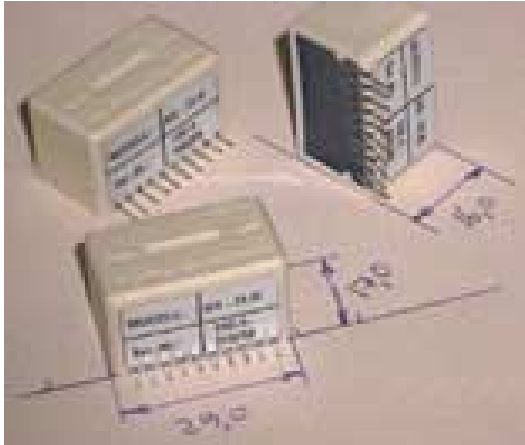


NS-5/E and NS-15/E Inclinometers

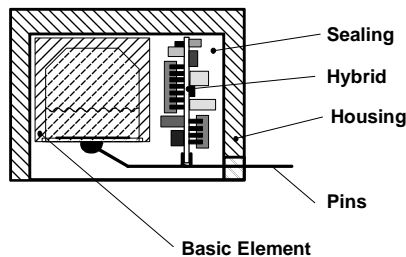


The NS-5/E and NS-15/E inclinometers consist of a single axis tilt sensor integrated with a thick film hybrid circuit for signal processing. Multiple connecting leads are available to support a variety of applications. For example, precision and sensitivity can be improved and zero can be varied by using simple passive components. The sensor element and the hybrid electronics are integrated into a sealed, ceramic package whose bearing surface has been ground flat for easy installation. Because the individual ceramic components have a very low, linear expansion coefficient, the inclinometer exhibits excellent performance and it is not affected adversely by the temperature of the surface that is being measured.

Advantages

- Low Weight
- Suitable for many applications
- Less sensitivity to shocks and vibrations
- Easy to integrate
- Low TC sensitivity

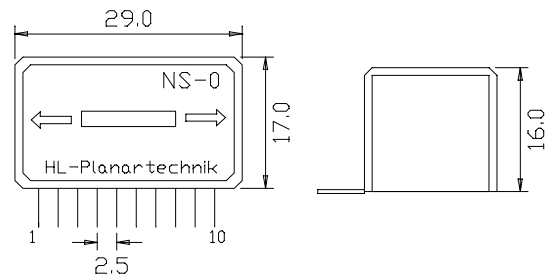
Mounting



Applications

- Zero detection
- Alignment and level control
- Angle measurement

Dimensions



Specifications

Measurement range:	+/- 5°	+/- 15°
Scale factor:		1mV/0,01° +/- 10% (external adjustment is possible with Potentiometer)
Repeatability:		0,02°
Linearization Error:		
Range +/- 5°		< 0,5%
Range +/- 10°		< 1,5%
Symmetry Error:		< 1%
Zero point offset :		< 0,5° (external adjustment is possible with potentiometer)
Response time :		$t_{90} = 3,0s$
Cross axis sensitivity:		< 0,1° to +/- 20°
Temperature coefficient:		
Zero point		< $5 \cdot 10^{-4} \text{ } ^\circ/K$
Sensitivity		< $6,5 \cdot 10^{-3} \text{ } ^\circ/K$
Working temperature:		-25...+85°C
Storage temperature:		-40...+85°C
Weight:		20g
Supply voltage:		+5...24VDC
Current consumption:		ca. 5mA
Output voltage:	+/- 3 V	+/- 1,5 V

Pinout

1 f_{in}	External frequency input possible
2 f_{out}	Frequency output 1Khz Square wave
3 $U_{ref out}$	Referenzvoltage output +1,22 VDC
4 $U_{ref in}$	External reference voltage input possible 0...2,5 VDC
5 $-5V_{out}$	Output voltage , max. 10mA
6 $U_{me\beta out}$	Signal output, $R_L > 10 K\Omega$
7 U_{off}	Offset voltage input
8 $+U_b$	Supply voltage 5...24 VDC
9 GND	GND
10 $+5 VDC_{out}$	Input or output voltage +5 VDC, max. 50mA

HL-Planartechnik GmbH

Hauert 13, D - 44 227 Dortmund, Tel.: +49 (0) 231/97400, Fax.: +49 (0) 231/974020

Internet: <http://www.hlplanar.com> E-Mail: service@hlplanar.de