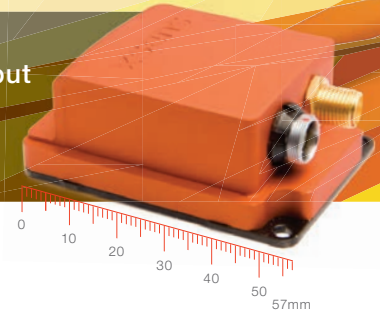


XSENS

MTi-G-710

Turnkey GNSS/INS solution for navigation and stabilization applications

- ✓ All-in-one sensor system with high-frequency position and orientation output
- ✓ Excellent heading tracking without requiring a magnetic field
- ✓ Configurable output settings, synchronizes with any 3rd party device



Complete Xsens sensor fusion algorithm

- Compensation against long-lasting transient accelerations
- Ability to cope with GNSS outages
- Non-magnetic heading reference
- Tuned for performance under vibrations
- Selectable filter profiles for range of applications

Easy software integration

- Extensive suite of configurable output formats, calculated onboard the MTi-G-710
- MT Software Suite with intuitive GUI
- Complete SDK for all operating systems
- Support for Robotic Operating System (ROS)
- Xsens Xbus protocol or ASCII (NMEA)
- Access to BASE (by Xsens), an extensive knowledge base and community forum

Best-in-class hardware design

- Highest quality industrial grade components
- Vibration-rejecting gyroscopes and accelerometers
- Built-in multi-GNSS receiver (GPS, GLONASS, BeiDou, Galileo) and barometer
- Wide array of (time) synchronization options

Specification highlights

- True North without requiring a magnetic field
- IP67 encased version or OEM board
- Choice of several interfaces and onboard USB
- All Xsens products are fully interchangeable
- Cost-effective system integrator solution
- Position, velocity and orientation outputs

Product overview

| | | MTi-G-710 GNSS/INS |
|-------------------------------|---------------------|--------------------|
| Calibrated Sensor Data | | yes |
| Roll/pitch | Static | 0.2° |
| | Dynamic | 0.3° |
| Yaw | | 0.8° |
| Position and velocity | | |
| Horizontal position | 1σ STD (SBAS) | 1.0 m |
| Vertical position | 1σ STD (SBAS, baro) | 2.0 m |
| Velocity accuracy | 1σ RMS | 0.05 m/s |

All above specifications based on typical application scenarios

Sensor specification

| | Gyroscopes | Accelerometers |
|----------------------------|--------------|----------------|
| Standard full range | +/- 450 °/s* | +/- 20 g |
| Initial bias error | 0.2 %/s | 5 mg |
| In-run bias stability | 10 %/h | 15 µg |
| Bandwidth (-3 dB) | 415 Hz | 375 Hz |
| Noise density | 0.01 °/s/√Hz | 60 µg/√Hz |
| g-sensitivity (calibrated) | 0.003 %/s/g | N/A |
| Non-orthogonality | 0.05 deg | 0.05 deg |
| Non-linearity | 0.01% | 0.1% |

| | Magnetometer | Barometer |
|---------------------|--------------|-------------------------|
| Standard full range | +/- 8 G | 300-1100 hPa |
| Total RMS noise | 0.5 mG | 3.6 Pa |
| Non-linearity | 0.2% | N/A |
| Resolution | 0.25 mG | 8 cm (sea level, 15 °C) |

| GNSS receiver | | |
|--------------------------|---|---|
| Receiver type | 72-channel, 4 Hz GPS/QZSS L1 C/A, GLONASS L10F, BeiDou B1, SBAS L1 C/A: WAAS, EGNOS, MSAS | Horizontal accuracy (CEP) 2.0 m (SBAS) 2.5 m (Autonomous) |
| Start-up time cold start | 26 s | Velocity accuracy (@30 m/s) |
| Tracking sensitivity | -167 dBm | 0.05 m/s |

* Optional +/- 1000 °/s available on request.

System specifications

| | | | |
|---------------------------|-----------------------------------|----------------------|---------------------------------------|
| Input voltage | 4.5 to 34V or 3V3 | Output frequency | Up to 2 kHz |
| Typical power consumption | 750 mW @ 5V | Interfaces | RS232/RS422/RS485/USB UART |
| IP-rating | IP67 (encased) | Latency | <2 ms |
| Temperature (in use) | -40 to 85 °C | Clock drift | 1 ppm or external reference |
| Vibration | MIL-STD-202-201A/204C/214A | Interface protocol | Xbus or ASCII (NMEA) |
| Sampling frequency | 10 kHz/ch (60kS/s) | MTBF | 300,000 hours |
| Sync options | SyncIn, SyncOut, Clock sync 1 PPS | Mounting orientation | No restriction, full 360° in all axes |



MTi-G-710 Development Kit:
MTi-G-710, antenna, software
and cabling



MTi-G-710 encased:
57x42x23.5 mm, 55g,
9-pins push-pull connector



MTi-G-710 OEM:
37x33x12 mm, 11g,
16-pins header

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