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Inclination Sensor with CAN/CANopen Interface

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

Characteristics:

Inclination Sensor (Figure similar)

- Inclination sensor with measurement range: 360°/±90°
- High sampling rate and bandwidth
- High resolution (0.01°) and accuracy (0.05°)
- Compensated cross sensitivity
- Programmable vibration suppression (digital filter)
- Comfortable CAN interface
  - Free adjustable IDs
- Comfortable CANopen interface
  - Meets the CiA DS-301, device profile CiA DSP-410
  - Setting Node ID and baud rate via LSS Service
- Functions:
  - Angle request, cyclical output, synchronized output, output on angle change
  - Configurable cut-off frequency (digital filter)
- Robust, UV resistant, impact strength plastic housing
- Temperature range: -40 °C to +80 °C
- Degree of protection: IP65/67

The 1-dimensional inclination sensors IS1BP360-C-CL and IS1BP360-O-CL are suitable to measure the inclination in the range of 360°. The 2-dimensional inclination sensors IS2BP090-C-CL and IS2BP090-O-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 parameters which are stored in the internal permanent memory is possible via CAN or CANopen interface.

Applications:

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

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*Technical Data:**

General Parameters (@ T_a = 25 °C)				
Resolution		0,01°		
Accuracy	IS1BP360-C-CL	Range	typical	maximum
	IS1BP360-O-CL	0 ... 360°	±0.04°	±0.10°
Accuracy	IS2BP090-C-CL	Range	typical	maximum
	IS2BP090-O-CL	to ±60°	±0.02°	±0.05°
		to ±70°	±0.04°	±0.10°
		to ±80°	±0.08°	±0.20°
		to ±85°	±0.16°	±0.40°
Cross Sensitivity (compensated)		typ. ±0.10 %,	max. ±0.50 %	
Temperature coefficient (zero point)		typ. ±0.008 °/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 ... +80 °C		
Interface				
CAN		CAN 2.0 A and B (11- and 29-Bit-ID) according to ISO 11898-2 Angle request, cyclical and synchronized outputs, parametrization, digital filter		
CANopen		CANopen according CiA DS-301, profile according to CiA DSP-410 TPDO: dynamically mappable (RTR, cyclic, event-controlled, synchronized) SYNC-Consumer, EMCY-Producer, Heartbeat or Nodeguarding / Lifeguarding		
Electrical Parameters				
Supply voltage		8 ... 48 VDC		
Current consumption		<33 mA @ 24 V		
Mechanical Parameters				
Connector CAN/CANopen		2x sensor connector 5-pole M12 (loop through connector)		
Degree of protection		IP65/67		
Dimensions / Weight		66 mm x 90 mm x 36 mm / ca. 215 g		

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

Ordering Information:

Article Number	Product Type	Description/Distinction		
PR-23050-30	IS1BP360-C-CL	CAN,	1-dimensional, 360°,	Plastic housing
PR-23054-30	IS2BP090-C-CL	CAN,	2-dimensional, ±90°,	Plastic housing
PR-23150-30	IS1BP360-O-CL	CANopen,	1-dimensional, 360°,	Plastic housing
PR-23154-30	IS2BP090-O-CL	CANopen,	2-dimensional, ±90°,	Plastic housing
PR-23999-01	ISPA1	Starter kit including programming adapter, cables and PC software		