

10.4" Railway Touch Panel PC with Intel® Atom® x7433RE Processor

Overview

The TVP-310 is a rugged railway panel PC powered by the Intel® Atom® x7433RE processor. It features a 10.4-inch industrial touch screen, Wi-Fi 6E, Bluetooth 5.3, 5G/4G, GNSS, a wide-range DC input, and an extended operating temperature range of -40°C to 70°C, making it ideal for railway applications. It complies with MIL-STD-810H standards for shock and vibration resistance and offers an IP65-rated front panel, ensuring durability and reliable operation in demanding environments.

Features

- Intel® Atom® x7433RE processor
- M12 aviation-grade connectors
- UIC612-01 compliant keyboard layout
- IP65-rated front panel and fanless design
- Compliant with MIL-STD-810H shock and vibration standards
- Supports 9–36 VDC input or optional 43–160 VDC input
- Wide operating temperature range: -40°C to 70°C



I/O Interfaces

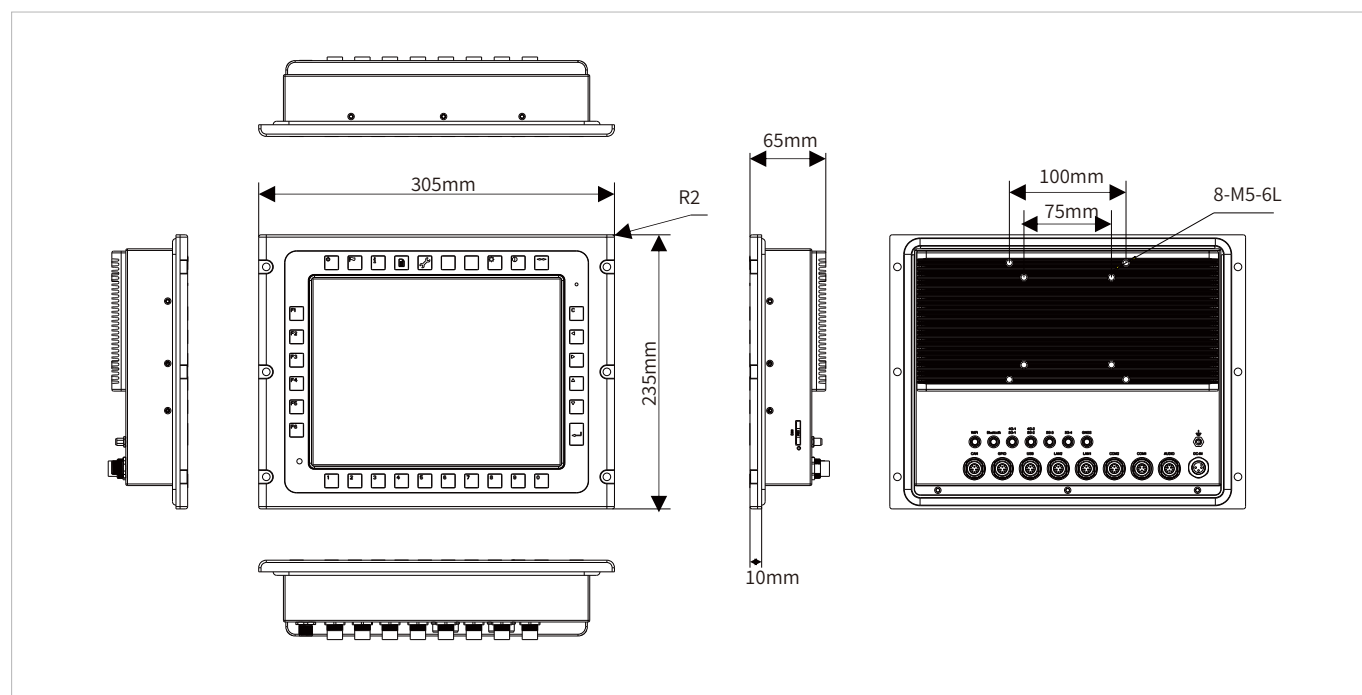


Specifications

Display	
Size	10.4 inch (4:3)
Touch Type	Projected capacitive multi touch
Display Type	TFT LCD
Resolution	1024 x 768
Luminance	1000 nits
Contrast Ratio	1000: 1
View Angles	88 (left), 88 (right), 88 (up), 88 (down)
Color	16.7M
System	
CPU	Intel Atom® x7433RE quad-core processor, 1.5 GHz, up to 3.4 Ghz
Memory	8GB DDR5-4800 SO-DIMM (up to 16GB)
Storage	128GB mSATA SSD (up to 512GB)
Graphics	Intel® UHD Graphics
BIOS	AMI UEFI BIOS
Keypad & Keyboard	
Keypad	32 keypads (compliant with UIC 612-01 layout)
I/O Ports	
USB	2x USB 2.0 (M12, 8P-A)
Serial	2x RS-232/422/485 (M12, 12P-A)
Ethernet	2x GbE LAN (M12, 8P-X)
Audio	1x Audio out (M12, 4P-A)
CAN bus	2x CAN2.0B (M12, 5P-A)
GPIO	1x 4bit GPIO (M12, 6P-A)
SIM Card Slot	1x SIM Socket
Antenna	7x SMA connector for external antenna (Optional)
RF Communication	
Wi-Fi	Wi-Fi 6E: 802.11a/b/g/n/ac/ax, 2.4G/5G/6G (optional)
Cellular	4G, LTE (optional) 5G, NSA/SA (optional)
Bluetooth	Bluetooth 5.3 (Depends on Wi-Fi 6E, optional)
GNSS	GPS, GLONASS, Galileo, BeiDou (optional, Ublox NEO M8N)
Power	
DC Input	9 to 36VDC 43 to 160VDC (Optional)
Power Consumption	18W (Typ.)
Power Mode	ATX (default), AT
Operating System	
Windows	Windows 11 IoT Enterprise LTSC Windows 10 IoT Enterprise LTSC Windows 11 Pro
Linux	Ubuntu
Mechanical	
Dimensions (W x D x H)	305 x 235 x 65 mm (12.01 x 9.25 x 2.56 inches)
Weight (N.W.)	3.6 kg (7.94 lbs)
Mounting Mode	Panel mount, VESA
Material	Aluminum+SGCC

Environment	
Operating Temperature	-40-70°C (-40-158°F)
Storage Temperature	-40 to 70°C (-40 to 158°F)
Relative Humidity	95% @ 70°C (158°F), non-condensing
Shock	MIL-STD-810H Method 514.8 Procedure I
Vibration	MIL-STD-810H Method 516.8 Procedure I
IP Rating	IP65 compliant (Front panel)
Certification	
EMC	CE, FCC,EN50155

Dimensions



Ordering Information

Part No.	Description
TVP-310-D00C-A01	TVP-310, 10.4" TFT LCD (1000nits), Pcap, Intel x7433RE, No RAM and SSD
TVP-310-D00A-A01	TVP-310, 10.4" TFT LCD (1000nits), Pcap, Intel x7433RE, 8GB RAM, 128GB mSATA
TVP-310-D40AB-A01	TVP-310, 10.4" TFT LCD (1000nits), Pcap, Intel x7433RE, 8GB RAM, 128GB mSATA, Wi-Fi 6E (AX210), Bluetooth (AX210), 4G (EC20), GPS (UG-M80), 4x SMA

Optional Accessories

Part No.	Description
A.02.002.000096	Power cord, 0P to 3P, M12-3P-F, 2.0meters, RBY, 90°, 3CZ01029316
A.02.002.000097	Power cord, 0P to 3P, M12-3P-F, 5.0meters, RBY, 90°, 3CZ01029316
A.02.004.000061	Rod antenna, SMA(Male), 3dB
A.02.004.000031	GPS antenna, SMA(Female), GPS+Beidou, 3.0meters
A.03.004.000270	External cable(2xUSB), 500mm, M12/8P(M) to USB(F)x2, CZ0102945
A.03.004.001380	External cable(1xLAN), 500mm, M12-8P(X-Code(M)) to RJ45(F), 3CZ01029306
A.03.004.001381	External cable(1xRS232), 500mm, M12/12P(M) to DB9(M) Connector, 3CZ01029305
A.03.004.001533	External cable(GPIO), 500mm, M12/6P(M) to Open, 3CZ01029353
A.03.004.001534	External cable(2xCAN), 500mm, M12/5P(M) to Open, 3CZ01029354
A.03.004.001535	External cable(AUDIO), 500mm, M12/4P(M) to Open, 3CZ01029355