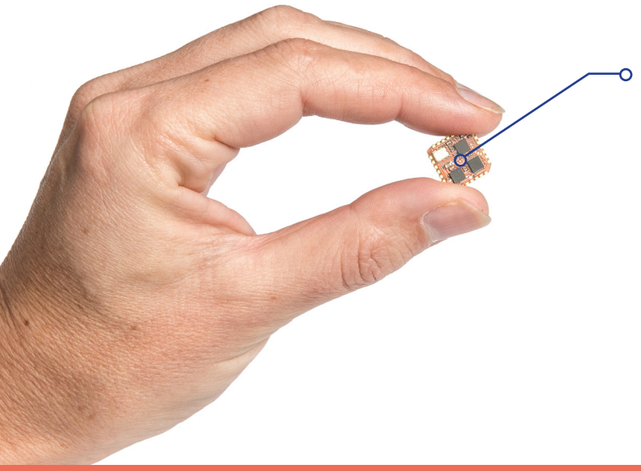
MTi 1-series

Full-featured, self-contained

GNSS/INS, AHRS, VRU and IMU



The New Standard for Professional UAV and Payload Control

The MTi 1-series is designed with the integration in drones in the back of our minds. In challenging conditions and with constraints on size, weight and power consumption, drones (UAV/UAS) and payloads have high requirements on the IMU or AHRS. The MTi 1-series has many features that are gained from the industrial MTi 10-series and MTi 100-series. The experience of Xsens in the field is extremely valuable to get the most out of low-cost, low-power MEMS sensors.

Fast integration

With the MTi 1-series, it is possible to integrate a turn-key module directly onto your PCB. It will save on integration efforts, such as selecting and characterizing MEMS components, calibration, the development of sensor fusion algorithms and implementing flexible communication protocols. The MTi 1-series include an extensive MT software suite including source code.

Features

- Heading estimation with in-run compass calibration
- High-frequency signal processing pipeline
- Synchronization possibilities with GNSS systems
- Onboard Xsens XKF3i sensor fusion algorithm
- Factory calibrated for temperature, misalignment, bias, scale factor, g-sensitivity

Aplications

- Navigation
- Autopilots
- Stabilization
- Payload Control
- GNSS aiding

Specifications

- 100Hz Roll, Pitch and Yaw
- 800 Hz Gyroscope/ Accelerometer data
- SPI, I²C, UART selectable
- 12.1 x 12.1 mm

MTi 1-Series Development Kit

In order to get started with the MTi 1-Series, an extensive Development Kit for characterization and prototyping is available. The Development Kit includes:

- Arduino header compatible development kit
- Easy to use connection (micro USB), access to I²C/SPI/UART
- Full functionality and pin configuration
- Intuitive MT Software Suite (Linux / Windows GUI)
- SDK with drivers and embedded software examples
- Shield board, GNSS daughter card, GNSS antenna and USB cable
- GNSS daughter card and antenna (MTi-7 Development Kit only)

Innovative heading estimation

In-run Compass Calibration (ICC) is a powerful on-board algorithm that can estimate and simultaneously map magnetic disturbances during operation. It enables the use of a magnetic field reference in applications where users cannot perform a computer-assisted calibration procedure. When the magnetic field changes during use, ICC adapts the magnetic field calibration parameters to this new magnetic field, thus maintaining the north reference in the orientation output.

Support – BASE by Xsens

BASE is an online technology platform with a community forum and a knowledge base on 3D motion tracking technology and products. BASE contains inside information about MEMS sensors, Inertial Measurement Units (IMU), Sensor fusion algorithms and more.

www.xsens.com xsens

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, Shanghai and Hong Kong.

Visit xsens.com/distributors for an overview of Xsens' worldwide distributor network

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