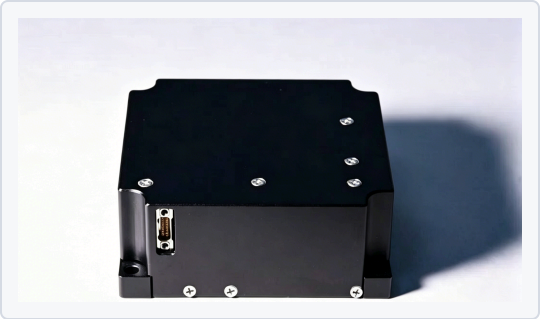
PHOTONIC SENSORS

L1+ Silicon Photonic IMU

Six-axis inertial measurement unit built on the wide-temperature L1 gyroscope, with ±30 g accelerometers.



Key Features

- Six degrees of freedom in a single unit
- Wide-temperature optical gyroscopes, solid state
- Gyroscope range ±800°/s, accelerometer range ±30 g
- Gyroscope bias repeatability ≤ 1°/h
- Accelerometer temperature stability ≤ 0.5 mg

Applications

- Inertial navigation in harsh or outdoor environments
- UAV and ground vehicle attitude reference
- Stabilized platforms
- Industrial and geotechnical monitoring

Overview

The L1+ combines the wide-temperature L1 gyroscope with three-axis accelerometers to form a six-degree-of-freedom IMU. It suits platforms that see a real environmental range rather than a controlled bay.

Gyroscope bias repeatability is within 1°/h and angular random walk within 0.1°/√h; accelerometers cover ±30 g with temperature stability within 0.5 mg.

Specifications

Gyroscope

PARAMETER	VALUE	UNIT	CONDITIONS
Measurement Range	±800	°/s	
Bias Repeatability	≤ 1	°/h	1σ
Scale Factor Nonlinearity	≤ 50	ppm	1σ
Angular Random Walk	≤ 0.1	°/√h	

Accelerometer

PARAMETER	VALUE	UNIT	CONDITIONS
Measurement Range	±30	g	
Temperature Stability	≤ 0.5	mg	10 s, 1σ

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