PRELIMINARY

Inclination Sensor with CAN Interface

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

Characteristics:

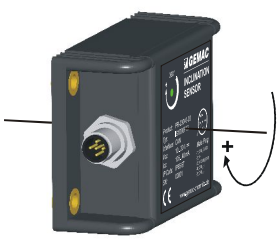
Figure similar

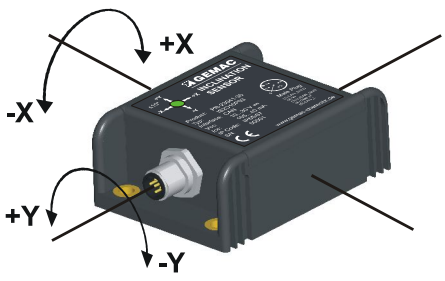
- 1-dim. inclination sensor with measurement range: 360°
- 2-dim. inclination sensor with measurement range:±90° (X/Y)
- High sampling rate and bandwidth, high resolution and accuracy
- Compensated cross sensitivity
- Programmable vibration suppression
- Comfortable CAN-Bus-interface
  - Free adjustable IDs
  - Baud rates from 10 kBit/s to 1 MBit/s
  - Automatic baud rate detection
- Functions:
  - Angle request, cyclical output, synchronized outputs
  - Configurable cut-off frequency (digital filter)
- Robust, high impact plastic housing
- Suitable for industrial use:
  - 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 bus interface.

Applications:





- Solar thermal and photo-voltaic systems
- Agricultural and forestry machines
- Utility vehicles
- Crane and hoisting technology

GEMAC - Gesellschaft für Mikroelektronikanwendung Chemnitz mbH
Zwickauer Straße 227 D-09116 Chemnitz
Telefon: +49 371 3377-0 Telefax: +49 371 3377-272
E-Mail: info@gemac-chemnitz.de www.gemac-chemnitz.de

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PRELIMINARY

Technical Data:*

General Parameters**	
Measurement range	360°, ±90°
Resolution	0.01°
Nonlinearity (Type: IS1D 00 P20)	typ. ±0.05°, max ±0.10°
Nonlinearity (Type: IS2D 90 P20)	typ. ±0.02° (up to ±70°) typ. ±0.05° (up to ±80°) max. ±0.10° (up to ±80°)
Cross Sensitivity*** (compensated)	typ. ±0,.0 %, max. ±0.50 %
Temperature coefficient (zero point)	typ. ±0.008 °/K
Sampling rate	80 Hz
Critical frequency	typ. 20 Hz, 2nd order (without digital filter) / 0.3 ... 25 Hz, 8th order (with digital filter)
Operating temperature	-40 °C to +80 °C
Characteristics	
Interface	CAN 2.0 A and B (11- und 29-Bit-ID) according to ISO 11898-2
Data rates	10 k, 20 k, 50 k, 62.5 k, 100 k, 125 k, 250 k, 500 k, 800 k Bit/s, 1 MBit/s automatic detection
Functions	Angle request, cyclical and synchronized outputs, parametrization, digital filter (Butterworth lowpass, 8th order), configuration via CAN
Electrical Parameters	
Supply voltage	10 to 48 V DC
Current consumption	75 mA to 20 mA
Mechanical Parameters	
Connector CAN	2x sensor connector 5-pole M12 (loop through connector)
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).

** All indicated angle accuracies are valid after a running time of 10 minutes.
absolute calibration accuracy (at 25 °C): ±0.01°

*** type only: IS2D 90 P20

Ordering Information:

Article Number	Product Type	Description/Distinction
PR-23050-30	IS1D 00 P20	plastic housing, 1-dimensional, 360°, CANopen interface, with second CAN connector
PR-23054-30	IS2D 90 P20	plastic housing, 2-dimensional, ±90°, CANopen interface, with second CAN connector
PR-23999-00	ISPA1	Starter kit consisting of programming adapters and PC software