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RLG Single-Axis Indexing Inertial Navigation System

SKU :RLG-HX90

▷ OVERVIEW

RLG-HX90 inertial navigation system is an inertial navigation system based on type 90 ring laser gyroscope and quartz flexible accelerometer. It can be combined with auxiliary equipment such as GNSS, altimeter, airspeed meter, etc., and can provide air carrier, ground carrier, etc. Navigation information such as speed, position, and attitude.

Can be widely used in carrier platforms such as tanks, various types of armored vehicles, self-propelled artillery, rockets, various types of aircraft, drones, ships, automobiles, high-speed rail, unmanned vehicles, mobile satellite communication systems, and drilling. Flight control, attitude stabilization, weapon stabilization platform, positioning and orientation, etc.

▷ PRODUCT FEATURES

● Sing-axis indexing mechanism for error mitigation

● High accuracy ring laser gyro and quartz accelerometer

● Optional static or moving base self-alignment

● Error parameters calibration and compensation in full temperature range

● Optional diverse input interfaces for GNSS/Odometer/DVL

● Configurable navigation modes

● Excellent environmental suitability

● Military standards

▷ APPLICATION AREAS

● Under-sea vehicle navigation
● Positioning and north-finding for land vehicle
● Stabilization and control for moving carrier
● Attitude measurement for demanding applications

▷ MAIN FUNCTIONS

● It has the function of outputting information such as carrier position, heading, attitude angle, angular rate and speed in real time;
● It has working modes such as pure inertial navigation and INS/GNSS (including Beidou) integrated navigation;

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●Possess the function of receiving satellite navigation information provided by external time system frequency standard equipment;
●It has the function of ground self-alignment and supports the function of air alignment;
●It has functions such as power-on self-test, periodic self-test, status report, installation error compensation, and non-volatile storage.

▶ PERFORMANCE INDICATORS

System accuracy System Accuracy	Pure Inertial Navigation/Pure Inertial Navigation		2.0nmile/3d, PEAK
	Integrated Navigation/Navigation with GNSS		≤5m , 1σ
	Heading angle /Heading		0.01°, RMS
	Horizontal attitude (roll and pitch) Horizontal Attitude (roll & pitch)		0.005°, RMS
	Pure Inertial Velocity		1.0 m/s , RMS
	GNSS Integrated navigation Velocity		0. 1 m/s , RMS
Indicators of inertial devices Gyro and Accelerometer Parameters	laser gyroscope _ Gyroscope	Range/Range	± 6 00 deg/s
		Bias Stability	≤0.002 deg/h, 1σ
		Bias Repeatability	≤0.002 deg/h, 1σ
		Scale Factor non-linearity	1 ppm
	Accelerometer Accelerometer	Range/Range	± 15g
		Bias Stability	≤10μg , 1σ
		Zero bias repeatability Bias Repeatability	≤10μg , 1σ
		Scale Factor non-linearity	15 ppm
align time Alignment Time	Cold Start		≤ 15 min
	Re-Start		≤ 10 min
	Air/In-Flight Start		≤15min
Working hours Operation Time	Continuous working time/Operation Time		more than 10h
Interface Features interface	Supply voltage/Voltage		18~36VDC
	Power Consumption		≤ 40W @ 24VDC
	Electrical interface/Electrical		RS232 × 2 RS422 × 3 CAN × 2 Ethernet × 1 1pps × 1
	Data Update Rate (configurable)		200Hz@115.2kbps
Use environment Environmental	Operating Temperature		-40°C~+65°C
	Storage temperature/Storage Temperature		-55°C~+85°C
	Use Altitude/Altitude		20000m
	Humidity		≤95% (+25°C)
	Vibration/Vibration		5g @ 20~2000Hz
	Shock/Shock		40 g, 11 ms, 1/2 Sine
Physical properties Physical	Dimensions/ Size (Φ*H)		≤ 346 x 435 mm
	Weight/ Weight		45 kg

Note: The structure can be customized according to the user's requirements.

GYROSCPE MOUNTING DIMENSIONS

●The whole system is composed of two parts: the inertial navigation main instrument and the inertial navigation main instrument bracket.

●Among them, the external dimensions of the main instrument are as follows: