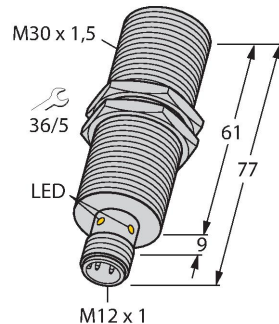


BI15-EM30E-AP45XLD-H1141

Inductive Sensor – For Use in Vehicle Board Nets



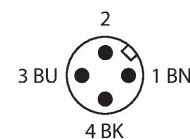
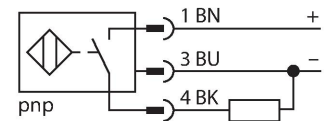
Features

- Threaded barrel, M30 x 1.5
- 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
- M12 x 1 male connector
- E1 type approval from German federal office for motor vehicles

Technical data

Type	BI15-EM30E-AP45XLD-H1141
ID	1584061
General data	
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	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	8.6...65 VDC
Ripple U_{ss}	$\leq 10 \%$ U_{Bmax}
DC rated operating current I_B	≤ 200 mA
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_B	≤ 1.8 V
Wire break/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.

Technical data

Switching frequency	0.5 kHz
Mechanical data	
Design	Threaded barrel, M30 x 1.5
Dimensions	77 mm
Housing material	Stainless steel, 1.4301 (AISI 304)
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	75 Nm
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-40...+85 °C
Temperature changes (EN60068-2-14)	-40... +85 °C; 20 cycles
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 × each; 3 axes
Continuous shock resistance (EN 60068-2-29)	100 g; 11 ms ½ sine; 3 × 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

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

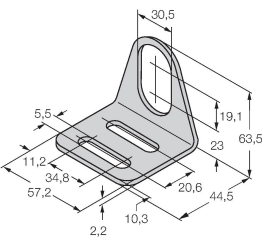
24 V Bordnet						
Impulse	1	2	3a	3b	4	5
Severity level	III	IV	IV	IV	III	IV
Failure criterion	C	C	A	A	A	C

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

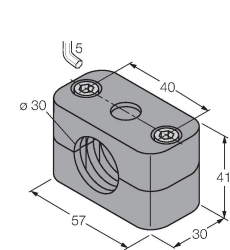
Accessories

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