

Inclination Sensor with CAN/CANopen Interface

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

Characteristics:

- 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



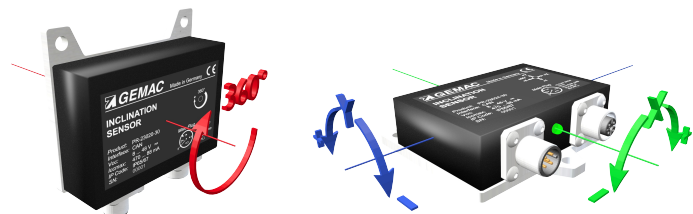
Figure similar

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



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	typical	maximum	Range	typical	maximum
		0 ... 360°	±0.04°	±0.10°	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. ±0.09° (±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, 2 nd order (without digital filter) / 0.1 ... 25 Hz, 8 th 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 manual 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		