



seapilot

Vector Compact

The smallest GPS Compass in the world!



Seapilot proudly offers boat owners an exciting innovation: the world's smallest GPS compass at only 10 inches in length, priced under US\$1000 for flush mount or pole mount installations! More accurate and stable than a magnetic or fluxgate compass, the Vector Compact provides incredible accuracy and stability to drive all your navigation devices. Now

everyone can afford this advanced technology normally reserved for large commercial vessels to accurately drive your navigation system. Perfect for interfacing with your Seapilot AIS Receiver and Tablet Computer Navigation App or your existing radar, autopilot and chart plotters.



The smallest GPS compass in the world!

The Vector Compact houses dual GPS receivers and antennas with a single clock to provide the most accurate compass heading and boat position, for the money and size. Thanks to a unique antenna and receiver, designed to optimize rejection of multipath satellite signals which plague most other satellite compass designs, the Vector Compact operates reliably in most installation environments.

The compass heading output of the Vector Compact is superior to fluxgate and rate sensor compasses, but no longer at a cost premium. Additionally, you get the bonus of highly accurate GPS positioning of better than 2 feet. That means your Position, Speed Over Ground and Course Over Ground (SOG & COG) calculations are very precise and very stable when viewed on a chart plotter or interpreted by your other navigation equipment.

The Vector Compact provides its heading and position information at 10 times a second and tracks turns (ROT) at 90 degrees per second; a professional grade solution, perfect for autopilot control on all boats, even at high speeds. A built-in professional rate gyro smooths and always maintains the heading output, even in heavy seas or during satellite signal blockages.



Technical specifications

GPS Sensor Specifications

Receiver Type:	Dual Front-end GPS L1 Compass
SBAS Tracking:	2-channel, parallel tracking
Update Rate:	10 Hz standard (pos & heading)
Horiz. Accuracy:	<50cm RMS (with SBAS DGPS ¹) <3.0 m RMS (without SBAS ²)
Heading Accuracy:	2° rms
Pitch/Roll Accuracy:	2° rms
Heave Accuracy:	30 cm ³
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)

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)
Power/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

Communications

Ports:	Vector Compact-S: 2 full duplex RS-232; 4800-115200 baud rates Vector Compact-N: NMEA2000 ⁴ interface
Correction I/O Protocol:	RTCM SC-104
Data I/O Protocol:	NMEA 0183 or 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:	Smooth's heading output, improves signal reacquisition and maintains heading for up to 3 minutes if GPS signal is lost.
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.



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