BS-FC91H-160-A1EC Fiber Optic Gyro

1 Introduction

1.1 Product Review

BS-FC91H-160-A1EC fiber gyro (hereinafter referred to as this product) is an angular rate sensor integrating light, mechanical and electrical. Based on the Sagnac effect, it integrates a variety of highly reliable micro-nano fiber devices to achieve the detection process by detecting, processing and feedback the phase difference generated by two beams of light propagating in the opposite direction. This product realizes ultra-high rotational speed measurement through the redesign of optics, structural support, and control algorithms.

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, impact resistance, fast start, small size, light weight and high reliability. It can be applied to the control and measurement of motion carriers.

1.2 Composition

1.3 Size

（

）

Fig 1　　BS-FC91H-160-A1EC

1.4 Weight

≤150g。

1.5 Working Temperature

-40℃~+70℃。

## 1.6 Store Temperature

-55℃~+85℃。

1.7 Random vibration

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

1.8 Main Parameters

No.	Items	Value
1	Range (°/s)	±160
2	Scale factor（mV/°/s）	8.4m/deg/s
3	Scale factor nonlinearity (ppm)	≤600
4	Bias stability (10s,1σ, °/h)	≤1
5	Bias repeatability (1σ，°/h)	≤1
6	3dB bandwidth (Hz)	≥1000
7	Random walk（°/√h）	≤0.015
8	Power supply (V)	5+0.25 (standard) +12(optional)
9	Power Consumption(W)	≤1.5
10	Vibration	6g(20~2000Hz)
11	Impact (g)	≥1500
12	Acceleration (g)	≥70
13	Working life years (Computational Evaluation)	≥15
14	MTBF (Computational Evaluation)	≥10000

2 Interface

2.1 physical interface
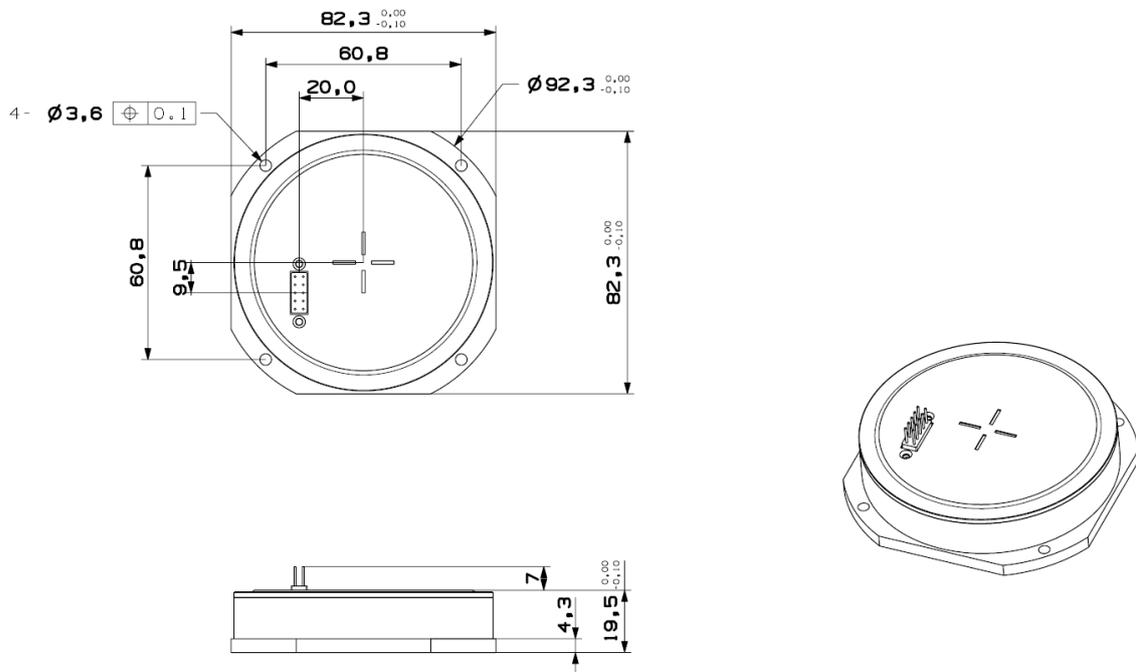
BS-FC91H-160-A1EC dimension

o

w

2　power supply requirement

	voltage（v）
1	5±0.25
2	12±0.5
3	-12±0.5

2.3 Electrical Interface

Table 3 BS-FC91H-160-A1EC Node definition

No.	Definition	Remark
1	5V	Power consumption is less than 1W
2	12V	
3	Output	Differential output with AGND
4	-12V	
5	AGND	Analog GND
6	GND	
7	空	
8	GND	Power GND
9	TS	TMP temperature sensor signal Conversion relationships $T=（TS-750）/10+25$ The unit is mV, T is the temperature in Celsius