

1D/2D Inclination Sensors with Current-Loop Interface Preliminary



IS1A xx P58 / IS2A xx P58

Characteristics:

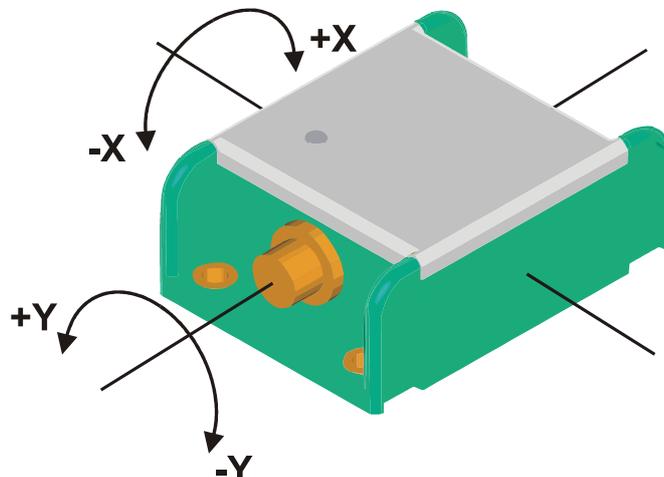
- 1- and 2-dimensional inclination sensors with measurement range: $\pm 10^\circ$ / $\pm 45^\circ$ / $\pm 60^\circ$ additional switching outputs on request
- LED- Zero-Position- Signalisation and Setting on request
- 4mA ... 20 mA current interface with M12 5-pin Sensor-Actor connector (customer specific possible)
- Robust, simply mountable plastic housing
- Suitable for industrial and motive use:
 - Temperature range: -40°C to $+80^\circ\text{C}$
 - Degree of protection: IP65/67



The inclination sensor IS1A xx P58 enables, depending on type, the one-channel measurement of inclinations in the ranges $\pm 10^\circ$, $\pm 45^\circ$ or $\pm 60^\circ$. The inclination sensor IS2A xx P58 includes two channels. The full-scale readings are calibrated factory-made at 25°C . The compact and robust design makes the sensor a suitable angle measurement device in rough environments for different applications in industry and automotive technology.

Applications:

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

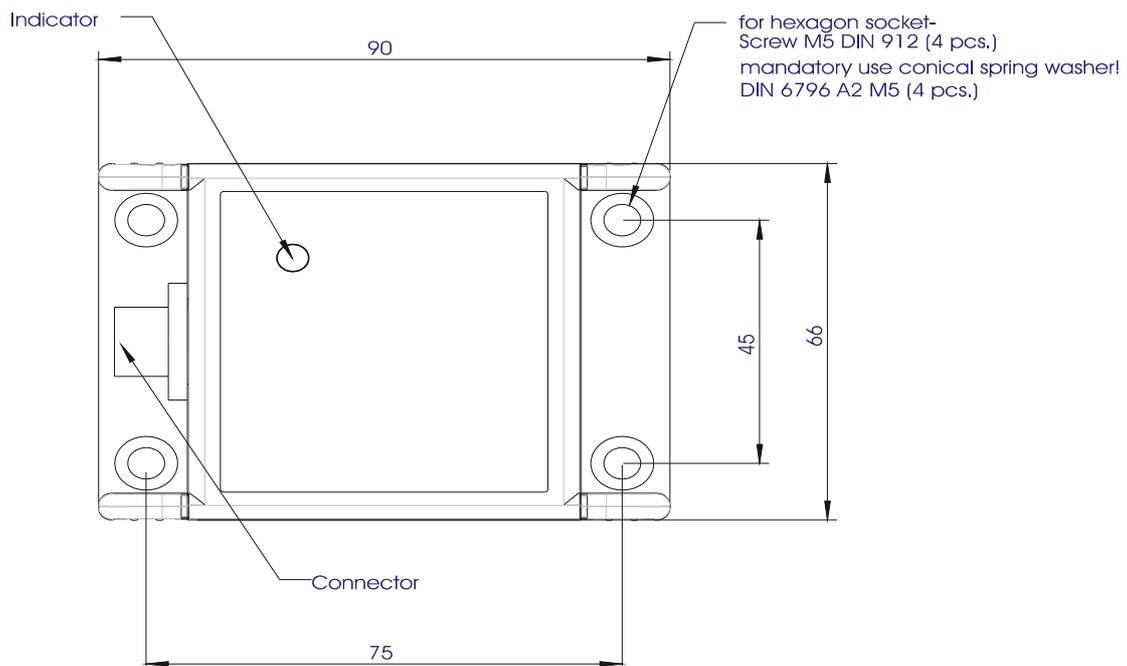




Technical Data:

General Parameters	
Measurement axes	1 axis (IS1A xx P58), 2 axes (IS2A xx P58)
Measurement ranges	$\pm 10^\circ$ / $\pm 45^\circ$ / $\pm 60^\circ$ (on request limit-signalisation with LED or additional outputs)
Resolution (at zero point)	0,01° / 0,05° / 0,08°
Calibration accuracy (at 25° C)	$\pm 0,3^\circ$ / $\pm 0,5^\circ$ / $\pm 0,8^\circ$ (zero point and accumulated values)
Nonlinearity (sine)	Max. $\pm 0,2^\circ$ / $\pm 0,3^\circ$ / $\pm 1^\circ$
Temperature coefficient (zero point)	Max. ± 0.03 °/K
Cross Sensitivity	Max. 5%
Critical frequency	typ. 18 Hz (other cut-off frequencies upon request)
Operating temperature	-40 °C to +80 °C
Characteristics	
Interface	current loop 4 mA ... 20 mA ; max. permitted Burde-Resistor @ 11V = 250 Ohm
Electrical Parameters	
Supply voltage	11 V DC to 30 V DC
Current consumption	Max 60 mA
Mechanical Parameter	
Connector	5- pole M12 Sensor- Actor- male connector, IEC 61076-2-101, IEC 60947-2
Mounting	use 4 x hexagonsocket screw M5 DIN 912; mandatory use 4x conical spring washer M5 DIN 6796 A2
Degree of protection	IP65/67 min.locking torque 0,9 Nm
Shock survival	Max. 3,500 g
Dimensions	66 mm x 90 mm x 36 mm
Mass	about 200 g

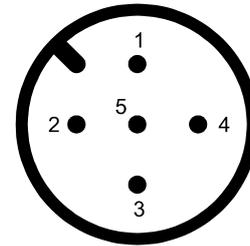
Dimensioned Drawing:



Dimensions in mm

Plug Connector Allocation:

Pin	Allocation
1	Supply voltage (V+)
2	Sensor signal Y-axis (Y-OUT)
3	GND-Supply (V- / GND)
4	Sensor signal Y-axis (X-OUT)
5	Signal-GND (GND-SENS)



(View from the outside)

Ordering Information:

Type	Description/Distinction	Article Number
IS1A 10 P58	1-dimensional, $\pm 10^\circ$, 4 mA ... 20 mA	PR-24041-00
IS1A 45 P58	1-dimensional, $\pm 45^\circ$, 4 mA ... 20 mA	PR-24042-00
IS1A 60 P58	1-dimensional, $\pm 60^\circ$, 4 mA ... 20 mA	PR-24043-00
IS2A 10 P58	2-dimensional, $\pm 10^\circ$, 4 mA ... 20 mA	PR-24241-00
IS2A 45 P58	2-dimensional, $\pm 45^\circ$, 4 mA ... 20 mA	PR-24242-00
IS2A 60 P58	2-dimensional, $\pm 60^\circ$, 4 mA ... 20 mA	PR-24243-00