

MEMSENSE

Customer Focused Inertial Solutions

MS-IMU 3030



**LEADING PERFORMANCE
FEATURES
VALUE**

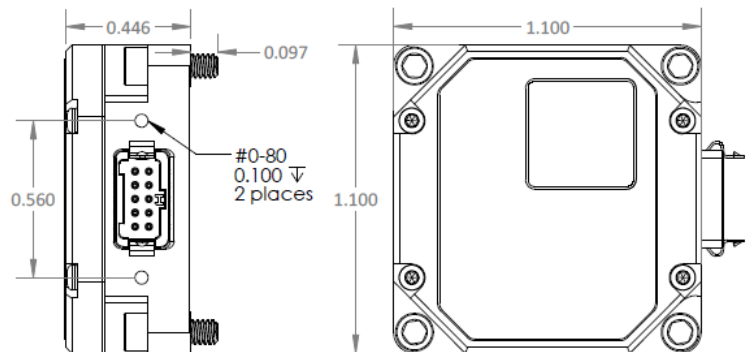
The MS-IMU3030 inertial measurement unit delivers unprecedented performance in miniature aluminum package. The gyro bias instability of 0.55 °/h and accel bias instability of 2.9 μg supply ample performance to support a range of applications from UAS navigation and control to platform stabilization. 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.

Applications

- Platform Stabilization
- UAS Navigation & Control
- Turret Pointing

Key Features

Accel Dynamic Range	±8 g
Accel Bias Instability	2.9 μg
Velocity Random Walk	0.0047 m/s/h ^{-1/2}
Gyro Dynamic Range	±75 °/s to ±1920 °/s
Gyro Bias Instability	0.55 °/h
Angle Random Walk	0.11 °/h ^{-1/2}



PRIMARY ACCELERATION		UNITS	NOTES
Dynamic Range	± 4	g	Minimum
Bias Instability	3.7	µg	Typical
Offset	± 0.670	mg	Typical
Nonlinearity	± 0.3	% of FS	Typical
Velocity Random Walk	0.008	m/s/h ^{-1/2}	Typical
Noise Density	20	µg/Hz ^{-1/2}	Typical
Bandwidth	50	Hz	-3dB point

ANGULAR RATE		UNITS	NOTES
Dynamic Range	± 480	°/s	Minimum, Note 1
Bias Instability	0.56	°/h	Typical
Offset	± 27	°/h	Typical
Nonlinearity	± 0.05	% of FS	Typical
Angle Random Walk	0.11	°/h ^{-1/2}	Typical
Noise Density	0.003	°/s / Hz ^{-1/2}	Typical
Bandwidth	50	Hz	-3dB point

MAGNETIC FIELD		NOTE 2	UNITS	NOTES
Dynamic Range	± 1.9		gauss	Minimum
Offset	± 0.005		gauss	Typical
Noise Density	79.2		µgauss / Hz ^{-1/2}	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	1.35	W	
Operating Temperature	-40 to 85	C	
Interface Connector	Harwin Gecko		10 pin

1. Ranges are software configurable to 75, 200, 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

