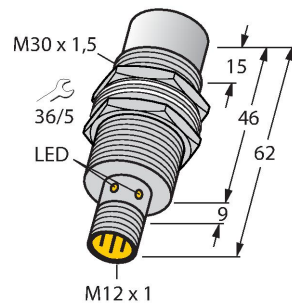


# NI20U-MT30-VP4X-H1141

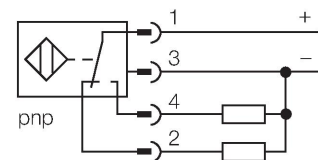
## Inductive Sensor



### Features

- Threaded barrel, M30 x 1.5
- Brass, PTFE-coated
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 4-wire, 10...65 VDC
- Changeover contact, PNP output
- M12 x 1 male connector

### 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

|                                           |                                                            |
|-------------------------------------------|------------------------------------------------------------|
| Type                                      | NI20U-MT30-VP4X-H1141                                      |
| ID                                        | 1582458                                                    |
| 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                         | $\leq \pm 10 \%$                                           |
|                                           | $\leq \pm 15 \%, -25^\circ\text{C} \leq +70^\circ\text{C}$ |
| Hysteresis                                | 3...15 %                                                   |
| Electrical data                           |                                                            |
| Operating voltage                         | 10...65 VDC                                                |
| Residual ripple                           | $\leq 10 \%$ $U_{ss}$                                      |
| DC rated operational current              | $\leq 200$ mA                                              |
| No-load current                           | 15 mA                                                      |
| Residual current                          | $\leq 0.1$ mA                                              |
| Isolation test voltage                    | $\leq 0.5$ kV                                              |
| Short-circuit protection                  | yes / Cyclic                                               |
| Voltage drop at $I_o$                     | $\leq 1.8$ V                                               |
| Wire breakage/Reverse polarity protection | yes / Complete                                             |
| Output function                           | 4-wire, Complementary contact, PNP                         |
| DC field stability                        | 300 mT                                                     |
| AC field stability                        | 300 mT <sub>ss</sub>                                       |
| Insulation class                          | □                                                          |
| Switching frequency                       | 1 kHz                                                      |

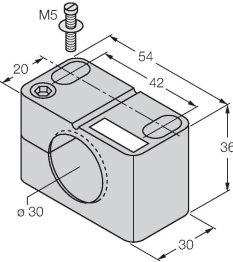
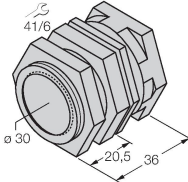
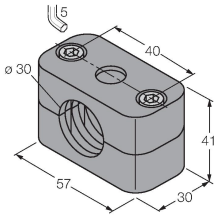
Technical data

| Mechanical data                       |                                           |
|---------------------------------------|-------------------------------------------|
| Design                                | Threaded barrel, M30 x 1.5                |
| Dimensions                            | 62 mm                                     |
| Housing material                      | Metal, CuZn, PTFE-coated                  |
| Active area material                  | Plastic, PBT, PTFE-coated                 |
| 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 |
| Switching state                       | LED, Yellow                               |

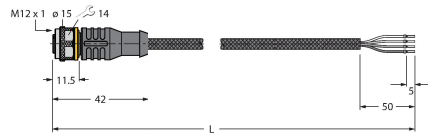
Mounting instructions

| Mounting instructions/Description                                                   |                        |         |
|-------------------------------------------------------------------------------------|------------------------|---------|
|  | Distance D             | 3 x B   |
|                                                                                     | Distance W             | 3 x Sn  |
|                                                                                     | Distance T             | 3 x B   |
|                                                                                     | Distance S             | 1.5 x B |
|                                                                                     | Distance G             | 6 x Sn  |
|                                                                                     | Distance N             | 2 x Sn  |
|                                                                                     | Diameter active area B | Ø 30 mm |
|                                                                                     |                        |         |

Accessories

|                                                                                   |         |                                                                                |                                                                                    |         |                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BST-30B                                                                           | 6947216 | Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6      | QMT-30                                                                             | 6945105 | Quick-mount bracket with dead-stop; material: brass, PTFE-coated; Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets. |
|  |         |                                                                                |  |         |                                                                                                                                                                                             |
| BSS-30                                                                            | 6901319 | Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene |                                                                                    |         |                                                                                                                                                                                             |
|  |         |                                                                                |                                                                                    |         |                                                                                                                                                                                             |

Accessories

|                                                                                     |                   |         |                                                                                                                                                         |
|-------------------------------------------------------------------------------------|-------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension drawing                                                                   | Type              | ID      |                                                                                                                                                         |
|  | RKC4.4T-2/TXL1001 | 6628825 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, protective jacket material: aramid fibers, yellow; temperature peak: 200 °C |