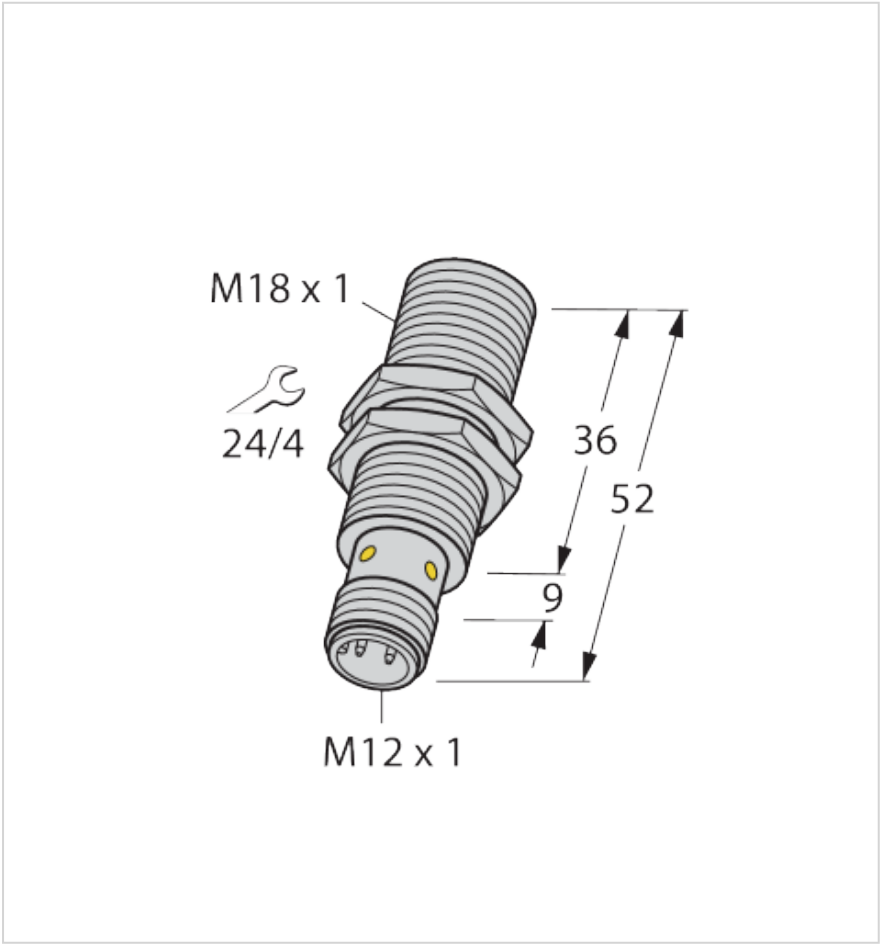
BI8U-EM18WD-VP6X-H1141/3GD

Inductive Sensor
For the food industry



Type designation	BI8U-EM18WD-VP6X-H1141/3GD
Ident-No.	1635004

Technical data

Application area	
Magnetic field immune	Immune to magnetic AC and DC fields
Detection area/measuring range	
Rated switching distance	8 mm
Secured operating distance	≤ (0.81 × Sn) mm
Power supply	
Operating voltage U_B	10...30 VDC

Features

- M18 × 1 threaded barrel
- 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

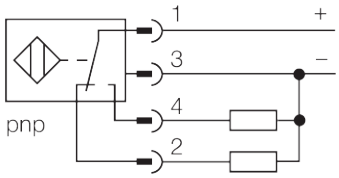
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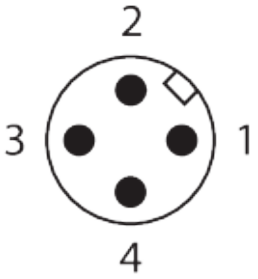
Technical data

Voltage drop at I_e	≤ 1,8 V
Electrical data	
AC field stability	300 mT_{SS}
No-load current	25 mA
Output function	4-wire, Complementary contact, PNP
Short-circuit protection	yes/Cyclic
Wire break/reverse polarity protection	yes/Complete
DC field stability	300 mT
DC rated operational current	≤ 200 mA
Insulation class	II
Isolation test voltage	≤ 0,5 kV
Residual current	≤ 0,1 mA
Residual ripple	≤ 10 % U_{ss}
Switching frequency	1,5 kHz
Accuracy/deviation	
Hysteresis	3 % v. E...15 % v. E.
Temperature drift	10 %
Repeat accuracy	≤ 2 % v. E.
	≤ ± 20 %, ≤ -25 °C , ≥ +70 °C
Mechanical data	
Design	Threaded barrel, M18 x 1
Construction type designation	EM18WD
	⌀ 18 mm
Housing material	Stainless steel, 1.4404 (AISI 316L)
Active area material	Plastic, LCP
Connector housing	plastic, PP
Admissible pressure on front cap	≤ 15 bar
Max. tightening torque of housing nut	25 Nm
Electrical connection	Connector, M12 x 1
Number of pins	4
Pressure resistant	no
Thread length	36 mm
Thread size	M18 × 1
Mounting conditions	Flush
Ambient conditions	
Ambient temperature	-40...+100 °C

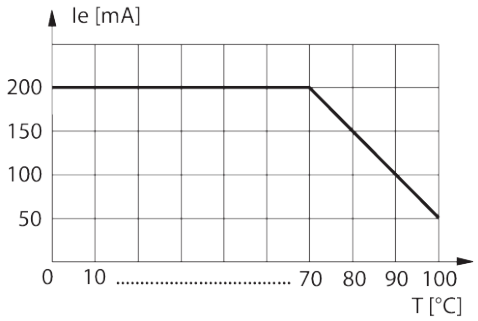
- Complementary contact, PNP output
- Connector, M12 × 1
- ATEX category II 3 G, Ex zone 2
- ATEX category II 3 D, Ex zone 22

Wiring Diagram





Derating Curve



Functional principle

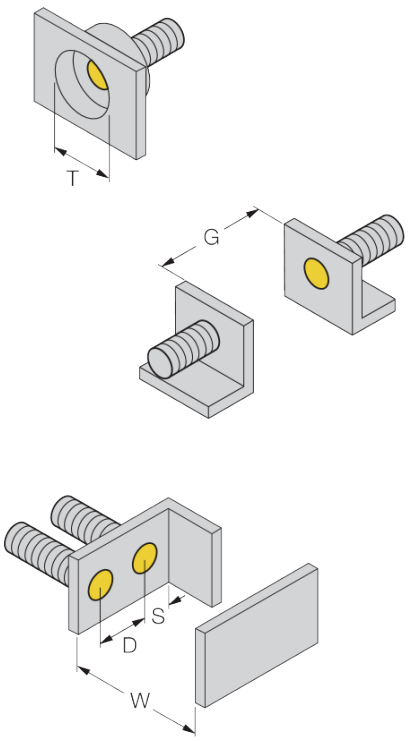
The inductive sensors for the food industry are absolutely tight and resistant to cleaning agents and disinfectants. The requirements of the protection classes IP68 and IP69K are far exceeded by the uprox®+ sensors. They are safely protected and robustly designed with LCP front cap and stainless steel housing.

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Technical data

	For explosion hazardous areas see instruction leaflet
Pollution degree	3
Shock resistance	30 g (11 ms)
Vibration resistance	55 Hz (1 mm)
Protection class	IP68 IP69K
Tests/approvals	
Warning	Do not unplug connector under voltage
Approvals	ATEX II 3 D, ATEX II 3 G
Approval acc. to	ATEX test certificate, TURCK Ex-10002M X
Device marking	EX II 3 G Ex ec IIC T4 Gc/II 3 D Ex tc IIIC T110 °C Dc
MTTF	874 Years acc. to SN 29500 (Ed. 99) 40 °C
Displays/controls	
Switching state	LED, Yellow
Comments	
Included in delivery	SC-M12/3GD

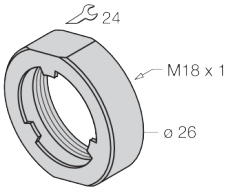
Assembly instructions

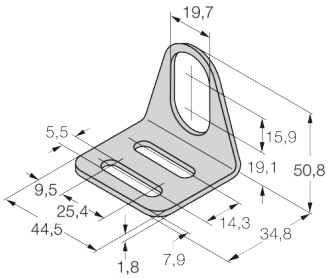


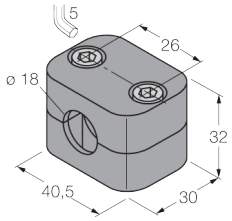
Distance D: 2 x B
Distance W: 3 x Sn
Distance T: 3 x B
Distance S: 1.5 x B
Distance G: 6 x Sn
Diameter active area B: 18 mm
Installation information:
All flush-mountable uprox+ threaded barrel types can also be mounted recessed. Safe operation is ensured if it is mounted recessed by half a screw turn.

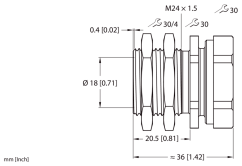
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Mounting accessories

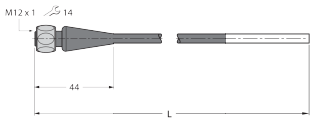
PN-M18	6905310
	Impact protection nut for M18 × 1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303)

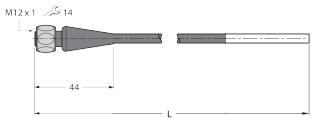
MW18	6945004
	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-18	6901320
	Mounting bracket 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.

Connection accessories

RKH4.4-2/TFE	6934473
	Connection cable, M12 female connector, straight, 4-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, gray; temperature range: -25…+80 °C

RKH4.4-2/TFG	6933086
	Connection cable, M12 female connector, straight, 4-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray; temperature range: -40…+105 °C

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Operating instructions

Intended use	This device fulfills the directive 2014/34/EU and is suited for use in explosion-hazardous areas acc. to EN60079-0:2018, EN60079-7:2015/ A1:2018, EN60079-31:2014.
	In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.
For use in explosion hazardous areas conform to classification	II 3 G and II 3 D (Group II, Category 3 G, electrical equipment for gaseous atmospheres and category 3 D, electrical equipment for dust atmospheres).
Marking (see device or technical data sheet)	Ex II 3 G Ex ec IIC T4 Gc acc. to EN 60079-0:2018 and EN 60079-7:2015/ A1:2018 and Ex II 3 D Ex tc IIIC T110 °C Dc acc. to EN 60079-0:2018 and EN 60079-31:2014
Local admissible ambient temperature	-25…+70 °C
Installation/Commissioning	These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas.
	Please verify that the classification and the marking on the device comply with the actual application conditions.
Installation and mounting instructions	Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device.
	The devices must be protected against strong magnetic fields.
	The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet.
	In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.
BA special conditions 1 GBS	For devices with M12 connectors please use the supplied safety clip SC-M12/3GD.
BA special conditions 2 GBS	Do not disconnect the plug-in connection or cable under voltage.
BA special conditions 3 GBS	Please attach a warning label permanently in an appropriate fashion in close proximity to the plug-in connection with the following inscription: Nicht unter Spannung trennen / Do not separate when energized.
BA special conditions 4 GBS	The device must be protected against any kind of mechanical damage and degrading UV-radiation.
BA special conditions 5 GBS	The IP protection rating of the connectors is given only in combination with a suitable O-ring
BA special conditions 6 GBS	Load voltage and operating voltage of this equipment must be supplied from power supplies with safe isolation (IEC 30 364/UL508), to ensure that the rated voltage of the equipment (24 VDC +20% = 28.8 VDC) is never exceeded by more than 40%.
Service/maintenance	Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.

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