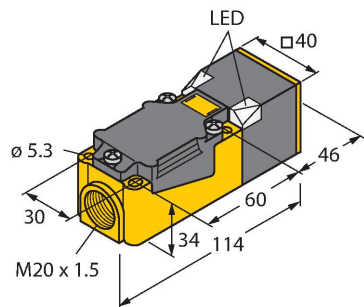


NI50U-CP40-AP6X2

Inductive Sensor – With Extended Switching Distance



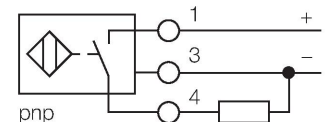
Features

- 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 3-wire, 10...30 VDC
- NO contact, PNP output
- Terminal chamber

Technical data

Type	NI50U-CP40-AP6X2
ID	1625831
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...30 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	3-wire, NO contact, PNP
DC field stability	300 mT
AC field stability	300 mT _{ss}
Insulation class	□
Switching frequency	0.25 kHz
Mechanical data	
Design	Rectangular, CP40

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

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 mm²
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

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: $S_r = 35$ 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: $S_r = 17$ mm; $D = 60$ mm

Backside and recessed mounting with reduced switching distance

Recessed 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 mounting:

$y = 10$ 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

Mounting position in aperture plate:

$T = 150$ mm

Twisted mounting position

On metal $S_r = 50$ mm

Metal-enclosed on one side $S_r = 25$ mm

Metal-enclosed on two sides $S_r = 15$ mm

Metal-enclosed on three sides $S_r = 12$ mm

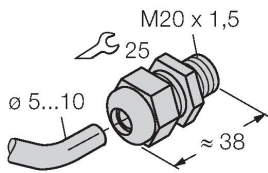
The values stated relate to a 1 mm thick steel plate.

Accessories

STRM M20X1.5 SCHWARZ

6965902

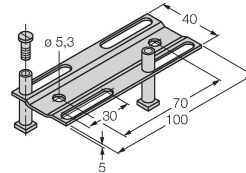
M20 × 1.5 cable gland



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

