

RTK GNSS/INS

POLYNAV 2000H/P



The Polynav 2000 H/P is a high-performance, precision GNSS aided Inertial Navigation System (INS) Family designed and built by PolyExplore Inc. The Family comes in three options:

- Ultrahigh-performance “H” version
- High-performance “P” version

The system features dual frequency RTK with a centimeter-level accuracy and compact, robust design. The Polynav 2000H/P Family provides superior performance during GNSS signal outages through its tightly coupled GNSS and INS systems. Furthermore, the system is capable of continuously generating highly accurate attitude measurements regardless of whether the platform is moving or static. Also included is a digital quadrature counter which can be used as a distance measurement indicator (DMI) to improve the performance in challenging environments. A heave message for the marine applications also included.

FEATURES

High accuracy position, velocity, acceleration, attitude (roll, pitch, heading), angular rate
GPS, GLONASS, Beidou, Galileo and SBAS

Dual frequency (L1 & L2) RTK

Dual antenna for accurate heading

100 Hz navigation solution and raw measurement output

Accurate attitude/heading whether the platform is static or moving

Tactical grade IMU sensors

Sensor fusion for GNSS, IMU and Odometer

ROS driver available

Heave Message

BENEFITS



BREAK THROUGH PRICE



MULTI I/O INTERFACE



NETWORK BASED RTK



RUGGED



Visit polyexplore.com For More Information.

High End, Cost-Effective Navigation Solutions.

PolyExplore Inc.

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REV. 2.00

TECHNICAL DATA

RTK GNSS/INS POLYNAV 2000H/P

HARDWARE SPECIFICATIONS

Electrical

Input voltage: 12–24 V DC
Power consumption: 5W
Interface: Ethernet, CAN, 2 Serial Ports, Odometer

Environmental

Operating temperature: -40° to 85° C

Mechanical

Dimension: 147 x 99 x 48 mm
Weight: 500 g

GNSS SENSOR PERFORMANCE

Time to First Fix (TTFF)

Cold start: < 60 seconds
Warm Start: < 45 seconds
Hot Start: < 11 seconds
Signal re-acquisition: < 2 seconds

Velocity Accuracy

0.02 m/sec HRMS

Precise Positioning Performance (RTK fixed solution)

Accuracy (HRMS): < 8 mm + 1 ppm
Initialization time: < 1 min typical
Operating range: < 40 km

INERTIAL SENSORS

POLYNAV 2000H

Type	Gyros	Accelerometers
Dynamic Range	125 °/s	8 g
Bias Instability	0.8 °/hr	3.2 ug
Random Walk	0.09°/√hr	0.008 m/s/√hr

POLYNAV 2000P

Type	Gyros	Accelerometers
Dynamic Range	125°/s	8g
Bias Instability	2°/h	3.6ug
Random Walk	0.15°/√h	0.12m/s/√h

POLYNAV 2000 H/P/E CHARACTERISTICS

Constellation	GPS/GLONASS/Beidou/Galileo
Satellite signals	L1 & L2
Position accuracy (RTK)	1.6 m CEP SPS, 0.02 m RTK
Velocity Accuracy (RTK)	1 cm/s
Roll/Pitch	0.005° (H), 0.01°(P)
Heading	0.1° (1 m base),
Measurement rate	100 Hz
Sensitivity	-160 dBm
Number of antennas	2



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