

# Specifications

# Trimble SPS585 Marine GNSS Smart Antenna



<b>Receiver Name</b>	<b>SPS585</b>
<b>Configuration Option</b>	
Type	Smart Antenna
Base and rover interchangeability	No
Base operation	Not supported
Rover operation	Yes
Heading and Moving Base operation	Moving Base and Heading
Rover position update rate	1 Hz, 2 Hz, 5 Hz, 10Hz
Rover maximum range from base	Unlimited
Rover operation within a VRS™ network	Yes
Factory options	See Receiver Upgrades below
<b>General</b>	
Keyboard and display	LED indicators for receiver status On/Off key for one-button startup
Dimensions (L x W x D)	11.7cm (4.6") Diameter x 10.0cm (3.9") High
Weight	0.733 kg (1.62 lb)
<b>Antenna Options</b>	
Internal Antenna (Smart Antenna)	GNSS (Dual Frequency) GPS, Glonass, BeiDou, Galileo, QZSS MSS (RTX) L1 SBAS
GA510 (Discontinued)	No
GA530, Rugged GA530	No
GA810	No
GA830	No
L1/Beacon, DSM 232 (Discontinued)	No
Zephyr™ Model 2	No
Zephyr Geodetic™ Model 2	No
Zephyr Model 2 Rugged	No
<b>Temperature</b>	
Operating	-20 °C to +55 °C (-4 °F to +131 °F) 0 °C to +45 °C (+32 °F to +113 °F) while charging
Storage	-40 °C to +75 °C (-40 °F to +167 °F)
Humidity	98% Condensing
Waterproof	IP65
<b>Shock and Vibration</b>	
Pole Drop	Designed to survive a 2 m (6.6 ft) drop onto all faces and corners onto concrete.
Shock – Non-operating	To 75 g, 6 ms, saw-tooth
Shock – Operating	To 40 G, 10 msec, sawtooth, 100 shock events at 2 Hz rate
Vibration	MIL-STD-810G (Operating), Method 514.6, Procedure I, Category 4, Figure 514.6C-1 (Common Carrier, US Highway Truck Vibration Exposure). Total Grms levels applied are 1.95g.

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## Measurements

Advanced Trimble Maxwell™ 6 Custom GPS Chip  
High-precision multiple correlator for L1/L2 pseudo-range measurements

Unfiltered, unsmoothed pseudo-range measurements data for low noise, low multipath error, low time domain correlation, and high dynamic response

Signal-to-noise ratios reported in dB-Hz  
Trimble EVEREST™ multipath signal rejection  
Proven Trimble low elevation tracking technology

220-channel GNSS

2-channel SBAS (WAAS/EGNOS/MSAS)

## SBAS (WAAS/EGNOS/MSAS) Positioning<sup>3</sup>

Horizontal accuracy  $\pm 0.50\text{m}$  (1.6ft)  
Vertical accuracy  $\pm 0.85\text{m}$  (2.8 ft)

## Code Differential GPS Positioning<sup>2</sup>

Correction type DGPS RTCM 2.x  
Correction source IBSS or VRS  
Horizontal accuracy  $\pm(0.25\text{m} + 1 \text{ ppm})$  RMS  $\pm(0.8 \text{ ft} + 1 \text{ ppm})$   
Vertical accuracy  $\pm(0.50\text{m} + 1 \text{ ppm})$  RMS  $\pm(1.6 \text{ ft} + 1 \text{ ppm})$

## OmniSTAR Positioning

VBS service accuracy Not supported  
XP service accuracy Not supported  
HP service accuracy Not supported

## CenterPoint RTX Positioning<sup>12</sup>

Horizontal accuracy 0.10m (0.34ft) RMS  
Vertical accuracy 0.10m (0.34ft) RMS  
Convergence time for specified precisions 30 mins or less

## xFill Positioning

Horizontal accuracy 0.10m (0.34ft) RMS  
Vertical accuracy 0.10m (0.34ft) RMS

## RTK Positioning<sup>2</sup>

Horizontal accuracy 0.10m (0.34ft) RMS  
Vertical accuracy 0.10m (0.34ft) RMS, 0.02 m (0.065 ft) RMS with Rover 10/2 Upgrade

## Precise Heading<sup>2</sup>

Heading accuracy 0.10° RMS  
2 m antenna separation 0.05° RMS, Rate of Turn 0.20°/minute  
10 m antenna separation

## Power

Internal Integrated internal battery 3.75V 9000 mA-hr Li-ION battery  
Internal battery will charge from external USB power source when input voltage is  $>4.75\text{V}$   
Integrated charging circuitry

External Power input on the Mini-B USB connector. Can use external USB batteries and power supplies  
Draws maximum available current from external USB device.

SPS585 AC adapter, 10W, 5.1-5.3VDC output

SPS585 Vehicle adapter, 10W, 4.9-5.0VDC output

Receiver automatically turns on when connected to external power

Power over Ethernet (PoE) Not supported  
Power consumption 3.5W (not charging), 10W (charging)

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## Operation Time on Internal Battery

Rover	up to 5.5 hours; varies with temperature
Base station	Not supported
450 MHz systems	Not supported
900 MHz system	Not supported

## 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.10.11/Rev. 3, Amend. 1 (Lithium-ion Battery)

UN ST/SG/AC. 10/27/Add. 2 (Lithium-ion Battery)

WEEE and RoHS compliant

## Communications

Lemo (Serial)	No
Modem 1 (Serial)	No
Modem 2 (Serial)	No
1PPS (1 pulse-per-second)	No
USB	1 USB 2.0 (Type B) Device via Mini_B
Ethernet	No
WiFi	802.11b/g, 2.4GHz. Simultaneous Client and Access Point (AP) modes
Bluetooth wireless technology	Fully-integrated, fully-sealed 2.4 GHz Bluetooth module <sup>1</sup>
Network Protocols	
HTTP (web browser GUI)	Yes
NTP Server	Yes
TCP/IP or UDP	Yes
Ntrip	NTRIP v1 and v2, Client mode
mDNS/uPnP Service discovery	Yes
Dynamic DNS	Yes
eMail alerts	Yes
Network link to Google Earth	Yes
PPP and PPPoE	Yes
Supported data formats	
Correction Inputs	CMR™, CMR+™, CMRx, RTCM 2.x, RTCM 3
Correction Outputs	Moving Base CMR corrections (up to 5Hz)
Data Outputs	NMEA, GSOF
External GSM/GPRS, cell phone support	Supported for Internet-based correction streams (VRS, IBSS) – directly using external devices such as Wi-Fi Hotspots
Integrated radios (optional)	No
Channel spacing (450 MHz)	
Sensitivity (450 MHz)	
Internal MSK Beacon receiver	No

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## Receiver Upgrades

Constellation  
Frequency  
Precision  
Function

Comes standard with Full GNSS constellation capability  
Comes standard with Dual Frequency capability  
Rover 10/2 precision  
Datalogging

## Data Logging

Memory limit

50 MB

## Notes

*1 Bluetooth type approvals are country-specific. For more information, contact your local Trimble office or representative.*

*2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, interference and atmospheric conditions. Always follow recommended practices. 10/2 accuracy if 10/2 upgrade is installed.*

*12 Receiver accuracy and convergence time varies based on GNSS constellation health, level of multipath, and proximity to obstructions such as large trees and buildings.*

*Specifications subject to change without notice.*

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