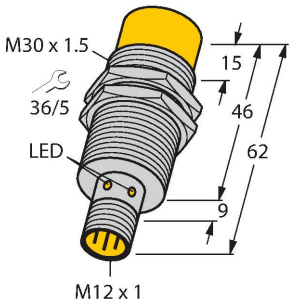
# NI20-M30-AP6X-H1141
# Inductive Sensor – With Increased Switching Distance



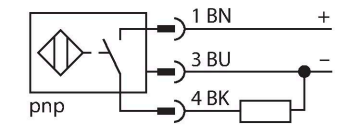

## Technical data

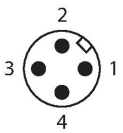
| | |
|---|---|
| Type | NI20-M30-AP6X-H1141 |
| ID | 4670510 |
| **General data** | |
| Rated switching distance | 20 mm |
| Mounting conditions | Non-flush |
| Secured operating distance | ≤ (0.81 × Sn) mm |
| Correction factors | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeat accuracy | ≤ 2 % of full scale |
| Temperature drift | ≤ ±10 % |
| Hysteresis | 3…15 % |
| **Electrical data** | |
| Operating voltage $U_B$ | 10…30 VDC |
| Ripple $U_{ss}$ | ≤ 10 % $U_{Bmax}$ |
| DC rated operating current $I_e$ | ≤ 200 mA |
| No-load current | ≤ 15 mA |
| Residual current | ≤ 0.1 mA |
| Isolation test voltage | 0.5 kV |
| Short-circuit protection | yes/Cyclic |
| Voltage drop at $I_e$ | ≤ 1.8 V |
| Wire break/reverse polarity protection | yes/Complete |
| Output function | 3-wire, NO contact, PNP |
| Switching frequency | 0.5 kHz |

## Features

- M30 × 1.5 threaded tube
- Chrome-plated brass
- Large sensing range
- DC 3-wire, 10…30 VDC
- NO contact, PNP output
- M12 x 1 male connector

## Wiring diagram




## Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

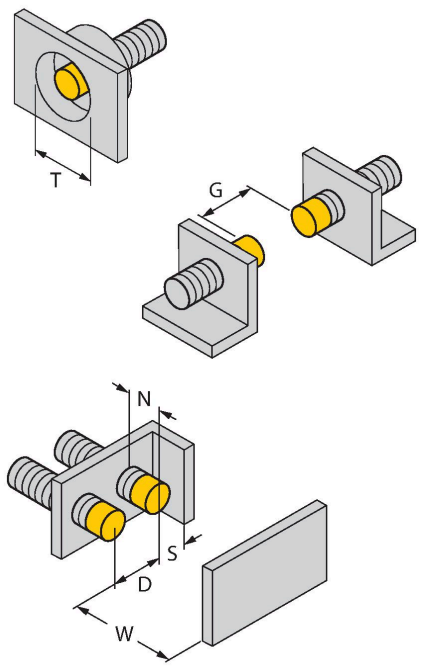
NI20-M30-AP6X-H1141| 02/21/2025 14-21 | technical changes reserved

## Technical data

| Mechanical data | |
|---|---|
| Design | Threaded barrel, M30 x 1.5 |
| Dimensions | 62 mm |
| Housing material | Metal, CuZn, Chrome-plated |
| Active area material | Plastic, PA12-GF30 |
| Max. tightening torque of housing nut | 75 Nm |
| Electrical connection | Connector, M12 × 1 |
| **Environmental conditions** | |
| Ambient temperature | -25…+70 °C |
| 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 |
| 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 | 20 mm |
| Diameter active area B | Ø 30 mm |

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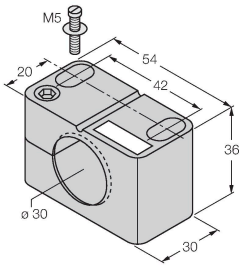
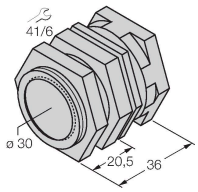
## Accessories

| BST-30B | 6947216 |
|---|---|



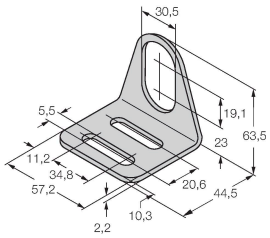

Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

| QM-30 | 6945103 |
|---|---|



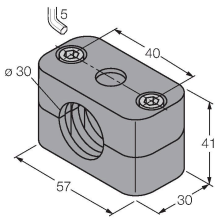

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

| 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

## Wiring accessories

| Dimension drawing | Type | ID | |
|---|---|---|---|
| | RKC4T-2/TEL | 6625010 | Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval |

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