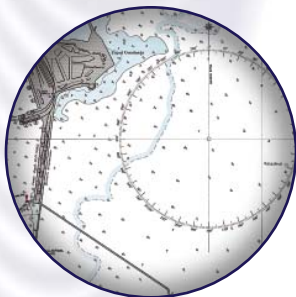


# Crescent® V100 Series GPS Compass

## Affordable Heading and Positioning Smart Antenna



Experience superior navigation from the accurate heading and positioning performance available with the Crescent V100 Series GPS Compass. The rugged enclosure combines Hemisphere GPS' Crescent Vector board and two multipath-resistant antennas

for portability and simple installation. The half-meter length smart antenna mounts easily to a flat surface or pole. The stability and maintenance-free design of the Crescent V100 replaces traditional gyrocompasses at a fraction of the cost.



Powered by **Crescent**

The latest Hemisphere GPS products are powered by Crescent Receiver Technology, the future of precision GPS.

### Key Crescent V100 Series Advantages

- Affordable solution delivers 2D GPS heading accuracy better than 0.5 degree rms
- Differential positioning accuracy of less than 60 cm, 95% of the time
- Smart antenna design ensures simple installation and portability
- Integrated gyro and tilt sensor deliver fast start-up times and provide heading updates during temporary loss of GPS
- Fast heading and positioning output rates up to 20 Hz
- Differential options including SBAS (WAAS, EGNOS, etc.) and optional beacon differential
- COAST™ technology maintains accurate solutions for 40 minutes or more after loss of differential signal

# Crescent 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 10 Hz, optional 20 Hz (position and heading)

Horizontal Accuracy:  
< 0.6 m 95% confidence (DGPS)\*  
< 2.5 m 95% confidence (autonomous, no SA)\*\*

Heading Accuracy: < 0.5° rms  
Pitch / Roll Accuracy: < 1° rms  
Rate of Turn: 90° / s max  
Start up Time: < 60 s typical  
Heading Fix: < 20 s  
Satellite Reacquisition: < 1 s

## 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

## 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

## 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

\*\* Depends on multipath environment, number of satellites in view, and satellite geometry



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