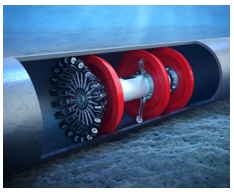
LITEF
Leading Inertial Technology

LiMIS-1

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-1

MEMS INERTIAL MEASUREMENT UNIT

RATE SENSOR PARAMETERS	
Measurement Range	± 499 °/s max.
Bias Instability[1)]	≤ 0.1 °/h
Bias over temperature range (RMS)	≤ 1 °/h
Angular Random Walk	≤ 0.05 °/√h
Scale Factor Error over temperature range (RMS)	≤ 500 ppm
Axis Misalignment (RMS)	≤ 1 mrad
Bandwidth	100 Hz
LINEAR ACCELERATION PARAMETERS	
Measurement Range	± 15 g
Bias Instability[1)]	≤ 10 µg
Overall Bias[2)]	> 1250 µg
Random Walk	≤ 25 µg /√h
Scale Factor Error (RMS)	≤ 300 ppm
Axis Misalignment (RMS)	≤ 1 mrad
Bandwidth	100 Hz
SYSTEM PARAMETERS	
Mass	750 g
Dimensions	ø 95 mm x H 87 mm ø 3.74 inch x H 3.43 inch
Volume	617 cm³, 38 inch³
Supply Voltage	5 VDC
Power Consumption	≤ 10 W
Interface	serial interface with RS-422 levels, UART or HDLC protocol
Data Rate	50 Hz ... 1000 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 °C to + 71 °C - 51 °C to + 85 °C

1) Implying Allan Variance under constant temperature conditions and cluster time 24 h.
2) Residuals over Temperature, Repeatability

FOR MORE INFORMATION,
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