TPC-1251T

12.1" TFT LED LCD Intel® Atom™ Thin Client Terminal

Features

- Industrial 12.1" XGA TFT LCD with 50K Lifetime LED Backlight
- Intel® Atom™ E3827 1.75 GHz Dual-core Processor with 4GB DDR3L SDRAM
- Supports wide operating temperatures -20~60°C
- True-flat with IP66 / non-flat with IP65 certified front panel protection
- Front LED Indicator to Show Operating Status
- Durable 5-wire Resistive Touch Screen
- Supports iDoor technology for diverse applications (optional accessory required)
- Compact Fanless Embedded System with Al Alloy Front Bezel, Chassis Grounding Protection
- Supports Advantech SNMP Subagent
- Supports Advantech WISE-PaaS/RMM Remote Device Management Software

iDoor · R33138 · CCC · CE · FCC · c UL us LISTED E180981 I.T.E.

Introduction

The TPC-1251T thin client terminal with a 12.1" XGA LCD, low power embedded Intel® Atom™ E3827 1.75 GHz Dual-core Processor and 4GB (8GB optional) DDR3L SDRAM provides computing performance in a compact fanless system. To enhance its durability, the TPC-1251T is true-flat touch screen designed with IP66 front protection, die-cast Al Alloy front bezel and 5-wire resistive touch. It supports wide operating temperatures -20~60°C and includes full size mini-PCIe slot to extend the functionality and meet a variety of automation applications needs. Through the Mini-PCIe slot, Advantech iDoor technology (optional) can provide more I/O connectors, Isolated Digital IO, the Fieldbus Protocol, 3G/GPS/GPRS/Wi-Fi Communication and MRAM.

Specifications

General

- **BIOS**   AMI UEFI
- **Certification**   BSMI, CCC, CE, FCC Class A, UL
- **Cooling System**   Fanless design
- ③ **Dimensions (W x H x D)** 311.80 x 238 x 57.2 mm (12.28" x 9.37" x 2.25")
- **Enclosure**   Front bezel: Die-cast Aluminum alloy
  Back housing: SECC
- **Mounting**   Desktop, Wall or Panel Mount
- **OS Support**   Microsoft® WES7 32bit/64bit / WE8S 64bit / Windows 7/8.1 32bit/64bit / Windows 10 Enterprise LTSB
- **Power Consumption**   45.6 W (Typical)
- **Power Input**   24 V_{DC} +/- 20%
- **Watchdog Timer**   1 ~ 255 sec (system)
- **Weight (Net)**   2.5 KG

System Hardware

- **CPU**   Intel® Atom™ E3827 1.75 GHz Dual-core Processor
- **Memory**   4GB (8GB optional) DDR3L 1600MHz SO-DIMM SDRAM
- ③ **LAN**   10/100/1000 Base-T x 2
- **Expansion Slots**   Full-size Mini PCI-E
- **Storage**   CFast slot x 1
  2.5" SATA SSD slot x 1 (optional)
- ③ **I/O**   RS-232 x 1, RS-232/422/485 x 1
  USB 3.0 x 1
  USB 2.0 x 1

LCD Display

- **Display Type**   XGA TFT LED LCD
- **Display Size**   12.1"
- **Max. Resolution**   1024 x 768
- **Max. Colors**   16.2M
- **Luminance cd/m²**   600
- **Viewing Angle (H/V°)**   160/140
- **Backlight Life**   50,000 hrs
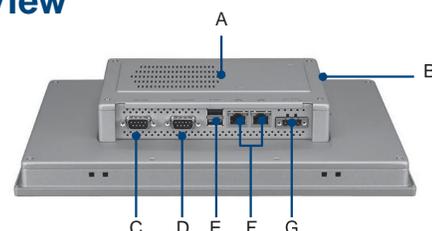- **Contrast Ratio**   700:1

Touchscreen

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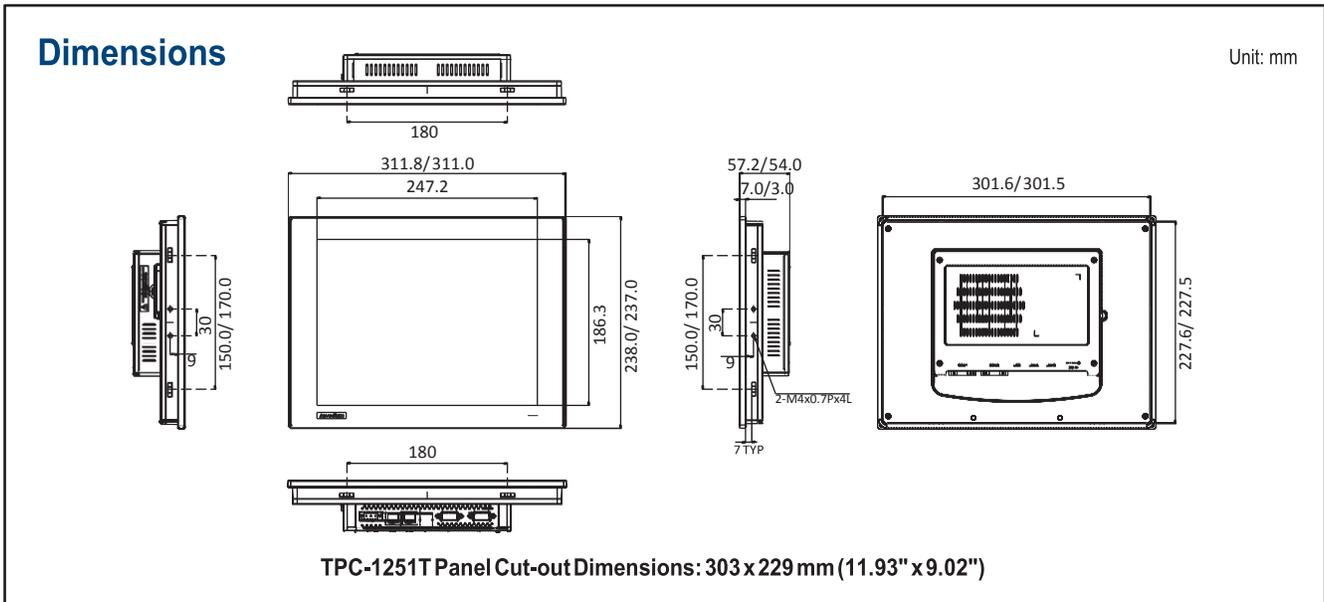- **Type**   5-wire, analog resistive

Environment

- **Humidity**   10~95% RH @ 40°C, non-condensing
- **Ingress Protection**   Front panel: IP66
- **Operating Temperature**   -20 ~ 60°C (-4 ~ 140°F)
- **Storage Temperature**   -30 ~ 70°C (-22 ~ 158°F)
- **Vibration Protection**   With CFast: 2 Grms (5~500 Hz)
  With HDD: 1 Grms (5 ~ 500 Hz)
  (Operating, random vibration)

Rear View

A. External HDD/SSD/iDoor kit
  (TPC-1251T-EHKE) (Optional)
B. CFast
C. RS-232
D. RS-232/422/485
E. USB 3.0 & 2.0
F. LAN (10/100/1000)
G. Power Receptor

Dimensions

Unit: mm

180

311.8 / 311.0
247.2

57.2 / 54.0
7.0 / 3.0

301.6 / 301.5

150.0 / 170.0
30
9

186.3

238.0 / 237.0

150.0 / 170.0
30
9

2-M4x0.7Px4L

7 TYP

227.6 / 227.5

180

TPC-1251T Panel Cut-out Dimensions: 303 x 229 mm (11.93" x 9.02")

Ordering Information

- **TPC-1251T-E3AE** — 12" XGA Panel PC, Intel® Atom™ E3827 1.75 GHz Dual-core Processor, 4GB (True-flat touch screen)
- **TPC-1251H-E3AE** — 12" XGA Panel PC, Intel® Atom™ E3827 1.75 GHz Dual-core Processor, 4GB (Non-flat touch screen IP65 certified traditional TPC front panel)

Optional Accessories

- **PWR-247-CE** — 60W DC 24V/2.5A Output Power Supply
- **TPC-1251T-EHKE** — HDD/SSD and iDoor extension kit
- **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-1000H-WMKE** — TPC VESA Mounting Kit from 10" to 17" TPC
- **TPC-1000H-SMKE** — TPC Stand kit from 10" to 17" TPC

Embedded O/S

- ③ **2070014327** — TPC-xx51T/H WS7P x64 MUI Image v4.14
- ③ **2070013613** — TPC-xx51T/H WS7P x86 MUI Image v4.12
- ③ **2070014303** — TPC-1251T/H WEC7 x64 MUI Image V4.00
- **2070014400** — TPC-xx51T/H Win10 Enterprise LTSB x64 MUI image v6.00 B002

S/W Bundle Offering

- **WA-HT1251T-E15H1AE** — TPC-1251T-E3AE, HMI Runtime 1500 tags, 32G CFast, WES7P
- **WA-ST1251T-E15H4AE** — TPC-1251T-E3AE, SCADA Runtime 1500 tags, 1TB HDD, WES7P

iDoor Modules (TPC-1251T-EHKE is required for 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
- **PCM-24S2WF-AE** — 802.11 a/b/g/n 2T2R w/ BT4.0, Atheros AR9462

Application Software

WebAccess/SCADA	Advantech WebAccess is a 100% web based SCADA (Supervisory Control And Data Acquisition) software and it acts as an IIoT Platform providing open interfaces for partners to develop IoT applications for different vertical markets. In addition to traditional SCADA functions, WebAccess has an intelligent Dashboard, to provide users with cross-platform, cross-browser data analysis and user interface using HTML5 technology. As well as the built-in widgets, WebAccess also provides Widget Builder to allow customers to build their own.
WebAccess/HMI	WebAccess/HMI is Human Machine Interface (HMI) software based on Microsoft's Windows operating system. It utilizes a PC's ample resources, ie speed, storage, multimedia, peripheral devices, and large screen to produce a complex human-machine interface. WebAccess/HM with its communication and monitoring ability supports more than 350 PLC communication protocols and a wide choice of screen design objects, to satisfy multiple integrations of factory automation and all-round human-machine interface operation and monitoring requirements.