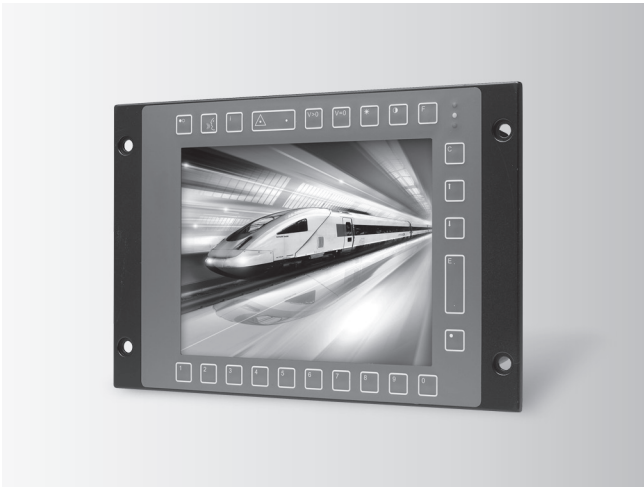# TPC-8100TR

10.4" EN50155 Railway Panel Computer

Features

- 10.4" SVGA 800x600 with 400 nits LED LCD display
- Fanless with Dual core 1.6 GHz processor
- 5H Hardness resistive touch
- Alternative keypad control in front bezel
- Mother board / Daughter board with coating for weather proof
- All around IP65 with waterproof M12 connector
- Optical bonding for weather proofing
- Ruggedized enclosure with Die-cast Aluminium alloy
- Wide operating temperature: -30 ~ 70°C
- EN50155 & EN45545 Compliance for railway application

Introduction

Advantech's HMI TPC-8100TR for transportation is used to keep the train driver informed about status of the train's functions. Its design allows it to be deployed in environments with an extended temperature range (−30 to +70°C) and it also complies with the EMC, shock and vibration test requirements of European standard EN50155 and EN45545 for railway applications.

The TPC-8100TR 10,4" TFT display has a ruggedized touch panel and optical bonding for weather-proofing. All round IP65 and M12 connectors are the perfect choice for Human Machine Interfaces (HMI) in railway environments. The internal boards all have Conformal Coating protection for anti-moisture protection. The TPC-8100TR includes a comprehensive feature set with two Ethernet ports, serial interfaces, USB ports, built-in CFast devices.

Railway power module design support 10 ms interruption (EN50155, S2) , EMI EN55022 CLASS A filter, Over/Short current protection for its railway application.

Specifications

General

- **Certification**   CE,FCC,CCC,EN50155 Compliance
- **Cooling System**   Fanless design
- **Dimensions (W x H x D)** 345x227x85mm (13.58" x 8.94' x 3.35")
- **Enclosure**   Front bezel: Die-cast Aluminium alloy
  Back housing: Die-cast Aluminium alloy
- **Mounting**   Panel Mount / VESA Mount
- **OS Support**   WES 7 & 8/ WES 2009 / Windows CE 7.0 / Linux
- **Power Consumption**   35 W Typical
- **Power Input**   110 V_{DC}, 96 V_{DC}, 72 V_{DC},
  48 V_{DC} (option), 24 V_{DC} (option)
- **Weight (Net)**   5 kg (11 lbs)

System Hardware

- **CPU**   Intel Atom N2600
- **Memory**   4GB SO-DIMM DDR3 SDRAM
- **Storage**   Built in 16G CFast card
- **Expansion Slot**   Full-size Mini-pcie slot x 1 (option)
  Full-size Mini-pcie slot x 2 (option)
- **I/O**   2 x RS-232 (connection: M12 A-code, 8-pin male)
  2 x422/485 (with isolation, connection: M12 A-code, 8-pin male)
  2 x USB2.0 (connection: M12 A-code, 8-pin female)
  2 x 100/1000 Base (connection: M12 A-code, 8-pin female)
  1x Audio (with Internal Buzzer,Line out, connection: M12 A-code, 8-pin male)
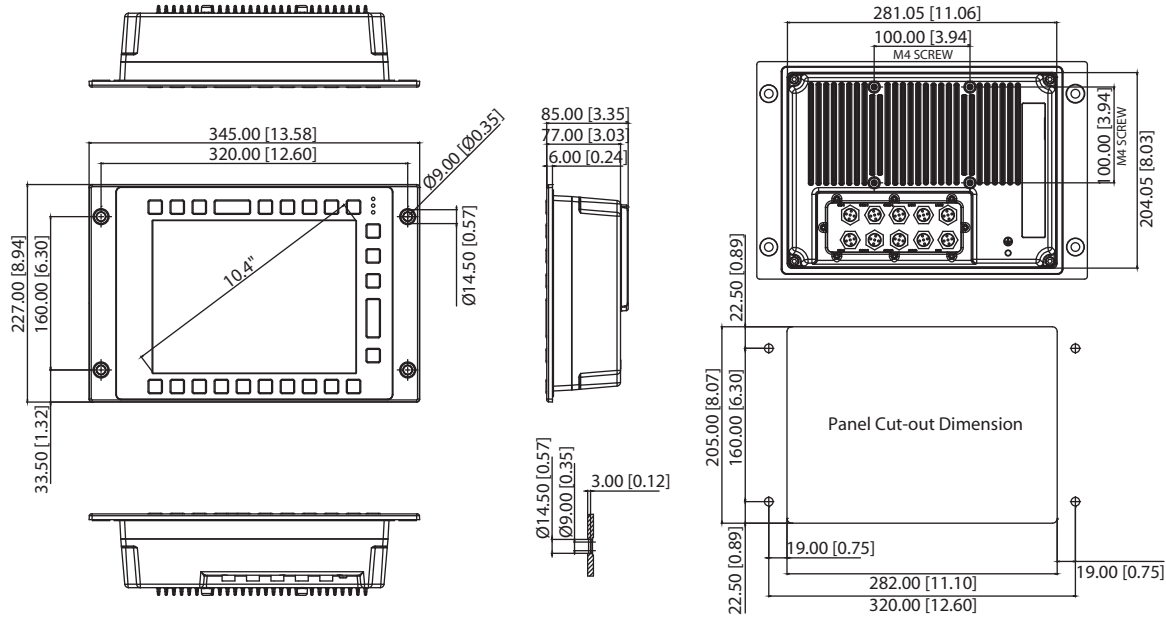 1x Power connector (connection: M12 A-code, 5-pin male)

LCD Display

- **Display Type**   SVGA TFT LED LCD
- **Display Size**   10.4"
- **Max. Resolution**   800x600
- **Max. Colors**   262 K
- **Luminance cd/m²**   400
- **Viewing Angle (H/V°)**   160/140
- **Backlight Life**   50,000 hrs
- **Contrast Ratio**   700:1
- **Environment**
  Humidity   10 ~ 95% RH @ 40°C, non-condensing
- **Ingress Protection**   All around IP65
- **Operating Temperature**   -30 ~ 70°C (-22 ~ 158°F)
- **Storage Temperature**   -30 ~ 70°C (-22 ~ 158°F)
- **Vibration Protection**   IEC 61373 Railway– Shock and Vibration

Ordering Information

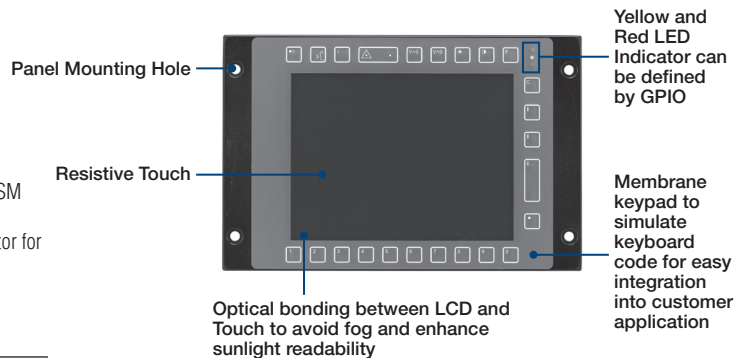- **TPC-8100TR-N3AE**   10.4" SVGA Touch Panel PC

Dimensions

Unit: mm [inch]

345.00 [13.58]
320.00 [12.60]
Ø9.00 [Ø0.35]
227.00 [8.94]
160.00 [6.30]
Ø14.50 [0.57]
10.4"
33.50 [1.32]

85.00 [3.35]
77.00 [3.03]
6.00 [0.24]

Ø14.50 [0.57]
Ø9.00 [0.35]
3.00 [0.12]

281.05 [11.06]
100.00 [3.94]
M4 SCREW
100.00 [3.94] M4 SCREW
204.05 [8.03]
22.50 [0.89]

Panel Cut-out Dimension

205.00 [8.07]
160.00 [6.30]
22.50 [0.89]
19.00 [0.75]
282.00 [11.10]
19.00 [0.75]
22.50 [0.89]
320.00 [12.60]

Accessories

- **PWR-247-BE** — 63W DC 24V/2.62A 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
- **EWM-C109F6G1E** — 6-band HSPA Cellular Module, SIM holder+GPS
- **1750006432** — GPS antenna 5000mm AG1575-0250SM-UL
- **1750005865** — GSM Antenna L=10.9cm 50Ohm AN8921F-5701SM
- **TPC-8100TR-MOKE** — (9 x M12 Connectors for TPC-8100TR)
- **TPC-8100TR-MCKE** — (9 x M12 Cables supporting standard I/O connector for TPC-8100TR)

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.

Front View

Panel Mounting Hole

Yellow and Red LED Indicator can be defined by GPIO

Resistive Touch

Membrane keypad to simulate keyboard code for easy integration into customer application

Optical bonding between LCD and Touch to avoid fog and enhance sunlight readability

Rear View

VESA 100

SIM Card can be inserted externally (option)

Wireless SMA connectors support WiFi, GPS, GSM (option)

Ruggedized enclosure with Die-cast Aluminium alloy

Grounding

M12 Connector for IP65 and Easy Cabling
1. RS-232 x 2 with isolation
2. RS-422/485 x 2 with isolation
3. USB2.0 x 2, GbE x 2
4. Power x 1, Audio x 1 (Line in and Speaker)