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Inclination Sensor with voltage interface
1-dimensional 360° - 2-dimensional ±90°
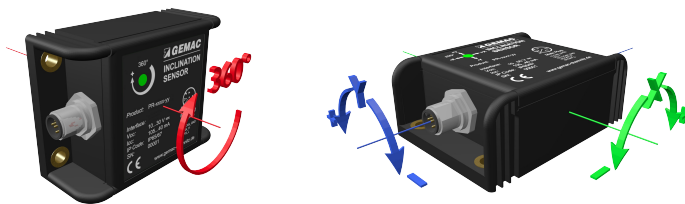
Characteristics:

- Inclination sensor with measurement range: 360°/±90°
- High sampling rate and bandwidth
- High resolution (up to 0.01°) and accuracy (±0.1° typ.)
- Compensated cross sensitivity
- Programmable vibration suppression (digital filter)
- Free programmable voltage interface
- Robust, UV resistant, impact strength plastic housing
- Temperature range: -40 °C to +80 °C
- Degree of protection: IP65/67

Figure similar

The inclination sensor IS1BP360-U-BL is suitable to measure the inclination in the measurement range of 360°. The 2-dimensional inclination sensor IS2BP090-U-BL is suitable to measure the inclination in 2 dimensions (X/Y) in the measurement range of 90°. To ensure a high accuracy, the sensors are calibrated at the factory.
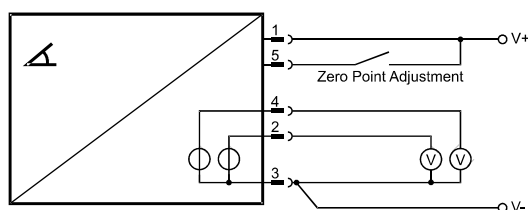
The compact and robust design makes the sensor a suitable angle measurement device in rough surroundings for different applications in industry and automotive technology. A simple setting of all parameters which are stored in the internal permanent memory is possible using the programming adapter ISPA1.

Applications:

- Solar thermal and photo-voltaic systems
- Agricultural and forestry machinery
- Construction machinery
- Crane and hoisting technology

Connection diagram:

Voltage interface

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Technical Data:

General Parameters*	IS1BP360-U-BL			IS2BP090-U-BL		
Measurement range	360°			±90°		
Resolution	0.01°			0.01°		
Accuracy	Range	typical	maximum	Range	typical	maximum
	0 ... 360°	±0.15°	±0.25°	bis ±60°	±0.10°	±0.20°
				bis ±80°	±0.20°	±0.40°
Cross Sensitivity (compensated)	-			typ. ±0.09° (±0.10 %FS)		
				max. ±0.45° (±0.50 %FS)		
Temperature coefficient (zero point)	typ. ±0.01 °/K					
Sampling rate	100 Hz					
Cut-off frequency	typ. 20 Hz, 2nd order (without digital filter) / 0.1 … 25Hz, 8th order (with digital filter)					
Interface						
Voltage interface	freely adjustable output in the range 0...10.48 V (factory default: 0...10 V)					
	freely adjustable angle in the range 0...360° / ±90°					
Functions	Teach input for zero point adjustment when installed					
	Limit value , Axis direction and assignment of the outputs are adjustable					
	Digital filter (critically damped (default) or Butterworth lowpass, 8th order)					
Electrical Parameters						
Supply voltage	16 ... 35 VDC					
Current consumption	35 mA @ 24 V					
Outputs (short-circuit proof)	capacitive load less than 1 µF, resistive load greater than 1 kΩ					
Mechanical Parameters						
Connector	1x sensor connector 5-pole M12 (male)					
Degree of protection, Operating temperature	IP65/67, -40 °C ... +80 °C					
Dimensions / Weight	60 mm x 90 mm x 36 mm / ca. 200 g					
CE conformity to EC Directive 2006/42/EC						
EC Directives						
RL 2004/108/EC	EMC Directive					
RL 2006/95/EC	Low Voltage Directive (LVD)					
Harmonized standards						
DIN EN 50498:2010	EMC - Product family standard for aftermarket electronic equipment in vehicles					
EN 60950-1:2006/A1:2010	Information technology equipment. Safety. General requirements					
EN ISO 14982:2009	Agricultural and forestry machinery - EMC. Test methods and acceptance criteria					
DIN EN 13309:2010	Construction machinery - EMC of machines with internal power supply					

* All indicated angle accuracies are valid after a running time of 10 minutes at 25 °C, Cut-off frequency 0.3 Hz

Ordering Information:

Article Number	Product Type	Description/Distinction	
PR-25550-00	IS1BP360-U-BL	Voltage	1-dimensional, 360°
PR-25554-00	IS2BP090-U-BL	Voltage	2-dimensional, ±90°
PR-23999-02	ISPA1	Starter kit including programming adapter, cables and PC software	