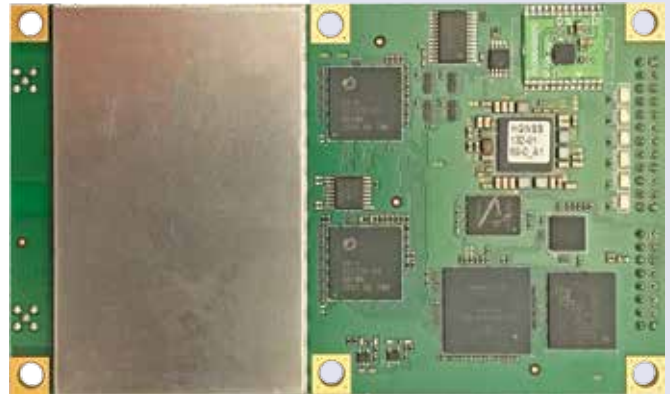


Vector™ H328 GNSS Compass Board

Advanced Heading and RTK Positioning

key features

- Extremely accurate heading with short baselines
- Multi-frequency position, dual-frequency heading supporting GPS, GLONASS, BeiDou, Galileo, QZSS, and L-band
- Atlas® L-band capable to 8 cm 95%
- Fast RTK acquisition and reacquisition times
- Excellent coasting performance
- 5 cm RMS RTK-enabled heave accuracy
- Strong multipath mitigation and interference rejection



Develop sophisticated machine control and navigation solutions in a world full of complex dynamic environments. The Vector H328 is our most advanced GNSS heading and positioning board.

The Vector H328 utilizes dual antenna ports to create a series of additional capabilities to Eclipse™ Vector technology including fast, high-accuracy heading over short baselines, RTK positioning, onboard Atlas L-band, RTK-enabled heave, low-power consumption, and precise timing.

Scalable Solutions

With the Vector H328, positioning is scalable and field upgradeable with all Hemisphere software and service options. Utilize the same centimeter-level accuracy in either single frequency mode, or employ the full performance and fast RTK initialization times over long distances with multi-frequency multi-constellation GNSS signals. High-accuracy L-band positioning from meter to sub-decimeter levels available via Atlas correction service.

Ease of Migration

Leverage the industry standard form factor for easy upgradeability from other manufacturers' modules.

For more information contact

NavtechGPS

Your ONE Source for GNSS Products and Solutions

+1-703-256-8900 or 800-628-0885

info@NavtechGPS.com

www.NavtechGPS.com



Vector H328 GNSS Compass Board

GNSS Receiver Specifications

Receiver Type:	GPS, GLONASS, BeiDou, Galileo, QZSS, L-Band, RTK	
Signals Received:	GPS L1, L1P, L2C, L2P, L5 GLONASS G1, G2, Pcode BeiDou B1, B2, B3 Galileo E1, E5a, E5b QZSS L1, L2C, L5 L-Band	
GPS Sensitivity:	-142 dBm	
SBAS Tracking:	3-channel, parallel tracking	
Update Rate:	10Hz standard, up to 50Hz optional	
Timing (1PPS) Accuracy:	20 ns	
Rate of Turn:	100°/s maximum	
Cold Start:	< 40 s typical (no almanac, ephemeris, position, or RTC)	
Warm Start:	< 20 s typical (almanac and RTC)	
Hot Start:	< 5 s typical (almanac, ephemeris, position, or RTC)	
Heading Fix:	< 10 s typical (Hot Start)	
Antenna Input Impedance:	50 Ω	
Maximum Speed:	1,850 kph (999 kts)	
Maximum Altitude:	18,288 m (60,000 ft)	

Positioning and Heading Accuracy

RMS (67%)	Horizontal	Vertical
RTK: ^{1,2}	8 mm + 1 ppm	15 mm + 2 ppm
SBAS (WAAS): ¹	0.3 m	0.6 m
Autonomous, no SA: ¹	1.2 m	2.4 m
Atlas H10 (L-band):	0.04 m	
Atlas H30 (L-band):	0.15 m	
Atlas H100 (L-band):	0.50 m	
Heading Accuracy:	< 0.2° rms @ 0.5 m antenna separation < 0.1° rms @ 1.0 m antenna separation < 0.05° rms @ 2.0 m antenna separation < 0.02° rms @ 5.0 m antenna separation < 1° rms	
Pitch / Roll Accuracy:	30 cm rms (DGPS) ⁴ , 5 cm rms (RTK) ⁴	

L-Band Receiver Specifications

Receiver Type:	Single Channel
Channels:	1525 to 1560 MHz
Sensitivity:	-140 dBm
Channel Spacing:	5.0 kHz
Satellite Selection:	Manual and Automatic
Reacquisition Time:	15 seconds (typical)
Processor:	DSP for demodulation and protocol decoding module provides processing for the differential algorithms

¹ Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity

² Depends also on baseline length

³ Requires a subscription from Hemisphere GNSS

⁴ Based on a 40 second time constant

⁵ Hemisphere GNSS proprietary

Authorized Distributor:

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Communications

Serial Ports:	3 full-duplex (1 3.3 V CMOS, 1 3.3VCMOS with flow control), 1 RS-232 with flow control), 1 USB Device (OTG with future FW upgrade), Ethernet 10//100Mbps, 2 CAN (NMEA2000, ISO 11783), SPI
Interface Level:	3.3V CMOS
Baud Rates:	4800 - 115200
Correction I/O Protocol:	Hemisphere GNSS proprietary, ROX Format, RTCM v2.3, RTCM v3.2, CMR, CMR+
Data I/O Protocol:	NMEA 0183, Crescent binary ⁵
Timing Output:	1PPS, CMOS, active low, falling edge sync, 10 kΩ, 10 pF load
Event Marker Input:	CMOS, active low, falling edge sync, 10 kΩ, 10 pF load

Power

Input Voltage:	3.3 VDC +/- 5%
Power Consumption:	3.5W all signals and L-band
Antenna Voltage:	15 VDC maximum
Antenna Short Circuit Protection:	Yes
Antenna Gain Input Range:	10 to 40 dB
Antenna Input Impedance:	50 Ω

Environmental

Operating Temperature:	-40°C to +85°C (-40°F to +185°F)
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	95% non-condensing (when installed in an enclosure)

Mechanical

Dimensions:	100 L x 60 W x 10 H (mm)
Weight:	44 g
Status Indication (LED):	Power, Primary and Secondary GPS lock, Differential lock, DGPS position, Heading, RTK lock, Atlas L-band lock
Power/Data Connector:	24-pin male header 2 mm pitch
Antenna Connectors:	16-pin male header 2 mm pitch MCX, female, straight

Aiding Devices

Gyro:	Provides smooth heading, fast heading reacquisition and reliable < 0.5° per min heading for periods up to 3 min. when loss of GPS has occurred ⁴
Tilt Sensors:	Provide pitch, roll data and assist in fast start-up and reacquisition of heading solution



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