

Specifications

MS955 GNSS Smart Antenna



Key Features & Benefits

- An advanced RTK engine for faster initialization times and enhanced performance near obstructions
- Simultaneously tracks GPS, GLONASS, Galileo and BeiDou
- Supports SBAS systems (WAAS, EGNOS, GAGAN, MSAS, QZSS)
- Rugged integrated receiver supports mounting on cab or blade or machine
- 3 LED indicators that provide instant operational feedback
- 100% sealed housing
- Support for Trimble xFill
- Single, rugged cab mountable unit - receiver and isolation system
- Single cable connector (low cycle count connector)

Performance Characteristics

Tracking and performance

- Tracks up to 44 Satellites with 220 Tracking Channels
- GPS L1C/A, L2C, L2E (Trimble Method for tracking L2P), and L5 Code with Full Cycle Carrier
 - SBAS L1C/A and L5 (for WAAS, EGNOS, MSAS and QZSS)
 - Fully operational during P-code encryption
 - Upgradeable to GLONASS L1C/A, L2C/A, and L2P Code with Full Cycle Carrier
 - Upgradeable to Galileo L1 CBOC, E5A, E5B & E5AltBOC8
 - Upgradeable to BeiDou B1, B2
 - Upgradeable to xFill

Frequencies

GPS/QZSS/SBAS L1, BDS B1 1551-1585 MHz
GLN G1 1590-1605 MHz
GPS/QZSS L2, GLN G2 1217-1257 MHz
GPS/QZSS/SBAS L5, GAL E5, BDS B2 1164-1214 MHz
MSS 1525-1559 MHz

Measurements

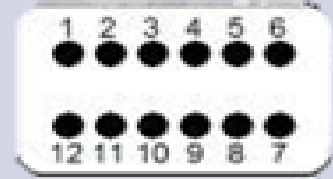
- Advanced Trimble® Maxwell™ 6 Custom GPS chip Trimble R-Track™ technology for tracking the new L2C Civil Signal, L5 Signal for GPS modernization and GLONASS
- High-precision multiple correlator for L1, L2 and L5 pseudorange measurements
- Unfiltered, unsmoothed pseudo-range measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise L1, L2 and L5 carrier phase measurements with <1mm precision in a 1 Hz bandwidth
- L1, L2 and L5 Signal-to-Noise ratios reported in dB-Hz
- Proven Trimble low elevation tracking technology

Code differential Positioning ¹ Horizontal accuracy Vertical accuracy	0.25 m + 1 ppm RMS (0.8 ft + 1 ppm RMS) 0.50 m + 1 ppm RMS (1.6 ft + 1 ppm RMS)
Real Time Kinematic (RTK) positioning ¹ Horizontal accuracy Vertical accuracy Initialization time Initialization Reliability	8 mm + 0.5 ppm RMS (0.032 ft +0.5 ppm) 15 mm + 0.5 ppm RMS (0.05 ft +0.5 ppm) Typically ² < 10 seconds + 0.5 times baseline length in km, up to 30 km (Regular RTK operation with base station) Typically ³ > 99.9%
xFill (RTK) positioning ¹ Horizontal accuracy Vertical accuracy	RTK ⁴ + 10 mm/minute RMS (0.033 ft/minute RMS) RTK ⁴ + 20 mm/minute RMS (0.066 ft/minute RMS)
L1 Antenna Reference Point From bottom of mounting pads From top of lower housing	See external antenna label/documentations
Physical Characteristics Size (height x width x depth) Weight Mounting Network Connector Indicators (3 yellow LEDs) Upper Middle Lower	5.7 cm (2.2") Height × 13.5 cm (5.3") Width × 20.7 cm (8.1") Depth including connectors 1.3 kg (2.9 lb) receiver only including radio and battery 7 mm holes, 86 x 187 mm rectangular pattern, mounted with 6 mm fasteners 12 pin, A-key Deutsch, sealed DC Power GPS correction signal status (via radio link, cable or MSS-Band) GPS signal status (no signal, searching, or tracking)
Environmental Characteristics Operating Temperature Storage Temperature Humidity Sealing Shock - Survival Shock - Operating Vibration EMC	-40°C to +70°C (-40°F to +158°F) -50°C to +85°C (-67°F to +185°F) SAE J1445 (Mar 2017) Section 4.2 - 8 hour humidity cycle IP67, sealed to +/- 5 PSI 75 Gs, 6 milliseconds duration 40 Gs, 10 milliseconds duration 9.8 gRMS (Cab mount qualified) CE compliant including ISO13766:2006, 2014/45/EU (RED), EN 60950, E-Mark and RoHS. FCC, IC, and RCM compliant.
Technical Specifications Electrical Input Voltage Electrical Input Power Control Interface Reverse Voltage Protection Load Dump Protection	9 to 32 VDC 18W maximum 5W nominal J1939 CAN network (two buses) RS-232 Serial (two ports) Yes Yes

Connector

12 Pin Connector

- 1 - PWR +
- 2 - PWR -
- 3 - RS232-1 TXD
- 4 - CAN1 HI
- 5 - RS232-2 TXD
- 6 - CAN2 HI
- 7 - CAN2 LO
- 8 - RS232-2 RXD
- 9 - CAN1 LO
- 10 - RS232-1 RXD
- 11 - ID
- 12 - Boot Monitor



Specifications subject to change without notice.

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- 1. Accuracy and reliability may be subject to anomalies such as multi-path, obstructions, interference, satellite geometry and atmospheric
- 2. May be affected by atmospheric conditions, signal multipath, obstructions and satellite geometry.
- 3. May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.
- 4. RTK refers to the last reported precision before the correction source is lost and xFill started.

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