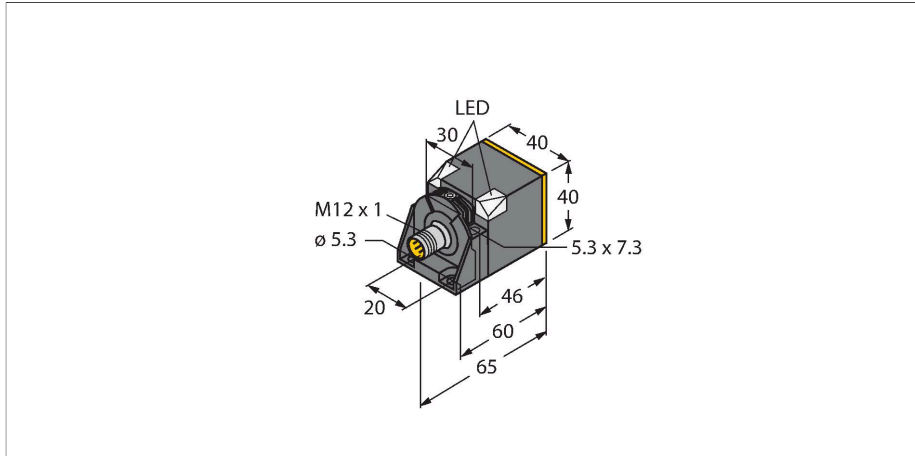


NI50U-CK40-VN4X2-H1141

Inductive Sensor – With Extended Switching Distance



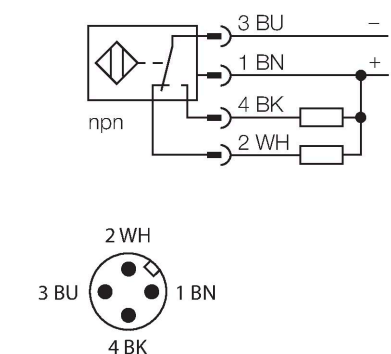
Technical data

| | |
|---|--|
| Type | NI50U-CK40-VN4X2-H1141 |
| ID | 1625806 |
| General data | |
| Rated switching distance | 50 mm |
| Mounting conditions | Non-flush, flush |
| Secured operating distance | $\leq (0.81 \times S_n)$ mm |
| Repeat accuracy | $\leq 2\%$ of full scale |
| Temperature drift | $\leq \pm 10\%$ $\leq \pm 20\%$, $\leq -25\text{ °C}$ v $\geq +70\text{ °C}$ |
| Hysteresis | 3...15 % |
| Electrical data | |
| Operating voltage | 10...65 VDC |
| Residual ripple | $\leq 10\%$ U_{ss} |
| DC rated operational current | ≤ 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 breakage/Reverse polarity protection | yes / Complete |
| Output function | 4-wire, Complementary contact, NPN |
| DC field stability | 300 mT |
| AC field stability | 300 mT _{ss} |
| Insulation class | □ |
| Switching frequency | 0.25 kHz |

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
- Resistant to magnetic fields
- Auto-compensation protects against pre-damping
- Partially embeddable
- DC 4-wire, 10...65 VDC
- Changeover contact, NPN output
- M12 x 1 male connector

Wiring diagram



Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. prox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching

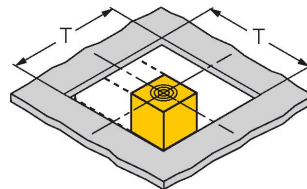
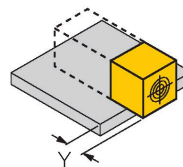
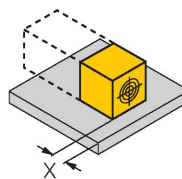
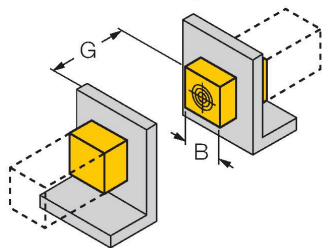
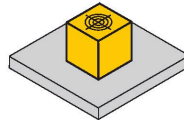
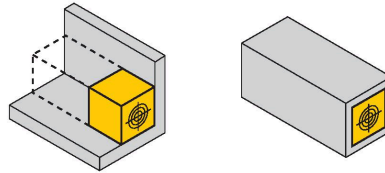
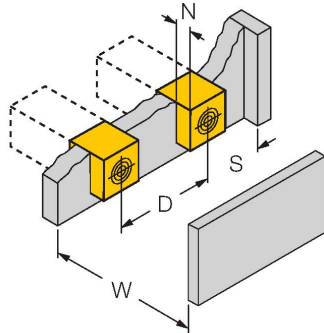
distances, maximum flexibility and operational reliability as well as efficient standardization.

Technical data

| Mechanical data | |
|--------------------------|---|
| Design | Rectangular, CK40 |
| 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 |

Mounting instructions

Mounting instructions/Description



| | |
|---------------------|--------|
| Distance D | 240 mm |
| Distance W | 105 mm |
| Distance S | 60 mm |
| Distance G | 300 mm |
| Distance N | 30 mm |
| Width active area B | 40 mm |

Flush mounting

- 1-side mounting: Sr = 35 mm; D = 240 mm
- 2-side mounting: Sr = 25 mm; D = 240 mm
- 3-side mounting: Sr = 20 mm; D = 80 mm
- 4-side mounting: Sr = 15 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 = 40 mm
- y = 20 mm: Sr = 50 mm
- y = 30 mm: Sr = 50 mm
- y = 40 mm: Sr = 50 mm

Mounting in aperture plate:

- T = 150 mm:
- Sensor with twisted turning angle
- On metal Sr = 50 mm
- Metal-enclosed on one side Sr = 25 mm
- Metal-enclosed on two sides Sr = 15 mm
- Metal-enclosed on three sides Sr = 12 mm

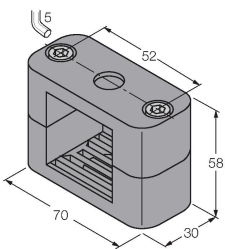
The values stated relate to a 1 mm thick steel plate.

Accessories

BSS-CP40

6901318

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



Accessories

| Dimension drawing | Type | ID | |
|-------------------|---------------|---------|---|
| | RKC4.4T-2/TEL | 6625013 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval |

