

GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) HEADING TRIMBLE BX992

GNSS Heading Trimble BX992 merupakan alat penentuan posisi 3D (tiga dimensi) teliti dan arah (heading) dari kapal survei. GNSS Heading Trimble BX992 mampu menghasilkan posisi dengan ketelitian sub desimeter jika menerima sinyal koreksi sistem Real Time Kinematik (RTK) dan ketelitian heading hingga 0.1° , sehingga sangat cocok untuk aplikasi survei di laut.

Merek Alat:

Trimble BX992 Marine

Kelengkapan:

- 2x Antenna GA810
- Receiver and Control Unit
- 2x Antenna Cable
- 2x Antenna Pole
- Squid Cable with D26 Connector
- Power Supply DC
- LAN Cable
- Suitcase

Fungsi:

- Positioning and heading for Marine Navigation

TECHNICAL SPECIFICATIONS

- Trimble Maxwell™ 7 Technology
- Onboard Advanced MEMS inertial sensors
- Position Antenna based on 336 Channel Maxwell™ 7 chip:
 - GPS: L1 C/A, L2E, L2C, L5
 - BeiDou: B1, B2, B313
 - GLONASS: L1 C/A, L2 C/A, L3 CDMA
 - Galileo2: E1, E5A, E5B, E5AltBOC, E6
 - IRNSS: L5
 - QZSS: L1 C/A, L1 SAIF, L1C, L2C, L5, LEX
 - SBAS: L1 C/A, L5
 - MSS L-Band: OmniSTAR, Trimble RTX
- Vector Antenna based on second 336 Channel Maxwell™ 7 chip:

- GPS: L1 C/A, L2E, L2C, L5
- BeiDou: B1, B2, B3
- GLONASS: L1 C/A, L2 C/A, L3 CDMA
- Galileo2: E1, E5A, E5B, E5AltBOC, E614
- IRNSS: L5
- QZSS: L1 C/A, L1 SAIF, L1C, L2C, L5, LEX
- High-precision multiple correlator for GNSS pseudorange measurements
- Trimble Everest Plus™ multipath mitigation
- Advanced RF Spectrum Monitoring and Analysis
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Proven Trimble low elevation tracking technology
- Reference outputs/inputs:
 - CMR, CMR+, sCMRx, RTCM 2.1, 2.2, 2.3, 3.0, 3.112, 3.2
- Navigation Outputs:
 - ASCII: NMEA-0183 GSV, AVR, RMC, HDT, V GK, VHD, ROT, GGK, GGA, GSA, ZDA, VTG, GST, PJT,PJK, BPO, GLL, GRS, GBS and Binary: Trimble GSOF, NMEA2000
- 1 Pulse Per Second Output
- Event Marker Input Support
- Supports Fault Detection & Exclusion (FDE), Receiver Autonomous Integrity Monitoring

PERFORMANCE SPECIFICATIONS

Time to First Fix (TTFF)

Cold Start	<45 seconds
Warm Start	<30 seconds
Signal Re-acquisition	<2 seconds

Velocity Accuracy

Horizontal	0.007 m/sec
Vertical	0.020 m/sec

Maximum acceleration GNSS tracking +/- 11g

Inertial Sensors

Maximum acceleration	±6 g
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Maximum angular rate	±350 deg/sec
Maximum Operating Limits	
Velocity	515 m/sec
Altitude	18,000 m
RTK initialization time	typically <8 seconds
RTK initialization reliability ³	>99.9%
Position Latency ⁵	<20ms
Maximum Position/Attitude Update Rate	100 Hz
Heading (deg) on 2m Baseline	0.09

COMMUNICATION

- 1 USB 2.0 Device port
- 1 LAN Ethernet port:
 - Supports links to 10BaseT/100BaseT auto-negotiate networks
 - All functions are performed through a single IP address simultaneously—including web GUI access and raw data streaming
 - Network Protocols supported:
 - > HTTP (web GUI)
 - > NTP Server
 - > NMEA, GSOF, CMR over TCP/IP or UDP
 - > NTripCaster, NTripServer, NTripClient
 - > mDNS/uPnP Service discovery
 - > Dynamic DNS
 - > eMail alerts
 - > Network link to Google Earth
 - > Support for external modems via PPP
 - > RNDIS Support
- 2 x RS232 ports:
 - Baud rates up to 460,800
- 1 CAN Port
- Control Software:
 - HTML web browser, Internet Explorer, Firefox, Safari, Opera, Google Chrome

PHYSICAL AND ELECTRICAL CHARACTERISTICS

Size	185 mm x 93 mm x 43 mm
Power	9 VDC to 30 VDC
	Typical 3.0 W (L1/L2 GPS + L1/L2 GLONASS)
Weight	0.76 kg
Connectors	
I/O	D-sub DE9 and DA26
GNSS Antenna	2 x TNC (Female)
Antenna LNA Power Input	
Input voltage	3.3 VDC to 5 VDC
Maximum current	400 mA
Minimum required LNA Gain	32.0 dB

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	-40 °C to +75 °C
Storage	-55 °C to +85 °C
Vibration	MIL810F, tailored
	Random 6.2 gRMS operating
	Random 8 gRMS survival
Mechanical shock	MIL810D
	±40 g 10ms operating
	±75 g 6ms survival
Operating Humidity	5% to 95% R.H. non-condensing, at +60 °C
IP Rating	IP67

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