

# MEMSENSE

Customer Focused Inertial Solutions

# MS-IMU 3030



## LEADING PERFORMANCE FEATURES VALUE

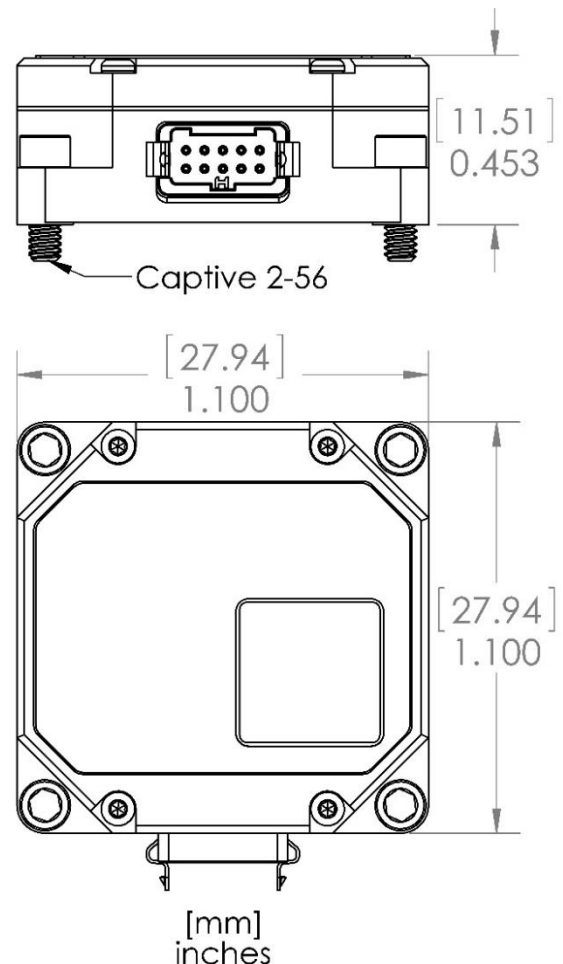
The MS-IMU3030 inertial measurement unit delivers unprecedented performance in miniature aluminum package. The gyro bias instability of 0.55 °/h and accel bias instability of 2.9  $\mu$ g supply ample performance to support a range of applications from UAS navigation and control to platform stabilization. User configurable options allow the IMU to be tuned to your application with configurable bandwidth, sample rate, dynamic ranges, 1 PPS input and other measurement parameters. The MS-IMU3030's combination of performance, features, and size is unmatched in the market.

### Key Features

Accel Dynamic Range	$\pm 8$ g
Accel Bias Instability	2.9 $\mu$ g
Velocity Random Walk	0.0047 m/s/h <sup>-1/2</sup>
Gyro Dynamic Range	$\pm 120$ °/s to $\pm 1920$ °/s
Gyro Bias Instability	0.55 °/h
Angle Random Walk	0.11 °/h <sup>-1/2</sup>

### Applications

- Platform Stabilization
- UAS Navigation & Control
- Turret Pointing



ACCELERATION		UNITS	NOTES	
Dynamic Range	± 8	g	Minimum	
Bias Instability	2.9	μg	Typical	
Offset	± 0.274	mg	Typical	
Nonlinearity	± 0.3	% of FS	Typical	
Velocity Random Walk	0.0047	m/s/h <sup>-1/2</sup>	Typical	
Noise Density	14.67	μg/Hz <sup>-1/2</sup>	Typical	
Bandwidth	50	Hz	-3dB point	
ANGULAR RATE		UNITS	NOTES	
Dynamic Range	± 480	°/s	Minimum, Note 1	
Bias Instability	0.55	°/h	Typical	
Offset	± 5	°/h	Typical	
Nonlinearity	± 0.05	% of FS	Typical	
Angle Random Walk	0.11	°/h <sup>-1/2</sup>	Typical	
Noise Density	0.003	°/s /Hz <sup>-1/2</sup>	Typical	
Bandwidth	50	Hz	-3dB point	
MAGNETIC FIELD		NOTE 2	UNITS	NOTES
Dynamic Range	± 2.0		gauss	Minimum
Offset	± 0.03		gauss	Typical
Nonlinearity	± 0.5		% of FS	Typical
Noise Density	350		μgauss /Hz <sup>-1/2</sup>	Typical
Bandwidth	50		Hz	-3dB point
PHYSICAL			UNITS	NOTES
Dimensions	1.10 x 1.10 x 0.45		in.	(L x W x H)
Mass	25		grams	
Supply Voltage	4.9 – 30		VDC	
Supply Power	0.7		W	
Operating Temperature	-40 to 85		C	
Interface Connector	Harwin Gecko			10 pin

1. Ranges are software configurable to 120, 240, 480, 960, and 1920 see User Guide for detailed specifications.
2. Magnetometer only available in MS-IMU3030M, see product specification for details.

**MS-IMU3030 ALLAN VARIANCE CURVES**

