



iATTHEMO

True North Finding Heading, Attitude, Position & Velocity Reference based on Dual Antenna GNSS & MEMS IMU Data Fusion

iATTHEMO is a miniaturized dual-antenna GNSS compass with an integrated MEMS based inertial measurement system to provide true heading as well as attitude, velocity, position, angular rates and acceleration. It is made for applications which require reliable performance in a small package and simple usage.

- True Heading with up to 200 Hz data rate due to Dual Antenna GNSS, using L1L2 GPS
- Roll, pitch, WGS84 position & velocity, rates and acceleration
- RS422, CAN and USB interface
- integrated magnetometer, barometer and odometer interface
- PPS output for synchronization



even under such motion conditions, where other GNSS/MEMS based systems fail (e.g. at standstill or motion with strong side slip angle). While standard GNSS based systems provide data only with low data rate, iATTHEMO provides all data with up to 200 Hz and from standstill up to high dynamic conditions.

So the iATTHEMO is a most suitable sensor, coming in a robust enclosure including strong EMI/EMC filtering and over-voltage protection, to provide **Attitude**, **Heading** and **Motion** measurements for many sur-

Due to its advanced architecture, iATTHEMO provides true north related heading

face, airborne, naval and automotive applications

Technical Data of iATTHEMO:

	Gyro Performance	Accel Performance
Sensor Range:	± 250 °/s [option: ± 500 °/s]	± 16 g [option: ± 4 g]
Bandwidth:	200 Hz	200 Hz
Attitude / Heading Range:	± 180 ° Roll, ± 90 ° Pitch, ± 180 ° true heading	
Attitude Accuracy:	< 1 ° rms roll/pitch under motion < 1.5 ° rms roll/pitch under static conditions	
Heading:	< 0.5 ° rms true heading with 1 m antenna baseline and GPS available < 0.1 ° rms true heading with 5 m antenna baseline and GPS available < 3 ° rms magnetic heading (using the internal 3D magnetometer as backup)	
Attitude / Heading Resolution:	< 0.05 °	
Position/Velocity:	GPS based (WGS84), with up to 200 Hz data rate	
Digital Output:	angular rate and acceleration, position in WGS84, velocity, Roll, Pitch, heading; BIT	
Integrated Features:	Dual-Antenna L1L2 GPS; IMU, 3D magnetometer, baro sensor, odometer interface	
Digital Interface; start-up-time:	CAN (up to 1 MBit/s; remote and continuous), RS422 (up to 115,200 Bd), USB	
Output Data Rate, Connector:	up to 200 Hz via CAN / RS422; MIL-C-38999 III 37 pin; 2 x SMA for GPS antennas	
Temperature:	-40...+71 °C (case temperature); option: +85°C; storage: -55...+85 °C	
Power:	11...34 V DC, approx. 7 W; integrated overvoltage protection up to 60 V	
Size:	L x H x W = 105 x 70 x 75 (metal case, IP65); optional additional flange plate with 125 x 75 x 3 mm mounting holes available	
Weight, Shock, Vibration:	approx. 550 grams; 90 g, 6 ms ; 20...2'000 Hz 5 g(rms) endurance	

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