



## IMU 90 & 120

### FOG INERTIAL MEASUREMENT UNIT

IMU technological heart is based on IXSEA proprietary-design Fiber Optic Gyro (FOG), the only true-solidstate answer to rotation sensing. The IMU is versatile and perfectly suited for applications requiring high accuracy inertial sensors. It allows fast and accurate true north alignment. It is definitively the answer for your own-designed autonomous or aided navigation system.

#### FEATURES

- Fiber Optic Gyroscope technology
- No spinning element
- High-grade sensors
- Very advanced computation & algorithm

#### BENEFITS

- Very long lifetime
- Maintenance free
- Very High inertial performances
- High output rate, very short reaction time



**APPLICATIONS** • Avionics • Navigation systems • Antenna stabilization • Optics stabilization  
• Gyrocompass, AHRS • North finder

# IMU

## TECHNICAL SPECIFICATIONS

### FIBER OPTIC GYROSCOPES PERFORMANCE

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	IMU 90	IMU 120
<b>Bias stability at ambient temperature:</b>	0.005 °/h 1 $\sigma$	0.003 °/h 1 $\sigma$
<b>Bias stability over temperature range:</b>	0.05 °/h 1 $\sigma$	0.01 °/h 1 $\sigma$
<b>Random walk noise:</b>	0.0025 °/√h	0.001 °/√h
<b>Dynamic:</b>	± 500 °/s	± 260 °/s
<b>Scale factor linearity:</b>	3 ppm 1 $\sigma$	3 ppm 1 $\sigma$
<b>Scale factor stability over temperature range:</b>	30 ppm 1 $\sigma$	30 ppm 1 $\sigma$
<b>Bandwidth:</b>	>2 kHz	>2 kHz
<b>Angular resolution:</b>	0.2 arc sec	0.0012 arc sec

### ACCELEROMETERS PERFORMANCE

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<b>Bias stability at ambient temperature:</b>	20 $\mu$ g 1 $\sigma$
<b>Bias stability over one year:</b>	< 500 $\mu$ g
<b>Bias stability over temperature range:</b>	100 $\mu$ g 1 $\sigma$
<b>Noise:</b>	15 $\mu$ g/√Hz
<b>Dynamic:</b>	± 10 g
<b>Long term scale factor linearity (1 year):</b>	± 500 ppm
<b>Scale factor stability at temperature:</b>	40 ppm 1 $\sigma$
<b>Scale factor over one year:</b>	< 500 ppm
<b>Bandwidth:</b>	>300 Hz
<b>Resolution:</b>	1 $\mu$ g

### PHYSICAL CHARACTERISTICS

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<b>Operating temperature range:</b>	- 40°C to + 60°C	- 10°C to + 50°C
<b>Storage temperature range:</b>	- 40°C to + 80°C	- 40°C to + 80°C
<b>Shocks (operation):</b>	Half sine 30 g in 6 ms	
<b>Shocks (survival):</b>	Half sine 50 g in 11 ms	
<b>Vibrations:</b>	1 g sine (5 to 500 Hz)	
<b>MTBF:</b>	30 000 hours	

### INTERFACES

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<b>Input voltage:</b>	20 to 35 V d.c. (24 V nominal)
<b>Power consumption:</b>	12 W (max.)
<b>Serial:</b>	1 configurable output (RS232 or RS422)
<b>Output rate:</b>	Up to 300 Hz

*Specifications subject to change without notice*