

# MTi-G-710

- Xsens' high-performance product line
- 0.2 deg in roll/pitch, 0.8 deg in heading accuracy
- Complete SDK and development kits available

The MTi-G-710 features vibration-rejecting gyroscopes, and offers high-quality position, velocity, acceleration, and orientation, even in challenging environments. The all-in-one sensor system supports optimized temperature calibration, high-frequency position and orientation output, and has configurable output settings for synchronization with any third-party device. The MTi-G-710 is supported by the MT Software Suite which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.



## Sensor fusion performance

|                             |                           |
|-----------------------------|---------------------------|
| Roll, Pitch                 | 0.2 deg RMS               |
| Yaw/Heading                 | 0.8 deg RMS               |
| Strapdown Integration (SDI) | 1.0 m (1 $\sigma$ STD)    |
| Velocity                    | 0.05 m/s (1 $\sigma$ STD) |

## Gyroscope

|                         |                                |
|-------------------------|--------------------------------|
| Standard full range     | 450 deg/s                      |
| In-run bias stability   | 10 deg/h                       |
| Bandwidth (-3dB)        | 415 Hz                         |
| Noise Density           | 0.01 $^{\circ}$ /s/ $\sqrt$ Hz |
| g-sensitivity (calibr.) | 0.003 $^{\circ}$ /s/g          |

## Accelerometer

|                       |                        |
|-----------------------|------------------------|
| Standard full range   | 20 g                   |
| In-run bias stability | 15 $\mu$ g             |
| Bandwidth (-3dB)      | 375 Hz                 |
| Noise Density         | 60 $\mu$ g/ $\sqrt$ Hz |

## Magnetometer

|                     |         |
|---------------------|---------|
| Standard full range | +/- 8 G |
| Total RMS noise     | 0.5 mG  |
| Non-linearity       | 0.2%    |
| Resolution          | 0.25 mG |

## GNSS Receiver

|                 |        |
|-----------------|--------|
| Brand           | u-blox |
| Model           | MAX-M8 |
| RTCM input port | n/a    |

## Barometer

|                     |              |
|---------------------|--------------|
| Standard full range | 300-1100 hPa |
| Total RMS noise     | 3.6 Pa       |
| Resolution          | $\sim$ 0.08m |

## Mechanical

|                       |   |
|-----------------------|---|
| IP-rating             | IP67  |
| Operating Temperature | -40 to 85 $^{\circ}$ C                          |
| Casing material       | Aluminum  |
| Mounting orientation  | No restriction, full 360 $^{\circ}$ in all axes |
| Dimensions            | 57x41.90x23.60 mm                               |
| Connector             | Fischer SV                                      |
| Weight                | 58 g  |

## Electrical

|                         |               |
|-------------------------|---------------|
| Input voltage           | 3V3, 4.5V-34V |
| Power consumption (typ) | 660 mW        |

## Interfaces / IO

|                    |                            |
|--------------------|----------------------------|
| Interfaces         | USB, RS232, RS422, UART    |
| Sync Options       | SyncIn, SyncOut, ClockSync |
| Protocols          | Xbus, ASCII (NMEA)         |
| Clock drift        | 1 ppm                      |
| Output Frequency   | up to 2kHz                 |
| Built-in-self test | Yes                        |

## 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             | BASE by XSENS: online manuals, community and knowledge base |

- White label and OEM integration options available
- 3D models available on request
- Available online via Digi-Key, Mouser, Farnell and local distributors