



## Product Description:

This product has built-in high-precision three-axis integrated fiber-optic gyro, high-precision quartz flexure accelerometer and mobile mapping-grade multi-mode and multi-frequency GNSS receiver supporting autonomous BeiDou function. Through the advanced intelligent combination navigation algorithm and Kalman filter, optimized design for GNSS obstruction and multi-path interference, it can realize high-precision heading, attitude, speed and position measurement of moving carriers.

The inertial guidance system also has a variety of sensor interfaces such as GNSS/odometer/DVL/barometric altimeter, which can well meet the needs of long-time, high-precision and high-reliability navigation applications in complex environments such as urban canyons, and can be used for the navigation and control of all kinds of unmanned systems.

## Features:

- Fast and accurate determination of initial heading and attitude
- Support real-time heading and attitude output
- Built-in GPS, BeiDou dual-mode receiver
- Dynamic fast alignment
- INS/GNSS combination design
- Support IE post-processing
- Anti-electromagnetic interference and vibration
- Enhanced Kalman filtering algorithm
- Built-in vibration damping system for good vibration and shock resistance

## Applications:

- Car Navigation
- Airborne Navigation
- Shipboard Navigation
- Stabilization Control

## Specification:

Combined inertial/satellite navigation accuracy	
Attitude Accuracy	Direction $\leq 0.02^\circ$ ( $1\sigma$ ) ; Roll、Pitch: $\leq 0.005^\circ$ ( $1\sigma$ )
Position Accuracy	Point position: $\leq 2\text{m}$ (50%CEP) ; RTK: $\leq 2\text{cm} + 1\text{ppm}$ (50%CEP)
Velocity Accuracy	$\leq 0.02\text{m/s}$ ( $1\sigma$ )
Registration Time	Starting from the acquisition of latitude/longitude position information, the duration of the alignment process is $\leq 5\text{min}$ .
Inertia/ODO/DVL Accuracy	$0.25\% \times \text{Miles traveled}$ (Depends on ODO or DVL accuracy)

**技术参数:**
**Pure inertial navigation accuracy**

Attitude Accuracy	Alignment accuracy: $\leq 0.06^\circ/\text{sec}$ ( $\Phi$ ) ( $1\sigma$ , $\Phi$ = local latitude);
	Azimuth Holding Accuracy: $0.02^\circ/\text{h}$ ( $1\sigma$ )
	Horizontal Attitude Alignment Accuracy: $\leq 0.01^\circ$ ( $1\sigma$ ) ;
	Horizontal Attitude Holding Accuracy: $\leq 0.01^\circ/\text{h}$ ( $1\sigma$ ) 。
Position Accuracy	Position Accuracy: $\leq 1\text{nmile}$ (50% CEP)
Velocity Accuracy	Horizontal velocity accuracy: $\leq 0.5\text{m/s}$ ( $1\sigma$ ) 。

**Main Device Characteristic**

Gyroscopes	Range $\pm 500^\circ/\text{s}$	Zero bias stability	$\leq 0.015^\circ/\text{h}$ ( $1\sigma$ )
Accelerometers	Range $\pm 30\text{g}$	Zero bias stability	$\leq 20\mu\text{g}$ ( $1\sigma$ )

**Physical Characteristic**
**Interface Characteristic**

Supply voltage	24V DC rate (12 ~ 32V DC)	Interface method	4 serial ports (RS232 or RS422)
Electric consumption	< 25W		Support PPS, EVENTMARK input/output
Operating temperature	-40°C~+55°C	Transmission speed	9600 ~ 230400bps (configure)
Protection level	IP65	<b>User mode</b>	
Physical dimension	$\leq 140\text{mm} \times 126\text{mm} \times 136\text{mm}$		
Weight	$\leq 2.7\text{Kg}$		
		Vehicle-mounted (default), aircraft-mounted, ship-mounted	

The data contained in this document is intended for the use of technical trainers only.

The customer's technical department is responsible for assessing the suitability of the product for the intended application and the completeness of the product information given in this document in relation to such application.

For further information on products, technology, terms and conditions of delivery and prices, please contact our nearest office ([www.senstechxyz.com](http://www.senstechxyz.com)).

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