

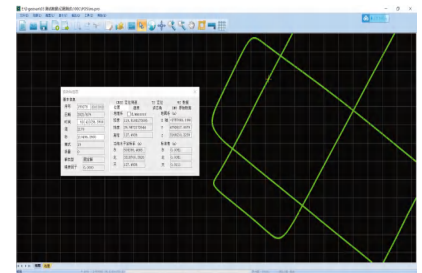


gSpin

GNSS / INS / multi-sensor integrated positioning and attitude measurement system (POS)



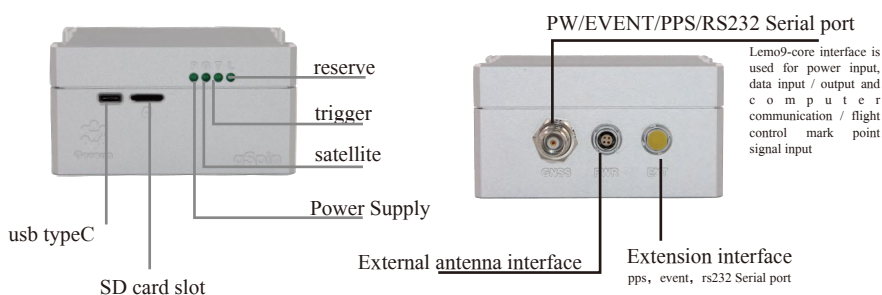
The GEOSUN GNSS / INS / multi-sensor integrated positioning and attitude measurement system (POS) gspin is divided into two series: light, small and high-precision. They can provide spatial parameter information such as time, position, speed and attitude for various air, land and water sports carriers.



Aviation application

Gspin aviation application product is a GNSS / INS integrated system designed and developed for direct geo referenced airborne sensor data. By integrating differential GNSS high-precision positioning technology with INS navigation technology, it makes the position and attitude information solution of spatial objects more accurate and efficient. Gspin can be integrated with aerial cameras, a variety of image sensors and lidar technology.

Gspin is based on the direct geographic reference method. It is a revolutionary technology in the aviation survey and remote sensing industry. Direct geographic reference is to directly measure the sensor location and data (also known as external orientation elements) without additional ground control point information. These parameters enable the data collected by airborne sensors to be solved directly with reference to the earth or local coordinate system.



Component

- ◆ Inertial measurement unit (IMU): high performance, small volume and light weight
- ◆ GNSS receiver: multi satellite multi frequency GNSS receiver
- ◆ Highly reliable data acquisition and storage system
- ◆ Software: Shuttle post-processing software

Characteristic

- ◆ Provide high-precision real-time or post solution for motion carrier
- ◆ It can replace aerial triangulation and comprehensive measurement of ground control points
- ◆ The existing DEM can be used for single stereo image pair model mapping and single chip correction
- ◆ Greatly improve the production efficiency and accuracy of traditional aerial mapping applications
- ◆ Easy integration with digital cameras, lidar and digital scanners
- ◆ It is especially suitable for sparsely populated areas without existing control points or applications requiring rapid response



Application

- ◆ Aerial photogrammetry: a system that uses an airborne aerial camera to collect raw data, including DTM generation, orthophoto map generation, topographic map mapping, etc
- ◆ Lidar: a system that uses airborne lidar to collect raw data, including power patrol inspection, forestry investigation, environmental monitoring, topographic mapping, etc
- ◆ UAV multispectral / hyperspectral remote sensing: Forestry monitoring, water environment monitoring, agricultural investigation and monitoring

Land application

Gspin high precision POS is a GNSS / INS / multi-sensor integrated system developed for manned motion carriers in the air, land and water. IMU mainly adopts optical fiber or laser gyro, and also supports more sensor data access, such as wheel counting. It can provide high-precision position and attitude information for the moving carrier, and can work effectively even under harsh GNSS observation conditions, such as urban canyon, viaduct, tunnel and forest.

Gspin high-precision POS integrates INS navigation, Dr navigation, differential GNSS positioning, Kalman filtering and other technologies. It can solve and provide relevant motion state information of the carrier with high frequency, dynamic, high precision and high reliability. At the same time, it can also be used to provide auxiliary dynamic information for other sensor systems loaded by the motion carrier.

Component

- ◆ Inertial measurement unit (IMU): high performance
- ◆ GNSS receiver: multi satellite multi frequency GNSS receiver
- ◆ WS: Wheel sensor
- ◆ Shuttle Post processing software

Characteristic

- ◆ Continuous positioning even during GNSS lockout
- ◆ High precision RTK or differential position and attitude measurement
- ◆ Fast moving alignment
- ◆ Provide external time alignment interface
- ◆ Optional module combination



Application

- ◆ Manned aircraft lidar
- ◆ High precision vehicle dynamic test
- ◆ Intelligent transportation system (ITS)
- ◆ Road topographic survey
- ◆ Rail geometric parameter information collection
- ◆ GIS data acquisition system
- ◆ Manned aircraft photogrammetry and remote sensing

Parameter						
Equipment model	gSpin110	gSpin210	gSpin310	gSpin410	gSpin510	gSpin610
Data update frequency	200Hz					
GNSS signal type	GPS L1/L2/L5 ; GLONASS L1/L2 ; B1C/B1/B2/B2a/B2b/B3 ; GALELEO E1/E5b/E5a					
Positioning accuracy (post-processing)	Horizontal accuracy 0.02m; Elevation accuracy 0.03m					
Attitude accuracy (post-processing)	Pitch / roll accuracy: 0.025° Heading accuracy: 0.080°	Pitch / roll accuracy: 0.015° Heading accuracy: 0.040°	Pitch / roll accuracy: 0.005° Heading accuracy: 0.017°	Pitch / roll accuracy: 0.003° Heading accuracy: 0.01°	Pitch / roll accuracy: 0.003° Heading accuracy: 0.008°	Pitch / roll accuracy: 0.002° Heading accuracy: 0.005°

Wuhan Geosun Navigation Technology Co.,Ltd

Web: www.geosunlidar.com

Tel: 86+027-87504895

Add: 4F, Building D, Maker plaza No.8 West Maodianshan Road, East Lake Hi-tech Zone Wuhan City, China