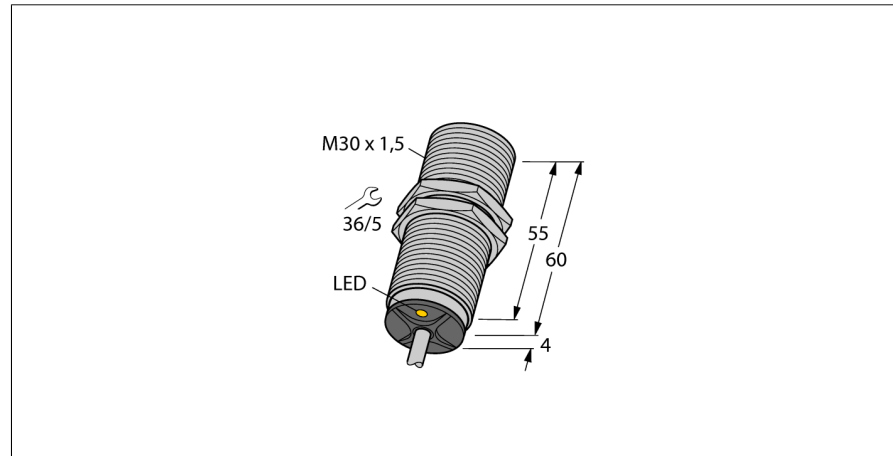


**Inductive sensor  
for use in vehicle board nets  
BI15-EM30-AP45XLD**



- e1 type approval from German federal office for motor vehicles
- Threaded barrel, M30 x 1.5
- Stainless steel, 1.4404
- For vehicle board nets, 12 V and 24 V
- Increased interference immunity 100V/m radiated and 100mA BCI
- Load-Dump protection according to DIN 7637 (SAE J 113-11)
- Extended temperature range
- High protection classes IP68/IP69K
- Protection against salt spray and thermal shock
- Laser engraved label, permanently legible
- 3-wire DC, 8.4...65 VDC
- NO contact, PNP output
- Cable connection

**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.

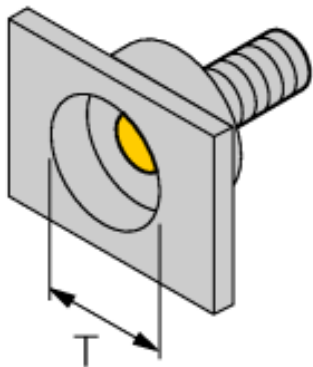
12 V Bordnet						
Impulse	1	2	3a	3b	4	5
Severity level	IV	IV	IV	IV	IV	IV
Failure criterion	C	C	A	A	C	C

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

<b>Type code</b>	BI15-EM30-AP45XLD
<b>Ident no.</b>	1584021
<b>Rated operating distance Sn</b>	15 mm
<b>Mounting condition</b>	flush
<b>Assured sensing range</b>	≤ (0,81 x Sn) mm
<b>Correction factors</b>	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
<b>Repeatability</b>	≤ 2 % of full scale
<b>Temperature drift</b>	10 %
	≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
<b>Hysteresis</b>	3...15 %
<b>Ambient temperature</b>	-40...+85 °C
<b>Temperature changes (EN60068-2-14)</b>	-40... +85 °C; 20 cycles
<b>Operating voltage</b>	8.4...65VDC
<b>Residual ripple</b>	≤ 10 % U <sub>s</sub>
<b>DC rated operational current</b>	≤ 200 mA
<b>No-load current I<sub>0</sub></b>	≤ 15 mA
<b>Residual current</b>	≤ 0.1 mA
<b>Rated insulation voltage</b>	≤ 0.5 kV
<b>Short-circuit protection</b>	yes/ cyclic
<b>Voltage drop at I<sub>s</sub></b>	≤ 1.8 V
<b>Wire breakage / Reverse polarity protection</b>	yes/ complete
<b>Output function</b>	3-wire, NO contact, PNP
<b>Load-dump protection (DIN ISO 7637-2)</b>	Severity degree IV / Level 4
<b>Switching frequency</b>	0.5 kHz
<b>Design</b>	threaded barrel, M30 x 1.5
<b>Dimensions</b>	64 mm
<b>Housing material</b>	stainless steel, V4A (1.4404)
<b>Material active area</b>	Plastic, PA
<b>End cap</b>	Plastic, EPTR
<b>Max. tightening torque housing nut</b>	75 Nm
<b>Connection</b>	cable
<b>Cable quality</b>	5.2 mm, Lif32Y32Y, TPE, 2 m
<b>Cable cross section</b>	3 x 0.5 mm <sup>2</sup>
<b>Vibration resistance</b>	55 Hz (1 mm)
<b>Vibration resistance (EN 60068-2-6)</b>	20 g; 10...3000 Hz; 50 cycles; 3 axes
<b>Shock resistance</b>	30 g (11 ms)
<b>Shock resistance (EN 60068-2-27)</b>	150 g; 6 ms ½ sinus; each 3x; 3 axes
<b>Continuous shock resistance (EN 60068-2-29)</b>	40 g; 6 ms ½ sinus; each 4000 x; 3 axes
<b>Salt spray test (EN 60068-2-52)</b>	severity degree 5 (4 test cycles)
<b>Protection class</b>	IP68 / IP69K
<b>MTTF</b>	2283 years acc. to SN 29500 (Ed. 99) 40 °C
<b>Switching state</b>	LED yellow

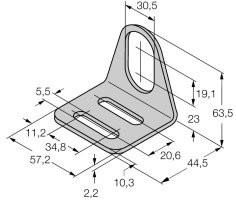
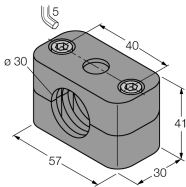
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Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
<hr/>	
Diameter of the active area B	Ø 30 mm



**Inductive sensor  
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**Accessories**

Type code	Ident no.	Description	Dimension drawing
MW-30	6945005	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)	 <p>Technical drawing of a stainless steel mounting bracket (MW-30) for threaded barrel devices. The drawing shows a side view with the following dimensions: 5.5, 11.2, 34.8, 57.2, 2.2, 10.3, 20.6, 44.5, 30.5, 19.1, 23, and 63.5.</p>
BSS-30	6901319	Mounting bracket for smooth and threaded barrel devices; material: Polypropylene	 <p>Technical drawing of a polypropylene mounting bracket (BSS-30) for smooth and threaded barrel devices. The drawing shows a perspective view with the following dimensions: 5, 40, 41, 30, 57, and 30.</p>