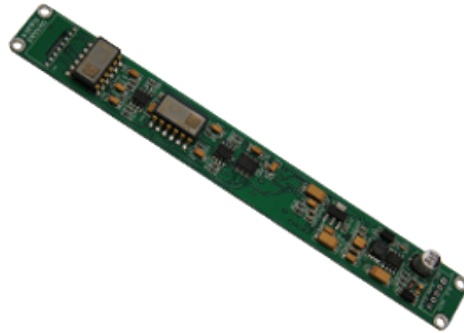


product description

The ER-EC29B is a low-cost 3D electronic compass that uses US patented hard magnetic and soft magnetic calibration algorithms to enable the compass to eliminate the effects of magnetic fields through calibration algorithms in environments with magnetic interference. The ER-EC29B 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 precision at tilt angles up to $\pm 45^\circ$. Heading data. The electronic compass integrates high-precision MCU control and has a diversified output mode. The standard interface RS485 interface can also be customized for other communication interfaces.

The ER-EC29B 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 make the compass work in extremely harsh environments, which is more suitable for today's miniaturized military industry. High precision measurement integrated control system.



Main characteristics

- Azimuth accuracy: 0.7° (0.5° RMS)
- Inclination measurement range: $\pm 15^\circ$
- Inclination resolution: 0.001°
- Inclination accuracy: 0.01°
- Wide temperature range: $-40^\circ\text{C} \sim +85^\circ\text{C}$
- Horizontal and vertical dual mode, switchable
- With hard magnetic, soft magnetic and tilt compensation output interface
- Standard RS232/RS485/TTL
- DC 7V power supply
- Standard RS485 output interface

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

Compass heading parameter	Optimum heading accuracy	0.7° (0.5°RMS)
	Resolution	0.1°
Compass inclination parameter	Pitch accuracy	0.01°<15° (Measuring range)
	Pitch oblique range	±15°
	Roll accuracy	0.01°<15° (Measuring range)
	Roll oblique range	±15°
	Resolution	0.001°
	Compass tilt optimal compensation angle range	<15°
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	L120×W20×H16.4mm (Without package)

	weight	13 g
	RS485	5-core 1 m direct lead
	Start delay	<50ms
Interface characteristics	Maximum output rate	20Hz/s
	Communication rate	2400 ~ 19200baud
	Output format	Binary high performance protocol
Power supply	Supply voltage	(default) DC +7V
	Current (maximum)	51mA
Surroundings	Operating range	-40°C ~ +85°C
	Storage temperature	-40°C ~ +85°C
	Anti-vibration performance	100g
Electromagnetic compatibility	According to EN61000 and GBT17626	
Mean time between failures	≥40000 hours/time	
Insulation resistance	≥100 MΩ	
Vibration resistant	10grms、10~1000Hz	