DATASHEET

TRIMBLE SPS356 DGNSS/BEACON RECEIVER

INTEGRATED IALA BEACON
CAPABILITY ALLOWS THE USE OF
FREE MSK BEACON CORRECTION
TRANSMISSIONS WITHOUT
EXTRA RECEIVER OR ANTENNA



INTEGRATED BLUETOOTH®
AND WI-FI WIRELESS
TECHNOLOGY FOR
CABLE-FREE SYSTEM
INTEGRATION

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.



TRIMBLE SPS356 DGNSS/BEACON RECEIVER

Modular Rover
1 Hz, 2 Hz, 5 Hz, 10 Hz
Unlimited
RTCM DGNSS only
GPS, GLONASS, Galileo, Beidou, QZSS, SBAS
Single frequency
VFD display 16 characters by 2 rows
On/Off key for one-button startup
Escape and Enter keys for menu navigation
n, left, right) for option scrolls and data entry
5.0 in) × 5.9 cm (2.3 in) including connectors
1.15 kg (2.54 lb) receiver only
alileo, 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	
Waterproof	rsion to depth of 1 m (3.3 ft), dustproof

......L1 GNSS (GPS, Glonass, Galileo, BeiDou, QZSS), L1 SBASL1 GNSS (GPS, Glonass, Galileo, BeiDou, QZSS), MSK Beacon, L1 SBAS

. . L1 GNSS (GPS, Glonass, Galileo, BeiDou, QZSS), L1 SBAS

SHOCK AND VIBRATION

Pole drop	. Designed to survive a 1 m (3.3 ft) pole drop onto a hard surface
Shock – Non-operating	To 75 g, 6 ms, saw-tooth
Shock – Operating	
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 dB-Hz
- Unfiltered, unsmoothed pseudo-range measurements data for low noise, low multipath error, low-time domain correlation, and high-dynamic response
 ■ Trimble EVERESTTM multipath signal rejection
- multipath signal rejection
- 220-channel L1 C/A code
- 2-channel MSK Beacon
- 3-channel SBAS (WAAS/EGNOS/MSAS)

SBAS (WAAS/EGNOS/MSAS) POSITIONING

Horizontal accuracy	.± 0.50m (1.6ft)
Vertical accuracy	± 0.85m (2.8 ft)

CODE DIFFERENTIAL POSITIONING

Correction type	DGPS RTCM v2.3, DGNSS RTCM v2.4
Correction source Internal M	ISK Beacon, DGPS Base via ext. radio, NTRIP via IBSS or VRS
Horizontal accuracy	±(0.30m + 1 ppm) RMS ±(1.0 ft + 1 ppm)
Vertical accuracy	±(0.50m + 1 ppm) RMS ±(1.6 ft + 1 ppm)

Internal 7.4 V 3900 mA-hr 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 28 V DC power input with over-voltage protection

 7-pin 0-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 (P/N 49400) with a cut-off threshold of 10.5 V
- Receiver will automatically turn on when connected to external power

OPERATION TIME ON INTERNAL BATTERY

REGULATORY APPROVALS

- FCC Part 15 Subpart B (Class B Device) and Subpart C
- CAN ICES-3(B)/NIMB-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,
- ACMA Regulatory Compliance Mark (RCM)
- CE mark compliance
 UN ST/SG/AC.10.11/Rev. 3, Amend. 1 (Lithium-ion Battery)
- UN ST/SG/AC. 10/27/Add. 2 (Lithium-ion Battery)
- · WEEE and RoHS compliant

COMMUNICATIONS

COMMUNICATIONS	
Modem 1 (Serial)	. 26-pin D-sub, Serial 2, 5-wire RS232, using adaptor cable
Modem 2 (Serial)	. 26-pin D-sub, Serial 3, 3 wire RS-232, using adaptor cable
1PPS (1 pulse-per-second)	Yes
	1 USB 2.0 (Type B) Device via multi-port adaptor (57167)
	Simultaneous Client and Access point (AP) modes
	Fully-integrated, fully-sealed 2.4 GHz
	Yes
	Yes
	Yes
	Yes
	NTRIP v1 and v2, Client mode
	Yes
Dynamic DNS	Yes
	Yes
Network link to Google Earth	Yes
PPP and PPPoE	Yes
Supported data formats	
	CMR TM , CMR+ TM , CMRx, RTCM 2.x, RTCM 3
	Repeat RTCM from internal Beacon source
	Supported for Internet-based correction streams (VRS,
External dalvivarità, celi priorie support	IBSS) – directly using the external SNM940
Internal MCK Reacon receiver	
internal Max beacon receiver	Channel spacing 500 Hz
	MSK bit rate 50, 100, and 200 bps
	Demodulation minimum shift key (MSK).





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