

## Inclination sensor

**Linearity:** <0.1°

**Resolution:** 0,01°

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

**Protection type:** IP 67



### 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 360° 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°, 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 rigs  
Offshore drilling platforms  
Mobil cranes  
Wind turbines  
Ship cranes  
Excavators  
Aerial working platforms

**Model: N1101**

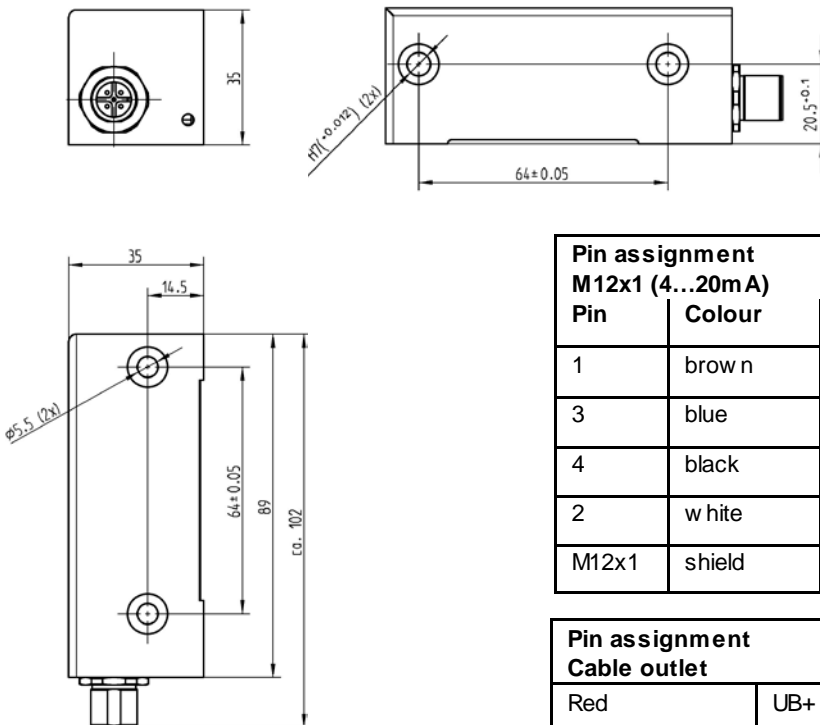
## Technical data

<b>Model</b>	<b>N1101</b>	
Measurement range	0...90°, 0...180° or 0...360° (other measuring ranges on request)	
Accuracy	<0.3%	
Linearity	- <100° - >100°	<0.1° <0.1°
Hysteresis	<0.05°	
Resolution	<0.01°	
Transverse inclination error	- ≤10° - ≤45°	<0.05° <0.20°
Operating voltage	9...36 VDC	
Temperature range	-40 ... +85 °C	
Temperature influence	0.0016%/K	
Electrical connection	Cable, M8x1, M12x1 (others on request)	
Output signal	4...20 mA, 3 wire	
EMC	DIN EN 61000-4-Part 2, Part 3, Part 4, Part 5, Part 6	
CE confirmation	yes	
Salt spray test	DIN EN 60068-2-52	
Protection type	IP 67	

The mechanical dimensions vary due to the given remarks and the electrical connections. Customized adjustments are possible.

## Dimensions

(Example with M12x1 connector)



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

Subject of technical changes