

IMU 32

Inertial Measurement Unit

OVERVIEW

The IMU 32 family employs the latest closed-loop fiber-optic gyro (FOG) and linear rebalanced accelerometer technology. It is a small, lightweight, high performance strap-down Inertial Measurement Unit (IMU), suited for reference, control, and navigation solutions for both defence and commercial applications. The IMU 32 is suitable for harsh vibration environments and is available in multiple configurations to meet different price and performance requirements.

SYSTEM HIGHLIGHTS

ARW: 0.02–0.008°/√hr.

- Harsh vibration environment

Scalable bias performance: 0.5°–0.1°/hr.

- CEP improvement
- Support future accuracy upgrades

Closed loop FOG and closed loop rebalanced accelerometers

Mounting and mechanical envelope matching legacy IMU

Vibration protected configuration for environmentally demanding applications

ITAR free

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The IMU 32 is a 0.5 degree/hr gyroscope, 300 mg accelerometer IMU with low ARW for superior performance.

IMU 32XP (Enhanced Performance)

IMU 32-XP is a 0.1 degree/hr IMU. Increased gyro performance with the same form factor and as the standard IMU 32.

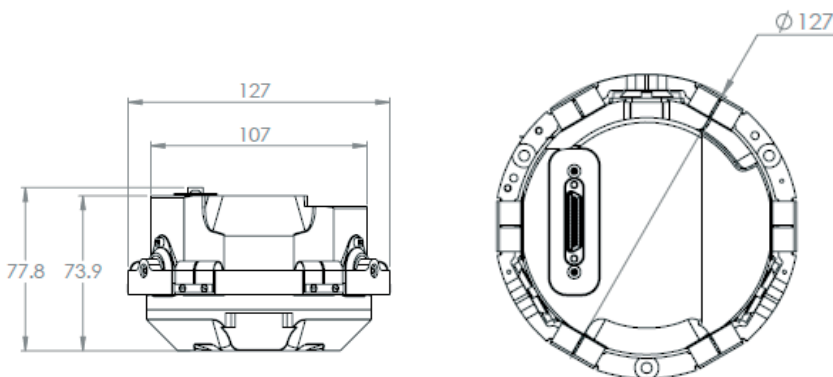
Over the past 15 years Cielo's field proven IMU's have been tested and combat proven on a variety of operational applications, such as rocket systems, accurate munitions, payloads, UAV's, civilian aircraft protection systems and many more.

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PARAMETER	IMU 32-CV	IMU 32	IMU 32-XP
GYRO			
Gyro Bias Short Term Over Temp. (1 sigma)	>1 °/hr.	<0.5 °/hr.	<0.1 °/hr.
Gyro Angular Random Walk	0.07 °/√hr	0.02 °/√hr	0.008 °/√hr
Gyro Scale Factor Short Term Over Temp. (1 sigma)	<100 PPM	<150 PPM	<150 PPM
Gyro Dynamic Range	±1000 °/sec.	±1000 °/sec.	±1000 °/sec.
ACCELEROMETER			
Accelerometer Bias Short Term Over Temp. (1 sigma)	<2000 µg	<300 µg	<300 µg
Accelerometer Threshold	100 µg	10 µg	10 µg
Accelerometer Scale Factor Short Term Over Temp. (1 sigma)	1500 PPM	300 PPM	300 PPM
Accelerometer VRE	250 µg/g ²	20 µg/g ²	20 µg/g ²
Accelerometer Range	±30 g	±50 g	±50 g
CHARACTERISTICS			
Size	0.65 Liter		
Weight	980 ±20 Grams		
Power	15 W		
Temperature	-40 to 71°C		
Temperature Gradient	3 °C/min		
Power Input	±15, 5 / Wide Range 28 VDC		
Interface	SDLC, RS422		
Data Rates	100 to 4800 Hz		
Sync	External or Internal		



IMU32 is suitable for a wide range of applications including vehicle navigation, missiles, guided munitions and more.

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