

# NI20U-M30-VN4X-H1141

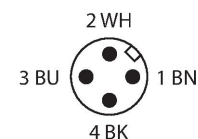
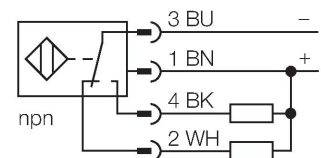
## Inductive Sensor



### Features

- M30 × 1.5 threaded tube
- Chrome-plated brass
- 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, NPN output
- M12 x 1 male connector

### Wiring diagram



### Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. Approx 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-M30-VN4X-H1141                                                 |
| ID                                     | 1582552                                                              |
| 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                      | $\leq \pm 10 \%$                                                     |
|                                        | $\leq \pm 15 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$ |
| Hysteresis                             | 3...15 %                                                             |
| Electrical data                        |                                                                      |
| Operating voltage $U_B$                | 10...65 VDC                                                          |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$                                              |
| DC rated operating current $I_o$       | $\leq 200$ 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                        | 4-wire, Complementary contact, NPN                                   |
| DC field stability                     | 300 mT                                                               |
| AC field stability                     | 300 mT <sub>ss</sub>                                                 |
| Insulation class                       | □                                                                    |
| Switching frequency                    | 1 kHz                                                                |
| Mechanical data                        |                                                                      |
| Design                                 | Threaded barrel, M30 x 1.5                                           |

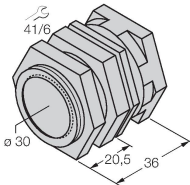
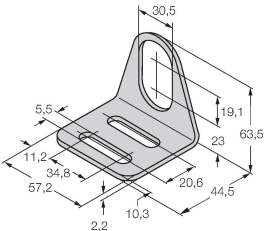
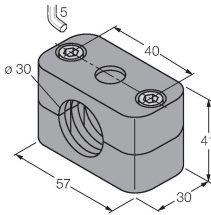
Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Dimensions                            | 62 mm                                     |
| Housing material                      | Metal, CuZn, Chrome-plated                |
| Active area material                  | Plastic, LCP                              |
| Max. tightening torque of housing nut | 75 Nm                                     |
| Electrical connection                 | Connector, M12 × 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                               |

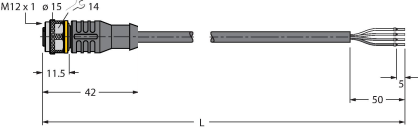
Mounting instructions

| 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                    | QM-30                                                                              | 6945103 | Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets. |
|  |         |                                                                                              |  |         |                                                                                                                                                                                              |
| 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                                                                                                               |
|  |         |                                                                                              |  |         |                                                                                                                                                                                              |

Accessories

|                                                                                     |               |         |                                                                                                                         |
|-------------------------------------------------------------------------------------|---------------|---------|-------------------------------------------------------------------------------------------------------------------------|
| Dimension drawing                                                                   | Type          | ID      |                                                                                                                         |
|  | RKC4.4T-2/TEL | 6625013 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval |