



FOG-1S-A

FIBER OPTIC GYRO

The **low cost** single-Axis Fiber Optic Gyro type FOG-1S-A is a general-purpose sensing unit, providing digital measurement data of angular rates and angle increments relative to three orthogonal body fixed axes.

The FOG-1S-A consists of a sensor assembly with the associated sensor electronics mounted on top and is intended for further mechanical and electrical integration into a system.

KEY FEATURES AND BENEFITS

Civilian product export classification/ITAR free

Unlimited bandwidth, white noise = well suited for high speed, high performance stabilization

Adjustable form factor = simple to integrate into customer architecture = ideally suited for stabilization of geo-referenced systems

Multiplexed, closed-loop stable and low-noise FOG gyroscope characteristics

Magnetic shielding, advanced mechanical design for sensor de-coupling

Available in 3 configurations; "open-frame", "light-packaging" and "hermetic packaging"

PERFORMANCE SPECIFICATIONS

Measurement range :	≥ 800 °/s
Bias (over the temperature range) :	0.94 °/h (<i>typ.</i>) ≤ 10 °/h (max)
In-run stability :	< 4 °/h (<i>typ.</i>) 5 °/h (max)
Scale-factor accuracy (over temp range) :	≤ 500 ppm
Scale-factor non linearity :	≤ 500 ppm
Angle random walk :	$\leq 0.14^\circ/\sqrt{\text{hour}}$ (<i>typ.</i>)
Bandwidth :	≥ 500 Hz
RS-485 Serial interface	
Baud rate :	1 Mbit/s
Data rate :	up to 1000 Hz
weight:	< 230 g

Featured Applications

Autonomous Haulage System (AHS), e.g. for smart mining trucks

Hybrid Navigation & Geo-Localization

Best cost per value high-performance Sensor

DATASHEET FOR FOG-1S-A

ELECTRICAL / MECHANICAL

Initialization Time (valid data)	≤ 100 ms (first transmission of data)
Data Interface Synchronous	TYPE RS-232 or RS -485
Baud Rate	1 Mbit/s
Data Rate	up to 1000 Hz
Dimensions (max)	80 x 52 x 38 mm (w/o connector)
Weight (max)	≤ 230 g
Power Consumption	2 W (typical), 9 W (max)
Input Voltage	±12 VDC, +5 VDC

ENVIRONMENT

Temperature (operating)	-40°C to +71°C (storage is -55°C to +85°C)
Shock (operating)	30 g, 6ms, sine-half wave
Vibration (endurance)	20 ... 2000 Hz, 6.3 grms random

ALL ERRORS ARE DEFINED AS 1 σ -VALUES IF NOT STATED OTHERWISE

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