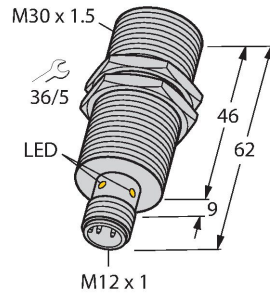


# BI10-M30-AP6X-H1141

## Inductive Sensor



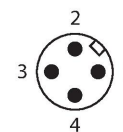
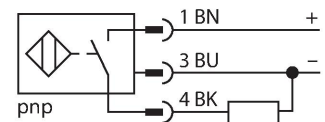
### Technical data

|                                           |                                                     |
|-------------------------------------------|-----------------------------------------------------|
| Type                                      | BI10-M30-AP6X-H1141                                 |
| ID                                        | 46175                                               |
| <b>General data</b>                       |                                                     |
| Rated switching distance                  | 10 mm                                               |
| Mounting conditions                       | Flush                                               |
| Secured operating distance                | $\leq (0.81 \times S_n)$ mm                         |
| Correction factors                        | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| 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                           | 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                           | 3-wire, NO contact, PNP                             |
| Insulation class                          | □                                                   |
| Switching frequency                       | 0.5 kHz                                             |
| <b>Mechanical data</b>                    |                                                     |
| Design                                    | Threaded barrel, M30 x 1.5                          |
| Dimensions                                | 62 mm                                               |

### Features

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

### Wiring diagram



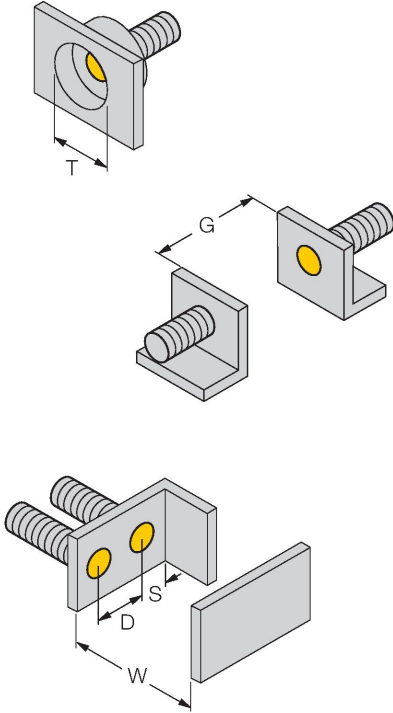
### Functional principle

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.

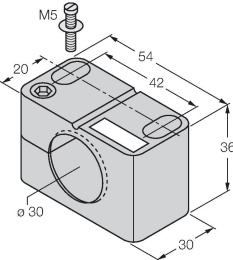
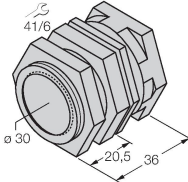
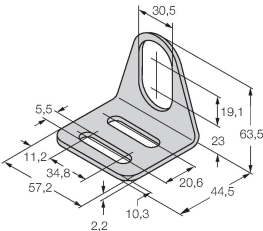
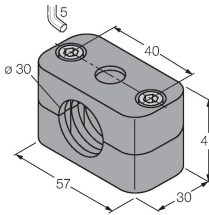
Technical data

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| 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             |
|                                                                                     | 2 x B                  |
|                                                                                     | 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                |

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. |
|  |         |                                                                                              |  |         |                                                                                                                                                                                              |
| 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                                                                                                               |
|  |         |                                                                                              |  |         |                                                                                                                                                                                              |

Accessories

| Dimension drawing                                                                   | Type        | ID      |                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|-------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | RKC4T-2/TEL | 6625010 | Connection cable, female M12, straight, 3-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> |