# XSENS

Motion tracking

VRU

AHRS

Acceleration

Position

Pitch

Heading

Velocity

Air Pressure

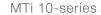Vibrations

IMU

GNSS/INS

Rate of Turn

Roll

## Orientation. Position. Xsens.

# MTi series

**A complete line of MEMS Motion Trackers - IMU, VRU, AHRS and GNSS/INS**

# XSENS

**Xsens supplies miniature MEMS based motion trackers (IMU, VRU, AHRS and GNSS/INS) for industrial applications such as antenna/camera stabilization and unmanned system control.**

## Xsens MTi product line overview

| | Roll/Pitch Static | Roll/Pitch Dynamic | Yaw | Sensor fusion core | Position & Velocity |
|---|---|---|---|---|---|
| **MTi 1-series** | | | | | |
| MTi-1 IMU | - | - | - | - | - |
| MTi-2 VRU | 0.5° | 0.8° | Active Heading Stabilization (AHS) | XKF | - |
| MTi-3 AHRS | 0.5° | 0.8° | 2.0° | XKF | - |
| MTi-7 GNSS/INS | 0.5° | 0.5° | 1.5° | XKF | 1 m \| 0.05 m/s |
| **MTi 10-series** | | | | | |
| MTi-10 IMU | - | - | - | - | - |
| MTi-20 VRU | 0.2° | 0.5° | Active Heading Stabilization (AHS) | XKF | - |
| MTi-30 AHRS | 0.2° | 0.5° | 1.0° | XKF | - |
| **MTi 100-series** | | | | | |
| MTi-100 IMU | - | - | - | - | - |
| MTi-200 VRU | 0.2° | 0.3° | Active Heading Stabilization (AHS) | XEE | - |
| MTi-300 AHRS | 0.2° | 0.3° | 1.0° | XEE | - |
| MTi-G-710 GNSS/INS | 0.2° | 0.3° | 0.8° | XEE | 1 m \| 0.05 m/s |

All products from the MTi-series are fully interchangeable
All above specifications based on typical application scenarios

MTi 10-series          MTi 100-series          MTi-G-710

MTi 1-series

# XSENS MT SOFTWARE SUITE

Integration with the MTi is very straightforward with the Xsens MT Software Suite. The MT Software Suite is an easy-to-use API which can be interfaced with via a COM, C and C++ interface with support for Windows and Linux. In addition, there is complete access to the low level source code for full flexibility on any platform. The components of the MT Software Suite are:

| | |
|---|---|
| Xsens Device API | API to communicate with the MTi. Interfaces for common programming languages as well as source code for lower communication levels. |
| Example code | To make starting with the MTi even easier, example code is provided for various platforms, amongst others Matlab and Linux. A ROS node is supported and maintained by Xsens engineers. |
| MT Manager | An intuitive GUI for Windows, including configuration and recording tools, graphs and a serial port viewer to help understand the XBus protocol. |
| Magnetic Field Mapper | An algorithm and tool to calibrate the MTi for hard- and soft iron effects. The calibration can be done during normal operation; there are no restrictions on the trajectories or rotations. |
| Documentation | Full (HTML-)documentation on the MTi, API, SDK and application notes. |



BASE by Xsens is an online support platform with a knowledge base and community forum on 3D motion tracking technology and products. This enables faster and easier system integration by offering a large source of high-quality technical information.

### Knowledge base (FAQ)
The knowledge base provides articles written by Xsens FAEs and engineers. Topics are best practices, tips and tricks for the use of Xsens' products and inside information about installation, MEMS sensors and GNSS receivers, hardware design, CAD-files, system architecture, low-level communication and sensor fusion algorithms.

### Community forum
The community forum is an online forum that gives direct access to Xsens' engineers and other Xsens users. As users may have faced similar challenges, the answer may already be on the forum.

# DEVELOPMENT KIT

The best way to start with the MTi is with the complete MTi Development Kit.
This kit will make development very easy. The MTi Development Kit contains the following items:

• An MTi
• Cable for USB or serial communication
• MT Software Suite for any operating system

## ABOUT XSENS

Xsens is the leading innovator in 3D motion tracking technology and products. Its sensor fusion technologies enable a seamless interaction between the physical and the digital world in applications such as industrial control and stabilization, health, sports and 3D character animation.

Clients and partners include Electronic Arts, NBC Universal, Daimler, Autodesk, ABB, Siemens and various other leading institutes and companies throughout the world.

Xsens is part of mCube, the provider of the world's smallest MEMS motion sensors, key enablers for the Internet of Moving Things.

Xsens has offices in Enschede, Los Angeles and Hong Kong.

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