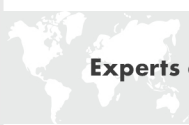


PST20 Inclinometer



PST20
Inclinometer
Range: 0 ~ 360°
Output: 4 ~ 20mA
Supply: 7 ~ 24VDC
Protection: IP69K
PN: 20-02-pl-60-G3
D48008C0015
PENATRON



PST20 Inclinometer

Features

- Low cost, high performance, suitable for batch application
- 50Hz refresh rate, 10Hz response frequency
- $\pm 0.5\%$ Cross-axis error, $\pm 0.15^\circ$ or $\pm 0.07^\circ$ accuracy
- Available to horizontal, vertical, headstand, etc installation method
- Auto-correct installation error
- Protection IP67 (IP69K optional)
- 9~36VDC supply, compatible to automotive application
- Survive to 1500g shock while operating
- OEM available, MIL/ EN/DIN/ISO/IEC testing standard upon request application



Descriptions

PST20 inclinometer is based on advanced tilt measurement technology, to meet with low cost, high reliability and volume application, offers high performance-cost ratio.

PST20 is based on universal & mass-produced components, casting aluminum alloy house, universal high reliability M12-5pin industrial connector; full epoxy seal with IP67 protection, auto-test/calibration equipment which not only ensure delivery speed, also keep the consistency of goods.

Engineered by adopting advanced technologies like:

- CAE/EDA simulation;
- Modal test for both housing and PCB to eliminate resonance due to vibration;
- Comprehensive performance & function test for component & firmware;
- Calibration technology based on high accuracy inclinometer;
- Refer MIL/ EN/ ISO/IEC standards to enhance PST20 durability & reliability.

PST20 support remote diagnosis without disassembling. MTBF more than 10 years per time. Can work in 10m submersible depth long time and has better EMC ability.

PST20 can output RS232/RS485/CAN/CANOpen and Voltage/Current signals. Better power management to meet with automotive /truck/vehicle application without regulated power.

OEM service is available with calibrated PCBA or MIL qualified.

Applications

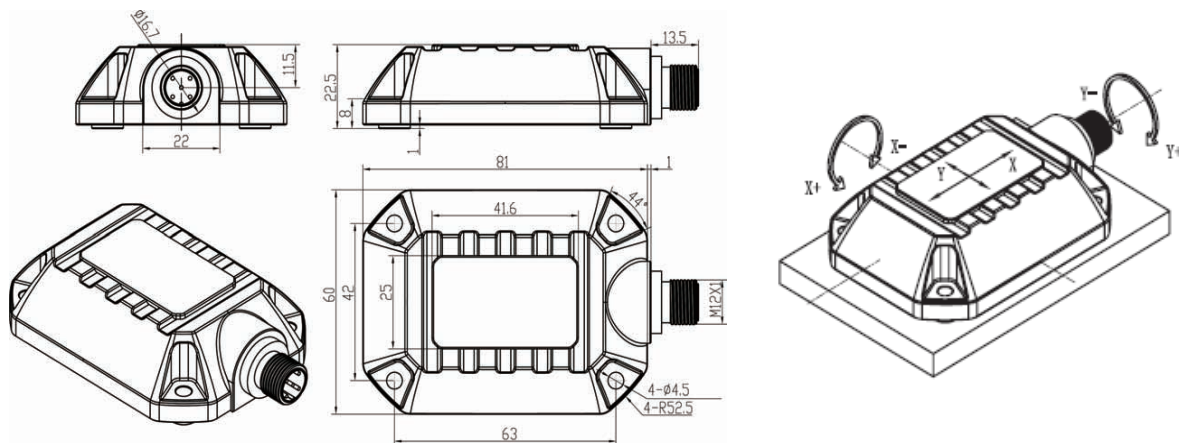
Vessel, Engineering machinery, Solar/wind energy, Zutomobile/truck/vehicle, Communication/electric Tower monitoring, High-voltage pylon monitoring, Antenna, construction engineering, Landslide, etc

Performances

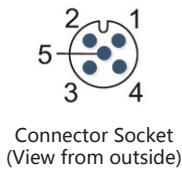
Table 1 Specifications

Measurement range	$\pm 5^\circ$, $\pm 10^\circ$, $\pm 15^\circ$, $\pm 30^\circ$, $\pm 45^\circ$, $\pm 60^\circ$, $\pm 90^\circ$, $0\sim 360^\circ$	
Accuracy	$\pm 0.15^\circ @ -15\sim 50^\circ\text{C}$	$\pm 0.07^\circ @ -15\sim 50^\circ\text{C}$
Resolution	0.005°	0.002°
Repeatability	$\pm 0.05^\circ$	$\pm 0.02^\circ$
Offset	$\pm 0.05^\circ$	$\pm 0.02^\circ$
Cross-axis sensitivity	$\pm 1.0\%\text{FS}$	$\pm 0.5\%\text{FS}$
Measurement axis	1 or 2 axis	
Bandwidth	3Hz, 10Hz(max)	
Response time	0.3s @ t90	
Refresh rate	5Hz, (50Hz max)	
Cold start warming time	60s	
Function	zeroing, baud rate, refresh rate, zero point correction, bandwidth, ID address, factory producing data	
Output	CAN2.0B: according to ISO11898-2 standard, twisted-pair output, 5k~1MBit/s baud rate, support 127 nodes, max cable length 10 km, built in high speed photoelectric isolator	
	CANOpen: according to DS301,DS303,DS305 standard, confirm to CiA 410 protocol standard , 5Kbps~1Mbps baud rate, support 127 nodes, max cable length 10 km, built in high speed photoelectric isolator	
	Voltage output: 0.5~4.5VDC; output impedance 0.3 Ω ;load impedance <100 Ω	
	Current output: 4~20mA; output impedance 50M Ω ; load impedance 150~650 Ω	
	RS485 output: 115200bps(adjustable), 8 data bits, 1 start bit, 1 stop bit, none parity, ASCII	
	Switch output: Darlington OC output, load with1A @7~42VDC, alarm point can be pre-set in factory	
Power supply	RS485/CAN/CANopen output: current consumption $\leq 15\text{mA}@9\sim 36\text{VDC}$, no-load Voltage/current output: current consumption $\leq 25\text{mA}@9\sim 36\text{VDC}$, no-load	
Operation temperature range	$-40\sim 85^\circ\text{C}$	
Storage temperature range	$-40\sim 85^\circ\text{C}$	
EMC	According to EN 61000, and GBT17626	
Insolation	$\geq 100\text{M}\Omega$	
MTBF	10 years	
Shock	1500g, three-axis, half- sine	
Vibration	8grms, 20~2000Hz	
Protection	IP67	
Connecting	M12 5-Pin socket	
Weight	$\leq 200\text{g}$	

Dimensions (mm)



Wiring

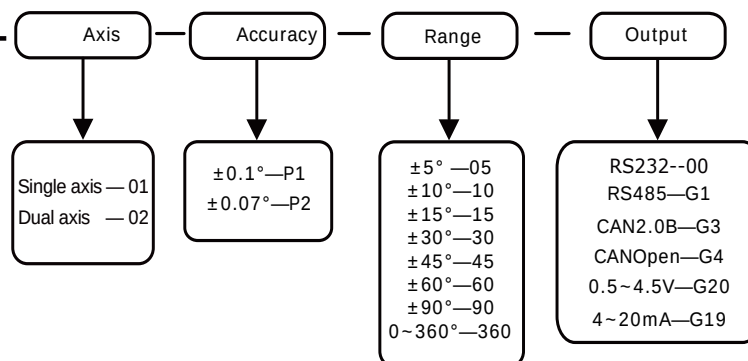


Pin	Wire color	RS232	RS485	CAN	Current	Voltage
1	Red	Power+	Power+	Power+	Power+	Power+
2	Black	Power-	Power-	Power-	Power- & Signal GND	Power & Signal GND
3	Blue	TXD	A	CAN-H	I _x	V _x
4	Brown	RXD	B	CAN-L	I _y	V _y
5	Green	Signal GND	Signal GND	CAN-GND	Teach-in	Teach-in

Teach-in is only usable to set the zero point.

For that contact the Teach-in wire with Power+ during around 3 seconds (not more than 4 seconds).

Ordering PST20-



For example, if order a double-axis PST20 inclinometer, with range $\pm 60^\circ$, $\pm 0.1^\circ$ accuracy, Output CAN 2.0B, the model should be chosen as: PST20-02-P1-60-G3

We are here for you. Addresses and Contacts.

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