Inclination sensor
X/Y/Z direction, -45 ... +45°
Model N2101

WIKA
Part of your business

Applications

- Crane systems
- Mobile cranes
- Ship cranes
- Aerial platforms
- Solar collectors

Inclination sensor, model N2101

Special features

- Measuring range freely selectable between -45 … +45°
- Relative linearity error < 0.1 % of FS over the entire measuring range
- Good damping behaviour, no gravitational acceleration error
- Resistant to seawater, IP67
- 2 axes freely selectable

Description

The two directions of rotation can be selected freely (X, Y, Z direction) in this inclination sensor. They detect the orientation angle of an object in relation to the gravitational field of the earth.

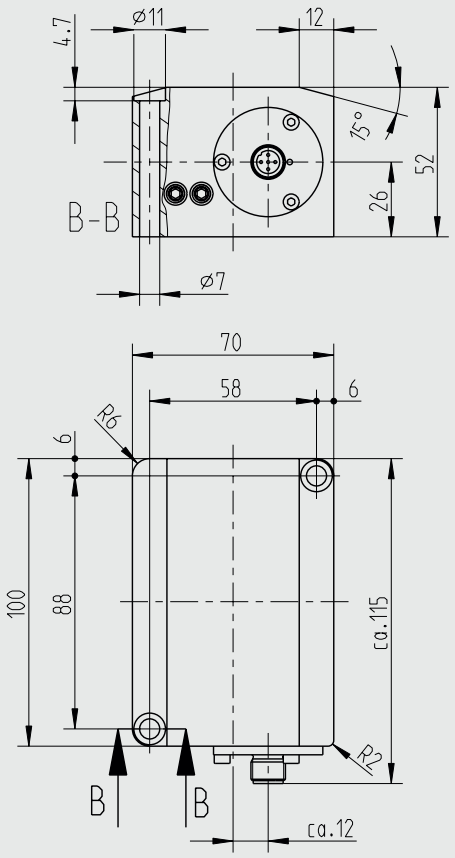
The sensor has a measuring range of max. -45 … +45° and offers an extraordinarily high accuracy and precision over the entire measuring range. The measured value resolution is 0.01°.

ICS Schneider Messtechnik GmbH
Briesestraße 59
D-16562 Hohen Neuendorf / OT Bergfelde
Tel.: 03303 / 50 40 66
Fax.: 03303 / 50 40 68
info@ics-schneider.de
www.ics-schneider.de

Specifications

Model N2101	
Measuring range	Different measuring ranges freely selectable up to max. -45 … +45° 2 axes freely selectable (X, Y, Z direction)
Relative linearity error d_{lin} ■ within measuring range -10 … +10° ■ from measuring range -10 … +10°	 < 0.05° < 0.1°
Relative reversibility error v ■ within measuring range -10 … +10° ■ from measuring range -10 … +10°	 < 0.03° < 0.05°
Resolution	< 0.01°
Transverse inclination error ■ ≤ 10° ■ ≤ 45°	 < 0.05° < 0.2°
Service temperature $B_{T, G}$	-40 … +80 °C
Temperature effect on ■ the characteristic value TK_c ■ the zero signal TK_0	 0.0016 % of FS/K 0.0016 % of FS/K
Electrical connection	Cable, MIL, M12 x 1 (others on request)
Output signal **(rated characteristic value) C_{nom}**	2 x 4 ... 20 mA (3-wire)
Voltage supply	DC 9 ... 36 V
Material of the measuring body	Aluminium, resistant to seawater
Salt spray testing	DIN EN 60068-2-52
Ingress protection (per IEC/EN 60529)	IP67
EMC	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

Cable assignment 2 x 4 ... 20 mA, 3-wire	
Cable colour	**Signal**
Red	UB+
Black	0V/S-
White	S+ (signal 1)
Blue	S+ (signal 2)

MIL, pinout CA3102E14S-2P-B-A232	
Pin	**Signal**
A	UB+
B	S+ (channel x)
C	0V/S-
D	S+ (channel Y)

Circular connector M12 x 1, 2 x 4 ... 20 mA, 3-wire, 4-pin		
Pin	**Colour**	**Signal**
1	Brown	UB+
3	Blue	0V/S-
4	Black	S+ (signal 1)
2	White	S+ (signal 2)
M12 x 1	Shield ⏚	Shield ⏚

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