HIGH-PRECISION INERTIAL NAVIGATION SYSTEM

IDEAL FOR SAFETY AND INTELLIGENT NAVIGATION FUTURE

Accuracy

performance

position

TABLE OF CONTENTS

Universal Marine Laser Inertial Navigation Series(UML-INS) ---------- **02**

Universal Marine Fiber Optic Inertial Navigation System(UMFO-INS) ---------- **04**

Universal optical gyro attitude reference series(UOGA) ---------- **06**

Vehicle-mounted optical gyro positioning and orientation equipment series(VOGP) ---------- **08**

Aircraft Inertial Navigation System/Inertial Reference System(AINS/IRS) ---------- **10**

Control-level fiber optic gyroscope series(FOG) ---------- **12**

Ring Laser Gyroscope Series(RLG) ---------- **14**

Navigation-grade fiber optic gyroscope series(FOG) ---------- **16**

MARINE LASER INS PRECISE NAVIGATION

ADAPTABLE TO COMPLEX ENVIRONMENTS, STABLE & RELIABLE

LGM70A

PRODUCT INTRODUCTION

The universal marine laser inertial navigation system uses laser gyros and quartz accelerometers as core sensors, adopting strapdown technology for real-time navigation output. With modes like inertial autonomy, inertial/satellite, and inertial/speed combinations, it provides full-parameter navigation data for various marine platforms.

- Laser Gyro Sensor
- Multi-Mode Navigation
- Quartz Accurate
- Full-parameter Info

PRODUCT FEATURES

PRODUCT FEATURES

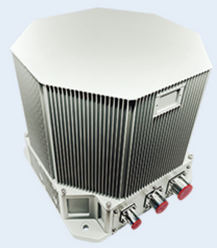
medium sized ship

Small Submersibles

Underwater Weapon Guidance

Unmanned ship

SERIES UML-INS

MODEL	 LGM50A	 LGM70A	 LGM90A	 LGM50B	 LGM50C
ACCELEROMETER					
Months Bias Repeatability(1σ)	≤20μg	≤20μg	≤20μg	≤20μg	≤20μg
Months Scale Factor Accuracy(1σ)	≤20ppm	≤20ppm	≤20ppm	≤20ppm	≤20ppm
GYRO					
Bias Repeatability（1σ）	≤0.008°/hr	≤0.005°/hr	≤0.003°/hr	≤0.01°/hr	≤0.01°/hr
Scale Factor Accuracy（1σ）	≤5ppm	≤3ppm	≤2ppm	≤5ppm	≤5ppm
Random walk（1σ）	≤0.002°/√hr,1σ	≤0.0015°/√hr,1σ	≤0.0007°/√hr,1σ	≤0.003°/√hr,1σ	≤0.003°/√hr,1σ
FEATURES					
Angular Rate	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec
Angular Acceleration	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²
Acceleration	>25g	>25g	>25g	>25g	>25g
Angular Attitude	Any Orientation				
Speed accuracy	≤1.5kn	≤1.2kn	≤1.0kn	≤0.6kn	≤0.6kn
Startup time	≤10sec	≤10sec	≤10sec	≤10sec	≤10sec
Input/output	3 RS422 full-duplex serial ports, 1 100M Ethernet port				
Alignment time	≤15min	≤15min	≤30min	≤1hr	1hr~6hr
POSITION ACCURACY					
Pure inertia	≤0.8nm/1h	≤1nm/2h	≤1nm/4h	≤1nm/12h	1nm/36h~72h
Inertia/DVL Combination	≤0.4%D	≤0.3%D	≤0.3%D	≤0.3%D	≤0.3%D
AHRS APPLICATIONS PERFORMANCE					
Heading Accuracy	≤0.05°sec(L)	≤0.03°sec(L)	≤0.02°sec(L)	≤0.02°sec(L)	≤0.04°sec(L)
Pitch & Roll Accuracy	≤0.02°	≤0.015°	≤0.01°	≤0.01°	≤0.02°
CHARACTERISTICS					
Power consumption	＜20W	＜30W	＜30W	＜40W	＜40W
Weight	＜3.9kg	＜6kg	＜8kg	＜6.5kg	＜8.2kg
Temperature	-40℃~60℃				
Shock	15g，Half-sine wave 11ms				
Input Voltage	DC24V(±25%)				
cooling	Conduction to mounting plate				
Vibration	20~2000Hz,6.06g				
MTBF	＞20000 hours	＞20000 hours	＞20000 hours	＞15000 hours	＞15000 hours

SMART MARINE NAVIGATION SOLUTIONS

ENHANCE NAVIGATION SAFETY AND EFFICIENCY

FGM70A

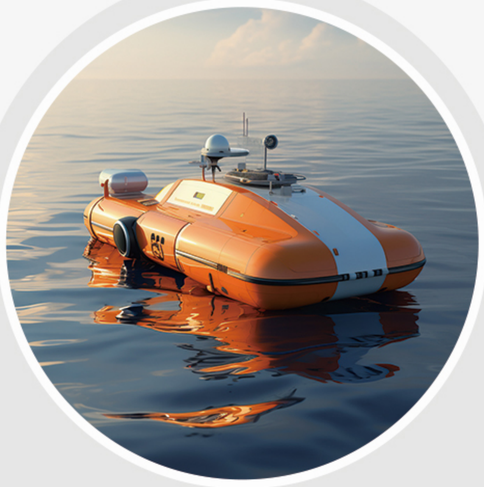
PRODUCT INTRODUCTION

This universal marine fiber-optic inertial navigation device uses fiber-optic gyroscopes as the core sensor, combined with various accelerometers, and adopts strapdown technology for real-time navigation output. With modes like inertial autonomy, inertial/satellite, and inertial/speed combinations, it provides full-parameter navigation for various marine platforms, including unmanned survey vessels and small submersibles.

- Fiber Gyro Sensor
- Multi-Mode Navigation
- High Reliability
- Fault Detection &Alarm

PRODUCT FEATURES

PRODUCT FEATURES



Unmanned Survey Boats

Small Submersibles

Underwater Weapon Guidance

Unmanned ship

SERIES UMFO-INS

MODEL	 FGM50A	 FGM60A	 FGM70A	 FGM98A	 FGM120A
ACCELEROMETER					
Months Bias Repeatability(1σ)	≤50μg	≤50μg	≤20μg	≤10μg	≤10μg
Months Scale Factor Accuracy(1σ)	≤50ppm	≤50ppm	≤20ppm	≤10ppm	≤10ppm
GYRO					
Bias Repeatability（1σ）	0.04°/hr~0.02°/hr	0.02°/hr~0.01°/hr	0.01°/hr~0.005°/hr	0.005°/hr~0.003°/h	0.003°/hr~0.001°/hr
Scale Factor Accuracy（1σ）	≤50ppm	≤50ppm	≤20ppm	≤20ppm	≤20ppm
Random walk（1σ）	≤0.007°/√hr,1σ	≤0.005°/√hr,1σ	≤0.003°/√hr,1σ	≤0.0008°/√hr,1σ	≤0.0006°/√hr,1σ
FEATURES					
Angular Rate	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec
Angular Acceleration	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²
Acceleration	>25g	>25g	>25g	>25g	>25g
Angular Attitude	Any Orientation	Any Orientation	Any Orientation	Any Orientation	Any Orientation
Speed accuracy	≤5.0kn	≤3.0kn	≤1.8kn	≤1.2kn	≤1.20kn
Startup time	≤10 sec	≤10 sec	≤10 sec	≤10 sec	≤10 sec
Input/output	3 RS422 full-duplex serial ports, 1 100M Ethernet port				
Alignment time	≤15min	≤15min	≤15min	≤30min	≤30min
POSITION ACCURACY					
Pure inertia	≤6nm/1h	≤4nm/1h	≤2nm/1h	≤1nm/2h	≤1nm/4h
Inertia/DVL Combination	≤0.8%D	≤0.6%D	≤0.4%D	≤0.3%D	≤0.2%D
AHRS APPLICATIONS PERFORMANCE					
Heading Accuracy	≤0.3°sec(L)	≤0.2°sec(L)	≤0.1°sec(L)	≤0.05°sec(L)	≤0.03°sec(L)
Pitch & Roll Accuracy	≤0.04°	≤0.04°	≤0.02°	≤0.02°	≤0.02°
CHARACTERISTICS					
Power consumption	<12W	<15W	<15W	<18W	<18W
Weight	<1.35kg	<1.7kg	<2.2kg	<4kg	<9kg
Temperature	-40°C~60°C	-40°C~60°C	-40°C~60°C	-40°C~60°C	-40°C~60°C
Shock	15g，Half-sine wave 11ms				
Input Voltage	DC24V(±25%)				
cooling	Conduction to mounting plate				
Vibration	20~2000Hz,6.06g				
MTBF	＞20000 hours	＞20000 hours	＞20000 hours	＞20000 hours	＞20000 hours

PRECISION ATTITUDE PILOT UNIVERSAL PIONEER

AUTONOMOUS NAVIGATION, RELIABLE PERFORMANCE

FGH40A

PRODUCT INTRODUCTION

The universal optical gyro strapdown heading and attitude equipment uses laser or fiber optic gyro and quartz accelerometer as core sensors, adopts strapdown technology system, runs advanced navigation software at high speed internally, and outputs navigation information in real time. This series of products has multiple working modes such as inertial/satellite guidance combination and inertial autonomy, which can provide users with high-precision heading and attitude information of the carrier.

Core Laser/Fiber Gyro | Multiple Modes Available | High-Precision AHRS | Strong Autonomous Nav

PRODUCT FEATURES

PRODUCT FEATURES

Land combat vehicle

High-speed rail maintenance

Ship & Submarine Nav

Robot dog

SERIES UOGA

MODEL	 FGH40A	 FGH60A	 FGH70A	 LGH50A
ACCELEROMETER				
Months Bias Repeatability(1σ)	≤500μg	≤50μg	≤20μg	≤20μg
Months Scale Factor Accuracy(1σ)	≤500ppm	≤50ppm	≤20ppm	≤20ppm
GYRO				
Bias Repeatability（1σ）	≤0.1°/hr	≤0.03°/hr,1σ	≤0.01°/hr,1σ	≤0.008°/hr,1σ
Scale Factor Accuracy（1σ）	≤300ppm	≤20ppm	≤20ppm	≤5ppm
Random walk（1σ）	≤0.03°/√hr	≤0.005°/√hr	≤0.003°/√hr	≤0.002°/√hr
FEATURES				
Angular Rate	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec
Angular Acceleration	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²
Acceleration	>40g	>25g	>25g	>25g
Angular Attitude	Any Orientation			
Startup time	10 sec			
Input/output	3 RS422 full-duplex serial ports, 1 100M Ethernet port			

AHRS APPLICATIONS PERFORMANCE					
Heading Accuracy	Pure inertia	≤0.2°/h	≤0.05°/h	≤0.04°/h	≤0.02°/h
	Satellite navigation combination	≤1°	≤0.3°	≤0.2°	≤0.1°
Pitch & Roll Accuracy	Pure inertia	≤0.15°	≤0.06°	≤0.05°	≤0.03°
	Satellite navigation combination	≤0.1°	≤0.03°	≤0.02°	≤0.02°

CHARACTERISTICS				
Power consumption	<10W	<15W	<15W	<20W
Weight	<500g	<1.35kg	<2.2kg	<3.9kg
Temperature	-40°C~60°C	-40°C~60°C	-40°C~60°C	-40°C~60°C
Shock	15g，Half-sine wave 11ms			
Input Voltage	DC24V(±25%)			
cooling	Conduction to mounting plate			
Vibration	20~2000Hz,6.06g			
MTBF	＞20000 hours	＞20000 hours	＞20000 hours	＞20000 hours

PRODUCT INTRODUCTION

This vehicle-mounted optical gyro positioning and orientation system uses laser or fiber optic gyros and quartz accelerometers as core sensors, adopting strapdown technology with advanced navigation software for real-time data output. It offers modes like zero-speed correction, inertial/satellite, and inertial/odometer combinations, providing full-parameter navigation for various vehicle platforms.

- Laser Gyro Sensor
- Multi-Mode Navigation
- Autonomous Nav & Corr
- Full-Parameter Nav

PRODUCT FEATURES

PRODUCT FEATURES

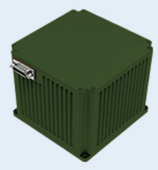
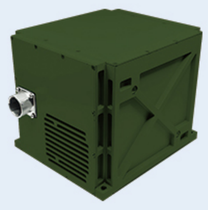
Land combat vehicle

Guided weapons

Agricultural robots

High-speed rail maintenance

SERIES VOGP

MODEL	 FGL60A	 FGL70A	 LGL50A	 LGL70A	 LGL90A	 LGL50B	 LGL50C
ACCELEROMETER							
Months Bias Repeatability(1σ)	≤50μg	≤20μg	≤20μg	≤20μg	≤20μg	≤20μg	≤20μg
Months Scale Factor Accuracy(1σ)	≤50ppm	≤20ppm	≤20ppm	≤20ppm	≤20ppm	≤20ppm	≤20ppm
GYRO							
Bias Repeatability（1σ）	≤0.03°/hr,1σ	≤0.01°/h	≤0.008°/h	≤0.006°/h	≤0.003°/h	≤0.01°/h	≤0.01°/hr,1σ
Scale Factor Accuracy（1σ）	≤50ppm	≤20ppm	≤5ppm	≤3ppm	≤2ppm	≤5ppm	≤5ppm
Random walk（1σ）	≤0.01°/√hr	≤0.003°/√hr	≤0.003°/√hr	≤0.0015°/√hr	≤0.0008°/√hr	≤0.003°/√hr	≤0.003°/√hr
FEATURES							
Angular Rate	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec
Angular Acceleration	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²
Acceleration	>40g	>25g	>25g	>25g	>25g	>25g	>25g
Angular Attitude	Any Orientation	Any Orientation	Any Orientation	Any Orientation	Any Orientation	Any Orientation	Any Orientation
Alignment time	≤5min	≤5min	≤8min	≤8min	≤8min	≤15min	≤15min
Input/output	3 RS422 full-duplex serial ports, 1 100M Ethernet port						
POSITION ACCURACY							
10min zero speed correction	——	——	≤10m	≤7m	≤7m	≤5m	≤5m
Inertial navigation/odometer combination	≤1%D	≤0.4%D	≤0.3%D	≤0.2%D	≤0.1%D	≤0.08%D	≤0.05%D
North finding/orientation accuracy	≤5.0mil	≤3.0mil	≤1.0mil	≤0.7mil	≤0.5mil	≤0.4mil	≤0.3mil
Bearing keeping accuracy/2h	≤6.0mil	≤4.0mil	≤1.5mil	≤1.0mil	≤0.5mil	≤0.4mil	≤0.3mil
Combined navigation position accuracy	≤3.0mil	≤2.0mil	≤0.75mil	≤0.5mil	≤0.3mil	≤0.2mil	≤0.2mil
AHRS APPLICATIONS PERFORMANCE							
Heading Accuracy	≤3.0mil	≤2.0mil	≤0.75mil	≤0.5mil	≤0.3mil	≤0.2mil	≤0.2mil
Pitch & Roll Accuracy	≤1.0mil	≤0.5mil	≤0.35mil	≤0.2mil	≤0.2mil	≤0.2mil	≤0.2mil
CHARACTERISTICS							
Power consumption	<15W	<15W	<20W	<30W	<30W	<40W	<40W
Weight	<1.7kg	<2.2kg	<3.9kg	<6kg	<8kg	<6.5kg	<8.2kg
Temperature	-40°C~60°C						
Shock	15g,Half-sine wave 11ms						
Input Voltage	DC24V(±25%)						
cooling	Conduction to mounting plate						
Vibration	20~2000Hz,6.06g						
MTBF	>20000 hours	>20000 hours	>20000 hours	>20000 hours	>20000 hours	>15000 hours	>15000 hours

PRECISION NAVIGATION SOLUTION FOR LONG-HAUL FLIGHTS

MULTI-MODE, AUTONOMOUS, RELIABLE, AERIAL NAVIGATION AID

LGA50C

PRODUCT INTRODUCTION

The compact autonomous optical navigator uses optical gyros and star trackers as core sensors, running advanced navigation and star tracking software for real-time multi-mode navigation output. It supports pure inertial, inertial/star light, and inertial/satellite combinations, providing full-parameter navigation data for various platforms.

- Precise Optical Gyro
- Multi-Mode Navigation
- Fault Detection Alert
- Long-Flight Accuracy

PRODUCT FEATURES

PRODUCT FEATURES

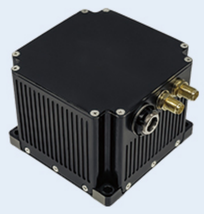
Rotor drone

Fixed wing UAV

Manned Aircraft Nav

Agricultural drone

SERIES INS

MODEL		 FGA40A	 FGA60A	 FGA70A	 LGA46A	 LGA50B	 LGA50C
ACCELEROMETER							
Months Bias Repeatability(1σ)		≤500μg	≤50μg	≤20μg	≤20μg	≤20μg	≤20μg
Months Scale Factor Accuracy(1σ)		≤500ppm	≤50ppm	≤20ppm	≤20ppm	≤20ppm	≤20ppm
GYRO							
Bias Repeatability（1σ）		≤0.1°/hr	≤0.03°/hr	≤0.01°/hr	≤0.008°/hr	≤0.008°/hr	≤0.008°/hr
Scale Factor Accuracy（1σ）		≤300ppm	≤50ppm	≤20ppm	≤5ppm	≤5ppm	≤5ppm
Random walk（1σ）		≤0.03°/√hr	≤0.01°/√hr	≤0.005°/√hr	≤0.003°/√hr	≤0.003°/√hr	≤0.003°/√hr
FEATURES							
Position accuracy	Pure inertia	≤1nm/10min	≤4nm/1h	≤2nm/1h	≤0.8nm/1h	≤1nm/6h	≤1nm/12h
	Inertial navigation satellite	better than satellite accuracy					
Speed accuracy	Pure inertia	--	≤3.0m/s	≤1.5m/s	≤1.0m/s	≤1.0 m/s	≤1.0 m/s
	Inertial navigation satellite combination	≤0.2m/s	≤0.2m/s	≤0.2m/s	≤0.2m/s	≤0.2m/s	≤0.2m/s
Angular Rate		≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec	≥±400°/sec
Angular Acceleration		100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²	100000°/sec²
Acceleration		>40g	>25g	>25g	>25g	>25g	>25g
Angular Attitude		Any Orientation	Any Orientation	Any Orientation	Any Orientation	Any Orientation	Any Orientation
Alignment time		≤5min	≤5min	≤8min	≤8min	≤8min	≤15min
Input/output		2 RS422 serial ports	3 RS422 full-duplex serial ports, 1 100M Ethernet port				
AHRS APPLICATIONS PERFORMANCE							
Heading Accuracy	Pure inertia	--	≤0.4°sec(L)	≤0.2°sec(L)	≤0.1°sec(L)	≤0.1°sec(L)	≤0.1°sec(L)
	Satellite navigation combination	≤1°	≤0.2°	≤0.1°	≤0.05°	≤0.05°	≤0.05°
Pitch & Roll Accuracy	Pure inertia	--	≤0.08°	≤0.03°	≤0.03°	≤0.05°	≤0.05°
	Satellite navigation combination	≤0.2°	≤0.03°	≤0.02°	≤0.015°	≤0.02°	≤0.02°
CHARACTERISTICS							
Power consumption		<10W	<15W	<15W	<20W	<40W	<40W
Weight		<500g	<1.7kg	<2.2kg	<3.9kg	<6.5kg	<8.2kg
Temperature		-40°C~60°C					
Shock		15g，Half-sine wave 11ms					
Input Voltage		DC24V(±25%)					
cooling		Conduction to mounting plate					
Vibration		20~2000Hz,6.06g					
MTBF		>20000 hours	>20000 hours	>20000 hours	>20000 hours	>15000 hours	>15000 hours

PRODUCT INTRODUCTION

The control-level fiber optic gyroscope is based on the optical Sagnac effect and adopts a fully digital closed-loop detection technology to output angular velocity information above 4KHz in real time. Single-axis, dual-axis, and tri-axis models are available, among which the dual-axis and tri-axis gyroscopes use a shared light source and solution circuit technology to synchronously detect angular velocity information in multiple orthogonal axes.

Sagnac Effect Sensor | Compact & Lightweight | Digital Output Easy | Low Noise, Long Life

PRODUCT FEATURES

PRODUCT FEATURES

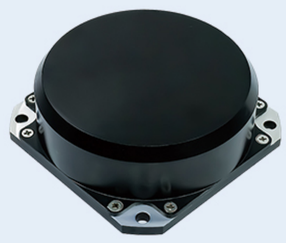
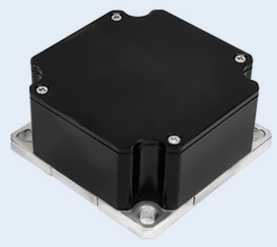
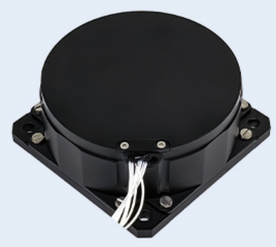
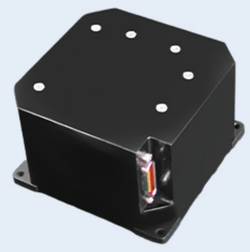
- Attitude control

- Torpedo Attitude Stab

- Missile Nav & Posit

- Industrial Eqp Stabil

SERIES FOG

MODEL	 F50A	 F60A	 F70A	 F60D	 F70T
PERFORMANCE					
Dynamic Range	≥±400°/s	≥±400°/s	≥±400°/s	≥±400°/s	≥±400°/s
Bias in-run	<2°/h	<1°/h	<1°/h	<2°/h	<1°/h
Accuracy（10sec）	0.5°/h~0.2°/h	0.2°/h~0.05°/h	0.05°/h~0.03°/h	1°/h~0.5°/h	0.5°/h~0.2°/h
ARW（Angular random walk)	<0.03°/√hr,1σ	<0.01°/√hr,1σ	<0.05°/√hr,1σ	<0.04°/√hr,1σ	<0.02°/√hr,1σ
Vibration screening	20~2000Hz，6.06g	20~2000Hz，6.06g	20~2000Hz，6.06g	20~2000Hz，6.06g	20~2000Hz，6.06g
Bandwidth	>200Hz	>200Hz	>200Hz	>200Hz	>200Hz
ELECTRICAL INTERFACE					
Turn on time	10s	10s	10s	10s	10s
Output signal format	RS-422	RS-422	RS-422	RS-422	RS-422
Output signal update rate	500Hz~4000Hz	500Hz~4000Hz	500Hz~4000Hz	500Hz~4000Hz	500Hz~2000Hz
Output signal baud rate	115200bps~921600bps	115200bps~921600bps	115200bps~921600bps	230400bps~921600bps	230400bps~921600bps
Operating temperature	- 40℃ ~ + 70℃	- 40℃ ~ + 70℃	- 40℃ ~ + 70℃	- 40℃ ~ + 70℃	- 40℃ ~ + 70℃
Storage temperature	- 55℃ ~ + 85℃	- 55℃ ~ + 85℃	- 55℃ ~ + 85℃	- 55℃ ~ + 85℃	- 55℃ ~ + 85℃
PHYSICAL SPECIFICATIONS					
Power supply	5V	5V	5V	5V	5V
Connector	J30J-15TJL	J30J-15TJL	J30J-15TJL	J30J-9ZKP	J30J-9ZKP
Power consumption	≤3W	≤3W	≤3W	≤5W	≤5W
MTBF (per MIL-HDBK-217-F)	>150000hr	>150000hr	>150000hr	>120000hr	>100000hr
Weight	≤160g	≤200g	≤300g	≤260g	≤500g
Dimensions(mm)	50×50×30	60×60×28.5	70×70×30	60×68×47	70×70×53

RING LASER GYRO
PEAK OF NAVIGATION ACCURACY

HIGH INTEGRATION, STRONG ADAPTABILITY, GUIDE THE WAY

L50A

PRODUCT INTRODUCTION

The ring laser gyroscope, based on the Sagnac effect, measures the carrier's angular increment by detecting the interference phase shift of laser in a ring-shaped glass cavity. It offers high integration, reliability, strong environmental adaptability, and stable performance, widely used as the core sensor in high-precision inertial navigation systems.

Sagnac Effect Sensor | Compact & Lightweight | Digital Output Easy | High Precision

PRODUCT FEATURES

PRODUCT FEATURES

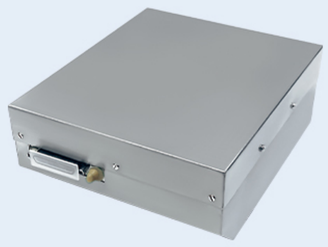
Aircraft Navigation

Vehicle Attitude Control

Unmanned ship

Artificial satellite

SERIES RLG

MODEL	 L50A	 L70A	 L90A
PERFORMANCE			
Bias stability (1σ)	0.015°/h~0.006°/h	0.008°/h~0.004°/h	0.004°/h~0.002°/h
Zero bias repeatability (1σ)	0.005°/h~0.003°/h	0.004°/h~0.002°/h	0.002°/h~0.001°/h
ARW（Angular random walk,1σ))	0.003°/√hr~0.0015°/√hr	0.002°/√hr~0.001°/√hr	0.0007°/√hr~0.0004°/√hr
Scale factor error (1σ)	≤5ppm	≤3ppm	≤2ppm
Dynamic Range	≥±400°/s	≥±400°/s	≥±400°/s
Bandwidth	>200Hz	>200Hz	>200Hz
ELECTRICAL INTERFACE			
Turn on time	<5s	<5s	<5s
Output signal format	TTL	TTL	TTL
Built in self-test	Yes	Yes	Yes
Output signal update rate	1Hz	1Hz	1Hz
Output signal baud rate	115200	115200	115200
Vibration shock	75g, half sine, 6ms	75g, half sine, 6ms	75g, half sine, 6ms
Operating temperature	- 40°C ~ + 70°C	- 40°C ~ + 70°C	- 40°C ~ + 70°C
Storage temperature	- 55°C ~ + 85°C	- 55°C ~ + 85°C	- 55°C ~ + 85°C
PHYSICAL SPECIFICATIONS			
Power supply	±15V,±5V	±15V,±5V	±15V,±5V
Connector (25 pins)	J30JM-25ZKP	J30JM-25ZKP	J30JM-37ZKP36
Power consumption	≤3W	≤3W	≤3W
MTBF (per MIL-HDBK-217-F)	>10000hr	>10000hr	>10000hr
Weight	0.64kg	1.5kg	2kg
Dimensions（mm)	90×73×51	148×126×57	151×126×57

OPTICAL GYROSCOPE NEW ERA IN NAVIGATION

HIGH PRECISION, LONG LIFESPAN, LEADING FUTURE

F98A

PRODUCT INTRODUCTION

The navigation-grade fiber optic gyroscope is based on the Sagnac effect and uses a fully digital closed-loop technology to output the carrier angular velocity information in real time. Three single-axis high-precision fiber optic gyroscopes or a three-axis integrated gyroscope can be used as the inertial navigation core sensor, which is sensitive to the angular velocity information in three orthogonal directions.

PRODUCT FEATURES

- Sagnac Effect Sensor
- All-Digital Closed Loop
- High-Precision 3-Axis
- Flexible & Stable Design

PRODUCT FEATURES

Guided Weapon Nav

Aircraft Attitude Ref

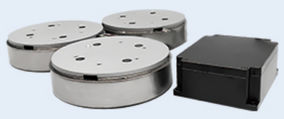
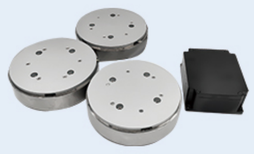
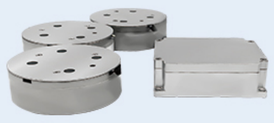
Vehicle & Ship Posit

Submarine & Rail Insp

SERIES FOG

MODEL	 F120A	 F98A	 F70A
PERFORMANCE			
Dynamic Range	≥±400°/s	≥±400°/s	≥±400°/s
Bias in-run	<1°/h	<1°/h	<1°/h
Accuracy（100sec）	0.003°/h~0.001°/h	0.01°/h~0.003°/h	0.03°/h~0.01°/h
ARW（Angular random walk)	<0.0006°/√hr,1σ	<0.0015°/√hr,1σ	<0.005°/√hr,1σ
Vibration screening	20~500Hz，3.2g	20~500Hz，5.3g	20~2000Hz，6.06g
Bandwidth	>200Hz	>200Hz	>200Hz
ELECTRICAL INTERFACE			
Turn on time	30s	30s	30s
Output signal format	RS-422	RS-422	RS-422
Output signal update rate	500Hz~4000Hz	500Hz~4000Hz	500Hz~4000Hz
Output signal baud rate	115200bps~921600bps	115200bps~921600bps	115200bps~921600bps
Operating temperature	- 40℃ ~ + 70℃		
Storage temperature	- 55℃ ~ + 85℃		
PHYSICAL SPECIFICATIONS			
Power supply	5V	5V	5V
Connector (9 pins)	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01
Power consumption	≤3w	≤3w	≤3w
MTBF (per MIL-HDBK-217-F)	>150000hr	>150000hr	>150000hr
Weight	≤900g	≤560g	≤300g
Dimensions(mm)	120×120×38	98×98×35	70×70×32

SERIES FOG

MODEL	 F120ST	 F98ST	 F70ST	 F60ST	 F50ST	 F40ST
PERFORMANCE						
Dynamic Range	≥±400°/s	≥±400°/s	≥±400°/s	≥±400°/s	≥±400°/s	≥±400°/s
Bias in-run	<1°/h	<1°/h	<1°/h	<1°/h	<1°/h	<1°/h
Accuracy（100sec）	0.003°/h~0.001°/h	0.005°/h~0.003°/h	0.01°/h~0.005°/h	0.02°/h~0.01°/h	0.04°/h~0.02°/h	0.1°/h~0.04°/h
ARW（Angular random walk)	<0.0006°/√hr,1σ	<0.0008°/√hr,1σ	<0.003°/√hr,1σ	<0.005°/√hr,1σ	<0.007°/√hr,1σ	<0.03°/√hr,1σ
Vibration screening	20~500Hz，3.2g	20~2000Hz，6.06g	20~2000Hz，6.06g	20~2000Hz，6.06g	20~2000Hz，6.06g	20~2000Hz，6.06g
Bandwidth	>200Hz	>200Hz	>200Hz	>200Hz	>200Hz	>200Hz
ELECTRICAL INTERFACE						
Turn on time	30s	10s	10s	10s	10s	10s
Output signal format	RS-422	RS-422	RS-422	RS-422	RS-422	RS-422
Output signal update rate	500Hz~4000Hz	500Hz~4000Hz	500Hz~2000Hz	500Hz~2000Hz	500Hz~2000Hz	500Hz~2000Hz
Output signal baud rate	115200bps~921600bps	230400bps~921600bps	230400bps~921600bps	230400bps~921600bps	230400bps~921600bps	230400bps~921600bps
Operating temperature	- 40℃ ~ + 70℃					
Storage temperature	- 55℃ ~ + 85℃					
PHYSICAL SPECIFICATIONS						
Power supply	5V	5V	5V	5V	5V	5V
Connector (9 pins)	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01	J30JZ/XN9TJCAL01
Power consumption	≤4.5w	≤4.5w	≤4.5w	≤4.5w	≤4.5w	≤4.5w
MTBF (per MIL-HDBK-217-F)	>100000hr	>100000hr	>100000hr	>100000hr	>100000hr	>100000hr
Weight	≤1500g	≤1200g	≤720g	≤550g	≤500g	≤350g
Dimensions(mm)	Φ117×24	Φ98×26	Φ69×23	Φ59×20	Φ50×19	42×42×14
	60×60×28	60×60×28	60×60×28	60×60×28	60×60×28	60×60×28