TPC-5000 Series

Modular Multi-Touch Panel Computer with 21.5" Full HD/18.5" HD/17" SXGA/ 15" XGA/12" XGA LED LCD and 6th Gen. Intel® Core™/Celeron® Processor

NEW

Features

- Intel® Celeron® 3955U/Core™ i3-6100U/ i7-6600U processor with 8/4 GB DDR4 SODIMM
- Industrial-grade LED LCD with a lifespan of 50,000 hours
- Modular design enables flexible configuration and easy maintenance
- Display modules available in various sizes with projected capacitive or 5-wire resistive touch control
- Programmable home key and iKey for adjusting system settings
- Built-in TPM 2.0 technology
- 2 x full-size mini-PCIe and 1 x half-size PCIe
- IP66-rated front panel protects against water and dust
- 3 x LAN with multiple fieldbus protocol support and LAN surge protection
- Panel logo can be customized
- Supports SSD expansion

R33138

Introduction

The TPC-5000 series of preconfigured control panel systems is the first of Advantech's TPC range of modularized industrial panel solutions. TPC-5000 series systems comprise a box module powered by a 6th Gen Intel® Core™/Celeron® processor combined with an industrial-grade LED LCD module, providing compact and fanless control panel solutions that support high-performance computing. Built to withstand diverse industrial environments, the TPC-5000 display modules feature an IP66-rated front panel for water and dust resistance, a scratch-resistant glass panel that supports projected capacitive or 5-wire resistive touch control, and a robust enclosure with die-cast aluminum alloy front bezel. Meanwhile, the TPC-5000 box modules feature MRAM and TPM 2.0 technology and 3 x LANs with surge protection and multiple fieldbus protocol support for increased data security and network connectivity. To expand the system functions and capabilities, optional iDoor and Wi-Fi/NFC modules can be integrated with the TPC-5000 series systems. Designed for flexible expansion and easy maintenance, TPC-5000 series systems can also be integrated with optional iDoor and Wi-Fi/NFC modules for enhanced functionality.

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
- **Mount Options** Panel, stand, and VESA (with optional kit)
- **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_{DC} ± 20%
- **Power Consumption** 27W typical, 90W max.
- **Watchdog Timer** 1 ~ 255 sec (system)

Hardware

- **CPU** 6th Gen Intel® Celeron® 3955U 2.00 GHz
  6th Gen Intel® Core™ i3-6100U 2.30 GHz
  6th Gen Intel® Core™ i7-6600U 2.60 GHz
- **Memory** TPC-B500-6C2AE: 4 GB DDR4 2133 MHz SODIMM SDRAM (up to 16 GB)
  TPC-B500-633AE/673AE: 8 GB DDR4 2133 MHz 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 module)
- **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)
- **Operating Temperature** 0 ~ 55 °C (32 ~ 131°F); 0 ~ 50 °C (32 ~ 122 °F) for 18.5" display panel
- **Storage Temperature** -20 ~ 60 °C (-4 ~ 140 °F)

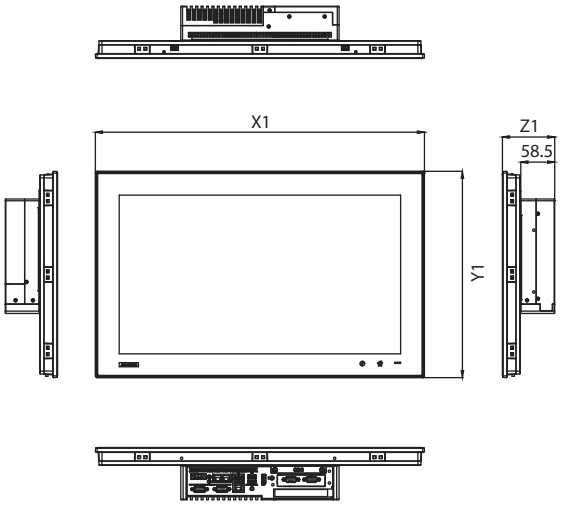
Display Panel Modules

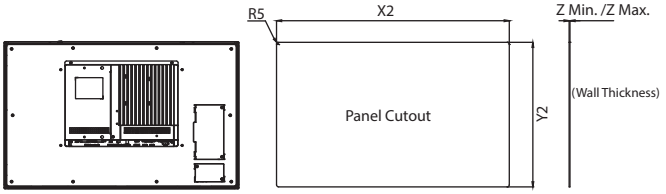
	Display Size	12.1"	15"	17"	18.5"	21.5"
LCD Panel	Display Type	XGA TFT LED LCD	XGA TFT LED LCD	SXGA TFT LED LCD	HD TFT LED LCD	Full HD TFT LED LCD
	Max. Resolution	1024 x 768	1024 x 768	1280 x 1024	1366 x 768	1920 x 1080
	Max. Color	16.2 M	16.7 M	16.7 M	16.7 M	16.7 M
	Luminance	600 cd/m²	400 cd/m²	350 cd/m²	250 cd/m²	300 cd/m²
	Viewing Angle (H/V)	160°/140°	160°/140°	160°/140°	170°/160°	178°/178°
	Backlight Life	50,000 hrs	50,000 hrs	50,000 hrs	30,000 hrs	50,000 hrs
	Contrast Ratio	700:1	700:1	800:1	1000:1	5000:1
Touchscreen	Type	5-wire resistive	Projected capacitive	Projected capacitive	Projected capacitive	Projected capacitive
	Light Transmission	Above 75%	90% ± 3%	90% ± 3%	90% ± 3%	90% ± 3%
	Anti-Glare Treatment	Yes	Yes	Yes	Yes	Yes
	Built-in iKey	No	Yes	Yes	Yes	Yes
Expandability	Wi-Fi/NFC Support on Front Panel	No	Optional	Optional	Optional	Optional
Certification	IEC-61010-2	No	Yes	Yes	No	No

Last updated: 2-Mar-2018

Dimensions

Unit: mm





	Panel Dimensions (mm)			Cutout Size (mm)		Wall Thickness	
Display Size	X1	Y1	Z1	X2	Y2	Z Min.	Z Max.
12"	311.8	238	85.6	303	229	1	6
15"	383.2	307.3	86	374.5	298.5	1	6
17"	410.4	343.4	86.8	401.3	334.8	1	6
18"	488	309	88.8	479.3	300.3	1	6
21.5"	558.4	349.8	88.8	550.3	341.8	1	6

Ordering Information

Preconfigured Modular Systems

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

*Contact your local sales team for configuration queries.

Standalone Modules

Box Modules	TPC-B500-6C2AE	TPC-B500-633AE	TPC-B500-673AE
Description	Intel® Celeron® 3955U, 4 GB DDR4	Intel® i3-6100U, 8 GB DDR4	Intel® i7-6600U, 8 GB DDR4

Display Panel Modules	FPM-D12T-AE	FPM-D15T-AE	FPM-D17T-AE	FPM-D18W-AE	FPM-D21W-AE
Description	12.1" XGA	15" XGA	17" SXGA	18.5" HD	21.5" Full HD

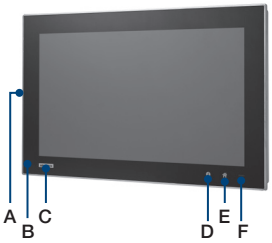
Optional Accessories

- **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
- **96PSA-A120W24T2** Adapter 100 ~ 240V 120W 24V 5A
- **98R35000020** mPCIe HDMI & VGA module for TPC 5000
- **98R35000010** Wi-Fi module 802.11 bgn/RT5390 1T1R with USB signal
- **98R35000000** USB NFC/RFID module ADT-006
- **TPC-RUSB-W10LTSBV** Win10 IoT Enterprise LTSB OS with recovery image for Intel® Core™ i3/i5 and Celeron®
- **TPC-RUSB-W10LTSBH** Win10 IoT Enterprise LTSB OS with recovery image for Intel® Core™ i7
- **TPC-5000T-VMKE** VESA mounting kit for TPC 5000 and 2000 Series
- **TPC-1000T-WMKE** VESA and Wall mounting kit for TPC series from 10" to 17" panels

iDoor Modules

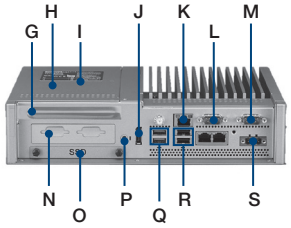
- **PCM-24D2R4-AE** 2-Port isolated RS-422/485 mPCIe, DB9
- **PCM-27D24DI-AE** 24-Channel isolated DI/O w/ counter mPCIe, DB37
- **PCM-26D2CA-AE** 2-Port isolated CANBus mPCIe, CANOpen, DB9
- **PCM-24R1TP-AE** 1-Port Gigabit Ethernet, Intel® 82574L, mPCIe, RJ45
- **PCM-26D1DB-MAE** 1-Port Hilscher netX100 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 expansion
O. SSD bay
P. Audio out
Q. 2 x USB 3.0
R. 2 x USB 2.0
S. Power input

Application Software

WebAccess/SCADA	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 IoT applications for diverse vertical markets.
WebAccess/HMI	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	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.