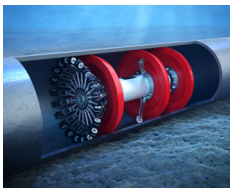
LITEF
Leading Inertial Technology

LiMIS

MEMS Inertial Measurement Unit





- Low noise sensor behaviour
- High vibration level robustness
- Superior price / size / performance ratio
- Data interface adaptable to specific needs

PRODUCT DESCRIPTION

LiMIS is an inertial measurement system based on MEMS technology. The unit is comprising of three orthogonally mounted gyroscopes, a three-axis accelerometer, and the associated electronics.

LiMIS provides superior performance with tactical grade gyros and accelero-meters.

TYPICAL APPLICATIONS

- Real Time Navigation and Positioning
- Mobile Mapping
- Photogrammetry
- Rail Track Geometry Survey
- Pipeline Inspection
- Platform Stabilization

TECHNICAL DATA LiMIS

MEMS Inertial Measurement Unit

PRELIMINARY PERFORMANCE PARAMETER	LiMIS-1	LiMIS-2
RATE SENSOR PARAMETERS	max.	max.
Measurement Range	± 499 °/s	
Bias Instability[1)]	0.1 °/h	
Bias over temperature range (RMS)	1 °/h	
Angular Random Walk	0.08 °/√h	
Scale Factor Error over temperature range (RMS)	500 ppm	
Axis Misalignment (RMS)	1 mrad	
ACCELEROMETER SENSOR PARAMETERS		
Measurement Range	± 10 g	± 15 g
Bias Stability	20 µg	10 µg
Bias over temperature range (RMS)	1 mg	0.3 mg
Velocity Random Walk	75 µg /√Hz	25 µg /√Hz
Scale Factor Error over temperature range (RMS)	1000 ppm	300 ppm
Axis Misalignment (RMS)	1 mrad	1 mrad
SYSTEM PARAMETERS		
Mass	750 g	
Dimensions	Ø 95 mm x H 87 mm Ø 3.74 inch x H 3.43 inch	
Volume	616 cm^3, 38 $inch^3$	
Supply Voltage	5 VDC	
Power Consumption	< 8 W	
Interface	serial interface with RS-422 levels, UART or HDLC protocol	
Data Update Rate	50 Hz ... 2000 Hz	
Built in Test (BIT)	Power Up BIT, Continuous BIT	
Random vibration level - operational - non-operational	 4.12 g_{RMS} 5.8 g_{RMS}	
Shock, operational	40 g; 11 ms	
Temperature range - operating - storage	 -40° ... +71° C -51° ... +85° C	

1) Implying Allan Variance under constant room temperature conditions and cluster time 24 h.

FOR MORE INFORMATION,
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