MTi-680G

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

The MTi-680G is an RTK enabled GNSS/INS with a rugged 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. It features an 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.



Roll, Pitch	0,2 deg RMS
Yaw/Heading	0.5 deg RMS
Position	1cm CEP
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.)	0.001 °/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

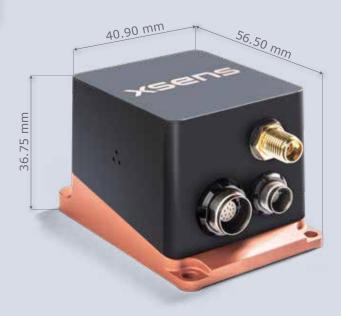
Standard full range	+/- 8 G
Total RMS noise	1 mG
Non-linearity	0.2%
Resolution	0.25 mG

RTK GNSS Receiver

KIK GNSS Receiver	
Brand	u-blox
Model	ZED F9
RTK correction input	RTCM 3.3
RTCM input port	RS232 (38K4-921K6 BIT/S)
Floatrical	

Electrical

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



- White label and OEM integration options available
- 3D models available on request
- Available at DigiKey, Mouser, Farnell, Arrow and local distributors

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

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



