

F-112型光纤陀螺仪

F-112 fiber optic gyroscope



产品概述

F-112型光纤陀螺仪是一款高精度惯性角速度传感器，基于萨格纳克原理，由ASE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

高精度：零偏稳定性 $\leq 0.002^\circ/\text{h}$ ，100s，随机游走系数 $\leq 0.0006^\circ/\text{h}^{1/2}$
长寿命，MTBF超过5000h
单 (+5V)供电、简化系统设计
全数字RS-422电气接口

产品应用

惯性级导航设备、高精度定位定向系统、捷联罗经、天线稳定平台、光学稳定平台

Product overview

F-112 fiber optic gyroscope is a high-precision inertial angular velocity sensor based on the Sagnac principle, which is consisted of ASE light source, fiber splitter, photodetector, integrated optical phase modulator, polarization maintaining fiber ring, and control circuit.

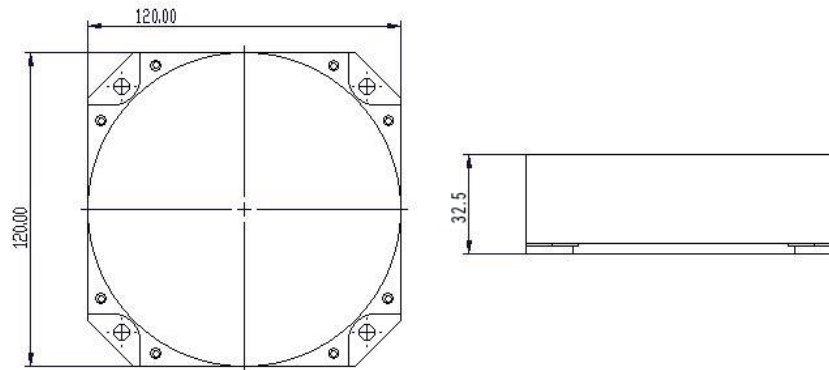
Product features

High precision: bias stability $\leq 0.002^\circ/\text{h}$, 100s, random walk coefficient $\leq 0.0006^\circ/\text{h}^{1/2}$
Long life, more than 5000h of MTBF
Single (+5V) power supply of a simplified system design
All-digital RS-422 electrical interface

Product application

Inertial level navigation equipment, high-precision positioning and orientation system, strapdown compass, antenna stabilization platform, optical stabilization platform

结构尺寸 Structural dimensions



技术指标 Technical indicators

规格 Specifications

型号 Type	F-112
启动时间 Start-up time	≤3s
测量范围 Measuring range	±300°/s
零偏稳定性 Bias stability	≤0.002°/h, 100s
零偏稳定性 (全温) Bias stability (full temperature)	≤0.005°/h, 100s
零偏重复性 Bias repeatability	≤0.002°/h
角度随机游走系数 Angle random walk coefficient	≤0.0006°/h ^{1/2}
标度因数稳定性 Scale factor stability	≤10ppm
标度因数重复性 Scale factor repeatability	≤10ppm
标度因数不对称性 Scale factor asymmetry	≤10ppm
标度因数非线性度 Scale factor nonlinearity	≤10ppm
标度因数稳定性 (全温) Scale factor stability (full temperature)	≤50ppm
磁场敏感性 Magnetic field sensitivity	≤0.002°/h/Gs
带宽 Bandwidth	≥300Hz
MTBF	≥5000h

电气/机械 Electrical/Mechanical

外形尺寸 Size	Φ120*32.5mm
重量 Weight	< 660g
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	-55~+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