



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx DEK 15.0001X Issue No: 2 Certificate history:
Status: **Current** Issue No. 2 (2019-03-22)
Date of Issue: **2019-03-22** Page 1 of 5 Issue No. 1 (2017-09-12)
Applicant: **Emerson – Rosemount, Micro Motion Inc.**
12001 Technology Drive, Eden Prairie, MN 55344
United States of America
Issue No. 0 (2015-04-16)
Equipment: **Magnetic Flow Meter System Model 8750W**
Optional accessory:
Type of Protection: **Ex ic, Ex nA, Ex ec and Ex tc**
Marking:
Ex nA [ic] IIC T4 Gc
Ex ec [ic] IIC T4 Gc
Ex nA ic IIC T5...T4 Gc
Ex ec ic IIC T5...T4 Gc
Ex nA ic [ic] IIC T4 Gc
Ex ec ic [ic] IIC T4 Gc
[Ex ic Gc] IIC
Ex tc IIIC T80 °C Dc
Ex tc IIIC T80 °C...T130 °C Dc

For details see Annex to IECEx DEK 15.0001X, issue no. 2

Approved for issue on behalf of the IECEx
Certification Body:

R.H.D. Pommé

Position:

Certification Manager

Signature:
(for printed version)

Date:

2019-03-22

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

DEKRA Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands





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Manufacturer: **Emerson – Rosemount, Micro Motion Inc.**
12001 Technology Drive, Eden Prairie, MN 55344
United States of America

Additional Manufacturing location(s):

F-R Tecnologías De Flujo, S.A. De C.V. Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua Mexico	Emerson Process Management Flow Technologies Co., Ltd. 111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China	Emerson Process Management Flow B.V. Neonstraat 1 6718 WX Ede The Netherlands	Emerson SRL Emerson Street No 4 400641 Cluj-Napoca Romania
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This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[NL/DEK/ExTR15.0001/02](#)

Quality Assessment Report:

[NO/PRE/QAR15.0018/01](#)

[NO/PRE/QAR15.0031/01](#)

[NO/PRE/QAR16.0019/01](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Magnetic Flow Meter System Model 8750W

The Magnetic Flow Meter System Model 8750W comprises a Magnetic Flow Transmitter and Magnetic Flow Tube.

Magnetic Flow Transmitter Models 8750W...R and 8750W...T

The Magnetic Flow Transmitter Models 8750W...R and 8750W...T may be remote mounted from the Magnetic Flow Tubes or integral mounted on the Magnetic Flow Tubes respectively.

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

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.

Magnetic Flow Transmitter Model 8750W...W

The Magnetic Flow Transmitter Model 8750W...W is remote mounted from the Magnetic Flow Tube Model 8750W.

The main compartment of the enclosure in types of protection Ex ec, Ex nA or Ex tc includes the electronics, optional Local Operator Interface (LOI), optional intrinsically safe Ex ic supplies for the flow sensor. The optional keypad for the LOI is in type of protection Ex ic, which means that the keypad may be used when the transmitter is operating in an environments requiring EPL Gc or Dc.

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. For the connection to the Magnetic Flow Tubes, terminals are provided for the optional intrinsically safe Ex ic field coils and electrode wiring.

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

Magnetic Flow Tube Model 8750W

The Magnetic Flow Tube of the Magnetic Flow Meter System Model 8750W is designed for use with Magnetic Flow Transmitter of that same system.

The Magnetic Flow Tube for the Meter System Model 8750W may be remote mounted from the Magnetic Flow Transmitter or integral mounted to the Magnetic Flow Transmitter. The Flow Tube is utilized with flanges for process connection.

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

When utilized as EPL Dc equipment, EPL Dc 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 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.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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.



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When utilizing the keypad of Magnetic Flow Transmitter Model 8750W...W, instructions for safe use regarding potential electrostatic charging hazard have to be followed.

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 (Transmitter and Flow Tube), IP68 (Flow Tube) or IP69K (Flow Tube or 8750W...W transmitter) as applicable.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

1. Assessment for Ex ec protection for Magnetic Flow Tube Model 8750W.
2. Add Foundation Fieldbus / FISCO and Profibus options for Magnetic Flow Meter System Model 8750W.
3. Miscellaneous drawing updates.

Annex:

[381942200-Annex to ExTR15.0001.02.pdf](#)

**Annex to: Certificate of Conformity IECEx DEK 15.0001X
EU-Type Examination Certificate DEKRA 15ATEX0003 X, Issue 3
Report NL/DEK/ExTR15.0001/02**

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

Description

Magnetic Flow Meter System Model 8750W

The Magnetic Flow Meter System Model 8750W comprises a Magnetic Flow Transmitter and Magnetic Flow Tube.

Magnetic Flow Transmitter Models 8750W...R and 8750W...T

The Magnetic Flow Transmitter Models 8750W...R and 8750W...T may be remote mounted from the Magnetic Flow Tubes or integral mounted on the Magnetic Flow Tubes respectively.

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

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.

Degree of protection, per EN-IEC 60079-0 and EN-IEC 60529: IP66
Ambient temperature range: $-29\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$

Magnetic Flow Transmitter Model 8750W...W

The Magnetic Flow Transmitter Model 8750W...W is remote mounted from the Magnetic Flow Tubes.

The main compartment of the enclosure in types of protection Ex ec or Ex nA or Ex tc includes the electronics, optional Local Operator Interface (LOI), optional intrinsically safe Ex ic supplies for the flow sensor. 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 or Ex nA or Ex tb for connecting power and output signal. For the connection to the Magnetic Flow Tubes, terminals are provided for the optional intrinsically safe Ex ic field coils and electrode wiring.

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: $-40\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$

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Description (continued)

Magnetic Flow Tube Model 8750W

The Magnetic Flow Tube of the Magnetic Flow Meter System Model 8750W is designed for use with Magnetic Flow Transmitter of that same system.

The Magnetic Flow Tube for the Meter System Model 8750W may be remote mounted from the Magnetic Flow Transmitter or integral mounted to the Magnetic Flow Transmitter. The Flow Tube is utilized with flanges for process connection.

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

When utilized as EPL Dc equipment, EPL Dc 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 Transmitter instead of to the Remote Junction Box.

Degree of protection, per EN-IEC 60079-0 and EN-IEC 60529:	IP66, IP68 (10m, 48h)
Degree of protection, per ISO 20653:	IP69K
Ambient temperature range:	$-29\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$

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Electrical data

Magnetic Flow Transmitter Models 8750W...R and 8750W...T

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
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 ic 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; $L_i = 0$ μ H.

Output circuit (terminals 3 and 4): Pulse

In type of protection intrinsic safety Ex ic 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; $L_i = 0.0$ μ H.

FISCO:

Output circuit (terminals 1 and 2):

In type of protection intrinsic safety Ex ic 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; $L_i = 0$ μ H.

Output circuit (terminals 3 and 4): Pulse

In type of protection intrinsic safety Ex ic 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; $L_i = 0.0$ μ H.

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

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 (Category 3 G or EPL Gc):

Output circuit (terminals 17, 18, 19): Electrode circuit

In types of protection intrinsic safety 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 3 D or EPL Dc):

Output circuit (terminals 17, 18, 19): Electrode circuit 5 V; 200 μ A; 1 mW

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Electrical data (continued)

Magnetic Flow Transmitter Model 8750W...W

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
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 ic 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; $L_i = 0$ μ H.

Output circuit (terminals 5 and 6): Pulse

In type of protection intrinsic safety Ex ic 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; $L_i = 0.0$ μ H.

FISCO:

Output circuit (terminals 7 and 8):

In type of protection intrinsic safety Ex ic 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; $L_i = 0$ μ H.

Output circuit (terminals 5 and 6): Pulse

In type of protection intrinsic safety Ex ic 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; $L_i = 0.0$ μ H.

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

Flow Tube connection

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

For explosive gas or vapour atmospheres (Category 3 G or EPL Gc):

Output circuit (terminals 17, 18, 19): Electrode circuit

In types of protection intrinsic safety 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 3 D or EPL Dc):

Output circuit (terminals 17, 18, 19): Electrode circuit 5 V; 200 μ A; 1 mW

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Flow Tube

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 (Category 3 G or EPL Gc):

Input circuit (terminals 17, 18 and 19): Electrode circuit

In type of protection intrinsic safety Ex ic IIC, with the following maximum values:

$U_i = 30 \text{ V}$; $I_i = 50 \text{ mA}$; $P_i = 1.0 \text{ W}$; $C_i = 1.9 \text{ nF}$; $L_i = 630 \text{ }\mu\text{H}$.

For combustible dust atmospheres (Category 3 D or EPL Dc):

Input circuit (terminals 17, 18 and 19): Electrode circuit 5 V; 200 μA ; 1 mW