

## Product presentation

ER-A-02 is a full-temperature-compensated high-precision single-axis inclinometer developed on the basis of high-precision dip platform. With its excellent temperature stability, ER-A-02 can maintain a higher measurement accuracy in a wide temperature environment of  $-40 - 85^{\circ}\text{C}$ , and is more suitable for long-term monitoring and leveling of field equipment. In addition, a high-precision 24-bit A/D differential converter is built into the system, and the 5-order filtering algorithm is adopted to measure the sensor output tilt and pitch Angle relative to the horizontal plane. Output interfaces RS485, RS232, TTL, PWM or CAN 2.0B are optional. The features of non-contact installation make ER-A-02 excellent system integration. Just fix the sensor on the surface of the object to be measured with screws, and the attitude Angle of the object can be calculated automatically. It is easy to use, and there is no need to recover the two surfaces with relative changes. Strong ability to resist external electromagnetic interference, strong ability to withstand shock and vibration, in the domestic peer products are absolute competitive advantages, professional application in high-end users of the industrial and military industries.



## Main Features

- Single shaft dip measurement
- Range  $\pm 1^{\circ} \sim \pm 90^{\circ}$  for optional
- Accuracy: refer to performance table
- DC 9~36V Wide Input Range
- Wide range of temperature  $-40 \sim +85^{\circ}\text{C}$
- Resolution ratio  $0.001^{\circ}$
- IP67 level of protection
- High vibration resistance  $>2000\text{g}$
- Waterproof air plug
- Size:  $92 \times 48 \times 36\text{mm}$
- Output mode RS232、RS485、RS422、TTL、CAN 2.0 for optional

## Product application

- Leveling of engineering vehicle
- Bridge and dam monitoring
- Laser positioning
- Medical device Angle control
- Attitude navigation of underground drill

- Railway gauge scale and gauge level
- Horizontal control of precision machine tool
- Slope monitoring of geological equipment
- Measurement of pitch Angle of directional satellite communication antenna

#### Performance

Parameter	Condition	ER-A-02-10	ER-A-02-30	ER-A-02-60	ER-A-02-90	Unit
Range		±10	±30	±60	±90	°
Measurement axis		X axis	X axis	X axis	X axis	
Resolution		0.001	0.001	0.001	0.001	°
Absolute precision	@25℃	0.003	0.01	0.02	0.03	°
Long-term stability		0.01	0.02	0.03	0.04	°
Zero point temperature	-40～85℃	±0.0008	±0.0008	±0.0008	±0.0008	°/℃
Spirit acuity temperature	-40～85℃	≤50	≤50	≤50	≤100	ppm/℃
Access to electricity and move time		0.5	0.5	0.5	0.5	S
Responsive time		0.02	0.02	0.02	0.02	S
Output rate	5Hz、15Hz、35Hz、50Hz、can set					
Output signal	RS232/RS485/RS422/TTL/CAN					

Electromagnetic compatibility	According to EN61000 and GBT17626
MTBF	≥50000 Hours/time
Insulation resistance	≥100 M
Shock resistance	100g@11ms、Triaxial (half sinusoidal wave)
Anti-Vibration	10grms、10~1000Hz
Waterproofing grade	IP67
Cable	Standard 1 m length, wear-resistant, wide temperature, shielded cable 4*0.4mm <sup>2</sup> air connector
Weight	150g(No cable)

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

#### Electrical parameters of products

Parameter	Condition	Min	Typical value	Max	Unit
Supply voltage	Standard	9	12、24	36	V
	Customizable		Other voltage		V
Working current	Non-loaded		50		mA
Operating temperature		-40		+85	°C
Storage temperature		-55		+100	°C

