ADVANCED NAVIGATION

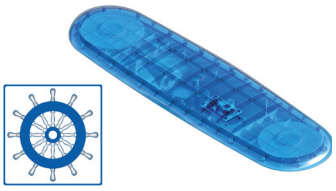
GNSS COMPAS
SATELLITE COMPAS

The GNSS Compass is a cost-effective 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

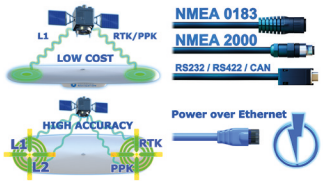
- 0.4 ° Roll and Pitch
- 0.2 ° Heading
- 8 mm RTK Positioning
- 7 °/hr MEMS Gyroscope

FEATURES



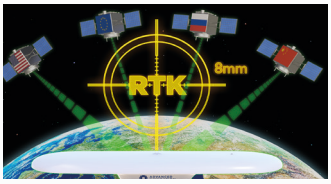
FULLY INTEGRATED NAVIGATION

The GNSS Compass is a fully integrated wheelmark certified GPS/INS navigation and heading solution. It contains a 9 axis IMU that is integrated with a dual antenna GNSS system with high performance antennas. It provides higher heading accuracy than magnetic systems and does not require any calibration or setup. The system is plug and play for NMEA 0183 and NMEA 2000 integrations, requiring no setup or configuration.



PERFORMANCE AND INTERFACE OPTIONS

Four product variants are available to cater to every different application and budget. The low cost variant is an L1 only solution that is suitable for commercial vessel navigation while an L1/L2 variant meets the high accuracy requirements of surveying applications. It is also possible to choose between an NMEA 0183/NMEA 2000 interface and a Power over Ethernet interface for maximum flexibility. The Ethernet variant features NTP and PTP timing servers for precise time synchronization.



HIGH ACCURACY 8MM POSITIONING

The high accuracy variant supports L1/L2 RTK to deliver real time position accuracy of 8mm. Both the high accuracy and low cost variant support PPK (post processing) to deliver 8mm position accuracy using the Kinematica post processing software. Both variants support all of the current and future satellite navigation systems including GPS, GLONASS, GALILEO and BeiDou.

MINIMIZED SIZE, WEIGHT AND PRICE

The GNSS Compass dramatically reduces the size weight and cost of attaining a high accuracy position and heading solution. In addition the plug and play functionality of the device means that anyone can install it in minutes.

SPECIFICATIONS

NAVIGATION (low cost variant)

Horizontal Position Accuracy	2.0 m
Vertical Position Accuracy	3.0 m
Horizontal Position Accuracy (with DGNSS)	0.6 m
Vertical Position Accuracy (with DGNSS)	1.0 m
Horizontal Position Accuracy (Kinematica post-processing)	0.01 m
Vertical Position Accuracy (Kinematica post-processing)	0.02 m
Velocity Accuracy	0.05 m/s
Roll & Pitch Accuracy	0.4 °
Heading Accuracy	0.2 °
Roll & Pitch Accuracy (Kinematica post-processing)	0.13 °
Heading Accuracy (Kinematica post-processing)	0.09 °
Heave Accuracy (whichever is greater)	5 % or 0.05 m
Range	Unlimited
Hot Start Time	500 ms
Internal Filter Rate	100 Hz
Output Data Rate	Up to 100Hz

NAVIGATION (high accuracy variant)

Horizontal Position Accuracy	0.8 m
Vertical Position Accuracy	1.5 m
Horizontal Position Accuracy (with RTK)	0.008 m
Vertical Position Accuracy (with RTK)	0.015 m
Horizontal Position Accuracy (Kinematica post-processing)	0.008 m
Vertical Position Accuracy (Kinematica post-processing)	0.015 m
Velocity Accuracy	0.02 m/s
Roll & Pitch Accuracy	0.4 °
Heading Accuracy	0.2 °
Roll & Pitch Accuracy (Kinematica post-processing)	0.13 °
Heading Accuracy (Kinematica post-processing)	0.09 °
Heave Accuracy (whichever is great)	5 % or 0.05 m
Range	Unlimited
Hot Start Time	500 ms
Internal Filter Rate	200 Hz
Output Data Rate	Up to 200 Hz

GNSS (low cost variant)

Model	2 x u-blox M8T
Supported Navigation Systems	GPS L1 GLONASS G1 GALILEO E1 BeiDou B1
Update Rate	10 Hz
Acceleration Limit	4 g
Hot Start Time	1 second

GNSS (high accuracy variant)

Model	Trimble MB-Two
Supported Navigation Systems	GPS L1, L2 GLONASS G1, G2 GALILEO E1, E5b BeiDou B1, B2
Update Rate	20 Hz
Acceleration Limit	11 g
Hot Start Time	3 seconds

HARDWARE (Ethernet variant)

Power Input	Power over Ethernet (PoE) 802.3af or 802.3at
Power Consumption (Low Cost Variant)	1.1 Watts
Power Consumption (High Accuracy Variant)	2.4 Watts
Hot Start Battery Capacity	> 24 hrs
Hot Start Battery Charge Time	30 mins
Hot Start Battery Endurance	10 years
Operating Temperature	-40 °C to 85 °C
Environmental Protection	IP68 MIL-STD-810G
Shock Limit	75 g
Dimensions	672 x 190 x 73.9 mm
Weight (Low Cost Variant)	1460 grams
Weigh (High Accuracy Variant)	1530 grams

HARDWARE (Serial Variant)

Operating Voltage	9 to 36 V
Input Protection	-40 to 60 V
Power Consumption (Low Cost Variant)	1.2 Watts
Power Consumption (High Accuracy Variant)	2.64 Watts
Hot Start Battery Capacity	> 24 hours
Hot Start Battery Charge Time	30 mins
Hot Start Battery Endurance	10 years
Operating Temperature	-40 °C to 85 °C
Environmental Protection	IP68 MIL-STD-810G
Shock Limit	75 g
Dimensions	672 x 190 x 73.9 mm
Weight (Low Cost Variant)	1480 grams
Weight (High Accuracy Variant)	1550 grams

COMMUNICATION (Ethernet variant)

Interface	Ethernet
Speed	10/100
Protocol	NMEA0183 AN Packet Protocol TSS1 Simrad
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 Variant)

Interface	RS422 or RS232 CAN bus
Speed	2400 to 1M baud
Protocol	NMEA0183 NMEA2000 AN Packet Protocol TSS1 Simrad
Timing	1PPS Output
Timing Accuracy	20 ns

Australia Head Office
+61 2 9099 3800
info@advancednavigation.com

North American Office
+1 407 680 9532
usasales@advancednavigation.com