Product Description

ER-D-01 is a single-axis tilt sensor that simulates the output voltage. The user only needs to collect the voltage of the sensor to calculate the inclination of the current object. The built-in (MEMS) micro solid pendulum hammer is converted into the change of inclination angle by measuring the change of static gravity field, which is output through voltage (0-5v). It is mainly used to measure the object's inclination to the horizontal plane.

This product uses the non-contact type to measure the original quantity, can output the current posture inclination angle in real time, the non-contact type induction measurement principle, the installation is simple. The latest MEMS sensing production technology, high precision, small volume, strong ability to resist external electromagnetic interference, strong ability to withstand shock and vibration. Is the industrial equipment, platform measurement posture ideal choice!

Main Features

•Single-Axis Measurement

•Range±1~±180° for optional

•Accuracy: refer to performance table

•Wide voltage input 9～36V

•Output way0～5V

•Wide working temperature-40～+85℃

•IP67 protection grade

•High vibration resistance >2000g

•Resolution 0.01 °

•Small size 90 x 40 x 26mm (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

•Shield pipe jacking application

•Directional measurement based on dip Angle

•Slope monitoring of geological equipment

•Measurement of pitch Angle of directional satellite communication antenna

•Mining machinery, oil drilling equipment

•Equipment level control

•Alignment control, bending control

Product performance index

Parameter	Condition	ER-D-01-10	ER-D-01-30	ER-D-01-60	ER-D-01-90	Unit
Measurement Range		±10	±30	±60	±90	°
Measurement Axis		X	X	X	X	
Zero Output	0°output	2.5	2.5	2.5	2.5	V
Resolution Ratio		0.01	0.01	0.01	0.01	°
Absolute Accuracy		0.02	0.05	0.08	0.1	°
Long-term Stability		0.05	0.05	0.05	0.05	
Zero Temperature Coefficient	-40~85°C	±0.006	±0.006	±0.006	±0.006	°/℃
Sensitivity Temperature Coefficient	-40~85°C	≤100	≤100	≤100	≤100	Ppm/℃
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
Electromagnetic Compatibility	According To EN61000 And GBT17626					
Mean time to work without failure MTBF	≥50000hours/time					
Insulation Resistance	≥100Ω					
Impact Resistant	100g@11ms、Triaxial harmony (half normal)					
Resistance To Vibration	10grms、10~1000HZ					
Waterproof Level	IP67					
Cable	Standard: 1 meter length, wear resistance, oil proof, wide temperature, shielding cable 4*0.4mm2					

Weight	110g(No cable)

Electrical parameters of products

Parameter	Condition	Minimum Value	Typical Value	Maximum Value	Unit
Supply Voltage	Standard	9	12、24	36	V
	Options		5		V
Working Current			30		mA
Output Load	Resistive	10			kΩ
	Capacitive			20	nF
Operating Temperature		-40		+85	℃
Storage Temperature		-55		+125	℃

Product mechanical parameters

•Connector: 1m straight leads (customizable)

•Protection class: IP67

•Material: aluminum alloy grinding sand oxidation

•Installation: four M6 screws