EMP-1 Lithium-Niobate Fiber Optic Gyroscopes (FOG)

emcore
empower with light

DATASHEET | MAY 2014 ADVANCED SYSTEMS

EMCORE's long standing leadership in development of highly-accurate defense and military grade fiber optic components and systems is what makes the EMP-1 a clear choice when selecting solid-state precision gyroscope components. With fully integrated optics and electronics, the EMP-1 is a superior device in regards to weight and form-factor for tactical applications up to 200 meters. It features advanced optics and digital signal processing (DSP) for much higher accuracy, lower noise and greater efficiency. The integrated DSP also improves optical drift stability, higher linearity and greater environmental flexibility. Additionally, the unit can be calibrated internally for better thermal effect and has both digital and analog outputs, accommodating the widest variety of installation parameters.

Applications

- Unmanned Aerial Vehicle (UAV) Guidance
- Missile Guidance
- Aeronautics and Aviation
- Robotics

Features

- Fully Integrated Optics and Electronics
- Advanced Optics and DSP Electronics for Higher Accuracy, Lower Noise and Greater Efficiency
- DSP Based Closed Loop Design for Improved Drift Stability, Higher Linearity, and Greater Flexibility
- 1,000 Hz Bandwidth

US Patent No. 7,746,476

General Specifications

Specifications	Values
Dimensions	3.2" x 3.2" x 0.8" 81.2 mm x 81.2 mm x 20.3 mm
Drift Stability, Short Term	0.1°/hr
Drift Stability, Long Term	0.5°/hr
Noise	0.015°/ √ hr
Scale Factor Stability	100 ppm
Scale Factor Linearity	50 ppm
Maximum Rate	1,000°/sec
Both Digital & Analog	I/O
Power	+5 V

Mechanical Diagram