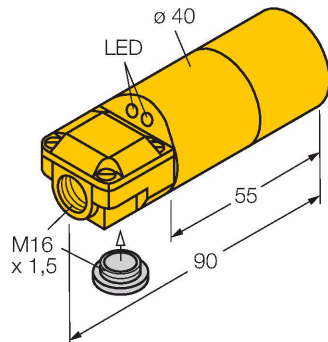


# NI20-K40SR-FZ3X2

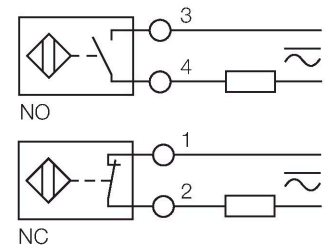
## Inductive Sensor



### Features

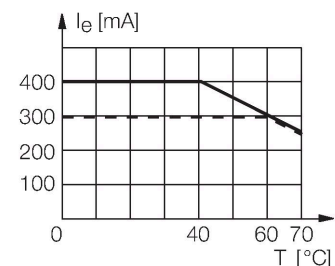
- 2 cable entries (axial, radial)
- Smooth barrel, Ø 40 mm
- Plastic, ABS
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NC/NO programmable
- Terminal chamber

### 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.



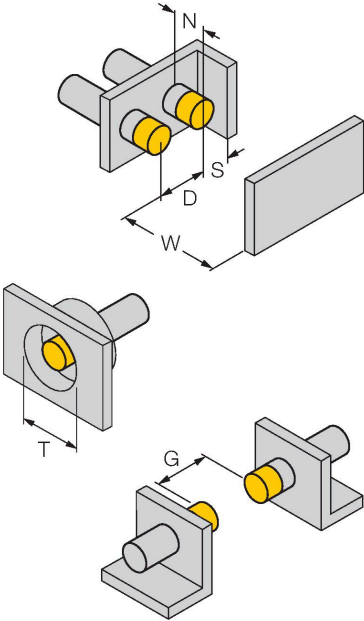
### Technical data

|                                  |                                                     |
|----------------------------------|-----------------------------------------------------|
| Type                             | NI20-K40SR-FZ3X2                                    |
| ID                               | 13424                                               |
| <b>General data</b>              |                                                     |
| Rated switching distance         | 20 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 %                                            |
| <b>Electrical data</b>           |                                                     |
| Operating voltage $U_B$          | 20...250 VAC                                        |
| Operating voltage $U_B$          | 10...300 VDC                                        |
| AC rated operational current     | $\leq 400$ mA                                       |
| DC rated operating current $I_o$ | $\leq 300$ 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 $I_o$            | $\leq 6$ V                                          |
| Output function                  | 2-wire, Connection programmable, 2-wire             |
| Smallest operating current       | $\geq 3$ mA                                         |
| Switching frequency              | 0.02 kHz                                            |
| <b>Mechanical data</b>           |                                                     |
| Design                           | Smooth barrel, 40 mm                                |
| Dimensions                       | 90 mm                                               |

Technical data

|                          |                                            |
|--------------------------|--------------------------------------------|
| 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     | BS40, cable gland, blanking plug           |

Mounting instructions

| Mounting instructions/Description                                                   |                        |         |
|-------------------------------------------------------------------------------------|------------------------|---------|
|  | 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             | 2 x Sn  |
|                                                                                     | Diameter active area B | Ø 40 mm |
|                                                                                     |                        |         |

## Accessories

BS 40

69466

Fixing clamp; material mounting  
block: PBT

