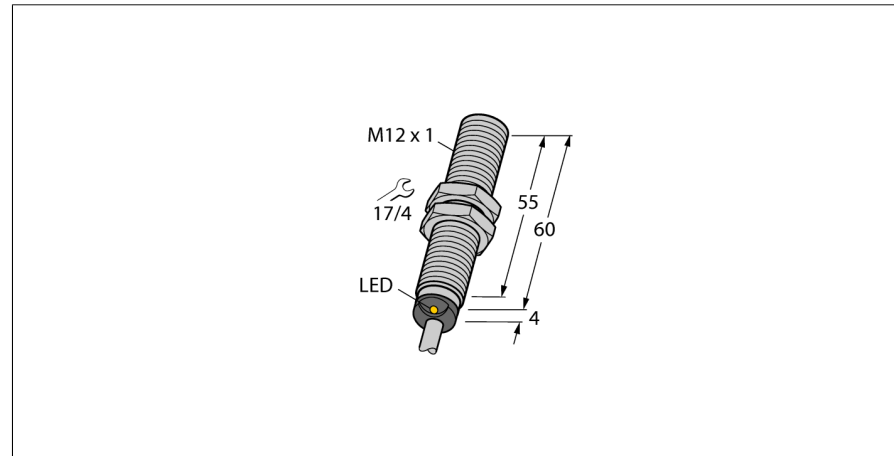


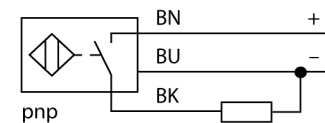
**Inductive sensor**  
**For use in vehicle board nets**  
**BI4-EM12E-AP45XLD**



<b>Type designation</b>	BI4-EM12E-AP45XLD
Ident no.	1584001
<b>Rated switching distance Sn</b>	4 mm
Mounting conditions	Flush
Secured operating distance	≤ (0,81 x Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Temperature drift	≤ ± 10 %
Hysteresis	≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Ambient temperature	3...15 %
Temperature changes (EN60068-2-14)	-40...+85 °C
<b>Operating voltage</b>	8.4...65 VDC
Residual ripple	≤ 10 % U <sub>s</sub>
DC rated operational current	≤ 200 mA
No-load current I <sub>0</sub>	≤ 15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes/ Cyclic
Voltage drop at I <sub>s</sub>	≤ 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
Switching frequency	2 kHz
<b>Design</b>	Threaded barrel, M12 x 1
Dimensions	64 mm
Housing material	Stainless steel, V2A (1.4301)
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque housing nut	10 Nm
Electrical connection	Cable
Cable quality	5.2 mm, Lif32Y32Y, TPE, 2m
Cable cross section	3 x 0.5 mm <sup>2</sup>
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 sine; 3 x each; 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
<b>Switching state</b>	LED yellow

- E1 type approval from German federal office for motor vehicles
- Threaded barrel, M12 x 1
- 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 changes
- Laser engraved label, permanently legible
- DC 3-wire, 8.4...65 VDC
- NO contact, PNP output
- Cable connection

**Wiring Diagram**

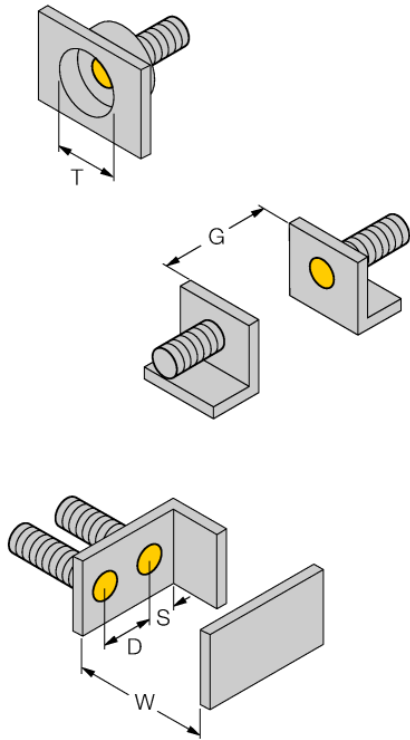


12 V Bordnet						
Impulse	1	2	3a	3b	4	5
Severity level	IV	IV	IV	IV	IV	IV
Failure criterion	C	C	A	A	C	C

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

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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 active area B	Ø 12 mm



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**Accessories**

Type code	Ident no.	Description	
BST-12B	6947212	Fixing clamp for threaded barrel devices, with dead-stop; material: PA6	
QM-12	6945101	Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M16 x 1. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets.	
MW-12	6945003	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-12	6901321	Mounting bracket for smooth and threaded barrel devices; material: Polypropylene	