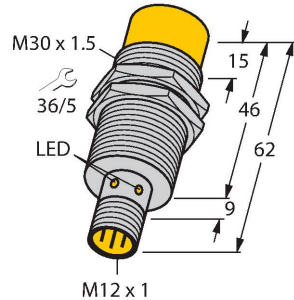


# NI20U-EM30-AP6X2-H1141 Inductive Sensor



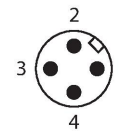
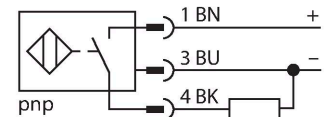
## Features

- M30 × 1.5 threaded tube
- Stainless steel, 1.4301
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- Auto-compensation protects against pre-damping
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

## Technical data

|                                        |                                                              |
|----------------------------------------|--------------------------------------------------------------|
| Type                                   | NI20U-EM30-AP6X2-H1141                                       |
| ID                                     | 1646345                                                      |
| General data                           |                                                              |
| Rated switching distance               | 20 mm                                                        |
| Mounting conditions                    | Non-flush                                                    |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                                  |
| Repeat accuracy                        | $\leq 2 \%$ of full scale                                    |
| Temperature drift                      | $\leq \pm 10 \%$                                             |
|                                        | $\leq \pm 20 \%, \leq -25 \text{ °C v } \geq +70 \text{ °C}$ |
| Hysteresis                             | 3...15 %                                                     |
| Electrical data                        |                                                              |
| Operating voltage $U_B$                | 10...30 VDC                                                  |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$                                      |
| DC rated operating current $I_o$       | $\leq 200$ mA                                                |
| No-load current                        | $\leq 25$ 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                     | 300 mT                                                       |
| AC field stability                     | 300 mT <sub>ss</sub>                                         |
| Insulation class                       | □                                                            |

## Wiring diagram



## Functional principle

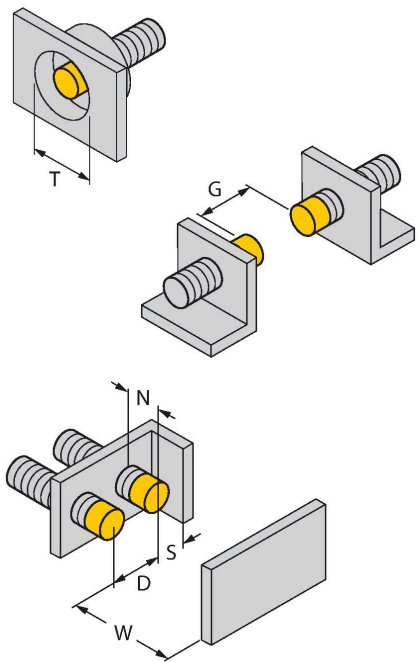
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Switching frequency                   | 1 kHz                                     |
| Mechanical data                       |                                           |
| Design                                | Threaded barrel, M30 x 1.5                |
| Dimensions                            | 62 mm                                     |
| Housing material                      | Stainless steel, 1.4301 (AISI 304)        |
| Active area material                  | Plastic, PBT                              |
| Max. tightening torque of housing nut | 75 Nm                                     |
| Electrical connection                 | Connector, M12 x 1                        |
| 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                   | LED, Green                                |
| Switching state                       | LED, Yellow                               |

Mounting instructions

| Mounting instructions/Description |
|-----------------------------------|
|-----------------------------------|



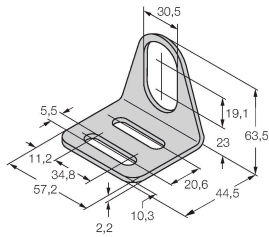
|                        |         |
|------------------------|---------|
| Distance D             | 3 x B   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 0.5 x B |
| Distance G             | 6 x Sn  |
| Distance N             | 2 x Sn  |
| Diameter active area B | Ø 30 mm |

NI20U-EM30-AP6X2-H1141| 02/21/2025 13-43 | technical changes reserved

## Accessories

MW30

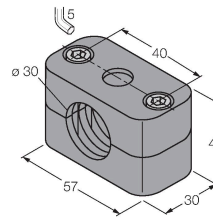
6945005



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-30

6901319



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene