

TPC-1251T TPC-1551T TPC-1751T

Thin-Client Terminal with Intel® Atom™ Processor



Features

- Intel® Atom™ E3845 1.91 GHz quad-core processor with 4 GB DDR3L SDRAM
- True-flat touchscreen with 5-wire resistive touch control and IP66-rated front panel
- Wide operating temperature range (-20 ~ 60 °C/-4 ~ 140 °F)
- Front-facing LED indicators to show operating status
- Advantech iDoor technology and SSD/HDD bay
- Compact, fanless system with aluminum alloy front bezel and chassis grounding protection
- Supports VESA mount (100 x 100 mm)
- Supports Advantech's SNMP Subagent software
- Supports Advantech's WISE-PaaS/RMM remote management software

Introduction

The TPC-xx51T thin-client terminal is the next-generation model of Advantech's TPC-xx51T industrial panel PC. Equipped with a TFT LCD, low-power Intel® Atom™ E3845, 1.91GHz, quad-core processor, and 4 GB of DDR3L SDRAM, TPC-xx51T delivers high-performance computing in a compact, fanless system. For enhanced durability to satisfy diverse industrial automation applications, TPC-xx51T supports a wide operating temperature range (-20 ~ 60 °C/-4 ~ 140 °F) and features a true-flat 5-wire resistive touchscreen with IP66-rated front panel, die-cast aluminum alloy front bezel, and 100 x 100 VESA mount kit. Moreover, with the provision of two full-size mini PCIe slots, which support mSATA interface for storage and USB/PCIe interface for Advantech's iDoor technology separately, TPC-xx51T can be easily expanded to provide additional I/O ports, isolated digital I/O, fieldbus protocols, MRAM, and 3G/GPS/GPRS/Wi-Fi communication capabilities.

Specifications

General

- BIOS**: AMI UEFI
- Certification**: BSMI, CCC, CE, FCC Class A, UL
- Cooling System**: Fanless design
- Dimensions (W x H x D)**:
 - 12.1": 311.8 x 238 x 55.4 mm (12.28 x 9.37 x 2.18 in)
 - 15": 383.2 x 307.3 x 55.9 mm (15.09 x 12.10 x 2.2 in)
 - 17": 410.4 x 343.4 x 56.9 mm (16.16 x 13.52 x 2.24 in)
- Enclosure**: Front bezel: Die-cast aluminum alloy
Back housing: SECC
- Mount Options**: VESA mount, Desktop/wall/panel
- OS Support**: Windows 10 Enterprise LTSB, Android, Advantech Linux
- Power Consumption**:
 - 12.1": 25W Typical, 43.8W Max
 - 15": 25W Typical, 50W Max
 - 17": 29W Typical, 58W Max
- Power Input**: 24 V_{DC} +/- 20%
- Watchdog Timer**: 1 ~ 255 sec (system)
- Weight (Net)**:
 - 12.1": 3.12 kg (6.88 lb)
 - 15": 4.4 kg (9.7 lb)
 - 17": 5.1 kg (11.24 lb)

System Hardware

- CPU**: Intel® Atom™ E3845 1.91GHz Quad-core processor
- Memory**: 1 x SO-DIMM with 4 GB DDR3L SDRAM (up to 8 GB)
- LAN**: 2 x 10/100/1000 BASE-T
- Expansion Slots**: 1 x Full-size mini PCIe (PCIe / USB)
- Storage**: 1 x 2.5" SATA SSD, 1 x mSATA
- I/O**:
 - 1 x RS-232
 - 1 x RS-232/422/485
 - 1 x USB 3.0
 - 3 x USB 2.0
 - 1 x iDoor slot

Touchscreen

- Lifespan**: 36 million touches at a single point
- Light Transmission**: Above 75%
- Resolution**: Linearity
- Type**: 5-wire analog resistive

LCD

| | TPC-1251T | TPC-1551T | TPC-1751T |
|-----------------------------|-----------------------|-----------------------|-----------------------|
| Display Type | XGA TFT LED LCD | XGA TFT LED LCD | SXGA TFT LED LCD |
| Display Size | 12.1" | 15" | 17" |
| Max. Resolution | 1024 x 768 | 1024 x 768 | 1280 x 1024 |
| Max. Colors | 16.2M | 16.2M | 16.7M |
| Luminance | 600 cd/m ² | 300 cd/m ² | 350 cd/m ² |
| Viewing Angle (H/V°) | 178/178 | 176/176 | 160/140 |
| Backlight Life | 50,000 hr | 70,000 hr | 50,000 hr |
| Contrast Ratio | 1000:1 | 2000:1 | 800:1 |

LCD (Sunlight Readable)

| | TPC1251TE3CU2201-T | TPC1551TE3CU2201-T |
|-----------------------------|------------------------|------------------------|
| Display Size | 12.1" | 15" |
| Max. Resolution | 800 x 600 | 1024 x 768 |
| Max. Colors | 16.2M | 16.7M |
| Luminance | 1200 cd/m ² | 1200 cd/m ² |
| Viewing Angle (H/V°) | 160/140 | 176/176 |
| Backlight Life | 50,000 hr | 70,000 hr |
| Contrast Ratio | 700:1 | 2500:1 |

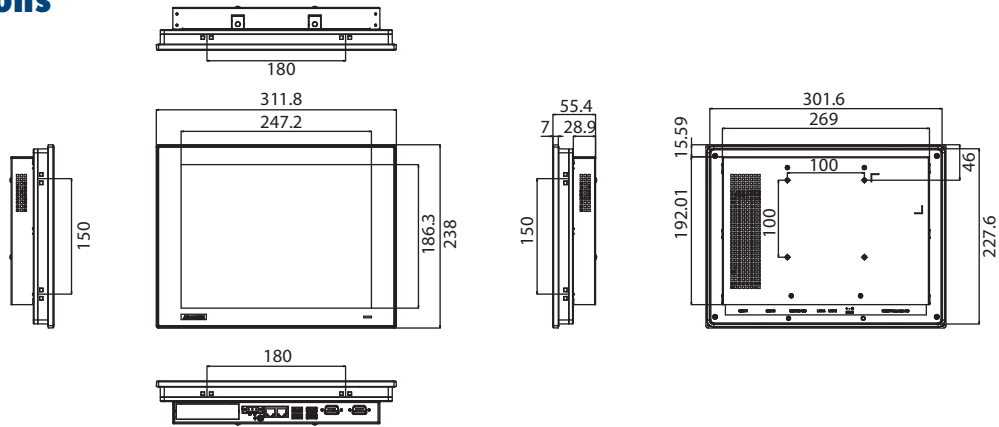
Environment

- Relative Humidity**: Operating, 95% RH @ 40° C, Non-Condensing
Non-Operating, 95% RH @ 60° C, Non-Condensing
- Ingress Protection**: IP66-rated front panel
- Operating Temperature**: -20 ~ 60 °C (-4 ~ 140 °F)
- Storage Temperature**: -30 ~ 70 °C (-22 ~ 158 °F)
- Vibration Protection**: With SSD: 1 Grms (5 ~ 500 Hz) (operating, random vibration)

Dimensions

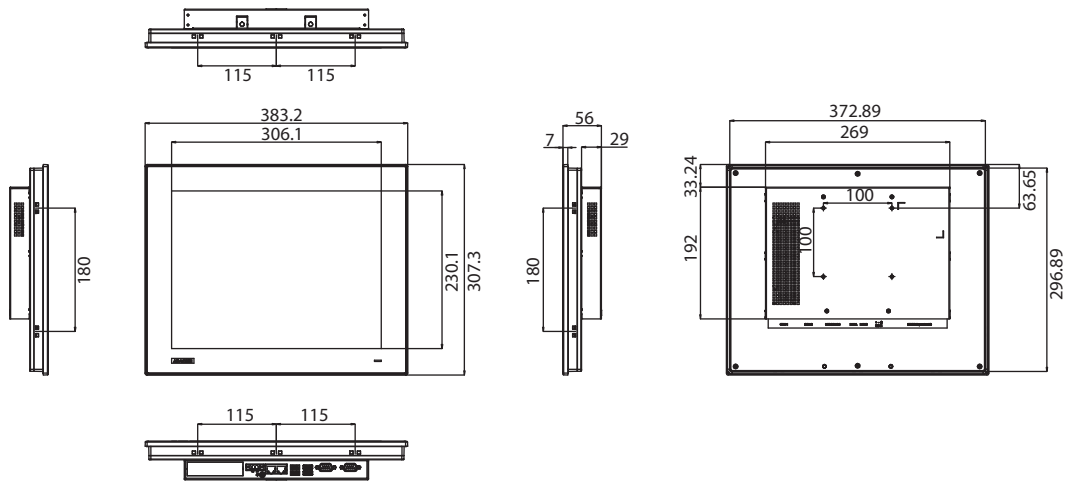
Unit: mm

TPC-1251T



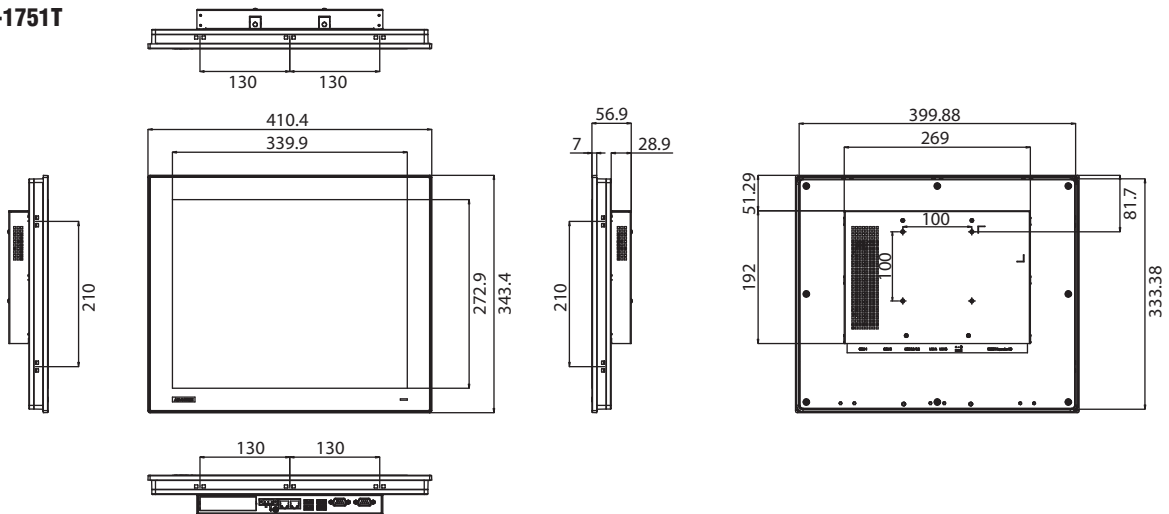
Panel Cutout Dimensions: 303 x 229 mm (11.93 x 9.02 in)

TPC-1551T



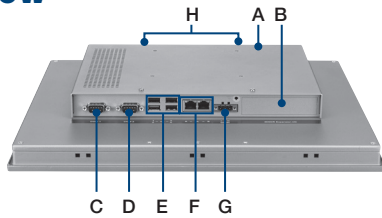
Panel Cutout Dimensions: 374.5 x 298.5 mm (14.74 x 11.75 in)

TPC-1751T



Panel Cutout Dimensions: 401.3 x 334.8 mm (15.80 x 13.18 in)

Rear View



- A. HDD/SSD bay
- B. iDoor slot
- C. RS-232
- D. RS-232/422/485
- E. USB 2.0 and 3.0
- F. LAN (10/100/1000)
- G. Power input
- H. Antenna port

Ordering Information

- **TPC-1251T-E3CE** 12.1" XGA Touch Panel PC, Atom E3845 1.91GHz, 4G
- **TPC-1251T-E3CU** 12.1" XGA Touch Panel PC, Atom E3845, 4G, for US
- **TPC-1551T-E3CE** 15" XGA Touch Panel PC, Atom E3845 1.91 GHz, 4G
- **TPC-1551T-E3CU** 15" XGA Touch Panel PC, Atom E3845, 4G, for US
- **TPC-1751T-E3CE** 17" SXGA Touch Panel PC, Atom E3845 1.91 GHz, 4G
- **TPC-1751T-E3CU** 17" SXGA Touch Panel PC, Atom E3845, 4G, for US
- **TPC1251TE3CU2201-T** 12.1" XGA Touch Panel PC, Atom E3845, 4G, Sunlight Readable
- **TPC1551TE3CU2201-T** 15" XGA Touch Panel PC, Atom E3845, 4G, Sunlight Readable

Note 1: Can be equipped with an Intel® Celeron® J1900 CPU upon request

Optional Accessories

- **PWR-247-DE** 60W 24 V_{DC} /2.5A power supply
- **1702002600** Power cable (US) 1.8 M
- **1702002605** Power cable (EU) 1.8 M
- **1702031801** Power cable (UK) 1.8 M
- **170000596-11** Power cable (China/Australia) 1.8 M
- **TPC-1000H-WMKE** TPC series wallmount kit from 10"~17"

Embedded OS

- **20704WX1ES0005** Img WIN10 LTSC V6.08 B017 TPC-xx51T(WP) Entry
- **20703AIONS0010** TPC-xx51T(B) Android v6.0
- **20701LUB1S0005** TPC-xx51T(B) Advantech Linux Ubuntu 20.04

Note : Compatible with both B and C versions

Packing List

| Item | Part No. | Description | Qty |
|-------------------|----------------|--|--|
| Grounding cable | 1703011001-11 | A Cable G-TEM 4.3 100CM C=GR/Y | 1pcs |
| Plug-In Block | 1656303100 | HOUSING 5.08MM 3P 90D(M) 2ESDVM-03P | 1pcs |
| Manual | 2003T51B00 | User manual SC for TPC-xx51 B 1st ed | 1pcs |
| Warranty | 2190000902 | CARDBOARD-WARRANTY REV. A0 | 1pcs |
| VESA Screw | 1930005204 | Screw M4x10L R/S DH=6.8x2.50 + ST ZBK PL | 4pcs |
| M-SATA&WIFI Screw | 1930000198 | Screw M2x4L F/S D=4.3 H=0.8 (1+) ST Ni NK | 3pcs |
| HDD Screw | 19330304A0 | Screw M3*4L RF/S D=6.9 H=1.9 + ST Ni NK | 4pcs |
| Idoor Screw | 1930002161 | Screw M3x4.0(10.0)L R/S D=5.3 H=2.2+ ST BZn | 2pcs |
| HDD WASHER | 1990032871S000 | Transistor Washer_Safety 1T TW-39 for PPC-3100 | 4pcs |
| Clamp | 1962055040 | CLAMPER PPC-55 M1632611 A0 | 8pcs : TPC-1251T 10pcs : TPC-1551T/TPC1751T |
| Clamp Screw | 1935042520 | Screw M4x25L R/S D=8.3 H=2.5 (2+) ST BZn | 8pcs |
| China RoHS | 202KAKMC00 | China rohs for AKMC model name 1st ed | 1pcs |

Please note: If some optional modules are offered with the system, additional system certificates may be required in certain regions/countries. Please contact Advantech for certificate compliance.

iDoor Modules

- **PCM-24D2R2-BE** Isolated RS-232, DB9 x 2, (USB type)
- **PCM-24D2R4-BE** Isolated RS-422/485, DB9 x 2, (USB type)
- **PCM-24D4R2-BE** Non-Isolated RS-232, DB37 x 1 (USB Type)
- **PCM-24D4R4-BE** Non-Isolated RS-422/485, DB37 x 1 (USB Type)
- **PCM-27D24DI-AE** Digital I/O, 16 DI / 8 DO, Isolation, DB37 x 1
- **PCM-24R2GL-AE** 2 Port Giga LAN Intel i350 PCIe mini card
- **PCM-24U2PE-AE** Intel i350, GbE, PoE IEEE 802.3af, PD, RJ45 x 2
- **PCM-24U2U3-BE** PCM-24U2U3, 2-Port USB 3.0, mPCIe
- **PCM-23C1CF-CE** 1 slot Cfast iDoor for CFast with PWR cable
- **PCM-23U1DG-CE** Internal locked USB Slot for USB Dongle, mPCIe
- **PCM-26D2CA-BE** SJA1000 CANBus, Lattice, CANOpen, DB9 x 2

Application Software

| | |
|------------------------|---|
| WebAccess/SCADA | Advantech WebAccess/SCADA is a 100% browser-based IIoT software platform aimed at supervisory control and data acquisition (SCADA) operations. WebAccess/SCADA provides open interfaces that allow our customers and partners to develop unique IIoT applications for different vertical markets. In addition to supporting traditional SCADA functions, the platform features an HTML5-based user interface and intelligent dashboard to facilitate cross-platform, cross-browser data analysis. Moreover, WebAccess/SCADA not only offers built-in widgets, but is also equipped with an innovative Widget Builder that enables customers to build their own widgets. |
| WebAccess/HMI | Advantech 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 automation applications and HMI monitoring requirements. |