TPC-2000 Series

Introduction

TPC-2000 series is the first modular model in industrial thin client family. With industrial grade LCD and low power consumption embedded Intel® Celeron® J3455 1.50GHz processor and 4GB DDR3L SO-DIMM, it provides sufficient display area and ideal computing performance in a compact fanless system. Modular design further gives users the flexibility to expand and configure the system and is effortless to maintain and upgrade. Front panel IP66 compliant for wide array of user environments, glass surface with 6H or above harness for P-Cap or robust 5-wire resistive touch and die-cast Aluminate Alloy front bezel provides robust and reliable enclosure of the system. User-friendly Wi-Fi and NFC antenna are integrated in the front panel with optimal reception and sensitivity for optional Wi-Fi & NFC module. In addition, through the Mini-PCIe slot, Advantech iDoor technology (optional) can provide more I/O connectors, Isolated Digital I/O, the Fieldbus Protocol, 3G/GPS/GPRS Communication and MRAM to fulfill various demands of diverse applications in industrial automation.

System Specifications

**General**
- BIOS: AMI UEFI
- Certification: BSMI, CCC, CE, FCC Class A, UL, EAC
- Cooling System: Fanless design
- Enclosure: Front bezel: Die-cast Aluminum alloy, Back housing: SECC
- Mounting: Panel Mount, optional stand mount kit and optional VESA mount kit
- OS Support: Microsoft® Windows 10 IoT Core, Windows 10 IoT Enterprise LTSB Entry
- Power Input: 24 VDC ± 20%
- Watchdog Timer: 1 – 255 sec (system)

**System Hardware**
- CPU: Intel® Celeron® J3455 1.50GHz Quad-core Processor
- Memory: 4GB (Optional 8GB) DDR3L 1600MHz SO-DIMM SDRAM
- LAN: 10/100/1000 Base-T x 2 LAN (2 x Intel® I210)
- Expansion Slots: Full-size Mini PCIe supports GSM 11.11 SIM Card Stand slot
- Storage: M.2 (2242) slot x 1, 2.5" SATA SSD slot x 1
- I/O: RS-232/422/485 x 2, USB 3.0 x 2, USB 2.0 x 2, Audio line out x 1, Displayport port x 1
- Environment: Humidity: 10 ~ 95% RH @ 40°C, non-condensing
- Ingress Protection: Front panel: IP66
- Vibration Protection: With SSD: 1 Grms (5 ~ 500 Hz) (Operating, random vibration)

**System/Front Panel Selection**

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</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>LCD</td>
<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>HD TFT LED LCD</td>
</tr>
<tr>
<td></td>
<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></td>
<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>
</tr>
<tr>
<td></td>
<td>Luminance (cd/m²)</td>
<td>600</td>
<td>400</td>
<td>320</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Viewing Angle (H/V°)</td>
<td>160/140</td>
<td>160/140</td>
<td>160/140</td>
<td>170/160</td>
<td>178/178</td>
</tr>
<tr>
<td></td>
<td>Contrast Ratio</td>
<td>1000:1</td>
<td>1000:1</td>
<td>1000:1</td>
<td>1000:1</td>
<td>1000:1</td>
</tr>
<tr>
<td>Touch</td>
<td>Type</td>
<td>5-wire Resistive</td>
<td>Projected Capacitive</td>
<td>Projected Capacitive</td>
<td>Projected Capacitive</td>
<td>Projected Capacitive</td>
</tr>
<tr>
<td></td>
<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></td>
<td>Treatment</td>
<td>4th-glass 30% ± 3%</td>
<td>30% ± 3%</td>
<td>30% ± 3%</td>
<td>30% ± 3%</td>
<td>30% ± 3%</td>
</tr>
<tr>
<td></td>
<td>Temperature Operating</td>
<td>0 ~ 50°C (32 ~ 122°F)</td>
<td>0 ~ 50°C (32 ~ 122°F)</td>
<td>0 ~ 50°C (32 ~ 122°F)</td>
<td>0 ~ 50°C (32 ~ 122°F)</td>
<td>0 ~ 50°C (32 ~ 122°F)</td>
</tr>
<tr>
<td></td>
<td>Storage</td>
<td>-30 ~ 70°C (-22 ~ 158°F)</td>
<td>-30 ~ 70°C (-22 ~ 158°F)</td>
<td>-30 ~ 70°C (-22 ~ 158°F)</td>
<td>-20<del>60°C (-4</del>140°F)</td>
<td>-20<del>60°C (-4</del>140°F)</td>
</tr>
<tr>
<td></td>
<td>Power Consumption</td>
<td>46.5W</td>
<td>44W</td>
<td>51W</td>
<td>48W</td>
<td>55W</td>
</tr>
<tr>
<td></td>
<td>Wi-Fi/NFC in Front Panel</td>
<td>N/A</td>
<td>Built-in antenna in front panel with optional module</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Features**

- Intel® Celeron® J3455 1.50GHz Quad-core Processor with 4GB DDR3L SO-DIMM
- Modular design for flexible configuration and easy maintenance and upgrade
- Multiple sizes front panel module offering with P-Cap Multi-touch sensor (12.1" w/ robust 5-wire resistive touch)
- Industrial grade LED LCD with 50K Lifetime
- Built-in Intelligent Home-key and i-Key for Intuitive UI in models with P-Cap touch
- Front LED indicator for system status
- Default supports Full-size mini PCIe, iDoor technology and HDD bay
- IP66 compliant Front Protection & Panel Mounting
- Ready-to-use built-in Wi-Fi antenna and NFC reader in front panel (optional Wi-Fi/ NFC module)
- Integrated Power Isolation to Minimize Field Interference
- AC/DC support (optional power adapter)
- Supports Advantech WISE-PaaS/RMM Remote Device Management Software
- Optional 3 levels of logo customization

All product specifications are subject to change without notice. Last updated: 25-Jan-2018
## Dimensions

<table>
<thead>
<tr>
<th>Display type</th>
<th>X1</th>
<th>Y1</th>
<th>Z1</th>
<th>X2</th>
<th>Y2</th>
<th>Z Min</th>
<th>Z Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>311.8</td>
<td>238</td>
<td>57.1</td>
<td>303</td>
<td>229</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>15&quot;</td>
<td>383.2</td>
<td>307.3</td>
<td>57.4</td>
<td>374.5</td>
<td>298.5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>17&quot;</td>
<td>410.4</td>
<td>343.4</td>
<td>59</td>
<td>401.3</td>
<td>334.8</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>18.5&quot;</td>
<td>488</td>
<td>309</td>
<td>60.3</td>
<td>479.3</td>
<td>300.3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>21.5&quot;</td>
<td>559.2</td>
<td>350.6</td>
<td>60.3</td>
<td>550.3</td>
<td>341.8</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

**Panel Cutout**

- A. Hard Disk Bay
- B. mPCIe
- C. M.2 (SATA) only
- D. iDoor
- E. Power Receptor
- F. RS-232/422/485 x 2
- G. USB 3.0 x 2
- H. LAN (10/100/1000) x 2
- I. USB 2.0 x 2
- J. Display Port
- K. Audio Line out
- L. Antenna opening

### Ordering Information

**Configurable System**

<table>
<thead>
<tr>
<th>BOX Module P/N</th>
<th>TPC-8200-J12AE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Intel® Celeron® J3455 1.50GHz, DDR3L 4GB</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&quot; XGA TFT LED LCD</td>
<td>15&quot; XGA TFT LED LCD</td>
<td>17&quot; SXGA TFT LED LCD</td>
<td>18.5&quot; HD TFT LED LCD</td>
<td>21.5&quot; Full HD TFT LED LCD</td>
</tr>
</tbody>
</table>

### Pre-Configured System System

- **TPC-2121T-J12AE** 12.1" XGA Modular TPC, Intel® Celeron® J3455 1.50GHz Quad-core Processor, 4GB RAM, Resistive touch
- **TPC-2151T-J12AE** 15" XGA Modular TPC, Intel® Celeron® J3455 1.50GHz Quad-core Processor, 4GB RAM, P-Cap Touch
- **TPC-2181W-J12AE** 18.5" HD Modular TPC, Intel® Celeron® J3455 1.50GHz Quad-core Processor, 4GB RAM, P-Cap Touch (Available by March 2018)

### Optional Accessories

- **PWR-247-CE** 60W DC 24V/2.5A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M
- **TPC-5000T-VMKE** TPC series Wall Mount Kit for 12"–21"
- **TPC-1000H-SMKE** TPC Stand kit from 10" to 17" TPC
- **TPC-RUSB-W10LTSBE** Win10 IoT Ent LTSB 2016 MultiLang Entry EPKEA
- **98R35000010** Wi-Fi module 802.11 bgn/RT5390 1T1R with USB signal
- **98R35000000** USB NFC/RFID module ADT-006

### iDoor Modules

- **PCM-26D2CA-AE** SJA1000 CANBus, CANopen, DB9 x 2
- **PCM-26D1DB-MAE** Hilscher netX100 FieldBus, ProfiBus, DB9 x 1
- **PCM-27D24DI-AE** Digital I/O, 16 DI / 8 DO, Isolation, DB37 x 1
- **PCM-24D2R4-AE** OXPCIe-952 UART, Isolated RS-422/485, DB9 x 2
- **PCM-24D2R2-AE** OXPCIe-952 UART, Isolated RS-232, DB9 x 2
- **PCM-24R2GL-AE** 2 Port Giga LAN Intel i350 PCIe mini card
- **PCM-24R1TP-AE** Intel 82574L, GbE, IEEE 1588 PTP, RJ45 x 1

*Contact Advantech for more options.*