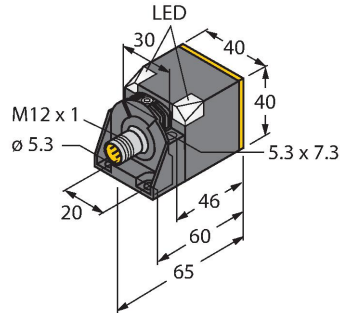


NI50U-CK40-VN4X2-H1141

Inductive Sensor – With Extended Switching Distance



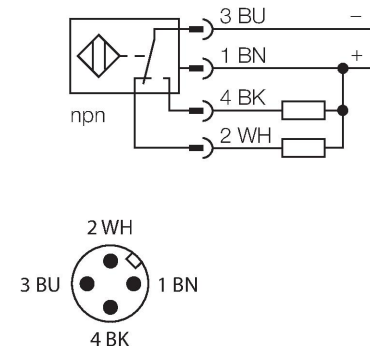
Technical data

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	$\leq \pm 10 \%$
	$\leq \pm 20 \%, \leq -25 \text{ °C} \vee \geq +70 \text{ °C}$
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	□

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



Technical data

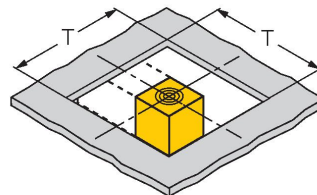
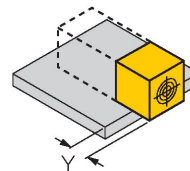
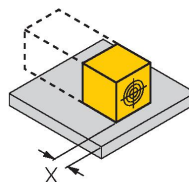
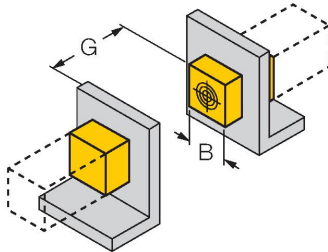
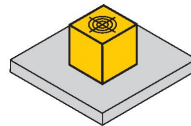
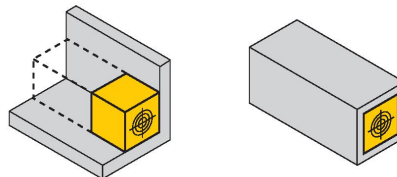
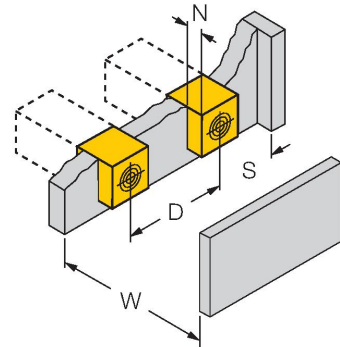
Switching frequency	0.25 kHz
Mechanical data	
Design	Rectangular, CK40
Dimensions	65 x 40 x 40 mm
	variable orientation of active face in 5 directions
Housing material	Plastic, PBT-GF20-V0, Black
Active area material	Plastic, PA12-GF30, yellow
Electrical connection	Connector, M12 × 1
Environmental conditions	
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

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

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: $S_r = 35$ mm; $D = 240$ mm
 2-side mounting: $S_r = 25$ mm; $D = 240$ mm
 3-side mounting: $S_r = 20$ mm; $D = 80$ mm
 4-side mounting: $S_r = 15$ mm; $D = 60$ 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: $S_r = 20$ mm
 $x = 20$ mm: $S_r = 20$ mm
 $x = 30$ mm: $S_r = 20$ mm
 $x = 40$ mm: $S_r = 20$ mm

Sensor mounted on metal, protruding over the edge:

$y = 10$ mm: $S_r = 40$ mm
 $y = 20$ mm: $S_r = 50$ mm
 $y = 30$ mm: $S_r = 50$ mm
 $y = 40$ mm: $S_r = 50$ 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
 $S_r = 25$ mm

Surface-mounted on metal, with two side walls
 $S_r = 15$ mm

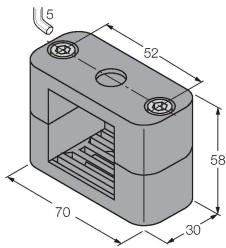
Surface-mounted on metal, with three side walls
 $S_r = 12$ mm

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

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

Accessories

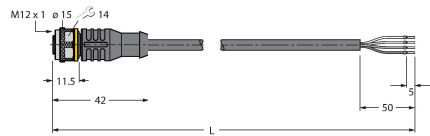
BSS-CP406901318



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

Wiring 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