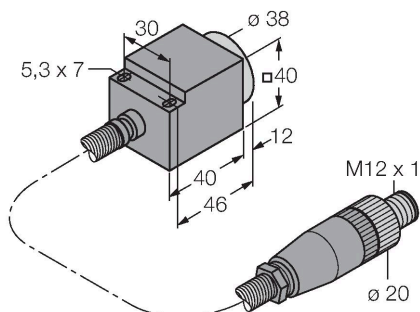


# NI25-CQ40/S1102 5M

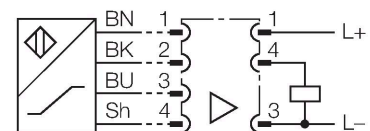
## Inductive Sensor – With Increased Temperature Range



### Features

- Rectangular, height 40 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

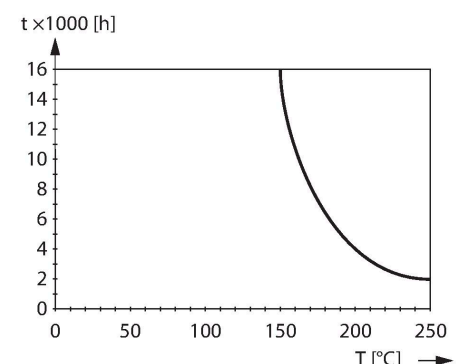


### Functional principle

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                            | NI25-CQ40/S1102 5M                                     |
| ID                              | 1602410                                                |
| Special version                 | S1102 Corresponds to: Ambient temperature up to 250 °C |
| <b>General data</b>             |                                                        |
| Rated switching distance        | 25 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                 | $\leq 2$ % of full scale                               |
| Hysteresis                      | 3...15 %                                               |
| <b>Electrical data</b>          |                                                        |
| Output function                 | NO contact, PNP                                        |
| <b>Mechanical data</b>          |                                                        |
| Design                          | Rectangular, CQ40                                      |
| Dimensions                      | 52 x 40 x 40 mm                                        |
| Housing material                | Plastic, AL                                            |
| Active area material            | PEEK                                                   |
| Electrical connection           | Connector, M12 x 1                                     |
|                                 | max. connector 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 <sup>2</sup>                               |
| <b>Environmental conditions</b> |                                                        |
| Ambient temperature             | 0...+250 °C                                            |
| Vibration resistance            | 55 Hz (1 mm)                                           |
| Shock resistance                | 30 g (11 ms)                                           |

Technical data

|                  |                                            |
|------------------|--------------------------------------------|
| Protection class | IP60                                       |
| MTTF             | 1685 years acc. to SN 29500 (Ed. 99) 40 °C |

Mounting instructions

# Mounting instructions/Description

The image contains three isometric diagrams illustrating different mounting configurations for a sensor (represented by a yellow cube with a circular target on its side) on a metal surface (represented by a grey L-shaped bracket).

- Top Diagram (Side Mounting):** Shows the sensor mounted on the vertical face of the bracket. Dimensions indicated are:
  - N:** Distance from the top of the bracket to the top of the sensor.
  - D:** Distance from the front face of the bracket to the front of the sensor.
  - S:** Distance from the top of the sensor to the top of the bracket's horizontal base.
  - W:** Distance from the front face of the bracket to the front of the sensor's active area.
- Bottom Diagram (Top Mounting):** Shows the sensor mounted on the horizontal top surface of the bracket. Dimensions indicated are:
  - G:** Distance from the front face of the bracket to the front of the sensor.
  - B:** Distance from the front face of the bracket to the front of the sensor's active area.
- Right Diagram (Bottom Mounting):** Shows the sensor mounted on the vertical face of the bracket, with its active area facing the bracket. Dimensions indicated are:
  - S:** Distance from the top of the sensor to the top of the bracket's horizontal base.

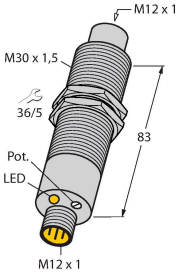
This diagram shows the sensor mounted on a flat surface. Dimensions indicated are:
 

- S:** Distance from the top of the sensor to the top of the mounting surface.
- G:** Distance from the front face of the mounting surface to the front of the sensor.

|                   |         |
|-------------------|---------|
| Distance D        | 2 x B   |
| Distance W        | 3 x Sn  |
| Distance S        | 1.5 x B |
| Distance G        | 6 x Sn  |
| Distance N        | 2 x Sn  |
| Distance A        | 1 x Sn  |
| Width active area | 40 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;<br>housing material: Stainless steel 1.4571; protection class: IP67;<br>function display: LED/yellow;<br>operating voltage display: LED/green;<br>ambient temperature: -20...+70 °C |