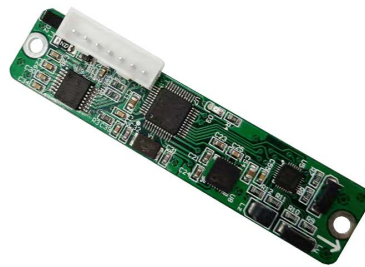


## product description

The ER-EC50B is a high-precision 3D compass veneer with a long strip volume and a width of only 1.6CM, which is more suitable for drilling measurement. It uses advanced hard iron and soft iron calibration algorithms to make it roll tool at any angle of 360°. The surface still provides high-precision heading information. It has the characteristics of small size and low power consumption, and is more suitable for today's miniaturized sensitive measurement systems.

ER-EC50B integrates patented three-axis fluxgate technology, real-time solution of heading data through central processing unit, and three-axis accelerometer for heading compensation of a wide range of tilt angles. It is a high-performance, high-stability military-grade product. The ER-EC50B is small in size and low in power consumption, and is widely used in many fields such as antenna stabilization, vehicle and system integration.



## Main characteristics

- Azimuth accuracy:  $0.3^{\circ}\sim 0.5^{\circ}$
- Inclination measurement range:  $\pm 180^{\circ}$
- Inclination resolution:  $0.1^{\circ}$
- Inclination accuracy:  $0.2^{\circ}$
- Wide temperature range:  $-40^{\circ}\text{C}\sim +85^{\circ}\text{C}$
- Size: L73×W16×H10mm
- With hard magnetic, soft magnetic and tilt compensation output interface
- Standard RS232/RS485/TTL

## 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-EC50B performance parameter indicator		
Compass heading parameter	Optimum heading accuracy	0.3° oblique<10°
		1.0° oblique>180°
	Resolution	0.1°
Compass inclination parameter	Pitch accuracy	0.1°<15° (Measuring range)
		0.1°<30° (Measuring range)
		0.1°<60° (Measuring range)
		0.2°<90° (Measuring range)
	Pitch oblique range	±85°
	Roll accuracy	0.1°<15° (Measuring range)

		0.1°<30° (Measuring range)
		0.1°<60° (Measuring range)
		0.2°<180° (Measuring range)
	Roll oblique range	±85°
	Resolution	0.1°
Calibration Physical characteristics	Hard iron calibration	Have
	Soft iron calibration	Have
	Magnetic field interference calibration method	24 points (3D calibration)
	size	L73×W16×H10mm
	weight	20 g
	RS-232/RS485/TTL interface connector	5PIN connection terminal
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)	20mA
	Ideal mode	18mA
Surroundings	Sleep mode	TBD
	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	35g (without cable)

### Product size chart

