

NI50U-CP40-VN4X2

Inductive Sensor – With Extended Switching Distance



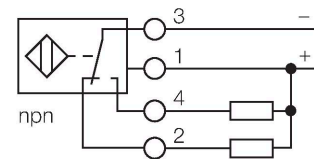
Features

- 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
ID	1625847
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	$\leq \pm 10 \%$ $\leq \pm 20 \%$, $\leq -25 \text{ °C}$ v $\geq +70 \text{ °C}$
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	□
Switching frequency	0.25 kHz
Mechanical data	
Design	Rectangular, CP40

Wiring diagram



Functional principle

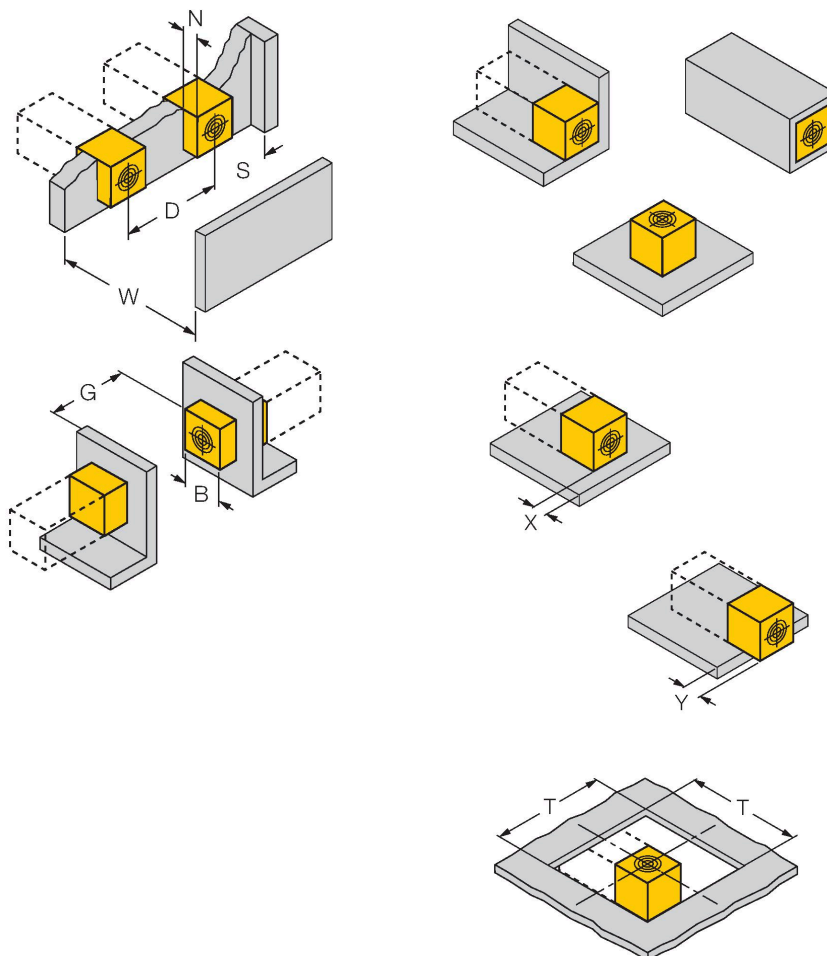
Inductive sensors are designed for wear-free and contactless detection of metal objects. aprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

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 mm ²
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: Sr = 35 mm; D = 240 mm
- 2-side mounting: Sr = 25 mm; D = 240 mm
- 3-side mounting: Sr = 20 mm; D = 80 mm
- 4-side mounting: Sr = 17 mm; D = 60 mm

Backside and recessed mounting with reduced switching distance

Recessed mounting in metal:

- x = 10 mm: Sr = 20 mm
- x = 20 mm: Sr = 20 mm
- x = 30 mm: Sr = 20 mm
- x = 40 mm: Sr = 20 mm

Protruded mounting:

- y = 10 mm: Sr = 40 mm
- y = 20 mm: Sr = 50 mm
- y = 30 mm: Sr = 50 mm
- y = 40 mm: Sr = 50 mm

Mounting position in aperture plate:

T = 150 mm

Twisted mounting position

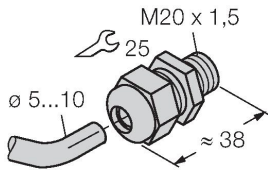
- On metal Sr = 50 mm
- Metal-enclosed on one side Sr = 25 mm
- Metal-enclosed on two sides Sr = 15 mm
- Metal-enclosed on three sides Sr = 12 mm

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

Accessories

STRM M20X1.5 SCHWARZ 6965902

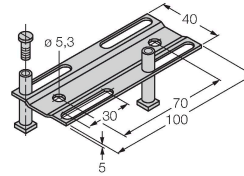
M20 × 1.5 cable gland



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

