

# Inclination sensor

## 0 ... 360°

### Model N1101



WIKA data sheet FO 59.01

## Applications

- Crane systems
- Mobile machines
- Aerial platforms
- Solar collectors

## Special features

- Measuring range 0 ... 360°
- Relative linearity error < 0.1 % of FS over the entire measuring range
- Good damping behaviour, no influence due to gravity
- Resistant to seawater, IP67
- Easy retrofitting

## Description

Inclination sensors detect the orientation angle of an object in relation to the gravitational field of the earth. The fields of application for these sensors are diverse. In cranes or excavators, the inclination angle of the booms is measured to calculate whether the machine stays within the safety regulations specified by the manufacturer.



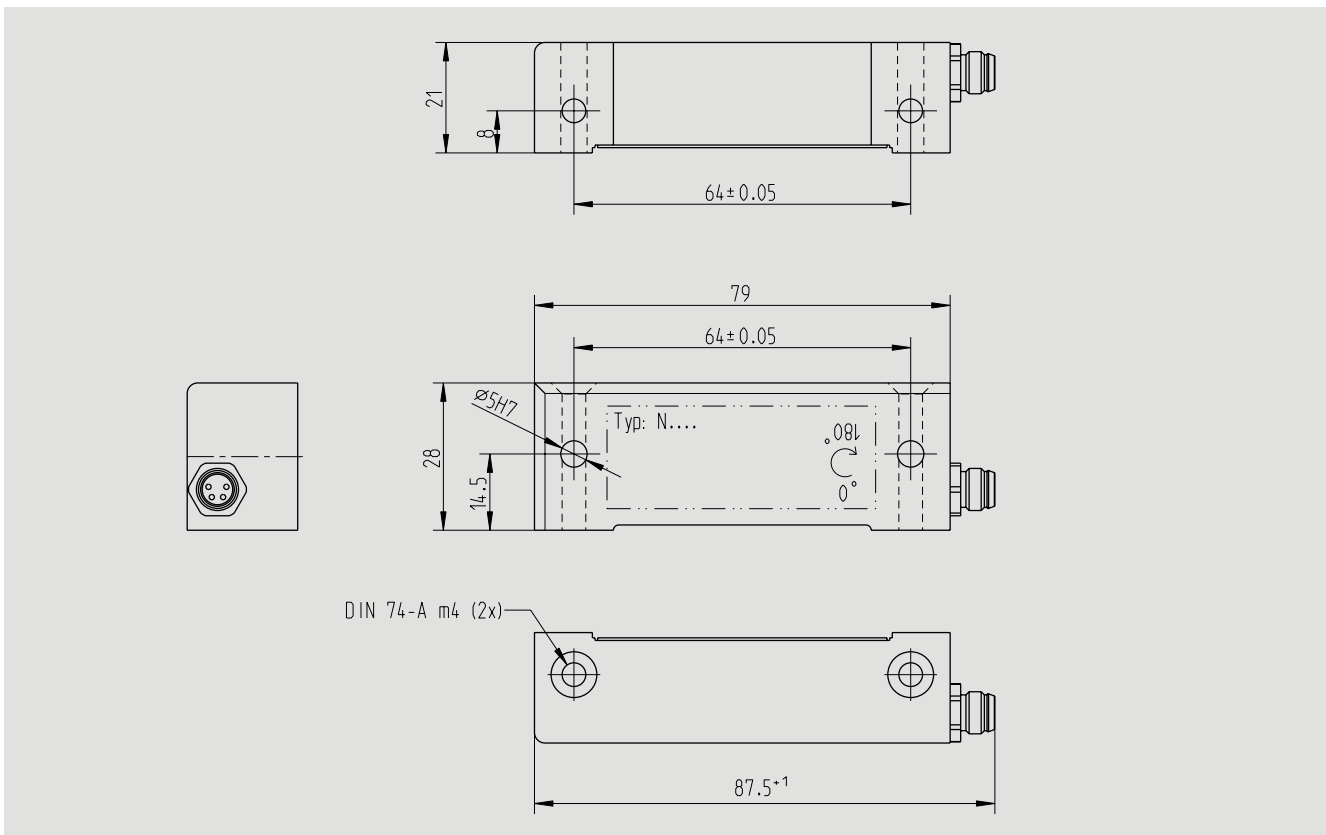
Inclination sensor, model N1101

The sensor has a measuring range of up to 360° and offers an extraordinarily high accuracy and precision over the entire measuring range. The measured value resolution is 0.01°.

## Specifications

Model N1101	
<b>Measuring range</b> ■ Standard ■ Optional	0 ... 360° Other measuring ranges possible 0 ... 90°, -10° ... +115°
<b>Relative linearity error <math>d_{lin}</math></b> ■ < 100° ■ > 100°	< 0.1° < 0.1 % of FS
<b>Relative reversibility error <math>v</math></b>	< 0.05 % of FS
<b>Resolution</b>	< 0.01°
<b>Cross slope error</b> ■ ≤ 10° ■ ≤ 45°	< 0.05° < 0.20°
<b>Service temperature <math>B_{T, G}</math></b>	-40 ... +85 °C
<b>Temperature effect on</b> ■ the characteristic value $TK_c$ ■ the zero signal $TK_0$	0.0016 % of FS/K 0.0016 % of FS/K
<b>Electrical connection</b>	Cable, M8 x 1, M12 x 1 (others on request)
<b>Output signal</b> (rated characteristic value) $C_{nom}$	4 ... 20 mA, 3-wire
<b>Voltage supply</b>	DC 9 ... 36 V
<b>Material of the measuring body</b>	Aluminium (resistant to seawater)
<b>Salt spray testing</b>	DIN EN 60068-2-52
<b>Ingress protection (per IEC/EN 60529)</b>	IP67
<b>EMC</b>	61326-1 IEC:2012, DIN EN 61000-4 Part 2, Part 3, Part 4, Part 6, Part 8, Part 9, Part 10; DIN ISO 7637 Part 2, DIN ISO 11452 Part 2, Part 4, Part 5; DIN EN 55025 Part 6.3, Part 6.4

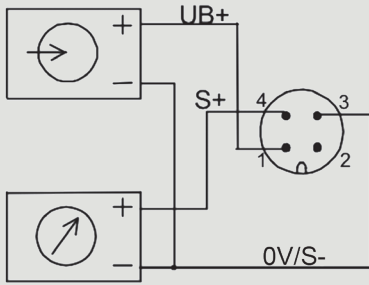
## Dimensions in mm



## Pin assignment, analogue output

### Output 4 ... 20 mA, 3-wire

Circular connector M12 x 1, 4-pin

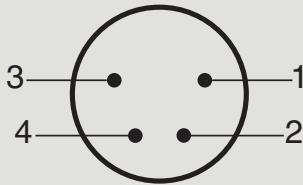


### Circular connector M12 x 1, 4-pin

Pin	4 ... 20 mA 3-wire
Supply UB+	1
Supply 0V/UB-	3
Signal S+	4
Signal S-	3
Shield ⊕	Case

### Output 4 ... 20 mA, 3-wire

Circular connector M8 x 1, 4-pin



### Circular connector M8 x 1, 4-pin

Pin	4 ... 20 mA 3-wire
Supply UB+	1
Supply 0V/UB-	3
Signal S+	4
Signal S-	2
Shield ⊕	Case

### Cable assignment

Cable colour	3-wire
Brown	UB+
White	UR+
Blue	0V/S-/UR-
Black	S+

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