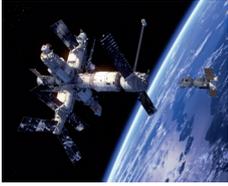


μ IMU-IC Micro Inertial Measurement Unit



- Airborne proof
- Superior bias linearity
- Insensitive to rapid temperature changes
- Exceptional vibration robustness
- Hermetically sealed
- Free of EU export restrictions (status quo)

PRODUCT DESCRIPTION

Attached to a freely movable object, the MEMS-based μ IMU-IC measures orientation, direction and velocity in real time. This allows a close monitoring of the object for accurate movement control.

The μ IMU-IC is particularly suitable for demanding applications with rapid changing environmental conditions.

TYPICAL APPLICATIONS

- Navigation and Positioning
- Mobile Mapping
- Photogrammetry
- Pipeline Inspection
- Platform Stabilization

TECHNICAL DATA μ IMU-IC

Micro Inertial Measurement Unit

		μ IMU-IC-SP	μ IMU-IC-HP
RATE SENSOR PARAMETERS			
	Typ. ¹⁾	max.	max.
Measurement Range		± 499 °/s	
Bias Instability ²⁾	0.1 °/h		
Bias Stability over temperature range (1 σ)	1.5 °/h	6 °/h	3 °/h
Bias Repeatability turn-on-turn-on (RMS) const. Temp.	1 °/h	10 °/h	4 °/h
Angular Random Walk	0.12 °/ \sqrt{h}	0.3 °/ \sqrt{h}	0.15 °/ \sqrt{h}
Scale Factor Error	200 ppm	1400 ppm	1000 ppm
Axis Misalignment (RMS)		0.5 mrad	
ACCELEROMETER SENSOR PARAMETERS			
Measurement Range		± 15 g	
Bias Instability ²⁾	15 μ g		
Bias Stability over temperature range (1 σ)	0.2 mg	3 mg	1.5 mg
Velocity Random Walk	40 μ g/ \sqrt{Hz}	250 μ g/ \sqrt{Hz}	70 μ g/ \sqrt{Hz}
Scale Factor Error (RMS)	150 ppm	1500 ppm	1000 ppm
Axis Misalignment (RMS)		0.5 mrad	
SYSTEM PARAMETERS			
Mass		0.68 kg; 1.5 lb	
Dimensions		\varnothing 85 mm x H 60 mm \varnothing 3.35 inch x H 2.36 inch	
Volume		340 cm ³ , 20.7 inch ³	
Supply Voltage		+ 5 VDC	
Power Consumption		< 8 W	
Interface		RS 422, HDLC or UART	
Data Rate		50 to 1024 Hz (configurable)	
Built in Test (BIT)		Power up BIT, Continuous BIT	
Acoustic noise level		140 dB	
Random vibration level [10 ... 2000 Hz] operational / survival		4.1 g _{RMS} / 11.7 g _{RMS}	
Shock, operational		20 g / 11 ms / 3 axes	
Temperature operating / storage		- 45 °C to + 70 °C / - 55 °C to + 71 °C	

1) Typical Mean Values are subject to statistical fluctuations.

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

FOR MORE INFORMATION,
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