

NS/AAL2-UFG & NS/AAL2-UDD

Dual Axis Inclinometer

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Measurement Range $\pm 2^\circ$ and 10°

DESCRIPTION

NS/AAL2-UFG & NS/AAL2-UDD Dual Axis Inclinometer- This dual axis inclination sensor uses two basic cells for improved accuracy and cross axis rejection. An electrolytical fluid is formed by applying an AC-voltage on the planar electrode structures. By tilting the sensor, the fluid level over the different electrodes change the conductance of the stray field. By using differential measurement principle, the tilt angle and the tilt direction can be measured. A special electrode and circuit design reduces the temperature coefficient of sensitivity to a minimum.

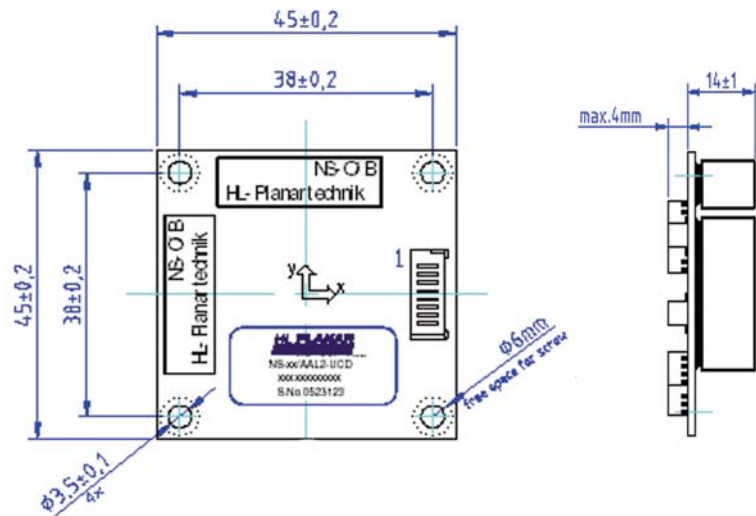


ADVANTAGES

- ◆ Small size
- ◆ Easy to Integrate
- ◆ Low TC
- ◆ Low cost unit
- ◆ Low vibration sensitivity

APPLICATIONS

- ◆ Zero point detection
- ◆ Alignment and level control
- ◆ Angle Measurement
- ◆ Wheel alignment



Pin out

Pining:

1	Voc +5VDC
2	Vref (out) + 2,5VDC
3	GND
4	V out X
5	V out Y
6	N.C. on NS-10, V out T on NS-2
7	N.C.
8	N.C.

Position Sensors Technical
Support:
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measurement
SPECIALTIES

NS/AAL2-UFG & NS/AAL2-UDD Dual Axis Inclinometer

performance specifications

NS/AAL2-UDD

	Conditions	Min	Typ	Max	Units
Measurement Range		-2		+2	Degs
Absolute maximum rating ⁽¹⁾		-10		+10	Degs
Sensitivity ⁽²⁾	RT ⁽²⁾	0.6	0.75	0.9	V/°
Offset	V _{out x,y} , RT ⁽²⁾	V _{ref} -0.5		V _{ref} +0.15	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	Degs
Output signal ^(4,5)	V _{out x,y} , V _{out T} -> GND	0.3		V _{cc} -0.3	VDC
Temperature output signal	V _{out T} , 1.55V by 0°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		-40		+85	°C
Storage temperature range		-40		+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 of V_{ref} (bipolar) or to GND (unipolar) possible
- 5.) By 10 KΩ load resistance

Compatible connector:
Company Molex
Picoflex PF=50 1.27mm (8 pins)

NS/AAL2-UFG

	Conditions	Min	Typ	Max	Units
Measurement Range		-10		+10	Degs
Absolute maximum rating ⁽¹⁾		-25		+25	Degs
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	Degs
Output signal ^(3,5)	V _{out x,y} , -> 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

- 1.) By operating, under power supply. Don't overstep the maximum rating. Impairment of basic cells possible.
- 2.) RT= Room Temperature 25°C
- 3.) Measurement of V_{ref} (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)

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