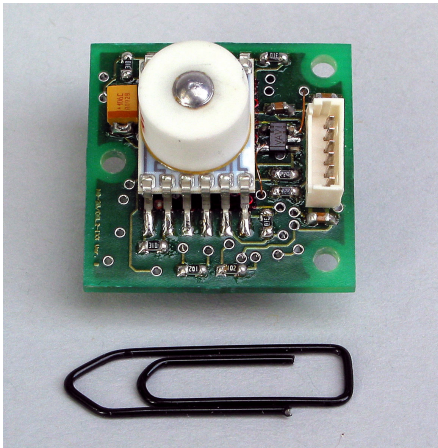


Miniature, OEM Inclinometer



Theory of Operation:

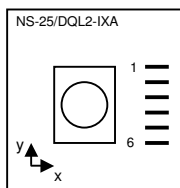
The NS-25/DQL2-IXA is a small, biaxial inclinometer for OEM use. It consists of an NS-25/C2 tilt sensor and conditioning electronics that provides complete electronic biasing and readout. The system is carefully designed to minimize drift and temperature effects.

The sensor works in the way that an electrolytic fluid is formed out by applying an AC-voltage on the planar electrode structures. When the sensor is tilted, the fluid level over the different electrodes and, in consequence, the conductance of the stray field is changed. Using a difference measurement principle, the tilt angle and the tilt direction can be measured.

Applications

- Zero point detection
- Aligning and level control
- Angle measurement
- Laser leveling system
- Wheel alignment

Pin out



Pining:

- 1 Vcc +5 VDC, stabilized
- 2 GND in
- 3 N.C.
- 4 SCL I²C Clock Input
- 5 N.C.
- 6 SDA I²C Data I/O

Advantages

- Microcontroller system
- Digital output I²C
- Small size
- Easy to integrate
- Temperature compensated
- Full calibrated
- Low cost unit

Specification (preliminary)

	Conditions	Min	Typ	Max	Unit
Measurement range		-25		+25	°
Absolute maximum rating ⁽¹⁾		-60		+60	°
Resolution		0.02			°
Accuracy	T _{amb} =25 °C		0.1	0.3	°
Accuracy	-25 °C < T _{amb} < +85 °C		0.3	TBD	°
Offset	T _{amb} =25 °C		0.15		°
Rise time ⁽²⁾	5 ° > 0 °, T _{amb} =-25 °C			0.5	s
Output I ² C	Baud rate	10		50	KBit/s
Power voltage supply	V _{cc}	4.75	5	5.25	VDC
Current consumption				10	mA
Operation temperature range		-25		+85	°C
Storage temperature range		-40		+105	°C
Weight			10		g
Dimensions	W x D x H		25 x 25 x 16		mm

¹⁾ by operating, under power supply. Don't overstep the maximum rating. Impairment of basic cells possible.
²⁾ Time after reaches maximum difference of 0.1 ° to final value.

Molex 6 pin connector

This inclinometer must be mount in a horizontal position (x-y-plane).