Specifications

Trimble SPS361
Modular GPS Heading Receiver

Receiver Name	**SPS361 GPS Heading Receiver**
Configuration Option	**DGPS**
Type	Modular
Base and rover interchangeability	No, rover only
Base operation	N/A
Rover operation	All models
Heading and Moving Base operation	All models[5]
Rover position update rate	1 Hz, 2 Hz, 5 Hz, 10 Hz, 20Hz
Rover maximum range from base	Unlimited
Rover operation within a VRS™ network	DGPS only
Factory options	N/A
General	
Keyboard and display	VFD display 16 characters by 2 rows On/Off key for one-button startup Escape and Enter keys for menu navigation 4 arrow keys (up, down, left, right) for option scrolls and data entry
Dimensions (L × W × D)	24 cm (9.4 in) × 12 cm (4.7 in) × 5 cm (1.9 in) including connectors
Weight	1.22 kg (2.70 lb) receiver only 1.34 kg (2.95 lb) receiver with internal beacon radio
Antenna Options	
Internal Antenna (Smart Antenna)	
GA510 (Discontinued)	L1/L2 GPS, SBAS, and OmniSTAR (optimized for OmniSTAR)
GA530 (Discontinued)	L1/L2 GPS, MSK Beacon, SBAS, and OmniSTAR
Rugged GA530	
GA810	L1/L2/L2C GPS, SBAS and OmniSTAR (optimised for OmniSTAR)
GA830	L1/L2/L2C GPS, MSK Beacon, SBAS and OmniSTAR
L1/Beacon, DSM 232 (Discontinued)	not supported
Zephyr™ Model 2	L1/L2 GPS, SBAS, and OmniSTAR
Zephyr Geodetic™ Model 2	L1/L2 GPS, SBAS, and OmniSTAR
Zephyr Model 2 Rugged	L1/L2 GPS, SBAS, and OmniSTAR
Temperature	
Operating	–40 °C to +65 °C (–40 °F to +149 °F)[1]
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	
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
Shock – Operating	To 40 g, 10 ms, saw-tooth
Vibration	Tested to Trimble ATV profile (4.5 g RMS): 10 Hz to 300 Hz: 0.04 g/Hz;[2] 300 Hz to 1,000 Hz; –6 dB/octave

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Measurements	
	Advanced Trimble Maxwell™ 5 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
	Very low noise carrier phase measurements with <1 mm precision in a 1 Hz bandwidth L1/L2 signal-to-noise ratios reported in dB-Hz Proven Trimble low elevation tracking technology 72-channel L1 C/A code, L1/L2 Full Cycle Carrier
	Trimble EVEREST™ multipath signal rejection 2-channel MSK Beacon (Optional) 4-channel SBAS (WAAS/EGNOS/MSAS)
SBAS (WAAS/EGNOS/MSAS) Positioning[3]	
Horizontal accuracy	± 0.50m (1.6ft)
Vertical accuracy	± 0.85m (2.8 ft)
Code Differential GPS Positioning[2]	
Correction type	DGPS RTCM 2.x
Correction source	DGPS Base via 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)
OmniSTAR Positioning	
VBS service accuracy	Horizontal <1 m (3.3 ft)
XP service accuracy	N/A
HP service accuracy	N/A
CenterPoint RTX Positioning[12]	
Horizontal accuracy	N/A
Vertical accuracy	N/A
Convergence time for specified precisions	N/A
xFill Positioning	
Horizontal accuracy	N/A
Vertical accuracy	N/A
RTK Positioning[2]	
Horizontal accuracy	N/A
Vertical accuracy	N/A
Precise Heading[2]	
Heading accuracy	
2 m antenna separation	0.09° RMS
10 m antenna separation	0.05° RMS
Power	
Internal	N/A
External	Power input on the 26-pin D-sub connector is optimized for lead acid batteries with a cut-off threshold of 11 V DC 11 V DC to 28 V DC external power input with over-voltage protection Receiver automatically turns on when connected to external power
Power over Ethernet (PoE)	44 V DC to 57 V DC, IEEE802.3af compliant device
Power consumption	6.0 W in rover mode with internal MSK Beacon receiver

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Operation Time on Internal Battery	
Rover	N/A
Base station	N/A
450 MHz systems	
900 MHz system	
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.
	R&TTE Directive: EN 301 489-1/-5/-17, EN 300 440, EN 300 328, EN 300 113, EN 60950, EN 50371
	ACMA: AS/NZS 4295 approval
	C-tick mark and CE mark compliance
	RoHS compliant
	WEEE compliant
Communications	
Lemo (Serial)	N/A
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
USB	
Ethernet	Through a multi-port adaptor
WiFi	
Bluetooth wireless technology	Fully-integrated, fully-sealed 2.4 GHz Bluetooth module[4]
Network Protocols	
HTTP (web browser GUI)	Yes
NTP Server	Yes
TCP/IP or UDP	Yes
Ntrip	NTRIP v1 and v2, Client and Caster modes
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[7]
Correction Outputs	Repeat RTCM from MSK Beacon or OmniSTAR VBS source
Data Outputs	NMEA, GSOF, 1PPS Time Tags
External GSM/GPRS, cell phone support	Supported for Trimble IBSS and VRS services
Integrated radios (optional)	Fully-integrated, fully-sealed internal MSK Beacon radio
Channel spacing (450 MHz)	N/A
Sensitivity (450 MHz)	N/A
Internal MSK Beacon receiver	If internal MSK Beacon Radio is installed[6]
	Frequency range 283.5–325.0 kHz
	Channel spacing 500 Hz
	MSK bit rate 50, 100, and 200 bps
	Demodulation minimum shift key (MSK)

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Receiver Upgrades

Constellation	Not Upgradable
Frequency	
Precision	
Function	

Data Logging

Memory limit

Notes

1 Receiver will operate normally to –40 °C.

2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, interference and atmospheric conditions. Always follow recommended practices.

3 Depends on SBAS system performance.

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

5 Two of the supported antennas (See Antenna Options) must be connected for heading.

6 One of the antennas must be a GA530 for MSK Beacon signal reception.

7 CMR input for DGPS positioning only available on receivers shipped with v4.10 f/w or later.

Specifications subject to change without notice.

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