

L2+ Silicon Optical Inertial Measurement Unit

Description

The L2+ Silicon Optical Inertial Measurement Unit is a high-performance all-parameter motion inertial sensing product, able to realize real-time detection of both high-precision 3-axis angular velocity and 3-axis acceleration at the same time. It has a room-temperature zero bias stability of $\leq 0.2^\circ/\text{h}$ for angular velocity with a measurement range of $-800\sim+800^\circ/\text{s}$ and an angular random walk factor of $\leq 0.02(^\circ)/\text{h}^{1/2}$; its acceleration measurement range is $\pm 30\text{g}$, with a normal-temperature zero bias stability of $\leq 0.5\text{mg}$ and a full-temperature zero bias stability of $\leq 1\text{mg}$. The product features a bandwidth of $\geq 400\text{Hz}$ and a start-up time of ≤ 1 minute, with an operating temperature of $-40\sim+60^\circ\text{C}$ and a wide voltage power supply of $+12\sim+24\text{V}$. It measures $70\pm 0.3\times 65\pm 0.3\times 51.4\pm 1\text{mm}$ and has a maximum weight of 500g, adopting a standardized electrical interface. With outstanding detection accuracy and comprehensive performance, it can meet the motion parameter detection requirements in harsh scenarios.

Feature

Under completely independent conditions without being restricted by specific environments or locations, perceive and obtain real-time three-axis angular velocity and acceleration information of moving objects.

Application

This product is mainly applicable to equipment that requires motion control, such as unmanned vehicles, unmanned aerial vehicles (UAVs), missiles, aerial surveying and mapping, navigation for submarines and ships, marine engineering surveying and mapping, and attitude control of spacecraft, etc. Unmanned Surface Vehicle

Specifications

L2+ Inertial Measurement Unit			
Performance parameter			unit
1. Gyroscope			
1.1	Zero bias stability at room temperature (10s, 1 σ)	≤ 0.2	($^{\circ}$)/h
1.2	Zero Bias Repeatability (1 σ)	≤ 0.2	($^{\circ}$)/h
1.3	Zero bias stability at room temperature (10s, 1 σ)	≤ 0.2	($^{\circ}$)/h
1.4	Scale Factor Non - linearity (1 σ)	≤ 100	ppm
1.5	Scale Factor Repeatability (1 σ)	≤ 100	ppm
1.6	Measurement Range	-800~+800	($^{\circ}$) /s
1.7	Random Walk Coefficient	≤ 0.02	($^{\circ}$) /h ^{1/2}
1.8	Bandwidth	≥ 400	Hz
2. Acceleration Specifications			
2.1	Normal - Temperature Bias Stability (10s, 1 σ)	≤ 0.5	mg
2.2	Normal - Temperature Bias Repeatability	≤ 0.5	mg
2.3	Full - Temperature Bias Stability (10s, 1 σ)	≤ 1	mg
2.4	Full - Temperature Bias Repeatability	≤ 1	mg
2.5	Scale Factor Non - linearity (1 σ)	≤ 300	ppm
2.6	Scale Factor Repeatability (1 σ)	≤ 300	ppm
2.7	Range	± 30	g
3. Other Indicators			
3.1	Overall Dimensions	70 \pm 0.3 \times 65 \pm 0.3 \times 51.4 \pm 1	mm
3.2	Start - up Time	≤ 1	min
3.3	Weight	≤ 500	g
3.4	Operating Temperature	-40~+60	$^{\circ}$ C
3.5	Storage Temperature	-55~+85	$^{\circ}$ C
3.6	voltage	+12~+24	V
3.7	Electrical Connection Interface	J63A-242-015-261-TH	/

Mechanical Dimension

