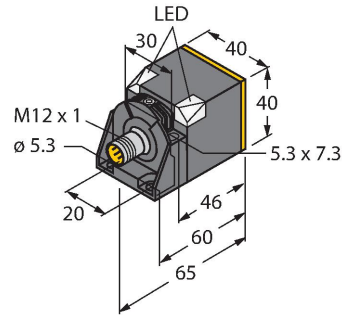


NI50U-CK40-VN4X2-H1141

Inductive Sensor – With Extended Switching Distance



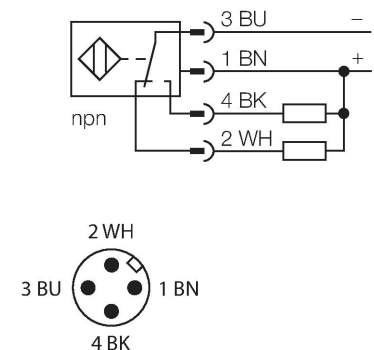
Technical data

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	$\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$
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	≤ 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	4-wire, Complementary contact, NPN
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
- 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. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching

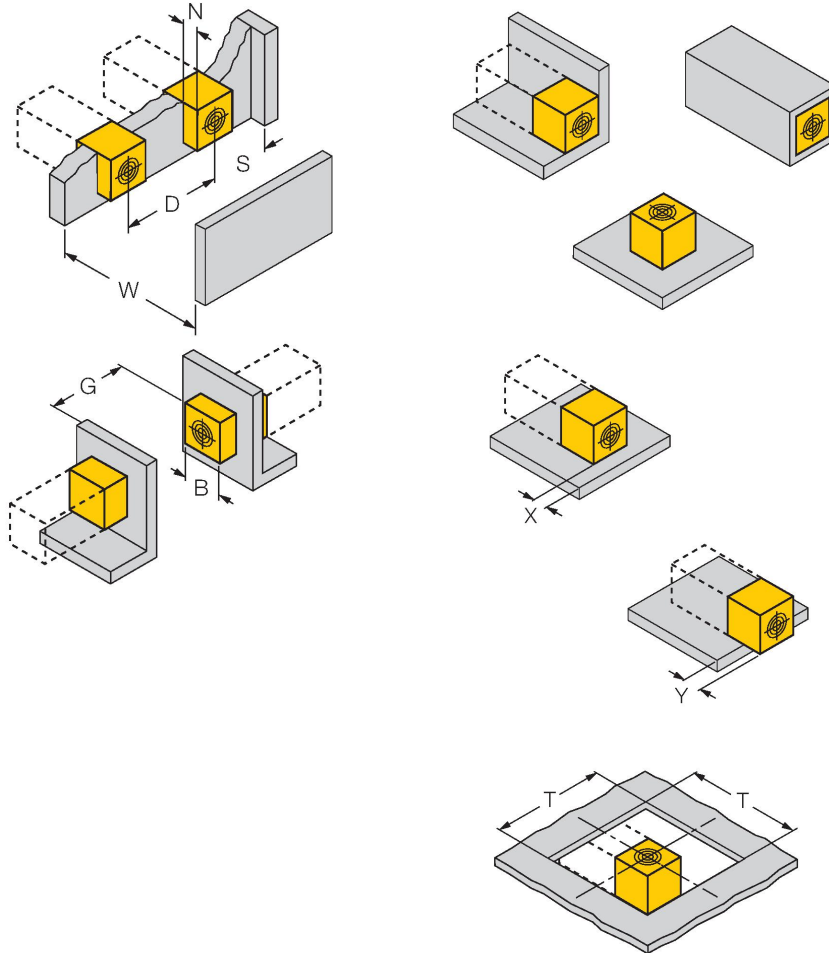
Technical data

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

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 possible on up to 4 sides

1-side mounting: $S_r = 35 \text{ mm}$; $D = 240 \text{ mm}$

2-side mounting: $S_r = 25$ mm; $D = 240$ mm

3-side mounting: $S_r = 20 \text{ mm}$; $D = 80 \text{ mm}$

4-side mounting: $S_r = 15 \text{ mm}$; $D = 60 \text{ mm}$

Rear-side mounting and set-back installation
with reduced switching distance possible

Sensor mounted on metal, set back from the edge:

x = 10 mm: Sr = 20 mm

$x = 20 \text{ mm}$: $S_r = 20 \text{ mm}$

$x = 30 \text{ mm}$: $S_r = 20 \text{ mm}$

$x = 40 \text{ mm}$: $S_r = 20 \text{ mm}$

Sensor mounted on metal, protruding over the edge:

$y = 10 \text{ mm}$: $S_r = 40 \text{ mm}$

$y = 20 \text{ mm}$: $S_r = 50 \text{ mm}$

$y = 30 \text{ mm}$: $S_r = 50 \text{ mm}$

y = 40 mm: Sr = 50 mm

Installation in aperture:

T = 150 mm:

Sensor with turned rotating bracket

Surface-mounted on metal $S_r = 50$ mm

Surface-mounted on metal, with one side wall

Sr = 25 mm

Surface-mo

Sr = 15 mm

Surface-mounted on metal, with three side

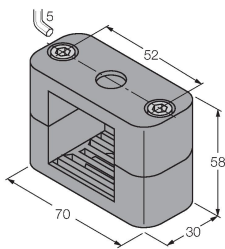
walls $S_r = 12 \text{ mm}$

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

Sr is the switching distance that can be measured under specified temperature and supply conditions, also taking into account series variation.

Accessories

BSS-CP40	6901318
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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