

V100 Series GPS Compass

GPS Sensor Specifications

Receiver Type:	L1, C/A code, with carrier phase smoothing
Channels:	Two 12-channel, parallel tracking (Two 10-channel when tracking SBAS)
Update Rate:	Standard 20 Hz (position and heading)
Horizontal Accuracy:	< 0.6 m 95% confidence (DGPS)* < 2.5 m 95% confidence (autonomous, no SA)**
Heading Accuracy:	< 0.3° rms
Pitch / Roll Accuracy:	< 1° rms
Rate of Turn:	90°/s max
Start up Time:	< 60s typical
Heading Fix:	< 20s
Satellite Reacquisition:	< 1s

Beacon Sensor Specifications (V110 version)

Channels:	2-channel, parallel tracking
Frequency Range:	283.5 to 325 kHz
Operating Modes:	Automatic (signal strength or range) and manual
Compliance:	IEC 61108-4 beacon standard

Communications

Serial ports:	2 full duplex RS-232 and 2 half-duplex RS-422
Baud Rates:	4800 - 57600
Correction I/O Protocol:	RTCM SC-104, L-Dif (Hemisphere GPS proprietary)
Data I/O Protocol:	NMEA 0183, Crescent binary, L-Dif (Hemisphere GPS proprietary)
Heading Warning I/O:	Open relay system indicates invalid heading

Certifications

BSH/4612/4411140/09



Environmental

Operating Temperature:	-32°C to +74°C (-25°F to +165°F)
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	100% non-condensing
EMC:	FCC Part 15, Subpart B, Class B CISPR22, CE

Power

Input Voltage:	9 to 36 VDC
Power Consumption:	< 5 W
Current Consumption:	< 360 mA @ 12 VDC
Isolation:	Power supply isolated from serial ports

Reverse Polarity Protection: Yes

Mechanical

Dimensions (not including mounts):	60 cm L x 16 cm W x 18 cm H (23.6" L x 6.3" W x 7.1" H)
Weight:	1.5 kg (3.3 lb)
Power/Data Connector:	18-pin, Environmentally sealed

Aiding Devices

Gyro:	Single axis gyro provides reliable <1° heading for periods up to 3 minutes when loss of GPS lock has occurred
Tilt Sensor:	Assists in fast start up of RTK solution

* Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for local services), and ionospheric activity

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