

Product Introduction

ER-A-04 series is a dual-axis inclinometer with high-precision full temperature compensation and analog voltage output. The product adopts high-precision 24bit A/D differential converter internally, which ensures the linearity of the voltage signal output of the product. The user does not need to make linear correction by himself, which is ready-to-use, stable and reliable! ER-A-04, moreover, because the system integrates the high resolution temperature sensor, with MCU central processing system to secondary temperature compensation, the temperature of zero temperature drift can be controlled in $0.0008^{\circ}/^{\circ}\text{C}$, small temperature range the most highly precise degree can reach 0.002° , peer products in the country is an absolute competitive advantage.

The ER-A-04 has excellent system integration due to its features of non-contact mounting. By fixing the sensor on the surface of the object under test, the attitude Angle of the object can be calculated automatically. The operation is simple and the installation is convenient. The latest MEMS high technology production, high precision, small volume, strong anti-external electromagnetic interference ability, strong shock and vibration ability, now widely used in industry and military industry field!



Main Features

- Dual-axis inclination measurement
- Range $\pm 1^{\circ}\sim\pm 90^{\circ}$ for optional
- Accuracy: refer to performance table
- Wide Input Range 9~36V
- Wide working temperature : $-40\sim+85^{\circ}\text{C}$
- High resolution 0.001°
- IP67 level of protection
- High vibration resistance $>2000\text{g}$
- Temperature excursion $0.0008^{\circ}/^{\circ}\text{C}$

Application

- Leveling of engineering vehicles
- 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-04-10	ER-A-04-30	ER-A-04-60	ER-A-04-90	Unit
Range		±10	±30	±60	±90	°
Measurement axis		X Y	X Y	X Y	X Y	
Zero output	0°Output	2.5	2.5	2.5	2.5	V
Resolution ratio		0.001	0.001	0.001	0.001	°
Absolute precision	@25°C	0.003	0.01	0.02	0.03	°
Long term stability		0.01	0.02	0.03	0.04	°
Zero point temperature coefficient	-40~85°	±0.0008	±0.0008	±0.0008	±0.0008	°/°C
Spirit acuity temperature	-40~85°	≤50	≤50	≤50	≤100	ppm/°C
Access to electricity and move 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
Electromagnetic compatibility	According to EN61000 and GBT17626					
MTBF	≥50000 Hours/time					
Insulation	≥100 M					

resistance	
Shock resistance	100g@11ms、Triaxial (half sinusoidal wave)
AntiVibration	10grms、10~1000Hz
Waterproofing grade	IP67
Cable	Standard 1 m length, wear-resistant, wide temperature, shielded cable 4*0.4mm2 air connector
Weight	160g(No cable)

Electrical parameters of products

Parameter	Condition	Min	Typical	Max	Unit
Power Supply	Standard	9	12、24	36	V
Working current			40		mA
Output load	Resistivity	10			kΩ
	Capacitive character			20	nF
Operating temperature		-40		+85	°C
Storage temperature		-55		+100	°C