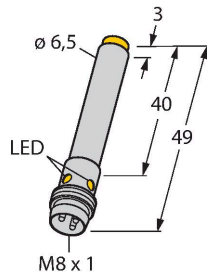


# NI6U-EH6.5-AP6X-V1131

## Inductive Sensor – With Extended Switching Distance



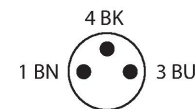
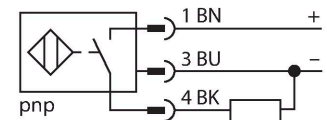
### Features

- Smooth barrel, Ø 6.5 mm
- Stainless steel, 1.4427 SO
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Large switching distance
- High switching frequency
- Integrated protection against predamping
- Little metal-free spaces
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M8 x 1 male connector

### Technical data

|                                        |                             |
|----------------------------------------|-----------------------------|
| Type                                   | NI6U-EH6.5-AP6X-V1131       |
| ID                                     | 4631510                     |
| <b>General data</b>                    |                             |
| Rated switching distance               | 6 mm                        |
| Mounting conditions                    | Non-flush                   |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm |
| Repeat accuracy                        | $\leq 2 \%$ of full scale   |
| Temperature drift                      | $\leq \pm 10 \%$            |
| 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 $I_o$       | $\leq 150$ 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, PNP     |
| DC field stability                     | 200 mT                      |
| AC field stability                     | 200 mT <sub>ss</sub>        |
| Insulation class                       | □                           |
| Switching frequency                    | 1 kHz                       |
| <b>Mechanical data</b>                 |                             |
| Design                                 | Smooth barrel, 6,5 mm       |
| Dimensions                             | 49 mm                       |

### Wiring diagram



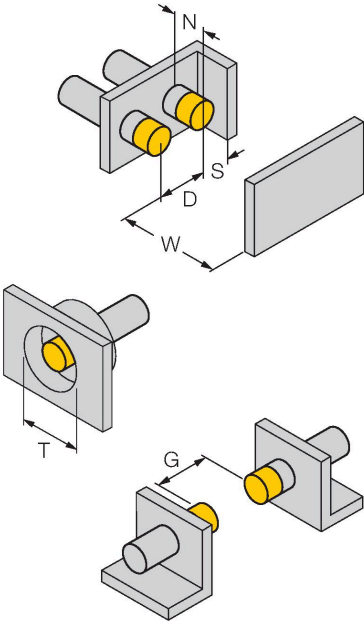
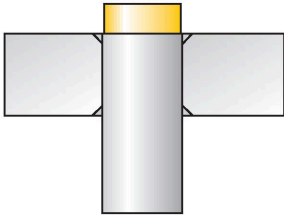
### Functional principle

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.

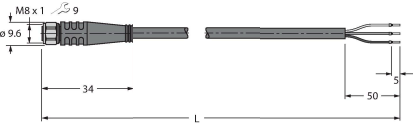
Technical data

|                          |                                           |
|--------------------------|-------------------------------------------|
| Housing material         | Stainless steel, 1.4427 SO                |
| Active area material     | Plastic, PA12-GF20                        |
| Electrical connection    | Connector, M8 × 1                         |
| Environmental conditions |                                           |
| Ambient temperature      | -25...+70 °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 |
| Switching state          | LED, Yellow                               |

Mounting instructions

| Mounting instructions/Description                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                      |            |       |            |       |            |       |            |       |            |       |            |       |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------------------|
|                                                                                                                     |                                                                                                                                                                                                                                                    |            |       |            |       |            |       |            |       |            |       |            |       |                        |
|                                                                                                                                                                                                       | <table><tr><td>Distance D</td><td>26 mm</td></tr><tr><td>Distance W</td><td>18 mm</td></tr><tr><td>Distance T</td><td>26 mm</td></tr><tr><td>Distance S</td><td>10 mm</td></tr><tr><td>Distance G</td><td>36 mm</td></tr><tr><td>Distance N</td><td>12 mm</td></tr><tr><td>Diameter active area B</td><td>Ø 6.5 mm</td></tr></table> | Distance D | 26 mm | Distance W | 18 mm | Distance T | 26 mm | Distance S | 10 mm | Distance G | 36 mm | Distance N | 12 mm | Diameter active area B |
| Distance D                                                                                                                                                                                            | 26 mm                                                                                                                                                                                                                                                                                                                                |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance W                                                                                                                                                                                            | 18 mm                                                                                                                                                                                                                                                                                                                                |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance T                                                                                                                                                                                            | 26 mm                                                                                                                                                                                                                                                                                                                                |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance S                                                                                                                                                                                            | 10 mm                                                                                                                                                                                                                                                                                                                                |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance G                                                                                                                                                                                            | 36 mm                                                                                                                                                                                                                                                                                                                                |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance N                                                                                                                                                                                            | 12 mm                                                                                                                                                                                                                                                                                                                                |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Diameter active area B                                                                                                                                                                                | Ø 6.5 mm                                                                                                                                                                                                                                                                                                                             |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| All non-flush mountable cylindrical uprox+ sensors can be screwed to the upper edge of the barrel. Safe operation of the Ø 6.5 mm version is guaranteed with reduced switching distance of max. 30 %. |                                                                                                                                                                                                                                                                                                                                      |            |       |            |       |            |       |            |       |            |       |            |       |                        |

Accessories

| Dimension drawing                                                                   | Type        | ID      |                                                                                                                                                      |
|-------------------------------------------------------------------------------------|-------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | PKG3M-2/TEL | 6625385 | Connection cable, M8 female connector, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, black; cULus approval |