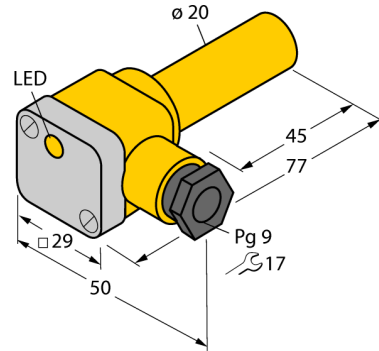
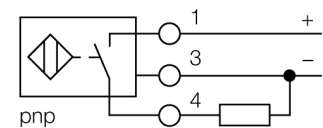


# Inductive Sensor NI10-K20SK-AP6X



- Smooth barrel, Ø 20 mm
- Plastic, PBT-GF30-V0
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Terminal chamber

## Wiring Diagram



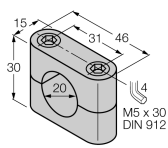
## Functional principle

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.

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | NI10-K20SK-AP6X                                     |
| ID                                     | 46646                                               |
| <b>General data</b>                    |                                                     |
| Rated switching distance $S_n$         | 10 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 $U_o$                | 10...30 VDC                                         |
| Ripple $U_{rs}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 200$ 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                        | 3-wire, NO contact, PNP                             |
| Switching frequency                    | 1 kHz                                               |
| <b>Mechanical data</b>                 |                                                     |
| Design                                 | Smooth barrel, 20 mm                                |
| Dimensions                             | 77 mm                                               |
| Housing material                       | Plastic, PBT-GF30-V0                                |
| Terminal chamber cover material        | plastic, Ultem                                      |
| Terminal chamber housing material      | plastic, PA12-GF30                                  |
| Active area material                   | Plastic, PBT-GF30-V0                                |
| Electrical connection                  | Terminal chamber                                    |
| Clamping ability                       | $\leq 2.5$ mm <sup>2</sup>                          |
| Cable external diameter                | 4.5...8mm                                           |

|                          |                                                    |
|--------------------------|----------------------------------------------------|
| 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          |                                                    |
| Included in delivery     | LED, Yellow<br>BS20; cable gland; 2x plastic seals |

## Accessories

| Type code | Ident no. |                                            | Dimension drawing                                                                   |
|-----------|-----------|--------------------------------------------|-------------------------------------------------------------------------------------|
| BS 20     | 69464     | Fixing clamp; material mounting block: PBT |  |