

# BI20U-M30-AP6X-H1141

## Inductive Sensor



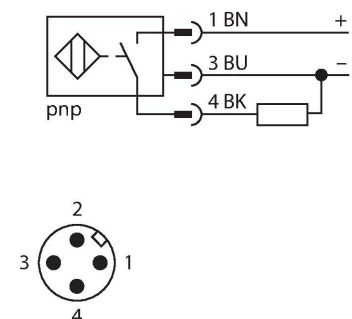
### Technical data

|   |                             |
|---|-----------------------------|
| Type                                      | BI20U-M30-AP6X-H1141        |
| ID  | 1644880                     |
| <b>General data</b>                       |                             |
| Rated switching distance                  | 20 mm                       |
| Mounting conditions                       | Flush                       |
| Secured operating distance                | $\leq (0.81 \times S_n)$ mm |
| Repeat accuracy                           | $\leq 2\%$ of full scale    |
| Temperature drift                         | $\leq \pm 10\%$             |
| Hysteresis                                | 3...15 %                    |
| <b>Electrical data</b>                    |                             |
| Operating voltage                         | 10...30 VDC                 |
| Residual ripple                           | $\leq 10\% U_{ss}$          |
| DC rated operational current              | $\leq 200$ mA               |
| No-load current                           | 25 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                           | 3-wire, NO contact, PNP     |
| DC field stability                        | 300 mT                      |
| AC field stability                        | 300 mT <sub>SS</sub>        |
| Switching frequency                       | 1 kHz                       |

### Features

- M30 × 1.5 threaded tube
- Chrome-plated brass
- Factor 1 for all metals
- Resistant to magnetic fields
- Large switching distance
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 × 1 male connector

### Wiring diagram



### Functional principle

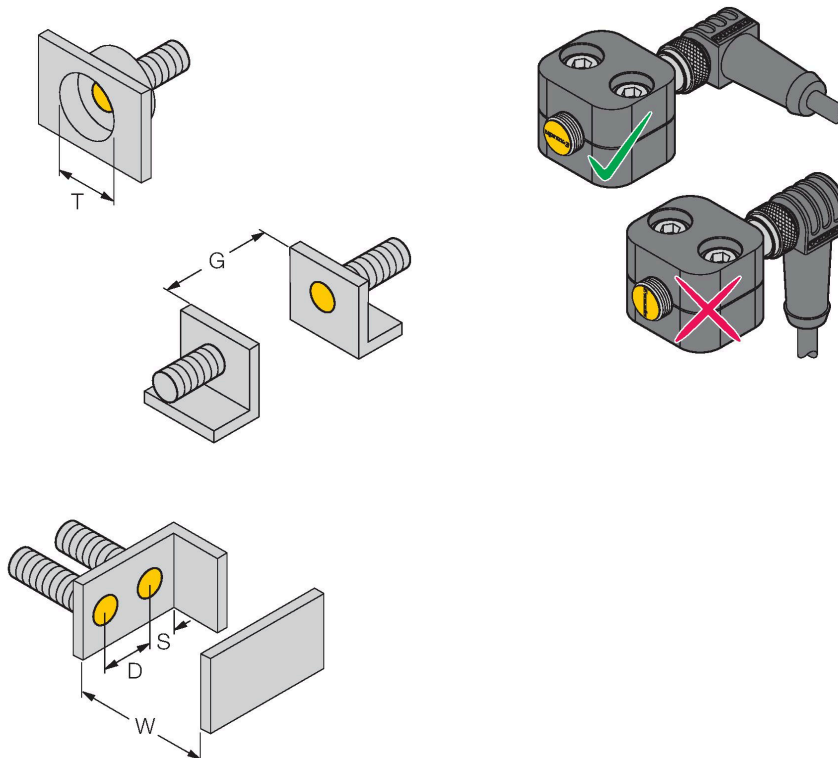
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox3 sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

## Technical data

| Mechanical data                       |   |
|---------------------------------------|---|
| Design                                | Threaded barrel, M30 x 1.5                |
| Dimensions                            | 62 mm                                     |
| Housing material                      | Metal, CuZn, Chrome-plated                |
| Active area material                  | Plastic, LCP                              |
| Max. tightening torque of housing nut | 50 Nm                                     |
| Electrical connection                 | Connector, M12 x 1                        |
| Environmental conditions              |   |
| Ambient temperature                   | -25...+70 °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             | 60 mm   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 30 mm |

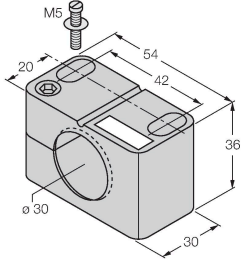
When installing the sensor in combination with the illustrated half-shell-clamp, observe its correct alignment towards the clamp. For this, see the uprox-lettering on the front cap of the sensor and the adjacent installation drawing.

## Accessories

BST-30B

6947216

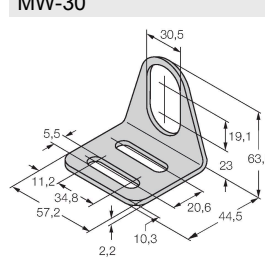
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



MW-30

6945005

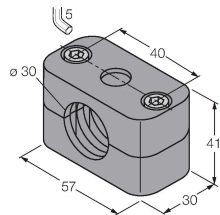
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



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

