SUB-METER ACCURACY AT AN AFFORDABLE PRICE

The Trimble SPS356 DGNSS/Beacon Receiver is an economical answer to the many demands of marine construction. It incorporates tried and tested DGNSS positioning technology in a robust package with an easy to use interface. Combined with Trimble HYDROpro™ software, it provides flexibility for a wide range of marine construction applications, including:

- Dredging
- Positioning (tugs / anchors)
- Navigation
- Rock and material placement
- Bathymetric survey

Trimble Tough, Trimble Secure

The robust construction and modularity of the SPS356 system delivers installation flexibility as required on marine vessel installations. The receiver can be mounted in a secure environment protected from the weather and theft, leaving only the antenna outside. Trimble EVEREST™ technology improves results in high multi-path environments such as those encountered on construction vessels and port construction sites.

Accuracy at All Times and All Places

The Trimble SPS356 receiver can achieve DGNSS positioning with sub-meter precision using RTCM DGNSS corrections either broadcast free by IALA MSK Beacon stations, via the Internet from an NTRIP source, from SBAS (satellite based augmentation systems) such as WAAS, EGNOS and MSAS or via an external radio from a local reference station. The RTCM correction stream from an MSK source can be passed to other DGNSS receivers using the Repeat RTCM function.

Easier from Start to Finish

Serial, Ethernet, Wi-Fi and Bluetooth capability combined with standard NMEA output protocols mean that it can easily be integrated into solutions, is easier to manage remotely, and allows easy access to the data and functions of the receiver.

A Family of Site Positioning Systems to Fit Job Requirements

The SPS356 receiver is part of the family of Trimble site positioning system products with common interface, connectors and interchangeable accessories. This system approach helps reduce product training and part stocking. For large companies managing multiple sites around the world it increases operational flexibility and reduces the need for knowledge of different systems for different applications through deployment of a common user interface.
### FACTORY CONFIGURATION

- **Type**: Modular Rover
- **Rover type**: 1 Hz, 2 Hz, 5 Hz, 10 Hz
- **Rover maximum range from base**: Unlimited
- **Rover operation within a VRS™ network**: RTCM DGNSS only
- **BSS (Internet Base Station Service) Support**: Rover only
- **Constellation tracking**: GPS, GLONASS, Galileo, Beidou, QZSS, SBAS
- **Signal tracking**: Single frequency

### GENERAL

- **Keyboard and display**: VFD display 16 characters by 2 rows, On/Off key for one-button start-up, Escape and Enter keys for menu navigation
- **Dimensions (W x H x D)**: 17.5 cm (6.9 in) x 12.8 cm (5.0 in) x 5.9 cm (2.3 in) including connectors
- **Weight**: 1.15 kg (2.54 lb) receiver only

### ANTENNA OPTIONS

- **GA530**: Rugged G530
  - L1 GNSS (GPS, Glonass, Galileo, Beidou, QZSS), MSK Beacon, L1 SBAS
- **GA810**: L1 GNSS (GPS, Glonass, Galileo, Beidou, QZSS), L1 SBAS
- **GA830**: L1 GNSS (GPS, Glonass, Galileo, Beidou, QZSS), MSK Beacon, L1 SBAS

### ENVIRONMENTAL

- **Operating temperature**: -40 °C to +65 °C (-40 °F to +149 °F)
- **Storage temperature**: -40 °C to +80 °C (-40 °F to +176 °F)
- **Humidity**: MIL-STD 810E Method 507.4
- **Waterproof**: IP67 for submersion to depth of 1 m (3.3 ft), dustproof

### SHOCK AND VIBRATION

- **Pole drop**: Designed to survive a 1 m (3.3 ft) pole drop onto a hard surface
- **Shock – Operating**: To 75 g, 6 ms, saw-tooth
- **Vibration**: Tested to Trimble Survey profile (2.6 g RMS): 5 Hz–500 Hz: 0.15 g/Hz², 350 Hz to 500 Hz; –6 dB/octave

### MEASUREMENTS

- **Advanced Trimble Maxwell™ 6 Custom GNSS chip**
- **L1 signal-to-noise ratios reported in dbi-s**
- **Unfiltered, unsmoothed pseudo-range measurements data for low noise, low multipath error, low-time domain correlation, and high-dynamic response**
- **Trimble EVEREST™ multipath signal rejection**
- **20-channel L1 C/A code**
- **2-channel MSK Beacon**
- **3-channel SBAS (WAAS/EGNOS/MSAS)**

### SBS (WAAS/EGNOS/MSAS) POSITIONING

- **Horizontal accuracy**: ±(0.50m + 1 ppm) RMS ±(1.6 ft + 1 ppm)
- **Vertical accuracy**: ±(0.85m) (1 ft)

### CODE DIFFERENTIAL POSITIONING

- **Correction type**: DGPS RTCM v2.3, DGNSS RTCM v2.4
- **Correction source**: Internal MSK Beacon, DGPS Base via ext. radio, NTRIP via iBBSS or VRS

### POWER

- **Internal 7.4 V 3900 mAh Lithium-ion battery (Optional)**
  - **Internal battery operates as a UPS in the event of external power source failure**
  - **Internal battery will charge from external power source when input voltage is >12 V**
- **External 12 V DC to 26 V DC power input with over-voltage protection**
- **7-pin (x-shell) Lemo connector is optimized for lead acid batteries with a cut-off threshold of 11 V DC**
- **26-pin D-sub connector is optimized for Trimble lithium-ion battery input (PN 49400) with a cut-off threshold of 10.5 V**
- **Receiver will automatically turn on when connected to external power**
- **Power consumption**: 3.7 to 4.95 W at 18 V

### OPERATION TIME ON INTERNAL BATTERY

- **Rover**: 7 hours, varies with temperature

### REGULATORY APPROVALS

- **FCC Part 15 Subpart B (Class B Device) and Subpart C**
- **CAN ICES-3(B)/NMB-3(B), RSS-Gen, RSS-310 and RSS-210**
- **R&TTE Directive: EN 301 489-1/-3/-5/-17, EN 300 440, EN 300 328, EN 300 330, EN 60950, EN 50371**
- **ACMA Regulatory Compliance Mark (RCM)**
- **CE mark compliance**
- **UN ST/SG/AC.10.11Rev.3, Amend. 1 (Lithium-ion Battery)**
- **UN ST/SG/AC.10.2/TAcc.2 (Lithium-ion Battery)**
- **WEEE and RoHS compliant**

### COMMUNICATIONS

- **Lemo (Serial)**
  - 7-pin OS Lemo, Serial 1, 3-wire RS-232
- **Modern 1 (Serial)**
  - 26-pin D-sub, Serial 2, 5-wire RS232, using adaptor cable
- **Modern 2 (Serial)**
  - 26-pin D-sub, Serial 3, 3 wire RS-232, using adaptor cable
- **1PPS (1 pulse-per-second)**
  - 3-wire RS-232
- **USB**
  - 1 USB 2.0 (Type B) Device via multi-port adapter (5167)
  - Ethernet
- **Select modems**: Through a multi-port adapter
- **WiFi**: Through a multi-port adapter
- **Bluetooth wireless technology**: Fully-integrated, fully-sealed 2.4 GHz
- **Network Protocols**: HTTP (web browser GUI), NTP Server, TCP/IP or UDP, NTP, Dynamic DNS, eMail alerts, NTP, DNS, mDNS, mDNS-VPN Device discovery, Network link to Google Earth, PPP and PPPoE, Dynamic DNS, mDNS, mDNS-VPN Device discovery, Network link to Google Earth, PPP and PPPoE
- **Supported data formats**: CMR™, CMR+, CMR+, RTCM 2.x, RTCM 3
- **Network Outputs**: Repeat RTCM from internal Beacon source
- **Data Outputs**: National, G300, MSK Beacon, External GSM/GPRS, cell phone support, Internet-based correction streams (VRS, IBSS) – directly using the external GNSS
- **Frequency range**: 283.5–325.0 kHz
- **Channel spacing**: 500 Hz
- **MSK bit rate**: 50, 100, and 200 bps
- **Demodulation minimum shift key**: (MSK)

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**TRIMBLE SPS356 DGNSS/BEACON RECEIVER**

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**YOUR SITECH® HEAVY CIVIL CONSTRUCTION TECHNOLOGY PROVIDER**

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