

## 2D- Inclination Sensor with Current Loop or Voltage interface (extra small plastic housing)

**IS2XP0xx-I-EL / IS2XP0xx-U-EL**

### Characteristics:

- 2- dimensional inclination sensor with measurement range:  
 $\pm 10^\circ$ ,  $\pm 45^\circ$ ,  $\pm 60^\circ$
- Current loop interface: 4 mA ... 20 mA (z: I)
- Voltage interface: 0 V ... 10 V (z: U)
- Robust, simply mountable ABS-housing
- Suitable for industrial use:
  - Temperature range:  $-40^\circ\text{C}$  ...  $+80^\circ\text{C}$
  - Degree of protection: IP65/67



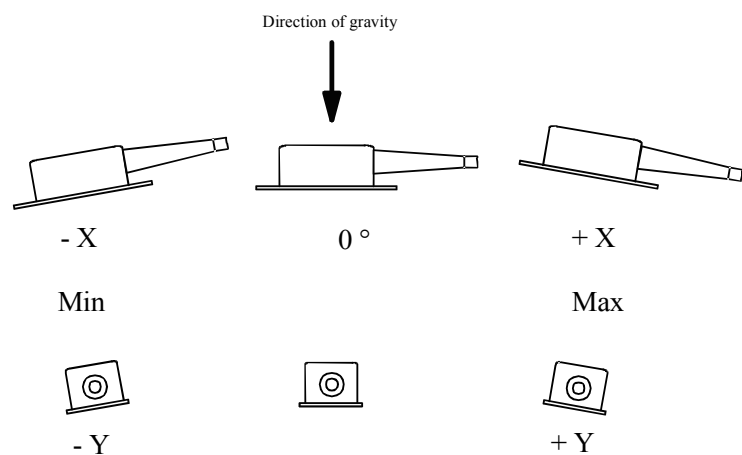
Inclination Sensor - ABS-housing (Figure similar)

The inclination sensor ISXP0xx-z-EL is available with a current loop or voltage interface. It enables the two-channel measurement of inclinations in the angle range (xx) of  $\pm 10^\circ$ ,  $\pm 45^\circ$  and  $\pm 60^\circ$ . The full-scale readings are factory calibrated at  $25^\circ\text{C}$ .

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:

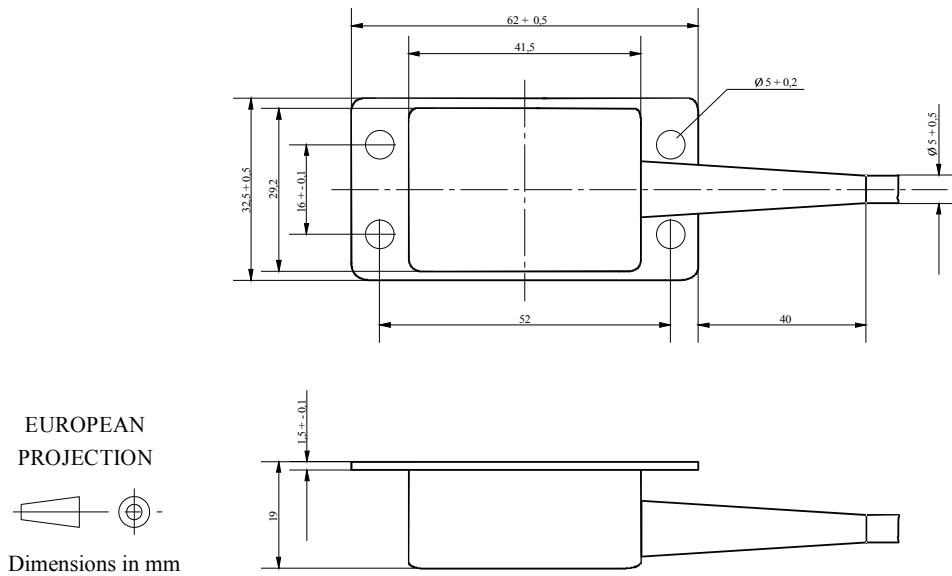
- Agricultural and forestry machines
- Solar tracking systems
- Utility vehicles
- Crane and hoisting technology
- Industrial automation



**Technical Data:**

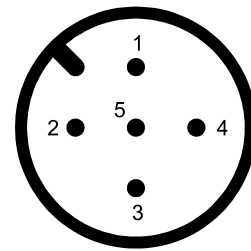
General Parameters Ta = 25 °C		
	Current loop interface	Voltage interface
Measurement axes	2 axes	
Measurement range	±10°	±45°      ±60°
Resolution (at zero point)	0.01°	0.05°      0.06°
Angle Tolerances, max. (in measurement range)	±0.15°	±0.30°      ±0.50°
Temperature coefficient (zero point)	max. ±0.009 °/K (reference @ 25 °C)	
Cut-off frequency	typ. 18 Hz (other values on request)	
Operating temperature	-40 °C ... +80 °C	
Characteristics		
Interface	4 mA ... 20 mA ; max. permitted burden-resistor @ 11 V = 250 Ohm	0 V ... 10 V on request 0.5 V ... 4.5 V
Calculation formula Angle value [°]	$\arcsin \left[ \left( \frac{I_{\text{meas}} - 12 \text{ mA}}{8 \text{ mA}} \right) * \sin \text{range value} \right]$	$\arcsin \left[ \left( \frac{U_{\text{meas}} - 5 \text{ V}}{5 \text{ V}} \right) * \sin \text{range value} \right]$
Electrical Parameters		
Supply voltage	11 V DC ... 30 V DC	
Current consumption	15 mA ... 45 mA	15 mA ... 25 mA
Mechanical Parameters		
Connector	0.2 m PUR-cable 5 x 0.34 mm <sup>2</sup> with 5-pole M12 sensor- actor- male connector, IEC 61076-2-101, IEC 60947-2	
Degree of protection	IP65/67 min. locking torque 0.9 Nm	
Shock survival	max. 20 000 g	
Dimensions	65 mm x 35 mm x 20 mm	
Mass	about 55 g incl. cable	

## Dimensioned Drawing:



## Plug Connector Allocation:

Pin	Wire colors	Allocation
1	brown	Supply voltage
2	white	Sensor signal Y-Axis (Y-OUT)
3	blue	GND-supply (V- / GND)
4	black	Sensor signal X-Axis (X-OUT)
5	green/yellow	Signal-GND (internally connected to GND)



(View from the outside)

## Ordering Information:

Product	Parameters	Connection / Cable	Article Number
<b>Current loop interface</b>			
IS2XP010-I-EL	2-dimensional, $\pm 10^\circ$ , 4 mA ... 20 mA	0.2 m PUR-cable, 5 pole M12 sensor- actor- male connector	PR-24231-00
IS2XP045-I-EL	2-dimensional, $\pm 45^\circ$ , 4 mA ... 20 mA	0.2 m PUR-cable, 5 pole M12 sensor- actor- male connector	PR-24232-00
IS2XP060-I-EL	2-dimensional, $\pm 60^\circ$ , 4 mA ... 20 mA	0.2 m PUR-cable, 5 pole M12 sensor- actor- male connector	PR-24233-00
<b>Voltage interface</b>			
IS2XP010-U-EL	2-dimensional, $\pm 10^\circ$ , 0 V ... 10 V	0.2 m PUR-cable, 5 pole M12 sensor- actor- male connector	PR-24331-00
IS2XP045-U-EL	2-dimensional, $\pm 45^\circ$ , 0 V ... 10 V	0.2 m PUR-cable, 5 pole M12 sensor- actor- male connector	PR-24332-00
IS2XP060-U-EL	2-dimensional, $\pm 60^\circ$ , 0 V ... 10 V	0.2 m PUR-cable, 5 pole M12 sensor- actor- male connector	PR-24333-00