

MTi-610R

- Rugged, IP68-rated IMU
- Factory calibrated inertial data
- Full Graphical User Interface (GUI) and Software Development Kit (SDK) available

The MTi-610R is an Inertial Measurement Unit (IMU) with a rugged housing featuring IP68 protection against environmental influences. Building on the proven Xsens 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-610R is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms including ROS.



- White label and OEM integration options available
- 3D models available on request

This document is informational and not binding.
Complete and detailed specifications are available at
mtidocs.movella.com

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.)	0.1 °/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	IP68
Operating Temperature	-40 to 85 °C
Casing material	Aluminum
Mounting orientation	No restriction, full 360° in all axes
Dimensions	56.5x40.9x24.75 mm
Connector	Main: ODU (AMC HD 12 pins)
Weight	75 g
Certifications	CE, FCC, RoHS

Electrical

Input voltage	4.5 to 24V
Power consumption (typ)	<0.5 W

Interfaces / IO

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

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	Online manuals, community and knowledge base