

# MTi-610

- **Small, IP51-rated IMU**
- **Factory-calibrated inertial data**
- **Full Graphical User Interface (GUI) and Software Development Kit (SDK) available**

The MTi-610 is a Inertial Measurement Unit with a small form-factor design for deep integration into your application. Building on the proven Xsens MTi 600-series technology it enables a robust and easy to use motion tracking. It is designed for easy integration and seamless interfacing with other equipment.

The MTi-610 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

## 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 |

## Barometer

|                     |                  |
|---------------------|------------------|
| Standard full range | 300-1250 hPa     |
| Total RMS noise     | 1.2 Pa           |
| Relative accuracy   | +/- 8 Pa (~0.5m) |

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

## Mechanical

|                       |                                             |
|-----------------------|---------------------------------------------|
| IP-rating             | IP51                                        |
| Operating Temperature | -40 to 85 °C                                |
| Casing material       | PC-ABS                                      |
| Mounting orientation  | No restriction, full 360° in all axes       |
| Dimensions            | 28x31.5x13 mm                               |
| Connector             | Main: Phoenix Contact 16 pin, 1.27 mm pitch |
| Weight                | 8.9 g                                       |
| Certifications        | CE, FCC, RoHS                               |

## Electrical

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

## Interfaces / IO

|                    |                            |
|--------------------|----------------------------|
| Interfaces         | UART, CAN, RS232           |
| Sync Options       | SyncIn, SyncOut, ClockSync |
| Protocols          | Xbus, ASCII (NMEA) or CAN  |
| Clock drift        | 10 ppm (or external)       |
| Output Frequency   | Up to 2kHz, 400Hz 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        |