

IS2D xx P03 / P04

Characteristics:

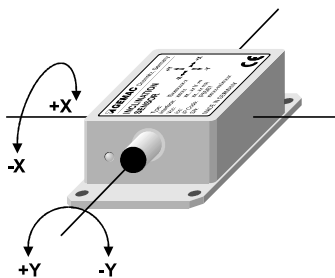
- 2-dimensional inclination sensors with measurement range: $\pm 10^\circ$ / $\pm 45^\circ$ / $\pm 60^\circ$ (depending on type)
- High resolution and accuracy
- Comfortable CAN Bus interface
 - Freely selectable IDs
 - Baud rates from 10 kBit/s to 1 MBit/s
- Functions:
 - Angle request and cyclical output
 - Comfortable setting of parameters
 - Configurable floating averaging
- 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 $+80^\circ\text{C}$
 - Degree of protection: IP65/67



The 2-dimensional inclination sensors IS2D xx P03 / P04 enable, according to the type, the measurement of inclinations in the ranges $\pm 10^\circ$, $\pm 45^\circ$ or $\pm 60^\circ$. 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

Technical Data*:

General Parameters	
Measurement axes	2 (X/Y)
Measurement ranges	$\pm 10^\circ / \pm 45^\circ / \pm 60^\circ$
Resolution	$0.05^\circ / 0.1^\circ / 0.1^\circ$
Calibration accuracy (at 25° C)	$\pm 0.1^\circ$ (zero point and accumulated value)
Nonlinearity	max. $\pm 0.2^\circ / \pm 0.3^\circ / \pm 0.4^\circ$
Temperature coefficient (zero point)	max. $\pm 0.0072^\circ/\text{K} / \pm 0.0056^\circ/\text{K} / \pm 0.0056^\circ/\text{K}$
Critical frequency	typ. 2.6 Hz (without averaging)
Sampling rate	7.5 s^{-1}
Operating temperature	-40°C to $+80^\circ\text{C}$
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, floating averaging, information in case of threshold overstepping, output of the device's internal temperature ($\pm 2.0 \text{ K}$ accuracy), configuration via CAN
Four switching outputs**	PhotoMOS relays, 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	58 mm x 90 mm x 31 mm
Mass	about 200 g

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

** type IS2D xx P04 only

Ordering Information:

Type	Description/Distinction	Article Number
IS2D 10 P03	2-dimensional, $\pm 10^\circ$, CAN-Bus interface	PR-23001-00
IS2D 45 P03	2-dimensional, $\pm 45^\circ$, CAN-Bus interface	PR-23002-00
IS2D 60 P03	2-dimensional, $\pm 60^\circ$, CAN-Bus interface	PR-23003-00
IS2D 10 P04	2-dimensional, $\pm 10^\circ$, CAN-Bus interface, with four switching outputs	PR-23200-00
IS2D 45 P04	2-dimensional, $\pm 45^\circ$, CAN-Bus interface, with four switching outputs	PR-23201-00
IS2D 60 P04	2-dimensional, $\pm 60^\circ$, CAN-Bus interface, with four switching outputs	PR-23202-00

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