NORTHROP GRUMMAN

µFORS-36m / -1

Fiber Optic Rate Sensors

Designed to meet the requirements of a wide range of air, land and sea applications.

Northrop Grumman LITEF's Fiber Optic Rate Sensor µFORS is designed to meet the requirements of a wide range of air, land and sea applications.

Using the latest technology, it provides compensated angle or angular rate outputs via the asynchronous or the synchronous digital IBIS (Intelligent Bus for Inertial Sensors) interface.

With small volume, low weight and small power consumption, the µFORS can be integrated into many applications, thereby reducing system complexity and cost.

Free from effects of gravity induced errors, and with no moving parts, Northrop Grumman LITEF's µFORS is insensitive to shock and vibration. It offers high reliability without the need for periodic maintenance.

All µFORS provide the advantages of the closed loop principle:

- High dynamic range
- High scale factor linearity
- Excellent performance under high vibration levels

Customer advantages of the µFORS are:

- Integrated electronics
- Standard digital interface
- Flexible, programmable digital interface (range, data rate, resolution etc.)
- Output of temperature compensated data
- Small size, low weight, low power consumption
- Low cost

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TECHNICAL DATA

(Standard parameters, other performance on request)

	µFORS-1	µFORS-36m
Performance		
• Range	± 1000 °/s	± 1500 °/s
• Scale Factor Error - Repeatability (day to day)	≤0.05 % (1σ)	≤0.1 % (1σ)
• Bias Repeatability (day to day) - full temperature range - at stabilized temperature	 ≤1 °/h (1σ) ≤1 °/h (1σ)	 ≤36 °/h (1σ) ≤18 °/h (1σ)
• Noise (Random Walk)	≤0.1°/√h	≤1°/√h
• Initialization time	≤120 ms	≤120 ms
• Misalignment	±10 mrad max	±10 mrad max
Electrical Characteristics		
• Power Supply	± 5 VDC; +3.3 VDC	± 5 VDC; +3.3 VDC
• Current Consumption	2.5 W max	2.25 W max
• Connector	soldering pins	soldering pins
• Data Interface serial asynchronous or serial synchronous	 TTL / CMOS IBIS*	 TTL / CMOS IBIS*
• Data Rate asynchronous synchronous	 5 ... 1000 Hz (TTL) 5 ... 8000 Hz (IBIS)	 5 ... 1000 Hz (TTL) 5 ... 8000 Hz (IBIS)
Physical Characteristics		
• Size (HxWxL)	22 x 53 x 78 mm^3	21 x 53 x 58 mm^3
• Weight	≤137 g	≤110 g
• Housing	ruggedized, hermetically sealed	ruggedized, hermetically sealed
Environmental Conditions		
• Temperature (operating)	-40 °C ... +77 °C	-55 °C ... +81 °C
• Vibration 30min/axis operating	max. 0.1 g^2/Hz, 500 Hz . . . 1kHz	max. 0.4 g^2/Hz, 500 Hz . . . 1kHz
• Shock operating	250g; 4 ms	80g; 1 ms

* based on CCITT 1431T1/E19

For more information,
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