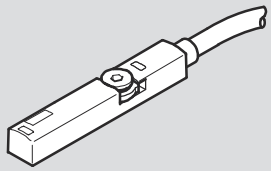
SDBT-MS-20NL-ZN-...-EX6

Proximity switch



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Addendum document | Operating conditions EX

8204178
2024-05f
[8204180]

8204178

Original instructions

1 Identification EX

Marking		Certificate
IECEx	Ex ia IIC T4...T6 Ga Ex ia IIIC T135°C Da	IECEx PTZ 18.0008X
CE	Ex II 1G Ex ia IIC T4...T6 Ga II 1D Ex ia IIIC T135°C Da	PTZ 16 ATEX 0010X
c UL us LISTED	Class I, Division 1, Group A, B, C, D, T4...T6 Class II, Division 1, Group E, F, G, T4 Class I, Zone 0 AEx ia IIC T4 ... T6 Ga Zone 20 AEx ia IIIC T135 °C Da Ex ia IIC T4 ... T6 Ga X Ex ia IIIC T135 °C Da X	E539825 Applied Standards: UL 60079 0, Ed. 7, Rev. 04/15/2020 UL 60079 11, Ed. 6, Rev. 01/25/2023 UL 913, Ed. 8, Rev. 05/10/2022 CSA C22.2 No. 60079 0, Ed. 4, 02/2019 CSA C22.2 No. 60079 11, Ed. 2, 02/2014
Segurança DNV INMETRO	Ex ia IIC T4...T6 Ga Ex ia IIIC T135°C Da	DNV 17.0027X Applied Standards: ABNT NBR IEC 60079-0:2020 ABNT NBR IEC 60079-11:2013
	Ex ia IIC T4...T6 Ga Ex ia IIIC T_{200}135°C Da	GYJ20.1106X
UKCA	Ex II 1G Ex ia IIC T4...T6 Ga II 1D Ex ia IIIC T135°C Da	CSAE 22UKEX1322X
	Ex ia IIC T4/T6 Ex iaD 20 T135°C	21-AV4BO-0130X 21-AV4BO-0131X According to Announcement 2020-33 of Ministry of Employment and Labor
	Ex ia IIC T4...T6 Ga Ex ia IIIC T135°C Da	ML091200700NZ0

Tab. 1: Identification EX SDBT-MS-20NL-ZN-EX6

2 Applicable documents

All available documents for the product ➔ www.festo.com/sp.

3 Safety

3.1 Safety instructions

- The device can be used under the stated operating conditions in zones 0, 1 and 2 of explosive gas atmospheres and in zones 20, 21 and 22 of explosive dust atmospheres.
- This product can generate high frequency malfunctions, which may make it necessary to implement interference suppression measures in residential areas.
- Observe the product labelling.
- Connect the device to a certified Ex ia IIC intrinsically safe circuit.
- Protect the device from overheating. Mount the proximity switch in the specified metallic sensor slot of the cylinder.
- Dimension the intrinsically safe circuit with reference to the permissible electrical limit values.
- After connection to non-intrinsically safe circuits: do not use sensor in potentially explosive areas.
- Use the device in its original status, without any unauthorised modifications.
- The installation of the device must comply with IEC 60079-14 to avoid risks due to incorrect installation/use and maintenance.

3.2 Intended use

This product is intended for sensing the position of magnets (e.g. the piston position) in Festo products.

3.3 Identification X: special conditions

- For use in explosive dust atmospheres: protect the permanently connected connecting cable against electrostatic charge from dust flying past it.
- Electrical data can be found in the EC-type examination certificate or in these operating instructions.
- At ambient temperatures below –20 °C:
  - Install sensor, including connecting cable, so it is protected against mechanical stress.
  - Install connecting cable tightly.

4 Function

The SDBT-MS-...-EX6 is an electronic proximity sensor with a switching status indication for explosion protection areas. The internal sensor element is actuated magnetically and closes an electric circuit (NAMUR).

5 Mounting

- Tightening torque: max. 0.6 Nm
- Width across flats: SW 1.5

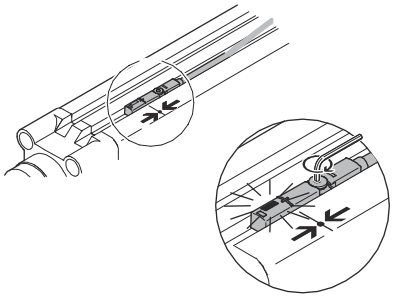

Fig. 1: Assembly

Disassembly

1. Unscrew the retaining screw.
2. Remove the proximity switch from the slot.

6 Electrical connection

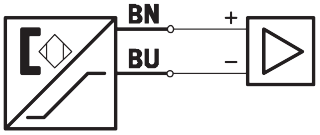

Fig.2

BN = brown BU = blue

7 Operation

Only operate the device with approved isolating amplifiers for the connection of sensors with an output signal in accordance with EN 60947-5-6 (NAMUR).
UL/CSA: Installation must be in accordance with National Electric Code (NFPA 70, Article 504) and ANSI/ISA RP 12.6.

8 Maintenance

The device is maintenance-free. Repairs are not possible.

9 Technical data

Operating conditions		
Operating voltage	[V DC]	8.2
Input resistance R_i	[kΩ]	1
Max. input voltage U_i	[V]	28
Max. input current I_i	[mA]	250
Max. input power P_i		
Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da	[W]	0.35
Ex ia IIC T6 Ga	[W]	0.072
Effective inductance L_i	[µH]	30
Effective capacitance C_i	[nF]	79
Ambient temperature Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da		
with fixed cable installation		–40 °C ≤ T_a ≤ 85 °C
with flexible cable installation		–20 °C ≤ T_a ≤ 85 °C
Ambient temperature Ex ia IIC T6 Ga		
with fixed cable installation		–40 °C ≤ T_a ≤ 45 °C
with flexible cable installation		–20 °C ≤ T_a ≤ 45 °C

Tab. 2