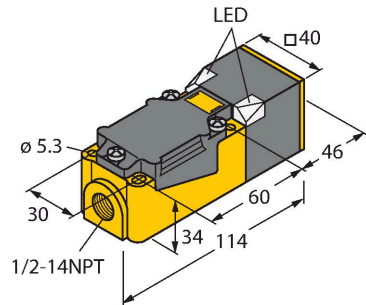


# NI50U-CP40-VN4X2/S10

## Inductive Sensor – With Extended Switching Distance



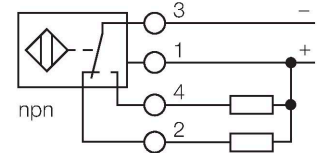
### Features

- Rectangular, height 40 mm
- Variable orientation of active face in 9 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
- Terminal chamber

### Technical data

Type	NI50U-CP40-VN4X2/S10
ID	1625807
Special version	S10 Corresponds to: Mounting base with 1/2-14NPT thread
<b>General data</b>	
Rated switching distance	50 mm
Mounting conditions	Non-flush, flush
Secured operating distance	$\leq (0.81 \times S_n) \text{ mm}$
Repeat accuracy	$\leq 2 \% \text{ of full scale}$
	$\leq \pm 20 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$
Hysteresis	3...15 %
<b>Electrical data</b>	
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, NPN
DC field stability	300 mT
AC field stability	300 mT <sub>ss</sub>

### Wiring diagram



### Functional principle

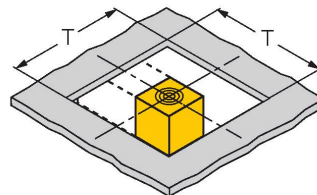
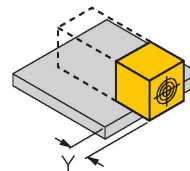
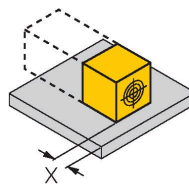
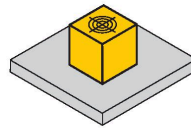
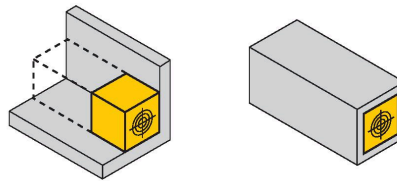
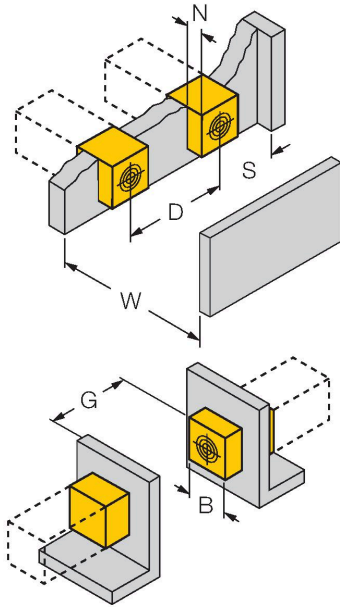
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

## Technical data

Switching frequency	0.25 kHz
<b>Mechanical data</b>	
Design	Rectangular, CP40
Dimensions	114 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0, Black
Active area material	Plastic, PA6-GF30-X, yellow
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm <sup>2</sup>
<b>Environmental conditions</b>	
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

## 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

up to 4-side flush mounting possible

1-side flush mounting:  $S_r = 35$  mm;  $D = 240$  mm

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

3-side flush mounting:  $S_r = 20$  mm;  $D = 80$  mm

4-side flush mounting:  $S_r = 17$  mm;  $D = 60$  mm

back-mounting as well as recessed mounting  
with switching distance reduction possible

recessed sensor mounting in metal:

$x = 10$  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

protruded sensor mounting on metal:

$x = 10$  mm:  $S_r = 40$  mm

$x = 20$  mm:  $S_r = 50$  mm

$x = 30$  mm:  $S_r = 50$  mm

$x = 40$  mm:  $S_r = 50$  mm

mounting in aperture plate:

$T = 150$  mm:

sensor with rotated turning angle

based on metal  $S_r = 50$  mm

based on metal and one-side embedding  $S_r = 25$  mm

based on metal and two-side embedding  $S_r = 15$  mm

based on metal and three-side embedding  $S_r = 12$  mm

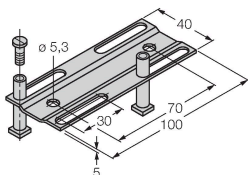
The values stated relate to 1 mm thick steel plate.

## Accessories

JS025/037

69429

Adjusting bar for rectangular housings  
CK/CP40; material: VA 1.4301



BSS-CP40

6901318

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

