

Compact Inclinometer

DIGITAL ADVANCED SENSORS **DAS**

SA1N / SA2 CE FC

Compact inclinometer SA1N / SA2 performs angular measurement as a part of controlling and tracking systems such as solar-panels, machineries, closing and opening systems and other various applications.

- High performance MEMS based compact inclinometer (tilt sensor)
- Micro-Processor mounted for stable sensing and data processing
- High strength PC and ABS housing / compact size and high cost-effectiveness



General Specifications

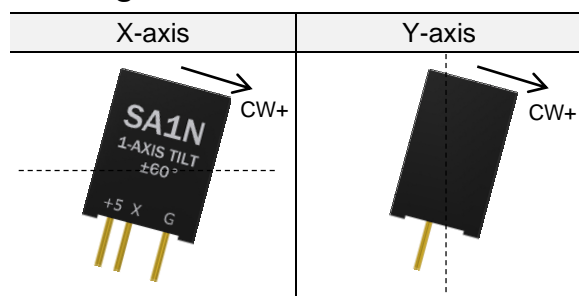
Item	Specification
Measuring Axis ¹⁾	Uniaxial (X-axis or Y-axis)
	Biaxial
Measuring Range ²⁾	+/-30, +/-60, +/-90 deg
Resolution	0.1 deg
Non-Linearity	3% FS
Temp. Drift	+/-0.1% per celsius
Response	<0.5 sec
Output ³⁾	10 ... 90% of power source
Power Source	4.5 ... 5.5VDC
Current Consumption	<10mA
Operating Temp.	-20 ... +80 celsius
Waterproof	IP65
Dimensions	W14.8 x H19.9 x D11.8mm
Weight	10g

¹⁾ Uniaxial : SA1N / Biaxial : SA2

²⁾ Fixed for 3 ranges. +/-90 deg range may occurs measurement error within 85...90 deg.

³⁾ Ratio-type. 0.5 ... 4.5Vdc output at 5VDC.

Sensing Directions



Data Descriptions

$$= \left(\frac{\text{Measuring Range}}{\text{Output V Range}} \right) \times (\text{Output V} - \text{Zero Offset})$$

Measuring Range : max range – min range

Output V Range : 4.5V – 0.5V = 4V

Zero Offset : 2.5V

e.g. Measuring range +/-90 deg, Output 3.5V,

$$\left(\frac{+90 - (-90)}{4} \right) \times (3.5 - 2.5) = +45^\circ$$

Pin-map

	+5	V+
	X	X-axis+
	Y	Y-axis+
	G	GND (COM)

Ordering Code

Format : SA(1)-(2)-(3)

(1)	1N	Uniaxial
	2	Biaxial
(2)	30	+/-30 deg
	60	+/-60 deg
	90	+/-90 deg
(3)	X	Uniaxial X
	Y	Uniaxial Y

e.g. SA1N-60-X / SA2-90

NOTES

- 1) SA1N / SA2 has not been applied any stabilizing circuit or protection circuit.
- 2) To stable using, stabilizing and protection circuit on the systems are necessary.
- 3) MEMS based inclinometer (tilt sensor) measures tilt (degree) by gravity. Check sensing directions before use.
- 4) 12 months warranty is provided after released. Warranty provided only in case of using for designed purpose correctly.
- 5) Specifications, design and components can be changed without prior notice to improve its performances.

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