



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSANe 20ATEX1249X** Issue: **3**

4 Equipment: **Spectrex SharpEye 40/40C & 40/40D Flame Detector Series**

5 Applicant: **Rosemount, Inc.**

6 Address: **6021 Innovation Blvd,
Shakopee,
MN 55379,
USA**

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018/AC:2020 EN 60079-1:2014/AC:2018 EN 60079-7:2015+A1:2018 EN 60079-31:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

40/40C Flame Detector Series:



II 2GD
Ex db eb IIC T6...T4 Gb
Ex tb IIIC T85°C...T110°C Db
T6 (Tamb = -40°C to 45°C)
T5 (Tamb = -40°C to 60°C)
T4 (Tamb = -40°C to 75°C)
IP66/IP68

40/40D Flame Detector Series:



II 2GD
Ex db eb IIC T6...T4 Gb
Ex tb IIIC T85°C...T120°C Db
T6 (Tamb = -60°C to 45°C)
T5 (Tamb = -60°C to 60°C)
T4 (Tamb = -60°C to 85°C)
IP66/IP68



Signed: Michelle Halliwell

Title: Director of Operations

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13 DESCRIPTION OF EQUIPMENT

The SharpEye 40/40 series Flame Detectors are manufactured from stainless steel or aluminum. They are cylindrical in shape and are of three-part construction. They comprise a central assembly that is divided into two compartments, an electronics compartment and a terminal compartment, each with their own cover. The electronics compartment cover contains a circular glass window that allows the equipment to provide its monitoring function. The terminal compartment, which contains Ex e component approved terminals and which communicates with the electronics compartment via a potted bushing. The central assembly has either two M25 x 1.5 or 3/4" x 14 NPT threaded holes in its sidewall to allow the fitting of suitably certified cable entry devices.

The SharpEye 40/40 Series Flame Detectors can be fitted with an un moulded (non-encapsulated), End of Line (EOL) Resistor. Such a resistor can only be fitted into the flameproof 'Ex d' compartment as indicated in the instructions. The EOL Resistor shall be rated at 1.56 kΩ, 1 W minimum.

SharpEye 40/40D Series Flame Detector

40/40D-I-XXXXCXXX – Triple IR (IR3)
40/40D-M-XXXXCXXX – Hydrogen + Hydrocarbon
40/40D-LB-XXXXCXXX – UV/IR (with BIT)
40/40D-L4B-XXXXCXXX – UV/IR (IR at 4.5µm with BIT)

SharpEye 40/40C Series Flame Detector

40/40C-I-XXXXCXXX - Triple IR (IR3)
40/40C-M-XXXXCXXX - Hydrogen + Hydrocarbon
40/40C-LB-XXXXCXXX - UV/IR (with BIT)
40/40C-L4B-XXXXCXXX - UV/IR (IR at 4.5µm with BIT)

The following accessories are allowed as an option:

- Weather Shield (Stainless Steel) – 877163
- Weather Shield (Plastic – ABS) – 877263
- Air Shield – P.N. 877650
- Tilt Mount – P.N. 877090
- Duct Mount – P.N 877670

These accessories do not form part of the enclosure and are fitted externally and are not relied upon for mechanical strength.

Model Code:

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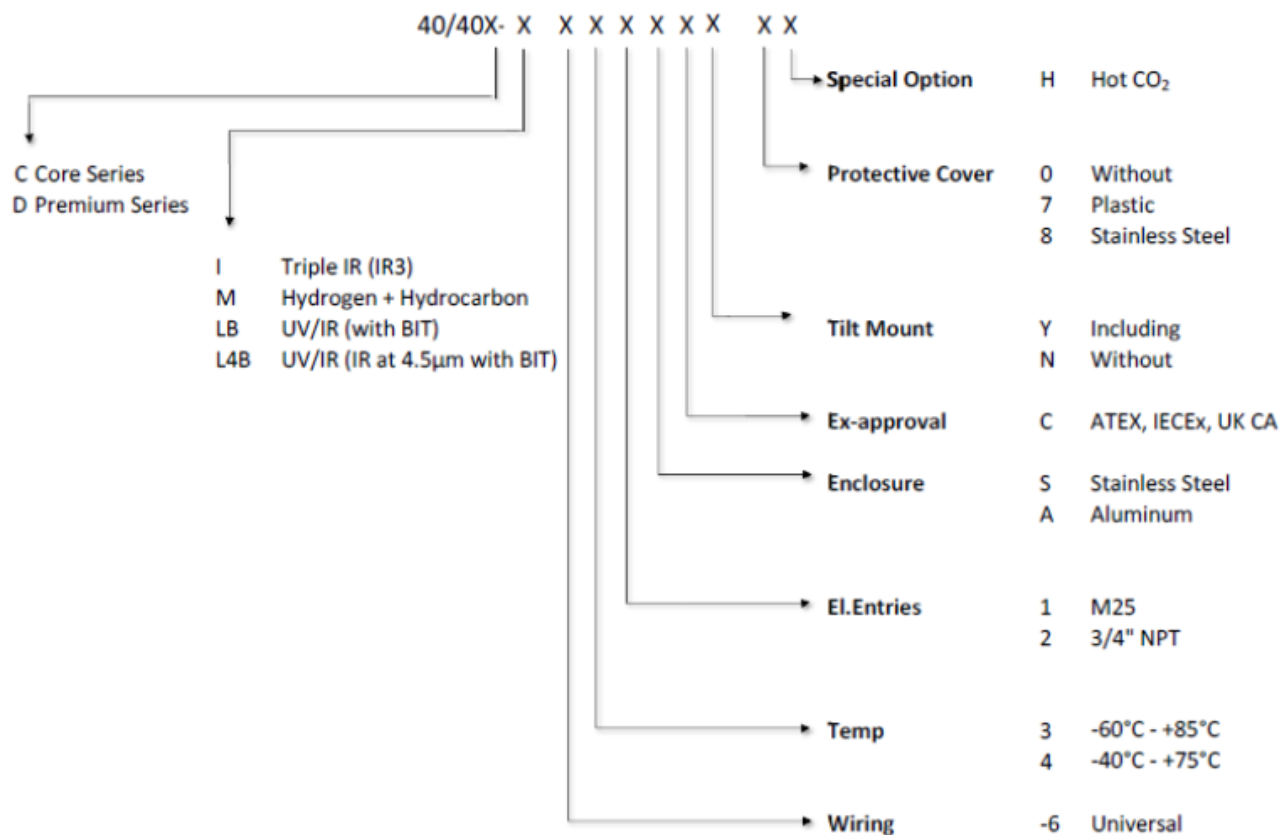
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Variation 1 - This variation introduced the following changes:

- i. Update to label drawings to include the UKCA mark and certificate information.
- ii. Minor changes to drawings.
- iii. Addition of the Duct Mount to the list of accessories.

Variation 2 - This variation introduced the following changes:

- i. Update Terminal manufacture to Tainli.
- ii. Update Ambient Temperature from -50°C to -60°C.
- iii. Update BIT Lamp Manufacture to Oshino.
- iv. Update accessory drawings to remove Spectrex Logo.
- v. Update QSG to include the statement "The entry will be closed by a suitably rated conduit plug" to be provided separately.

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Variation 3 - This variation introduced the following changes:

- i. Update T-class and maximum surface temperature marking options based on reducing the Ambient Temperature.
- ii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN IEC 60079-0:2018 and EN 60079-1:2014 were replaced by EN IEC 60079-0:2018/AC:2020 and EN 60079-1:2014/AC:2018, the markings were updated accordingly.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	18 November 2020	R80050764A	The release of prime certificate.
1	16 March 2022	R80105718A	The introduction of Variation 1.
2	21 September 2022	R80118144B	The introduction of Variation 2.
3	26 January 2023	R80141782B	The introduction of Variation 3.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 Lid securing fasteners shall be property class A4 with a yield stress of 344N/mm².
- 15.2 Units may be painted or fitted with optional accessories; some of which are made of a non-metallic material or have a non-metallic coating which could potentially generate an ignition-capable level of electrostatic charge under certain extreme conditions. Therefore, these units shall not be installed in a location where they may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on the non-conducting surfaces. Additionally, cleaning of the equipment shall be done only with a damp cloth.
- 15.3 Under rated conditions, the temperature increase at the cable entry and branching point is 20.9°C; this shall be considered when installing cable glands and only cables that have temperature ratings suitable for the application shall be used.
- 15.4 Flameproof joints are not intended to be repaired
- 15.5 The 40/40 Series Flame Detectors can be fitted with an unmoulded (non-encapsulated), End of Line (EOL) Resistor. Such a resistor can only be fitted into the flameproof 'Ex d' compartment as indicated in the instructions. The EOL Resistor shall be rated at 1.56 kΩ, 1 W minimum.
- 15.6 When the duct mount is fitted and the equipment is intended to be mounted to a heated/cooled air duct/process vessel, it shall be verified that the temperature of the air duct/process vessel shall not be capable of heating or cooling any part of the equipment enclosure to a temperature outside the marked maximum ambient temperature range prior to switching the equipment on, when taking into account surrounding ambient temperature.

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16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 Each 40/40 Series Flame Detector shall be subject to a routine dielectric strength test of 500 V rms applied between the terminal block and the enclosure for a period of 60 s as required by clause 6.1 of EN 60079-7:2015. Alternatively, the test voltage may be 600 V for a period of 100 ms as specified by clause 7.1 of EN 60079-7:2015+A1:2018.
- 17.4 Each Aluminium 40/40 Series Flame Detector shall be subject to a routine pressure test of 19.3 bar for at least 10 seconds as required by EN 60079-1. There shall be no permanent deformation or damage to the enclosure.
- 17.5 Terminals manufactured by Tianli shall be installed in line with the manufacturer's instructions. It is also noted the installer does not touch the Ex-name plate during installation and maintenance to avoid the wear of the name plate.

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Certificate Annexe



Certificate Number: CSANe 20ATEX1249X

Equipment: Spectrex SharpEye 40/40C & 40/40D Flame Detector Series

Applicant: Rosemount, Inc.

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
877128-ATEX	1 of 1	Ai	16 Nov 20	Side label
877428-ATEX	1 of 1	Af	16 Nov 20	Side label

Issue 1

Drawing	Sheets	Rev.	Date (Stamp)	Title
877128-ATEX	1 of 1	Bb	23 Feb 22	Side Label
877428-ATEX	1 of 1	Bb	23 Feb 22	Side Label

Issue 2

Drawing	Sheets	Rev.	Date (Stamp)	Title
877428 ATEX	1 of 1	Bc	08 Sep 22	Side Label
877128 ATEX	1 of 1	Bc	08 Sep 22	Side Label

Issue 3

Drawing	Sheets	Rev.	Date (Stamp)	Title
877428 ATEX	1 of 1	Be	18 Jan 23	Side Label
877128 ATEX	1 of 1	Be	18 Jan 23	Side Label

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