Physikalisch-Technische Bundesanstalt



Braunschweig und Berlin



(1) EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

- (2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres **Directive 94/9/EC**
- (3) EC-type-examination Certificate Number:



PTB 11 ATEX 2005

(4) Equipment:

FLUX-Liquid Flow Meter type FM../../..

(5) Manufacturer:

FLUX-GERÄTE GMBH

(6) Address:

Talweg 12, 75433 Maulbronn, Germany

- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential assessment and test report PTB Ex 11-20327.

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

EN 60079-0:2009

EN 60079-11:2007

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. 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 equipment shall include the following:

🔄 II 2 G Ex ia IIB T6 Gb

Zertifizierungssektor Explosionsschutz On behalf of PTB:

Dr.-Ing. U. Johannsmeyer

Direktor und Professor

Braunschweig, March 4, 2011

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SCHEDULE

(14) EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2005

(15) Description of equipment

The Flux-Liquid Flow Meter type FM../../... is a part of the flow measuring system and consists of the electronic system with enclosure. The Flux-Liquid Flow Meter serves for detection and display of the quantity of substances of flowing media. The surface of the electronic enclosure of the Flux-Liquid Flow Meter complies with the requirements of electrostatic safety for equipment group IIB.

Electrical data

Internal supply

3 V (DC); for voltage supply approved battery type:

VARTA Mangandioxid / Lithium, type 6032;

IEC Design CR2032

changing of battery only permissible outside the

hazardous area.

Measuring input STA/STO (terminal X1-9, X1-7)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_{o} = 6,7 \text{ V}$

 $I_o = 14 \text{ mA}$

P_o = 24 mW linear characteristic

C_i negligible small

L_i negligible small

Measuring input IMPULS (terminal X1-9, X1-6 or X2-1, X2-2)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_0 = 6.7 \text{ V}$

 $l_0 = 14 \text{ mA}$

 $P_o = 24 \text{ mW}$

linear characteristic

C_i negligible small

L_i negligible small

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SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 2005

Output OK

(terminal X1-5, GND)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_i = 13.5 \text{ V}$

 $R_i = 1568$ Ohm C_i negligible small

Li negligible small

Output g S1/MVEN

(terminal X1-4, GND)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_i = 13,5 \text{ V}$

 $R_i = 1568$ Ohm C_i negligible small

L_i negligible small

Output ERROR

(terminal X1-3, GND)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_i = 13,5 \text{ V}$

 $R_i = 1568$ Ohm C_i negligible small

L_i negligible small

Output S2/KRIECH (terminal X1-2, GND)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_i = 13,5 \text{ V}$

 $R_i = 1568 \text{ Ohm}$

C_i negligible small

L_i negligible small

Output Impulse route

(terminal X1-1, GND)

in type of protection Intrinsic Safety Ex ia IIC/IIB;

maximum values:

 $U_i = 13,5 \text{ V}$

 $R_i = 1568 \text{ Ohm}$

C_i negligible small

L_i negligible small

For safety aspects, the output circuits are to be regarded as connected with each other.

- (16) Assessment and test report PTB Ex 11-20327
- (17) Special conditions for safe use

none

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(18) <u>Essential health and safety requirements</u>
met by compliance with the standards mentioned above

Zertifizierungssektor Explosionsschutz On behalf of PTB:

Dr.-Ing. U. Johannsmeye

Direktor und Professor

Braunschweig, March 4, 2011