RTK GNSS/INS

# PolyNav 2100H/P

The PolyNav 2100H/P is a high-performance GNSS-aided Inertial Navigation System (INS) family designed and manufactured by PolyExplore. The family has two options:

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

The system is integrated with triple-frequency multi-constellation GNSS and MEMS IMU. It features tightly-coupled GNSS and INS systems and a built-in RTK engine that can achieve centimeter-level accuracy. The PolyNav 2100H/P family is compact and robust. It provides continuously superior performance during GNSS challenged environments and GNSS signal outages using dead-reckoning technique. Furthermore, a distance measurement instrument (DMI), such as an odometer, can be input to the system to provide additional accuracy and reliability. Heave message for marine applications is available.

## FEATURES

- Highly accurate position, velocity, acceleration, angular rate and attitude (roll, pitch, heading)
- GPS, GLONASS, Beidou, Galileo and SBAS
- Triple frequency (L1/L2/L5) RTK
- Dual antenna for accurate heading
- 100 Hz navigation solution and raw measurement output
- Accurate attitude/heading whether the platform is static or moving
- Sensor fusion for GNSS, IMU and odometer
- ROS driver available
- System options
    - Heave message available

## BENEFITS

BREAK THROUGH PRICE

MULTI I/O INTERFACE

NETWORK BASED RTK

RUGGED

POLYEXPLORE

**Visit www. polyexplore.com for more information.**

High-Performance, Cost-Effective Navigation & Mapping Solutions.

**PolyExplore Inc.**

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REV. 1.02

# SYSTEM SPECIFICATIONS

RTK GNSS/INS

# PolyNav 2100H/P

## HARDWARE SPECIFICATIONS

| | |
|---|---|
| **Electrical** | |
| Input Voltage | 12 VDC |
| Power Consumption | 5 W |
| Interface | Ethernet, CAN, 2 Serial Ports, Odometer |
| **Environmental** | |
| Operating Temperature | -40°C to 85°C |
| **Mechanical** | |
| Dimension | 147 x 99 x 48 mm |
| Weight | 500 g |

## PolyNav 2100H/P CHARACTERISTICS

| | |
|---|---|
| **Constellations** | GPS/GLONASS/BDS/Galileo |
| **Signal Tracking** | GPS L1C/A, L2C, L2P(Y), L5<br>GLONASS G1, G2<br>BDS B1I, B2I, B3I<br>Galileo E1, E5a, E5b<br>QZSS L1C/A, L2C, L5<br>SBAS L1C/A |
| **Position Accuracy** | |
| Single Point Positioning | 1.5 m |
| RTK | 2 cm + 1 ppm |
| **Velocity Accuracy** | 0.03 m/s |
| **Roll/Pitch** | 0.005° (H), 0.03°(P) |
| **Heading** | 0.08° (1 m base) |
| **Measurement rate** | 100 Hz |
| **Cold Start** | < 30 s |

## INERTIAL SENSORS

**PolyNav 2100H**

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

**PolyNav 2100P**

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



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