

Xsens Sirius

Accurate inertial motion data even in the most challenging environments

High-accuracy motion data in an IP68 MIL-STD housing - shock & vibration resistance and magnetic immunity.

Xsens Sirius is more than just basic inertial sensing. It brings you high levels of accuracy, reliability and robustness that can perform in unpredictable terrain and under intense vibration and shock. For marine users, the Xsens Sirius MRU offers an advanced heave filter for Active Heave Compensation applications.



Engineered for autonomy the harshest conditions

Xsens Sirius is built to deliver consistent performance, providing the critical foundation for autonomous systems operating in demanding conditions.

- › Robust MIL-Standard IP68 housing
- › High-performance IMU, VRU and AHRS & MRU options
- › MRU version with heave output for marine/offshore applications
- › Flexible interfaces: RS232, RS422, CAN
- › Dual-processor design for accurate orientation data
- › Vibration- and shock-rejecting signal pipeline
- › Developer-friendly SDK and Development Kit available
- › Exceptional resistance against magnetic disturbances

Applications:

- › Marine surface vehicles: USVs, vessels, buoys
- › Marine subsea vehicles: ROVs, AUVs
- › Active Heave Compensation
- › Outdoor mobile vehicles & robots – AgTech, mining, construction, logistics
- › Industrial and autonomous ground vehicles (AGV, UGV)
- › 3D Mapping & Survey Tools
- › Aerospace and Defence platforms





Sensor fusion performance

Accelerometer	_____	Calibrated
Gyroscope	_____	Calibrated
Roll, Pitch	_____	0.2° RMS <small>only Xsens Sirius VRU/AHRS/MRU</small>
Yaw/Heading	_____	1° RMS <small>only Xsens Sirius AHRS/MRU</small>
Heave	_____	< 5 cm <small>for Heave periods up to 29s</small> < 6 cm <small>for Heave periods up to 40s</small> <small>(Only Xsens Sirius AHRS & MRU)</small>
Strapdown Integration (SDI)	_____	Yes

Gyroscope

Standard full range	_____	±3000°/s
In-run bias stability	_____	7°/h
Bandwidth (-3dB)	_____	400 Hz
Noise density	_____	0.003°/s/√Hz

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	_____	IP68
Operating Temperature	_____	-40 to 85 °C
Casing material	_____	Aluminum
Mounting orientation	_____	No restriction, full 360° in all axes
Dimensions	_____	56.50x40.90x24.75 mm
Connector	_____	Main: ODU (AMC HD 12 pins)
Weight	_____	78.5 g
Certifications	_____	CE, FCC, RoHS, MIL-STD-202, ITAR free

Electrical

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

Interfaces / IO

Interfaces	_____	RS232, RS422, CAN
Sync Options	_____	SyncIn, SyncOut, ClockSync
Protocols	_____	Xbus, ASCII (NMEA), CAN
Clock drift	_____	10 ppm (or external)
Output frequency	_____	Up to 2kHz, 400HZ SDI
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 mtdocs.movella.com. **Scan QR code for quick access.**

Contact Us:

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

