product description

The ER-EC25B is a low-cost three-dimensional electronic compass (single board) that uses the hard magnetic and soft magnetic calibration algorithms of the US patent technology to enable the compass to eliminate the effects of magnetic fields through calibration algorithms in environments with magnetic interference. The ER-EC25B integrates a three-axis fluxgate sensor that solves the heading in real time through a central processor and uses a three-axis accelerometer to compensate for heading over a wide range of tilt angles, ensuring that the compass provides high tilt angles of up to ±85°. Accurate heading data. The electronic compass integrates high-precision MCU control with diversified output modes. The standard interface includes RS232/RS485/TTL interfaces, and other communication interfaces can be customized.

The ER-EC25B is small in size and low in power consumption. It can be used in many fields such as antenna stabilization, vehicle and system integration. High shock resistance and high reliability also make the compass work in extremely harsh environments, which is more suitable for today's small Chemical military high precision measurement integrated control system.

Main characteristics

● Azimuth accuracy: 0.8°

● Inclination measurement range: ±85°

● Inclination resolution: 0.1°

● Inclination accuracy: 0.2°

● Wide temperature range: -
40°C～+85°C ●Size: L33×W27×H8mm

●With hard magnetic, soft magnetic and tilt compensationoutput interface

●Standard RS232/RS485/TTL

●DC 5V power supply

●Can accept other functions to customize

Applications

●Satellite antenna search star

●Artillery launch system

●ROV underwater robot navigation

●Navigation navigation mapping

●GPS integrated navigation

●Antenna servo control

●Infrared imager Laser rangefinder

●Map filler

●Oceanology tester

●Special occasion robot

●Unmanned aerial vehicle

Product electrical parameters

ER-EC25B performance parameter indicator		
Compass heading parameter	Optimum heading accuracy	0.8° oblique<10°
		1.5° oblique<30°
		2.0° oblique<40°
		3.0° oblique<70°
	Resolution	0.1°
Compass inclination parameter	Pitch accuracy	0.1°<15°（Measuring range）
		0.2°<30°（Measuring range）
		0.3°<60°（Measuring range）
		0.4°<90°（Measuring range）
	Pitch oblique range	±85°
	Roll accuracy	0.1°<15°（Measuring range）
		0.2°<30°（Measuring range）

		0.3°<60°（Measuring range）
		0.4°<90°（Measuring range）
	Roll oblique range	±85°
	Resolution	0.1°
	Compass tilt optimal compensation angle range	<40°
calibration	Hard iron calibration	Have
	Soft iron calibration	Have
	Magnetic field interference calibration method	One rotation of the plane (two-dimensional calibration)
Physical characteristics	size	L33×W27×H8mm
	weight	20 g
	RS-232/RS485/TTL interface connector	5PIN connection termina
Interface characteristics	Start delay	<50 ms
	Maximum output rate	20Hz/s
	Communication rate	2400~ 19200baud
	Output format	Binary high performance protocol
power supply	Supply voltage	(default) DC +5V
		(custom) DC 9 ~ 36V
	Current (maximum)	45mA
	Ideal mode	35mA
	Sleep mode	TBD
surroundings	Operating range	-40℃～+85℃
	Storage temperature	-40℃～+100℃
	Anti-vibration performance	2500g

Electromagnetic compatibility	According to EN61000 and GBT17626
Mean time between failures	≥40000 hours/time
Insulation resistance	≥100 MΩ
Impact resistance	100g@11ms, three axes and the same (half sine wave)
Vibration resistant	10grms、10～1000Hz
weight	30g (without cable)

Product size chart