

TREK-510

NEW
**ITS/Telematics
Excellent100**


ARM-based, In-Vehicle Computing Box

Features

- ST ARM based STA2062 333 MHz CPU with Win CE
- Automotive grade working temperature range (-30 to 70° C)
- Rich I/O such as CAN, multi-COMs, isolation 4DI/4DO, line out, Mic in, USB, SD
- Built-in RF communication modules, such as GPRS/HSDPA/CDMA
- Certifications: CE, FCC, E-mark and MIL-STD-810G, ISO7637-2, SAE J1113, SAE J1455 regulations
- Ignition on/off delay; SW detectable/controllable for car power management



Introduction

The TREK-510 is a dedicated box computer for industrial vehicle fleets, transport trucks, buses and taxis. TREK-510 combined with a variety of I/O connectors can be connected to devices like OBD-II or TPMS (Tire Pressure Monitoring System).

Built-in wireless communications-WWAN enable TREK-510 to send important driver/vehicle/location/car information back to the control center. TREK-510 can also operate in extreme environments with features like a wide working temperature range (-30 to 70 degrees) and anti-shock/vibration design. TREK-510 also uses a special design to handle the critical issue of in-vehicle power. Special power protection (ISO7637-2/SAE J1455 Class A/ SAE J1113) and car power management software (Ignition on/off, delay on/off, low battery monitor) prevent electrical noise and surges from impacting the system, guarding against damage from transient car power.

Specifications

| | | | |
|-------------------|--------------------|--|--|
| System | Soc | STM industrial degree STA2062 ARM9-based 333 Mhz RISC SOC | |
| | System Memory | Mobile DDR 128 MB | |
| | Watchdog | Yes | |
| | RTC | Yes, with one time 200 mAh coin battery | |
| | Operating System | Win CE 5.0 English core version as default | |
| Physical | Dimensions | 261 x 125 x 59.1 mm | |
| | Weight | 1.5 kg | |
| Storage | On Board Flash | 2 GB on board flash for bootloader, image & Customer's AP | |
| | SD slot | 1 x (external accessible) | |
| Display Interface | Smart Display Port | Design compatible with TREK-303L, 7" smart display, the signal includes: | |
| | | <ul style="list-style-type: none"> ■ 18-bit LVDS out ■ 1 x RS-232 ■ 1 x audio line out ■ 1 x USB Host ■ 12 V @ 1 A output | |
| I/O | CAN | 1 x CAN 2.0 A/B by DB9 with J1939 protocol | |
| | USB Host | 1 x USB 2.0 host port by type A | |
| | USB Client | 1 x USB Client by Mini Type AB | |
| | Mic In | 1 x RCA jack | |
| | Line-out | 1 x RCA jack | |
| | COM Port | COM1&2: 2 x Full Function RS-232, 5 V/12 V @ 0.5 A, ping9, by jumper selection COM3: 1 x 4-wire RS-232/485 (controlled by software), 5 V/12 V @ 0.5 A, ping9, by jumper selection | |
| | Isolation DI/DO | 4 x Isolated dry contact digital inputs from DB9 connector (2500 Vrms protection) 4 x relay driver from DB9 connector | |
| Communication | WWAN | GPRS - Cinterion MC55i: Support GPRS class 10 (Quad-band) CDMA - Sierra Wireless MC 5728V: Support EV-DO REV A, EV-DO, CDMA (1900 MHz, 800 MHz) HSDPA - Sierra Wireless MC 8790V: Support EDGE, GPRS, GSM, HSDPA, HSUPA (GPRS/EDGE class B, multislots class 12) (Quad-band) | |
| | | | |
| GPS | RF Receiver Type | 32 Channels (built-in), GPS L1 frequency, C/A code | 50 channels, GPS L1 frequency (option) |
| | Cold Start | 39 s | 29 s |
| | Warm Start | 33 s | 29 s |
| | Hot Start | < 1 s | < 1 s |
| | AGPS | 3 s | < 5 s |
| | Acquisition | 145dBm | 160dBm |
| | Protocol | NMEA input/output, ASCII, 0183, 2.3 (compatible to 3.0) | |
| LED | LED indicator | SMA connector for external antenna | |
| | | Power (Red), GPS operation (Blue), WWAN link (Green), Status (Green) | |

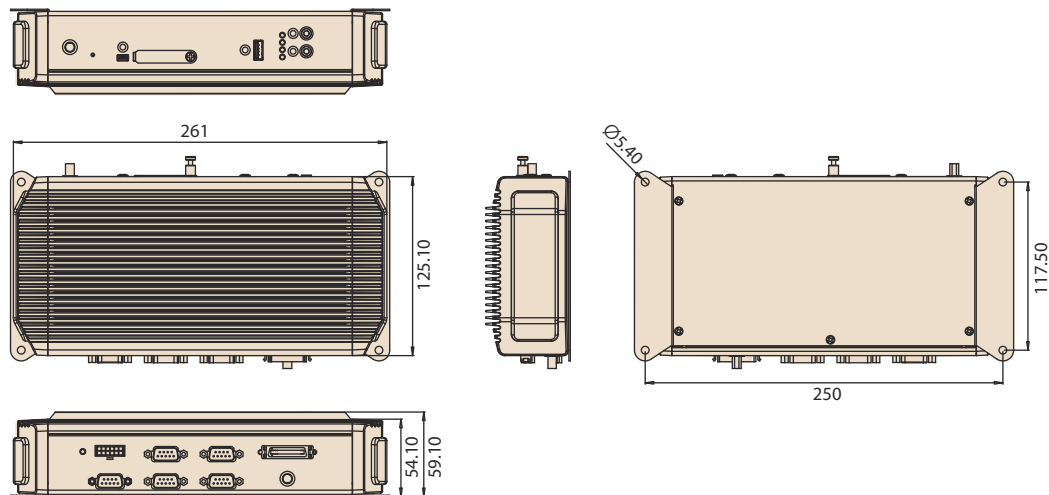
TREK-510

Specifications Cont.

| | | |
|------------------|---------------------------|--|
| Car Power Design | DC-Input | Supports 12/24V car power systems (6V ~ 36V wide DC input, ISO 7637, SAE J1113) |
| | Power Management | Power on/off delay, Power on delay, 2 sec by default Power off delay, 5 sec by default Delay time allow control by SW configuration Low voltage protection |
| Environment | HW Reset | Yes, 1 reset button |
| | IP rating | IP31 |
| | Operating Temp. | -30° C ~ +70° C |
| | Storage Temp. | -40° C ~ +85° C |
| | Vibration/shock | MIL-STD-810G, Method 516.5 |
| Certifications | EMC | CE, FCC |
| | Safety | CE, CB |
| | Vehicle Power Regulations | E-mark, SAE J1455, SAE J1113, ISO7637-2, compliance |
| Mechanical | Material | Top cover (Aluminum extrusion) Side cover (PC) Bottom & I/O cover (metal) |

Dimensions

Unit: mm



Ordering Information

| Part Number | Description |
|-----------------|--|
| TREK-510-GCEA0E | Vehicle computing system with ST 2062 processor, 128 MB RAM and 2 GB NAND flash, GPS, GPRS, Win CE 5.0 |
| TREK-303R-LA0E | 7" vehicle display system, 480 x 234 resolution, with 4 wire resistive touchscreen, 2-watt speaker |
| 1700018342 | 2-meter cable (paired with TREK-510) |

Packing List

| Part Number | Description | Quantity |
|-----------------|---|----------|
| TREK-510-GCEA0E | ARM-based, in-vehicle computing box | x1 |
| 1700018306 | Power cable | x1 |
| 1750001380 | GPS Antenna | x1 |
| 1750006080 | WWAN Antenna | x1 |
| 2068051000 | Startup manual CD | x1 |
| 19900018848T000 | Cable clip for MIC in, line out, USB host, USB client | x4 |

Fully Integrated I/O

