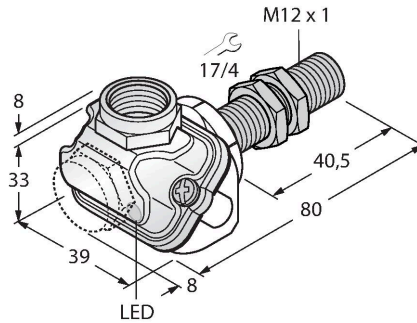


# BI4U-EM12WDTC-AP6X

## Inductive Sensor – For the Food Industry



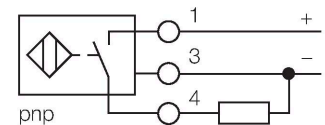
### Features

- 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
- Suitable for applications in the food industry
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Terminal chamber

### Technical data

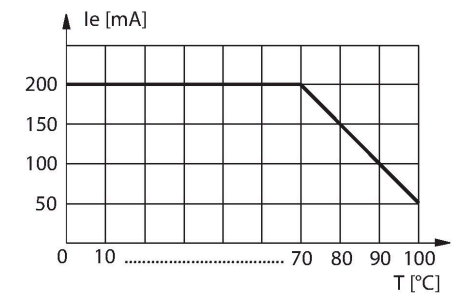
Type	BI4U-EM12WDTC-AP6X
ID	1634760
General data	
Rated switching distance	4 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25 \text{ °C}, \geq +70 \text{ °C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	$\leq 10 \%$ $U_{ss}$
DC rated operational current	$\leq 200$ mA
No-load current	25 mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	$\leq 0.5$ kV
Short-circuit protection	yes / Cyclic
Voltage drop at $I_o$	$\leq 1.8$ V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	3-wire, NO contact, PNP
DC field stability	300 mT
AC field stability	300 mT <sub>ss</sub>
Insulation class	□
Switching frequency	3 kHz

### Wiring diagram



### Functional principle

uprox®+ sensors from TURCK are the perfect solution for dairies, breweries, industrial bakeries, frozen food, packaging and filling applications. The inductive sensors for the food industry are absolutely tight and resistant to cleaning agents and disinfectants. The requirements of the protection classes IP68 and IP69K are far exceeded by the uprox®+ sensors. They are safely protected and robustly designed with LCP front cap and stainless steel housing.

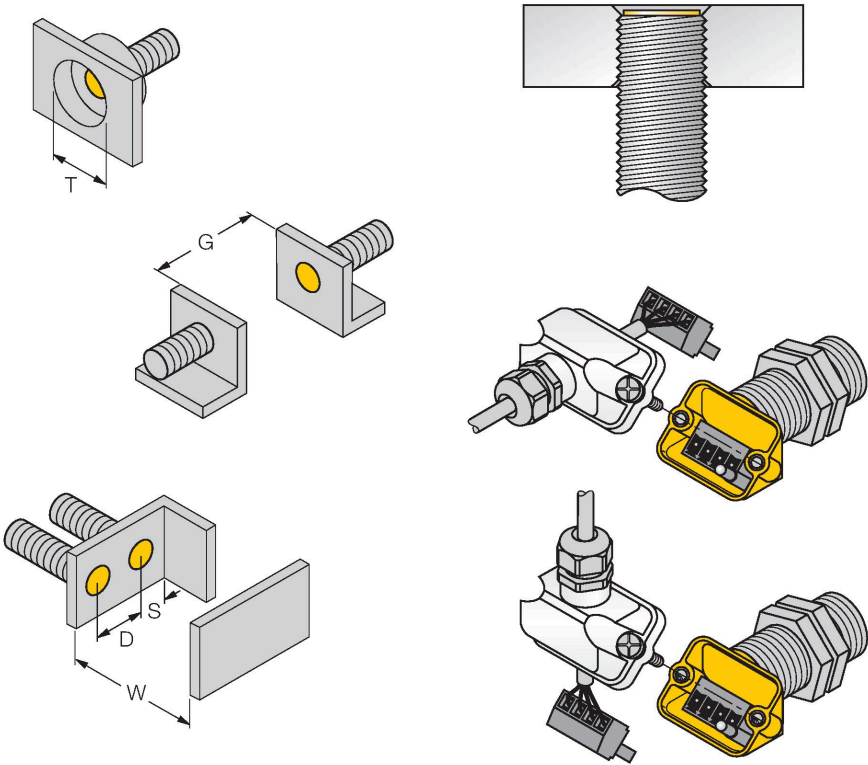


## Technical data

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	80 mm
Housing material	Stainless steel, 1.4404 (AISI 316L)
Terminal chamber cover material	plastic, Ultem
Terminal chamber housing material	plastic, LCP-GF30
Active area material	Plastic, LCP
Admissible pressure on front cap	≤ 20 bar
Max. tightening torque of housing nut	10 Nm
Electrical connection	Terminal chamber, Removable cage clamp terminals
	suited for M16 x 1.5 cable glands
Clamping ability	≤ 1.5 mm <sup>2</sup>
Environmental conditions	
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



The drawings show various mounting configurations for threaded barrel sensors. Key dimensions labeled include: Distance D (24 mm), Distance W (12 mm), Distance T (36 mm), Distance S (18 mm), Distance G (24 mm), and Diameter active area B (Ø 12 mm). It also illustrates different sensor types: flush mountable, recessed mountable, and those with terminal chambers for easy wiring.

Distance D	24 mm
Distance W	12 mm
Distance T	36 mm
Distance S	18 mm
Distance G	24 mm
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.

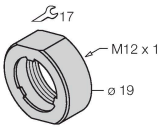
The innovative terminal chamber concept enables easy and simple connection of the sensor. Straight as well as angled cable outlets are available and the removable terminal strip guarantees easy wiring.

Accessories

PN-M12

6905309

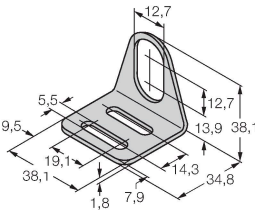
Impact protection nut for M12x1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303)



MW-12

6945003

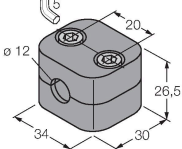
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



BSS-12

6901321

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



Accessories

Dimension drawing	Type	ID	
	M16X1.5 PVDF CABLE GLAND	1634759	M16 × 1.5 cable gland, material: PVDF; with Viton O-ring; IP69K

