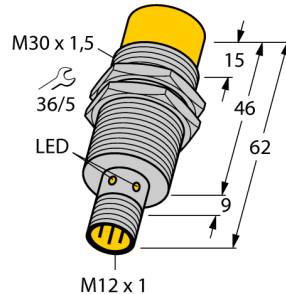


# **Inductive sensor** **with extended switching distance** **NI20-M30-VN6X-H1141**

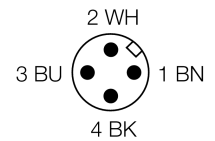
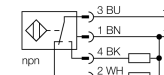
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- Threaded barrel, M30 x 1.5
- Chrome-plated brass
- Large detection range
- DC 4-wire, 10...30 VDC
- Changeover contact, NPN output
- M12 x 1 connector

## **Wiring diagram**



## **Functional principle**

Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit.

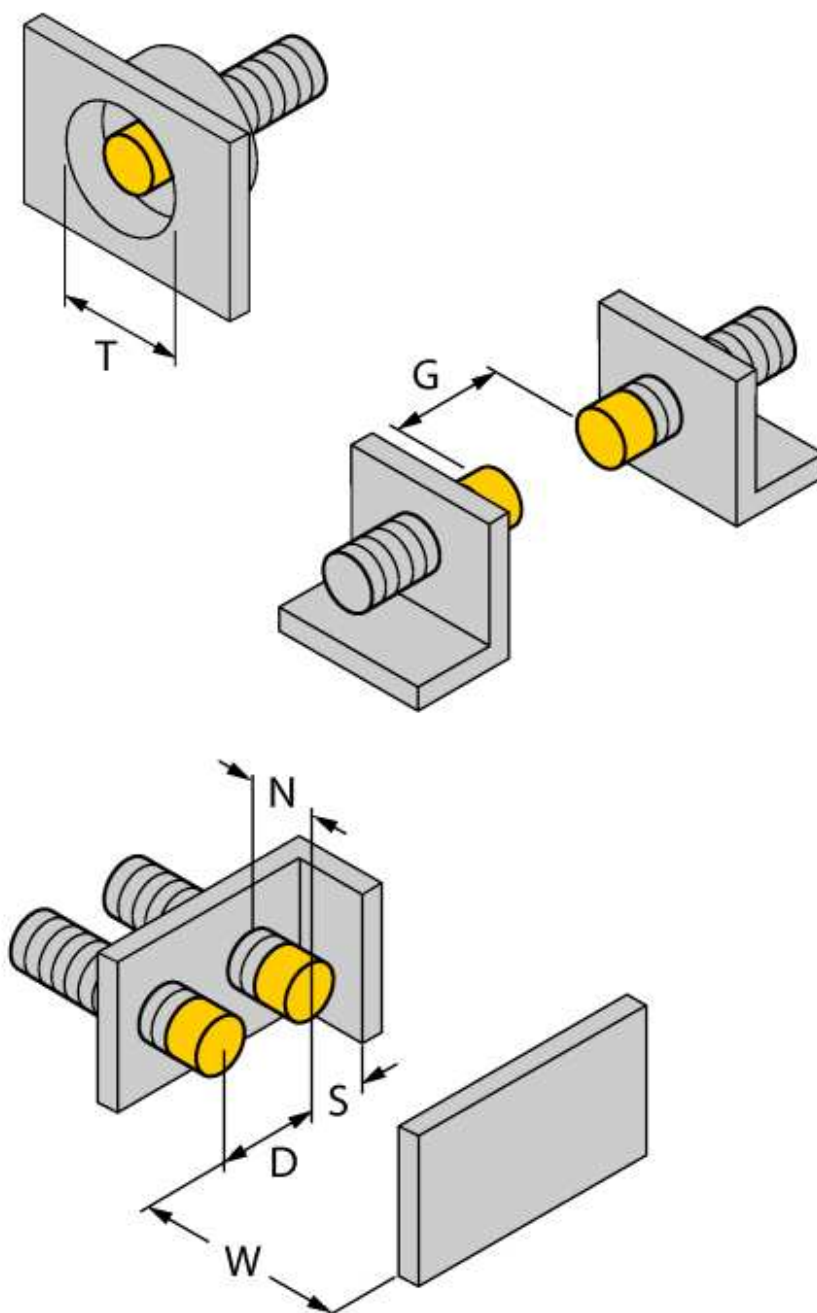
|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| <b>Type code</b>                            | NI20-M30-VN6X-H1141                                 |
| Ident no.                                   | 4590614                                             |
| <b>Rated operating distance Sn</b>          | 20 mm                                               |
| Mounting condition                          | non-flush                                           |
| Assured sensing range                       | ≤ (0,81 x Sn) mm                                    |
| Correction factors                          | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeatability                               | ≤ 2 % of full scale                                 |
| Temperaturdrift                             | 10 %                                                |
| Hysteresis                                  | 3...15 %                                            |
| Ambient temperature                         | -25...+70 °C                                        |
| <b>Operating voltage</b>                    | 10...30VDC                                          |
| Residual ripple                             | ≤ 10 % U <sub>ss</sub>                              |
| DC rated operational current                | ≤ 200 mA                                            |
| No-load current I <sub>0</sub>              | ≤ 15 mA                                             |
| Residual current                            | ≤ 0.1 mA                                            |
| Rated insulation voltage                    | ≤ 0.5 kV                                            |
| Short-circuit protection                    | yes/ cyclic                                         |
| Voltage drop at I <sub>0</sub>              | ≤ 1.8 V                                             |
| Wire breakage / Reverse polarity protection | yes/ complete                                       |
| Output function                             | 4-wire, changover contact, NPN                      |
| Switching frequency                         | 0.5 kHz                                             |
| <b>Design</b>                               | threaded barrel, M30 x 1.5                          |
| Dimensions                                  | 62 mm                                               |
| Housing material                            | Metal, CuZn, chrome-plated                          |
| Material active face                        | Plastic, PA                                         |
| Max. tightening torque housing nut          | 75 Nm                                               |
| Connection                                  | male, M12 x 1                                       |
| Vibration resistance                        | 55 Hz (1 mm)                                        |
| Shock resistance                            | 30 g (11 ms)                                        |
| Protection class                            | IP67                                                |
| MTTF                                        | 2283 years acc. to SN 29500 (Ed. 99) 40 °C          |
| <b>Switching state</b>                      | • yellow                                            |

# Inductive sensor with extended switching distance NI20-M30-VN6X-H1141

|            |                |
|------------|----------------|
| Distance D | $3 \times B$   |
| Distance W | $3 \times S_n$ |
| Distance T | $3 \times B$   |
| Distance S | $1.5 \times B$ |
| Distance G | $6 \times S_n$ |
| Distance N | 20 mm          |

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|                               |                             |
|-------------------------------|-----------------------------|
| Diameter of the active area B | $\varnothing 30 \text{ mm}$ |
|-------------------------------|-----------------------------|

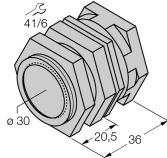
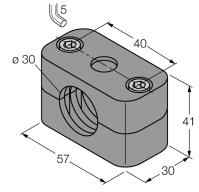


**Inductive sensor  
with extended switching distance  
NI20-M30-VN6X-H1141**

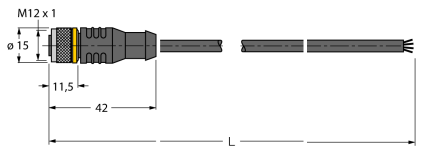
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**Accessories**

| Type code | Ident no. | Description                                                                                                                                                                                    | Dimension drawing                                                                     |
|-----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| BST-30B   | 6947216   | Fixing clamp for threaded barrel devices, with dead-stop; material: PA6                                                                                                                        |    |
| QM-30     | 6945103   | Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M36 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets. |    |
| MW-30     | 6945005   | Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)                                                                                                   |  |
| BSS-30    | 6901319   | Mounting bracket for smooth and threaded barrel devices; material: Polypropylene                                                                                                               |  |

**Wiring accessories**

| Type code     | Ident no. | Description                                                                                                                                                                                                      | Dimension drawing                                                                     |
|---------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RKC4.4T-2/TEL | 6625013   | Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a> |  |