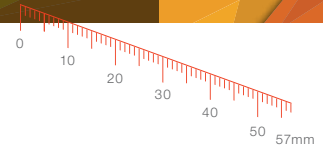


xsens

MTi 10-series

The reliable industry standard for MEMS based IMU, VRU and AHRS

- ✓ Most reliable MEMS based orientation sensor available
- ✓ Featuring Xsens proven XKF3 kalman filter
- ✓ 3 integration levels available: IMU, VRU, AHRS



MTi 10-series

- Proven XKF3 sensor fusion algorithm
- Cost effective system integrator solution
- Coning and sculling algorithms @ 2 kHz
- Choice of integration levels
- Comprehensive SDK and straightforward system integration

Market leader

- Industry standard from the undisputed leader in MEMS AHRS
- Many high-profile companies fully rely on Xsens for control and stabilization, measurement correction and navigation



Robust and accurate orientation data

- High-quality components, industrial-grade MEMS only
- Low latency (<2 ms), excellent for control and stabilization
- Proven and robust filter design
- Compensation against vibration and transient accelerations

Maximum flexibility and versatility in mechanical and software interfaces

- Available as OEM board and IP67 encased MTi
- 24-pins connector for OEM
- Extensive suite of output formats, available directly from the MTi
- Choice of several interfaces, onboard USB, 2+ GPIO's
- Xsens' industry standard open Xbus protocol or NMEA (e.g. TSS1)
- All products from the MTi-series are fully interchangeable

Product Overview

		10-IMU	20-VRU Typ Max	30-AHRS Typ Max
Calibrated Sensor Data		yes	yes	yes
Roll/pitch	Static	-	0.2° 0.4°	0.2° 0.4°
	Dynamic	-	0.5° 2.0°	0.5° 2.0°
Yaw	In homogenous magnetic field	-	Active Heading Stabilization	1.0°

Sensor specifications

	Gyroscopes		Accelerometers	
	Typ	Max	Typ	Max
Standard full range	+/- 450°/s	-	50 m/s ²	-
Bias repeatability (1 yr)	0.2°/s	0.5°/s	0.03 m/s ²	0.05 m/s ²
In-run bias stability	18°/h	-	40 µg	-
Bandwidth (-3 dB)	415 Hz	N/A	375 Hz	N/A
Noise density	0.03°/s/√Hz	0.05°/s/√Hz	80 µg/√Hz	150 µg/√Hz
g-sensitivity (calibrated)	0.006°/s/g	0.02°/s/g	N/A	N/A
Non-orthogonality	0.05 deg	-	0.05 deg	-
Non-linearity	0.03% FS	0.1% FS	0.03% FS	0.5% FS
	Magnetometer			
	Typ	Max		
Standard full range	-	+/- 80 µT		
Noise density	200 µG/√Hz	-		
Non-linearity	0.1% FS	-		

System specifications

Input voltage	4.5 to 34V or 3V3	Clock drift	10 ppm or external reference
Typical power consumption	480-570 mW @ 5V	Output frequency	Up to 2 kHz
Start-up time	1.3 sec.	Latency	<2 ms
IP-rating	IP 67 (encased)	Interfaces	RS232/422/485/UART/USB (on board)
Temperature (in use)	-40 to 85 °C	GPIO's and options	SyncIn, SyncOut, 2x GPIO, Clock sync
Vibration and shock	MIL STD-202 / 2000g	Interface protocol	XBus or NMEA
Casing material	Anodized aluminum 6060	Mounting	Free; orientation alignment available
Sampling frequency	10 kHz/channel (60 kS/s)	Built-in self test (BIT)	gyroscopes, accelerometers, magnetometer



MTi encased:
57x42x23.5 mm, 52g,
9-pins push-pull connector

OEM:
37x33x12 mm, 11g,
24-pins header