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 : **BAS99ATEX1241**

4 Equipment or Protective System: **MODEL 8800 VORTEX FLOWMETER**

5 Manufacturer: **ROSEMOUNT INCORPORATED**

6 Address: **12001 Technology Drive, Eden Prairie, Minnesota 55344-3695, 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 The Electrical Equipment Certification Service, notified body number 600 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 N°

99(C)0501 dated 18 December 1999

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

EN 50014: 1997 **EN 50020: 1994** **EN 50284: 1999** **EN 50281-1-1: 1998**

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 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 and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following:-

Ex II 1 GD **EEx ia IIC T4** **(-50°C ≤ T_{amb} ≤ 60°C)**

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0914/02/066

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

I M CLEARE
DIRECTOR
16 February 2000

HSE Health & Safety Executive

Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244

13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS99ATEX1241**

15 **Description of Equipment or Protective System**

The Model 8800 Vortex Flowmeter is designed to convert a flow rate into a Foundation Fieldbus output signal.

The apparatus comprises a terminal board, an output board, a sensor board, a sensor and an optional liquid crystal display board, all housed in a metal enclosure conforming to IP66. When the optional display is included the housing cover contains a glass window. External connections are made via one of two tapped holes and the installation of the external connections and plugging of the unused entry must be carried out using the appropriate EEx e or EEx n metal cable gland and metal blanking plug component certified by an EU Approved Certification Body.

The surface temperature of the enclosure under dust conditions will not exceed 80°C in ambient temperatures from -20°C to 60°C.

U_i = 30V

I_i = 300mA

P_i = 1.3W

The above parameters must be derived from a linear supply (resistive output).

C_i = 0

L_i = 20μH

16 **Report No**

99(C)0501

17 **Special Conditions for Safe Use**

None.

18 **Essential Health and Safety Requirements**

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by standards listed in Section 9		
Clause	**Subject**	**Compliance**
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 99(C)0501 Clause 5.1.1.3
1.2.2	Components for incorporation or replacement	Report No 99(C)0501 Clause 5.1.2.2
1.2.5	Additional means of protection	Report No 99(C)0501 Clause 5.1.2.5
1.4.2	Withstanding attack by aggressive substances	Report No 99(C)0501 Clause 5.1.4.2

13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS99ATEX1241**

19 **DRAWINGS**

Number	Issue	Date	Description
08800-0102 Sheets 1 to 4	AE	12.3.99	Approval drawing
08800-0108	AB	9.13.99	Schematic diagram
08800-7012	AA	4.15.99	Transformer
08800-7600 Sheets 1 & 2	AF	7.21.99	Sensor board circuit diagram
08800-7601 Sheets 1 to 3	AE	5.12.99	Sensor board details
08800-7602	AG	7.20.99	Sensor board layout
08800-7609	D	10.15.97	Display board circuit diagram
08800-7610 Sheets 1 to 3	AA	10.15.97	Display board details
08800-7611 Sheets 1 & 2	AC	5.13.98	Display board layout
08800-7613 Sheets 1 & 2	AD	9.13.99	Output board circuit diagram
08800-7614 Sheets 1 to 3	AC	4.30.99	Output board details
08800-7615	AH	5.14.99	Output board layout
08800-7616	AB	11.3.99	Terminal board circuit diagram
08800-7617 Sheets 1 to 3	AB	11.4.98	Terminal board details
08800-7618 Sheets 1 & 2	AC	2.1.99	Terminal block assembly

The above drawings are associated with Certificate No BAS99ATEX3240

This certificate may only be reproduced in its entirety and without any change, schedule included.

BASEEFA List Keywords
2FLOWMEA

1 # SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially explosive atmospheres Directive 94/9/EC**

3 Supplementary EC-Type Examination Certificate Number: **BAS99ATEX1241/1**

4 Equipment or Protective System: **MODEL 8800 VORTEX FLOWMETER**

5 Manufacturer: **ROSEMOUNT INCORPORATED**

6 Address: **12001 Technology Drive, Eden Prairie, Minnesota 55344-3695, USA**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS99ATEX1241 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0914/02/066

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

I M CLEARE
DIRECTOR
6 June 2000

HSE
Health & Safety Executive

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13 **Schedule**

14 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS99ATEX1241/1**

Description of the Variation to the Equipment or Protective System

VARIATION 1.1

To permit remote label detail changes.

Report No.

None

Special Conditions For Safe Use

See original certificate.

Essential Health and Safety Requirements

See original certificate.

DRAWINGS

Number	Sheet	Issue	Date	Description
08800-0102	1 to 4	AF	2.24.00	Approval Drawing

The above drawings are associated with Certificate No BAS99ATEX3240/1

This certificate may only be reproduced in its entirety and without any change, schedule included.

1 SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially explosive atmospheres Directive 94/9/EC**

3 Supplementary EC-Type Examination Certificate Number: **BAS99ATEX1241/2**

4 Equipment or Protective System: **MODEL 8800 VORTEX FLOWMETER**

5 Manufacturer: **ROSEMOUNT INCORPORATED**

6 Address: **12001 Technology Drive, Eden Prairie, Minnesota 55344-3695, USA**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS99ATEX1241 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0914/02/066

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I M CLEARE
DIRECTOR
11 January 2001

13 **Schedule**

14 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS99ATEX1241/2**

Description of the Variation to the Equipment or Protective System

VARIATION 2.1

External electrical connections are made via one of two tapped holes and the installation of the external connections and plugging of the unused entry must be carried out using the appropriate EEx e or EEx n metal cable gland and metal blanking plug, component certified by an EU Approved Certification Body. Alternatively any appropriate cable gland or blanking plug certified to ⟨Ex⟩ II 2G EEx e II by an EU Approved Certification Body.

Report No.

See original certificate.

Special Conditions For Safe Use

See original certificate.

Essential Health and Safety Requirements

See original certificate.

DRAWINGS

None.

This certificate may only be reproduced in its entirety and without any change, schedule included.

1 # SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially explosive atmospheres Directive 94/9/EC**

3 Supplementary EC-Type Examination Certificate Number: **BAS99ATEX1241/3X**

4 Equipment or Protective System: **MODEL 8800 VORTEX FLOWMETER**

5 Manufacturer: **ROSEMOUNT INCORPORATED**

6 Address: **12001 Technology Drive, Eden Prairie, Minnesota 55344-3695, USA**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS99ATEX1241 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0914/02/066

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

I'M CLEARE
DIRECTOR
24 June 2002

HSE Health & Safety Executive

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13 **Schedule**

14 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS99ATEX1241/3X**

Description of the Variation to the Equipment or Protective System

VARIATION 3.1

To permit:

1. Component changes and circuit board layout changes to the sensor board and the terminal board.
2. Minor drawing information changes.
3. Minor mechanical changes.

Report No.

None.

Special Conditions For Safe Use

The apparatus is not capable of withstanding the 500V insulation test required by EN 50020: 1994. This must be taken into account when installing the apparatus.

Essential Health and Safety Requirements

See original certificate.

DRAWINGS

Number	Sheets	Issue	Date	Description
0880-0102	1 to 4	AH	03.13.02	Approval Drawing
0880-7012		AB	04.03.00	Transformer
0880-7600	1 & 2	AM	08.24.01	Sensor Board Schematic
0880-7601	1 to 3	AG	09.14.00	Sensor Board PWB
0880-7602		AM	11.12.01	Sensor Board CCA
0880-7609		AA	10.15.97	Display Board Schematic
0880-7611	1 & 2	AE	07.06.00	Display Board CCA
0880-7613	1 & 2	AD	09.13.99	Fieldbus Output Board Schematic
0880-7614	1 to 3	AD	09.24.99	Fieldbus Output Board PWB
0880-7615		AJ	08.11.00	Fieldbus Output Board CCA
0880-7616		AE	03.08.02	Fieldbus Terminal Board Schematic
0880-7617	1 to 3	AC	01.29.02	Fieldbus Terminal Block PWB
0880-7618	1 to 3	AH	02.14.02	Fieldbus Terminal Block Assembly

This certificate may only be reproduced in its entirety and without any change, schedule included.

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**BAS99ATEX1241/4X**
4	Equipment or Protective System:	**MODEL 8800 VORTEX FLOWMETER**
5	Manufacturer:	**ROSEMOUNT INCORPORATED**
6	Address:	**12001 Technology Drive, Eden Prairie, Minnesota 55344-3695, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS99ATEX1241 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. **0914**

Project File No. **03/0262**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

13 **Schedule**

14 **Certificate Number BAS99ATEX1241/4X**

15 **Description of the variation to the Equipment or Protective System**

Variation 4.1

To permit the apparatus to be supplied from Analog Input Modules of Type AI4H-Ex, Model AI 930 S and Analog Input Modules of Type AI4-Ex, Model AI 910 S in accordance with EC-Type Examination Certificate PTB 00 ATEX 2058.

16 **Report Number**

None

17 **Special Conditions for Safe Use**

None additional to those listed previously at BAS99ATEX1241/3X.

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

None

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**BAS99ATEX1241/5X**
4	Equipment or Protective System:	**Model 8800 Vortex Flowmeter**
5	Manufacturer:	**Rosemount Incorporated**
6	Address:	**8200 Market Boulevard, Chanhassen, Minnesota, MN 55317, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS99ATEX1241 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa (2001) Ltd. Customer Reference No. **0914**

Project File No. **03/0535**

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

13 **Schedule**

14 **Certificate Number BAS99ATEX1241/5X**

15 **Description of the variation to the Equipment or Protective System**

Variation 5.1

To permit:

1. Changes to the Terminal Board to include an option for the Fieldbus Intrinsically Safe Concept (FISCO) option for IIC and IIB.
2. Changes to the labelling of the apparatus.
3. Replacement of D5 with R4 on the Output Board.
4. RFI filter specification change.
5. Other minor changes which do not affect safety.

Fieldbus/Profibus Version

These parameters remain unchanged as:

U_i = 30V
I_i = 300mA
P_i = 1.3W
The above parameters must be derived from a linear supply (resistive output).

C_i = 0
L_i = 20μH

FISCO IIC Version

U_i = 15V
I_i = 215mA
P_i = 2W
C_i = 0
L_i = 10μH

FISCO IIB Version

U_i = 15V
I_i = 500mA
P_i = 5.32W
C_i = 0
L_i = 10μH

16 **Report Number**

03(C)0535

17 **Special Conditions for Safe Use**

None additional to those listed previously at BAS99ATEX1241/3X

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
08800-0102	1 to 3	AK	20 Mar 03	Model 8800 Intrinsically Safe Configuration, Baseefa/CENELEC, Fieldbus (General Assembly)
08800-0108	1 of 1	AC	10 Jun 03	Schematic Diagram 8800 Intrinsic Safety
08800-7012	1 of 1	AD	24 Jan 02	Transformer
08800-7601	1 to 3	AH	07 Jan 02	Printed Wiring Board, Vortex Sensor Board
08800-7610	1 to 3	AB	21 Aug 02	Printed Wiring Board, LCD Board, 2 Line
08800-7611	1 to 2	AF	21 Aug 02	CCA, Vortex Shrouded, LCD Board, 2 Line
08800-7613	1 to 2	AE	21 Apr 03	Schematic Diagram, Vortex Fieldbus Output Board
08800-7615	1 of 1	AM	06 May 03	CCA, Vortex Fieldbus Output Board
08800-7616	1 of 1	AF	29 Aug 02	Schematic Diagram, Vortex Fieldbus Terminal Board
08800-7617	1 to 3	AD	31 Jul 02	Terminal Board Fieldbus
08800-7618	1 to 4	AK	30 Aug 02	Terminal Block Assembly

The above drawings are associated with Certificate No. BAS99ATEX3240/3.

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**BAS99ATEX1241/6X**
4	Equipment or Protective System:	**Model 8800 Vortex Flowmeter**
5	Manufacturer:	**Rosemount Incorporated**
6	Address:	**12001 Technology Drive, Eden Prairie, Minnesota 55344-3695, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS99ATEX1241 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. **0914**

Project File No. **03/1072**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

13 # Schedule

14 ## Certificate Number BAS99ATEX1241/6X

15 Description of the variation to the Equipment or Protective System

Variation 6.1

To permit minor changes to drawings, and a change of FISCO parameters.

FISCO Parameters, all Groups

U_i = 17.5V

I_i = 380mA

P_i = 5.32W

C_i = 0

L_i < 10µH

16 Report Number

None

17 Special Conditions for Safe Use

None additional to those listed previously at BAS99ATEX1241/3X

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
08800-0102	1 to 3	AL	12/16/03	Approval Drawing
08800-7012		AE	9/30/03	Transformer
08800-7602		AP	9/26/03	Sensor Board Layout
08800-7613	1 & 2	AF	8/19/03	Fieldbus Output Board Circuit Diagram
08800-7615	1 & 2	AP	9/24/03	Fieldbus Output Board Layout

The above drawings are associated with Certificate number BAS99ATEX3240/4.