

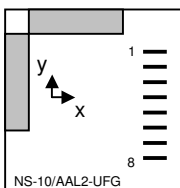
### Function principle:

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 <sup>(1)</sup>		-25		+25	°
Sensitivity <sup>(2)</sup>	RT <sup>(2)</sup>	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 <sup>(4)</sup>
Non linearity	up to +/- 10°	-3		+3	% of FS <sup>(4)</sup>
Cross coupling angle	range end value	-0.14		+0.14	°
Output signal <sup>(3,5)</sup>	$V_{out\ x,y} \rightarrow GND$	0.3		$V_{cc}-0.3$	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	°C
Storage temperature range		-25		+85	°C
Weight			20		g
Dimensions	W x D x H		45 x 45 x 14		mm

<sup>1)</sup> by operating, under power supply. Don't overstep the maximum rating. Impairment of basic cells possible.  
<sup>2)</sup> RT = Room temperature 25°C  
<sup>3)</sup> measurement to Vref (bipolar) or to GND (unipolar) possible.  
<sup>4)</sup> FS = Full Scale  
<sup>5)</sup> 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) !