Translation

(1) # EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** **TÜV 20 ATEX 261706 X** **Issue:** 01

(4) for the product: Filling level sensor type MD SDLM Ex…

(5) of the manufacturer: **Officine Orobiche S.r.l.**

(6) Address: Via Giorgio Paglia, 22
24050 Zanica (BG)
Italien

Order number: 8003058403
Date of issue: See date of signature

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential ATEX Assessment Report No. 23 203 348523.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018/AC:2020-02 **EN 60079-1:2014/AC:2018-09** **EN 60079-11:2012**
EN 60079-26:2015 **EN 60079-31:2014**

except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign ”X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

See „Type code and Marking“

TÜV NORD CERT GmbH, Am TÜV 1, 45307 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

TÜVNORD
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(13) **S C H E D U L E**

(14) **EU-Type Examination Certificate No. TÜV 20 ATEX 261706 X Issue 01**

(15) **Description of product:**
The filling level sensors are used for continuous measurement of liquid levels within potentially explosive areas. Floaters are used to detect the fluid levels. These slide on a sensor tube. For interface or water detection, a second float can be mounted on the sensor tube.

Type code and Marking:

MD SDLM Ex …	4…20 mA interface (with configuration buttons) with HART protocol
MD SDLM Ex C…	4…20 mA interface (without configuration buttons) with HART protocol
MD SDLM Ex XT…	RS-485- or 4…20 mA interface with display (Ex i)
MD SDLM Exd XT…	RS-485- or 4…20 mA interface with display (Ex d+t+i)
MD SDLM Ex…-A	RS-485- or 4…20 mA interface with display and heater (Ex d+t+i)
MD SDLM Ex… Flex	Flexible sensor tube
MD SDLM Ex… PL	With plastic coating against very aggressive media

• MD SDLM Ex …	II 1 G Ex ia IIC T6…T1 Ga II 1/2 G Ex ia IIC T6…T1 Ga/Gb II 2 G Ex ia IIC T6…T1 Gb II 2 D Ex ia IIIC TX°C Db (see thermal data)
• MD SDLM Ex …-A • MD SDLM Ex … Flex • MD SDLM Ex … PL	II 1 G Ex ia IIB T6…T1 Ga II 1/2 G Ex ia IIB T6…T1 Ga/Gb II 2 G Ex ia IIB T6…T1 Gb II 2 D Ex ia IIIC TX°C Db (see thermal data)
• MD SDLM Exd …	II 1/2 G Ex ia/db IIC T6…T1 Ga/Gb II 2 G Ex db ia IIC T6…T1 Gb II 2 D Ex ia tb IIIC TX°C Db (see thermal data)
• MD SDLM Exd …-A • MD SDLM Exd … Flex • MD SDLM Exd … PL	II 1/2 G Ex ia/db IIB T6…T1 Ga/Gb II 2 G Ex db ia IIB T6…T1 Gb II 2 D Ex ia tb IIIC TX°C Db (see thermal data)

Schedule to EU-Type Examination Certificate No. TÜV 20 ATEX 261706 X Issue 01

Electrical data:

MD SDLM Ex …:

Signal and power supply (Terminals +, -, A, B resp. +, -) or (M12-Plug)	In type of protection intrinsic safety Ex ia IIC/IIB/IIIC. Only for connection to certified intrinsically safe circuits. Maximum values: U_i = 30 V I_i = 200 mA at $T_a \leq +70$ °C I_i = 100 mA at $T_a \leq +85$ °C P_i = 1 W Effective internal capacitance C_i = 10 nF Effective internal inductance L_i = 20 µH

MD SDLM Exd …:

Signal and power supply (Terminals +, -, A, B)	For connection to non-intrinsically safe circuits with the following values: U = 12 $V_{d.c.}$ … 50 $V_{d.c.}$ I = 4 mA … 20 mA U_m = 253 V
Heating circuit (Terminals -, +)	For connection to non-intrinsically safe circuits with the following values: U = 24 $V_{d.c.}$ ± 10 % I = 160 mA

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Thermal data:

MD SDLM Ex …:

For EPL Ga or EPL Ga/Gb or EPL Gb, the permissible temperature range depending on the variant and the temperature class can be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6	I_i ≤ 100 mA: -40 °C … +40 °C I_i ≤ 200 mA: -40 °C … +25 °C	-40 °C … +75 °C
T5	I_i ≤ 100 mA: -40 °C … +55 °C I_i ≤ 200 mA: -40 °C … +40 °C	-40 °C … +90 °C
T4	I_i ≤ 100 mA: -40 °C … +85 °C I_i ≤ 200 mA: -40 °C … +70 °C	-40 °C … +125 °C
T3	I_i ≤ 100 mA: -40 °C … +85 °C I_i ≤ 200 mA: -40 °C … +70 °C	-40 °C … +190 °C
T2	I_i ≤ 100 mA: -40 °C … +85 °C I_i ≤ 200 mA: -40 °C … +70 °C	-40 °C … +285 °C
T1	I_i ≤ 100 mA: -40 °C … +85 °C I_i ≤ 200 mA: -40 °C … +70 °C	-40 °C … +435 °C

For EPL Db applications, the permissible ambient temperature range depending on the permissible surface temperature can be taken from the following table:

Maximum surface temperature		Ambient temperature range T_a
Dust layer ≤ 5 mm T_5X°C	With total immersion TX°C	
I_i ≤ 100 mA: X°C = T_a + 40 °C	Observe EN 60079-14	-40 °C … +85 °C
I_i ≤ 200 mA: X°C = T_a + 55 °C	Observe EN 60079-14	-40 °C … +70 °C

The equipment is suitable for dusts with an ignition temperature of more than 200 °C under a dust layer of 5 mm (glow temperature).

MD SDLM Exd …:

For EPL Ga/Gb or EPL Gb, the permissible temperature range can be taken from the following tables, depending on the variant and the temperature class:

Temperature class	Ambient temperature range	Medium temperature range
T6	-55 °C … +50 °C	-55 °C … +75 °C
T5	-55 °C … +65 °C	-55 °C … +90 °C
T4	-55 °C … +85 °C	-55 °C … +125 °C
T3	-55 °C … +85 °C	-55 °C … +190 °C
T2	-55 °C … +85 °C	-55 °C … +285 °C
T1	-55 °C … +85 °C	-55 °C … +435 °C

For EPL Db applications, the permissible ambient temperature range depending on the permissible surface temperature can be taken from the following table:

Maximum surface temperature		Ambient temperature range T_a
Dust layer ≤ 5 mm T_5X°C	With total immersion TX°C	
X°C = T_a + 30 °C	Observe EN 60079-14	-55 °C … +85 °C

The equipment is suitable for dusts with an ignition temperature of more than 190 °C under a dust layer of 5 mm (glow temperature).

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(16) Drawings and documents are listed in the ATEX Assessment Report No. 23 203 348523

(17) **Specific Conditions for Use:**

1. The permissible temperature range depending on temperature classes resp. on the maximum surface temperature is to be taken from the operating instructions.
2. A reverse heat flow from the process, e.g. by heat dissipation from components of the system, beyond the permissible ambient temperature of the filling level sensor is not permissible. This can be avoided, for example, by suitable thermal insulation of these components or by mounting the pressure transmitter at a greater distance (cooling distance).
3. The medium tangent materials of the filling level sensor have to be resistant to the media.
4. For the uses in potentially explosive gas atmospheres and when using plastic floats, the filling level sensors have to be installed and used in such a way, that electrostatic charging from operation, maintenance and cleaning is excluded.
   For the uses in potentially explosive dust atmospheres and when using plastic floats process-related electrostatic charges, e.g. due to passing media have to be excluded.
5. When using titanium floats, the ignition hazard caused by impact or friction has to be excluded.
6. For EPL Ga/Gb applications the filling level sensor has to be mounted in a way that a sufficiently tight joint (IP66 or IP67) or a flameproof joint (IEC 60079-1) in the direction of the less endangered area results.
7. In case of hazards due to pendulum or swinging, the corresponding parts of the level sensor have to be effectively secured against these hazards.
8. The cable glands for the filling level sensors type MD SDLM Exd … have to be separately assessed and certified in accordance with EN 60079-0, EN 60079-1 and EN 60079-31. In the end-use application the degree of protection min. IP6X shall be maintained in accordance with EN 60079-0 and in compliance with EN 60529.
9. The flameproof joints at types MD SDLM Exd … are not intended to be repaired.

(18) **Essential Health and Safety Requirements:**
No additional ones.

- End of EU-Type Examination Certificate -