TREK-773

7" All-in-One Ultra Rugged Mobile Data Terminal

TAIWAN EXCELLENCE SILVER AWARD 2016

Features

- Intel® Atom™ E3827 SOC with support for Win10, and Ubuntu operating systems
- 7" WVGA wide-angle LCD resistive touchscreen
- Vehicle diagnostics interface with CAN (J1939, OBD-II/ISO 15765) and J1708 (J1587) protocols
- Built-in GNSS, WLAN, Bluetooth, LTE WWAN modules and NFC
- Intelligent vehicle power management system supports ignition on/off/delay functions, wake-up event control, and system health monitoring and diagnostics
- Wide operating temperature range (-30 ~ 60 °C/-22 ~ 140 °F)
- Supports 12/24 V vehicle power (ISO 7637-2)
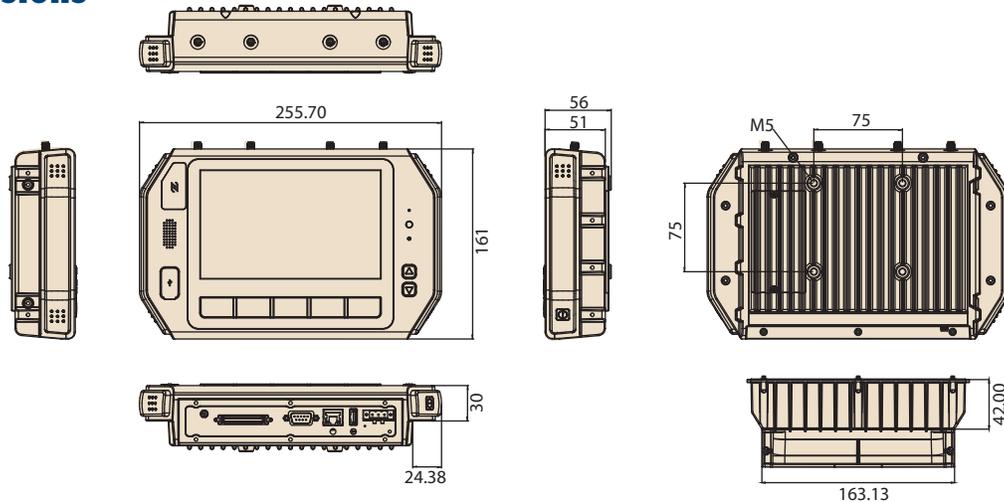- MIL-STD-810G and 5M3 certified for shock and vibration tolerance

Introduction

TREK-773 is a next-generation, all-in-one 7" mobile data terminal. Equipped with an Intel® Atom™ E3827 SOC, TREK-773 offers high-performance computing with wired connections such as Gigabit Ethernet, CAN2.0B (J1939, OBD-II/ISO 15765), and J1708 (J1587). The integrated LTE (backwards compatible with CDMA/HSDPA), GPS, WLAN, and Bluetooth communication interfaces ensure connectivity and real-time data transmissions. Aimed at the automotive market, TREK-773 is compatible with 12/24 V vehicle power and compliant with ISO7637-2 & SAE J1113, ensuring system operation during engine starts. Moreover, the system's ruggedized chassis, wide operating temperature range (-30 ~ 60 °C/-22 ~ 140 °F), and shock (100G, 6ms) and vibration tolerance support operation in harsh industrial environments.

Specifications

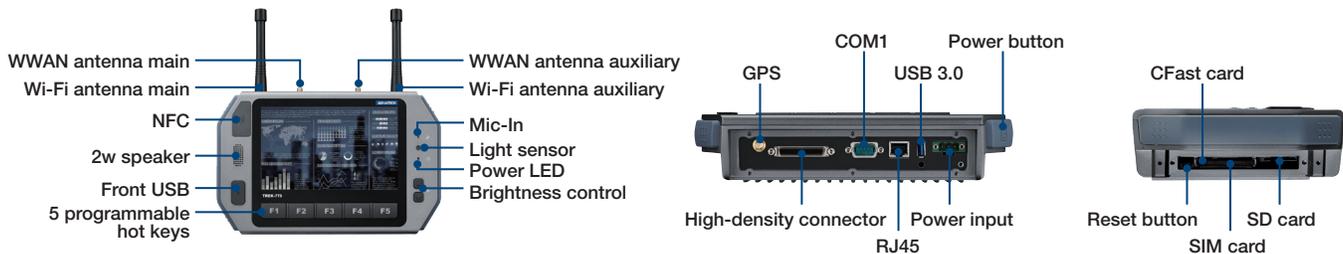|		
Core	Processor	Intel® Atom™ E3827 dual-core, 1.75 GHz
	Memory	4 GB DDR3L-1333 memory (default)
	Graphics	Integrated 2D/3D graphics engine
	Operating System	Win10 IoT LTSB (64-bit) default, and Linux available upon request
Storage	CFast	1 x externally accessible CFast slot with cover and supports system boot up (32GB default for Win10 IoT LTSB)
	SD Card	1 x externally accessible push-push-type SD slot with cover for convenient expansion
Display	Type	7" automotive-grade TFT LCD
	Resolution	WVGA (800 x 480)
	Brightness (cd/m²)	1000nits (typical)
	Viewing Angle (H/V)	170°/170°
	Contrast Ratio	1000:1 (typical)
	Backlight Type	LED
	Backlight Life (Hrs)	30K
Touchscreen	Type	4-wire analog resistive touchscreen with 3H surface hardness and IK06 (510 g steel ball drop @300 mm) support (Optional sunlight readable touchscreen available upon request)
	Transparency	84% ±3%
Sensor	Sensor	Light sensor, G-sensor
I/O	Function Keys	5 x programmable function keys with green LED indicators
	Standard I/O	1 x SIM card slot (left) 1 x High-speed full RS-232 (rear) (RS232 RI pin can be configured to 12 V_{DC} output) 1 x USB 3.0 host Type A (rear) 1 x Giga LAN with RJ45 connector (rear)
	Extended I/O [2]	1 x Mic-In/1 x Stereo Line-In/1 x Stereo Line-Out, 1 x CVBS input, 1 x USB 2.0 host 1 x High-speed full RS-232, 1 x RS-485 with auto flow control 4 x Isolated DI (dry contact), 4 x isolated DO (open collector output, driven by replay) 1 x CAN bus (supports raw CAN, J1939, OBD-II/ISO 15765) 1 x J1708 (supports J1587) 1 x 12 V_{DC}/1.5A continuous current output (shared with standard I/O full RS-232 DB9)
I/O	Power Button/LED Indicators	1 x Power button; 1 x Power LED indicator (yellow)
RF	WLAN + Bluetooth	IEEE 802.11a/b/g/n + Bluetooth (V4.0 LE, V3.0+HS, V2.1+EDR) combo module via mini PCIE slot
	WWAN	4G (LTE, HSPA+, GSM/GPRS/EDGE, EV-DO Rev a1, 1xRTT) Sierra Wireless MC73xx via full mini-PCIe (MC7354 for US/MC7304 for EU default)
	GNSS	Built-in u-blox MAX-M8Q GPS/GlONASS/BeiDou module and A-GPS support
	Antenna	1 x GPS, 2 x WWAN (LTE), 2 x WLAN/Bluetooth
	NFC	ISO/IEC 14443A, 14443B, 15693; MIFARE 1K/4K, Ultralight; NFC-IP2 protocol
Power	Input Voltage	Supports 12/24 V vehicle power, 9 ~ 32 V_{DC} input (ISO 7637-2 and SAE J1113 compliant) (Optional support for 18 ~ 58 V_{DC} input available upon request)
	Intelligent Vehicle Power Management (iVPM 2.0)	System power on/off management (e.g., programmable ignition On/Off/Delay), system monitoring and diagnostics, system power protection (vehicle battery low voltage protection), and wake-on-alarm (RTC), wake-on-call/SMS, and wake-on-G-sensor events
Mechanical	Dimensions (W x H x D)	255.7 x 161 x 56 mm (10.06 x 6.33 x 2.20 in)
	Weight	2.2 kg (4.8 lb)

Dimensions

Unit: mm

255.70
161
56
51
M5
75
75
30
24.38
163.13
42.00

Specifications Cont.

Environment	IP Rating	IP54 (excluding I/O); optional IP54 protection for entire system with additional I/O cover
	Vibration/Shock	MIL-STD-810G, EN60721-3(5M3)
	EMC/Safety	CE, FCC, CCC; UL/cUL, CB
	Vehicle Regulation	E-mark (E13) for 12/24 V system, SAE J1455 class C, ISO 7637-2, SAE J1113
	Railway	EN50155
	RF Regulation	CE (R&TTE), FCC ID
	Operating Temperature	-30 ~ 60 °C (-22 ~ 140 °F)
	Storage Temperature	-40 ~ 80 °C (-40 ~ 176 °F)

I/O Connectors

WWAN antenna main
Wi-Fi antenna main
NFC
2w speaker
Front USB
5 programmable hot keys
WWAN antenna auxiliary
Wi-Fi antenna auxiliary
Mic-In
Light sensor
Power LED
Brightness control

GPS
COM1
USB 3.0
Power button
High-density connector
RJ45
Power input

CFast card
Reset button
SIM card
SD card

Ordering Information

Part Number	Description
TREK-773R-00A1E	TREK-773R Intel BYT E3827 (2C, 1.75GHz) barebone unit w/NFC
TREK-773R-LWBXA1E	TREK-773R w/LTE(EU)/GPS/WLAN/BT/NFC/CFast/W10
TREK-773R-LWBXB1E	TREK-773R w/LTE(US)/GPS/WLAN/BT/NFC/CFast/W10

Note: WES7, and Linux operating system is available upon request.

Packing List

Part Number	Description
1700019031	1 x 12/24V 2M power cable
1750007909-01	2 x Outdoor dipole Wi-Fi antennas
1750007924-01	1 x Outdoor LTE/GPS combo antenna, 3M
1750007926-01	1 x Outdoor LTE antenna, 3M
1990018848T000	2 x USB/LAN cable clips

Note: The TREK-773 barebone unit (TREK-773R-00A1E) includes 1 x 2M power cable.

Option items

Part Number	Description
1700020128	12/24V 5M power cable
1700019307	High-density cable (MDR 50P/BNC+audio jack*3+USB-A+D-sub 9P)
RAM-MOUNT-01	VESA RAM mount w/clamp base, 1.5" ball
RAM-MOUNT-06E	VESA RAM mount w/VESA base, 1.5" ball
9668TREK35E	AC/DC power kit
9668TREK37E	IP54-rated I/O cover

Embedded OS

Part Number	Description
20708WX6ES0015	Image WIN10 LTSB-6(Atom) TREK-773 V1.01 X64 7MUI 64bit
TBC	Image Linux Ubuntu 18.04 LTS ENG 64bit