

## Product presentation

ER-B-03 is a high-precision single-shaft dip sensor, whose output USES standard industrial electrical interface 4-20ma, and can transmit over a long distance up to 2000 meters. Products using the latest high technology production of MEMS, the temperature error and the nonlinear error of the accurate compensation and correction, small scale highest precision can reach 0.003 &deg; (please refer to the product performance in a wide range table).NS-B-03 obliquity sensor, a dynamic zero test compensation technology to ensure the quick launch of products, high resolution, data stability, resistance to withstand shock vibration, product built-in radio frequency (rf), the resistance to electromagnetic interference circuit ensures the output signal to get higher anti-jamming, the product in addition to superior soft market similar products technical indicators, the product reliability and stability of the high-end application level MCU, anti-corrosion PCB, import cable, wide temperature shielding metal shell, all kinds of means to improve the level of product, to ensure the long-term safety of supernormal operation in harsh environment.



## Main Features

- Single shaft dip measurement
- Range $\pm 1 \sim \pm 90^\circ$  for optional
- Accuracy: refer to performance table
- Wide Input Range 9~36V
- IP67level of protection
- Output mode 4~20mA
- High vibration resistance>2000g
- Wide range of temperature -40~+85°C
- High resolution 0.001 °
- Minute extensionL90mm×W50mm×H33mm (customizable)

## Product application

- Leveling of engineering vehicles
- Bridge and dam monitoring
- High altitude platform safety protection
- Medical device Angle control
- Attitude navigation of underground drill
- Railway gauge scale and gauge level
- Mining machinery, oil drilling equipment

- Slope monitoring of geological equipment
- Measurement of pitch Angle of directional satellite communication antenna

### Performance

Parameter	Condition	ER-B-03-10	ER-B-03-30	ER-B-03-60	ER-B-03-90	Unit
Range		±10	±30	±60	±90	°
Measurement axis		X	X	X	X	
Zero output	0 ° output	12	12	12	12	mA
Resolution ratio		0.001	0.001	0.001	0.001	°
Absolute precision	@25°C	0.005	0.01	0.02	0.05	°
Long term stability		0.01	0.02	0.05	0.08	°
Zero point temperature coefficient	-40~85°	±0.002	±0.002	±0.002	±0.002	°/°C
Temperature coefficient of sensitivity	-40~85°	≤50	≤50	≤50	≤100	ppm/°C
Power on start time		0.5	0.5	0.5	0.5	S
Response time		0.02	0.02	0.02	0.02	s
Response frequency		1~20	1~20	1~20	1~20	Hz
Electromagnetism capacity	According to EN61000 and GBT17626					
MTBF	≥50000 Hours/time					

Insulation resistance	≥100 M
Shock resistance	100g@11ms、 Sum of three axes (half sine wave)
Anti-Vibration	10grms、 10~1000Hz
Waterproofing grade	IP67
Cable	Standard 1 m length, wear-resistant, wide temperature, shielded cable 4*0.4mm2 air connector
Weight	150g(No cable)

The performance parameters of the list only  $\pm 10^\circ$ 、 $\pm 30^\circ$ 、 $\pm 60^\circ$ 、 $\pm 90^\circ$ ;T series for reference, Other measuring range in the adjacent parameters for please reference.

#### Electrical parameters of products

Parameter	Condition	Min	Typical value	Max	Unit
Power Supply	Standard	9	12、 24	36	V
Operating current	No-load		40		mA
Output load	Resistivity		400	1000	k $\Omega$
Operating temperature		-40		+85	$^\circ\text{C}$
Storage temperature		-55		+100	$^\circ\text{C}$