

20

T/T

1000PCS/month

NANO-40 Micro-Nano Fiber Optic Gyroscope

Basic Information

- Minimum Order Quantity: 4
- Delivery Time:
- Payment Terms:
- Supply Ability:



Product Specification

NANO-40 Micro-Nano Fiber Optic Gyroscope

1. Product Overview

NANO-40 micro-nano fiber optic gyroscope (hereinafter referred to as this product) is an angular rate sensor that integrates optics, mechanics and electronics. It is based on the Sagnac effect, integrates a variety of micro-nano fiber optic devices, and realizes the detection process by detecting, processing and feedback the phase difference generated by two beams of light propagating in opposite directions.

This product is mainly composed of optical path components, circuit components and structural components. It has the characteristics of simple structure, no moving parts, no wear parts, fast start-up, small size and light weight. It can be used for carrier posture control and measurement.

2. Composition

The product is mainly composed of the following components:

- a) Optical path components;
- b) Detection and control signal circuit board;
- c) Optical fiber ring skeleton, shell and other structural parts;

3. Appearance and size

The product is cylindrical, with dimensions of ϕ 40 mm \times 20.5 mm, and three M 3 threads on the bottom surface for connection to the outside.



Figure 1. Appearance of NANO-40 micro-nano fiber optic gyroscope

- 3.1 Weight \leq 40g .
- 3.1 Working temperature : -40 °C ~+65 °C.
- 3.2 Storage temperature : -55 °C ~+85 °C.
- 3.3 Random Vibration

Random vibration magnitude: 20g , frequency range: 20Hz~2000Hz.

3.4 Main performance parameters

Table 1 Main performance parameters

Serial number	project	Performance Indicators
1	Range (°/s)	±450
2	Scale factor (LSB/ º /s)	3600
3	Scale factor non-linearity (ppm)	≤300
4	Bias stability (10s , 1σ , °/h)	≤0.5
5	Zero bias repeatability (1 σ , °/h)	≤0.5
6	Angular random walk (°/h 1/2)	≤0.05
7	Full temperature zero bias stability (10s , 1 σ , - 40°C~+65°C , ^/ h)	≤1.5
8	3dB bandwidth (Hz)	≥400
9	Power supply (V)	5 <u>+</u> 0.15
10	Power consumption (W)	≤1.5
11	Dimensions (mm)	φ 40Χ20.5

3.6.1 Mechanical interface

The bottom of the product is the mounting surface, with three M3threads for connecting to external machinery.



Picture 2 Installation Dimensions

3.6.2 Power Requirements

There are two external power supplies for the product, and the requirements are shown in Table2 :

	Table 2 E	Table 2 External power supply requirements				
		+5V				
	Voltage	4.85V~5.15V				
	Ripple	20mV				
	Current	0.2A				

3.6.3 Electrical interface

The NANO-40 micro-nano fiber gyroscope uses J30-9TJ to make electrical connections with the outside. The definition of solder joints is shown in Table 3 .

Node Number	Color	Definition
1	Orange	RS422 R-
2	Blue	RS422 R+
3	Green	RS422 T+
4	Yellow	RS422 T-
5	Black	GND
6	Black	GND
7	Red	5V

Surface 3 Node Definition

