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Sensorik. Messtechnik. ASIC-Design.

Inclination Sensors with current and voltage interface

1-dimensional 360° - 2-dimensional ±90°

Characteristics:

- Inclination sensors with measurement range: 360° / ±90°
- Linearized output, high accuracy
- Compensated cross sensitivity
- Programmable vibration suppression (digital filter)
- Freely programmable current or voltage interface
- Robust, UV resistant, impact strength plastic housing
- Suitable for industrial use



Inclination Sensor (Figure similar)

The 1-dimensional inclination sensors IS1BP360-I-CL and IS1BP360-U-CL are suitable to measure the inclination in the range of 360°. The 2-dimensional inclination sensors IS2BP090-I-CL and IS2BP090-U-CL are suitable to measure the inclination in 2 dimensions (X/Y) in a 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 adjustable parameters is possible using the ISPA1 programming adapter.

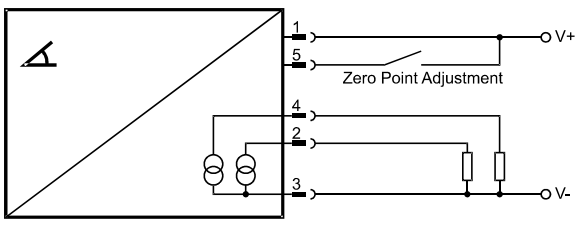
Applications:

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

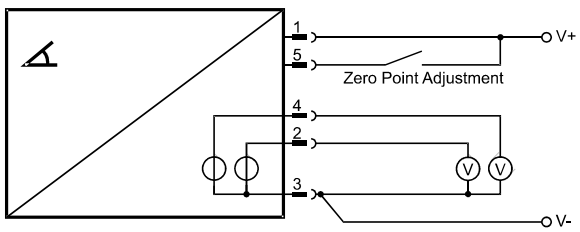




Connection diagrams:



Current output



Voltage output

Technical Data:*

General Parameters*				
Measurement range		360°, ±90°		
Accuracy	IS1BP360-I-CL IS1BP360-U-CL	Range 0 ... 360°	typical ±0.04°	maximum ±0.12°
Accuracy	IS2BP090-I-CL IS2BP090-U-CL	Range up to ±60° up to ±70° up to ±80° up to ±85°	typical ±0.02° ±0.04° ±0.08° ±0.16°	maximum ±0.06° ±0.12° ±0.24° ±0.48°
Cross Sensitivity (compensated)		typ. ±0.10 %,	max. ±0.50 %	
Temperature coefficient (zero point)		Current interface: Voltage interface:	typ. +0.0088 °/K, -0.0102 °/K typ. ±0.0083 °/K	
Cut-off frequency		typ. 20 Hz, 2nd order (without digital filter) / 0.1 … 25 Hz, 8th order (with digital filter)		
Operating temperature		-40 °C to +80 °C		
Characteristics				
Current interface Voltage interface		freely adjustable output in the range 0 … 20.48 mA (factory default: 4 … 20 mA) freely adjustable output in the range -10.48 … 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 (8th order, freely adjustable cut-off frequency from 0.1 up to 25 Hz)		
Electrical Parameters				
Supply voltage		Current interface: Voltage interface:	17 … 35 VDC 10 … 35 VDC	
Current consumption		Current interface: Voltage interface:	40 mA @ 24 V + I_{loop} 55 mA @ 24 V	
Mechanical Parameters				
Connection		Sensor connector 5-pole M12		
Degree of protection		IP65/67		
Dimensions / Weight		66 mm x 90 mm x 36 mm / about 200 g		

* The manual contains a complete description of the technical data (www.gemac-chemnitz.de/en).

Ordering Information:

Article Number	Product Type	Description/Distinction
PR-23450-00	IS1BP360-I-CL	1-dimensional, 360°, current interface
PR-23454-00	IS2BP090-I-CL	2-dimensional, ±90°, current interface
PR-23550-00	IS1BP360-U-CL	1-dimensional, 360°, voltage interface
PR-23554-00	IS2BP090-U-CL	2-dimensional, ±90°, voltage interface
PR-23999-01	ISPA1	Starter kit including programming adapter, cables and PC software

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