



TVG 680

EQUIPMENT TRACKING AND MONITORING UNIT

The Trimble Vehicle Gateway 680 (TVG 680) equipment device combines GPS and diagnostics with wireless technology providing real-time location, utilization, and diagnostics information to help monitor equipment fleets. The built-in Electronic Control Unit (ECU) interface reads and transmits condition and performance data from the engine and other components to provide the best possible real-time picture of equipment utilization and health. The ruggedized enclosure is built to withstand harsh environments, making it ideal for off-road equipment applications.

All configuration parameters and post-installation upgrades can be activated over-the-air, avoiding equipment downtime.

SOLUTIONS THAT USE THIS HARDWARE:

- ▶ Trimble PULSE®

Key Features

- ▶ LTE configurations
- ▶ Equipment ECU interface (J1939)
- ▶ IP67 sealed and rugged enclosure
- ▶ Built-in 3-axis accelerometer for motion sensing and tilt detection
- ▶ Built-in cellular and GPS antenna for easy installation
- ▶ 1000mAh backup battery
- ▶ Serial ports with switched power
- ▶ Over-the-air configuration and firmware upload
- ▶ Low power sleep modes



GENERAL

Communication Mode	LTE
Messages	20,000 buffered messages
Location Technology	55 channel GPS (with SBAS)
Configuration	Automatic over-the-air firmware and configuration updates

GPS

Location Technology	GPS, GLONASS
Enhancement Technology	SBAS: WAAS, EGNOS, MSAS
Tracking Sensitivity	-167 dBm
Acquisition Sensitivity	-156 dBm (hot start)
Location Accuracy	2.0m CEP
AGPS capable	

CELLULAR

Data support	LTE / UMTS / HSPA
North America AT&T Variant:	
4G LTE	Bands 2, 4, 5 and 12
3G UMTS / HSPA	850, 1900 MHz

COMPREHENSIVE I/O

Ignition Input	1 fixed bias
Digital Inputs	4 (high/low selectable 0-30 VDC)
Digital Outputs	3 (open collector relay, 150mA)
A/D Inputs	1 (0-30VDC, +/- 0.1V accuracy)
1-Wire® Interface	1 (operator ID, temperature sense)
Power Output	1 switched VIN, 2 (reference voltage 3.3V)
Status LEDs	GPS, cellular, VBUS, LAN
Note:	additional cables and connectors required for each interface

ELECTRICAL

Operating Voltage	9-30 VDC (startup, operating), 7-32 VDC (momentary)
Power Consumption	500uA @ 12V (deep sleep), 15 mA @ 12V (idle)
Back Up Battery	100mA @ 12V (active tracking with VBUS active) Lithium-Ion 1000 mAh

ENVIRONMENT

Temperature	-30 ° to +60 °C (connected to primary power)
	-10 ° to +60 °C (operating on internal battery)
	-20 ° to +25 °C (storage with battery)
Humidity	95% R.H. @ 50 °C non-condensing
Shock and Vibration	U.S. Military Standard 202G, SAE J1455
ESD	SAE J1113-13 (4 kV Limit)

INTERFACE STANDARDS / CONNECTORS

ECU Data	J1939, J1708
Main Connector	34-Pin 2.5 mm Pitch Sealed
Serial Interface	2 UARTs
Internal	SIM access

PHYSICAL

Dimensions	.71" x 3.4" x 2.2" (179 x 86 x 56 mm)
Weight	12 oz. (340g)

CERTIFICATIONS

Fully Certified	FCC, IC
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MOUNTING

- ▶ Mounting feet with 6 #10 clearance holes.

OPTIONAL FEATURES/FUNCTIONS

- ▶ RS-232 serial adapter cable
- ▶ I/O wiring harness

About us

Trimble Field Service Management provides visibility into field and fleet operations so business can streamline efficiency and increase productivity. From the field to the office, there's life in your work. Trimble PULSE connects, monitors, and analyzes the moving parts of your business to make your work smarter, faster, easier, and more profitable. A wide range of device options are available to connect your fleet.

Learn more

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PN 022560-009 (09/19)

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