

# TREK-773

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



### Features

- Intel® Atom™ E3827 SOC with support for WES8, WES7, 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 optional 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
- Supports voice recognition and intelligent video analytics



### 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

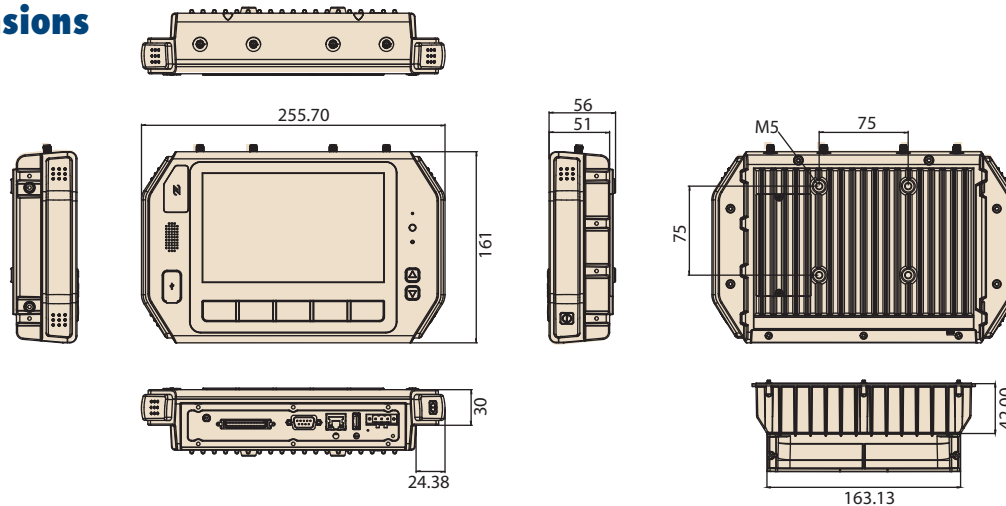
|             |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core        | Processor                                       | Intel® Atom™ E3827 dual-core, 1.75 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                |
|             | Memory                                          | Up to 4 GB DDR3L-1333 memory (2 GB default)                                                                                                                                                                                                                                                                                                                                                                                                                           |
|             | Graphics                                        | Integrated 2D/3D graphics engine                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|             | Operating System                                | Windows Embedded 8 Standard (32-bit) and Win10 IoT LTSC (32-bit) default, with Windows Embedded 7 Standard and Linux available upon request                                                                                                                                                                                                                                                                                                                           |
| Storage     | CFast                                           | 1 x externally accessible CFast slot with cover and supports system boot up (16GB default for WES8, 32GB default for Win10 IoT LTSC)                                                                                                                                                                                                                                                                                                                                  |
|             | SD Card                                         | 1 x externally accessible push-push-type SD slot with cover for convenient expansion                                                                                                                                                                                                                                                                                                                                                                                  |
| Display     | Type                                            | 7" industrial-grade TFT LCD                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|             | Resolution                                      | WVGA (800 x 480)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|             | Brightness (cd/m²)                              | 500 cd/m² (typical)                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|             | Viewing Angle (H/V)                             | 170°/170°                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 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)<br>1 x High-speed full RS-232 (rear) (RS232 RI pin can be configured to 12 V <sub>DC</sub> output)<br>1 x USB 3.0 host Type A (rear)<br>1 x Giga LAN with RJ45 connector (rear)                                                                                                                                                                                                                                                              |
|             | Extended I/O <sup>2</sup>                       | 1 x Mic-In/1 x Stereo Line-In/1 x Stereo Line-Out,<br>1 x CVBS input, 1 x USB 2.0 host<br>1 x High-speed full RS-232, 1 x RS-485 with auto flow control<br>4 x Isolated DI (dry contact), 4 x isolated DO (open collector output, driven by replay)<br>1 x CAN bus (supports raw CAN, J1939, OBD-II/ISO 15765)<br>1 x J1708 (supports J1587)<br>1 x 12 V <sub>DC</sub> /1.5A continuous current output (shared with standard I/O full RS-232 DB9)                     |
|             | 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 full-size mini PCIe slot (Optional high-power WLAN for roaming available upon request)                                                                                                                                                                                                                                                                                                   |
|             | 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/GIONASS/BeiDou module and A-GPS support                                                                                                                                                                                                                                                                                                                                                                                                   |
|             | Antenna                                         | 1 x GPS, 2 x WWAN (LTE), 2 x WLAN/Bluetooth                                                                                                                                                                                                                                                                                                                                                                                                                           |
|             | NFC (Optional)                                  | ISO/IEC 14443A, 14443B, 15693; MIFARE 1K/4K, Ultralight; NFC-IP2 protocol                                                                                                                                                                                                                                                                                                                                                                                             |
| Power       | Input Voltage                                   | Supports 12/24 V vehicle power, 9 ~ 32 V <sub>DC</sub> input (ISO 7637-2 and SAE J1113 compliant) (Optional support for 18 ~ 58 V <sub>DC</sub> input available upon request)                                                                                                                                                                                                                                                                                         |
|             | Intelligent Vehicle Power Management (IVPM 2.0) | System power on/off management, 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<br>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 |

<sup>1</sup> The total power output is 12 V<sub>DC</sub>/1.5A and shared with standard RS232 DB9.

<sup>2</sup> The high-density cable is an optional item.

## Dimensions

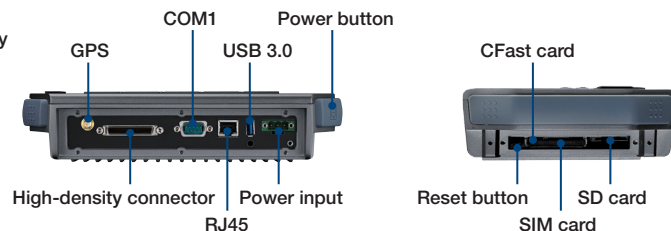
Unit: mm



## Specifications Cont.

|             |                        |                                                                                            |
|-------------|------------------------|--------------------------------------------------------------------------------------------|
| 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)                                                                            |
| 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



## Ordering Information

| Part Number       | Description                                                 |
|-------------------|-------------------------------------------------------------|
| TREK-773R-00A0E   | TREK-773R Intel BYT E3827 (2C, 1.75GHz) barebone unit w/NFC |
| TREK-773R-01A0E   | TREK-773R Intel BYT E3827 (2C, 1.75GHz) barebone unit       |
| TREK-773R-LWB8A0E | TREK-773R w/LTE(EU)/GPS/WLAN/BT/NFC/CFast/WES8              |
| TREK-773R-LWB8B0E | TREK-773R w/LTE(US)/GPS/WLAN/BT/NFC/CFast/WES8              |
| TREK-773R-LWBXA0E | TREK-773R w/LTE(EU)/GPS/WLAN/BT/CFast/W10                   |
| TREK-773R-LWBXB0E | TREK-773R w/LTE(US)/GPS/WLAN/BT/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-00A0E/TREK-773R-01A0E) 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                                         |

## TREK-773 CTOS KIT

| Part Number | Description                                |
|-------------|--------------------------------------------|
| 9668T77300E | TREK-773 WLAN kit (802.11a/b/g/n BT combo) |
| 9668T77301E | TREK-773 LTE module kit for US (MC7354)    |
| 9668T77302E | TREK-773 LTE module kit (MC7304)           |
| 9668T77303E | TREK-773 GPS kit                           |

## Embedded OS

| Part Number    | Description                                            |
|----------------|--------------------------------------------------------|
| 2070013976     | Image WES7P TREK-773 v1.00 X86 ENG 32bit               |
| 2070013975     | Image WES8 TREK-773 v1.02 X86 ENG 32bit                |
| 20708WX6ES0016 | Image WIN10 LTSB-6(Atom) TREK-773 V1.01 X86 7MUI 32bit |
| 20708WX6ES0015 | Image WIN10 LTSB-6(Atom) TREK-773 X64 V1.01 7MUI 64bit |



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