TPC-5000 Series

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
- 1 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 LTSB
- Power Input: 24 VDC ± 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 Gms (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

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

All product specifications are subject to change without notice. Last updated: 17-Aug-2017
## TPC-5000 Series

### Dimensions

<table>
<thead>
<tr>
<th>Display Size</th>
<th>Panel Dimensions (mm)</th>
<th>Cutout Size (mm)</th>
<th>Wall Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>12”</td>
<td>311.8 x 238.0 85.6</td>
<td>303 x 229 1 6</td>
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</tr>
<tr>
<td>15”</td>
<td>383.2 x 307.3 86</td>
<td>374.5 x 298.5 1 6</td>
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</tr>
<tr>
<td>17”</td>
<td>410.4 x 343.4 86.8</td>
<td>401.5 x 334.8 1 6</td>
<td></td>
</tr>
<tr>
<td>18”</td>
<td>488 x 399 88.8</td>
<td>479.3 x 390.3 1 6</td>
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</tr>
<tr>
<td>21.5”</td>
<td>558.4 x 549.8 88.8</td>
<td>550.3 x 541.8 1 6</td>
<td></td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>Box Modules</th>
<th>TPC-BS00-6C2AE</th>
<th>TPC-BS00-633AE</th>
<th>TPC-BS00-733AE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Intel® Celeron® 3865U, 4 GB DDR4</td>
<td>Intel® i3-6100U, 8 GB DDR4</td>
<td>Intel® i7-6600U, 8 GB DDR4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>12.1” XGA</td>
<td>15” XGA</td>
<td>17” SXGA</td>
<td>18.5” HD</td>
<td>21.5” FHD</td>
</tr>
</tbody>
</table>

### 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
- **EWI-M150H02E**: Wi-Fi module 802.11 bgn/RT5390 1T1R with USB signal
- **9680016642**: USB NFC/RoF module ADT-006
- **TPC-RUSB-W10LT5BV**: Win10 IoT Enterprise LT5B OS with recovery image for Intel® Core™ i3/i5 and Celeron®
- **TPC-RUSB-W10LT7BV**: Win10 IoT Enterprise LT7B OS with recovery image for Intel® Core™ i7

### iDoor Modules

- **PC-24DDR4-GE**: 2-Port isolated RS-422/485 mPCIe, DB9
- **PC-272D4DI-AC**: 24-Channel isolated DI/O w/ counter mPCIe, DB37
- **PC-262DCA-GE**: 2-Port isolated CANbus mPCIe, CANopen, DB9
- **PC-241RTP-AP**: 1-Port Gigabit Ethernet, Intel® 82574L, mPCIe, RJ45
- **PC-261DB-MAE**: 1-Port HiScher netX100 fieldbus mPCIe, PROFIBUS, DB9, master

### Application Software

- **WebAccess/SCADA**: Advantech WebAccess is a 100% web-based SCADA (supervisory control and data acquisition) software that serves as an IoT 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 300 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, EtherCAT 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 suitable for various control applications in vertical industries.