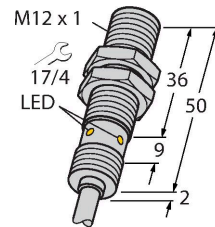


# BI4U-EM12WD-AN6X/S90

## Inductive Sensor – For the Food Industry



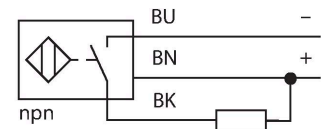
### Features

- Threaded barrel, M12 x 1
- Stainless steel, 1.4404
- Front cap made of liquid crystal polymer
- Factor 1 for all metals
- Resistant to magnetic fields
- For temperatures of -40 °C...+100 °C
- High protection class IP69K for harsh environments
- Special double-lip seal
- Protection against all common acidic and alkaline cleaning agents
- Laser engraved label, permanently legible
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

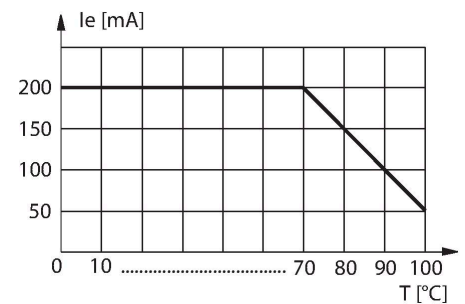
### Technical data

Type	BI4U-EM12WD-AN6X/S90
ID	1634731
Special version	S90 Corresponds to: proximity sensors with PUR cable
<b>General data</b>	
Rated switching distance	4 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25 \text{ °C}, \geq +70 \text{ °C}$
Hysteresis	3...15 %
<b>Electrical data</b>	
Operating voltage $U_B$	10...30 VDC
Ripple $U_{rs}$	$\leq 10 \%$ $U_{Bmax}$
DC rated operating current $I_B$	$\leq 200$ mA
No-load current	$\leq 25$ mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at $I_B$	$\leq 1.8$ V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, NPN
DC field stability	300 mT

### Wiring diagram



### Functional principle

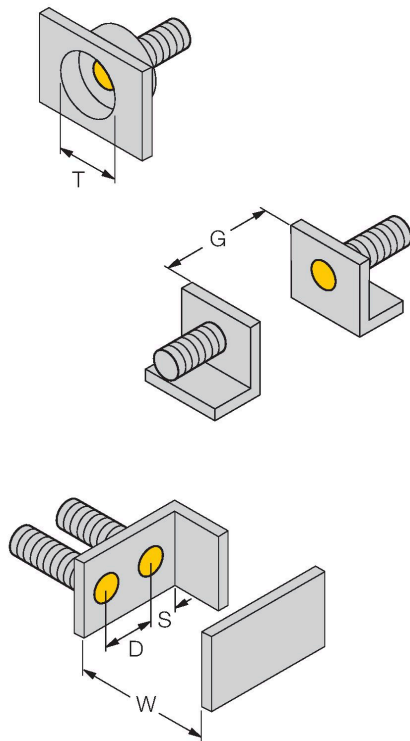


## Technical data

AC field stability	300 mT <sub>ss</sub>
Switching frequency	3 kHz
<b>Mechanical data</b>	
Design	Threaded barrel, M12 x 1
Dimensions	52 mm
Housing material	Stainless steel, 1.4404 (AISI 316L)
Active area material	Plastic, LCP
End cap	Plastic, PP, transparent
Connector housing	PP
Admissible pressure on front cap	≤ 20 bar
Max. tightening torque of housing nut	10 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY-11Y, PUR, 2 m
Core cross-section	3 x 0.34 mm <sup>2</sup>
<b>Environmental conditions</b>	
Ambient temperature	-40...+100 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 IP69K
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

## Mounting instructions

### Mounting instructions/Description



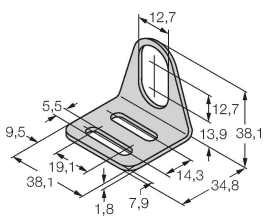
Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 12 mm

All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.

## Accessories

MW12

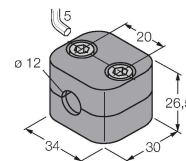
6945003



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

BSS-12

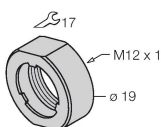
6901321



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

PN-M12

6905309



Impact protection nut for M12x1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303)