

Inclinometers

sensors, instrumentation, converters, load cells, displacement

7 SERIE SCA-xxx - one or dual-axis inclinometer

The SCA series is a new generation of digital small-volume MEMS tilt sensor from DPF. It has a two-channel Earth Gravity Inclination Unit that converts into a tilt angle by measuring static gravitational acceleration.

Thereby the tilt and pitch angle of the sensor output relative to the horizontal plane can be measured. Output mode analog, CAN, RS232, RS485 or TTL level interface standard is optional. It is an ideal choice for industrial automation control and platform measurement attitude. It has strong resistance to external electromagnetic interference and can adapt to long-term work in industrial harsh environment and solar power plants.

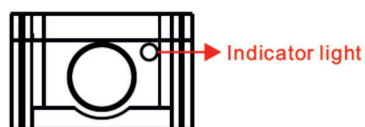
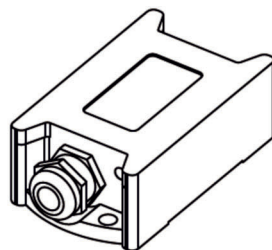
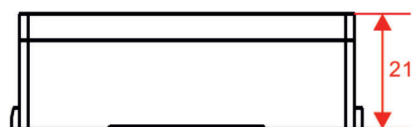
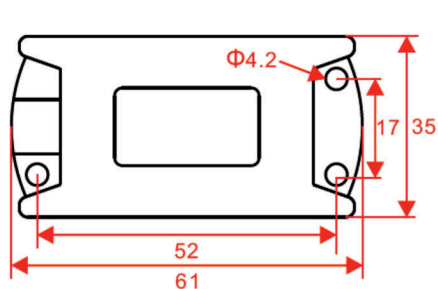
This product is primarily suitable for dynamic measurements of static and slow changes, not for fast-changing dynamic measurements.



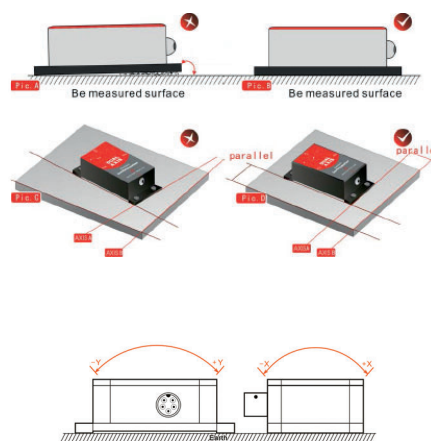
- ☆ Single / Dual Axis Inclination
- ☆ Range $\pm 1^{\circ} \sim \pm 90^{\circ}$ Optional
- ☆ DC 9~36v Wide Voltage Input
- ☆ High Vibration Resistance >2000g

Parameters	Conditions	$\pm 30^{\circ}$	$\pm 60^{\circ}$	$\pm 90^{\circ}$	Unit
Output current	Current range	4~20	4~20	4~20	mA
	0° output	12 \pm 0.01	12 \pm 0.05	12 \pm 0.1	mA
Resolution		0.1	0.1	0.1	°
Accuracy	25°C	\pm 0.2	\pm 0.3	\pm 0.5	°
Response time		0.05	0.05	0.05	S
Temperature Drift	-5~55°C	\pm 0.5	\pm 0.5	\pm 0.5	°
	-25~70°C	\pm 0.7	\pm 0.7	\pm 0.7	°
	-40~85°C	\pm 0.8	\pm 0.8	\pm 0.8	°
Output load	>500 Ohm				
Working time	50000 hours /times (no faulty)				
	>100 Megohm				
Anti-vibration	10grms, 10~1000Hz				
Impact resistant	100g@11ms, Three axis and the same (half sine wave)				
Product cert.	CE, FCC, CCC				
Weight	60g				
Proudction standard	GB/T191 SJ20873-2003 Tilt sensor , level sensor General specification				
Quality system	ISO9001:2008 Standard (Authentication number: 128101)				

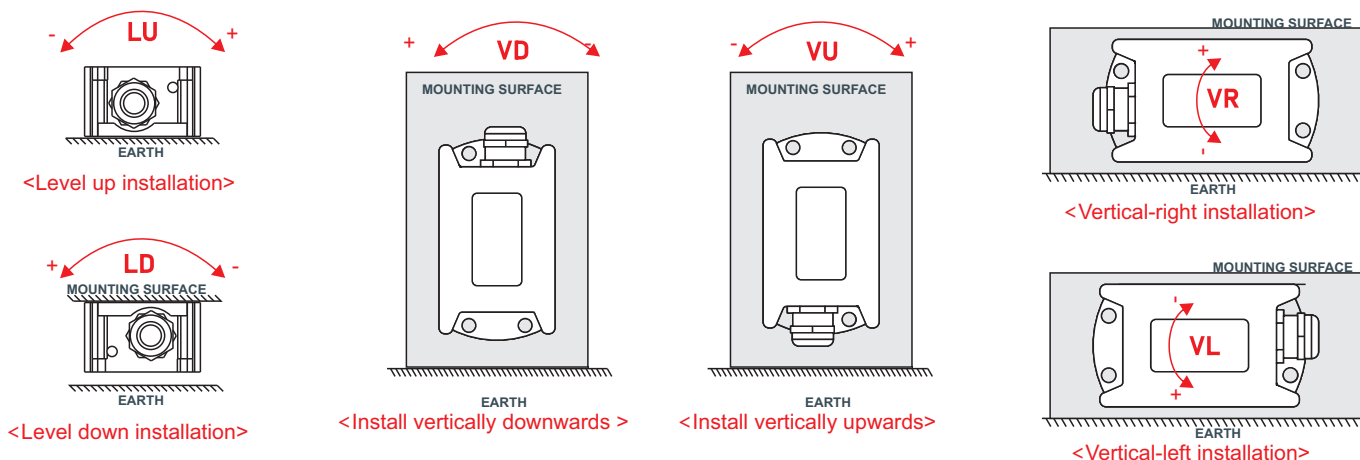
mechanical characteristics



Dimensions : 61*35*21mm

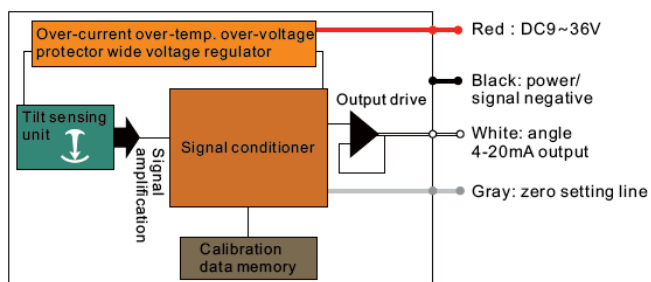


assembly

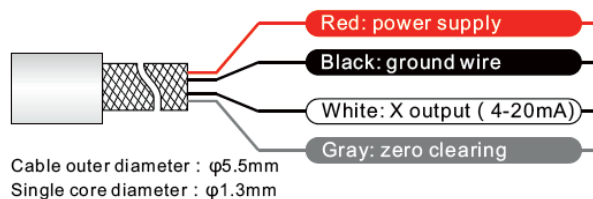


Remarks: The factory default installation is horizontal upward, the user can sets the corresponding installation method according to needs, please refer to Article 2 of the operating instructions, and make the corresponding settings.

SYSTEM BLOCK DIAGRAM



WIRING DEFINITION



ordering information

XCA	X	X	XX	-XX	X
	1 : 1 AXIS	6: digital	LU : Level up	10 ($\pm 10^\circ$)	A1 (4...20 MA)
	2 : 2 AXIS	8: current	LD : Level down	15 ($\pm 15^\circ$)	V1 (0...5 VDC)
		0: voltage	VU : Vertical upward	30 ($\pm 30^\circ$)	232 (RS232)
			VD : Vertical down	60 ($\pm 60^\circ$)	485 (MODBUS)
			VL : Vertical left	90 ($\pm 90^\circ$)	C1 (CAN2.0A)
			VR : Vertical right	180 ($\pm 180^\circ$) 1 eje	C2 (CAN2.0B)
				360 (0-360°) 1 eje	TTL (TTL)
				393 ($-3^\circ \dots +93^\circ$)	422 (RS422)

Reference example: 1 axis sensor, with $\pm 30^\circ$ range, 4-20 ma output signal, level UP mounting. **XCA18-LU-30-A1**