherNet/IP, CANopen, and Modbus TCP/RTU, and facilitates on-site visualized HMI operation. The software/hardware flexibility and the stability of a PC-based cabinet controller are suitable for various control applications in vertical industries.