

Inclination sensor redundant

Redundant design

Linearity: <0.1°

Resolution: 0.01°

Measuring range: 0...90°, 0...180°, 0...360°

Protection type: IP67



Description

Inclination sensors determine the orientation angle of an object concerning the gravitational field of the earth. The application types for these sensors are versatile. At cranes and excavators the inclination sensor measures the angle and extension of the boom along with the load weight and calculates if the machine is working within the manufacturer suggested safety margins.

The sensor is equipped with a measurement range of 0...90°, 0...180° or 0...360° (others on request) and offers an additional higher precision and accuracy over the entire measurement range. The resolution is 0.01° of F.S.

Customer specific implementations are possible as a result of the modular construction system.

Features

- Measurement range 0...90°, 0...180° or 0...360° (others on request)
- Accuracy of <0.3% over the entire measurement range
- Low sensitivity to moisture
- Favourable damping behaviour
- Easy to fit and line-up on equipment
- High zero stability
- No acceleration of gravity failure
- High temperature range
- Protection class IP67

Applications

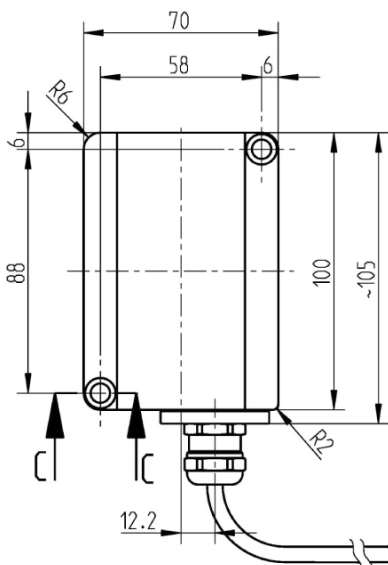
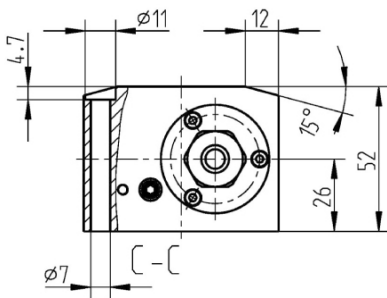
Drilling platforms
 Drilling rigs
 Mobil cranes
 Ship cranes
 Excavators
 Aerial working platforms

Technical data

Model	N1301
Measurement range	0...90°, 0...180° or 0...360° (others on request)
Accuracy	<0.3%
Linearity	- <100° <0,1° - >100° <0,1%
Hysteresis	<0.05°
Resolution	<0,01°
Transverse inclination error	- ≤10° <0.05° - ≤45° <0.20°
Operating voltage	9...36 VDC
Temperature range	-40 ... +85 °C
Temperature influence	0.0016%/K
Electrical connection	Cable, MIL, M2x1 (others on request)
Output signal	2 x 4...20 mA ,3-wire
Output signal limitation (optional)	min. 3.8 mA / max. 20.2 mA (others on request)
EMC	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
CE confirmation	yes
Salt spray test	DIN EN 60068-2-52
Protection type	IP 67
Weight	~1 kg

Dimensions

(Example with cable outlet)



Dimensions in mm

Anschlußkabel, 8m, offenes Ende
connector cable, 8m, open cable end

Kabel / cable:
KAWEFLEX 11020421 C-PUR 0B Schwarz 4x0,5mm²

Pin assignment Cable outlet	
Red	UB+
Black	0V / S-
White	S+ (signal 1)
Blue	S+ (signal 2)

Pin assignment M12x1 (4...20mA)		
Pin	Colour	Signal
1	Brown	UB+
3	Blue	0V / S-
4	Black	S+ (signal 1)
2	White	S+ (signal 2)
M12x1	Shield	Shield

Pin assignment CA3102E14S-2P-B-A232	
Pin	Signal
A	UB+
B	S+ (channel X)
C	0V / S-
D	S+ (channel Y)

Subject of technical changes