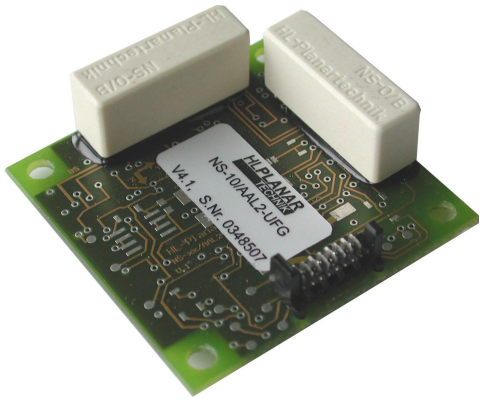
Inclinometer
NS-10/AAL2-UFG



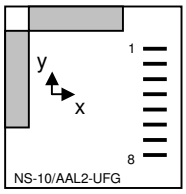
Function principle:

This biaxial inclination sensor uses two 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
- Aligning and level control
- Angle measurement
- Wheel alignment

Pin out



Pining:

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

Advantages

- Small size
- Easy to integrate
- Small TC
- Low cost unit
- Low vibration sensitivity

Specification

	Conditions	Min	Typ	Max	Unit
Measurement range		-10		+10	°
Absolute maximum rating[1]		-25		+25	°
Sensitivity[2]	RT[2]	0.135	0.150	0.165	V/ °
Offset	$V_{out\ x,y}$, RT[2]	V_{ref} –0.15		V_{ref} +0.15	V
Non linearity	up to +/- 5 °	-1.5		+1.5	% of FS[4]
Non linearity	up to +/-10 °	-3		+3	% of FS[4]
Cross coupling angle	range end value	-0.14		+0.14	°
Output signal[3,5]	$V_{out\ x,y}$ -> GND	0.3		Vcc-0.3	VDC
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		-25		+85	℃
Storage temperature range		-25		+85	℃
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 25℃
[3] measurement to Vref (bipolar) or to GND (unipolar) possible.
[4] FS = Full Scale
[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) !

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