VECTOR LITE (MK5)

Professional, robust and high performance GPS Compass

The NEW Vector Lite MK5 GPS Compass has the very same superb heading and positioning performance as it predecessors in the Vector MKII-series.

The rugged IP69K design housing is sealed for the harshest environments. It incorporates fixed and pole mounting capability for both marine and land applications.

The Vector Series is suitable for both commercial and professional marine (THD certifed), as well as for machine mounting in open pit mining, construction and other applications.

The Vector Lite MK5 utilize all of the recent innovations in Crescent® and Vector technology and is now, besides GPS, also GLONASS capabale.

CrossDipole low-multipath antennas are separated by 50 cm between phase centers, resulting in better than 0.3° rms heading performance while delivering position accuracy of better than 30 cm 95% of the time when using SBAS (EGNOS, MSAS & WAAS) .

The Pro MK5 supports both NMEA 0183 and NMEA 2000 interfacing, enabling a seamless choice of communication protocols. Crescent Vector technology delivers accurate and continuous performance, including position, heading, heave, pitch and roll. The stability and maintenancefree design of the Vector Series replaces traditional gyrocompasses and stand-alone GPS at a fraction of the cost.

KEY FEATURES

- Professional GNSS compass
- SBAS for increased accuracy
- Heading accuracy: <0,3 degrees
- Position accuracy; 0,5 m (SBAS)
- NMEA0183 /NMEA2000 interface
- 20 Hz update rate

TECHNICAL SPECIFICATIONS

GNSS Receiver Specifications

Receiver Type:	Vector GNSS Receiver
Signals Received:	GPS, GLONASS, BeiDou, Galileo, QZSS[7], IRNSS[7] and Atlas
Channels:	300
GPS Sensitivity:	-142 dBm
SBAS Tracking:	2-channel, parallel tracking
Update Rate:	10 Hz standard, 50 Hz optional Timing (1PPS)
Accuracy:	20 ns
Rate of Turn:	100˚/s maximum
Cold Start:	40 s (no almanac or RTC)
Warm Start:	20 s typical (almanac and RTC)
Hot Start:	5 s typical (almanac, RTC and position)
Heading Fix:	10 s typical (Hot Start)
Antenna Input Impedance:	50 Ω
Maximum Speed:	1,850 mph (999 kts)
Maximum Altitude:	18,288 m (60,000 ft)
Differential Options:	SBAS, Atlas (L-band)

Positioning Accuracy

	RMS (67%)	2DRMS (95%)
Autonomous, no SA[2]:	1.2 m	2.5 m
SBAS (WAAS)[2]:	0.3 m	0.6 m
Atlas (L-band)[2],[6]:	0.3 m	0.6 m
Heading Accuracy:	< 0.3° rms	
Pitch/Roll Accuracy (RMS):	<1˚	
HeaveAccuracy (RMS):	30 cm (DGPS)[6],10 cm (Atlas)[6]	

L-Band Receiver Specifications

Channels:	1530 to 1560 MHz
Sensitivity:	-130 dBm
Channel Spacing:	5 kHz
Satellite Selection:	Manual or Automatic
Re-acquisition Time:	15 sec (typical)
Processor:	DSP for demodulation and protocol decoding module provides processing for the differential algorithms

Communications

Ports:	1x RS232, 1x RS422, 1x half-duplex RS422(TX), NMEA2000
Baud Rates:	4800 - 115200
Correction I/O Protocol:	Atlas, GNSS proprietary, RTCM v2.3 (DGPS)
Data I/O Protocol:	NMEA 0183, NMEA 2000, GNSS binary
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
Heading Warning I/O:	Open relay system indicates invalid heading

Power

Input Voltage:	9 - 36 VDC with reverse polarity operation
Power Consumption:	TBD
Current Consumption:	TBD
Reverse Polarity Protection:	Yes

Environmental

Operating Temperature: -	40°C to +70°C (-40°F to +158°F)
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	95% non-condensing
Vibration:	IEC60945 Section 8.7
EMC:	IEC60945 FCC part 15 Subpart B, CISPR32

IMO Wheelmark

Certification:	MED/4.41 Transmitting Heading Device THD (GNSS Method)
Enclosure:	IP66/IP69

Mechanical

Dimensions:	66.9 L x 20.9 W x 12.2 H cm
Weight: 2.1kg	
Status Indications(LED):	Power, GNSS Lock, Heading
Power/Data Connector:	22 pin environmentally sealed

Aiding Devices

Gyro:	Integrated gyroscope provides smooth heading, fast heading reacquisition and reliable < 1° per minute heading for periods up to 3 minutes when loss of GNSS has occurred [4]
Tilt Sensors:	Provide pitch, roll data and assist in fast start-up and re-acquisition of heading solution

Power

Input Voltage:	6 to 36 VDC
Power Consumption:	TBD
Current Consumation:	TBD
Power Isolation:	Isolated to enclosure
Reverse Polarity Protection :	Yes

1 Depends on multipath environment, number of satellites in view, satellite geometry, no SA, and ionospheric activity
2 Depends on multipath environment, number of satellites in view, WAAS coverage and satellite geometry
3 Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for differential services), and ionospheric activity
4 Based on a 40 second time constant
5 True Heading GNSS propietary
6 Requires a Hemisphere GNSS subscription
7 With future firmware upgrade and activation

True Heading Dealer

2019-02-28

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TRUE HEADING