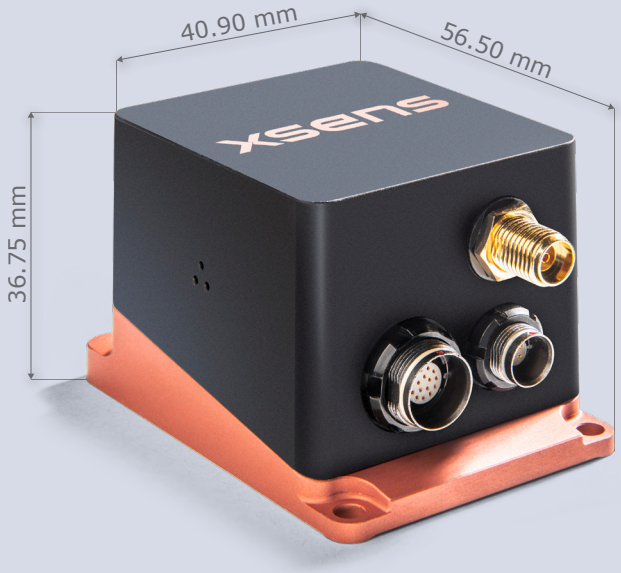
MTi-680G

- **Rugged, IP68 rated RTK GNSS/INS**
- **0.2 deg roll/pitch & cm-level position accuracy**
- **Internal u-blox ZED F9 RTK enabled GNSS receiver**

The MTi-680G is an RTK enabled GNSS/INS with a ruggedized housing featuring IP68 protection against environmental influences. Building on the proven MTi 600-series technology it enables a robust and easy to use cm-level positioning and orientation tracking for outdoor applications. It features a powerful onboard u-blox ZED F9 RTK GNSS receiver to provide superior positioning performance. It is designed for easy integration and seamless interfacing with other equipment.

The MTi-680G 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
- Available online via Digi-Key, Mouser, Farnell and local distributors

Complete and detailed specifications are available at **mtidocs.xsens.com**

Sensor Fusion Performance

Roll, Pitch	0,2 deg RMS
Yaw/Heading	0.5 deg RMS
Position	1cm+1ppm CEP[1]
Velocity	0.05m/s RMS

Gyroscope

Standard full range	2000 deg/s
In-run bias stability	8 deg/h
Bandwidth (-3dB)	520 Hz
Noise Density	0.007 º/s/√Hz
g-sensitivity (calibr.)	0.1 º/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

RTK GNSS Receiver

Brand	u-blox
Model	ZED F9
RTK correction input	RTCM 3.2/3.3
RTCM input port	RS232 (38K4-921K6 bit/s)

Electrical

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

1 Depending on GNSS conditions

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 ºC
Casing material	Aluminum
Mounting orientation	No restriction, full 360º in all axes
Dimensions	56.50x40.90x36.75 mm
Connector	Main: ODU (AMC HD 12 pins) RTCM: ODU (AMC HD 4 pins) Antenna: SMA
Weight	98 g
Certifications	CE, FCC, RoHS

Interfaces / IO

Interfaces	CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	1ppm
Output Frequency	Up to 2kHz, 400 Hz SDI
Built-in-self test	Gyro, Acc, Mag, Baro, GNSS

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

www.xsens.com

ISO 9001 2015 CERTIFIED