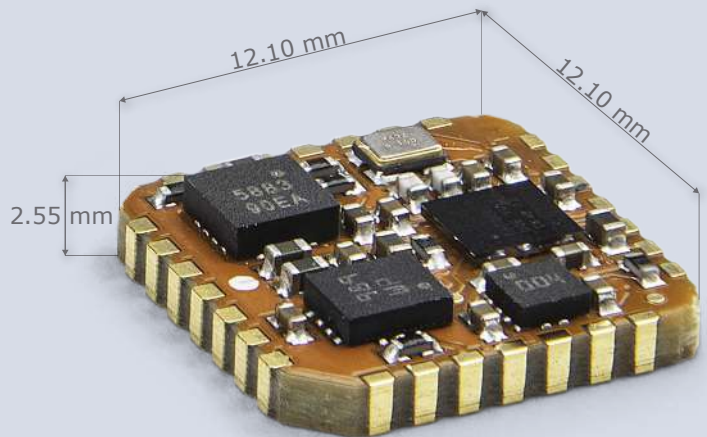


# MTi-1

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

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.



## IMU Performance

Accelerometer	Calibrated
Gyroscope	Calibrated
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	10 deg/h
Bandwidth (-3dB)	255 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	16 g
In-run bias stability	30 µg
Bandwidth (-3dB)	324 (x,y) 262 (z) Hz
Noise Density	120 µg/√Hz

## Magnetometer

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

## GNSS Receiver

GNSS receiver interface	n/a
GNSS precision	n/a
RTCM input port	n/a

## Barometer

Barometer interface	n/a
---------------------	-----

## 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

## Electrical

Input voltage	2.19 to 3.6V
Power consumption (typ)	44 mW @ 3V

## Interfaces / IO

Interfaces	UART, SPI, I²C
Sync Options	Yes
Protocols	Xbus
Clock drift	10 ppm
Output Frequency	Up to 1 kHz, 100 Hz SDI
Built-in-self test	Yes

## Software Suite

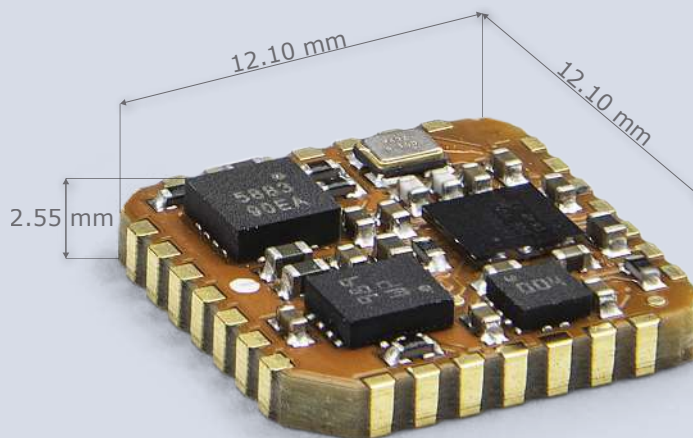
GUI (Windows/Linux)	MT Manager Firmware updater, Magnetic Field Mapper
SDK (Example code)	C++, C#, python, Matlab, Nucleo, public source code
Drivers	LabVIEW, ROS, GO
Support	BASE by XSENS: online manuals, community and knowledge base

- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-2

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

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 (AttitudeEngine™) 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.



## 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	10 deg/h
Bandwidth (-3dB)	255 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	16 g
In-run bias stability	30 µg
Bandwidth (-3dB)	324 (x,y) 262 (z) Hz
Noise Density	120 µg/√Hz

## Magnetometer

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

## GNSS Receiver

GNSS receiver interface	n/a
GNSS precision	n/a
RTCM input port	n/a

## Barometer

Barometer interface	n/a
---------------------	-----

## 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

## Electrical

Input voltage	2.19 to 3.6V
Power consumption (typ)	44 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, 100 Hz SDI
Built-in-self test	Yes

## Software Suite

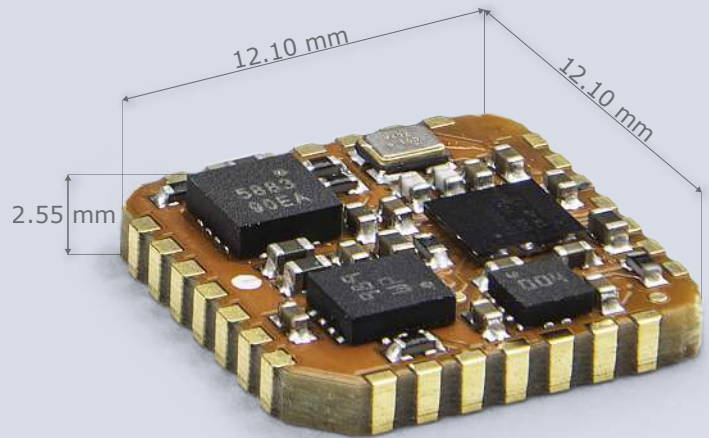
GUI (Windows/Linux)	MT Manager Firmware updater, Magnetic Field Mapper
SDK (Example code)	C++, C#, python, Matlab, Nucleo, public source code
Drivers	LabVIEW, ROS, GO
Support	BASE by XSENS: online manuals, community and knowledge base

- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-3

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

The MTi-3 is a self-contained Attitude Heading and Reference System (AHRS) 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. 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-3 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## 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	10 deg/h
Bandwidth (-3dB)	255 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	16 g
In-run bias stability	30 µg
Bandwidth (-3dB)	324 (x,y) 262 (z) Hz
Noise Density	120 µg/√Hz

## Magnetometer

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

## GNSS Receiver

GNSS receiver interface	n/a
GNSS precision	n/a
RTCM input port	n/a

## Barometer

Barometer interface	n/a
---------------------	-----

## 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

## Electrical

Input voltage	2.19 to 3.6V
Power consumption (typ)	44 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, 100 Hz SDI
Built-in-self test	Yes

## Software Suite

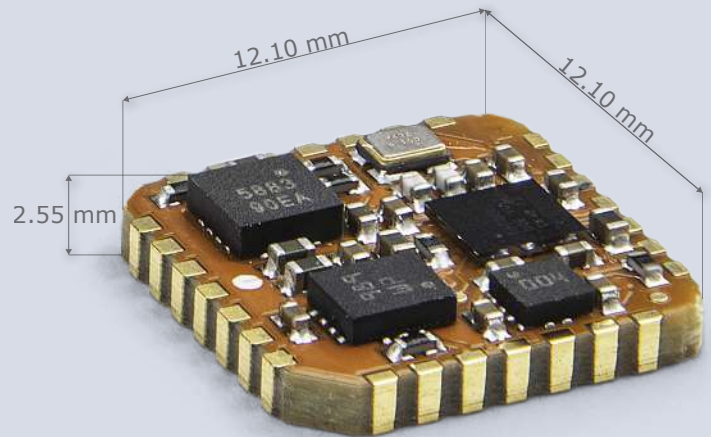
GUI (Windows/Linux)	MT Manager Firmware updater, Magnetic Field Mapper
SDK (Example code)	C++, C#, python, Matlab, Nucleo, public source code
Drivers	LabVIEW, ROS, GO
Support	BASE by XSENS: online manuals, community and knowledge base

- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-7

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

The MTi-7 is a miniature GNSS/INS as a 12.1 x 12.1 mm module with an interface to an external GNSS receiver. The Xsens optimized strapdown algorithm (AttitudeEngine™) 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-7 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor fusion performance

Roll, Pitch	0.5 deg RMS
Yaw/Heading	1.5 deg RMS
Strapdown Integration (SDI)	<1 m CEP
Velocity	0.05 m/s RMS

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	10 deg/h
Bandwidth (-3dB)	255 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	16 g
In-run bias stability	30 μg
Bandwidth (-3dB)	324 (x,y) 262 (z) Hz
Noise Density	120 μg/√Hz

## Magnetometer

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

## GNSS Receiver

GNSS receiver interface	Yes (UART)
GNSS precision	Standard
RTCM input port	n/a

## Barometer

Barometer interface	Yes (BMP280)
---------------------	--------------

## 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

## Electrical

Input voltage	2.19 to 3.6V
Power consumption (typ)	<100 mW @ 3V

## Interfaces / IO

Interfaces	UART, SPI, I <sup>2</sup> C
Sync Options	Yes
Protocols	Xbus, NMEAin
Clock drift	1 ppm
Output Frequency	Up to 1 kHz, 100 Hz SDI
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

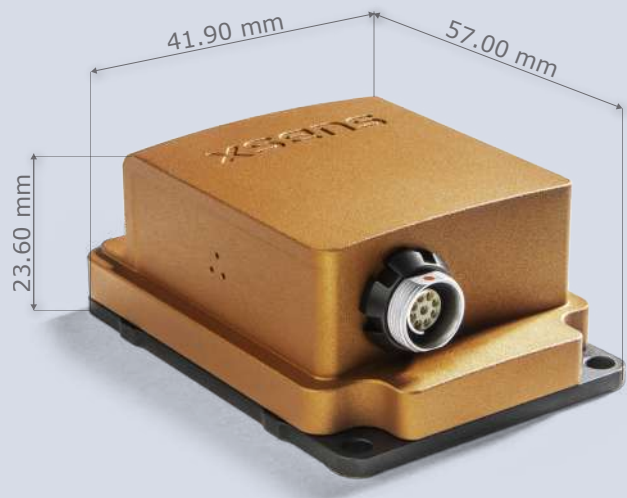
# MTi-100

- Xsens' high-performance product line
- Market leading SDI and synchronization options
- Complete SDK and development kits available

The MTi-100 features vibration-rejecting gyroscopes and offers high-quality inertial data, even in challenging environments.

The all-in-one sensor system supports optimized temperature calibration, high-frequency outputs, and has configurable output settings for synchronization with any third-party device.

The MTi-100 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor fusion performance

Accelerometer	Calibrated
Gyroscope	Calibrated
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	450 deg/s
In-run bias stability	10 deg/h
Bandwidth (-3dB)	415 Hz
Noise Density	0.01 °/s/√Hz
g-sensitivity (calibr.)	0.003 °/s/g

## Accelerometer

Standard full range	20 g
In-run bias stability	15 µg
Bandwidth (-3dB)	375 Hz
Noise Density	60 µg/√Hz

## Magnetometer

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

## GNSS Receiver

Brand	n/a
Model	n/a
RTCM input port	n/a

## Barometer

Standard full range	300-1100 hPa
Total RMS noise	3.6 Pa
Resolution	~0.08m

## Mechanical

IP-rating	IP67
Operating Temperature	-40 to 85 °C
Casing material	Aluminum
Mounting orientation	No restriction, full 360° in all axes
Dimensions	57x41.90x23.60 mm
Connector	Fischer SV
Weight	55 g

## Electrical

Input voltage	3V3, 4.5V-34V
Power consumption (typ)	520 mW

## Interfaces / IO

Interfaces	USB, RS232, RS422, UART
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus
Clock drift	10 ppm (or external)
Output Frequency	up to 2kHz
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

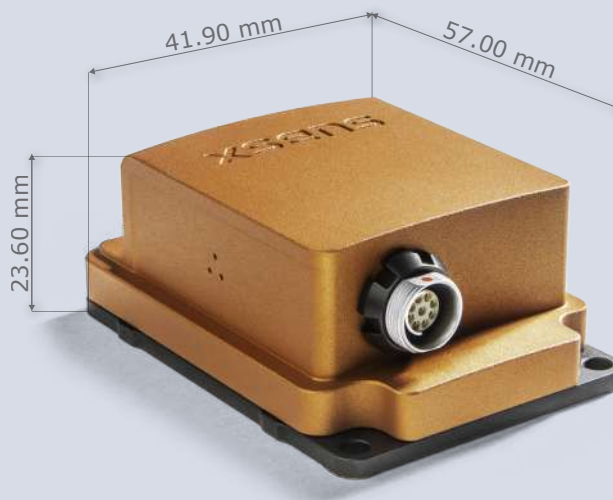
# MTi-200

- Xsens' high-performance product line
- 0.2 deg in roll/pitch accuracy, ultra low heading drift
- Complete SDK and development kits available

The MTi-200 features vibration-rejecting gyroscopes and offers high-quality inertial data, even in challenging environments.

The all-in-one sensor system supports optimized temperature calibration, high-frequency outputs, and has configurable output settings for synchronization with any third-party device.

The MTi-200 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor fusion performance

Roll, Pitch	0.2 deg RMS
Yaw/Heading	unreferenced, low drift
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	450 deg/s
In-run bias stability	10 deg/h
Bandwidth (-3dB)	415 Hz
Noise Density	0.01 °/s/√Hz
g-sensitivity (calibr.)	0.003 °/s/g

## Accelerometer

Standard full range	20 g
In-run bias stability	15 µg
Bandwidth (-3dB)	375 Hz
Noise Density	60 µg/√Hz

## Magnetometer

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

## GNSS Receiver

Brand	n/a
Model	n/a
RTCM input port	n/a

## Barometer

Standard full range	300-1100 hPa
Total RMS noise	3.6 Pa
Resolution	~0.08m

## Mechanical

IP-rating	IP67
Operating Temperature	-40 to 85 °C
Casing material	Aluminum
Mounting orientation	No restriction, full 360° in all axes
Dimensions	57x41.90x23.60 mm
Connector	Fischer SV
Weight	55 g

## Electrical

Input voltage	3V3, 4.5V-34V
Power consumption (typ)	520 mW

## Interfaces / IO

Interfaces	USB, RS232, RS422, UART
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA)
Clock drift	10 ppm (or external)
Output Frequency	up to 2kHz
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

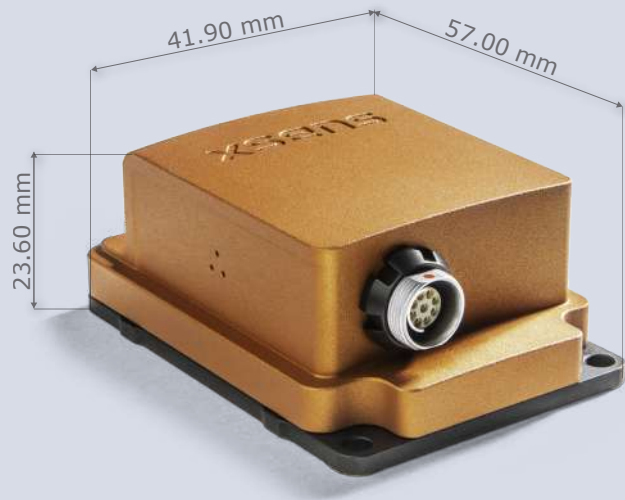
# MTi-300

- Xsens' high-performance product line
- 0.2 deg in roll/pitch, 1 deg in heading accuracy
- Complete SDK and development kits available

The MTi-300 features vibration-rejecting gyroscopes and offers high-quality inertial data, even in challenging environments.

The all-in-one sensor system supports optimized temperature calibration, high-frequency outputs, and has configurable output settings for synchronization with any third-party device.

The MTi-300 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor fusion performance

Roll, Pitch	0.2 deg RMS
Yaw/Heading	1 deg RMS
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	450 deg/s
In-run bias stability	10 deg/h
Bandwidth (-3dB)	415 Hz
Noise Density	0.01 °/s/√Hz
g-sensitivity (calibr.)	0.003 °/s/g

## Accelerometer

Standard full range	20 g
In-run bias stability	15 µg
Bandwidth (-3dB)	375 Hz
Noise Density	60 µg/√Hz

## Magnetometer

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

## GNSS Receiver

Brand	n/a
Model	n/a
RTCM input port	n/a

## Barometer

Standard full range	300-1100 hPa
Total RMS noise	3.6 Pa
Resolution	~0.08m

## Mechanical

IP-rating	IP67
Operating Temperature	-40 to 85 °C
Casing material	Aluminum
Mounting orientation	No restriction, full 360° in all axes
Dimensions	57x41.90x23.60 mm
Connector	Fischer SV
Weight	55 g

## Electrical

Input voltage	3V3, 4.5V-34V
Power consumption (typ)	520 mW

## Interfaces / IO

Interfaces	USB, RS232, RS422, UART
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA)
Clock drift	10 ppm (or external)
Output Frequency	up to 2kHz
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-610

- Small, IP 51 rated IMU
- Factory calibrated inertial data
- Full GUI and SDK available

The MTi-610 is a Inertial Measurement Unit with a small form-factor design for deep integration into your application. Building on the proven MTi 600-series technology it enables a robust and easy to use motion tracking. It is designed for easy integration and seamless interfacing with other equipment.

The MTi-610 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## IMU performance

Accelerometer	Calibrated
Gyroscope	Calibrated
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	8 deg/h
Bandwidth (-3dB)	520 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	10 g
In-run bias stability	10 (x,y) 15(z) µg
Bandwidth (-3dB)	500 Hz
Noise Density	60 µg/√Hz

## Magnetometer

Standard full range	+/- 8 G
Total RMS noise	1 mG
Non-linearity	0.2%
Resolution	0.25 mG

## GNSS Receiver

Brand	n/a
Model	n/a
RTCM input port	n/a

## Barometer

Standard full range	300-1250 hPa
Total RMS noise	1.2 Pa
Relative accuracy	+/- 8 Pa (~0.5m)

## Mechanical

IP-rating	IP51
Operating Temperature	-40 to 85 °C
Casing material	PC-ABS
Mounting orientation	No restriction, full 360° in all axes
Dimensions	28x31.50x13 mm
Connector	Main: Phoenix Contact 16 pin, 1.27 mm pitch
Weight	8.9 g

## Electrical

Input voltage	4.5 to 24V
Power consumption (typ)	<1 W

## Interfaces / IO

Interfaces	UART, CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	10 ppm (or external)
Output Frequency	2 kHz, 400 Hz SDI
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors



# MTi-620

- **Small, IP 51 rated IMU**
- **0.2 deg roll/pitch accuracy**
- **Full GUI and SDK available**

The MTi-620 is a Vertical Reference System with a small form-factor design for deep integration into your application. Building on the proven MTi 600-series technology it enables a robust and easy to use orientation tracking. It is designed for easy integration and seamless interfacing with other equipment.

The MTi-620 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor Fusion Performance

Roll, Pitch	0,2 deg RMS
Yaw/Heading	unreferenced, low drift
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	8 deg/h
Bandwidth (-3dB)	520 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	10 g
In-run bias stability	10 (x,y) 15(z) µg
Bandwidth (-3dB)	500Hz
Noise Density	60 µg/√Hz

## Magnetometer

Standard full range	+/- 8 G
Total RMS noise	1 mG
Non-linearity	0.2%
Resolution	0.25 mG

## GNSS Receiver

Brand	n/a
Model	n/a
RTCM input port	n/a

## Barometer

Standard full range	300-1250 hPa
Total RMS noise	1.2 Pa
Relative accuracy	+/- 8 Pa (~0.5m)

## Mechanical

IP-rating	IP51
Operating Temperature	-40 to 85 °C
Casing material	PC-ABS
Mounting orientation	No restriction, full 360° in all axes
Dimensions	28x31.50x13 mm
Connector	Main: Phoenix Contact 16 pin, 1.27 mm pitch
Weight	8.9 g

## Electrical

Input voltage	4.5 to 24V
Power consumption (typ)	<1 W

## Interfaces / IO

Interfaces	UART, CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	10 ppm (or external)
Output Frequency	2 kHz, 400 Hz SDI
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-630

- **Small, IP 51 rated IMU**
- **0.2 deg roll/pitch, 1 deg heading accuracy**
- **Full GUI and SDK available**

The MTi-630 is an Attitude and Heading Reference System with a small form-factor design for deep integration into your application. Building on the proven MTi 600-series technology it enables a robust and easy to use orientation tracking. It is designed for easy integration and seamless interfacing with other equipment.

The MTi-630 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor Fusion Performance

Roll, Pitch	0,2 deg RMS
Yaw/Heading	1 deg RMS
Strapdown Integration (SDI)	Yes

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	8 deg/h
Bandwidth (-3dB)	520 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	10 g
In-run bias stability	10 (x,y) 15(z) µg
Bandwidth (-3dB)	500Hz
Noise Density	60 µg/√Hz

## Magnetometer

Standard full range	+/- 8 G
Total RMS noise	1 mG
Non-linearity	0.2%
Resolution	0.25 mG

## GNSS Receiver

Brand	n/a
Model	n/a
RTCM input port	n/a

## Barometer

Standard full range	300-1250 hPa
Total RMS noise	1.2 Pa
Relative accuracy	+/- 8 Pa (~0.5m)

## Mechanical

IP-rating	IP51
Operating Temperature	-40 to 85 °C
Casing material	PC-ABS
Mounting orientation	No restriction, full 360° in all axes
Dimensions	28x31.50x13 mm
Connector	Main: Phoenix Contact 16 pin, 1.27 mm pitch
Weight	8.9 g

## Electrical

Input voltage	4.5 to 24V
Power consumption (typ)	<1 W

## Interfaces / IO

Interfaces	UART, CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	10 ppm (or external)
Output Frequency	2 kHz, 400 Hz SDI
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-670

- **Small, IP52 rated GNSS/INS**
- **0.2 deg roll/pitch & sub-meter level position accuracy**
- **Connects to external GNSS receiver**

The MTi-670 is a GNSS/INS with a small form-factor design for deep integration into your application. Building on the proven MTi 600-series technology it enables a robust and easy to use sub-meter level positioning and orientation tracking. It features a interface to an external GNSS receiver so you can efficiently design your application. It is designed for easy integration and seamless interfacing with other equipment. The MTi-670 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor Fusion Performance

Roll, Pitch	0,2 deg RMS
Yaw/Heading	0.8 deg RMS
Position	<1m CEP
Velocity	0.05m/s RMS

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	8 deg/h
Bandwidth (-3dB)	520 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	10 g
In-run bias stability	10 (x,y) 15(z) µg
Bandwidth (-3dB)	500 Hz
Noise Density	60 µg/√Hz

## Magnetometer

Standard full range	+/- 8 G
Total RMS noise	1 mG
Non-linearity	0.2%
Resolution	0.25 mG

## GNSS Receiver

Brand	External
Model	External
RTCM input port	External

## Barometer

Standard full range	300-1250 hPa
Total RMS noise	1.2 Pa
Relative accuracy	+/- 8 Pa (~0.5m)

## Mechanical

IP-rating	IP51
Operating Temperature	-40 to 85 °C
Casing material	PC-ABS
Mounting orientation	No restriction, full 360° in all axes
Dimensions	28x31.50x13 mm
Connector	Main: Phoenix Contact 16 pin, 1.27 mm pitch
Weight	8.9 g

## Electrical

Input voltage	4.5 to 24V
Power consumption (typ)	<1 W

## Interfaces / IO

Interfaces	UART, CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	10 ppm (or external)
Output Frequency	2 kHz, 400 Hz SDI
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

# MTi-680G

- Rugged, IP68 rated RTK GNSS/INS
- 0.2 deg roll/pitch & sub-meter level position accuracy
- u-blox ZED F9 RTK GNSS receiver

The MTi-680G is an RTK enabled GNSS/INS with a rugged housing featuring IP68 protection against environmental influences. Building on the proven MTi 600-series technology it enables a robust and easy to use cm-level positioning and orientation tracking. It features an incredibly powerful onboard u-blox ZED F9 RTK GNSS receiver to provide superior positioning performance. It is designed for easy integration and seamless interfacing with other equipment. The MTi-680G is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor Fusion Performance

Roll, Pitch	0,2 deg RMS
Yaw/Heading	0.5 deg RMS
Position	1cm CEP
Velocity	0.05m/s RMS

## Gyroscope

Standard full range	2000 deg/s
In-run bias stability	8 deg/h
Bandwidth (-3dB)	520 Hz
Noise Density	0.007 °/s/√Hz
g-sensitivity (calibr.)	0.001 °/s/g

## Accelerometer

Standard full range	10 g
In-run bias stability	10 (x,y) 15(z) µg
Bandwidth (-3dB)	500 Hz
Noise Density	60 µg/√Hz

## Magnetometer

Standard full range	+/- 8 G
Total RMS noise	1 mG
Non-linearity	0.2%
Resolution	0.25 mG

## GNSS Receiver

Brand	u-blox
Model	ZED F9
RTCM input port	RTCM 3.3, RS232

## Barometer

Standard full range	300-1250 hPa
Total RMS noise	1.2 Pa
Relative accuracy	+/- 8 Pa (~0.5m)

## Mechanical

IP-rating	IP68
Operating Temperature	-40 to 85 °C
Casing material	Aluminum
Mounting orientation	No restriction, full 360° in all axes
Dimensions	56.50x40.90x36.75 mm
Connector	Main: ODU (AMC HD 12 pins) RTCM: ODU (AMC HD 4 pins) Antenna: SMA
Weight	98 g

## Electrical

Input voltage	4.5 to 24V
Power consumption (typ)	<1 W

## Interfaces / IO

Interfaces	CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	1ppm
Output Frequency	2 kHz, 400 Hz SDI
Built-in-self test	Yes

## Software Suite

GUI (Windows/Linux)	MT Manager Firmware updaters, Magnetic Field Mapper
SDK (Example code)	C++, C#, python, Matlab, Nucleo, public source code
Drivers	LabVIEW, ROS, GO
Support	BASE by XSSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors

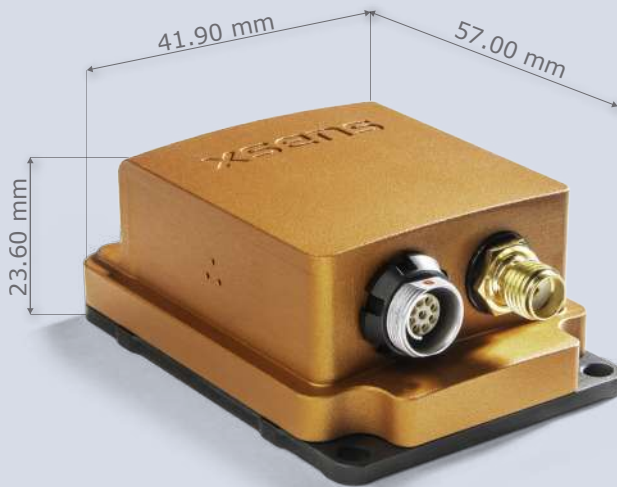
# MTi-G-710

- Xsens' high-performance product line
- 0.2 deg in roll/pitch, 0.8 deg in heading accuracy
- Complete SDK and development kits available

The MTi-G-710 features vibration-rejecting gyroscopes, and offers high-quality position, velocity, acceleration, and orientation, even in challenging environments.

The all-in-one sensor system supports optimized temperature calibration, high-frequency position and orientation output, and has configurable output settings for synchronization with any third-party device.

The MTi-G-710 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor fusion performance

Roll, Pitch	0.2 deg RMS
Yaw/Heading	0.8 deg RMS
Strapdown Integration (SDI)	1.0 m (1 $\sigma$ STD)
Velocity	0.05 m/s (1 $\sigma$ STD)

## Gyroscope

Standard full range	450 deg/s
In-run bias stability	10 deg/h
Bandwidth (-3dB)	415 Hz
Noise Density	0.01 $^{\circ}$ /s/ $\sqrt$ Hz
g-sensitivity (calibr.)	0.003 $^{\circ}$ /s/g

## Accelerometer

Standard full range	20 g
In-run bias stability	15 $\mu$ g
Bandwidth (-3dB)	375 Hz
Noise Density	60 $\mu$ g/ $\sqrt$ Hz

## Magnetometer

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

## GNSS Receiver

Brand	u-blox
Model	MAX-M8
RTCM input port	n/a

## Barometer

Standard full range	300-1100 hPa
Total RMS noise	3.6 Pa
Resolution	$\sim$ 0.08m

## Mechanical

IP-rating	IP67
Operating Temperature	-40 to 85 $^{\circ}$ C
Casing material	Aluminum
Mounting orientation	No restriction, full 360 $^{\circ}$ in all axes
Dimensions	57x41.90x23.60 mm
Connector	Fischer SV
Weight	58 g

## Electrical

Input voltage	3V3, 4.5V-34V
Power consumption (typ)	660 mW

## Interfaces / IO

Interfaces	USB, RS232, RS422, UART
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA)
Clock drift	1 ppm
Output Frequency	up to 2kHz
Built-in-self test	Yes

## 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	BASE by XSENS: online manuals, community and knowledge base

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors