Digital Compass Magnetic GTXMAG

The GTXMAG digital magnetic compass module delivers highly precise heading and tilt measurements. By leveraging GTEK's advanced hard-iron and soft-iron compensation algorithms, the module effectively minimizes magnetic disturbances within the user's system, ensuring stable and reliable performance. Equipped with 3-axis magneto-inductive sensors, a 3-axis MEMS accelerometer, and an onboard central processing unit, the module computes real-time heading data while automatically compensating for tilt angles. With various advantages, including compactness, high accuracy, energy efficiency, and cost-effectiveness, the GTXMAG is an ideal solution for seamless integration into a wide range of systems. It is widely used in applications such as laser rangefinders, antenna positioning, buoys, unmanned systems, and marine navigation.

SPECIFICATIONS

Parameters	Value	Note
HEADING		
Range	0° to 360°	within elevation/bank range of –45° to +45°
Accuracy	± 0.25° (1 σ)	Measured at 25°C
Resolution	0.1°	
ROLL & PITCH		
Range Roll	–180° to +180°	
Range Pitch	–90° to +90°	
Accuracy	± 0.1° (1 σ)	Measured at 25°C
Resolution	0.01°	
Interface	UART	USB
Electronical		
Input Votage	5 VDC ± 10%	
Power Consumption	≤ 0.28W	
Temperature	-25°C to +85°C	
Dimentions	75 * 45 * 25mm (±10%)	L * W * H

HIGHLIGHTS

3D Angle (Heading, Pitch, Roll) Output

Heading Accuracy: ±0.20° (25°C, Tilt Angle<30°)

Pitch and Roll Accuracy: ±0.1° (25°C, Full Range)

Support User and Auto Calibration

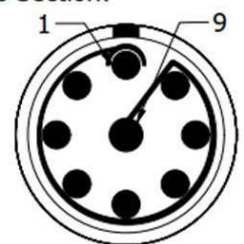Working temperature: -25°C to +70°C

Storage temperature: -25°C to +85°C

Supply: 5 VDC ± 5%

Dimentions: 75 * 45 * 25mm (±10%)

Pins Definition

Pins No.	Name
1,2	VCC
3	USB_TX
4	USB_RX
5,6	GND

Cross Section: