

TREK-530

Compact RISC-Based In-Vehicle Computing Box for Fleet Management



Features

- Qualcomm® Snapdragon™ 212 quad-core ARM® Cortex™-A7 SoC with Android 6.0 Marshmallow
- Built-in WLAN, Bluetooth, and GNSS (including BeiDou) modules with external antenna via FAKRA connector
- Modularized design with two extension slots for optional expansion (such as an LTE 4G module or battery) according to application requirements
- Compatible with 12/24V vehicle power
- Multiple isolated DI/O; DI supports dry/wet contact and vehicle speed sensor inputs for measuring distance
- Compliant with MIL-STD-810G and 5M3 standards for shock/vibration tolerance
- Equipped with Advantech's industrial-grade Android Remote General Utilities System (ARGUS) OS for remote management

Introduction

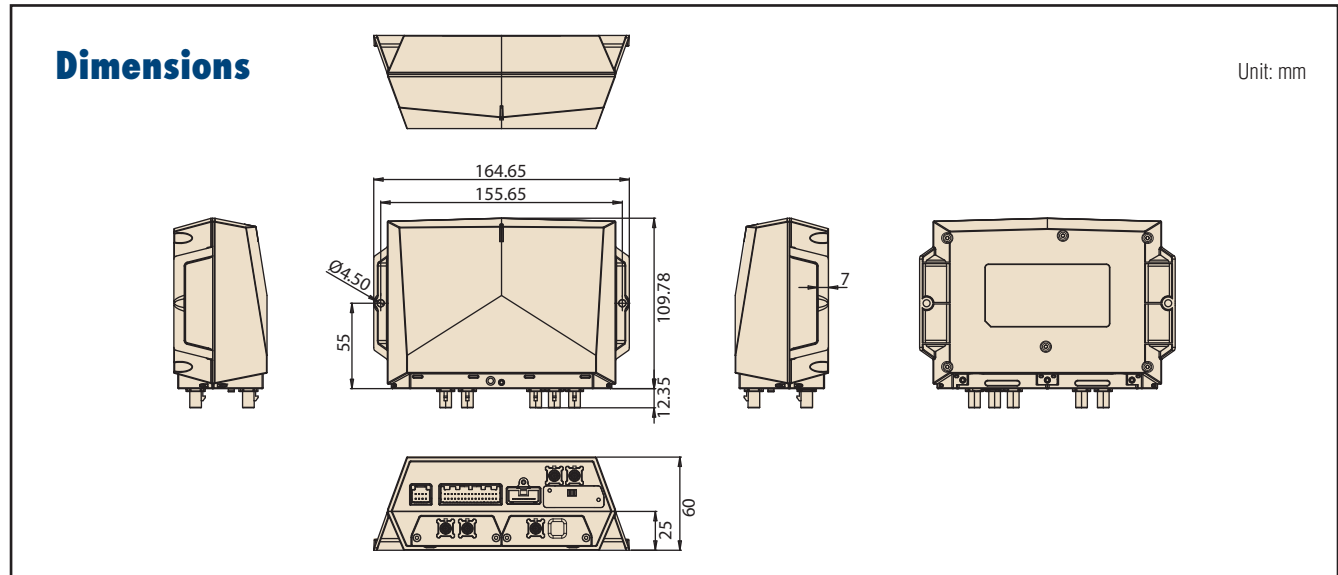
TREK-530 is a compact RISC-based in-vehicle computing box equipped with a Qualcomm® Snapdragon™ 212 quad-core ARM® Cortex™-A7 SoC, isolated DI/O, and two extension slots for optional expansion. Built-in WLAN, Bluetooth, and GNSS modules offer enhanced connectivity, while periodic, digital input, and WWAN suspend/resume functionality supports remote monitoring, making TREK-530 ideal for logistics and fleet management. Moreover, the system's wide operating temperature range (-20 ~ 65 °C), support for 12/24V vehicle power, and compliance with MIL-STD-810G and 5M3 shock/vibration standards ensures TREK-530 can withstand operation in harsh environments.

Specifications

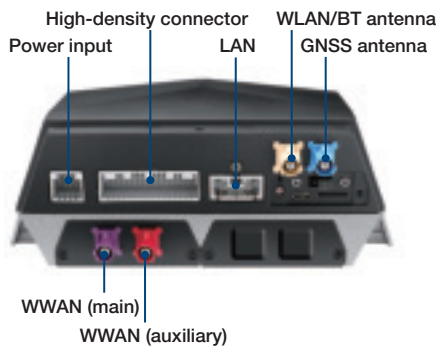
Core	Processor	Qualcomm® Snapdragon™ 212 APQ8009 quad-core ARM® Cortex™-A7 (1.3 GHz) SoC
	Memory	2 GB
	Operating System	Android 6.0 Marshmallow
Storage	eMCP	16 GB
	SD Card	1 x Externally accessible MicroSD (push-push type) with cover
Sensor	G-Sensor	Triple-axis accelerometer (±2g/4g/8g)
I/O	Standard I/O	1 x Micro USB OTG (Mini USB) with cover (for debugging) 1 x MicroSD slot with cover
	Generic I/O (High-Density Connector)	1 x Mic-In, 1 x Line-Out 4 x Isolated DI (dry/wet contact) 2 x Isolated DO (open-collector output with relay driver) 1 x CAN bus (supports raw CAN, J1939, OBD-II/ISO 15765; firmware configurable) 1 x J1708 (J1587) 1 x USB 2.0 Host 1 x 4-wire RS-232 1 x 4-wire RS-232/RS-485 (software configurable)
	LAN	1 x LAN 10/100
	LED Indicators	1 x Power
	Buttons	1 x Reset button with cover
	Wireless Communication	WLAN/Bluetooth
GNSS	Sensitivity	GPS, GLONASS, and AGPS (BeiDou upon request) support (with external antenna via FAKRA connector)
System Power	Input Voltage	Supports 12/24V vehicle power (9 ~ 32V DC input)
	Intelligent Vehicle Power Management	Power on/off management (e.g., programmable ignition on/off delay) RTC wake-up events Power system protection System monitoring and diagnostics (e.g., programmable vehicle battery protection with low voltage disconnect)
Extension Module	WWAN	Sierra Wireless MC7304 via extension module (EU) <ul style="list-style-type: none"> ▪ LTE: B1, B3, B7, B8, B20 Sierra Wireless MC7354 via extension module (US) <ul style="list-style-type: none"> ▪ LTE: B2, B4, B5, B13, B17, B25 (external antenna via FAKRA connector)
	Backup Battery Pack	3.6V, 2100mAh. Supports up to 30 minutes operation under full load/2 hrs operation with low power consumption. Charging time approximately 3 hrs.
Mechanical	Mount Options	2 x M4 screw holes
	Dimensions (W x D x H)	164.65 x 109.78 x 60 mm (6.48 x 4.32 x 2.36 in)
	Weight	410g (0.903 lb)

Specifications Cont.

Environment	Operating Temperature	-20 ~ 65 °C (-4 ~ 149 °F), without backup battery
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	IP Rating	IP54 for I/O cover
	Vibration/Shock	MIL-STD-810G, EN60721-3 (5M3)
	Vehicle Regulations	E-mark (E13) (12/24 V system), ISO 7637-2, SAE J1455
	Safety	UL/cUL, CB
Certifications		CE, FCC, CCC, PTCRB, verizon



Modularized I/O



Ordering Information

Part Number	Configuration							
	CPU	Memory	Storage	Wi-Fi	BT	GNSS	4G	OS
TREK-530-GWBADA20	Qualcomm APQ8009	2 GB	16 GB	Yes	Yes	Yes	-	Android 6.0
TREK-530-LWBADA20	Qualcomm APQ8009	2 GB	16 GB	Yes	Yes	Yes	LTE-EU	Android 6.0
TREK-530-LWBADB20	Qualcomm APQ8009	2 GB	16 GB	Yes	Yes	Yes	LTE-US	Android 6.0

Packing List

- 1 x vehicle power cable
- 1 x LAN adaptor cable

Optional Accessories

Part Number	Description
1700027666-01	Power cable for testing
1700027992-01	High-density cable
1750008764-01	WWAN antenna
1750008765-01	WWAN+GPS antenna
1750008763-01	Wi-Fi+BT antenna
TREK-530-BAT000	Backup battery, 3.6V/2100mAh/1S1P
TREK-530-IPC000	IP54-rated I/O cover