

General Description

ER-HCM508B is a high accuracy 3D compass Sensor. Integrated the digital signal RS232 and 4-20mA output. With IP67 water-proof grade, more suitable for drilling measurement. It uses advanced hard iron and soft iron calibration algorithm, it can still provide the high precision heading information in the roll angle 360 to any tools surface. It has the characteristics of small and low power consumption, and more suited to today's miniaturization sensitive measurement system.



Features

- Heading accuracy: $0.3^{\circ} \sim 0.5^{\circ}$
- Roll angle measuring range : $\pm 180^{\circ}$
- Tilt angle resolution: 0.1°
- Tilt angle accuracy: 0.2°
- Wide Temperature : $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Size: L:125×W:22×H:24 mm
- With hard magnetic ,soft magnetic and angle compensation
- Standard RS232/RS485/TTL output interface
- Analog 4-20mA output

Application

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| ● Satellite antenna search satellite | ● Marine navigation surveying and mapping |
| ● GPS integrated navigation | ● Antenna servo control |
| ● Gun emission system | ● Infrared imager |
| ● Laser range finder | ● Map for plotter |
| ● ROV underwater robot navigation | ● Oceanography measurement instruments |
| ● Special occasion robot | ● Unmanned aircraft |

Electrical Characteristics

ER- HCM508B Technical Data		
Heading parameter	The best heading accuracy	0.3° tilt <10°
		1.0° tilt <180°
	Resolution	0.1°
Compass tilt parameter	Pitch accuracy	0.1°<15° (Measuring range)
		0.1°<30° (Measuring range)
		0.1°<60° (Measuring range)
		0.2°<90° (Measuring range)
	Pitch tilt 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 tilt range	±180°
Resolution	0.1°	
Calibration	Hard iron calibration	Yes
	Soft iron calibration	Yes
	Magnetic field interference calibration	24 points(3D calibration)
Physical features	Dimension	L: 125 *22*24mm
	Weight	20g
	RS-232/RS485/TTL interface connector	5PIN connector
Interface features	Start delay	<50MS
	Maximum output rate	20Hz/s
	Communication rate	2400 to19200baud

	Output format	Binary high performance protocol
Analog output	4-20mA FS(0-360deg)	Only for heading 4-20mA output
Power	Power supply	(Default) DC 12-36V
	Current(Maximum)	40mA
	Ideal mode	28mA
	Sleep Mode	TBD