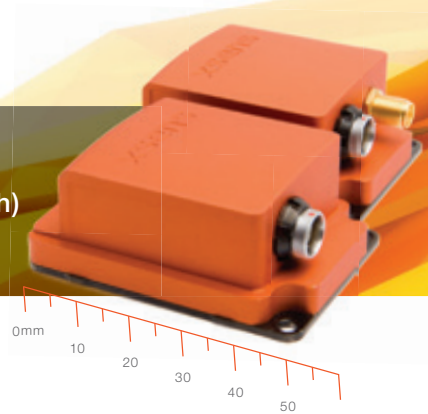


Xsens

MTi 100-series

The most accurate and complete MEMS AHRS and GPS/INS

- ✓ Best performing MEMS based sensor on the market
- ✓ High performance vibration resistant MEMS based gyroscopes (10 deg/h)
- ✓ Meets DO-160 specifications, integrated in FAA-certified applications



MTi 100-series

- Breakthrough tracking performance
- Coning and sculling algorithms @ 2kHz
- Motion processing core for multiple sensor inputs and data sources
- High-performance XEE, beyond traditional Kalman Filtering
- Tuned for performance under vibrations and magnetic distortions
- Comprehensive SDK and straightforward system integration

Complete product, with highest accuracy

- Low latency (<2ms) for real-time applications
- Compensation against long-lasting transient accelerations
- Able to cope with GPS outages and magnetic distortions
- Leading innovator introducing a new class of AHRS's

Breakthrough performance from market leader

- Next level MEMS AHRSs with vibration rejecting gyroscopes
- Cutting-edge sensor fusion technology
- Market leader serving a large and high-profile customer base



Maximum flexibility and versatility

- 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 and GPIO's
- Xsens' industry standard open Xbus protocol or NMEA
- All products from the MTi 10-series and MTi 100-series are fully interchangeable

Orientation and position accuracy MTi 100-series

		200-VRU	300-AHRS	700-GPS/INS
		Typ (Max)	Typ (Max)	Typ (Max)
Orientation				
Roll/pitch	Static	0.2 ° (0.25 °)	0.2 ° (0.25 °)	0.2 ° (0.25 °)
	Dynamic	0.3 ° (1.0 °)	0.3 ° (1.0 °)	0.3 ° (1.0 °)
Yaw	In homogenous magnetic field	Active Heading Stabilization	1.0 °	1.0 °
Position and velocity				
Horizontal position	1σ STD (SBAS)	-	-	1.0 m
Vertical position	1σ STD (SBAS, baro)	-	-	2.0 m
Velocity	1σ RMS	-	-	0.1 m/s

Sensor specifications MTi 100-series

	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	0.03m/s ²	0.05m/s ²
In-run bias stability	10°/h	-	40 µg	-
Bandwidth (-3 dB)	415 Hz	N/A	375 Hz	N/A
Noise density	0.01°/s/√Hz	0.015°/s/√Hz	80 µg/√Hz	150 µg/√Hz
g-sensitivity (calibrated)	0.003°/s/g	0.015°/s/g	N/A	N/A
Non-orthogonality	0.05 deg	-	0.05 deg	-
Non-linearity	0.01% FS	-	0.03% FS	0.5% FS
	Magnetometer		Barometer	
	Typ	Max	Typ	Max
Standard full range	-	+/- 80 µT	-	300-1100 hPa
Noise density	200 µG/√Hz	-	0.01 hPa/√Hz	-
Non-linearity	0.1% FS	-	-	-
GPS receiver (MTi-G-700 GPS/INS only)				
Receiver type	50 ch, L1, C/A code	DGPS	SBAS	
Update rate	4Hz	GPS L1 C/A horizontal accuracy [CEP]	2.0 m (2.5m w/o SBAS)	
Start-up time cold start	27s	GPS L1 C/A vertical accuracy [CEP]	5.0 m	
Tracking sensitivity	-161 dbM	Velocity accuracy	0.1 m/s @ 30 m/s	

System specifications MTi 100-series

Input voltage	4.5-34V or 3V3;	Clock drift	10 ppm (1 ppm w. GPS) or ext. ref.
Typical power consumption	675-950 mW	Output frequency	Up to 2 kHz
Start-up time	2.5 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-G encased:
57x42x23.5 mm, 55g,
9-pins push-pull connector



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



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