

## Product Description

ER-D-12 is a biaxial tilt sensor (vertical installation) with serial port output type for industrial field control. Ordinary horizontal sensor can only be measured by peers when it is installed horizontally. However, the vertical installation cannot be measured normally. The output interface RS485/RS232/RS422/TTL is optional. Due to the inbuilt ADI's high-precision digital sensor, the temperature drift of the sensor can be corrected according to the change of the inbuilt temperature sensor to guarantee the high repeatability of the product in low temperature and high temperature environment. The output response frequency standard can reach 18Hz. If higher response frequency is needed, our company can customize it according to users. The product is a real industrial grade product with reliable and stable performance and good expansibility. Suitable for all kinds of harsh industrial control environment.



## Main Features

- Dual axis inclination Measurement(vertical mounting)
- Range $\pm 1\sim\pm 90^\circ$  for optional
- Accuracy: refer to performance table
- DC9~36V Wide voltage input input
- Wide working temperature-40~+85 $^\circ\text{C}$
- Resolution 0.01  $^\circ$
- IP67 protection grade
- High vibration resistance >2000g
- Direct lead interface
- Size 90 x 40x 26mm (customizable)
- Output mode RS232, RS485, TTL, CAN 2.0b is optional

## Product application

- Satellite dishes search the stars
- Railway locomotive monitoring
- All kinds of engineering machinery dip measurement
- Petroleum drilling equipment
- Radar vehicle platform detection

- Attitude navigation of underground drill
- Measurement of initial firing Angle of gun barrel
- Directional measurement based on dip Angle
- Satellite communication vehicle attitude detection
- Measurement of navigation posture of ships
- Shield pipe jacking application
- Slope monitoring of geological equipment

### Product performance index

Parameter	Condition	ER-D-12-10	ER-D-12-30	ER-D-12-60	ER-D-12-90	Unit
Measurement Range		±10	±30	±60	±90	°
Measurement Axis		X Y	X Y	X Y	X Y	
Resolution Ratio		0.01	0.01	0.01	0.01	°
Absolute Accuracy	@25°C	0.02	0.05	0.08	0.1	°
Long-term Stability		0.05	0.05	0.05	0.05	
Zero Temperature Coefficient	-40~85°	±0.006	±0.006	±0.006	±0.006	°/°C
Sensitivity Temperature Coefficient	-40~85°	≤100	≤100	≤100	≤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
Output Rate	5Hz, 15Hz, 35Hz,50Hz and 100Hz can be set					
Output Signal	RS232/RS485/RS422/TTL/PWM/CAN/MODBUS					
Electromagnetic Compatibility	According To EN61000 And GBT17626					
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*0.4mm <sup>2</sup>					
Weight	120g(No cable)					

### Electrical parameters of products

Parameter	Condition	Minimum Value	Typical Value	Maximum Value	Unit
Supply Voltage	Standard	9	12、24	36	V

	Can be customized		5		V
Working Current	no load		40		mA
Operating Temperature		-40		+85	°C
Storage Temperature		-55		+125	°C

**Product mechanical parameters**

- Connector: 1m straight leads (customizable)
- Protection class: IP68
- Material: aluminum alloy grinding sand oxidation
- Installation: four M6 screws