2D-Inclination Sensors with CAN & Switching Outputs

GEMAC

IS2D xx P03 / P04

Characteristics:

Figure similarly

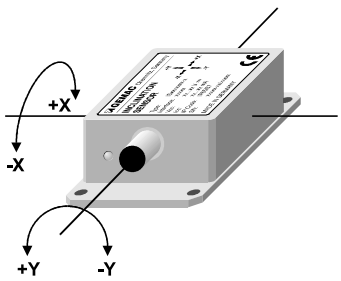
- **2-dimensional inclination sensors with measurement range: ±10° / ±45° / ±60° (depending on type)**
- **High resolution and accuracy**
- **Comfortable CAN bus interface**
  - Freely selectable IDs
  - Baud rates from 10 kBit/s to 1 MBit/s
- **High sampling rate and bandwidth**
- **Programmable vibration suppression**
- **Functions:**
  - Angle request and cyclical output
  - Comfortable setting of parameters
  - Configurable cut-off frequency (digital filter)
- **Four freely configurable, potential-free switching outputs** (type IS2D xx P04 only)
- **Robust, simply mountable aluminium housing**
- **Suitable for industrial use:**
  - Temperature range: -40 °C to +80 °C
  - Degree of protection: IP65/67

Sensors

The 2-dimensional inclination sensors IS2D xx P03 / P04 enable, according to the type, the measurement of inclinations in the ranges ±10°, ±45° or ±60°. To guarantee a high accuracy the zero point and full-scale readings are calibrated factory-made at 25°C. The adaption to an individual measurement range is possible on request.

The inclination sensor IS2D xx P04 includes four freely configurable, potential-free switching outputs and can also be used as transducer in control systems without connection to the CAN bus.

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 by the CAN bus interface.



Applications:

- **Industry automation**
- **Agricultural and forestry machines**
- **Utility vehicles**
- **Crane and hoisting technology**

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Sensorik. Messtechnik. ASIC-Design.

Technical Data*:

General Parameters	
Measurement axes	2 (X/Y)
Measurement ranges	±10° / ±45° / ±60°
Resolution	0.05° / 0.1° / 0.1°
Calibration accuracy (at 25° C)	±0.1° (zero point and accumulated value)
Nonlinearity	max. ±0.2° / ±0.3° / ±0.4°
Temperature range (zero point)	typ. ±0.008 °/K
Cut-Off frequency	typ. 20 Hz, 2nd order (without digital filter) / 0.3 ... 25 Hz, 8th ord.(with digital filter)
Operating temperature	-40 °C to +80 °C
Characteristics	
Interface	CAN 2.0 A and B (11 and 29 Bit ID) according to ISO 11898-2
Data rates	10k, 20k, 50k, 62,5k, 100k, 125k, 250k, 500k, 800k Bit/s, 1 MBit/s
Functions	angle request, cyclical output, setting of parameters, digital filter (butterworth lowpass , 8th order), information in case of threshold overstepping, output of the device's internal temperature (±2.0 K accuracy), configuration via CAN
Four switching outputs**	PhotoMOS relais, synchronically switched, freely configurable
Electrical Parameters	
Supply voltage	10 to 30 V DC
Current consumption (IS2D xx P03 / P04)	105 mA to 40 mA / 150 mA to 60 mA
Capacity of the switching outputs**	0.5 A, max. 30 V DC, short-circuit-proof
Mechanical Parameters	
Connector CAN	sensor connector 5-pole (M12)
Connector switching outputs**	sensor connector 8-pole (M12)
Degree of protection	IP65/67
Shock survival	max. 3,500 g
Dimensions / Mass	58 mm x 90 mm x 31 mm / about 160 g

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

** type IS2D xx P04 only

Ordering Information:

Article Number	Product Type	Description/Distinction
PR-23001-01	IS2D 10 P03	2-dimensional, ±10°, CAN bus interface
PR-23002-01	IS2D 45 P03	2-dimensional, ±45°, CAN bus interface
PR-23003-01	IS2D 60 P03	2-dimensional, ±60°, CAN bus interface
PR-23012-01	IS2D 60 P03	2-dimensional, ±60°, CAN bus interface, with second CAN connection
PR-23013-01	IS2D 10 P03	2-dimensional, ±10°, CAN bus interface, with second CAN connection
PR-23200-01	IS2D 10 P04	2-dimensional, ±10°, CAN bus interface, with four switching outputs
PR-23201-01	IS2D 45 P04	2-dimensional, ±45°, CAN bus interface, with four switching outputs
PR-23202-01	IS2D 60 P04	2-dimensional, ±60°, CAN bus interface, with four switching outputs