TRANSFORMING THE WAY THE WORLD WORKS

DATASHEET

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.

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
Dimensions (L × W × D) .................. 24 cm × 12 cm × 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 ...................................... LI/L2/LC GPS, SBAS, RTX and OmniSTAR

ENVIRONMENT

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 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

• 440-channel L1/L2/LC 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

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

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

RTK + 4mm/minute RMS

TRIMBLE CENTERPOINT RTX

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

INITIALIZATION TIME

Initialization reliability* ................... > 99.9%

OPERATION TIME ON INTERNAL BATTERY

Rover ....................................... 13 hours; varies with temperature
Base station .............................. 450 MHz systems .................. Approximately 11 hours; varies with temperature
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 D-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 OS 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
IPPS (1 Pulse-per-second) .................. Available on Marine versions
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, IPPS Time Tags (Marine version)

Specifications subject to change without notice.

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