

# VECTOR COMPACT-S

## The SMALLEST GPS Compass in the World

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## IMPROVES PERFORMANCE OF YOUR NAVIGATION

The Vector Compact is a GPS compass that gives a precise true heading and positioning to a radar, sonar, electronic charts, autopilot and AIS. It has a smart antenna design that does not require external processor or display, which simplifies installation and reduces the need for other equipment. Vector Compact combines two GPS receivers in a housing. Everything is built-in the antenna, and no other devices need to be installed. By using a sophisticated algorithm Vector Compact has a true rate accuracy of  $\pm 2^\circ$ . This is much better than any ordinary compasses on smaller commercial craft and pleasure boats, but at similar cost

Vector Compact provides updated location information of up to 10 Hz and also true heading rate update of up to 10 Hz. It has integrated DGPS source in the form of WAAS and EGNOS. Vector Compact is equipped with a rate gyro, that supports the receiver for quick changes of direction, giving an unprecedented accuracy.

The Vector Compact comes in two versions:

- NMEA2000 (Vector Compact-N)
- NMEA0183, with the possibility to configure the output ports individually (Vector Compact-S)

If selecting the NMEA0183 version, you have the possibility to configure two NMEA output ports totally different from each other.

This means that you can e.g. set Port A to send HDT@10Hz update rate @4.800 baud, and Port B can be set to be send e.g. HDT@10Hz, HD-M@10Hz and RMC@10Hz update rate @9.600 baud.

The Vector Compact-S includes a 15 m cable prepared with connector for the compass and unterminated in the other end.

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## KEY FEATURES

- GPS compass with small dimensions
- SBAS for increased accuracy
- Heading accuracy: 2 degrees
- Position accuracy; 1m (SBAS)
- NMEA0183 interface
- 10 Hz update rate

# TECHNICAL SPECIFICATIONS

## PS Sensor Specifications

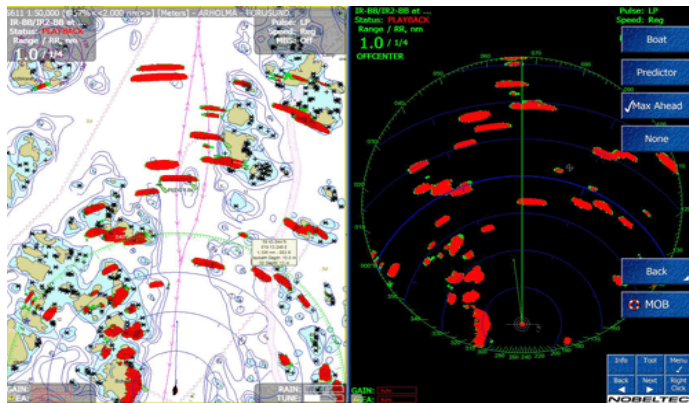
Receiver Type	: Vector GPS L1 Compass
Channels	: Two 12-channel, parallel tracking (Two 10-channel when tracking SBAS)
SBAS Tracking	: 2-channel, parallel tracking
Update Rate	: 10 Hz standard (pos & heading)
Horiz. Accuracy	: < 1.0 m 95% confidence (DGPS <sup>1</sup> ) < 3.0 m 95% confidence (autonomous, no SA <sup>2</sup> )
Heading Accuracy	: 2° rms
Pitch/Roll Accuracy	: 2° rms
Heave Accuracy	: 30 cm <sup>3</sup>
Rate of Turn	: 90°/s maximum
Comp. Safe Dist.	: 30 cm (11.8 in)
Cold Start	: < 60 s (no almanac or RTC)
Warm Start	: < 20 s typical (almanac and RTC)
Hot Start	: < 1 s typical (almanac, RTC and position)
Heading Fix	: < 10 s typical (valid position)
Maximum Speed	: 1,850 kph (999 kts)
Maximum Altitude	: 18,288 m (60,000 ft)

## Physical

Dimensions	: 25.9 L x 12.9 W x 4.5 H cm (10.2" L x 5.1" W x 1.8" H)
Weight	: 0.42 kg (0.9 lb)
Pow/Data connect.	: 8-pin Male for Serial or 5 Pin Male NMEA 2000 Micro connector

## Electrical

Input Voltage	: 8 to 36 VDC
Power Consumpt.	: ~ 2 W nominal
Current Consumpt.	: 165 mA @ 12 VDC
Power Isolation	: Isolated to enclosure
Reverse Polarity Protection	: Yes



The Vector COMPACT GPS Compass gives invaluable support to radar overlay, sonar and autopilot performance so that full achievements can be obtained from all navigationsystems onboard.

## Communications

Serial Ports	: 2 full-duplex RS-232 or NMEA 2000 <sup>4</sup>
Baud Rates	: 4800 - 115200
Correction I/O Protocol	: RTCM SC-104
Data I/O Protocol	: NMEA 0183, NMEA 2000,

## Environmental

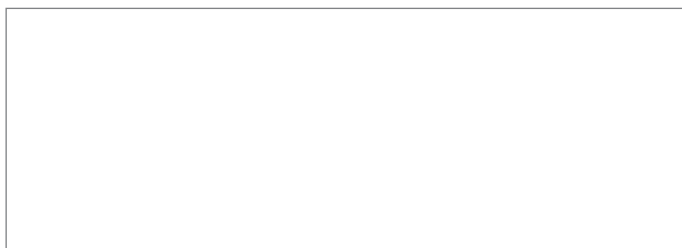
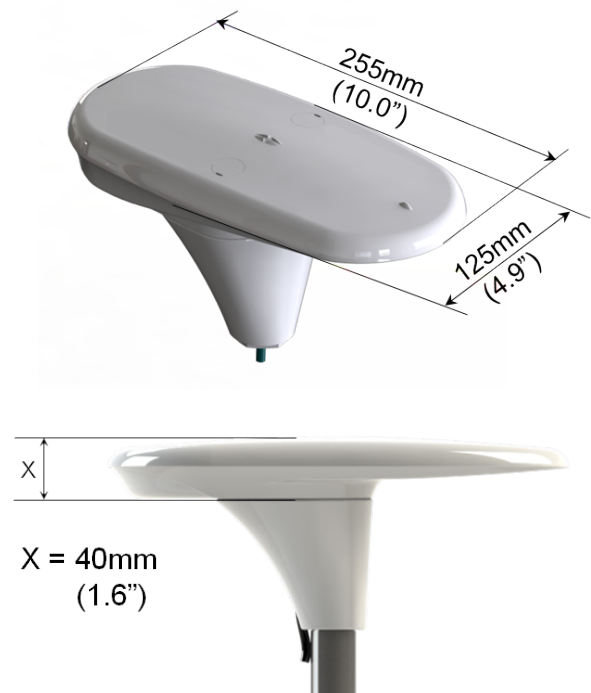
Operating Temperature	: -30°C to + 70°C (-22°F to + 158°F)
Storage Temperature	: -40°C to + 85°C (-40°F to + 185°F)
Humidity	: 100% non-condensing
Vibration	: IEC 60945
EMC	: FCC Part 15, Subpart B, CIS PR22, CE

## Aiding Devices

**Gyro:**  
Provides smooth heading, fast heading reacquisition and reliable < 2° heading for periods up to 3 minutes when loss of GPS has occurred.

**Tilt Sensors:** Assists in fast startup of heading solution.

- 1 Depends on multipath environment, number of satellites in view, satellite geometry, ionospheric activity and use of SBAS
- 2 Depends on multipath environment, number of satellites in view, satellite geometry and ionospheric activity
- 3 Based on a 40-second time constant
- 4 NMEA 2000 model only.



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