INC2000 Series

0.001 Degree Super High Accuracy Low Temperature Drift Single / Dual Axis Inclinometer

Main Features

- Range from ±5° to ±30°, Accuracy: ±0.001°
- Low Temp Drift, Optional Temperature Compensation
- Temperature Coefficient: ±0.0003º/ºC
- Multiple Output interfaces: RS485, RS232, RS422, Voltage Output, Curent Output Options
- Wide Voltage Input:11~36V, IP67 Sealed
- Compact and Lightweight: 93.8×55.5×26 mm, 250grams
- Wide Working Temperature: -40°C~+85°C

INC2000 series inclinometer is super high accuracy single or dual axis inclinometer sensor, it uses a sealed IP67 machined aluminium alloy housing, and it enjoys super high accuracy: up to ±0.001° (room temperature) and has a wide range of options to cover a measurement range from ±5° to ±30°, and it has multiple optional output interfaces including RS485, RS232, RS422, voltage output (0-5V or 0-10V), and curent output (4-20mA, 0-20mA, or 0-24mA). The inclinometer adopts big brand components and material, and the cable are qulified for continous outdoor use, and it is manufactured and calibrated in our own factory to guarantee performance and the real accuracy to the stated specification.

Adopting SkyMEMS proprietary algorithms, which reduce the non-linearity, cross errors, quadrantal error and installation error, the inclinometer has inherently good temperature stability, but this can be improved further with optional temperature compensation over a range of different temperatures. And it enjoys high reliability and survivability in harsh environment and the working temperature is -40~85°C. It has been widely used in heavy engineering machinery, track gauge instrument, high building monitoring, bridge and dam monitoring, high accuracy laser platform, etc.

- ✓ **12-Step Quality Control, Super Reliability, More Functions**
- ✓ **Adopting Original Big Brand Component, High-class Material, Competitive Price**
- ✓ **Real Actual Precise after Calibration, Perfect Performance**
- ✓ **Successful Applications in Tens of Fields, More than 1000 Customers are Using**

Typical Applications

Heavy Engineering Machinery

Track Gauge Instrument

Bridge Monitoring

Dam Monitoring

Super Reliability & Performance

www.SkyMEMS.com Mobile: +86 133 7203 8516
Skype: skymems

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Technical Specifications

Technical Specs					
Parameter	**Value**				**Comments**
Range	±5°	±10°	±15°	±30°	Optional
Measurement Axis	X-Y or X	X-Y or X	X-Y or X	X-Y or X	
Accuracy (Digital Output: RS485, RS422 and RS232)	0.001°	0.002°	0.003°	0.004°	room temperature
Accuracy (Analog Output: Voltage and Current Output)	0.005°	0.01°	0.02°	0.05°	room temperature
Temperature Coefficient	≤±0.0003°/°C	≤±0.0005°/°C	≤±0.0006°/°C	≤±0.0008°/°C	
Resolution	0.001°				
Output Data Frequency	5~100Hz (adjustable)				
Baud Rate	2400~115200 bps				
Electrical and Environment Specs					
Voltage	11-36VDCs				
Current	<40mA@24V				
Startup Time	1.5s				
Working Temperature	-40~+85°C				
Storage Temperature	-50~+125°C				
Protection Level	IP67				
Physical Specs					
Dimension	93.8×55.5×26 mm				
Weight	250grams				
Connector	7pin mini aviation connector				
Cable Length	1meter				

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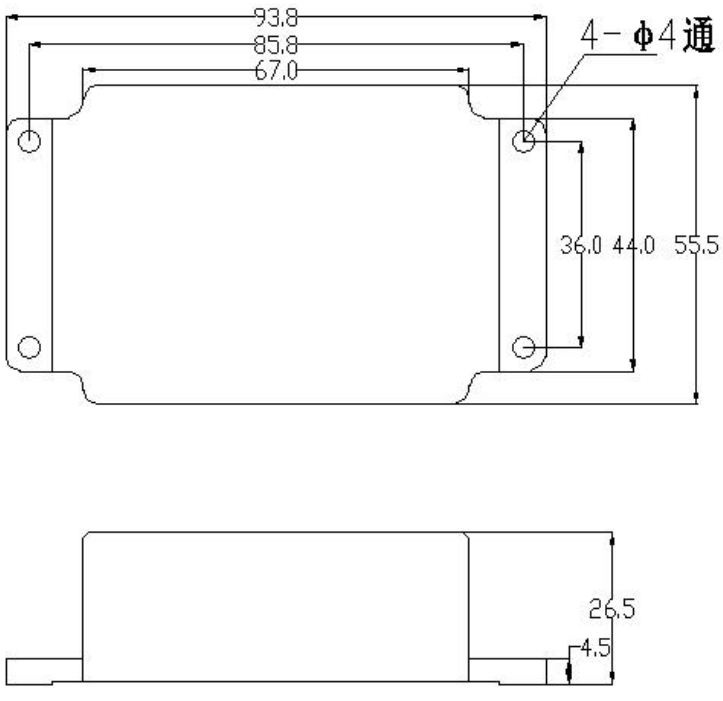
Pins Definition

Pins Definition				
Wire color	**RS485 output**	**RS232 output**	**Voltage output**	**Current output**
Red	VCC_Voltage +	VCC_Voltage +	VCC_Voltage +	VCC_Voltage +
Black	GND_Voltage -	GND_Voltage -	GND_Voltage -	GND_Voltage -
Blue	485A	TX_serial port transmitting	NC	NC
Yellow	485B	RX_serial port receiving	NC	NC
Grown	NC	OGND_signal GND	OGND_signal GND	OGND_signal GND
Green	NC	NC	V_XOUT_X axis voltage	I_XOUT_X axis current
White	NC	NC	V_YOUT_Y axis voltage	I_YOUT_Y axis current

Dimension & Package



(Unit: mm)

three-view drawing

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Order Information

INC2000: series Name

X: axis number
- **1**: single axis
- **2**: dual axis

XXX: measuring range
- **005**: ±5°
- **010**: ±10°
- **015**: ±15°
- **030**: ±30°

XX: detailed interface
- **00**: RS485 output
- **R0**: RS232 output
- **R1**: RS422 output
- **V0**: 0-5VDC output
- **V1**: 0-10VDC output
- **C0**: 4-20mA output
- **C1**: 0-20mA output
- **C2**: 0-24mA output

X: temperature compensation
- **0**: no additional temperature compensation (default)
- **1**: temperature compensation over -40~+85ºC

X: cable length
- **1**: 1 meter
- **2**: 2 meter

For example, INC2000-2--030-00-0-1 it means that the inclinometer INC2000 series, dual axis, measuring range:±30°, RS485 interface, without temperature compensation, 1meter cable length.

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