

UmiX U9

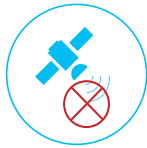
Fiber-Optic Gyroscope inertial measurement unit

UmiX U9 is a solid-state 6-axis high dynamic inertial measurement unit designed for military applications. The sensor core integrates high-grade Fiber-Optic Gyroscopes (FOG) with long term stability allowing north-seeking and GNSS-denied navigation. It also includes high dynamic quartz accelerometers able to sustain hard mechanical environments.



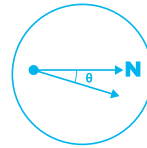
KEY PERFORMANCE IN NAVIGATION AND POINTING

- Autonomous and static alignment
- Capable of high heading precision
- Long term performance stability
- Resilient to long GNSS dropout



KEY PERFORMANCE IN STABILIZATION

- Low noise
- Low latency
- High bandwidth
- 3D rotation measurement



FEATURES

- Free of ITAR components
- Navigation grade IMU
- North-seeking grade FOG
- High dynamic accelerometers
- Qualified to MIL environments
- High MTBF (120,000 hours)
- High performance vs. size ratio
- Low power consumption

MASTERING IN-HOUSE TECHNOLOGY

UmiX integrates in-house technology for both FOG and vibrating quartz accelerometers, benefiting from the 30 years track record of iXblue in sensors design and manufacture. iXblue develops and manufactures all key components of the sensors, enabling miniaturization whilst assuring continuous performance improvements.

EASE OF INTEGRATION

- Plug and play
- True IMU
- Provides fully compensated sensor data in an orthogonal reference frame
- Lever arm, Coning & Sculling application
- Digital serial output with adjustable baud and data rates
- Synchronization signal available
- Transmission clock available
- Single supply voltage
- Two mounting options
- Hermetically sealed to maximize reliability and long-term performance

TECHNICAL SPECIFICATIONS

Fiber-Optic Gyroscopes

Dynamic	± 3000 °/s	max
Angular random walk	0.01 °/√h	
Bandwidth	>5 kHz	
Latency	200 μs	
In run bias	0.02 °/h	1σ
Residual bias	0.05 °/h	1σ
Scale factor error	40 ppm	1σ

Interfaces

Sensor misalignment	100 μrad
Volume	$\varnothing 88.9 \times H75$ mm
Weight	< 770 g
Mounting	3 top screws or 6 bottom screws
Alignment Pins	2
Supply voltage	+ 5 V DC
Consumption	4 W nominal (7 W peak)
Connector	21 pin micro D
Communication	3 × RS422
Data rate	1 to 10 kHz
Cooling	Conduction through baseplate

Vibrating quartz accelerometers

Dynamic	± 100 g	max
Bandwidth	>1 kHz	
In run bias	<5 μg	1σ
Residual bias	150 μg	1σ
Scale factor error	40 ppm	1σ

Environmental characteristics

Temperature

Operating range	-32 to +71 °C
Storage range	-46 to +85 °C

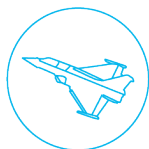
Shocks

Operating range	40g srs [20 – 2000 Hz]
Survival range	75g srs [20 – 2000 Hz]

Certifications

Operating vibration	MIL-STD-810G CN1, Method 514.7 AECTP-400 Ed. 3, Annex A401
Operating shocks	MIL-STD-810G, Method 516.7
Operating temperature	MIL-STD-810G CN1 – Method 502.6 and 501.6, Procedure 2

PLATFORM INTEGRATION



Airborne sensors:

- Optronic
- Radar
- EM



Pointing & designation for land platforms



Autonomous platforms



High & low velocity guided & unguided systems



Your system