



KEY FEATURES

Purpose-built system with internal GSM/GPRS for Trimble VRS roving

Industry-leading GPS receiver technology plus Trimble R-Track

Extended coverage and high accuracy from a Trimble VRS or other GPS infrastructure network

Wireless technologies for increased efficiency, productivity, and convenience



THE ULTIMATE VRS ROVER WITH INTERNAL GSM/GPRS

The Trimble® VRS™ Rover is a lightweight, cablefree rover with built-in GSM/GPRS, making it an ideal rover for use in GPS infrastructure, including Trimble VRS networks.

AN ADVANCED, HIGH-QUALITY GPS RECEIVER

The Trimble R8 VRS Rover is designed to deliver high-quality tracking and performance. Using less than 2.5 W of power, advanced Trimble R-Track technology ensures optimal tracking even in hostile GPS environments. And with the introduction of new L2C signals, which are part of GPS modernization, Trimble R8 will use these signals to provide even more robust tracking. The patented four-point antenna feed of the system's built-in dual-frequency receiver provides submillimeter phase-center stability for maximum precision.

The system includes built-in WAAS and EGNOS capability, providing real-time differential positioning without a base station.

A ROVER DEDICATED TO GPS INFRASTRUCTURE NETWORKS

The Trimble R8 VRS Rover offers unsurpassed performance in a Trimble VRS network. The Trimble R8 VRS Rover combines a 24-channel, dual-frequency GPS receiver; GPS antenna; and GSM/GPRS data link in one compact receiver unit. This advanced integration creates a streamlined VRS rover comprising just three parts: the receiver unit, a pole, and a Trimble controller running the field software of your choice.

The integrated GSM/GPRS data link provides a dedicated data link for receiving GPS corrections. This option makes an external mobile phone unnecessary, and because the GSM/GPRS module is integrated into the rugged receiver housing, it creates a more robust data link solution.

BUILT FOR THE FIELD

A Trimble R8 VRS rover will work as long and as hard as you do. Extremely low power consumption lets you run the Trimble R8 rover for longer without changing batteries. A large internal memory of 6 MB lets you conveniently log static or kinematic data for postprocessing.

On the rover pole, Trimble R8 with a Trimble ACU or TSCe™ controller weighs approximately 3.6 kg (7.9 lb), so experience less fatigue on the job due to the rover's ergonomic design and light weight. Bluetooth® wireless communication between the receiver and controller makes the rover 100% cable free for your convenience.

Environmentally rated to IPX7, Trimble R8 is rugged enough for any job. It will withstand a pole drop of up to 2 m (6 ft) onto a hard surface, and is even submersible to 1 m (3 ft).

TRIMBLE R8 VRS ROVER

PERFORMANCE SPECIFICATIONS

Measurements

- Trimble R-Track technology for tracking L2 Civil Signal (L2C)
- Advanced Trimble Maxwell™ Custom Survey GPS Chip
- High precision multiple correlator for L1 and L2 pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise L1 and L2 carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- L1 and L2 Signal-to-Noise ratios reported in dB-Hz
- Proven Trimble low elevation tracking technology
- 24 Channels L1 C/A Code, L2C¹, L1/L2 Full Cycle Carrier, WAAS/EGNOS support

Code Differential GPS Positioning²

Horizontal..... ±0.25 m + 1 ppm RMS
Vertical ±0.50 m + 1 ppm RMS
WAAS differential positioning accuracy³ Typically <5 m 3DRMS

Static and FastStatic GPS Surveying²

Horizontal..... ±5 mm + 0.5 ppm RMS
Vertical ±5 mm + 1 ppm RMS

Kinematic Surveying²

Horizontal..... ±10 mm + 1 ppm RMS
Vertical ±20 mm + 1 ppm RMS
Initialization time..... Single/Multi-base minimum 10 sec + 0.5 times
baseline length in km, up to 30 km
Initialization reliability⁴..... Typically >99.9%

HARDWARE

Physical

Dimensions (W×H) . 19 cm (7.5 in) × 10 cm (3.9 in), including connectors
Weight 1.31 kg (2.89 lb) with internal battery, internal radio,
standard GSM/GPRS antenna. 3.67 kg (8.09 lb)
entire RTK rover including batteries, range pole,
Trimble CU controller and bracket.

Temperature⁵

Operating -40 °C to +65 °C (-40 °F to +149 °F)
Storage -40 °C to +75 °C (-40 °F to +167 °F)

Humidity 100%, condensing

Waterproof..... IPX7 for submersion to depth of 1 m (3.28 ft)

Shock and vibration..... Tested and meets the following
environmental standards:

Shock Non-operating: Designed to survive a 2 m (6.6 ft) pole
drop onto concrete. Operating: to 40 G, 10 msec, sawtooth

Vibration MIL-STD-810F, FIG.514.5C-1

Electrical

- Power 11 to 28 V DC external power input with over-voltage protection on Port 1 (7-pin Lemo).
- Rechargeable, removable 7.4 V, 2.0 Ah Lithium-Ion battery in internal battery compartment. Power consumption is <2.5 W, in RTK mode with internal radio. Operating times on internal battery: 3.8 hours, varies with temperature.
- Certification Class B Part 15, 22, 24, 90 FCC certification, 850/1900 MHz and 900/1800 MHz. Class 10 GSM/GPRS module. CE Mark approval, and C-tick approval.

Communications and Data Storage

- 3-wire serial (7-pin LEMO) on Port 1. Full RS-232 serial on Port 2 (Dsub 9 pin).
- Fully Integrated, fully sealed internal GSM/GPRS.
- Fully integrated, fully sealed 2.4 GHz communications port (Bluetooth)⁶.
- Data storage on 6 MB internal memory: 55 hours of raw observables based on recording data from 6 satellites at 15 second intervals
- Data storage on controller with 128 MB memory: Over 3400 hours of raw observables based on recording data from 6 satellites at 15 second intervals.
- 1 Hz, 2 Hz, 5 Hz, and 10 Hz positioning.
- CMRII, CMR+, RTCM 2.1, RTCM 2.2, RTCM 2.3, RTCM 3.0 Input and Output, and SAPOS FKP.
- 14 NMEA outputs. GSOFF and RT17 outputs. Supports BINEX and smoothed carrier.

1 The availability of L2C code is dependent on the US Government.

2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended survey practices.

3 Depends on WAAS/EGNOS system performance.

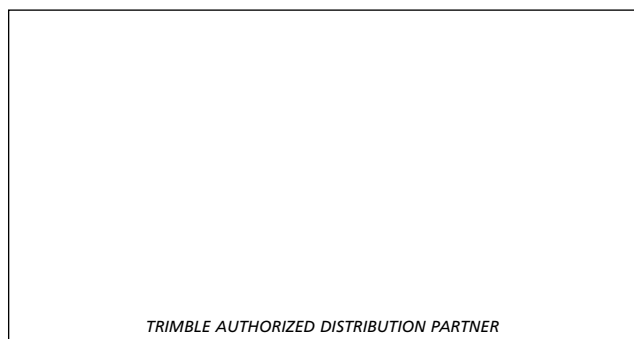
4 May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.

5 Receiver will operate normally to -40 °C. Bluetooth module and internal batteries are rated to -20 °C.

6 Bluetooth type approvals are country specific. Contact your local Trimble Office or representative for more information.

Specifications subject to change without notice.

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