



Applications

- Tactical Grade 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
- Bandwidth to 1.0 GHz
- More Economical than Competing Systems

Suitable for Demanding Applications

EMCORE's Fiber Optic Gyroscope (FOG) technology is designed for fast, accurate navigation and gyrocompassing, and low noise line-of-sight stabilization. Our long-standing leadership in the development of highly-accurate defense and military grade fiber optic components and systems has paved the way for the development of more accurate and economical fiber optic gyro components. EMCORE's FOGs are setting the new benchmark for tactical and navigational grade gyros for a wide variety of guidance, navigation and aeronautics applications.

EMCORE's EMP-1 Fiber Optic Gyro features fully-integrated optics and electronics, and is a superior device in regards to weight and form-factor for tactical applications. Its advanced integrated optics and closed-loop Digital Signal Processing (DSP) delivers much higher accuracy, lower noise, and greater efficiency than competing technologies. The integrated DSP also improves optical drift stability, environmental flexibility and increases linearity. In addition, the EMP-1 can be calibrated internally for better thermal effect and has both digital and analog outputs to accommodate the widest variety of installation parameters.

EMCORE's EMP-1 is the clear choice when selecting a precision solid-state gyroscope component for tactical grade applications.

General Specifications

Specifications	Values
Dimensions	3.2" x 3.2" x 0.8" 81.2 mm x 81.2 mm x 20.3 mm
Bias (Typical)	0.5°/hr
Noise	0.015°/√hr
Scale Factor	0.027 Arc Sec/1sb
Scale Factor Linearity	50 ppm
Maximum Rate	1,000°/sec
Both Digital & Analog	I/O
Power	+5 V

US Patent No. 7,746,476; 8,773,665; 8,798,405; 8,823,946

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

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NAVIGATION SYSTEMS

Mechanical Diagram

