

BI5-S18-AP6X-H1141/S58/3D Inductive Sensor



Technical data

Туре	BI5-S18-AP6X-H1141/S58/3D	
ID	4652403	
Special version	S58 Corresponds to:Thread length = 50 mm	
General data		
Rated switching distance	5 mm	
Mounting conditions	Flush	
Secured operating distance	≤ (0.81 × Sn) mm	
Correction factors	St37 = 1; AI = 0.3; stainless steel = 0.7; Ms = 0.4	
Repeat accuracy	≤ 2 % of full scale	
Temperature drift	≤ ±10 %	
Hysteresis	315 %	
Electrical data		
Operating voltage $U_{\scriptscriptstyle B}$	1030 VDC	
	≤ 10 % U _{Bmax}	
DC rated operating current $I_{\scriptscriptstyle \! e}$	≤ 200 mA	
No-load current	≤ 15 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	3-wire, NO contact, PNP	
Switching frequency	1 kHz	

Features

Threaded barrel, M18 x 1
Plastic, PA12-GF30
DC 3-wire, 10...30 VDC
NO contact, PNP output
M12 x 1 male connector
ATEX category II 3 D, Ex-zone 22

Wiring diagram





Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.



Technical data

Approval acc. to	ATEX test certificate TURCK Ex-03002H X	
Device marking	EX II 3 D Ex tc IIIC T95 °C Dc	
Mechanical data		
Design	Threaded barrel, M18 x 1	
Dimensions	73 mm	
Housing material	Plastic, PA12-GF30	
Active area material	Plastic, PA12-GF30	
Max. tightening torque of housing nut	2 Nm	
Electrical connection	Connector, M12 × 1	
Environmental conditions		
Environmental conditions Ambient temperature	-25+70 °C	
Environmental conditions Ambient temperature Vibration resistance	-25+70 °C 55 Hz (1 mm)	
Environmental conditions Ambient temperature Vibration resistance Shock resistance	-25+70 °C 55 Hz (1 mm) 30 g (11 ms)	
Environmental conditions Ambient temperature Vibration resistance Shock resistance Protection class	-25+70 °C 55 Hz (1 mm) 30 g (11 ms) IP67	
Environmental conditions Ambient temperature Vibration resistance Shock resistance Protection class MTTF	-25+70 °C 55 Hz (1 mm) 30 g (11 ms) IP67 2283 years acc. to SN 29500 (Ed. 99) 40 °C	
Environmental conditions Ambient temperature Vibration resistance Shock resistance Protection class MTTF Switching state	-25+70 °C 55 Hz (1 mm) 30 g (11 ms) IP67 2283 years acc. to SN 29500 (Ed. 99) 40 °C LED, Yellow	

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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 18 mm



Accessories

QM-18	6945102	BST-18B	6947214
M24 x 1,5 0 18 0 20,5 36	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.		Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6
MW18	6945004	BSS-18	6901320
19,7 5,5 9,5 44,5 1,8 7,9	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	ø 18 40,5 32	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene



Instructions for use

Intended use

This device fulfills the directive 2014/34/EC and is suited for use in explosion hazardous areas according to EN60079-0:2012 and 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 D (Group II, Category 3 D, electrical equipment for dust atmospheres).

Marking (see device or technical data sheet)

ⓑ II 3 D Ex tc IIIC T95 ℃ Dc acc. to EN60079-0:2012 and EN60079-31:2014

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. 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 remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

Special conditions for safe operation

Devices with terminal chamber (cable glands) have a weaker strain relief. Sufficient strain relief must be ensured or the cable must be stationary-mounted.For devices with M12 connectors please use the supplied safety clip SC-M12/3GD.Do not disconnect the plug-in connection or cable under voltage.The device must be protected against any kind of mechanical damage and degrading UV-radiation.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 +10% = 26.4 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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