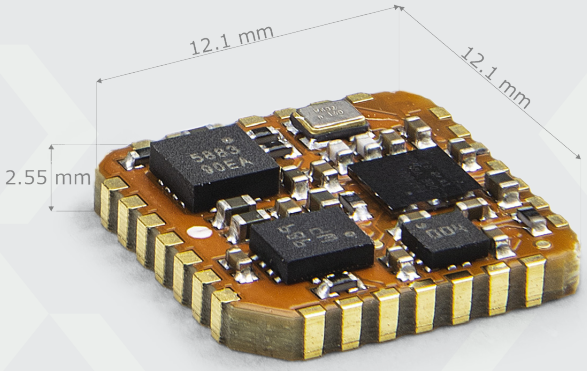
Xsens MTi-2

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



Description

The MTi-2 is a self-contained Vertical Reference Unit (VRU) as a 12.1 x 12.1 mm module. The Xsens optimized strapdown algorithm (AttitudeEngineTM) performs high-speed dead-reckoning calculations at 1 kHz allowing accurate capture of high frequency motions.

Xsens' industry-leading sensor fusion algorithm provides high accuracy and sensor auto-calibration in 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-2 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

Roll, Pitch	0.5 deg RMS
Yaw/Heading	unreferenced, low drift
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, I²C
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

Unless stated otherwise, all specifications are typical. Specifications subject to change without notice. This document is informational and not binding.
Complete and detailed specifications are available at mtidocs.movella.com