

# BI8-M18-LI-EXI Inductive Sensor – With Analog Output



### Technical data

Туре	BI8-M18-LI-EXI
ID	1535528
General data	
Measuring range	15 mm
Mounting conditions	Flush
Secured operating distance	≤ (0.81 × Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	$\leq$ 1 % of measuring range  A - B
	0.5 %, after warm-up 0.5 h
Linearity deviation	≤ 5 %
Temperature drift	≤ ± 0.06 %/K
Electrical data	
Operating voltage $U_{\scriptscriptstyle B}$	1430 VDC
	at the electrical connection of the sensor
Ripple U <sub>ss</sub>	$\leq$ 10 % U <sub>Bmax</sub>
Isolation test voltage	0.5 kV
Short-circuit protection	yes
Wire break/reverse polarity protection	no/Complete
Output function	2-wire, Analog output
Current output	420 mA
Load resistance current output	≤ [(U <sub>B</sub> -14 V) / 20 mA]
Measuring sequence frequency	200 Hz
Approval acc. to	KEMA 03 ATEX 1122 X Output no. 5
Internal capacitance (C <sub>i</sub> )/inductance (L <sub>i</sub> )	240 nF/2 μH
Device marking	EX II 1 G Ex ia IIC T6 Ga/II 2 D Ex ia IIIC T85 °C Db

#### Features

Threaded barrel, M18 x 1
Chrome-plated brass
2-wire, 14...30 VDC
Analog output
4...20 mA
Cable connection
ATEX category II 1 G, Ex-zone 0
ATEX category II 2 D, Ex-zone 21

### Wiring diagram



## Functional principle

Inductive TURCK sensors with analog output accomplish simple control tasks. They provide a current, voltage or frequency signal proportional to the target's distance. The output signal is linear to the distance of the target over the entire sensing range.





# Technical data

	(max. U <sub>i</sub> = 30 V, I <sub>i</sub> = 120 mA, P <sub>i</sub> = 600mW)
Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	64 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	25 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, Blue, LifYY, PVC, 2 m
Core cross-section	2 x 0.34 mm <sup>2</sup>
Environmental conditions	
Ambient temperature	-25+70 °C
	For explosion hazardous areas see in- struction leaflet
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	751 years acc. to SN 29500 (Ed. 99) 40 °C



## Mounting instructions

#### Mounting instructions/Description



2 x B
12 mm
3 x B
1.5 x B
24 mm
Ø 18 mm

#### Accessories





#### IM33-11EX-HI



#### 7506443

Isolating transducers; 1channel; power supply of 2-wire measuring transducers with HART communication as well as connection of active 2-wire and passive 3-wire transmitters



# Instructions for use

Intended use	This device fulfills the directive 2014/34/EC and is suit- ed for use in explosion hazardous areas according to EN 60079-0:2018 + A11 and EN 60079-11:2012.In order to en- sure 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 1 G and II 2 D (Group II, Category 1 G, electrical equipment for gas-atmospheres and category 2 D, electrical equipment for dust atmospheres)
Marking (see device or technical data sheet)	$\textcircled{\mbox{\sc black}}$ II 1 G Ex ia IIC T6 Ga and $\textcircled{\sc black}$ II 2 D Ex ia IIIC T85 °C Db acc. to EN 60079-0, -11
Local admissible ambient temperature	-25+65 °C
Installation/Commissioning	These devices may only be installed, connected and oper- ated 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 con- ditions.
	This device is only suited for connection to approved Exi cir- cuits according to EN 60079-0 and EN 60079-11. Please ob- serve the maximum admissible electrical values. After con- nection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electri- cal equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).
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. If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-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 re- move possible blanking plugs of the cable glands or connec- tors only shortly before inserting the cable or opening the ca- ble socket.
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.