

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

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 LTSC
- **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
1 x M.2 (2280) SATA slot
1 x 2.5" SATA SSD slot
- **Storage** 1 x CFast (optional via iDoor module)
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
- **I/O**

Environment

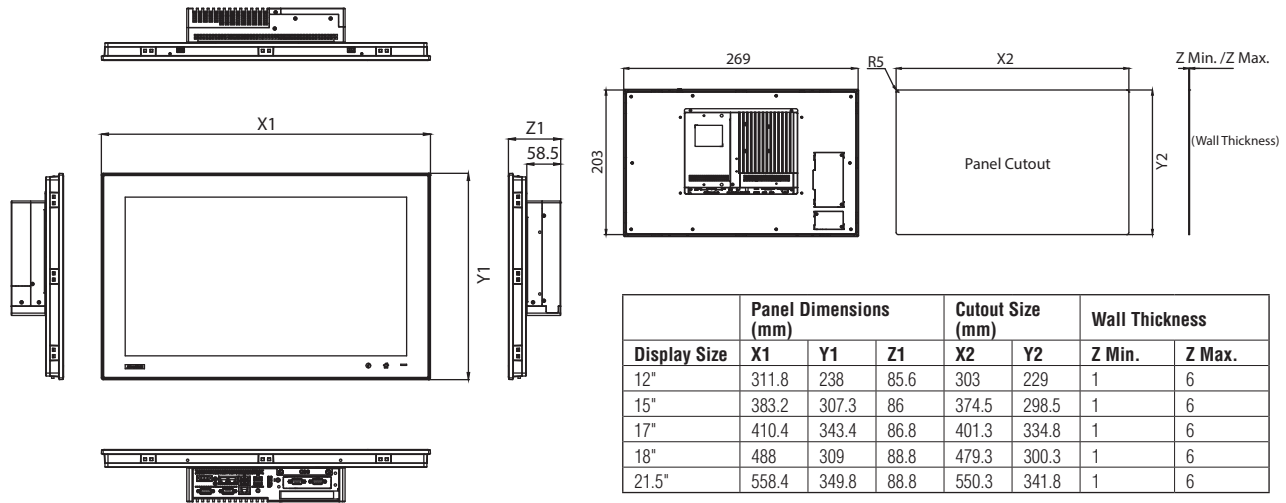
- **Humidity** 10 ~ 95% RH @ 40 °C, non-condensing
- **Ingress Protection** IP66-rated front panel
- **Vibration Protection** With SSD: 3 Grms (5 ~ 500 Hz) (operating, random vibration)
- **Operating Temperature** 0 ~ 55 °C (32 ~ 131°F); 0 ~ 50 °C (32 ~ 122 °F) for 18.5" display panel
- **Storage Temperature** -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/m ² | 400 cd/m ² | 350 cd/m ² | 250 cd/m ² | 300 cd/m ² |
| | 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 |
| Expandability | Built-in iKey | No | Yes | Yes | Yes | Yes |
| | Wi-Fi/NFC Support on Front Panel | No | Optional | Optional | Optional | Optional |
| Certification | IEC-61010-2 | No | Yes | Yes | No | No |

Dimensions

Unit: mm



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 |

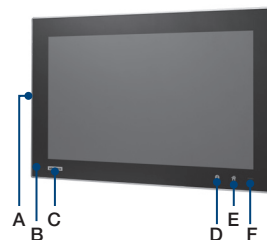
Optional Accessories

- 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
- 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

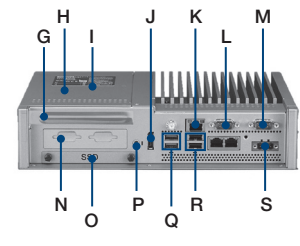
- PCM-24D2R4-AE** 2-Port isolated RS-422/485 mPCIe, DB9
- PCM-27D24DI-AE** 24-Channel isolated DI/O w/ counter mPCIe, DB37
- PCM-26D2CA-AE** 2-Port isolated CANBus mPCIe, CANOpen, DB9
- PCM-24R1TP-AE** 1-Port Gigabit Ethernet, Intel® 82574L, mPCIe, RJ45
- PCM-26D1DB-MAE** 1-Port Hirschler netX100 fieldbus 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 IIoT 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 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. |