

MEMSENSE

Customer Focused Inertial Solutions

MX

IMU



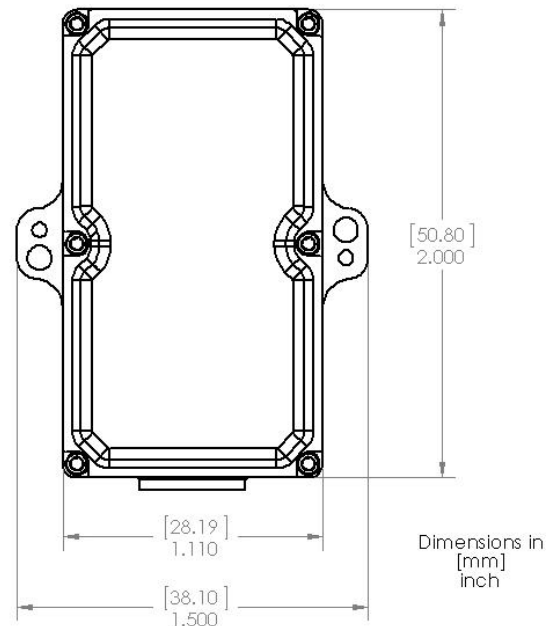
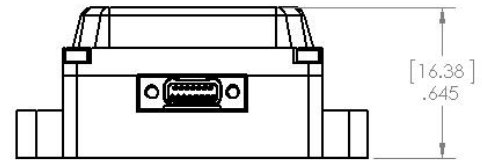
The MX IMU features precision accelerometers and low drift rate, vibration rejecting gyroscopes. The IMU is housed in an ultra- durable and compact aluminum housing with a Mil-Standard interface connector. The MX IMU can be ordered with varied dynamic ranges by sensor axis enabling perfect tuning for specific applications.

Key Features

Accel Dynamic Range	$\pm 5g$
Accel Bias Instability	$14.3 \mu g$
Accel Velocity Random Walk	$0.050 \text{ m/s/h}^{-1/2}$
Gyro Dynamic Range	$\pm 300 \text{ }^\circ/\text{s}$
Gyro Bias Instability	$10.0 \text{ }^\circ/\text{h}$
Gyro Angle Random Walk	$0.7 \text{ }^\circ/\text{h}^{-1/2}$

Applications

- UAS Navigation & Control
- Platform Stabilization
- Gimbal Pointing
- Antenna Pointing



ACCELERATION		UNITS	NOTES
Dynamic Range	± 5	g	Minimum
Bias Instability	14.3	μg	Typical
Offset	± 1.6	mg	Typical
Nonlinearity	± 0.3	% of FS	Typical
Velocity Random Walk	0.050	m/s/h ^{-1/2}	Typical
Noise Density	99	μg/Hz ^{-1/2}	Typical
Digital Scale Factor	2.2888E-04	g/bit	
Bandwidth	50	Hz	-3dB point

ANGULAR RATE		UNITS	NOTES
Dynamic Range	± 300	°/s	Minimum
Bias Instability	10	°/h	Typical
Offset	± 0.063	°/s	Typical
Nonlinearity	± 0.01	% of FS	Typical
Angle Random Walk	0.7	°/h ^{-1/2}	Typical
Noise Density	0.021	°/s/Hz ^{-1/2}	Typical
Digital Scale Factor	1.3733E-02	°/s/bit	
Bandwidth	50	Hz	-3dB point

MAGNETIC FIELD		UNITS	NOTES
Dynamic Range	± 1.9	gauss	Minimum
Offset	± 0.005	gauss	Typical
Nonlinearity	± 0.1	% of FS	Typical
Noise Density	79.2	μgauss /Hz ^{-1/2}	Typical
Digital Scale Factor	8.6975E-05	gauss /bit	
Bandwidth	50	Hz	-3dB point

PHYSICAL		UNITS	NOTES
Dimensions	2.0 x 1.5 x 0.65	in.	(L x W x H)
Mass	55	grams	
Supply Voltage	7.0 to 9.0	VDC	
Supply Current	210	mA	
Interface Connector	MIL-DTL-32139		15 pin

For other configurations and further detailed specifications see the MX IMU User Guide.