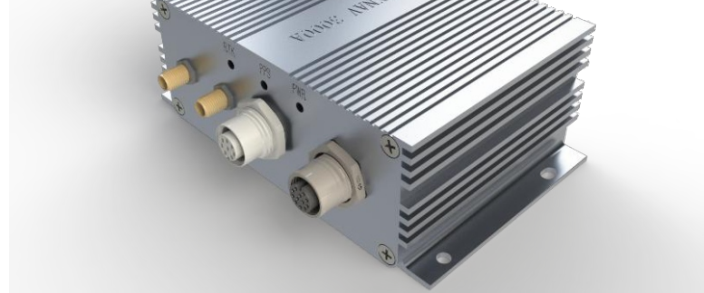


AUTOMOTIVE GNSS/INS

## PolyNav 3000A



The PolyNav 3000A is a high-performance positioning system designed for the automotive market. It is integrated with a multi-constellation GNSS receiver and a MEMS IMU. With the built-in RTK engine, it delivers up to centimeter level positioning accuracy. Fusing wheel speed and the gear position from the vehicle, the PolyNav 3000A provides continuous positioning, velocity, attitude and time synchronization, even in GNSS challenged environments and during GNSS outages.

The PolyNav 3000A is scalable for high-volume applications and is developed to support autonomous driving level 2 and above (L2+). It can be deployed in passenger vehicles for multiple ADAS (Advanced Driver Assistance System) features, such as highway driving assist and automated valet parking features. Furthermore, it can be integrated into self-driving buses and robotaxi.

### FEATURES

- Multi-constellation tracking provides high availability
- Multi-frequency (L1/L2/L5) signal tracking enables high accuracy
- Scalable for mass production
- Leading sensor fusion algorithm
- Lane-level precision
- Over-the-air software update
- Customizable onboard data storage
- 1 PPS output
- Support accessories: Ethernet, CAN, UART

### APPLICATIONS



Autonomous Vehicles



Advanced Driver Assistance Systems



Visit [www.polyexplore.com](http://www.polyexplore.com) for more information.

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

**PolyExplore Inc.**

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# SYSTEM SPECIFICATIONS

Automotive GNSS/INS  
**PolyNav 3000A**

## GNSS/INS

|                                     |                                                                                                                                |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Constellations</b>               | GPS/GLONASS/BDS/Galileo                                                                                                        |
| <b>Signal Tracking</b>              | 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 |
| <b>Position Accuracy</b>            |                                                                                                                                |
| Single Point Positioning Horizontal | 1.5 m                                                                                                                          |
| Single Point Positioning Vertical   | 2.5 m                                                                                                                          |
| DGPS Horizontal                     | 0.4 m                                                                                                                          |
| DGPS Vertical                       | 0.8 m                                                                                                                          |
| RTK Horizontal                      | 0.8 cm + 1 ppm                                                                                                                 |
| RTK Vertical                        | 1.5 cm + 1 ppm                                                                                                                 |
| <b>Velocity Accuracy</b>            | 0.03 m/s                                                                                                                       |
| <b>Pitch/Roll</b>                   | 0.1°                                                                                                                           |
| <b>Heading</b>                      | 0.2°                                                                                                                           |
| <b>Measurement Rate</b>             | 100 Hz                                                                                                                         |
| <b>Cold Start</b>                   | < 30 s                                                                                                                         |

## IMU

|                      |               |
|----------------------|---------------|
| <b>Gyroscope</b>     |               |
| Technology           | MEMS          |
| Dynamic Range        | 300 °/s       |
| Bias Instability     | 0.5 °/hr      |
| Angular Random Walk  | 0.03 °/√hr    |
| <b>Accelerometer</b> |               |
| Technology           | MEMS          |
| Dynamic Range        | 8 g           |
| Bias Instability     | 20 µg         |
| Velocity Random Walk | 0.036 m/s/√hr |

## PHYSICAL & ELECTRICAL

|                   |                                 |
|-------------------|---------------------------------|
| <b>Dimension</b>  | 120 mm x 72 mm x 40 mm          |
| <b>Weight</b>     | 400 g                           |
| <b>Power</b>      | 9 - 32 V                        |
| <b>Interfaces</b> | Ethernet<br>RS232<br>CAN<br>PPS |

## ENVIRONMENTAL

|                              |                |
|------------------------------|----------------|
| <b>Operating Temperature</b> | -40°C to +85°C |
| <b>Storage Temperature</b>   | -55°C to +95°C |



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