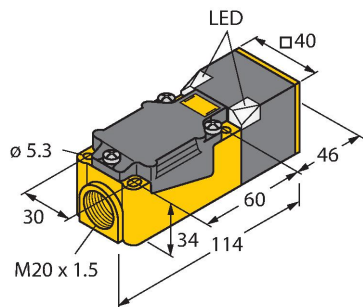


# NI50U-CP40-AN6X2

## Inductive Sensor – With Extended Switching Distance



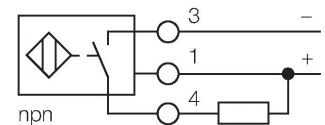
### Features

- 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, NPN output
- Terminal chamber

### Technical data

|                                        |                                                                |
|----------------------------------------|----------------------------------------------------------------|
| Type                                   | NI50U-CP40-AN6X2                                               |
| ID                                     | 1625846                                                        |
| <b>General data</b>                    |                                                                |
| 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 %                                                       |
| <b>Electrical data</b>                 |                                                                |
| Operating voltage $U_B$                | 10...30 VDC                                                    |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$                                        |
| DC rated operating current $I_o$       | $\leq 200$ mA                                                  |
| No-load current                        | $\leq 15$ mA                                                   |
| Residual current                       | $\leq 0.1$ mA                                                  |
| Isolation test voltage                 | 0.5 kV                                                         |
| Short-circuit protection               | yes/Cyclic                                                     |
| Voltage drop at $I_o$                  | $\leq 1.8$ V                                                   |
| Wire break/reverse polarity protection | yes/Complete                                                   |
| Output function                        | 3-wire, NO contact, NPN                                        |
| DC field stability                     | 300 mT                                                         |
| AC field stability                     | 300 mT <sub>ss</sub>                                           |
| Insulation class                       | □                                                              |
| Switching frequency                    | 0.25 kHz                                                       |
| <b>Mechanical data</b>                 |                                                                |
| 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

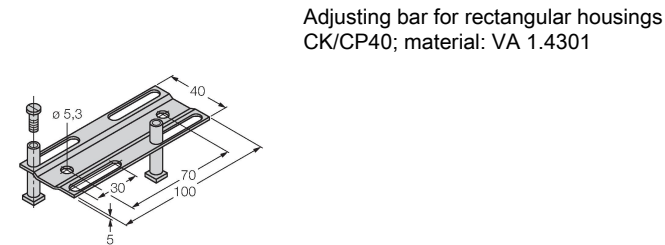
|                                                                |                        |
|----------------------------------------------------------------|------------------------|
| Mounting instructions/Description                              |                        |
|                                                                | Distance D240 mm       |
|                                                                | Distance W105 mm       |
|                                                                | Distance S60 mm        |
|                                                                | Distance G300 mm       |
|                                                                | Distance N30 mm        |
|                                                                | Width active area40 mm |
|                                                                | B                      |
|                                                                |                        |
|                                                                |                        |
|                                                                |                        |
| 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



JS025/037 69429



BSS-CP40 6901318

