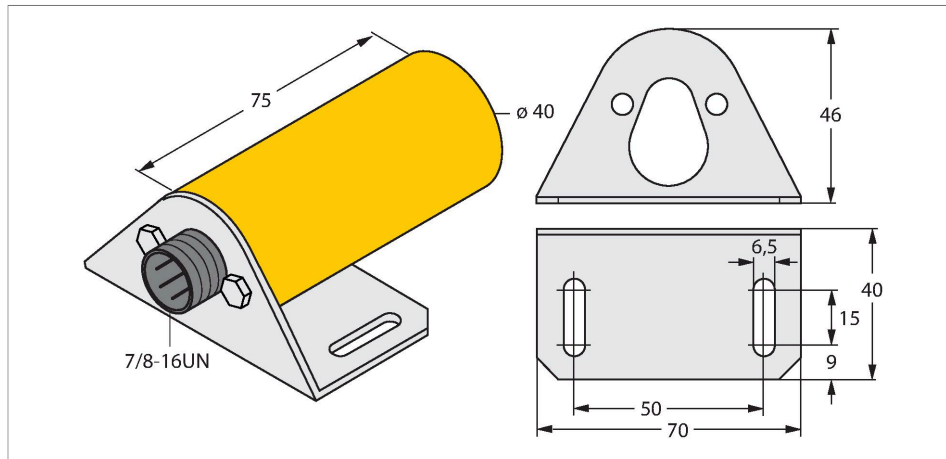


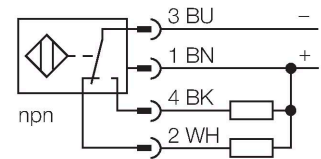
# NI30-K40-VN4X-B2141 Inductive Sensor



## Features

- Smooth barrel, Ø 40 mm
- Plastic, ABS
- DC 4-wire, 10...65 VDC
- Changeover contact, NPN output
- 7/8" male connector

## 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.

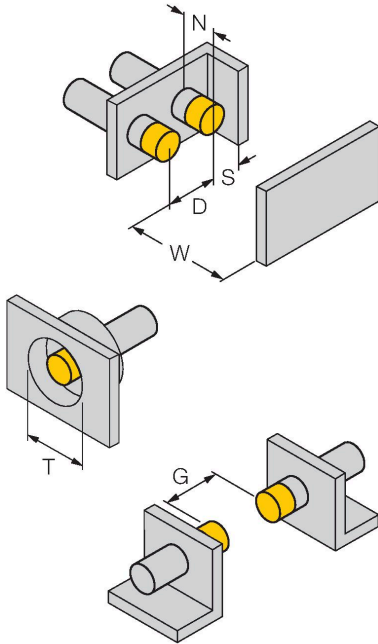
## Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | NI30-K40-VN4X-B2141                                 |
| ID                                     | 45904                                               |
| 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                            |
| Hysteresis                             | 3...15 %                                            |
| Electrical data                        |                                                     |
| Operating voltage $U_B$                | 10...65 VDC                                         |
| Ripple $U_{ss}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 200$ mA                                       |
| No-load current                        | $\leq 15$ mA                                        |
| Residual current                       | $\leq 0.1$ mA                                       |
| Isolation test voltage                 | 0.5 kV                                              |
| Short-circuit protection               | yes/Cyclic                                          |
| Voltage drop at $I_o$                  | $\leq 1.8$ V                                        |
| Wire break/reverse polarity protection | yes/Complete                                        |
| Output function                        | 4-wire, Complementary contact, NPN                  |
| Switching frequency                    | 0.1 kHz                                             |
| Mechanical data                        |                                                     |
| Design                                 | Smooth barrel, 40 mm                                |

Technical data

|                          |                                            |
|--------------------------|--------------------------------------------|
| Dimensions               | 75 mm                                      |
| Housing material         | Plastic, ABS, Yellow                       |
| Active area material     | Plastic, ABS, yellow                       |
| Electrical connection    | Connector, 7/8"                            |
| 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 |
| Switching state          | LED, Yellow                                |
| Included in delivery     | BS 40                                      |

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 |
|                                                                                     |                        |         |

NI30-K40-VN4X-B2141 | 02/21/2025 13-36 | technical changes reserved

# Accessories

BS 40

69466

Fixing clamp; material mounting  
block: PBT

