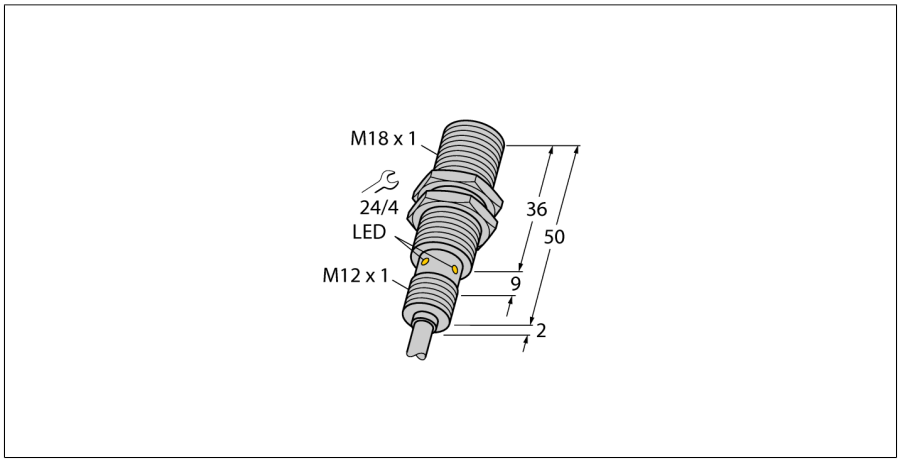
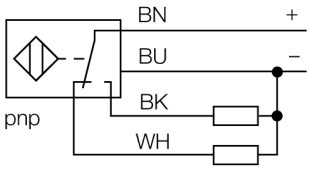
Inductive Sensor
For the Food Industry
BI8U-EM18WD-VP6X 7M



- Threaded barrel, M18 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 4-wire, 10…30 VDC
- Changeover contact, PNP output
- Cable connection

Type	BI8U-EM18WD-VP6X 7M
ID	100016736
General data	
Rated switching distance Sn	8 mm
Mounting conditions	Flush
Secured operating distance	≤ (0.81 × Sn) mm
Repeat accuracy	≤ 2 % of full scale
Temperature drift	≤ ±10 %
	≤ ± 20 %, ≤ -25 °C , ≥ +70 °C
Hysteresis	3…15 %
Electrical data	
Operating voltage U_B	10…30 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
DC rated operating current I_e	≤ 200 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_e	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	4-wire, Complementary contact, PNP
DC field stability	300 mT
AC field stability	300 mT_{ss}
Insulation class	⧈
Switching frequency	1.5 kHz

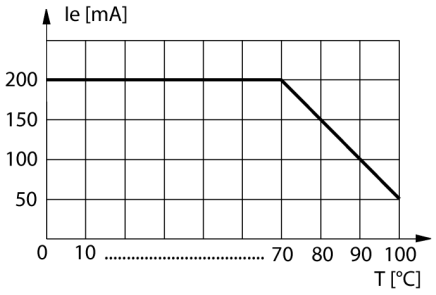
Wiring Diagram



Functional principle

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 well exceeded by our uprox®+ sensors. The sensors are entirely protected by the LCP front cap and the stainless steel housing.

Derating Curve



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Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	52 mm
Housing material	Stainless steel, 1.4404 (AISI 316L)
Active area material	Plastic, LCP
End cap	Plastic, PP, transparent
Admissible pressure on front cap	≤ 15 bar
Max. tightening torque of housing nut	25 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, Gray, Lif12Y33Y, TPE, 7 m
	Food safe
Core cross-section	4 x 0.25 mm²

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

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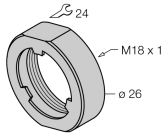
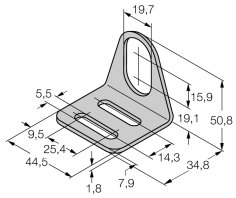
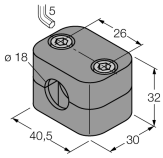
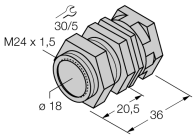
Accessories

Type code	Ident no.		Dimension drawing
PN-M18	6905310	Protective nut for M18 x 1 threaded barrels; material: Stainless steel A2 1.4305 (AISI 303)	
MW-18	6945004	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-18	6901320	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene	
QM-18	6945102	Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.	

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