



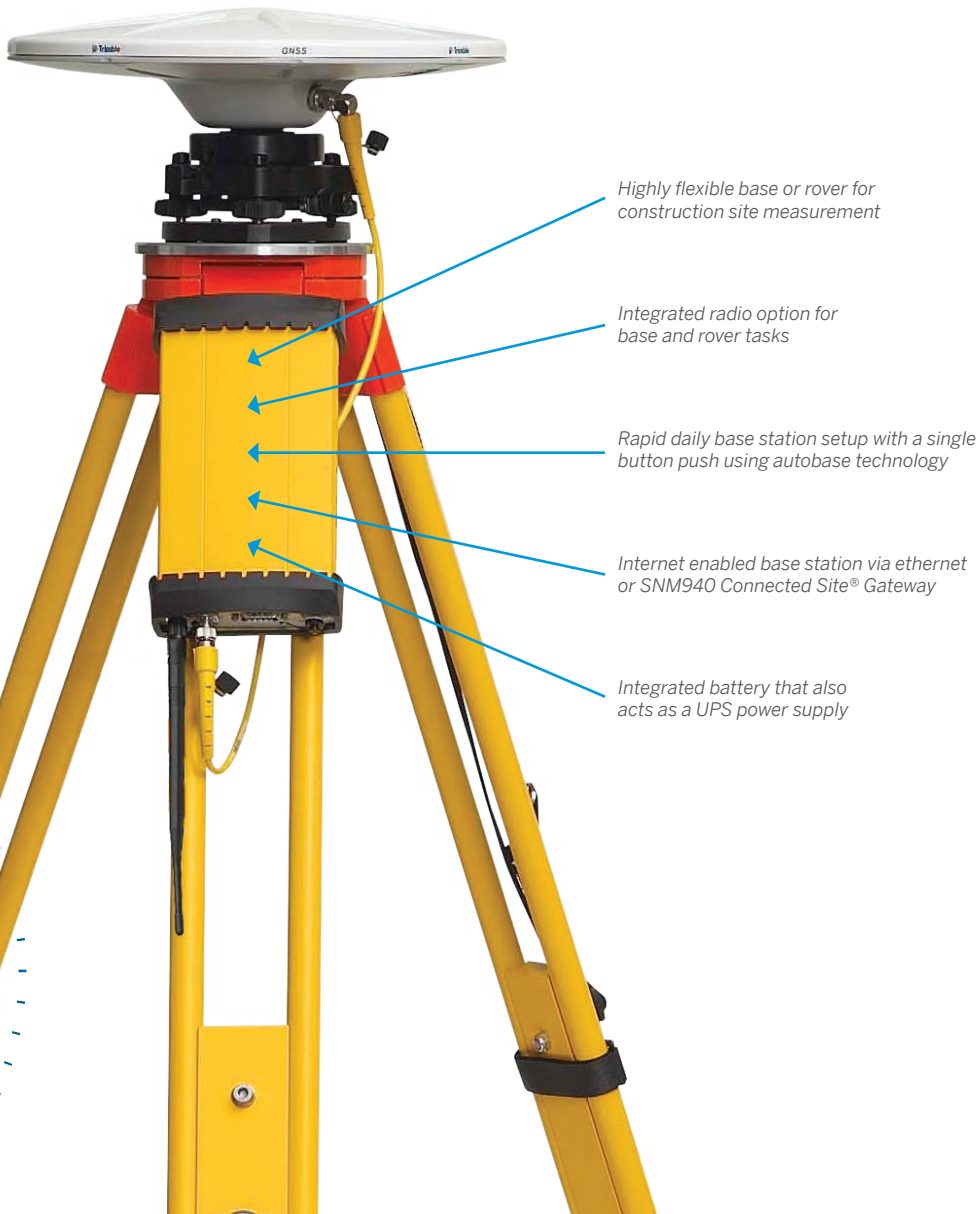
# SPS855

## GNSS MODULAR RECEIVER

### FLEXIBLE RECEIVER FOR JOBSITE MEASUREMENT

Whether you need a reliable GNSS base station or a rugged rover, the Trimble® SPS855 GNSS Modular Receiver gives you the flexibility to perform all of your construction site measurements. As a permanent or semi-permanent base station, it provides GNSS corrections for site measurements and machine control. As a rover, it can move easily from a site supervisor truck to a pole mount for grade checking, site measurement and stakeout.

The versatile SPS855 receiver is available in a range of options to suit your jobsite or marine construction performance requirements. Simply purchase the receiver that you need today, and upgrade as your needs change.



Highly flexible base or rover for construction site measurement

Integrated radio option for base and rover tasks

Rapid daily base station setup with a single button push using autobase technology

Internet enabled base station via ethernet or SNM940 Connected Site® Gateway

Integrated battery that also acts as a UPS power supply

## Key Features

### Secure and Easy to Use

The Trimble SPS855 is comprised of an integrated GNSS receiver and radio plus a choice of external antenna. The receiver can be placed in a secure environment such as the job trailer or boat cabin where it is protected from theft and weather. The less expensive antenna can be placed in a location with clear visibility to the sky and maximum radio coverage.

You don't have to be a GNSS expert to use the SPS855. Integrated 450 or 900 MHz license-free radio and interface with Trimble SCS900 Site Controller Software make the SPS855 easy to use, fast to setup and more productive on the job. Trimble Autobase™ technology means anyone on the jobsite can perform daily base station set up with one button push.

For more advanced troubleshooting, the receiver's web interface allows your GNSS manager to remotely monitor base station performance, availability, and configuration. No need for time-consuming and costly visits to the base station to set up each day or diagnose issues that may arise.

The fully upgradable SPS855 GNSS Modular Receiver can be configured in a variety of ways. For example:

- ▶ As a base station only
- ▶ As a rover only with SBAS, Location, or Precision Real-Time Kinematic (RTK) accuracy
- ▶ As a flexible base or rover with Precision RTK accuracy

The SPS855 can be combined with the Trimble SPS555H Heading Add-on Receiver, for applications on cranes, construction vessels, and dredges where real-time position and orientation are important.

# SPS855 GNSS Modular Receiver

## GENERAL

Keyboard and display ..... Vacuum fluorescent display 16 characters by 2 rows  
 Dimmable. On/Off key for one-button startup  
 Dimensions (L x W x D) ..... 24 cm x 12 cm x 5 cm (9.4 in x 4.7 in x 1.9 in)  
 Weight ..... 1.65 kg (3.64 lb) receiver with internal battery and radio  
 1.55 kg (3.42 lb) receiver with internal battery and no radio

## ANTENNA OPTIONS

Zephyr™ 2 Models ..... Triple frequency GNSS (GPS, GLONASS, Galileo, BeiDou),  
 MSS (CenterPoint RTX, OmniSTAR™, L1 SBAS)  
 GA830 ..... Triple frequency GNSS (GPS, GLONASS, Galileo, BeiDou),  
 MSS (CenterPoint RTX, OmniSTAR™, L1 SBAS)  
 GA530 ..... L1/L2/L2C GPS, SBAS, RTX and OmniSTAR

## ENVIRONMENT

Operating<sup>1</sup> ..... -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 5074  
 Waterproof ..... IP67 for submersion to depth of 1 m (3.3 ft), dustproof  
 Pole drop ..... Designed to survive a 1 m (3.3 ft) pole drop onto a hard surface

## MEASUREMENTS<sup>2</sup>

- 440-channel L1C/A, L1/L2/L2C GPS and QZSS.
- Upgradable to L5 and GLONASS L1/L2C/A, L1/L2P Full Cycle Carrier
- Galileo
- BeiDou
- CenterPoint™ RTX™ Correction Service
- OmniSTAR
- Trimble EVEREST™ multipath signal rejection
- 4-channel SBAS (WAAS/EGNOS/MSAS/QZSS)

## CODE DIFFERENTIAL GPS POSITIONING<sup>3</sup>

Horizontal accuracy ..... 0.25 m + 1 ppm RMS (0.8 ft + 1 ppm RMS)  
 Vertical accuracy ..... 0.50 m + 1 ppm RMS (1.6 ft + 1 ppm RMS)

## REAL-TIME KINEMATIC (RTK UP TO 30 KM) POSITIONING<sup>3</sup>

Horizontal accuracy ..... 8 mm + 1 ppm RMS (0.026 ft + 1 ppm RMS)  
 Vertical accuracy ..... 15 mm + 1 ppm RMS (0.05 ft + 1 ppm RMS)

## TRIMBLE XFILL

Horizontal accuracy ..... RTK<sup>4</sup> + 10mm/minute RMS  
 Vertical accuracy ..... RTK + 20mm/minute RMS

## TRIMBLE CENTERPOINT RTX

Horizontal accuracy ..... 4cm (0.13 ft) RMS  
 Vertical accuracy ..... 9cm (0.30 ft) RMS

## INITIALIZATION TIME

Initialization reliability<sup>5</sup> ..... > 99.9%

## OPERATION TIME ON INTERNAL BATTERY

Rover ..... 13 hours; varies with temperature  
 Base station  
 450 MHz systems ..... Approximately 11 hours; varies with temperature<sup>6</sup>  
 900 MHz systems ..... Approximately 9 hours; varies with temperature  
 220 MHz systems ..... Approximately 9 hours; varies with temperature

## POWER

Internal ..... Integrated internal battery 7.2 V, 7800 mA-hr, Lithium-ion  
 External ..... Power input on 7-pin 0-shell Lemo connector is optimized  
 for lead acid batteries with a cut-off threshold of 11.5 V  
 Power input on the 26-pin D-sub connector is optimized for Trimble  
 Lithium-ion battery input with a cut-off threshold of 10.5 V  
 Power consumption ..... 6.0 W in rover mode with internal receive radio  
 8.0 W in base mode with internal transmit radio

## REGULATORY APPROVALS

- FCC: Part 15 Subpart B (Class B Device) and Subpart C, Part 90
- Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
- Canadian RSS-310, RSS-210, and RSS-119. Cet appareil est conforme à la norme CNR-310, CNR-210, et CNR-119 du Canada.
- ACMA: AS/NZS 4295 approval
- CE mark compliance
- C-tick 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)
- RoHS compliant
- WEEE compliant
- China CRRC - 220 MHz

## COMMUNICATIONS

Lemo (Serial) ..... 7-pin 0S Lemo, Serial 1, 3-wire RS-232  
 Modem 1 (Serial) ..... 26-pin D-sub, Serial 2, Full 9-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) ..... Available on Marine versions  
 Ethernet ..... Through a multi-port adaptor  
 Bluetooth wireless technology ..... Fully-integrated,  
 fully-sealed 2.4 GHz Bluetooth module<sup>7</sup>  
 Integrated radios (optional) ..... Fully-integrated, fully-sealed  
 internal 450 MHz (UHF) Tx/Rx;  
 internal 900 MHz Tx/Rx;  
 internal 220 MHz Tx/Rx  
 External GSM/GPRS, cell phone support ..... For Internet-based correction streams  
 Receiver position update rate ..... 1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz positioning  
 Correction data input/output ..... CMR™, CMR+™, CMRx, RTCM v 2.x & 3.x  
 Data outputs ..... NMEA, GSOF, 1PPS Time Tags (Marine version)

- 1 Receiver will operate normally to -40 °C. Internal batteries are rated to -20 °C.
- 2 The Trimble SPS855 GNSS Modular Receiver is capable of supporting existing and planned GNSS satellite signals, including GPS, GLONASS, Galileo, CenterPoint RTX, Quasi Zenith Satellite System and BeiDou, and existing and planned augmentations to these GNSS systems. Support for the Galileo system is developed under a license of the European Union and the European Space Agency.
- 3 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended practices. 4 RTK refers to the last reported precision before the correction source was lost and xFill started.
- 5 May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.
- 6 For receivers with the 2.0W upgrade, reduced battery performance should be expected compared to the 0.5W solution.
- 7 Bluetooth type approvals are country specific. For more information, contact your local Trimble office or representative.

Specifications subject to change without notice.



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