GNSS Compass is a low-cost all-in-one GNSS/INS navigation and heading solution. It provides accurate dual-antenna GPS-based heading that is not subject to magnetic interference and can maintain accurate heading during GNSS outages of up to 20 minutes.

It features high accuracy RTK positioning and is plug and play with NMEA 0183, NMEA 2000, and Ethernet interfaces.

**PERFORMANCE**
- 0.4 ° Roll and Pitch
- 0.2 ° Heading
- 0.01 m RTK Positioning
- Heave: 5 % or 0.05 m (whichever is great)

**KEY FEATURES**
- Dual Antenna Heading
- GPS, GLONASS, Galileo & BeiDou
- Ethernet & Serial Options
- Easy to interface with hydrographic packages

**APPLICATIONS**
- **SEA**
  - Marine Navigation
  - Hydrography
- **LAND**
  - Autonomous Agriculture
  - Antenna Targeting
GNSS Compass features L1/L2 RTK to deliver real-time position accuracy of 10 mm. It supports all of the current and future satellite navigation systems including GPS, GLONASS, GALILEO and BeiDou.

GNSS Compass features a GPS disciplined oscillator allowing it to act as a high accuracy time reference for other systems. The Power over Ethernet variant supports both PTP and NTP for precise time synchronization across your whole network.

GNSS Compass uses dual GNSS antennas to reliably determine true heading with high accuracy. It doesn’t require motion to work and it isn’t affected by magnetic interference.

GNSS Compass is available in both a serial variant and a Power over Ethernet variant. The serial variant supports both NMEA 2000 and NMEA 0183 for plug and play connection to existing marine systems while the power over Ethernet variant allows simplified power and network cabling with maximum flexibility for new applications.
**SPECIFICATIONS**

**NAVIGATION**

- Horizontal Position Accuracy: 1.5 m
- Vertical Position Accuracy: 2.0 m
- Horizontal Position Accuracy (with RTK): 0.01 m
- Vertical Position Accuracy (with RTK): 0.015 m
- Velocity Accuracy: 0.05 m/s
- Roll & Pitch Accuracy: 0.4 °
- Heading Accuracy: 0.2 °
- Heave Accuracy (whichever is greater): 5 % or 0.05 m
- Range: Unlimited
- Hot Start Time (orientation): 500 ms
- Output Data Rate: Up to 200 Hz

**GNSS**

- Supported Navigation Systems: GPS L1, L2, GLONASS G1, G2, GALILEO E1, E5a, Beidou B1, B2
- Supported SBAS Systems: WAAS / EGNOS / MSAS / GAGAN / QZSS
- Acceleration Limit: 4 g
- Hot Start First Fix: 6 s
- Cold Start First Fix: 30 s
- Heading Fix (after valid position): 10 s

**COMMUNICATION (Ethernet)**

- Interface: Ethernet
- Speed: 10 / 100
- Protocol: NMEA 0183, AN Packet Protocol, TSS1, RTCM
- Ports: Up to 4 TCP or UDP ports
- Timing: PTP Server, NTP Server
- Timing Accuracy (PTP): 50 ns
- Timing Accuracy (NTP): 1 ms

**COMMUNICATION (Serial)**

- Interface: RS422 or RS232, CAN bus
- Speed: 2400 to 1M baud
- Protocol: NMEA 0183, NMEA 2000, AN Packet Protocol, TSS1, Simrad, RTCM
- Timing: 1PPS Output
- Timing Accuracy: 20 ns

**HARDWARE (Ethernet)**

- Power Input: Power over Ethernet (PoE), 802.3af or 802.3at
- Power Consumption: 1.3 W
- Hot Start Battery Capacity: > 24 hrs
- Operating Temperature: -40 °C to 85 °C
- Environmental Protection: IP67, MIL-STD-810G
- Shock Limit: 75 g 11 ms
- Dimensions: 672 x 190 x 73.9 mm
- Weight: 1450 grams

**HARDWARE (Serial)**

- Operating Voltage: 9 to 36 V
- Power Consumption: 1.4 W
- Operating Temperature: -40 °C to 85 °C
- Environmental Protection: IP67, MIL-STD-810G
- Shock Limit: 75 g 11 ms
- Dimensions: 672 x 190 x 73.9 mm
- Weight: 1450 grams