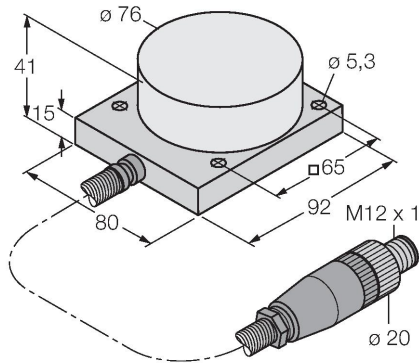


NI40-CQ80/S1102 5M

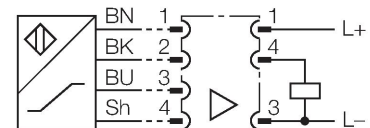
Inductive Sensor – With Increased Temperature Range



Features

- Rectangular, height 41 mm
- Sensor housing, Aluminium
- Plastic, PEEK
- Aluminium cable sheath
- For temperatures up to +250 °C
- Functions only with signal processor EM30-AP6X2-H1141/S1102
- Switchpoint adjusted at the processing unit
- 3-wire connection to the processor

Wiring diagram

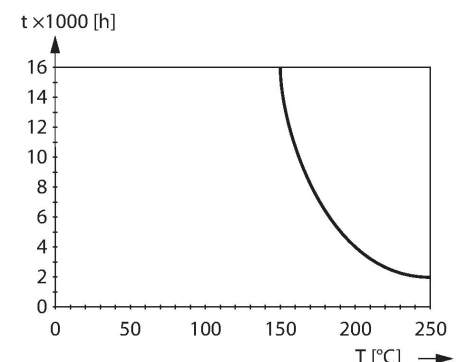


Functional principle

The sensors must be operated with an EM30-AP6X2-H1141/S1102 signal processor. The switching distance is set using a potentiometer (continuous) on the signal processor. This is located under a cover screw next to the LED. Where possible, the switching distance must be set at operating temperature. When setting the switching distance at room temperature, the temperature sensitivity of the sensor system must be taken into account.

Setting:

1. Place the target (steel, min. 1 mm thick, square, edge length min. 3x rated switching distance) at a safe switching distance in front of the sensor
2. Turn the potentiometer counterclockwise until the LED lights up green
3. Turn the potentiometer clockwise until the LED lights up yellow
4. Perform functional checks in the operating state



Technical data

Type	NI40-CQ80/S1102 5M
ID	1602404
Special version	S1102 corresponds to: Ambient temperature up to 250 °C
General data	
Rated switching distance	40 mm
Mounting conditions	Non-flush, partially embeddable
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Hysteresis	3...15 %
Electrical data	
Output function	NO contact, PNP
Mechanical data	
Design	Rectangular, CQ80
Dimensions	92 x 80 x 41 mm
Housing material	Plastic, AL
Active area material	PEEK
Electrical connection	Connector, M12 x 1
	Connector for max. temperature -20...+70°C
Cable quality	Ø 3.7 mm, PTFE, FEP, 5 m
	Al cable sheath, Ø 8 mm
Core cross-section	3 x 0.34 mm ²
Environmental conditions	
Ambient temperature	0...+250 °C
Vibration resistance	55 Hz (1 mm)

Technical data

Shock resistance	30 g (11 ms)
Protection class	IP60
MTTF	1190 years acc. to SN 29500 (Ed. 99) 40 °C

Mounting instructions

Mounting instructions/Description

The diagrams illustrate the following mounting configurations and dimensions:

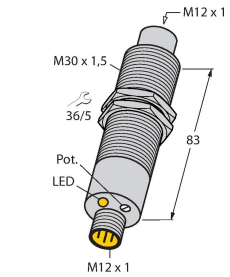
- Top Left:** A single sensor is mounted in a U-shaped channel. The distance from the sensor to the side wall is labeled A .
- Top Right:** A single sensor is mounted on a flat plate. The distance from the sensor to the side wall is labeled C , and the distance from the sensor to the front wall is labeled D .
- Bottom Left:** Two sensors are mounted side-by-side. The distance between the sensors is labeled B . The distance from the sensors to the side wall is labeled S . The distance from the sensors to the front wall is labeled D . The distance from the sensors to the back wall is labeled W .
- Bottom Right:** A sensor and its mounting bracket are shown. The distance from the sensor to the mounting bracket is labeled G .

This diagram shows a single sensor mounted on a flat plate. The distance from the sensor to the side wall is labeled C , and the distance from the sensor to the front wall is labeled D .

Distance D	$3 \times B$
Distance W	$3 \times S_n$
Distance S	$1.5 \times B$
Distance G	$6 \times S_n$
Distance A	$1 \times S_n$
Distance C	$2 \times S_n$
Width active area	76 mm
B	

1-side mounting on metal without modification of the switching distance

Accessories

EM30-AP6X2-H1141/S1102	1602411
	Signal processor for 250 °C sensor; housing material: Stainless steel 1.4571; protection class: IP67; function display: LED/yellow; operating voltage display: LED/green; ambient temperature: -20...+70 °C