

KEY FEATURES

- A flexible, modular, DGPS/Beacon receiver that delivers sub-meter horizontal positioning accuracy for marine and OEM applications
- Integrated IALA Beacon capability allows the use of free MSK Beacon correction transmissions without extra receiver or antenna
- Use DGPS RTCM corrections via radio or cellular connection to extend the DGPS range when Beacon coverage is not available
- Ethernet and browser interface provides remote access over the internet or by cable for data monitoring and configuration
- Integrated Bluetooth® wireless technology for cable-free configuration and operation with a computer or cell phone

SUB-METER ACCURACY AT AN AFFORDABLE PRICE

The Trimble® SPS351 DGPS/Beacon Receiver is an economical answer to the many demands of marine construction. It incorporates tried and tested DGPS 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 SPS351 system delivers installation flexibility via external GPS antenna options, as required on marine vessel installations. The receiver can then 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

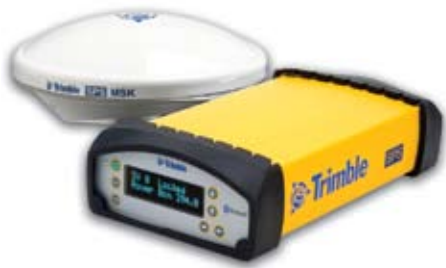
The Trimble SPS351 receiver can achieve DGPS positioning with sub-meter precision using RTCM DGPS corrections either broadcast free by IALA MSK Beacon stations, via the Internet from an NTRIP source, from SBAS (satellite based augmentation systems) such as WAAS, EGNOS and MSAS or via an external radio from a local reference station.

EASIER FROM START TO FINISH

Serial, Ethernet 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 SPS351 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 SPS351 DGPS/BEACON RECEIVER

RECEIVER NAME SPS351 DGPS/Beacon receiver
Type Modular
Base and Rover interchangeability Yes
Base operation SPS351 with DGPS RS option
Rover operation SPS351
Rover position update rate 1 Hz, 2 Hz, 5 Hz, 10 Hz
Rover maximum range from base Unlimited
Rover operation within a VRS™ network Yes RTCM DGPS only

GENERAL

Keyboard and display VFD display 16 characters by 2 rows
. On/Off key for one button start up
. Escape and Enter key for menu navigation
. 4 arrow keys (up, down, left, right)
. for option scrolls and data entry
Dimensions (L x W x D) 24 cm (9.4 in) x 12 cm (4.7 in) x 5 cm (1.9 in)
. including connectors
Weight 1.31 kg (2.9 lbs) receiver only

ANTENNA OPTIONS

L1, GPS, SBAS GA510
L1, GPS, MSK Beacon, SBAS GA530 (included in SPS351 kit)
Legacy Trimble antennas L1/Beacon, DSM 232
. antenna not supported

TEMPERATURE

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

SHOCK AND VIBRATION

Drop Designed to survive a 1 m (3.3 ft)
. drop onto a hard surface
Shock: non-operating To 75 g, 6 ms, saw-tooth
Shock: operating To 40 g, 10 ms, saw-tooth
Vibration Tested to Trimble Survey profile
. (2.6 gRMS): 5 Hz–350 Hz: 0.15 g2/Hz;
. 350 Hz–500 Hz; –6 dB/octave

MEASUREMENTS

. Advanced Trimble Maxwell™ 5 Custom GPS chip
. L1 signal-to-noise ratios reported in dB-Hz
. Proven Trimble low elevation tracking technology
. 12-channel L1 C/A code
. EVEREST™ multipath signal rejection
. 2-channel MSK Beacon
. 2-channel SBAS (WAAS/EGNOS/MSAS)

CODE DIFFERENTIAL GPS POSITIONING¹

Correction type DGPS RTCM v2.x
Correction source Internal MSK Beacon,
. DGPS Base via external radio or internet
Horizontal accuracy ±(0.25m + 1 ppm) RMS ±(0.8 ft + 1 ppm)
Vertical accuracy ±(0.50m + 1 ppm) RMS ±(1.6 ft + 1 ppm)

SBAS (WAAS/EGNOS/MSAS) POSITIONING²

Horizontal accuracy Typically <1 m (3.3 ft)
Vertical accuracy Typically <5 m (16.4 ft)

POWER

External Power input on 7-pin 0-shell Lemo
connector is optimized for lead acid
batteries with a cut-off threshold of 10.5 V

Power input on the 26-pin D-sub connector is
optimized for Trimble Lithium ion battery input
(P/N 49400) with a cut-off threshold of 9.5 V

10.5 V to 28 V DC external power input
with over-voltage protection

Receiver will automatically turn on when
connected to external power

Power consumption 4.5 W at 18 V in rover mode

REGULATORY APPROVALS

FCC: Part 15 Subpart B
(Class B Device) and Subpart C

Industry Canada: ICES-003 (Class B Device),
RSS-210, RSS-Gen, RSS-310

R&TTE Directive: EN 301 489-3/-17
EN 300 440, EN 300 328, EN 60950, EN 300 330,

ACMA: AS/NZS 4771 approval
CE mark compliance
C-tick mark compliance
Japanese MIC type certification
RoHS compliant
WEEE compliant

COMMUNICATIONS

Lemo (Serial) 7-pin OS Lemo, Serial 1, 3 wire RS-232
Modem 1 (Serial) 26 pin D-sub, Serial 2, Full 9 wire
. RS232, via adapter cable
Modem 2 (Serial) 26 pin D-sub, Serial 3, 3 wire
. RS-232, via adapter cable
1PPS (pulse per second) Available via cable (60789-00)
Ethernet via multi-port adapter
Bluetooth Fully-integrated, fully-sealed 2.4 GHz
. Bluetooth³ module
USB via multi-port adapter
External GSM/GPRS, cell phone support Supported for direct dial
. and Internet-based correction streams
Internal MSK Beacon Receiver Frequency range 283.5 - 325.0 kHz
. Channel spacing 500 Hz
. MSK bit rate 100 and 200 bps
. Demodulation Minimum shift key (MSK)
Correction data input RTCM 2.x
Correction data output DGPS RTCM 2.x (requires DGPS RS option)
Data outputs NMEA, GSOFF, 1PPS Time Tags

RECEIVER OPTIONS AND UPGRADES

DGPS Reference Station option Capable of DGPS RTCM output

TRIMBLE SPS351 DGPS/BEACON RECEIVER

NOTES

1. Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended practices.
2. Depends on SBAS system performance.
3. Bluetooth type approvals are country-specific. For more information, contact your local Trimble office or representative. Specifications subject to change without notice.
4. The SPS351 does not track L2, L2C or OmniSTAR signals

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