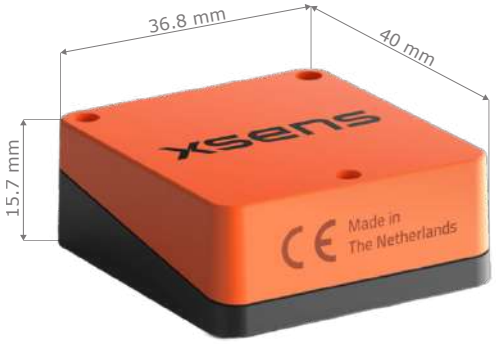
Xsens
Avior

The new standard in OEM IMUs

Precision inertial sensing for embedded applications - low SWaP-C, scalable & flexible IMU

Xsens Avior is our next-generation OEM inertial sensing solution. It combines high-end performance, low SWaP-C, and multi-protocol flexibility — perfect for deep integration.



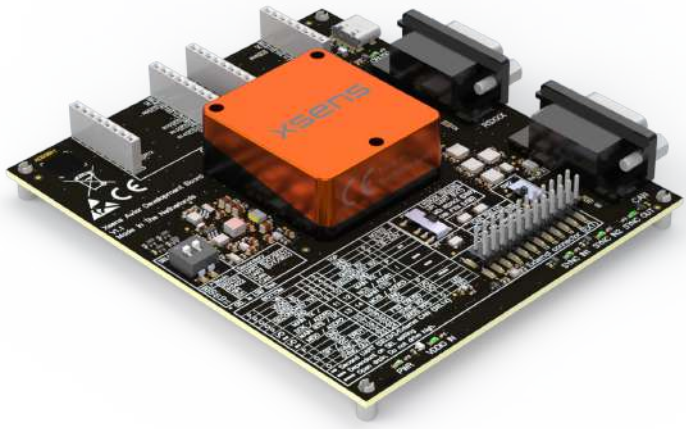
Your OEM solution for inertial sensing

Xsens Avior is designed for engineers who demand reliable performance, flexibility and seamless integration.

- **Compact, low SWaP-C inertial solution**
- **High-performance IMU, VRU and AHRS options**
- **Flexible interfaces: UART, CAN, SPI, I^2C**
- **Support for RS232 and RS422 via DK or external transceiver**
- **Real-time orientation and inertial data (IMU, VRU, AHRS)**
- **Developer-friendly SDK and Development Kit available**
- **Perfect for high-volume integration**

Applications:

- Camera/Payload Stabilization - including SATCOM on the Move
- Marine autonomous vehicles: ROVs, AUVs, Buoys
- Outdoor mobile vehicles & robots - agriculture, mining, construction, logistics
- Indoor mobile robots
- 3D Mapping & Survey Tools
- Humanoid Robotics
- Deep integration in industrial control or embedded motion system



Sensor fusion performance

Accelerometer	Calibrated
Gyroscope	Calibrated
Roll, Pitch (only VRU and AHRS)	0.2° RMS
Yaw/Heading (only AHRS)	1° RMS
Strapdown Integration (SDI)	Yes

Gyroscope

Standard full range	±300°/s
In-run bias stability	8°/h
Bandwidth (-3dB)	400 Hz
Noise Density	0.004 °/s/√Hz
g-sensitivity (calibr.)	0.08 °/s/g

Accelerometer

Standard full range	±8 g
In-run bias stability	15 µg
Bandwidth (-3dB)	470 Hz
Noise Density	15 µg/√Hz

Magnetometer

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

Mechanical

IP-rating	IP51
Operating Temperature	-40 to 85 °C
Casing material	Aluminum
Mounting orientation	No restriction, full 360° in all axes
Dimensions	36.8x40x15.7 mm
Connector	Socket 1.27mm pitch, 10x2 (Vertical, SMD, with alignment pins)
Weight	under 55g
Certifications	CE, FCC, RoHS, ITAR free

Electrical

Input voltage	3.2 V – 5.1 V
Power consumption (typ)	less than 1W

Interfaces / IO

Interfaces	UART, SPI, I^2C, CAN (RS232, RS422 with Xsens Avior DK or external transceiver)
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA), CAN
Clock drift	10 ppm (or external)
Output Frequency	Up to 400Hz
Built-in-self test	Gyr, Acc, Mag

Software Suite

GUI (Windows/Linux)	MT Manager, Firmware updater, Magnetic Field Mapper
SDK (Example code)	C++, C#, Python, Matlab, Public source code
Drivers	LabVIEW, ROS, GO
Support	Online manuals, community and knowledge base

Unless stated otherwise, all specifications are typical. Specifications subject to change without notice. This document is informational and not binding.
Complete and detailed specifications are available at mtidocs.movella.com

Contact Us:

www.xsens.com
info@movella.com
+31 (88) 973 6700