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 05 ATEX 2731** **Issue:** 00

(4) for the product: Flow switches type 107 . …, 172 . … and 31d …
Level switches type 8. … .

(5) of the manufacturer: Dosch Messapparate GmbH

(6) Address: Kamenzer Damm 85
12249 Berlin, Germany

Order number: 8003026154

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 284019.

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

See section (15)

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 section (15)

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 deputy head of the notified body

TÜVNORD Digital unterschrieben von Heinen Thomas Datum: 2024.10.07 13:07:53 +02'00'

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(13) **S C H E D U L E**

(14) **EU-Type Examination Certificate TÜV 05 ATEX 2731 Issue 00**

(15) Description of product

The flow switches are used to monitor flows. Depending on the type, for liquids and/or gases in pipes and ducts. Installation is carried out by means of flanged connections.

Flow switches type 107	Nominal sizes ≥ DN 25 (DIN/EN) / ≥ DN 1“ (ASME)
Flow switches type 31d	Nominal sizes ≥ DN 15 (DIN/EN) / ≥ DN 1/2“ (ASME)
Flow switches type 172	Nominal sizes ≥ DN 80 (DIN/EN) / ≥ DN 3“ (ASME)

Type series 107

Type key

107 . … (Ex)x

(Ex)d	Version in h db eb
(Ex)i	Version in h ia
S	with swivel baffle plate (high velocity)
hv	Spring-loaded pendulum with fixed switching point (high velocity)
hve	Spring-loaded pendulum with adjustable switching point (high velocity)
	(without hv / hve – weighted pendulum, switch point fixed)
v	Magnetic contact type 177GWW or type 177GWG
ind	Inductive contact (NAMUR)

Device type designation

Type series 31d

Type key

31d ... with magnetic contact type 177GWW or type 177GWG

(Ex)d	Version in h db eb
(Ex)i	Version in h ia

Device type designation

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Type series 172

Type key

172 . ...

(Ex)d	Version in h db eb
(Ex)i	Version in h ia
(without)	with magnetic contact type 177GWW or type 177GWG
ind	Magnetic field contact (NAMUR)
	Device type designation

Level switches type 8X

Connection flange DN 50 PN 16 resp. DN 2” PN 150#. Special designs for other nominal sizes and pressure ratings are possible.

Type 86
The level switches type 86 is used to control the level of liquids in tanks by means of a float. The standard connection is with a flange on the side of the tank.

Type 89
The level switches type 89 is used to control the level of liquids in tanks by means of a float, even under difficult operating conditions. The standard connection is with a flange directly on the tank or on a level vessel attached to the side of the tank.

Type key

8. . ...

(Ex)d	Version in h db eb
(Ex)i	Version in h ia
(without)	with magnetic contact type 177GWW or type 177GWG
ind	Inductive contact (NAMUR)
86 89	Device type designation

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Technical data

Permissible range of ambient temperature	-20 °C up to +60 °C
Permissible temperature range on the riser pipe in the area of the switch box	-20 °C up to +60 °C
Maximum fluid temperature Type 107 / 31d / 86 / 89 standard with separated switch box (longer distance between mounting flange and switch box) Type 107…hv/hve Type 172	 up to +60 °C up to +80 °C up to +80 °C up to +60 °C
Permissible range of ambient pressure at the switch box in the presence of explosive atmosphere	0,8 up to 1,1 bara
Limit switch frequency	60 switching cycles per minute

Schedule to EU-Type Examination Certificate TÜV 05 ATEX 2731 Issue 00

<table>
<tr><td colspan="2">Marking</td><td colspan="3">Electrical data</td></tr>
<tr><td rowspan="20"></td><td rowspan="20">II 1/2 G Ex h ia IIC T6 Ga/Gb
II 1/2 G Ex h ia IIB + H2 T6 Ga/Gb
II 1/2 D Ex h ia IIIC T85 °C Da/Db</td><td colspan="3">Only for connection to separately certified intrinsically safe circuits Ex ia IIC with the following maximum values:</td></tr>
<tr><td colspan="3">Magnetic field sensor (NAMUR) MMB70-12GH50-1N make contact (NO)
TÜV 20 ATEX 241336</td></tr>
<tr><td>Ui</td><td colspan="2">16 V</td></tr>
<tr><td>Ii</td><td colspan="2">30 mA</td></tr>
<tr><td>Pi</td><td colspan="2">100 mW</td></tr>
<tr><td>Ci max.</td><td colspan="2">130 nF</td></tr>
<tr><td>Li max.</td><td colspan="2">10 µH</td></tr>
<tr><td colspan="3">Inductive slot sensors (NAMUR)
SJ3,5-SN / SJ3,5-S1N
PTB 00 ATEX 2049 X</td></tr>
<tr><td></td><td>Type 1</td><td>Type 2</td></tr>
<tr><td>Ui</td><td>16 V</td><td>16 V</td></tr>
<tr><td>Ii</td><td>25 mA</td><td>25 mA</td></tr>
<tr><td>Pi</td><td>34 mW</td><td>64 mW</td></tr>
<tr><td>Ci max.</td><td colspan="2">30 nF</td></tr>
<tr><td>Li max.</td><td colspan="2">100 µH</td></tr>
<tr><td colspan="3">Magnetic contacts Typ SPDT potential-free
177GWW / 177GWG
TÜV 03 ATEX 2162U</td></tr>
<tr><td colspan="2">Ui</td><td>30 V</td></tr>
<tr><td colspan="2">Ii</td><td>100 mA</td></tr>
<tr><td colspan="2">Pi</td><td>650 mW</td></tr>
<tr><td colspan="2">Ci</td><td>0</td></tr>
<tr><td colspan="2">Li</td><td>0</td></tr>
</table>

The sensors and switches have to be connected via an approved Zener barrier or an isolating relay. These devices have to be installed outside the potentially explosive area, be approved to [Ex ia] IIC and comply with the specified limit values.

The internal inductances and capacitances of the separately certified intrinsically safe sensors can be found in the corresponding certificates.

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Marking		Electrical data		
		Min. connection cross-section 1,5 mm²		
	II 1/2 G Ex h db eb IIC T6 Ga/Gb **II 1/2 G Ex h db eb IIB + H2 T6 Ga/Gb** **II 1/2 D Ex h tb IIIC T85 °C Da/Db**	Magnetic contact	8443-09-.. 177GWW	8033-02-.. 177GWG
		Max. switching voltage	250 V AC/DC	42 V AC/DC
		Max. switching currrent	2 A AC/DC	0,3 A AC/DC
		Max. switching power	300 / 200 W AC/DC	13 W AC/DC

Explosion group IIB + H2 applies to control boxes made of red brass.

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 IEC 60079-7:2015/A1:2018 **EN 60079-11:2012** **EN 60079-26:2015**
EN 60079-31:2014 **EN ISO 80079-36:2016** **EN ISO 80079-37:2016**

(16) Drawings and documents are listed in the ATEX Assessment Report No. 23 203 284019.

(17) Specific Conditions for Use

none

(18) Essential Health and Safety Requirements

no additional ones

- End of EU-Type Examination Certificate -