



Inclinometers of high measuring accuracy for inclination measurement in the ranges of ± 10 , ± 30 and ± 80 degrees with a non-amplified, non-conditioned output signal

Features

- linear output characteristics
- high measurement accuracy
- minimal linearity deviation
- high long-term stability
- hysteresis free output signal
- minimal zero point drift
- integrated sensor electronics
- low power consumption
- different output signal options
- no interference by ambient electromagnetic fields
- shockproof as without moving mechanical parts
- hermetically sealed
- sensor electrically isolated within the housing from point of measurement - no ground connections
- zero point adjustable through 360° using clamping ring

Description

The NG2, NG3 and NG4 are capacitive, liquid based inclinometers with integrated sensor electronics. They are manufactured with an analog DC output. The sensor electronics require only minimal power and are in conjunction with the capacitive primary transformer characterized by high accuracy and high long-term stability.

The measurement technique enables a linear relationship between the angle to be measured and the output signal. The determined angle is independent of the local gravitational acceleration, that means that no matter where the measurement is being taken, whether in Europe, Australia, on Mount Everest or on the moon, the inclination will be measured correctly anywhere.

Application

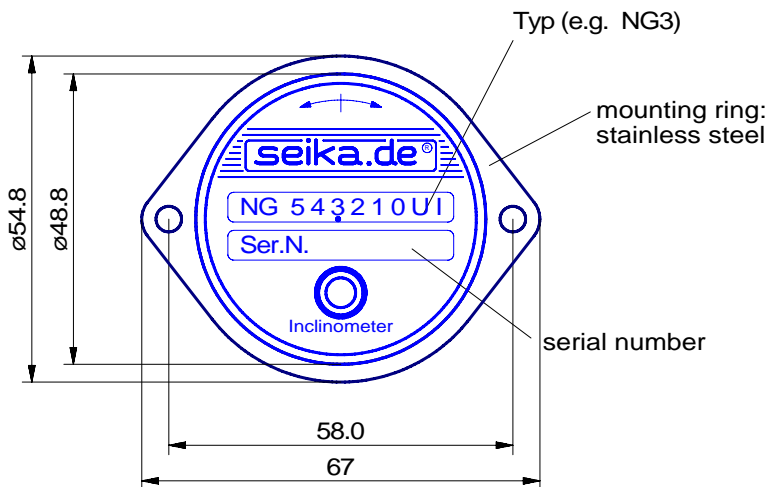
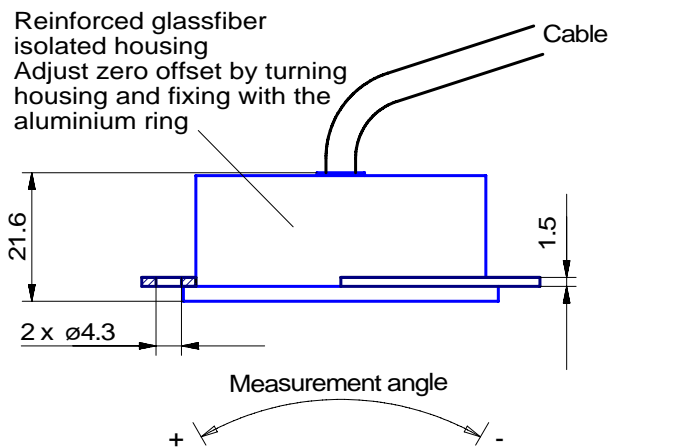
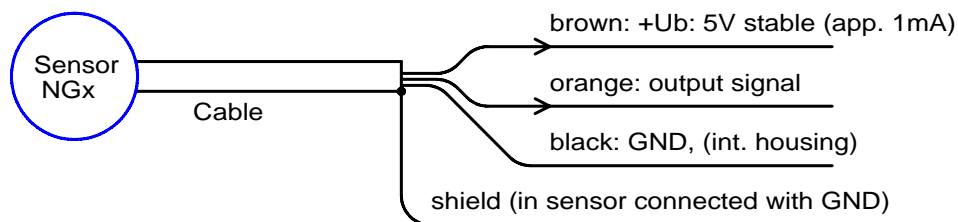
The inclinometers NG2, NG3 and NG4 are suitable for applications requiring high measurement accuracy with low linearity deviations and high long-term stability for measurement of relatively large inclination angles.

Typical areas of application include construction, mining, vehicles, surveying equipment, aircraft, transportation and conveyor systems as well as ships.

Technical Specifications

Typ	NG2	NG3	NG4
Measuring range	±10 degrees	±30 degrees	±80 degrees
Resolution	<0.001 degrees	<0.003 degrees	<0.01 degrees
Linearity deviation	<0.1% of measuring range		
Transverse sensitivity	<0.5% at 45° tilt		
Settling time	approx. 0.3 seconds		
Mechanical overload resistance	10 000 g (approx. 100 000 m/s ²)		
Supply voltage U _{bN} (regulated)	5V		
Permissible supply voltage range U _{bZ}	3V ... 6V		
Current drawn at U _b = 5V	approx. 1mA		
Degree of protection	IP65		
Operating temperature	-40°C ... +85°C		
Storage temperature	-45°C ... +90°C		
Weight (without clamping ring or cable)	approx. 110 grams		
Electrical connection	0.5m shielded cable Ø 4.6mm		
Values for analog DC output at U _{bN} = 5 Volt			
Sensitivity	approx. 10mV/degree	approx. 7mV/degree	approx. 4.5mV/degree
Temperature drift of sensitivity	<-0.12%/K		
Temperature drift of zero point	<0.01mV/K		
Zero offset at U _b =5V	(2.5±0.1)Volt - generally: 0,5U _b ±4%		
Output impedance	10 kOhm		

Dimensions (in mm) and Connections



**Caution! Do not reverse operating voltage polarity!
6 Volts is the maximum supply voltage!**