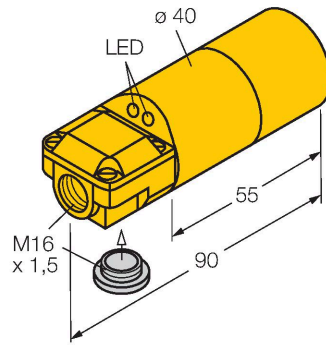


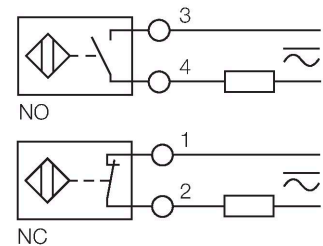
# NI30-K40SR-FZ3X2 Inductive Sensor



## Features

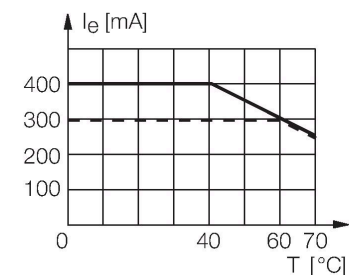
- 2 cable entries (axial, radial)
- Smooth barrel, Ø 40 mm
- Plastic, ABS
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- Programmable connection (NC or NO)
- Terminal chamber

## Wiring diagram



## Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.



## Technical data

Type	NI30-K40SR-FZ3X2
ID	13425
General data	
Rated switching distance	30 mm
Mounting conditions	Non-flush
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
Temperature drift	$\leq \pm 10$ %
Hysteresis	3...15 %
Electrical data	
Operating voltage U <sub>B</sub>	20...250 VAC
Operating voltage U <sub>B</sub>	10...300 VDC
AC rated operational current	$\leq 400$ mA
DC rated operating current I <sub>o</sub>	$\leq 300$ mA
Frequency	$\geq 50 \dots \leq 60$ Hz
Residual current	$\leq 1.7$ mA
Isolation test voltage	1.5 kV
Surge current	$\leq 8$ A ( $\leq 10$ ms max. 5 Hz)
Voltage drop at I <sub>o</sub>	$\leq 6$ V
Output function	2-wire, Connection programmable, 2-wire
Smallest operating current	$\geq 3$ mA
Switching frequency	0.02 kHz

Technical data

Mechanical data	
Design	Smooth barrel, 40 mm
Dimensions	90 mm
Housing material	Plastic, ABS, Yellow
Active area material	Plastic, ABS, yellow
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm²
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Red
Included in delivery	BS 40, cable gland, dummy plug

Mounting instructions

# Mounting instructions/Description

The image contains three technical diagrams illustrating the mounting of the BS 40 sensor. The top diagram shows a side view of the sensor (yellow cylinders) being mounted onto a panel (grey rectangle). Dimensions indicated are N (distance from panel edge to sensor center), S (distance from sensor center to panel edge), D (distance between sensor centers), and W (distance from sensor center to panel edge). The bottom left diagram shows a top view of the sensor with dimension T (distance from sensor center to panel edge). The bottom right diagram shows a side view of the sensor being inserted into a terminal block with dimension G (distance from sensor center to terminal block edge).

Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	40 mm
Diameter active area B	Ø 40 mm

NI30-K40SR-FZ3X2 | 02/21/2025 13-08 | technical changes reserved

## Accessories

BS 40

69466

Fixing clamp; material mounting  
block: PBT

