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Inclination Sensor with CAN/CANopen Interface

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

Characteristics:

Figure similar

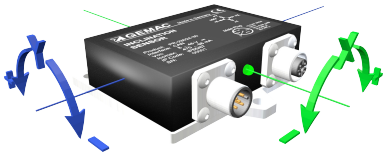
- Inclination sensor with measurement range: 360°/±90°
- High sampling rate and bandwidth
- High resolution (0.01°) and accuracy (0.05°)
- Compensated temperature coefficient
  (10x improved temperature coefficient to classicLINE)
- Compensated cross sensitivity
- Programmable vibration suppression (digital 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
- Temperature range: -40 °C to +80 °C
- Degree of protection: IP65/67

The 1-dimensional inclination sensors IS1TK360-C-RL and IS1TK360-O-RL are suitable for inclination measurements in the range of 360°. The 2-axis inclination sensors IS2TK360-C-RL and IS2TK360-O-RL 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)	IS1TK360-C-RL / IS1TK360-O-RL	IS2TK090-C-RL / IS2TK090-O-RL
Range	360°	±90°
Resolution	0.01°	0.01°
Accuracy	Range 0 ... 360° typical ±0.04° maximum ±0.10°	Range to ±60° typical ±0.02° maximum ±0.05° to ±70° typical ±0.04° maximum ±0.10° to ±80° typical ±0.08° maximum ±0.20° to ±85° typical ±0.16° maximum ±0.40°
Cross Sensitivity (compensated)	-	typ. ±0.09° (±0.10 %FS) max. ±0.45° (±0.50 %FS)
Temperature coefficient (zero point)	typ. ±0.0008 °/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	<200 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	82 mm x 82 mm x 25 mm / ca. 310 g	

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

Ordering Information:

Article Number	Product Type	Description/Distinction
PR-23020-30	IS1TK360-C-RL	CAN, 1-dimensional, 360°, Metal housing
PR-23024-30	IS2TK090-C-RL	CAN, 2-dimensional, ±90°, Metal housing
PR-23120-30	IS1TK360-O-RL	CANopen, 1-dimensional, 360°, Metal housing
PR-23124-30	IS2TK090-O-RL	CANopen, 2-dimensional, ±90°, Metal housing
PR-23999-02	ISPA1	Starter kit including programming adapter, cables and PC software