

VECTOR GPS COMPASS

Affordable and compact



True Heading Vector GPS Compass

True Heading Vector is a GPS compass that provides accurate 2D heading and positioning data to radar, sonar, chartplotters and AIS. It is a smart antenna design that requires no external processor or display, simplifying installation & reducing redundant equipment. Vector combines two GPS receivers in one casing. Everything is built in the antenna and no other boxes need to be installed. By using a sophisticated algorithm the Vector has a heading accuracy of $\pm 0,5^\circ$. This is enough to replace a gyro compass but to a fraction of the cost.



General Specifications

Receiver Type: L1, C/A code, with carrier phase smoothing
Channels: 12-channel, parallel tracking (10-channel when tracking SBAS)
Update Rate: Standard 20Hz (position/heading)
Horizontal Accuracy: <1 m 95% (DGPS)*
<5 m 95% (autonomous, no SA)**
Heading Accuracy: <0.5 degrees rms
Rate of Turn: 25°/s max
Pitch / Roll Accuracy: < 1 degree rms
Start-up Time: < 60 s typ.
Heading Fix: < 20 s
Satellite Reacquisition: < 1 s

Differential Beacon Specifications (PRO version only)

Channels: 2-channel, parallel tracking
Frequency Range: 283.5 to 325 kHz
Operating Modes: Automatic and manual
Sensitivity: 2.5 dB μ V for 6 dB SNR @ 200 bps
Dynamic Range: 100 dB
Adjacent Channel Rejection: 61 dB @ \pm 400 Hz offset

Communications

Serial ports: 3 full duplex RS-232 and 2 half-duplex RS-422
Isolation: All serial ports optically isolated from power supply
Baud Rates: 4800, 9600, 19200
Data I/O Protocol: NMEA 0183 and SLX binary
Correction I/O Protocol: RTCM SC-104
Timing Output: 1 PPS (HCMOS, active high, rising edge sync, 10 k Ω , 10 pF load)
IPPS Accuracy: 50 ns
NMEA Heading Messages: \$HEHDT, \$HEROT, \$PSAT, HPR

Environmental

Operating Temperature: -30°C to +70°C
Storage Temperature: -40°C to +85°C
Humidity: 100% condensing

Power

Input Voltage: 8.0 to 40 VDC
Isolated: Power supply isolated from serial ports
Reverse Polarity Protection: Yes (but not reverse polarity operation)
Power Consumption: < 4.5 W
Current Consumption: < 360 mA @ 12.0 VDC

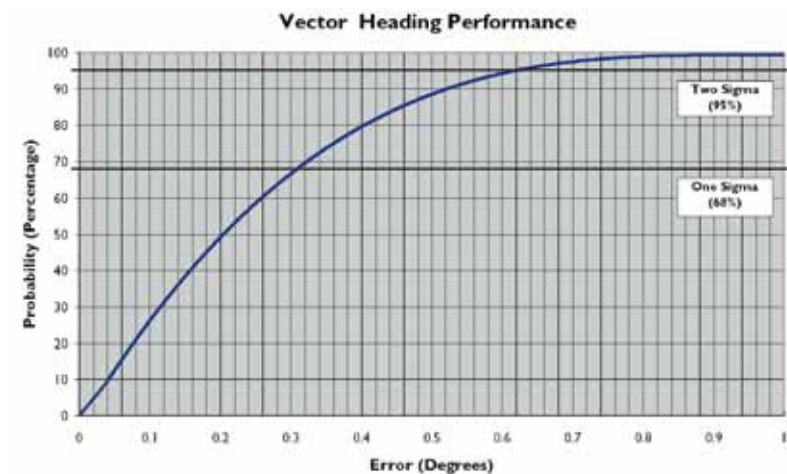
Mechanical

Dimensions: 60 cm L x 16 cm W x 18 cm H (Not including mounts)
Weight: <1.5 kg
Power/Data Connector: 18-pin, Environmentally sealed

Type Approved as a Verified THD (Transmit Heading Device) meeting Regulation V/19.2.5.1, IMO Resolution MSC.97 (73) 13.2.5 (2000 HSC Code), IMO Resolution A.382 (X), IMO Resolution MSC.116(73), IMO Resolution A.694(17) using General requirements – Methods of testing and required test results of Future ISO 22090-3, EN 60945 (2002), EN 61162

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

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Note: 25 days of data collected at a 0.5m antenna separation under ideal conditions

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