MTi-680

- **Small, IP51-rated RTK GNSS/INS**
- **0.2 deg roll/pitch & cm-level position accuracy**
- **Connects to external RTK GNSS receiver**

The MTi-680 is a Global Navigation Satellite System/Inertial Navigation System (GNSS/INS) with an integrated Real-Time Kinematic GNSS receiver. The MTi-680's added RTK feature means you can improve your positional data from meter-level to centimeter-level accuracy. This easy-to-use GNSS/INS module is designed for easy integration and seamless interfacing with other equipment.

The MTi-680 is supported by the MT Software Suite, which includes MT Manager (GUI for Windows/Linux), SDK, example codes and drivers for many platforms.

3150 mm   28.00 mm   13.00 mm

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

Sensor Fusion Performance

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 º/s/√Hz
g-sensitivity (calibr.)	0.001 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

GNSS Receiver

Brand	External
Model	External
RTCM input port	External

Barometer

Standard full range	300-1250 hPa
Total RMS noise	1.2 Pa
Relative accuracy	+/- 8 Pa (~0.5m)

Mechanical

IP-rating	IP51
Operating Temperature	-40 to 85 ºC
Casing material	PC-ABS
Mounting orientation	No restriction, full 360º in all axes
Dimensions	28x31.50x13 mm
Connector	Main: Phoenix Contact 16 pin, 1.27 mm pitch
Weight	8.9 g

Electrical

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

Interfaces / IO

Interfaces	UART, CAN, RS232
Sync Options	SyncIn, SyncOut, ClockSync
Protocols	Xbus, ASCII (NMEA) or CAN
Clock drift	1ppm (external)
Output Frequency	2 kHz, 400 Hz SDI
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

XSENS

www.xsens.com

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