

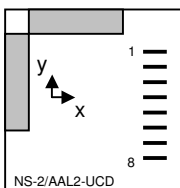
Function principle:

This biaxial inclination sensor uses 2 pieces of basic cells. The sensor works in the way that an electrolytical fluid is formed out by applying an AC-voltage on the planar electrode structures. By tilting the sensor, the fluid level over the different electrodes and in consequence the conductance of the stray field changes. Using a difference measurement principle, the tilt angle and the tilt direction can be measured. With a special electrode and circuit design the temperature coefficient is almost completely compensated.

Applications

- Zero point detection
- Laser leveling
- High end leveling
- Angle measurement

Pin out



Pining:

- 1 Vcc +5 VDC
- 2 Vref (out) +2,5VDC
- 3 GND
- 4 V out X
- 5 V out Y
- 6 V out T
- 7 N.C.
- 8 N.C.

Advantages

- Small size
- Easy to integrate
- Active temperature compensation
- Temperature output signal
- Low cost unit
- High linearity

Specification

	Conditions	Min	Typ	Max	Unit
Measurement range		-2		+2	°
Absolute maximum rating ⁽¹⁾		-10		+10	°
Sensitivity ⁽²⁾	RT ⁽²⁾	0.6	0.75	0.9	V/ °
Offset	$V_{out\ x,y}, RT^{(2)}$	$V_{ref}-0.5$		$V_{ref}+0.5$	V
Non linearity	up to +/- 1°	-0.75		+0.75	% of FS ⁽³⁾
Non linearity	up to +/- 2°	-1.5		+1.5	% of FS ⁽³⁾
Cross coupling angle	range end value	-0.03		+0.03	°
Output signal ^(4,5)	$V_{out\ x,y}, V_{out\ T} \rightarrow GND$	0.3		$V_{cc}-0.3$	VDC
Temperature output signal	$V_{out\ T}, 1.55V \text{ by } 0\text{ °C}$		30		mV/°C
Reference voltage output	V_{ref}	2.4	2.5	2.6	VDC
Power voltage supply	V_{cc}	4.75	5	5.25	VDC
Current consumption				15	mA
Operation temperature range		-10		+50	°C
Storage temperature range		-25		+85	°C
Weight			20		g
Dimensions	W x D x H		45 x 45 x 14		mm

- ¹⁾ by operating, under power supply. Don't overstep the maximum rating. Impairment of basic cells possible.
²⁾ RT = Room temperature 20 °C
³⁾ FS = Full Scale
⁴⁾ measurement to Vref (bipolar) or to GND (unipolar) possible.
⁵⁾ by 10 KΩ load resistance

Compatible connector:
Company Molex
Picoflex PF-50 1,27mm (8 pins)

This inclinometer will be mount for horizontal position (x-y-plane) !