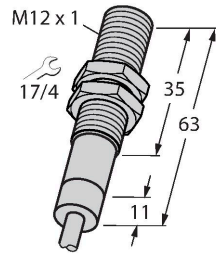


# BI2-EM12D-AP6/S120

## Inductive Sensor – For Harsh Environments and Temperatures up to 120°C



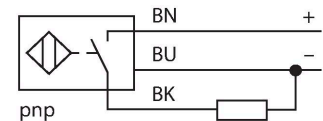
### Features

- Threaded barrel, M12 x 1
- Stainless steel, 1.4571
- Viton sealing ring
- Protection class IP68/IP69K
- For temperatures up to +120 °C
- PTFE front cap
- Climate-proof
- Resistance to cooling lubricants, cutting and grinding oils
- Suitable for applications in the food industry
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

### Technical data

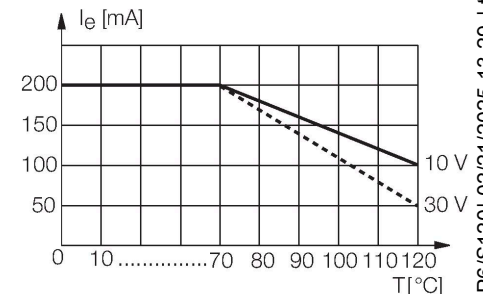
Type	BI2-EM12D-AP6/S120
ID	4614512
Remark to product	S969: without polarity protection diode
Special version	S120 Corresponds to: Operating temperature 120°C
<b>General data</b>	
Rated switching distance	2 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n) \text{ mm}$
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$
	$\leq \pm 20 \%, \geq +70 \text{ °C}$
Hysteresis	3...15 %
<b>Electrical data</b>	
Operating voltage $U_B$	10...30 VDC
Ripple $U_{ss}$	$\leq 10 \%$ $U_{Bmax}$
DC rated operating current $I_e$	$\leq 200 \text{ mA}$
Rated operational current	See derating curve
No-load current	$\leq 15 \text{ mA}$
Residual current	$\leq 0.1 \text{ mA}$
Isolation test voltage	0.5 kV

### Wiring diagram



### Functional principle

TURCK offers leak-proof sensors for the food industry and machine engineering that are resistant to cleaning agents, cooling lubricants, cutting and grinding oils. They are made for rough environmental conditions and not only meet but even exceed the requirements of the protection classes IP68 and IP69. Special versions are available for ambient temperatures between -60°C and +250°C.



## Technical data

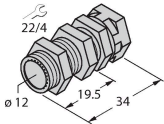
Short-circuit protection	yes/Cyclic
Voltage drop at I <sub>o</sub>	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.1 kHz
<b>Mechanical data</b>	
Design	Threaded barrel, M12 x 1
Dimensions	63 mm
Housing material	Stainless steel, 1.4571 (AISI 316Ti)
Active area material	Plastic, PTFE
End cap	Plastic, PTFE
Admissible pressure on front cap	≤ 10 bar
Max. tightening torque of housing nut	10 Nm
Electrical connection	Cable
Cable quality	Ø 3.7 mm, PTFE, FEP, 2 m
Core cross-section	3 x 0.34 mm <sup>2</sup>
<b>Environmental conditions</b>	
Ambient temperature	-25...+120 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 IP69K
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 12 mm

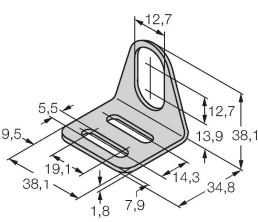
Accessories

QM-12	6945101
-------	---------



Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

MW12	6945003
------	---------



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)