

1D- / 2D- Inclination Sensors with Voltage Interface

IS1A xx P20 / IS2A xx P20

Characteristics:

- 1- and 2-dimensional inclination sensors with measurement range: $\pm 10^\circ$ / $\pm 45^\circ$ / $\pm 60^\circ$ (depending on type)
- High resolution and accuracy
- 0...10 V voltage interface
- Robust, simply mountable aluminium housing
- Suitable for industrial use:
 - Temperature range: -40°C to $+80^\circ\text{C}$
 - Degree of protection: IP65/67

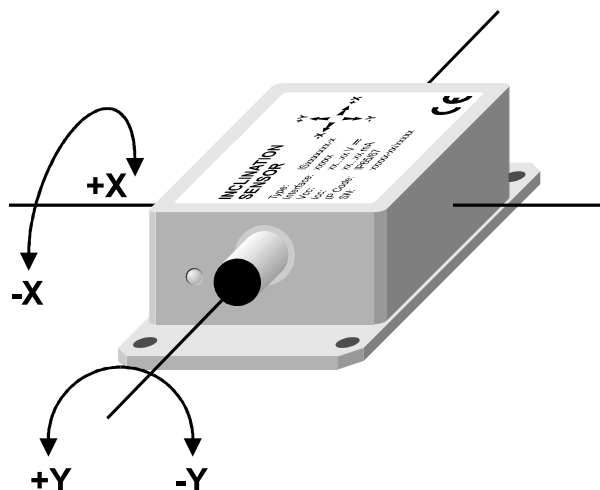


The inclination sensor IS1A xx P20 enables, depending on type, the one-channel measurement of inclinations in the ranges $\pm 10^\circ$, $\pm 45^\circ$ or $\pm 60^\circ$. The inclination sensor IS2A xx P20 includes two channels. The full-scale readings are calibrated factory-made at 25°C .

The compact and robust design makes the sensor a suitable angle measurement device in rough surroundings for different applications in industry and automotive technology.

Applications:

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

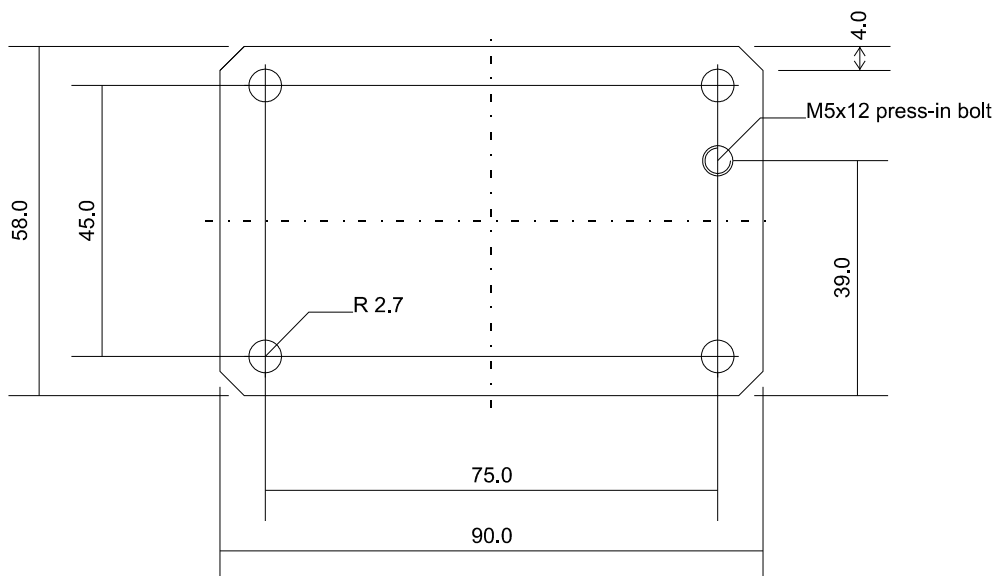


Technical Data:

| General Parameters | |
|--------------------------------------|---|
| Measurement axes | 1 axis (IS1A xx P20), 2 axes (IS2A xx P20) |
| Measurement ranges | $\pm 10^\circ / \pm 45^\circ / \pm 60^\circ$ |
| Resolution (at zero point) | $0.01^\circ / 0.05^\circ / 0.05^\circ$ |
| Calibration accuracy (at 25° C) | $\pm 0.3^\circ / \pm 0.5^\circ / \pm 0.5^\circ$ (zero point and accumulated values) |
| Nonlinearity (sine) | Max. $\pm 0.2^\circ / \pm 0.3^\circ / \pm 0.4^\circ$ |
| Temperature coefficient (zero point) | Max. $\pm 0.009^\circ/\text{K} / \pm 0.009^\circ/\text{K} / \pm 0.009^\circ/\text{K}$ |
| Critical frequency | typ. 18 Hz |
| Operating temperature | -40 °C to +80 °C |
| Characteristics | |
| Interface | voltage output 0...10 V |
| Electrical Parameters | |
| Supply voltage | 15 V DC to 30 V DC |
| Current consumption | 23 mA to 33 mA |
| Mechanical Parameter | |
| Connector | sensor connector 5-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 |

Dimensioned Drawing:

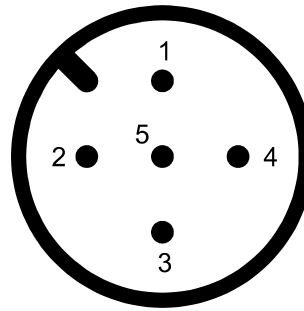
The four bores for fixing the sensors are situated in the basic plate of the inclination sensor. The additional M5 press-in bolt is used as mass-connector.



Dimensions in mm

Plug Connector Allocation:

| Pin | Allocation |
|-----|---------------------------------------|
| 1 | Supply voltage |
| 2 | Sensor signal Y-axis |
| 3 | GND |
| 4 | Sensor signal X-axis |
| 5 | Reference potential for sensor signal |



(View from the outside)

Ordering Information:

| Type | Description/Distinction | Article Number |
|-------------|--|----------------|
| IS1A 10 P20 | 1-dimensional, $\pm 10^\circ$, 0...10 V | PR-24100-00 |
| IS1A 45 P20 | 1-dimensional, $\pm 45^\circ$, 0...10 V | PR-24101-00 |
| IS1A 60 P20 | 1-dimensional, $\pm 60^\circ$, 0...10 V | PR-24102-00 |
| IS2A 10 P20 | 2-dimensional, $\pm 10^\circ$, 0...10 V | PR-24300-00 |
| IS2A 45 P20 | 2-dimensional, $\pm 45^\circ$, 0...10 V | PR-24301-00 |
| IS2A 60 P20 | 2-dimensional, $\pm 60^\circ$, 0...10 V | PR-24302-00 |