



# Vector Compact GPS Compass

## Compact GPS Positioning and Heading Smart Antenna

- Provides position, heading, pitch, roll, and heave
- Excellent in-band and out-of-band interference rejection
- 2° (RMS) heading accuracy in an amazingly small form factor
- Integrated gyro and tilt sensors deliver fast start-up times and provide heading updates during temporary loss of GPS and satellites
- Differential position accuracy of 1m, 95% of the time
- Accurate heading for up to 3 minutes during GNSS outages
- COAST technology maintains differentially corrected positioning for 40 minutes or more after loss of differential signal
- Offered as a Serial or NMEA 2000 version



**Vector Compact – S MSRP \$1,159.**  
**Vector Compact – N MSRP \$999.**

Vector Compact GPS Compass offers superior navigation including accurate positioning and heading performance. V104 uses SBAS (WAAS, EGNOS, MSAS, etc.) for differential GPS position allowing Hemisphere GNSS to provide a low cost and highly effective positioning and heading based smart antenna.

The rugged and low-profile enclosure combines Hemisphere GNSS' Crescent<sup>®</sup> Vector technology and two multi-path resistant antennas for accuracy, portability and simple installation. The smart antenna, measuring less than a half meter in length, mounts easily to a flat surface or pole. The stability and maintenance-free design of Vector Compact provides traditional GPS position and heading at a low cost, replacing the combination of low-accuracy GPS and fluxgate compass.



# Vector Compact GPS Compass

## GPS Receiver Specifications

Receiver Type: Vector GPS L1  
Compass Signals Received: GPS  
Channels: 24  
GPS Sensitivity: -142 dBm  
SBAS Tracking: 2-channel, parallel tracking  
Update Rate: 10 Hz standard (position and heading)  
Rate of Turn: 90°/s maximum  
Compass Safe Distance: 30 cm (11.8 in)  
Cold Start: < 60 s (no almanac or RTC)  
Warm Start: < 20 s typical (almanac and RTC)  
Hot Start: < 5 s typical (almanac, RTC and position)  
Heading Fix: < 20 s typical (valid position)  
Maximum Speed: 1,850 kph (999 kts)  
Maximum Altitude: 18,288 m (60,000 ft)

## Positioning and Heading Accuracy

Position: Single Point <sup>1</sup>: 3 m (95%)  
SBAS <sup>2</sup>: 1 m (95%)  
Heading: 2° (RMS)  
Pitch/Roll: 2° (RMS)  
Heave: 30 cm <sup>3</sup>

## Communications

Ports: 2 full-duplex RS232 <sup>4</sup> or 1 NMEA 2000 <sup>5</sup>  
Baud Rates: 4800, 9600, 19200, 38400, 57600, 115200  
Correction I/O Protocol: RTCM SC-104  
Data I/O Protocol: NMEA 0183<sup>5</sup>, NMEA 2000<sup>5</sup>,

## Power

Input Voltage: 8-36 VDC  
Power Consumption: ~ 2.0 W nom.  
Current Consumption: 0.16 A @ 12 VDC  
Power Isolation: Isolated to enclosure  
Reverse Polarity Protection: Yes

## Environmental

Operating Temperature: -30°C to + 70°C (-22°F to + 158°F)  
Storage Temperature: -40°C to + 85°C (-40°F to + 185°F)  
Humidity: 100% non-condensing  
Shock and Vibration: IEC 60945  
EMC: CE (IEC 60945 Emissions and Immunity), FCC Part 15 Subpart B, CISPR22  
IP Rating: IP69  
Enclosure: UV resistant, white plastic, Geloy CR7520 (ASA)

## Mechanical

Dimensions  
Not including mount: 25.9 L x 12.9 W x 4.5 H (cm)  
10.2 L x 5.1 W x 1.8 H (in)  
Including mount: 25.9 L x 12.9 W x 12.8 (cm)  
10.2 L x 5.1 W x 5.0 H (in)

## Weight

Not including mount: 0.42 kg (0.9 lb)  
Including mount: 0.51 kg (1.1lb)  
Power/Data Connector: 8-pin Male for Serial or 5 Pin Male NMEA 2000 Micro connector

## Aiding Devices

Gyro: Provides smooth heading, fast heading reacquisition and reliable 2° per minute heading for periods up to 3 minutes when loss of GPS has occurred  
Tilt Sensors: Provide pitch and roll data, assist in fast start-up and reacquisition of heading solution

<sup>1</sup> Depends on multipath environment, number of satellites in view, satellite geometry, no SA, and ionospheric activity

<sup>2</sup> Depends on multipath environment, number of satellites in view, SBAS coverage and satellite geometry

<sup>3</sup> Based on a 40-second time constant

<sup>4</sup> Serial model only

<sup>5</sup> NMEA 2000 model only

Authorized Distributor: