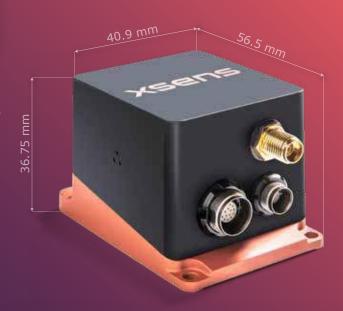
MTi-680G

- 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 Xsens MTi 600-series technology it enables a robust and easy to use cm-level positioning and orientation tracking for outdoor applications. It features a incredibly 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

This document is informational and not binding.

Complete and detailed specifications are available at
mtidocs.movella.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 °/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

Power consumption (typ)

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

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 ————	56.50x40.90x36.75 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

ZED F9	GUI (Windows/Linux) ———	MT Manager, Firmware updater,
		Magnetic Field Mapper
RTCM 3.2/3.3	SDK (Example code)	C++, C#, Python, Matlab, Nucleo,
RS232 (38K4-921K6 bit/s)	,	public source code
	Drivers	LabVIEW, ROS, GO
4.5 to 24V	Support —	Online manuals, community and
<1 W	Зарроге	knowledge base
¹ Depending on GNSS condition	ns	Kilowieuge base



