



(1) **EC-TYPE EXAMINATION CERTIFICATE**

- (2) Equipment or protective system intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) EC-Type Examination Certificate Number: **KEMA 03ATE:X2159 X**
- (4) Equipment or protective system: **Model 8742C Flow Transmitter**
- (5) Manufacturer: **Rosemount Inc.**
- (6) Address: **12001 Technology Drive, Eden Prairie, MN 55344-3659, USA**
- (7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 confidential report no. 2026872.

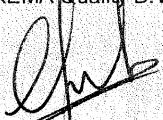
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014 : 1997	EN 50018 : 2000
EN 50019 : 2000	EN 50020 : 2002
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- (12) The marking of the equipment or protective system shall include the following:



II 2 G EEx de IIB T6 or EEx de [Ia] IIB T6

Arnhem, 1 May 2003
KEMA Quality B.V.


C. van Es
Certification Manager

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SCHEDULE

(13)

(14)

to EC-Type Examination Certificate KEMA 03ATEX2159 X

(15) **Description**

The Model 8742C Flow Transmitter is used to convert the electrical signal from the intrinsically safe electrodes of the Model 8705 or Model 8711 integrally mounted Flowtubes (certified under KEMA 03ATEX2052 X) into a standard Foundation Fieldbus output or in an intrinsically safe Fieldbus output. It also provides the drive current for the field coils – in type of explosion protection increased safety “e” – of the flowtubes. The terminal compartment of the flow transmitter is also in type of explosion protection increased safety “e”. The Model 8742C Flow Transmitter may be provided with a local display.

The relation between the maximum ambient temperature, the maximum process temperature and the temperature class is given in the table below:

Meter size (inches)	Maximum ambient temperature (°C)	Maximum process temperature (°C)	Temperature class
≤ 0.5	65	115	T3
1	65	120	T3
	35	35	T4
1.5	65	125	T3
	60	60	T4
2	65	125	T3
	65	75	T4
	40	40	T5
3 and 4	65	130	T3
	65	90	T4
	55	55	T5
	40	40	T6
6	65	135	T3
	65	110	T4
	65	75	T5
	60	60	T6
8 to 60		140	T3
	65	115	T4
		80	T5
		65	T6

Ambient temperature range –20 °C to +65 °C.

Electrical data

Model 8742C Flow Transmitter (EEx de version):

Power supply: 250 Vac, 1 A, 40 VA or 50 Vdc, 2,5 A, 15 W maximum

Foundation Fieldbus output: 30 Vdc, 30 mA, 1 W maximum

Model 8742C Flow Transmitter (EEx de [ia] version):

Power supply: 250 Vac, 1 A, 40 VA or 50 Vdc, 2,5 A, 15 W maximum

Foundation Fieldbus output: in type of explosion protection intrinsic safety EEx ia IIB, only (terminals + and -) for connection to a certified intrinsically safe circuit according to the FISCO model, with the following maximum values:

U_i	=	30	V
I_i	=	380	mA
P_i	=	5,32	W
C_i	=	4,4	nF
L_i	=	0	mH

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SCHEDULE

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to EC-Type Examination Certificate KEMA 03ATEX2159 X

Installation instructions

The cable entry devices and blanking elements shall be of a certified increased safety type, suitable for the conditions of use and correctly installed.

At ambient temperatures above 50 °C, the flow meter shall be used with heat resistant cables with a temperature rating of at least 90 °C.

Routine tests

Routine tests according to clause 16 of EN 50018 are not required since the type test has been conducted at a static pressure of four times the reference pressure.

A routine test shall be conducted according to EN 50019, clause 7.1, using a test voltage of:

- 1500 V (250 V ac version), or 500 V (50 Vdc version) during 1 minute, without breakdown, between the EEx e power supply terminals and the enclosure, and
- 500 V during 1 minute, without breakdown, between the non-intrinsically safe fieldbus output terminals and the enclosure.

(16)

Report

KEMA No. 2026872.

(17)

Special condition for safe use

The relation between ambient temperature, process temperature and temperature class is to be taken from the table under (15 - description) above.

(18)

Essential Health and Safety Requirements

Covered by the standards listed at (9).

(19)

Test documentation

1. EC-Type Examination Certificate KEMA 03ATEX2052 X

dated

2. Compliance Report No. C1393-06 with the belonging approval drawings as shown in the critical documentation list

12.03.2003

AMENDMENT 1

to EC-Type Examination Certificate KEMA 03ATEX2159 X

Manufacturer: **Rosemount Inc.**

Address: **12001 Technology Drive, Eden Prairie, MN 55344-3659, USA**

Description

A Junction Box in type of explosion protection increased safety "e" may be attached to the base of the Model 8742C Flow Transmitter, permitting remote mounting of the Models 8705 and 8711 Flowtubes.

Ambient temperature range of the Junction Box: -20 °C to +65 °C.

The Junction Box is classified as II 2 G EEx e IIB T6 and certified under KEMA 03ATEX2052 X.

All other data remain unchanged.

Installation instructions

The cable and conduit entry devices and blanking elements used for the Junction Box shall be certified in type of explosion protection increased safety "e", suitable for the conditions of use and correctly installed.

Routine tests

Each Junction Box shall be submitted to a routine test according to EN 50019, clause 7.1, using a test voltage of 500 V during 1 minute, without breakdown, between the terminals and earth terminal.

Additional special condition for safe use

If the Model 8742C Flow Transmitter is used integrally with the Junction Box, it shall be assured that the mechanical contact areas of the Junction Box and Flow Transmitter comply with the requirements for flanged joints according to standard EN 50018, clause 5.2.

Test documentation

	<u>dated</u>
1. Product Compliance Report No. C1393-07	15.05.2003
2. Drawing No. 08742-1003, rev. AP (4 sheets)	-

Arnhem, 4 July 2003
KEMA Quality B.V.



L.M.J. Vries
Certification Manager

AMENDMENT 2

to EC-Type Examination Certificate KEMA 03ATEX2159 X

Manufacturer: **Rosemount Inc.**

Address: **12001 Technology Drive, MN 55344-3659, USA**

Description

An alternative construction allows the Model 8742C Flow Transmitter (with or without the associated Junction Box) and the integral or remote mounted Models 8705 and 8711 Flowtubes (certified under KEMA 03ATEX2052 X) to be used with hydrogen.

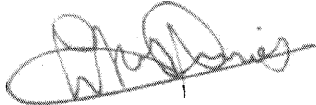
The alternative marking is therefore: II 2 G EEx d IIB + H₂ T6

All data remain unchanged.

Test documentation

	<u>dated / signed</u>
1. Compliance Report No. C1393-08 (5 pages)	10.12.2003
2. Drawing no. 08742-1003, rev. AR (5 sheets)	10.12.2003
08742-X042, rev. AA	10.12.2003
08742-04ED, rev. AB	10.12.2003
08742-C4E1, rev. AA	10.12.2003
08742-00KD, rev. AA	10.12.2003

Arnhem, 19 February 2004
KEMA Quality B.V.



L.M.J. Vries
Certification Manager

AMENDMENT 3

to EC-Type Examination Certificate KEMA 03ATEX2159 X

Manufacturer: **Rosemount Inc.**

Address: **12001 Technology Drive, MN 55344-3659, USA**

Description

An alternative construction allows the Model 8742 Flow transmitter (with or without the associated Junction Box) and the integral or remote mounted Models 8705 and 8711 Flowtubes (certified under KEMA 03ATEX2052 X) to be used in gasgroup IIC.

The alternative marking is therefore: II 2 G EEx de IIC T6 or EEx de [ia] IIC T6

All other data remain unchanged.

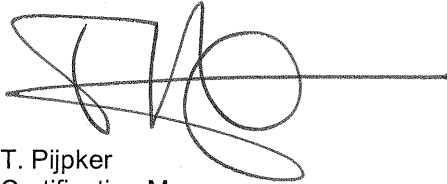
Test documentation

Compliance Report No. C1393-09 (4 pages)

dated

27.08.2004

Arnhem, 19 October 2004
KEMA Quality B.V.



T. Pijpker
Certification Manager

[2077404]