

## F-105型光纤陀螺仪

F-105 fiber optic gyroscope



### 产品概述

F-105型光纤陀螺仪是一款中低精度惯性角速度传感器，基于萨格纳克原理，由SLD光源、光纤分束器、光电探测器、集成光学相位调制器、保偏光纤环、控制电路组成。

### 产品特点

微型紧凑设计的一体化控制陀螺仪  
纯固态设计、环境适应性强  
超长寿命，MTBF超过20000h  
全数字RS-422电气接口

### 产品应用

机器人姿态测量、惯性导航系统、导引头、轻型无人机

### Product overview

F-105 fiber optic gyroscope is a medium and low-precision inertial angular velocity sensor based on the Sagnac principle, which is consisted of SLD light source, fiber splitter, photodetector, integrated optical phase modulator, polarization maintaining fiber loop, and control circuit.

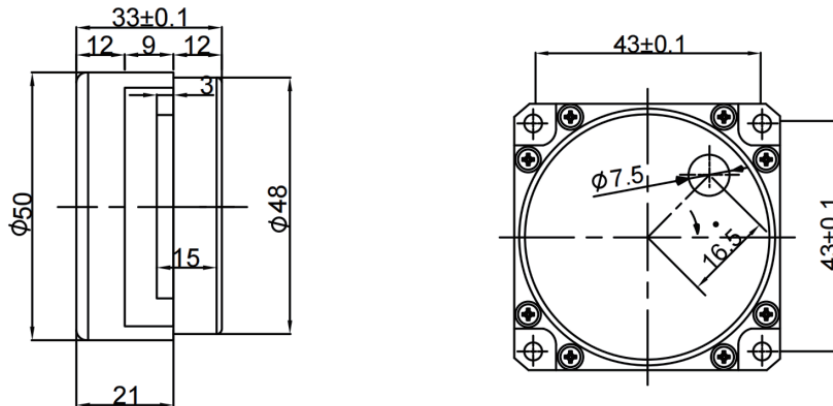
### Product features

All-in-one control gyroscope in miniature and compact design  
Pure solid-state design with strong environmental adaptability  
Ultra-long life, more than 20000h of MTBF  
All-digital RS-422 electrical interface

### Product application

Robotic attitude measurement, inertial navigation systems, seekers, light UAVs

## 结构尺寸 Structural dimensions



## 技术指标 Technical indicators

### 规格 Specifications

型号 Type	F-105
启动时间 Start-up time	≤3s
测量范围 Measuring range	±1000°/s
零偏稳定性 Bias stability	≤0.5°/h, 10s
零偏稳定性 (全温) Bias stability (full temperature)	≤2°/h, 10s
零偏重复性 Bias repeatability	≤0.5°/h
角度随机游走系数 Angle random walk coefficient	≤0.05°/h <sup>1/2</sup>
标度因数稳定性 Scale factor stability	≤50ppm
标度因数重复性 Scale factor repeatability	≤50ppm
标度因数不对称性 Scale factor asymmetry	≤50ppm
标度因数非线性度 Scale factor nonlinearity	≤50ppm
标度因数稳定性 (全温) Scale factor stability (full temperature)	≤2000ppm
磁场敏感性 Magnetic field sensitivity	≤0.5°/h/Gs
带宽 Bandwidth	≥200Hz
MTBF	≥20000h

### 电气/机械 Electrical/Mechanical

外形尺寸 Size	Φ50*33mm
重量 Weight	< 140g
输入电压 Input voltage	+4.75~+5.25V
功耗 Power waste	2.5W (典型) 5W (最大)
工作温度 Working temperature	-40~+60°C
存储温度 Storage temperature	-45~+85°C
随机振动 Random vibration	6.06g, 20~2000Hz
对外连接器 External connector	J30V2-9TJW-P2
对外电气接口 External electrical interface	RS-422/485