CERTIFICATE

(1) EU-Type Examination

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

(3) EU-Type Examination Certificate Number: **DEKRA 14ATEX0071 X** Issue Number: **7**

(4) Product: **Magnetic Flow Transmitter Models 8732EM and 8712EM and Flow Tube Models 8705-M and 8711-M/L**

(5) Manufacturer: **Emerson – Rosemount, Micro Motion Inc.**

(6) Address: **12001 Technology Drive, Eden Prairie, MN 55344, United States of America**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 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 confidential test report number NL/DEK/ExTR14.0033/06.

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

EN 60079-0 : 2012 + A11 : 2013 **EN 60079-1 : 2014** **EN 60079-7 : 2015** **EN 60079-11 : 2012**
EN 60079-15 : 2010 **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 of 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 product. These are not covered by this certificate.

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

II 2(1) G	**Ex db eb [ia Ga] IIC T6…T3 Gb**
II 2(1) G	**Ex db [ia Ga] IIC T6…T3 Gb**
II 3(1) G	**Ex nA [ia Ga] IIC T4…T3 Gc**
II 3(1) G	**Ex ec [ia Ga] IIC T4…T3 Gc**
II (1) G	**[Ex ia Ga] IIC**
II 1/2 G	**Ex eb ia IIC T5…T3 Ga/Gb**
II 2 G	**Ex eb ib IIC T5…T3 Gb**
II 1/3 G	**Ex nA ia IIC T5…T3 Ga/Gc**
II 1/3 G	**Ex ec ia IIC T5…T3 Ga/Gc**
II 3 G	**Ex nA ic IIC T5…T3 Gc**
II 3 G	**Ex ec ic IIC T5…T3 Gc**
II 2 D	**Ex tb IIIC T80 °C…T200 °C Db**
II 3 G	**Ex nA ic [ia Ga] IIC T4 Gc**
II 3 G	**Ex ec ic [ia Ga] IIC T4 Gc**
II 2 D	**Ex tb IIIC T80 °C Db**

for details see Annex to EU Type Examination Certificate DEKRA 14ATEX0071 X, issue no. 7

Date of certification: 22 March 2019

DEKRA Certification B.V.

R.H.D. Pommé
Certification Manager

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Registered Arnhem 09085396

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0071 X** Issue No. **7**

(15) **Description**

Magnetic Flow Transmitter Model 8732EM

The Magnetic Flow Transmitter Model 8732EM may be remote mounted from the Magnetic Flow Tube or integral mounted on the Magnetic Flow Tubes Models 8705-M or 8711-M/L.

The Remote Mount Transmitter comprises a termination compartment in types of protection Ex eb, Ex db, Ex nA, Ex ec or Ex tb for connecting power and output signal (optionally intrinsically safe Ex ia). The main compartment of the enclosure in types of protection Ex db, Ex nA, Ex ec or Ex tb includes the electronics, optional Local Operator Interface (LOI) or display, intrinsically safe Ex ia supplies for the flow sensor and optionally intrinsically safe Ex ia output signal. For the connection to the Remote Mount Magnetic Flow Tube terminals for the field coils and electrode wiring (optionally intrinsically safe Ex ia) are provided in the Remote Junction Box compartment in types of protection Ex eb, Ex nA, Ex ec or Ex tb.

The Integral Mount Transmitter is identical to the Remote Mount Transmitter, except that it is mounted directly on the tube adaptor of the Magnetic Flow Tube instead of to the Remote Junction Box.

For connection to the Magnetic Flow Tubes, the transmitter comprises a current limiting circuit.

The Magnetic Flow Transmitter Model 8732EM with approval code K1 may be utilized with the Legacy Magnetic Flow Tube Models 8705 and 8711 with approval code KD. This combination leaves the marking on the Magnetic Flow Transmitter Model 8732EM, K1 as per this certificate and the marking of the Legacy Flow Tubes as per their current certificate KEMA 03ATEX2052 X. The temperature class of this combination when utilized as integral mount, shall comply with the corresponding table shown under “Temperature class and specified maximum surface temperature “T”” for Magnetic Flow Tube Models 8705-M and 8711-M/L as listed in this certificate.

Magnetic Flow Transmitter Model 8712EM

The Magnetic Flow Transmitter Model 8712EM is remote mounted from the Magnetic Flow Tubes Models 8705-M or 8711-M/L.

The main compartment of the enclosure in types of protection Ex ec, Ex nA or Ex tb includes the electronics, optional Local Operator Interface (LOI), optional intrinsically safe Ex ia supplies for the flow sensor and optionally intrinsically safe Ex ia output signal. The optional keypad for the LOI is in type of protection Ex ic.

The Remote Mount Transmitter comprises a termination compartment in types of protection Ex ec, Ex nA or Ex tb for connecting power and output signal (with optional intrinsically safe Ex ia outputs), field coils and electrode wiring (optionally intrinsically safe Ex ia).

For connection to the Magnetic Flow Tubes, the transmitter comprises a current limiting circuit.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0071 X** Issue No. **7**

Description (continued)

Magnetic Flow Tube Models 8705-M and 8711-M/L

The Magnetic Flow Tube Models 8705-M and 8711-M/L are designed for use with Magnetic Flow Transmitter Model 8732EM or 8712EM.

The Magnetic Flow Tube Models 8705-M and 8711-M/L may be remote mounted from the Magnetic Flow Transmitter Model 8732EM or 8712EM or may be integrally mounted to the Magnetic Flow Transmitter Model 8732EM. The Magnetic Flow Tube Model 8705-M is utilized with flanges for process connection. Model 8711-M/L is utilized with wafer process connection.

The Remote Mount Flow Tube comprises a Remote Junction Box in types of protection Ex eb, Ex nA, Ex ec or Ex tb for the connection of the field coils and electrode wiring (optionally intrinsically safe Ex ia, Ex ib or Ex ic) to the Remote Mount Magnetic Flow Transmitter. The field coils are mounted in a welded compartment in types of protection Ex eb, Ex nA, Ex ec or Ex tb. The electrodes (optionally intrinsically safe Ex ia, Ex ib or Ex ic) are mounted in the same welded compartment as the field coils but protrude into the process medium.

The electrodes utilized in Model 8705-M may optionally be mounted in electrode housings that allow EPL Ga (Category 1 G) rating. When utilized as EPL Db equipment (Category D 2), EPL Db does not apply to the process.

The Integral Mount Flow Tube is identical to the Remote Mount Flow Tube, except that it is intended to be mounted directly to the Magnetic Flow Transmitter instead of to the Remote Junction Box.

For nomenclature, thermal data, product ratings, electrical data and description of system elements see Annex to this certificate.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

NL/DEK/ExTR14.0033/06

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0071 X** Issue No. **7**

(17) **Specific conditions of use**

Magnetic Flow Transmitter Models 8732EM

When “Special Paint Systems” are applied, instructions for safe use regarding potential electrostatic charging hazard have to be followed.

Conduit entries must be installed to maintain the enclosure ingress rating of IP66

Terminals for the output signals of the Magnetic Flow Transmitters, cannot withstand the 500 V isolation test between signal and ground, due to integral transient protection up to a voltage of 250 Vac. This must be taken into account upon installation.

The property class of the special fasteners which attach the Magnetic Flow Tube or Transmitter Remote Junction Box to the Magnetic Transmitter is A2-70 or A4-70 SST.

For information on the dimensions of the flameproof joints the manufacturer shall be contacted.

Magnetic Flow Transmitter Models 8712EM

When “Special Paint Systems” are applied, instructions for safe use regarding potential electrostatic charging hazard have to be followed.

Conduit entries must be installed to maintain the enclosure ingress rating of IP66 or IP69K.

When utilizing the keypad of Magnetic Flow Transmitter Model 8712EM, instructions for safe use regarding potential electrostatic charging hazard have to be followed.

Terminals for the output signals of the Magnetic Flow Transmitters, cannot withstand the 500 V isolation test between signal and ground, due to integral transient protection. This must be taken into account upon installation.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0071 X** Issue No. **7**

Specific conditions of use (continued)

Magnetic Flow Tube Models 8705-M and 8711-M/L

The Magnetic Flow Tubes wetted parts may contain Titanium and Zirconium. It is the responsibility of the end user to eliminate ignition hazards due to impact or friction for processes that require EPL Ga or Gb (Category 1 G or 2 G).

The Magnetic Flow Tube contains non conductive liners covering the grounded flow tube. For process requiring EPL Ga (Category 1 G), precautions shall be taken to avoid the liner being charged by the flow of nonconductive media.

In order to maintain the ingress protection level on the M3 and M4 electrode housing of the Magnetic Flow Tubes, the copper crush washer that seals the electrode access plug shall be replaced when the plug is reinstalled. The copper crush washer is one time use only.

The property class of the special fasteners which attach the Magnetic Flow Tube or Transmitter Remote Junction Box to the Magnetic Transmitter is A2-70 or A4-70 SST.

When “Special Paint Systems” are applied, instructions for safe use regarding potential electrostatic charging hazard have to be followed.

For information on the dimensions of the flameproof joints the manufacturer shall be contacted.

Conduit entries must be installed to maintain the enclosure ingress rating of IP66.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR14.0033/06.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0071 X** Issue No. **7**

(20) **Certificate history**

Issue 1 -	217012200	Initial certificate.
Issue 2 -	217353500	Additional non-intrisically safe MODBUS model and editorial changes.
Issue 3 -	381529200	Update flow tube assessment to EN 60079-26 : 2015, assess legacy flow tube models 8705 and 8711 for use with 8732 EM Transmitter, change resistors on 8732EM transmitter HART SIRF board, revision of special conditions of use and miscellaneous drawing revisions including corrected notified body number responsible for quality surveillance.
Issue 4 -	381658800	Magnetic Flow Transmitter Model 8732EM alternate construction of the power supply board. Add alternate construction of the Flow Tube Adapter for Magnetic Flow Tube Models 8705 and 8711 M/L with approval code N1/N7 or ND/NF (Ex nA or Ex tb). Add Safety Approval Option model K9. Miscellaneous drawing revisions.
Issue 5 -	217353200	Update the existing certificate, DEKRA 14ATEX0071 X for Magnetic Flow Transmitter Model 8732EM for type of protection Ex ec (update from EN 60079 15 : 2010 to EN 60079-7 : 2015) and for type of protection eb (update from EN 60079-7 : 2006 to EN 60079-7 : 2015). Addition of the Magnetic Flow Transmitter Model 8712EM to DEKRA 14ATEX0071X. The Model 8712EM transmitter is assessed in accordance with EN 60079-0 : 2012 for types of protection Ex nA according to EN 60079-15 : 2010, Ex ec according to EN 60079-7 : 2015 and Ex tb according to EN 60079-31 : 2014. Update the existing certificate, DEKRA 14ATEX0071 Xfor Magnetic Flow Tube Models 8705-M, 8711-M/ for type of protection Ex ec (update from EN 60079-15 : 2010 to EN 60079-7 : 2015) and for type of protection eb (update from EN 60079-7 : 2006 to EN 60079-7 : 2015).
Issue 6 -	222430000	Editorial changes without technical effect.
Issue 7 -	381942200	Assessment of flameproof options per EN 60079-1 : 2014. Add low power option for Magnetic Flow Transmitter Model 8732EM Add Foundation Fieldbus / FISCO and Profibus options for Magnetic Flow Transmitter Model 8732EM and 8712EM. Miscellaneous drawing updates.

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Note: In this document [.] is used as decimal separator.

Description

Magnetic Flow Transmitter Model 8732EM

The Magnetic Flow Transmitter Model 8732EM may be remote mounted from the Magnetic Flow Tube or integral mounted on the Magnetic Flow Tube Models 8705-M or 8711-M/L.

The Remote Mount Transmitter comprises a termination compartment in types of protection Ex eb, Ex db, Ex nA, Ex ec or Ex tb for connecting power and output signal (optionally intrinsically safe Ex ia). The main compartment of the enclosure in types of protection Ex db, Ex nA, Ex ec or Ex tb includes the electronics, optional Local Operator Interface (LOI) or display, intrinsically safe Ex ia supplies for the flow sensor and optionally intrinsically safe Ex ia output signal. For the connection to the Remote Mount Magnetic Flow Tube terminals for the field coils and electrode wiring (optionally intrinsically safe Ex ia) are provided in the Remote Junction Box compartment in types of protection Ex eb, Ex nA, Ex ec or Ex tb.

The Integral Mount Transmitter is identical to the Remote Mount Transmitter, except that it is mounted directly on the tube adaptor of the Magnetic Flow Tube instead of to the Remote Junction Box.

For connection to the Magnetic Flow Tubes, the transmitter comprises a current limiting circuit.

The Magnetic Flow Transmitter Model 8732EM with approval code K1 may be utilized with the Legacy Magnetic Flow Tube Models 8705 and 8711 with approval code KD. This combination leaves the marking on the Magnetic Flow Transmitter Model 8732EM, K1 as per this certificate and the marking of the Legacy Flow Tubes as per their current certificate KEMA 03ATEX2052 X (ATEX only).

The temperature class of this combination when utilized as integral mount, shall comply with the corresponding table shown under “Temperature class and specified maximum surface temperature “T”” for Magnetic Flow Tube Models 8705-M and 8711-M/L as listed in certificate DEKRA 14ATEX0071 X.

Degree of protection, per EN-IEC 60079-0 and EN-IEC 60529:	IP66
Ambient temperature range:	$-50\ °C \leq T_{amb} \leq +60\ °C$

Magnetic Flow Transmitter Model 8712EM

The Magnetic Flow Transmitter Model 8712EM is remote mounted from the Magnetic Flow Tubes Models 8705-M or 8711-M/L.

The main compartment of the enclosure in types of protection Ex ec, Ex nA or Ex tb includes the electronics, optional Local Operator Interface (LOI), optional intrinsically safe Ex ia supplies for the flow sensor and optionally intrinsically safe Ex ia output signal. The optional keypad for the LOI is in type of protection Ex ic.

The Remote Mount Transmitter comprises a termination compartment in types of protection Ex ec, Ex nA or Ex tb for connecting power and output signal (with optional intrinsically safe Ex ia outputs), field coils and electrode wiring (optionally intrinsically safe Ex ia).

For connection to the Magnetic Flow Tubes, the transmitter comprises a current limiting circuit.

Degree of protection, per EN-IEC 60079-0 and EN-IEC 60529:	IP66
Degree of protection, per ISO 20653:	IP69K
Ambient temperature range:	$-40\ °C \leq T_{amb} \leq +60\ °C$

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 9683000 F +31 88 9683100 www.dekra-certification.com Registered Arnhem 09085396

Description (continued)

Magnetic Flow Tube Models 8705-M and 8711-M/L

The Magnetic Flow Tube Models 8705-M and 8711-M/L are designed for use with Magnetic Flow Transmitter Model 8732EM or 8712EM.

The Magnetic Flow Tube Models 8705-M and 8711-M/L may be remote mounted from the Magnetic Flow Transmitter Model 8732EM or 8712EM or may be integrally mounted to the Magnetic Flow Transmitter Model 8732EM. The Magnetic Flow Tube Model 8705-M is utilized with flanges for process connection. Model 8711-M/L is utilized with wafer process connection.

The Remote Mount Flow Tube comprises a Remote Junction Box in types of protection Ex eb, Ex nA, Ex ec or Ex tb for the connection of the field coils and electrode wiring (optionally intrinsically safe Ex ia, Ex ib or Ex ic) to the Remote Mount Magnetic Flow Transmitter. The field coils are mounted in a welded compartment in types of protection Ex eb, Ex nA, Ex ec or Ex tb. The electrodes (optionally intrinsically safe Ex ia, Ex ib or Ex ic) are mounted in the same welded compartment as the field coils but protrude into the process medium.

The electrodes utilized in Model 8705-M may optionally be mounted in electrode housings that allow EPL Ga (Category 1 G) rating. When utilized as EPL Db equipment, EPL Db does not apply to the process.

The Integral Mount Flow Tube is identical to the Remote Mount Flow Tube, except that it is intended to be mounted directly to the Magnetic Flow Transmitter instead of to the Remote Junction Box.

Degree of protection, per EN-IEC 60079-0 and EN-IEC 60529:		IP66 Integral Mount
Ambient temperature range:	Carbon Steel wrapper (housing):	-29 °C ≤ T_{amb} ≤ +60 °C
	Stainless Steel wrapper (housing):	-50 °C ≤ T_{amb} ≤ +60 °C

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Nomenclature Magnetic Flow Transmitter Model 8732EM and electrical data

8732EM	R	1	B	2	K1	…	M4	RT50	…	SH	…	V1	…	F090…
I	II	III	IV	V	VI		VII	VIII		IX				X

Desig-nation	Explanation	Value	Explanation
I	Model	8732EM	Magnetic Flow Transmitter – Field Mount
II	Transmitter Mount	R T	Remote Mount Integral Mount
III	Transmitter Power Supply	1 2 3	AC (90 - 250 Vac, 50 / 60 Hz), not for Ex nA DC (12 - 42 Vdc) DC (12 - 30 Vdc)
IV	Outputs	A B M F P	4 - 20 mA with digital HART Protocol & Scalable Pulse Output 4 - 20 mA Intrinsically Safe Output with digital HART Protocol & Intrinsically Safe Scalable Pulse Output Modbus RS-485 Intrinsically Safe Fieldbus / FISCO and Intrinsically Safe Scalable Pulse Output Intrinsically Safe Profibus and Intrinsically Safe Scalable Pulse Output
V	Conduit entries	1 or 4 2 or 5	½-14 NPT female CM20, M20 female
VI	Safety Approval Option	K1 ATEX	Ⓔx II 2 (1) G Ex db eb [ia Ga] IIC T6…T3 Gb Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
			Ⓔx II 2 (1) G Ex db [ia Ga] IIC T6…T3 Gb * Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		K7 IECEx	Ex db eb [ia Ga] IIC T6…T3 Gb Ex tb IIIC T80 °C…T200 °C Db
			Ex db [ia Ga] IIC T6…T3 Gb * Ex tb IIIC T80 °C…T200 °C Db
		K9 IECEx	Ex db eb [ia Ga] IIC T6…T3 Gb
			Ex tb IIIC T80 °C…T200 °C Db
		N1 ATEX	Ⓔx II 3 (1) G Ex nA [ia Ga] IIC T4…T3 Gc *** Ⓔx II 3 (1) G Ex ec [ia Ga] IIC T4…T3 Gc *** Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		N7 IECEx	Ex nA [ia Ga] IIC T4…T3 Gc *** Ex ec [ia Ga] IIC T4…T3 Gc *** Ex tb IIIC T80 °C…T200 °C Db
		ND ATEX	Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
			Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db Ⓔx II (1) G [Ex ia Ga] IIC **
		NF IECEx	Ex tb IIIC T80 °C…T200 °C Db
			Ex tb IIIC T80 °C…T200 °C Db [Ex ia Ga] IIC **
			NOTE:* Integral Mount (see II) option only ** Intrinsically Safe Output (see IV) option only *** DC Transmitter Power Supply only (12 - 42 Vdc)
VII	Display Option	M4 M5	LOI Display
VIII	Remote Cable Option	RTxx **** RHxx ****	Standard Temperature Component Extended Temperature Component
			NOTE: **** Length = xx ^{x} 10 ft, max. 500 ft

Annex to: **Certificate of Conformity IECEx DEK 14.0031X**
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Nomenclature Magnetic Flow Transmitter Model 8732EM and electrical data (continued)

8732EM	R	1	B	2	K1	…	M4	RT50	…	SH	…	V1	…	F090…
I	II	III	IV	V	VI		VII	VIII		IX				X

Desig-nation	Explanation	Value	Explanation
IX	Options	-- SH Vx	Aluminum, standard paint Stainless Steel Electronics Housing Special Paint Systems *****
X	Specials	F090x	Special Paint Systems *****
			NOTE: ***** Subject to special conditions for safe use.

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Nomenclature Magnetic Flow Transmitter Model 8712EM and electrical data

8712EM	R	2	B	2	N7	…	M4	RT50	…	Vx	…	F090…
I	II	III	IV	V	VI		VII	VIII		IX		X

Desig-nation	Explanation	Value	Explanation
I	Model	8712EM	Magnetic Flow Transmitter – Field Mount
II	Transmitter Mount	R	Remote Mount
III	Transmitter Power Supply	1 2 3	AC (90 - 250 Vac, 50 / 60 Hz) DC (12 - 42 Vdc) DC (12 – 30 Vdc)
IV	Outputs	A B M F P	4 - 20 mA with digital HART Protocol & Scalable Pulse Output 4 - 20 mA Intrinsically Safe Output with digital HART Protocol & Intrinsically Safe Scalable Pulse Output Modbus RS-485 Intrinsically Safe Fieldbus / FISCO and Intrinsically Safe Scalable Pulse Output Intrinsically Safe Profibus and Intrinsically Safe Scalable Pulse Output
V	Conduit entries	1 2	½-14 NPT female CM20, M20 female
VI	Safety Approval Option	N1 ATEX	Ⓔx II 3 (1) G Ex nA ic [ia Ga] IIC T4 Gc ** Ⓔx II 3 (1) G Ex ec ic [ia Ga] IIC T4 Gc ** Ⓔx II 2 D Ex tb IIIC T80 °C Db
		N7 IECEx	Ex nA ic [ia Ga] IIC T4 Gc ** Ex ec ic [ia Ga] IIC T4 Gc ** Ex tb IIIC T80 °C Db
		N9 IECEx	Ex nA ic [ia Ga] IIC T4 Gc ** Ex ec ic [ia Ga] IIC T4 Gc ** Ex tb IIIC T80 °C Db
		ND ATEX	Ⓔx II 2 D Ex tb IIIC T80 °C Db
			Ⓔx II 2 D Ex tb IIIC T80 °C Db Ⓔx II (1) G [Ex ia Ga] IIC *
		NF IECEx	Ex tb IIIC T80 °C Db
			Ex tb IIIC T80 °C Db [Ex ia Ga] IIC *
			NOTE:* Intrinsically Safe Output (see IV) option only ** DC Transmitter Power Supply only (12 - 42 Vdc)
VII	Display Option	-- M4 M5	Without LOI and keypad LOI + keypad Display
VIII	Remote Cable Option	Rxx	Standard Temperature Component
			NOTE: *** Length = xx x 10 ft, max. 500 ft
IX	Options	-- Vx	Aluminum, standard paint Special Paint Systems ****
X	Specials	F090x	Special Paint Systems ****
			NOTE: **** Subject to special conditions for safe use.

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Nomenclature Magnetic Flow Tube Model 8705-M and electrical data

8705	…	S	A	005	…	M4	K1	…	G1	L1	B3	…	J1	SC	…	V1	…	SH	…	F090x
I		II	III	IV		V	VI		VII	VIII	IX		X	XI		XII		XIII		XIV

Desig-nation	Explanation	Value	Explanation
I	Model	8705	Magnetic Flow Tube
II	Electrode Material	Custom	See special conditions for safe use
III	Electrode Types	Custom	Seal of electrodes comply with IEC 61010-1.
IV	Line Size	005 to 360	½" NPS (15 mm) to 36" NPS (900 mm)
V	Electrode Housing *	M0 M1 M2 M3 M4	Category 2 G or 3 G, EPL Gb or Gc Category 2 G or 3 G, EPL Gb or Gc Category 1/2 G or 1/3 G, EPL Ga/Gb or Ga/Gc Category 1/2 G or 1/3 G, EPL Ga/Gb or Ga/Gc Category 1/2 G or 1/3 G, EPL Ga/Gb or Ga/Gc
VI	Safety Approvals	K1 ATEX	Ⓔx II 1/2 G Ex eb ia IIC T5…T3 Ga/Gb * Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
			Ⓔx II 2 G Ex eb ib IIC T5…T3 Gb ** Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		K7 IECEx	Ex eb ia IIC T5…T3 Ga/Gb * Ex tb IIIC T80 °C…T200 °C Db
			Ex eb ib IIC T5…T3 Gb ** Ex tb IIIC T80 °C…T200 °C Db
		K9 IECEx	Ex eb ia IIC T5…T3 Ga/Gb * Ex tb IIIC T80 °C…T200 °C Db
			Ex eb ib IIC T5…T3 Gb ** Ex tb IIIC T80 °C…T200 °C Db
		N1 ATEX	Ⓔx II 1/3 G Ex nA ia IIC T5…T3 Ga/Gc * line sizes 8"- 36" Ⓔx II 1/3 G Ex ec ia IIC T5…T3 Ga/Gc * line sizes 8"- 36" Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
			Ⓔx II 3 G Ex nA ic IIC T5…T3 Gc * line sizes 0.5" – 6" / ** Ⓔx II 3 G Ex ec ic IIC T5…T3 Gc * line sizes 0.5" – 6" / ** Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		N7 IECEx	Ex nA ia IIC T5…T3 Ga/Gc * line sizes 8"- 36" Ex ec ia IIC T5…T3 Ga/Gc * line sizes 8"- 36" Ex tb IIIC T 80 °C…T200 °C Db
			Ex nA ic IIC T5…T3 Gc * line sizes 0.5" – 6" / ** Ex ec ic IIC T5…T3 Gc * line sizes 0.5" – 6" / ** Ex tb IIIC T 80 °C…T200 °C Db
		ND ATEX	Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		NF IECEx	Ex tb IIIC T80 °C…T200 °C Db
			NOTE:* Electrode Housing M2, M3 and M4 only ** Electrode Housing M0 and M1 only
VII	Grounding rings material	Custom	See special conditions for safe use
VIII	Lining protector material	Custom	See special conditions for safe use
IX	Mounting Configuration	B3	Integral Mount with Model 8732EM
X	Optional conduit entries	J1	CM20, M20 female
XI	Remote Junction Box (RJB) material	-- SJ	Aluminum, standard paint 316 Stainless steel

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Nomenclature Magnetic Flow Tube Model 8705-M and electrical data (continued)

8705	…	S	A	005	…	M4	K1	…	G1	L1	B3	…	J1	SC	…	V1	…	SH	…	F090x
I		II	III	IV		V	VI		VII	VIII	IX		X	XI		XII		XIII		XIV

Desig-nation	Explanation	Value	Explanation
XII	Special paint options	Vx	Special Paint Systems ***
XIII	Wrapper (housing) material	-- SH	Carbon Steel (w. Aluminum RJB), standard paint 316 Stainless Steel (w. Stainless Steel RJB)
XIV	Specials	F090x	Special Paint Systems ***
			NOTE: *** Subject to special conditions for safe use.

Nomenclature Magnetic Flow Tube Model 8711-M/L and electrical data

8711	…	S	A	15F	L	…	K1	…	G1	…	J1	SC	…	V1	…	F090x
I		II	III	IV	V		VI		VII		VIII	IX		X		XI

Desig-nation	Explanation	Value	Explanation
I	Model	8711	Magnetic Flow Tube
II	Electrode Material	Custom	See special conditions for safe use
III	Electrode Types	Custom	Seal of electrodes comply with IEC 61010-1.
IV	Line Size	015 to 080	1½” NPS (40 mm) to 8” NPS (900 mm)
V	Mounting Configuration	L M	Remote Mount from Transmitter Integral Mount with Transmitter
VI	Safety Approvals	K1 ATEX	Ⓔx II 2 G Ex eb ib IIC T5…T3 Gb Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		K7 IECEx	Ex eb ib IIC T5…T3 Gb Ex tb IIIC T80 °C…T200 °C Db
		K9 IECEx	Ex eb ib IIC T5…T3 Gb Ex tb IIIC T80 °C…T200 °C Db
		N1 ATEX	Ⓔx II 3 G Ex nA ic IIC T5…T3 Gc Ⓔx II 3 G Ex ec ic IIC T5…T3 Gc Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		N7 IECEx	Ex nA ic IIC T5…T3 Gc Ex ec ic IIC T5…T3 Gc Ex tb IIIC T80 °C…T200 °C Db
		ND ATEX	Ⓔx II 2 D Ex tb IIIC T80 °C…T200 °C Db
		NF IECEx	Ex tb IIIC T80 °C…T200 °C Db
VII	Grounding rings material	Custom	See special conditions for safe use
VIII	Optional conduit entries	J1	CM20, M20 female
IX	Remote Junction Box material	-- SJ	Aluminum, standard paint * 316 Stainless steel *
			NOTE: * Flow Tube with Carbon Steel wrapper (housing)
X	Special paint options	Vx	Special Paint Systems **
XI	Specials	F090x	Special Paint Systems ** NOTE: ** Subject to special conditions for safe use.

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Temperature class and specified maximum surface temperature "T"

Magnetic Flow Transmitter Model 8732EM

Remote Mount	Temperature class:	EPL Gb:	T6
		EPL Gc:	T4
	Maximum surface temperature "T":	EPL Db:	T80 °C
Integral Mount	See Temperature class and specified maximum surface temperature "T" of Flow Tubes on which the transmitter is mount.		

Magnetic Flow Transmitter Model 8712EM

Remote Mount	Temperature class:	T4
	Maximum surface temperature "T":	T80 °C

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Temperature class and specified maximum surface temperature "T" (continued)

Magnetic Flow Tube Model 8705-M

Line Size [NPS]	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class	Type of protect.	Transmitter Mounting	Maximum surface temperature "T"
½"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Integral/Remote	T4		Integral/Remote	T110 °C
	120 °C		Integral/Remote	T4		Integral/Remote	T140 °C
	150 °C		Remote	T3		Remote	T170 °C
	180 °C	Ex nA	Remote	T3		Remote	T200 °C
1"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Integral/Remote	T4		Integral/Remote	T110 °C
	120 °C		Integral/Remote	T4		Integral/Remote	T140 °C
	150 °C		Remote	T3		Remote	T170 °C
	180 °C	Ex nA	Remote	T3		Remote	T200 °C
1½"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Integral/Remote	T4		Integral/Remote	T110 °C
	105 °C		Integral/Remote	T4		Integral/Remote	T125 °C
	140 °C		Remote	T3		Remote	T160 °C
	170 °C	Ex nA	Remote	T3		Remote	T190 °C
2"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Integral/Remote	T4		Integral/Remote	T110 °C
	105 °C		Integral/Remote	T4		Integral/Remote	T125 °C
	140 °C		Remote	T3		Remote	T160 °C
	170 °C	Ex nA	Remote	T3		Remote	T190 °C
2½"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Remote	T4		Integral/Remote	T110 °C
	110 °C		Remote	T4		Remote	T130 °C
	150 °C		Remote	T3		Remote	T170 °C
	170 °C	Ex nA	Remote	T3		Remote	T190 °C
3"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Remote	T4		Remote	T110 °C
	115 °C		Remote	T4		Remote	T135 °C
	150 °C		Remote	T3		Remote	T170 °C
	175 °C	Ex nA	Remote	T3		Remote	T195 °C
4"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Remote	T4		Remote	T110 °C
	115 °C		Remote	T4		Remote	T135 °C
	155 °C		Remote	T3		Remote	T175 °C
	175 °C	Ex nA	Remote	T3		Remote	T195 °C
5"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Remote	T4		Remote	T110 °C
	120 °C		Remote	T4		Remote	T140 °C
	155 °C		Remote	T3		Remote	T175 °C
	175 °C	Ex nA	Remote	T3		Remote	T195 °C
6"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Remote	T4		Remote	T110 °C
	120 °C		Remote	T4		Remote	T140 °C
	155 °C		Remote	T3		Remote	T175 °C
	180 °C	Ex nA	Remote	T3		Remote	T200 °C
8-36"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	90 °C		Remote	T4		Remote	T110 °C
	120 °C		Remote	T4		Remote	T140 °C
	155 °C		Remote	T3		Remote	T175 °C
	180 °C	Ex nA	Remote *	T3		Remote *	T200 °C

NOTE: * Line Size 8" and greater shall be mounted with Remote Junction Box Down or to the Side.

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Temperature class and specified maximum surface temperature "T" (continued)

Magnetic Flow Tube Model 8711-M/L

Line Size [NPS]	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class	Type of protect.	Transmitter Mounting	Maximum surface temperature "T"
1½"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	80 °C		Integral/Remote	T4		Remote	T100 °C
	100 °C		Remote	T4		Remote	T120 °C
	140 °C *		Remote	T3		Remote	T160 °C
	160 °C *	Ex nA	Remote	T3		Remote	T180 °C
2"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	80 °C		Integral/Remote	T4		Remote	T100 °C
	100 °C		Remote	T4		Remote	T120 °C
	140 °C *		Remote	T3		Remote	T160 °C
	160 °C *	Ex nA	Remote	T3		Remote	T180 °C
3"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	80 °C		Remote	T4		Remote	T100 °C
	110 °C		Remote	T4		Remote	T130 °C
	150 °C *		Remote	T3		Remote	T170 °C
	170 °C *	Ex nA	Remote	T3		Remote	T190 °C
4"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	80 °C		Remote	T4		Remote	T100 °C
	115 °C		Remote	T4		Remote	T135 °C
	155 °C *		Remote	T3		Remote	T175 °C
	175 °C *	Ex nA	Remote	T3		Remote	T195 °C
6"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	80 °C		Remote	T4		Remote	T100 °C
	115 °C		Remote	T4		Remote	T135 °C
	155 °C *		Remote	T3		Remote	T175 °C
	180 °C *	Ex nA	Remote	T3		Remote	T200 °C
8"	60 °C	Ex e Ex nA	Integral/Remote	T5	Ex t	Integral/Remote	T80 °C
	80 °C		Remote	T4		Remote	T100 °C
	115 °C		Remote	T4		Remote	T135 °C
	160 °C *		Remote	T3		Remote	T180 °C
	180 °C *	Ex nA	Remote	T3		Remote	T200 °C

NOTE: * Flow tubes on lines with these process temperatures and higher shall be mounted with Remote Junction Box Down.

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Electrical data

Magnetic Transmitter Model 8732EM

Supply circuit (terminals 9 and 10):	AC power supply	90-250 Vac; 50/60 Hz; 40 VA; U_m = 250 V
Supply circuit (terminals 9 and 10):	DC power supply	12-42 Vdc; 15 W; U_m = 250 V
Supply circuit (terminals 9 and 10):	DC power supply	12-30 Vdc; 3 W; 0.25 A; U_m = 250 V
Dissipated power:	AC or DC	32 VA (w. Flow Tube connected)

Data circuit (terminals 5, 6, 7 and 8): Digital I/O signals U_m = 250 V

Output Signals

Profibus, Foundation Fieldbus:
Output circuit (terminals 1 and 2):
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 30 V; I_i = 380 mA; P_i = 2.85 W; C_i = 924 pF; L_i = 0 µH.

Output circuit (terminals 3 and 4): Pulse
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 28 V; I_i = 100 mA; P_i = 1.0 W; C_i = 4.5 nF; L_i = 0.0 µH.

FISCO:
Output circuit (terminals 1 and 2):
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit or a circuit in accordance with FISCO, with the following maximum values:
U_i = 30 V; I_i = 380 mA; P_i = 5.32 W; C_i = 924 pF; L_i = 0 µH.

Output circuit (terminals 3 and 4): Pulse
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 28 V; I_i = 100 mA; P_i = 1.0 W; C_i = 4.5 nF; L_i = 0.0 µH.

RS-485 Modbus digital Output & Scalable Pulse Output:

Output circuit (terminals 1 and 2):	Modbus	U_m = 250 V
Output circuit (terminals 3 and 4):	Pulse	U_m = 250 V

4 - 20 mA with digital HART Protocol & Scalable Pulse Output:

Output circuit (terminals 1 and 2):	4-20 mA	U_m = 250 V
Output circuit (terminals 3 and 4):	Pulse	U_m = 250 V

4 - 20 mA Intrinsically Safe Output with digital HART Protocol & Intrinsically Safe Scalable Pulse Output:
Output circuit (terminals 1 and 2): 4-20 mA
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 30 V; I_i = 300 mA; P_i = 1.0 W; C_i = 924 pF; L_i = 0.0 µH.

Output circuit (terminals 3 and 4): Pulse
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 28 V; I_i = 100 mA; P_i = 1.0 W; C_i = 4.5 nF; L_i = 0.0 µH.

Electrical data (continued)

Transmitter Remote Mount Junction Box, Flow Tube connection
Output circuit (terminals 1, 2 and 3): Coil drive 500 mA; 40 Vmax.; 9 Wmax.

For explosive gas or vapour atmospheres (Categories 1 G, 2 G and 3 G or EPL Ga, Gb, Gc):
Output circuit (terminals 17, 18, 19): Electrode circuit
In types of protection intrinsic safety Ex ia IIC, Ex ib IIC or Ex ic IIC, with the following maximum values:
U_o = 28.56 V; I_o = 5.77 mA; P_o = 165 mW; C_o = 61.7 nF; L_o = 1.0 H.

For combustible dust atmospheres (Category 2 D or EPL Db):
Output circuit (terminals 17, 18, 19): Electrode circuit 5 V; 200 µA; 1 mW

Annex to: Certificate of Conformity IECEx DEK 14.0031X
EU-Type Examination Certificate DEKRA 14ATEX0071 X, Issue 7
Report NL/DEK/ExTR14.0033/06

Magnetic Transmitter Model 8712EM

Supply circuit (terminals L1 and N/L2):	AC power supply	90-250 Vac; 50/60 Hz; 40 VA; U_m = 250 V
Supply circuit (terminals DC+ and DC-):	DC power supply	12-42 Vdc; 15 W; U_m = 250 V
Supply circuit (terminals DC+ and DC-):	DC power supply	12-30 Vdc; 3W; 0.25 A, U_m = 250 V
Dissipated power:	AC or DC	32 VA (w. Flow Tube connected)
Data circuit (terminals 9, 10, 11 and 12):	Digital I/O signals	U_m = 250 V

Output signals

Profibus, Foundation Fieldbus:
Output circuit (terminals 7 and 8):
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 30 V; I_i = 380 mA; P_i = 2.85 W; C_i = 924 pF; L_i = 0 µH.

Output circuit (terminals 5 and 6): Pulse
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 28 V; I_i = 100 mA; P_i = 1.0 W; C_i = 4.5 nF; L_i = 0.0 µH.

FISCO:
Output circuit (terminals 7 and 8):
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit or a circuit in accordance with FISCO, with the following maximum values:
U_i = 30 V; I_i = 380 mA; P_i = 5.32 W; C_i = 924 pF; L_i = 0 µH.

Output circuit (terminals 5 and 6): Pulse
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 28 V; I_i = 100 mA; P_i = 1.0 W; C_i = 4.5 nF; L_i = 0.0 µH.

RS-485 Modbus digital Output & Scalable Pulse Output:

Output circuit (terminals 7 and 8):	Modbus	U_m = 250 V
Output circuit (terminals 5 and 6):	Pulse	U_m = 250 V

4 - 20 mA with digital HART Protocol & Scalable Pulse Output:

Output circuit (terminals 7 and 8):	4-20 mA	U_m = 250 V
Output circuit (terminals 5 and 6):	Pulse	U_m = 250 V

4 - 20 mA Intrinsically Safe Output with digital HART Protocol & Intrinsically Safe Scalable Pulse Output:
Output circuit (terminals 7 and 8): 4-20 mA
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 30 V; I_i = 300 mA; P_i = 1.0 W; C_i = 924 pF; L_i = 0.0 µH.

Output circuit (terminals 5 and 6): Pulse
In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 28 V; I_i = 100 mA; P_i = 1.0 W; C_i = 4.5 nF; L_i = 0.0 µH.

Electrical data (continued)

Flow Tube connection

Output circuit (terminals 1, 2 and 3): Coil drive 500 mA; 40 Vmax.; 9 Wmax.

For explosive gas or vapour atmospheres (Categories 1 G, 2 G and 3 G or EPL Ga, Gb, Gc):
Output circuit (terminals 17, 18, 19): Electrode circuit
In types of protection intrinsic safety Ex ia IIC, Ex ib IIC or Ex ic IIC, with the following maximum values:
U_o = 28.56 V; I_o = 5.77 mA; P_o = 165 mW; C_o = 61.7 nF; L_o = 1.0 H.

For combustible dust atmospheres (Category 2 D or EPL Db):
Output circuit (terminals 17, 18, 19): Electrode circuit 5 V; 200 µA; 1 mW

Electrical data (continued)

Flow Tube Models 8705-M

Flow Tube Remote Mount Junction Box, Transmitter connection
Input circuit (terminals 1, 2 and 3): Coil drive 500 mA; 40 Vmax; 20 Wmax.

For explosive gas or vapour atmospheres (Categories 1 G, 2 G, 3 G or EPL Ga, Gb, Gc):
Input circuit (terminals 17, 18 and 19): Electrode circuit
In type of protection intrinsic safety Ex ia IIC, Ex ib IIC or Ex ic IIC, with the following maximum values:
U_i = 30 V; I_i = 50 mA; P_i = 1.0 W; C_i = 1.9 nF; L_i = 630 µH.

For combustible dust atmospheres (Category 2 D or EPL Db):
Input circuit (terminals 17, 18 and 19): Electrode circuit 5 V; 200 µA; 1 mW

Flow Tube Models 8711-M/L

Flow Tube Remote Mount Junction Box, Transmitter connection
Input circuit (terminals 1, 2 and 3): Coil drive 500 mA; 40 Vmax.; 20 Wmax.

For explosive gas or vapour atmospheres (Categories 2 G, 3 G or EPL Gb, Gc):
Input circuit (terminals 17, 18 and 19): Electrode circuit
In type of protection intrinsic safety Ex ib IIC or Ex ic IIC, with the following maximum values:
U_i = 30 V; I_i = 50 mA; P_i = 1.0 W; C_i = 1.9 nF; L_i = 630 µH.

For combustible dust atmospheres (Category 2 D or EPL Db):
Input circuit (terminals 17, 18 and 19): Electrode circuit 5 V; 200 µA; 1 mW