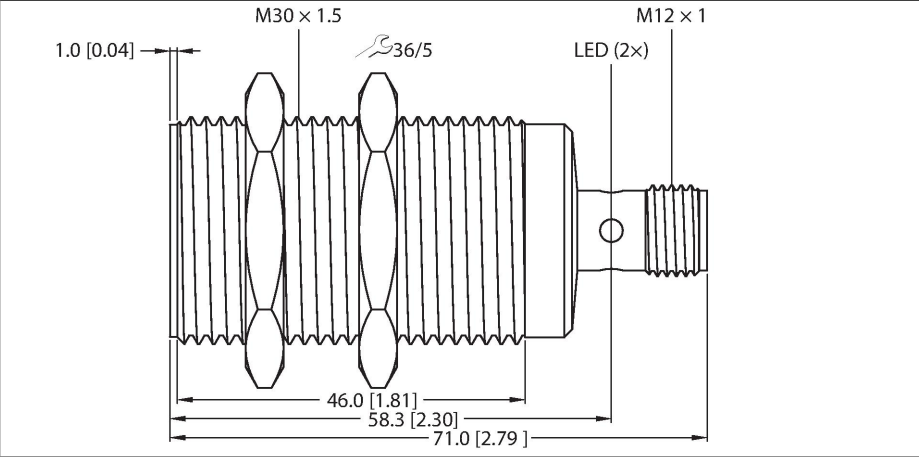


# BI12-M30-2APS8X2-H1141

## Inductive Safety Sensor



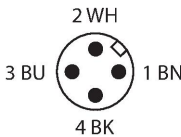
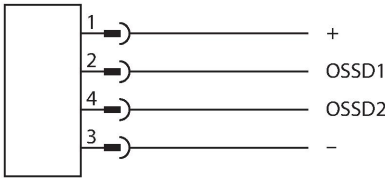
### Technical data

|                                        |                                                      |
|----------------------------------------|------------------------------------------------------|
| Type                                   | BI12-M30-2APS8X2-H1141                               |
| ID                                     | 100016608                                            |
| General data                           |                                                      |
| Rated switching distance               | 12 mm                                                |
| Secured switch-on distance             | 9.6 mm                                               |
| Secured switch-off distance            | 18 mm                                                |
| Mounting conditions                    | Flush                                                |
| Correction factors                     | St37 = 1; Al = 0.45; stainless steel = 0.8; Ms = 0.4 |
| Repeat accuracy                        | ≤ 2 % of full scale                                  |
| Temperature drift                      | ≤ ±10 %                                              |
| Hysteresis                             | 3...15 %                                             |
| Electrical data                        |                                                      |
| Operating voltage $U_B$                | 19.2...28.8 VDC                                      |
| Ripple $U_{ss}$                        | ≤ 10 % $U_{Bmax}$                                    |
| No-load current                        | ≤ 20 mA                                              |
| Impulse withstand voltage              | 1.5 kV                                               |
| Isolation test voltage                 | 0.0288 kV                                            |
| Short-circuit protection               | yes                                                  |
| Wire break/reverse polarity protection | Complete                                             |
| Output function                        | 4-wire, 2 x OSSD, NO contact, PNP                    |
| Number of safe semiconductor outputs   | 2                                                    |
| Switching frequency                    | 0.1 kHz                                              |
| Mechanical data                        |                                                      |
| Design                                 | Threaded barrel, M30 x 1.5                           |
| Dimensions                             | 71 mm                                                |
| Housing material                       | Metal, CuZn                                          |

### Features

- M30 × 1.5 threaded tube
- Nickel-plated brass
- SIL 2 (IEC 61508)
- PL d (ISO 13849-1)
- 2 x OSSD output, NO contact, PNP
- DC 4-wire, 24 VDC

### Wiring diagram



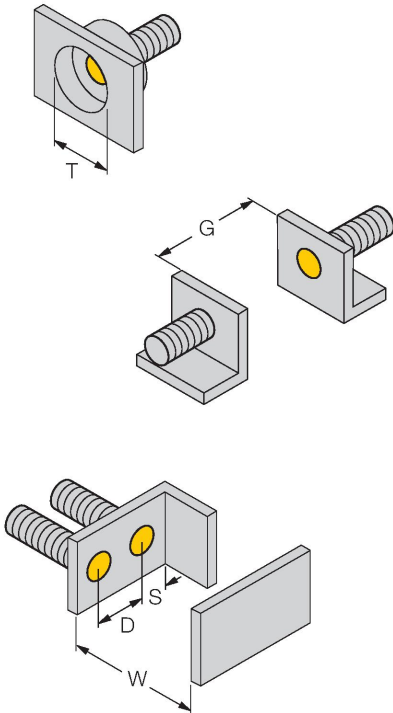
### Functional principle

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

|                                       |                    |
|---------------------------------------|--------------------|
| Active area material                  | Plastic, PA        |
| Max. tightening torque of housing nut | 12 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               |
| Safety Data                           |                    |
| PL acc. to EN ISO 13849-1             | Level d            |
| Category acc. to DIN EN 13849-1:2008  | 2                  |
| SIL acc. to IEC 61508                 | 2                  |
| Power-on indication                   | LED, Red           |
| Switching state                       | LED, Green         |

Mounting instructions

| Mounting instructions/Description                                                   |                        |
|-------------------------------------------------------------------------------------|------------------------|
|  | Distance D             |
|                                                                                     | 90 mm                  |
|                                                                                     | Distance W             |
|                                                                                     | 3 x Sn                 |
|                                                                                     | Distance T             |
|                                                                                     | 3 x B                  |
|                                                                                     | Distance S             |
|                                                                                     | 1.5 x B                |
|                                                                                     | Distance G             |
|                                                                                     | 96 mm                  |
|                                                                                     | 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 |