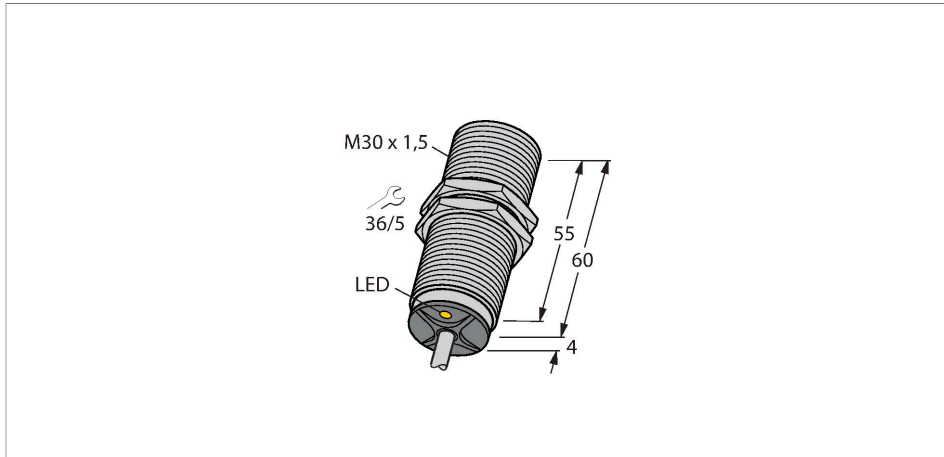


BI15-EM30-AP45XLD/S100

Inductive Sensor – For Use in Vehicle Board Nets



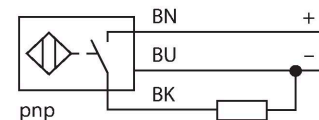
Features

- M30 × 1.5 threaded tube
- Stainless steel, 1.4301
- For vehicle board nets, 12 V and 24 V
- Increased interference immunity 100 V/m radiated acc. ISO 11452-4 and 100 mA BCI acc. to ISO 11452-2
- Load-dump protection acc. to DIN ISO 7637-2 (SAE J 113-11)
- Extended temperature range
- High protection class IP68/IP69K
- Protection against salt spray and rapid temperature change
- Laser engraved label, permanently legible
- DC 3-wire, 8.4...65 VDC
- NO contact, PNP output
- Cable connection

Technical data

| | |
|---|---|
| Type | BI15-EM30-AP45XLD/S100 |
| Ident. no. | 1584025 |
| Rated switching distance | 15 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 | ≤ 2 % of full scale |
| Temperature drift | $\leq \pm 10$ % |
| | $\leq \pm 15$ %, ≤ -25 °C v $\geq +70$ °C |
| Hysteresis | 3...15 % |
| Ambient temperature | -40...+100 °C |
| Temperature changes (EN60068-2-14) | -40...+100 °C; 20 cycles |
| Operating voltage | 8.6...65 VDC |
| Residual ripple | ≤ 10 % U_{ss} |
| DC rated operational current | ≤ 200 mA |
| Rated operational current | ≤ 100 mA, $\geq +70$ °C |
| 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_o | ≤ 1.8 V |
| Wire breakage/Reverse polarity protection | yes / Complete |
| Output function | 3-wire, NO contact, PNP |
| Load-dump protection (DIN ISO 7637-2) | Severity degree IV/Level 4 |

Wiring diagram



Functional principle

Maximum reliability even under the most extreme environmental conditions is guaranteed by our sensors for mobile applications. TURCK's inductive sensors for extremely hostile industrial environments not only meet, but even exceed the requirements of the protection classes IP68 and IP69. Applied in vehicles for road construction or in agricultural machines, these sensors excel in high vibration and shock resistance and they withstand fast temperature cycles.

| 12 V Bordnet | | | | | | |
|-------------------|----|----|----|----|----|----|
| Impulse | 1 | 2 | 3a | 3b | 4 | 5 |
| Severity level | IV | IV | IV | IV | IV | IV |
| Failure criterion | C | C | A | A | C | C |

| 24 V Bordnet | | | | | | |
|-------------------|-----|----|----|----|-----|----|
| Impulse | 1 | 2 | 3a | 3b | 4 | 5 |
| Severity level | III | IV | IV | IV | III | IV |
| Failure criterion | C | C | A | A | A | C |

Technical data

| | |
|---|--|
| Switching frequency | 0.5 kHz |
| Design | Threaded barrel, M30 × 1.5 |
| Dimensions | 64 mm |
| Housing material | Stainless steel, 1.4301 (AISI 304) |
| Active area material | Plastic, PA12-GF30 |
| End cap | Plastic, EPTR |
| Max. tightening torque of housing nut | 75 Nm |
| Electrical connection | Cable |
| Cable quality | Ø 5.2 mm, Lif32Y32Y, TPE, 2 m |
| Core cross-section | 3 x 0.5 mm ² |
| Vibration resistance | 55 Hz (1 mm) |
| Vibration resistance (EN 60068-2-6) | 20 g; 10...3000 Hz; 50 cycles; 3 axes |
| Shock resistance | 30 g (11 ms) |
| Shock resistance (EN 60068-2-27) | 150 g; 6 ms ½ sinus; each 3x; 3 axes |
| Continuous shock resistance (EN 60068-2-29) | 100 g (11 ms) ½ sine; 3 x each; 3 axes |
| Salt spray test (EN 60068-2-52) | Severity degree 5 (4 test cycles) |
| Protection class | IP68 / IP69K |
| MTTF | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state | LED, Yellow |

Mounting instructions

Mounting instructions/Description

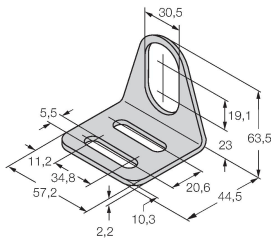


| | |
|------------------------|---------|
| Distance D | 2 x B |
| Distance W | 3 x Sn |
| Distance T | 3 x B |
| Distance S | 1.5 x B |
| Distance G | 6 x Sn |
| Diameter active area B | Ø 30 mm |

Accessories

MW-30

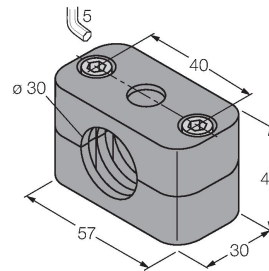
6945005



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