

# 360°-Inclination Sensor with CAN & Switching Outputs

## IS1D 00 P13 / P14

### Characteristics:

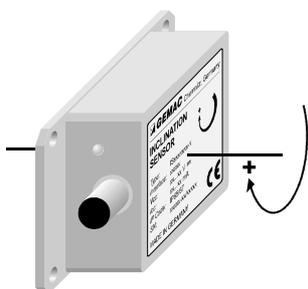
- **1-dimensional 360°-inclination sensor**
- **High resolution and accuracy**
- **Comfortable CAN Bus interface**
  - Freely selectable IDs
  - Baud rates from 10 kBit/s to 1 MBit/s
- **Functions:**
  - Angle request and cyclical output
  - Comfortable setting of parameters
  - Configurable floating averaging
- **Four freely configurable, potential-free switching outputs** (type IS1D 00 P14 only)
- **Robust, simply mountable aluminium housing**
- **Suitable for industrial use:**
  - Temperature range: -40 °C to +80 °C
  - Degree of protection: IP65/67



The 1-dimensional inclination sensors IS1D 00 P13 / P14 enable the measurement of inclinations resp. rotation angles relating to a horizontal rotation axis over an angle range of 360°. To guarantee a high accuracy each sensor is calibrated factory-made at 25 °C.

The inclination sensor IS1D 00 P14 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	1
Measurement range	360° (no limit stop)
Resolution	0.01°
Calibration accuracy (at 25° C)	±0.1°
Nonlinearity	max. ±0.2°
Temperature coefficient	typ. ±0.008 °/K
Allowed slant	max. ±3°
Critical frequency	typ. 2.6 Hz (without averaging)
Sampling rate	15 s <sup>-1</sup>
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, floating averaging, information in case of threshold overstepping, output of the device's internal temperature (±2.0 K accuracy), configuration via CAN
Four switching outputs**	PhotoMOS relays, synchronically switching, freely configurable
Electrical Parameters	
Supply voltage	10 to 30 V DCC
Current consumption (IS1D 00 P13 / P14)	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**	sensors 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](http://www.gemac-chemnitz.de)).

\*\* type IS1D 00 P14 only

## Ordering Information:

Type	Description/Distinction	Article Number
IS1D 00 P13	1-dimensional, 360°, CAN Bus interface	PR-23000-00
IS1D 00 P14	1-dimensional, 360°, CAN Bus interface, with four switching outputs	PR-23203-00