

JIOPTICS

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Fiber Optic Gyroscope Fog Attitude Measurement System

JIO-FOG100A is a triaxial of freedom attitude based on micro-mechanical technology (MEMS) Measurement system, built-in high-performance MEMS gyroscope and MEMS accelerometer, through the filtering algorithm calculates the pitch angle, roll angle and heading angle of the carrier in real time. Welcome to buy Fiber Optic Gyroscope Fog Attitude Measurement System from us.

Fiber Optic Gyroscope Fog Attitude Measurement System Features

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Optionally matched with a magnetometer to achieve high-precision north finding, and output 3-axis angular velocity and 3-axis acceleration is used for motion control.

JIOPTICS offers a full Fiber optic gyro product suite serving a broad range of requirements from tactical to navigation grade.

JIOPTICS installation of fiber optic gyroscope to provide ease of integration flexibility, and our developers toolkit to rapid prototyping, not only meet the specification requirements, also provide high-quality performance meet the demand of end users.

Our services

JIOPTICS is a professional and efficient team. Provide OEM/ODM services for you, contact us to customize your exclusive fiber optical gyroscope

Product Characteristic

Tel:+86-13570832601

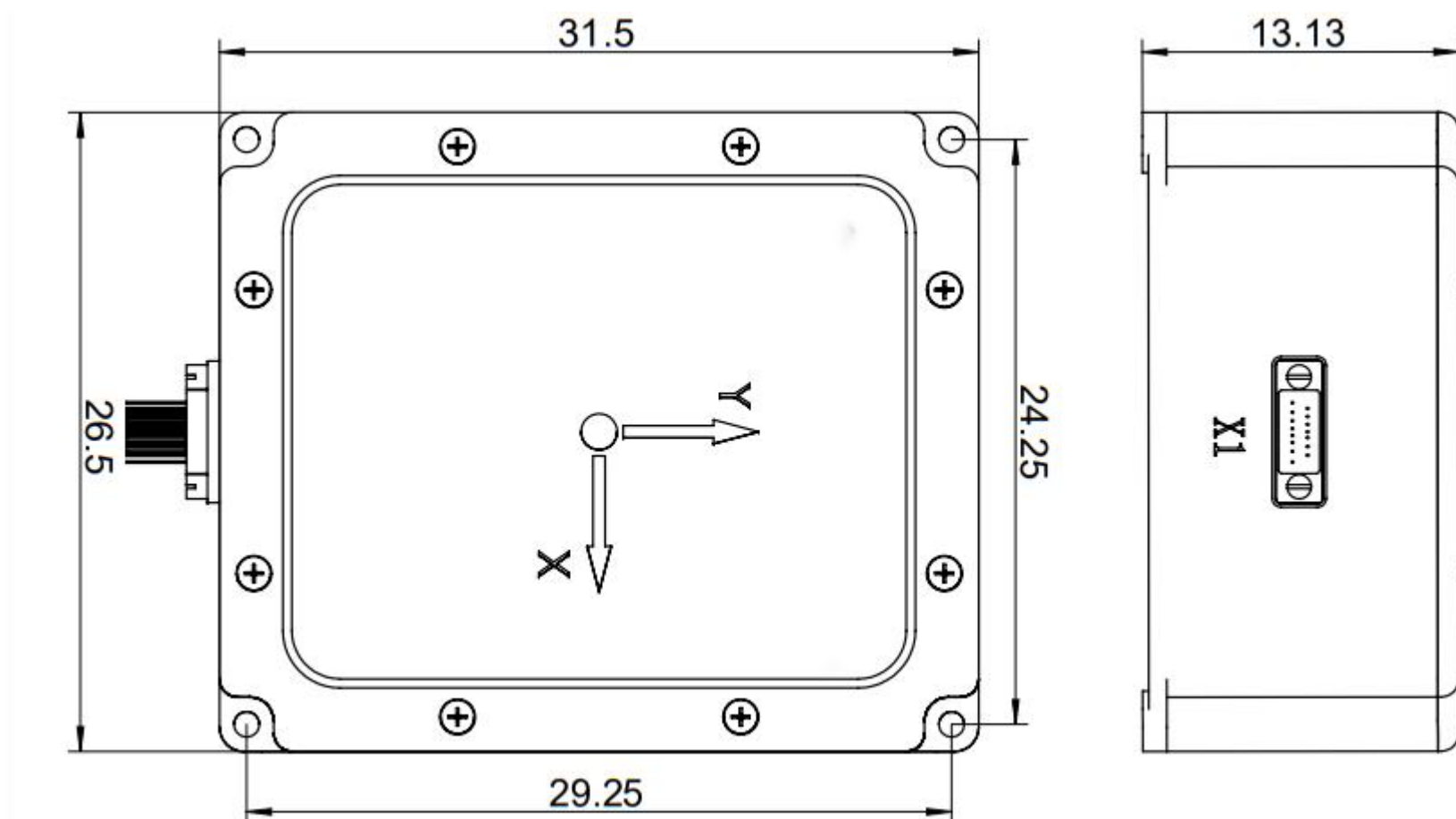
Email:sales@jioptics.com

- Better than 0.1° attitude accuracy
- Attitude measurement range $\pm 90^\circ$
- Operating temperature range: $-40\sim 65^\circ\text{C}$
- Vibration environment: $10\sim 2000\text{Hz}$, 6g (RMS)
- Rich interface types, support RS232, RS422, CAN and other standard interfaces
- Waterproof seal design

Electrical Characteristics

- Power supply: 5V (typ.), customizable wide voltage input $12\sim 36\text{V}$
- Rated power: 0.5W (max)
- Ripple: 100mV (peak-to-peak)

Mechanical Dimensions



Technical parameters

Parameter	Test Conditions	Typical value	Max value	Unit
Dynamic measurement range			450	°/s
Zero bias stability	Allan variance, Z axis	0.8		°/h
	Allan variance, X-axis and Y-axis	1.6		°/h
	10s average, X, Y axis (-40°C~+80°C, constant temperature)	6		°/h
	1s average, X, Y axis (-40°C~+80°C, constant temperature)	9		°/h
Zero offset	Zero offset range	±0.2		°/s
	Zero bias change over the full temperature range	±0.06		°/s
	Start-to-start repeatability	0.006		°/s
	Day-to-day start repetition	0.009		°/s
	Influence of Linear Acceleration on Zero Bias	0.002		°/s
	The influence of vibration on zero offset, the change before and after vibration	0.002		°/s
	The influence of vibration on zero offset, the change before vibration	0.002		°/s
Scale Factor	Scale factor accuracy, Z axis	0.3		%
	Scale factor accuracy, X, Y axis	0.6		%
	Scale factor nonlinearity, Z axis	0.01		%FS
	Scale factor nonlinearity, X, Y axis	0.02		%FS
Angle random walk		0.001		°/√hr
Noise density		0.001		°/s/√hr
Resolution		3.052×10 ⁻⁷		°/s/LSB
Bandwidth		200		Hz

Accelerometer parameters

Parameter	Test conditions	Typical value	Max value	Unit
Dynamic measurement range		16		g
Zero bias stability	Allan variance	0.03		mg

	10s average (-40°C~+80°C, constant temperature)	0.2		mg
	1s average (-40°C~+80°C, constant temperature)	0.3		mg
Zero offset	Zero offset range	5		mg
	Zero offset variation (peak-to-peak) over the full temperature range	5		mg
	Start-to-start repeatability	0.5		mg
	Day-to-day start repetition	0.8		mg
	Zero Bias Temperature Coefficient	0.05	0.1	mg/°C
Scale factor	Scale factor accuracy	0.5		%
	Scale factor nonlinearity	0.1		%FS
Speed random walk		0.029		m/s/√hr
Noise density		0.025		mg/√Hz
Resolution		1.221×10 ⁻⁸		g/LSB
Bandwidth		200		Hz

Magnetometer parameters (optional)

Parameter	Test conditions	Typical value	Max value	Unit
Dynamic measurement range		2.5		gauss
Zero offset	Non-magnetic environment	15		mgauss

Heading accuracy

Parameter	Test conditions	Typical value	Max value	Unit
Magnetic heading accuracy		0.5		°

Horizontal attitude accuracy

Parameter	Test conditions	Typical value	Max value	Unit
Pitch angle accuracy		0.1		°
Roll angle accuracy		0.1		°