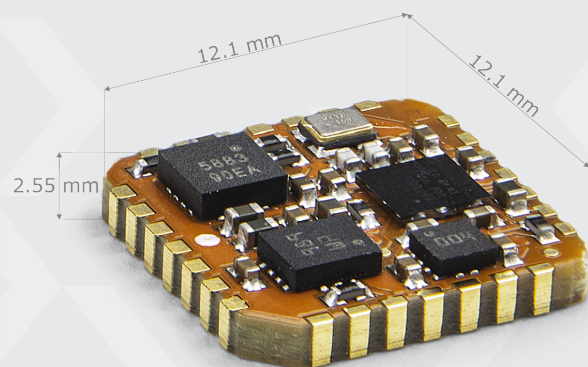


# Xsens MTi-1

- > Miniature form factor (12x12 mm)
- > Easy integration
- > Development Kit available



## Description

The MTi-1 is a self-contained Inertial Measurement Unit (IMU) as a 12.1 x 12.1 mm module. The Xsens optimized strapdown algorithm (AttitudeEngine™) performs high-speed dead-reckoning calculations at 1 kHz allowing accurate capture of high frequency motions.

The MTi-1 IMU is a cost-effective module for a wide range of (embedded) applications. It relieves users from the design, integration and maintenance of gyroscopes, accelerometers and other sensors.

The MTi-1 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/ Linux), SDK, example codes and drivers for many platforms including ROS.

- > White label and OEM integration options available
- > 3D models available on request

### Sensor fusion performance

Accelerometer	_____	Calibrated
Gyroscope	_____	Calibrated
Strapdown Integration (SDI)	_____	Yes

### Gyroscope

Standard full range	_____	2000 deg/s
In-run bias stability	_____	6 deg/h
Bandwidth (-3dB)	_____	230 Hz
Noise Density	_____	0.003 °/s/√Hz

### Accelerometer

Standard full range	_____	16 g
In-run bias stability	_____	40 µg
Bandwidth (-3dB)	_____	230 Hz
Noise Density	_____	70 µg/√Hz

### Magnetometer

Standard full range	_____	+/- 8 G
Total RMS noise	_____	0.5 mG
Non-linearity	_____	0.2%
Resolution	_____	0.25 mG

### Mechanical

IP-rating	_____	IP00
Operating Temperature	_____	-40 to 85 °C
Casing material	_____	PCB

Mounting orientation	_____	No restriction, full 360° in all axes
Dimensions	_____	12.1 x 12.1 x 2.55 mm
Connector	_____	SMD, footprint compatible with JEDEC PLCC-28
Weight	_____	0.6 g
Certifications	_____	CE, FCC, RoHS

### Electrical

Input voltage	_____	2.8 to 3.6V
Power consumption (typ)	_____	<100 mW @ 3V

### Interfaces / IO

Interfaces	_____	UART, SPI, I <sup>2</sup> C
Sync Options	_____	Yes
Protocols	_____	Xbus
Clock drift	_____	10 ppm
Output Frequency	_____	Up to 1 kHz
Built-in-self test	_____	Gyr, Acc, Mag

### Software Suite

GUI (Windows/Linux)	_____	MT Manager, Firmware updater, Magnetic Field Mapper
SDK (Example code)	_____	C++, C#, Python, Matlab, Nucleo, public source code
Drivers	_____	LabVIEW, ROS, GO
Support	_____	Online manuals, community and knowledge base