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Inclination Sensor with CAN/CANopen Interface

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

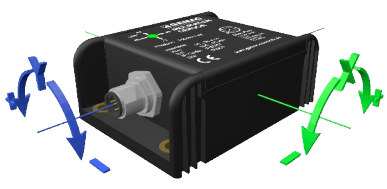
Characteristics:

Figure similar

- inclination sensor with measurement range: 360°/±90°
- High sampling rate and bandwidth
- High resolution (0.01°) and accuracy (0.05°)
- Compensated temperature coefficient for metal housing (10x improved temperature coefficient to plastic housing)
- 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)
- Metal housing with stainless steel base plate or UV resistant, impact strength plastic housing
- Temperature range: -40 °C to +80 °C
- Degree of protection: IP65/67

The inclination sensor IS1D 00 P20 is suitable to measure the inclination in the measurement range of 360°. The 2-dimensional inclination sensor IS2D 90 P20 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 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					
Resolution		0,01°			
Accuracy	IS1D 00 P20 IS1D 00 P21	Range 0 ... 360°	typical ±0,04°	maximum ±0,10°	
Accuracy	IS2D 90 P20 IS2D 90 P21	Range bis ±60° bis ±70° bis ±80° bis ±85°	typical ±0,02° ±0,04° ±0,08° ±0,16°	maximum ±0,05° ±0,10° ±0,20° ±0,40°	
Cross Sensitivity (compensated)		typ. ±0,10 %,	max. ±0,50 %		
Temperature coefficient (zero point)		Metal housing: Plastic housing:	typ. ±0,0008 °/K typ. ±0,0080 °/K		(typ. < ±0.10° over range -40 °C ... +80 °C)
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		Metal housing: Plastic housing:	<200 mA @ 24 V <33 mA @ 24 V		(P_{Peak} ≤4,8 W)
Mechanical Parameters					
Connector CAN/CANopen		2x sensor connector 5-pole M12 (loop through connector)			
Degree of protection		IP65/67			
Dimensions / Weight		Metal housing: Plastic housing:	82 mm x82 mm x 25 mm / ca. 310 g 66 mm x 90 mm x 36 mm / ca. 215 g		

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

Ordering Information:

Article Number	Product Type	Description/Distinction		
PR-23050-30	IS1D 00 P20	CAN,	1-dimensional, 360°,	Plastic housing
PR-23054-30	IS2D 90 P20	CAN,	2-dimensional, ±90°,	Plastic housing
PR-23020-30	IS1D 00 P20	CAN,	1-dimensional, 360°,	Metal housing
PR-23024-30	IS2D 90 P20	CAN,	2-dimensional, ±90°,	Metal housing
PR-23150-30	IS1D 00 P21	CANopen	1-dimensional, 360°,	Plastic housing
PR-23154-30	IS2D 90 P21	CANopen:	2-dimensional, ±90°,	Plastic housing
PR-23120-30	IS1D 00 P21	CANopen:	1-dimensional, 360°,	Metal housing
PR-23124-30	IS2D 90 P21	CANopen:	2-dimensional, ±90°,	Metal housing
PR-23999-01	ISPA1	Starter kit including programming adapter, cables and PC software		