ER-FIMU-5500 High Bandwidth and Large Range FOG IMU

Introduction

ER-FIMU-5500 High Bandwidth and Large Range FOG IMU is composed of fiber optic gyroscope and quartz flexible accelerometer. The product adopts three-axis closed-loop fiber optic gyroscope, which has good accuracy and light appearance. The optical fiber inertial measurement unit product is a cost-effective inertial measurement device, which has the characteristics of broadband, high resolution, low zero drift, high linearity, short start-up time, strong shock and vibration resistance, small size and low cost.

Features

High bandwidth, large range, low power consumption and small volume;

The response time is short and the data update rate can be as high as 4 KHz;

With ARM processor, the navigation algorithm can be designed according to the user's needs;

The sensor data are calibrated and temperature compensated, and the whole temperature performance is stable.

Applications

Intelligent ammunition (JDAM);

Aeronautical surveying and mapping;

Vehicle navigation and positioning;

Attitude control;

Heave measurement;

Integrated navigation system;

Main Technical Indicators

Overall indicators:

Weight: ≤900g;

Dimension: 81mm*81mm*98mm;

Power supply: 9~36V DC;

The steady power consumption: ≤10W;

Working temperature: -40~+60 C;

Data update frequency: 1000Hz (customizable max 4000Hz);

Interface: RS422.

Fiber Optic Gyroscope

Range: ±1000°/s;

Bias stability: ≤0.5°/h

Bias repeatability: ≤0.5°/h

Random walk coefficient: ≤0.05°/h0.5

Scale factor of repeatability: ≤100ppm

Scale factor non-linearity: ≤100ppm

Bandwidth: ≥500Hz

Quartz Accelerometer

Range: ±10g

Bias stability: ≤300ug (average 1)

Scale factor stability: ≤300ppm (-40~+60℃)

Vertical gyro mode indicators

Horizontal attitude measurement range: ±60°;

Horizontal attitude accuracy: ≤0.03°;

Heave measurement range: ±5m;

Heave measurement accuracy: ≤5% (the accuracy is better than 5cm when the amplitude is less than 1m).