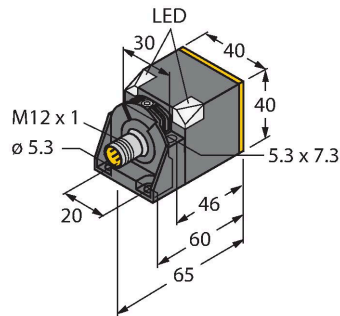


NI50U-CK40-VP4X2-H1141

Inductive Sensor – With Extended Switching Distance



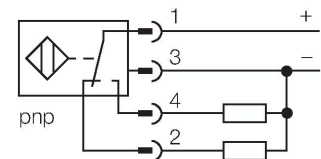
Technical data

Type	NI50U-CK40-VP4X2-H1141
ID	1538302
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	$\leq 200 \text{ mA}$
No-load current	$\leq 15 \text{ mA}$
Residual current	$\leq 0.1 \text{ mA}$
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	$\leq 1.8 \text{ V}$
Wire break/reverse polarity protection	yes/Complete
Output function	4-wire, Complementary contact, PNP
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, PNP output
- M12 x 1 male connector

Wiring diagram



Functional principle

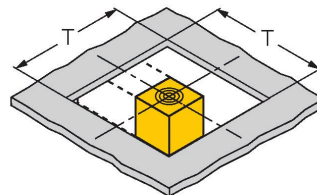
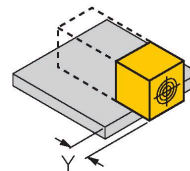
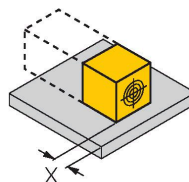
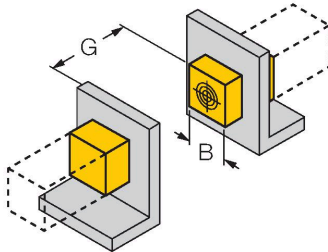
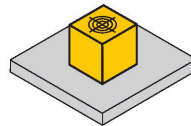
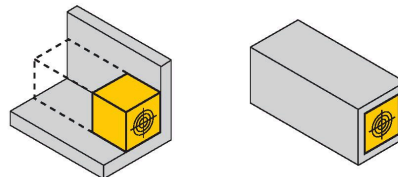
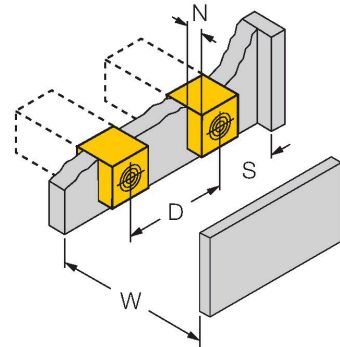
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

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

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:

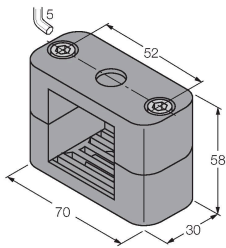
Sensor with turned rotating bracket
 Surface-mounted on metal $S_r = 50$ mm
 Surface-mounted on metal, with one side wall
 $S_r = 25$ mm
 Surface-mounted on metal, with two side walls
 $S_r = 15$ mm
 Surface-mounted on metal, with three side walls
 $S_r = 12$ mm

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

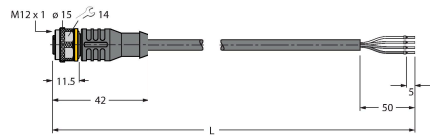
BSS-CP40 6901318



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