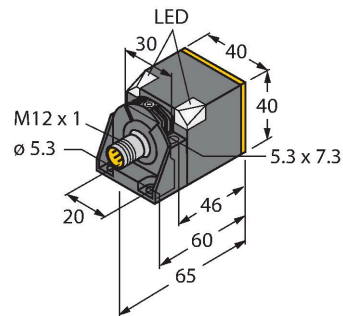


NI40U-CK40-AP6X2-H1141

Inductive Sensor – With Extended Switching Distance



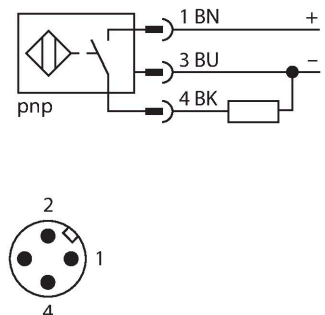
Technical data

| | |
|--|--|
| Type | NI40U-CK40-AP6X2-H1141 |
| ID | 1623641 |
| General data | |
| Rated switching distance | 40 mm |
| Mounting conditions | Non-flush |
| Secured operating distance | $\leq (0.81 \times S_n)$ mm |
| Repeat accuracy | $\leq 2 \%$ of full scale |
| Temperature drift | $\leq \pm 10 \%$ $\leq \pm 20 \%, -25^\circ\text{C} \leq +70^\circ\text{C}$ |
| Hysteresis | 3...15 % |
| Electrical data | |
| Operating voltage U_B | 10...30 VDC |
| Ripple U_{ss} | $\leq 10 \%$ U_{Bmax} |
| DC rated operating current I_o | ≤ 200 mA |
| No-load current | ≤ 15 mA |
| Residual current | ≤ 0.1 mA |
| Isolation test voltage | 0.5 kV |
| Short-circuit protection | yes/Cyclic |
| Voltage drop at I_o | ≤ 1.8 V |
| Wire break/reverse polarity protection | yes/Complete |
| Output function | 3-wire, NO contact, PNP |
| DC field stability | 300 mT |
| AC field stability | 300 mT _{ss} |
| Insulation class | □ |
| Switching frequency | 0.25 kHz |
| Mechanical data | |
| Design | Rectangular, CK40 |

Features

- Rectangular, height 40 mm
- Variable orientation of active face in 5 directions
- Plastic, PBT-GF30-V0
- High luminance corner LEDs
- Optimum view on supply voltage and switching state from any position
- Factor 1 for all metals
- Increased switching distance
- Protection class IP68
- Large coverage
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

Wiring diagram



Functional principle

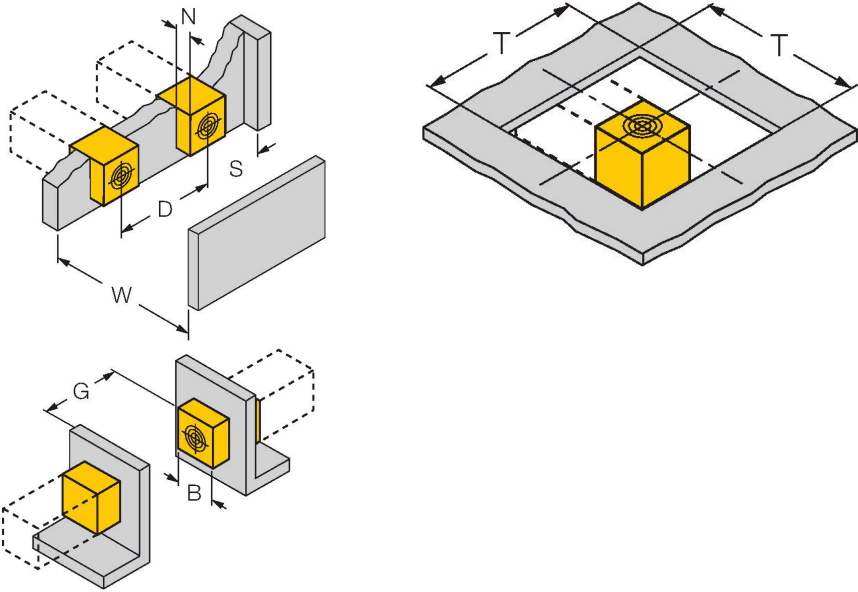
Inductive sensors are designed for wear-free and contactless detection of metal objects. approx Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all

Technical data

| | |
|--------------------------|---|
| Dimensions | 65 x 40 x 40 mm |
| | variable orientation of active face in 5 directions |
| Housing material | Plastic, PBT-GF20-V0, Black |
| Active area material | Plastic, PA12-GF30, yellow |
| Electrical connection | Connector, M12 × 1 |
| Environmental conditions | |
| Ambient temperature | -30...+85 °C |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP68 |
| MTTF | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication | 2 × LEDs, Green |
| Switching state | 2 × LEDs, Yellow |
| Included in delivery | Fixing clamp BS4-CK40 |

metals at the same large switching distance and are resistant to magnetic fields.

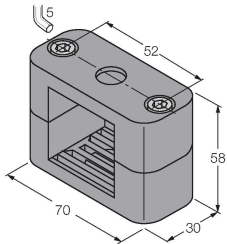
Mounting instructions

| | | | | | | | | | | | | | |
|--|---|------------|--------|------------|--------|------------|-------|------------|--------|------------|-------|---------------------|-------|
| Mounting instructions/Description | | | | | | | | | | | | | |
|  | <table><tr><td>Distance D</td><td>240 mm</td></tr><tr><td>Distance W</td><td>120 mm</td></tr><tr><td>Distance S</td><td>60 mm</td></tr><tr><td>Distance G</td><td>240 mm</td></tr><tr><td>Distance N</td><td>40 mm</td></tr><tr><td>Width active area B</td><td>40 mm</td></tr></table> | Distance D | 240 mm | Distance W | 120 mm | Distance S | 60 mm | Distance G | 240 mm | Distance N | 40 mm | Width active area B | 40 mm |
| Distance D | 240 mm | | | | | | | | | | | | |
| Distance W | 120 mm | | | | | | | | | | | | |
| Distance S | 60 mm | | | | | | | | | | | | |
| Distance G | 240 mm | | | | | | | | | | | | |
| Distance N | 40 mm | | | | | | | | | | | | |
| Width active area B | 40 mm | | | | | | | | | | | | |
| Flush mounting | | | | | | | | | | | | | |
| 1-side mounting: Sr = 30 mm; D = 240 mm | | | | | | | | | | | | | |
| 2-side mounting: Sr = 24 mm; D = 240 mm | | | | | | | | | | | | | |
| 3-side mounting: Sr = 19 mm; D = 80 mm | | | | | | | | | | | | | |
| 4-side mounting: Sr = 12 mm; D = 60 mm | | | | | | | | | | | | | |
| Backside as well as recessed mounting with reduced switching distance | | | | | | | | | | | | | |
| Recessed mounting in metal: | | | | | | | | | | | | | |
| x = 10 mm: Sr = 20 mm | | | | | | | | | | | | | |
| x = 20 mm: Sr = 20 mm | | | | | | | | | | | | | |
| x = 30 mm: Sr = 20 mm | | | | | | | | | | | | | |
| x = 40 mm: Sr = 20 mm | | | | | | | | | | | | | |
| Protruded mounting: | | | | | | | | | | | | | |
| y = 10 mm: Sr = 30 mm | | | | | | | | | | | | | |
| y = 20 mm: Sr = 40 mm | | | | | | | | | | | | | |
| y = 30 mm: Sr = 40 mm | | | | | | | | | | | | | |
| y = 40 mm: Sr = 40 mm | | | | | | | | | | | | | |
| Mounting in aperture plate: | | | | | | | | | | | | | |
| T = 140 mm: | | | | | | | | | | | | | |
| Sensor with twisted turning angle | | | | | | | | | | | | | |
| On metal Sr = 40 mm | | | | | | | | | | | | | |
| Metal-enclosed on one side Sr = 30mm | | | | | | | | | | | | | |
| Metal-enclosed on two sides Sr = 20mm | | | | | | | | | | | | | |
| Metal-enclosed on three sides Sr = 15 mm | | | | | | | | | | | | | |

The values stated relate to a 1 mm thick steel plate.

Accessories

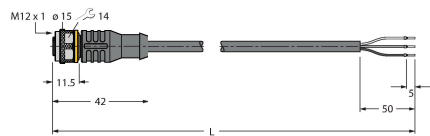
| | |
|----------|---------|
| BSS-CP40 | 6901318 |
|----------|---------|



Mounting clamp for rectangular housings 40 x 40 mm; material: Polypropylene

Accessories

| Dimension drawing | Type | ID | |
|-------------------|-------------|---------|--|
| | RKC4T-2/TEL | 6625010 | |



Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval