



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX SIR 08.0093X**

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Certificate history:

Status: **Current**

Issue No: 14

Issue 13 (2023-09-12)

Issue 12 (2023-08-09)

Issue 11 (2022-04-26)

Issue 10 (2020-10-27)

Issue 9 (2019-12-06)

Issue 8 (2016-10-20)

Issue 7 (2015-09-30)

Issue 6 (2014-02-25)

Issue 5 (2013-05-28)

Issue 4 (2013-04-29)

Date of Issue: 2024-10-18

Applicant: **Rosemount Inc.**  
10241 West Little York Road  
Suite 200  
Houston TX 77040  
**United States of America**

Equipment: **700XA Gas Chromatograph**

Optional accessory:

Type of Protection: **Flameproof 'db'**

Marking: Ex db IIC T6 Gb  
(Ta = -20°C to +60°C)

Or when the LSIV unit is fitted:

Ex db IIC T4 Gb  
(Ta = -20°C to +60°C)

When fitted with the optional external sampling system:

Ex db IIC T3 Gb  
(Ta = -20°C to +60°C)

Approved for issue on behalf of the IECEx  
Certification Body:

**Michelle Halliwell**

Position:

**Director Operations, UK & Industrial Europe**

Signature:  
(for printed version)

Date:  
(for printed version)

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

**CSA Group Testing UK Ltd**  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside CH5 3US  
**United Kingdom**





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Date of issue: 2024-10-18

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Manufacturer: **Rosemount Inc.**  
10241 West Little York Road  
Suite 200  
Houston TX 77040  
**United States of America**

Manufacturing locations: **Rosemount Inc.**  
10241 West Little York Road  
Suite 200  
Houston TX 77040  
**United States of America**

**Emerson Process Management Limited**  
2 Hunt Hill  
Cumbernauld G68 9LF  
**United Kingdom**

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

This Certificate **does not** indicate compliance with 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 Reports:

[GB/CSAE/ExTR22.0096/00](#)  
[GB/SIR/ExTR10.0284/00](#)  
[GB/SIR/ExTR13.0145/00](#)  
[GB/SIR/ExTR16.0271/00](#)  
[GB/SIR/ExTR23.0144/00](#)

[GB/SIR/ExTR09.0122/00](#)  
[GB/SIR/ExTR11.0085/00](#)  
[GB/SIR/ExTR14.0036/00](#)  
[GB/SIR/ExTR19.0303/00](#)  
[GB/SIR/ExTR24.0113/00](#)

[GB/SIR/ExTR09.0194/01](#)  
[GB/SIR/ExTR13.0086/00](#)  
[GB/SIR/ExTR15.0201/00](#)  
[GB/SIR/ExTR23.0136/00](#)

### Quality Assessment Reports:

[GB/SIR/QAR08.0016/10](#)

[GB/SIR/QAR16.0005/07](#)



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Date of issue: 2024-10-18

Issue No: 14

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The 700XA Gas Chromatograph is a gas chromatograph (GC) type analyzer housed in a proprietary flameproof enclosure which is divided into two chambers (compartments).

### Analyzer Assembly

The upper compartment is the "oven enclosure". It is provided with a domed cover. This enclosure contains the columns, detectors, pneumatically operated switching valves and solenoids that make up the analyzer assembly. Process tubing enters the oven enclosure through purpose designed tube entries that are screwed into M32 x 1.5-6H ISO threaded entries tapped in the enclosure wall. These devices incorporate cylindrical flame paths. The interface between the process tubes and the tube entries form a cylindrical flame path. A breathing element is included that screws into a M20 x 1.5-6H ISO threaded entry. An additional entry – 3/4-14 NPT – is provided for electrical feed through that must be sealed adjacent to the enclosure. An opening with M75 x 1.5-6H ISO threads for an optional liquid sample injection valve may be present.

The enclosure may optionally be coated with Deltron DCU2021 Urethane Clear or with P4023-D1R Powder Coating.

### Controller Assembly

The lower compartment is the "electronics enclosure". It is provided with an enclosure lid that incorporates a glass window opening. The window cover opening is 10" dia and has 10.0-8 UN-2A threads. There is a side cover opening of 6" dia and has 6.0-12 UN-2B threads. This enclosure houses the central processor, power supply, operational electronics, and communication electronics that support analysis. The electronics within the enclosure are CSA Certified under CSA Report 2195181 Power and telecommunications cables enter through M32 x 1.5-6H ISO threaded entries tapped in the enclosure wall. A barrier wall between the two enclosures has one M40 X 1.5-6H ISO threaded passage for a sealed cable assembly providing necessary communication between systems.

The enclosure may optionally be coated with Deltron DCU2021 Urethane Clear or with P4023-D1R Powder Coating.

### Design options

- An alternative bottom compartment which eliminates the wiring access conduits leading from the lower enclosure to the surface near the upper opening. The change reduces overall volume by a small amount.
- The fitting of an optional LSIV. The LSIV may contain up to two cartridge heaters manufactured by Sun Electric Heaters, model number 28W/24V 1/4 diameter, 1.5"lg cartridge. The temperature is measured via a RTD manufactured by Minco model S204PD AC887Y26L18 and has a 150°C temperature limit. The use of this optional device will require a temperature code rating of T4.
- The fitting of an optional certified heat trace system, installed into the GC housing using a CSA/C-US certified explosion proof conduit seal and used to heat an external sample system assembly. A certified temperature switch will be used to set the maximum temperature allowed by the heat trace system. A set point of a maximum of 80°C will required a temperature code of T4 and a set point maximum of 110 °C results in a temperature code of T3.
- The fitting of an optional insulated sample heater system is installed inside the GC for the internal sample line. A Hottwatt Glasrope heater model GR16-18/40W24V/SF1-30&12 is controlled via a RTD manufactured by Minco model S204PD AC887Y26L18 and an internal 24VDC power signal. The heater output is limited at 150°C, which translates to a temperature of about 65°C (typically) on the surface of the heater's insulation. This configuration will require a T4 temperature code.
- Flex cable with feed thru adapter (drawing CE-22178) is approved with an in-house sealing component model Kneadseal SL or alternative model Kneadseal. An alternative feed thru adapter with a proprietary sealing component was approved for use by SIRA in report R51L20821B in April 2010. A third alternative feed thru adapter using a proprietary sealing component type LE xxxxx/x manufactured by Quintex GmbH under CSA/C-US certificate 2140177 and FM Approvals under project ID # 3039411/ report # 101118.

Refer to certificate Annexe for the conditions of manufacture

### SPECIFIC CONDITIONS OF USE: YES as shown below:

1. When the Vapour regulators and flow switches are fitted they must be suitably certified with the ratings Ex d IIC Gb T5/T6/T4 and for a minimum ambient temperature range Ta = -20°C to +60°C.
2. Where right angle bend cable adaptors are used they shall be appropriately certified and shall interface with enclosures via appropriate certified barrier glands.



# IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 08.0093X**

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Date of issue: 2024-10-18

Issue No: 14

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

**This issue, Issue 14, recognises the following changes; refer to the certificate annex to view a comprehensive history:**

1. Replacement of LOI Electronic Display Component
2. Change in Assembly Harness Length
3. Update of blind ground hole lug to tapped
4. Associated drawing updates
5. Addition of Manufacturing Location

**Annex:**

[IECEX SIR 08.0093X Issue 14 Annexe\\_1.pdf](#)

Annexe to: IECEx SIR 08.0093X Issue 14

Applicant: Rosemount Inc

Apparatus: 700XA Gas Chromatograph



## Conditions of Manufacture

1. When using the bottom compartment to drawing number DE-22001 rev H or newer both compartments are exempt from an overpressure test when intended for use in a -20°C environment. But shall be pressure tested to the table above when operating in a -30°C or -40°C environment. As required under IEC 60079-1 and EN 60079-1 clause 16.1. There shall be no damage or permanent deformation as a result of these tests.
2. All cable entry devices fitted shall be suitable for the application, in addition it shall be certified by an IECEx body.
3. When using the bottom compartment to drawing number DE-22001 rev D both compartments shall be pressure tested to the table below in accordance to the ambient temperature it is operated under. There shall be no damage or permanent deformation as a result of these tests.

Top Section	Bottom Section
15.375 bar @ -20°C	29.35 bar @ -20°C

4. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.
5. Where right angle bend cable adaptors are used they shall be appropriately certified and shall interface with enclosures via appropriate certified barrier glands.

## Full certificate change history

**Issue 1** – this Issue introduced the following change:

1. The introduction of the Flexi Rigid PCB Cable entry device that is fitted between compartments.

**Issue 2** – this Issue introduced the following changes:

1. The addition of an optional field bus enclosure within the bottom compartment.
2. The recognition of minor drawing modifications; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.

**Issue 3** – this Issue introduced the following change:

1. The applicant's name was changed from Rosemount Analytical Gas Chromatograph Division to that currently shown.

**Issue 4** – this Issue introduced the following changes:

1. To permit the introduction of an optional external sampling system with heating. This uses Raychem trace heating, type 20QTVR1-CT (120VAC) or 20QTVR2-CT (240VAC), inside the sampling system for the 700XA model. The heater is controlled by a temperature switch (Barksdale/Raychem type Raystat Ex-02), set to maintain a maximum of 80°C (T4) or 110°C (T3) resulting in the new coding; Ex d IIC T3 Gb, a new Condition of Certification is introduced as a result.
2. To permit the optional vapour regulators and switches to be used within the external heating sampling system. These being suitably certified with the ratings Ex d IIC Gb T6/T4 and a minimum ambient temperature range of -20°C to +60°C, a new Condition of Manufacture is introduced as a result.
3. To permit the use of an optional temperature sensor (RTD): 100 ohm RTD, 5/32 O.D. by Minco # S204PD AC887Y26L18, Emerson P/N 2-4-0700-154.
4. To permit the use of the optional feed through adapter for all models using a proprietary sealing component; Model LE\*\*\*\*\*/ manufactured by Quintex GmbH.
5. To permit the optional internal power supplies TDK-Lambda GWS250-24 series and Emerson LCC250.
6. To permit a number of minor drawing modifications. These modifications do not affect the type of protection.

Date: 18 October 2024

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Annexe to: IECEx SIR 08.0093X Issue 14

Applicant: Rosemount Inc

Apparatus: 700XA Gas Chromatograph



7. The applicant's address was changed from 5650 Brittmoore Road, Houston 77041, Texas to that currently shown.
8. The removal of a superfluous Condition of Manufacture.

**Issue 5** – this Issue introduced the following changes:

1. The option to use up to two, M32 threaded holes, currently used for the passage of process tubing, for the accommodation of a suitable cable entry device.
2. The clarification of drawing information not affecting certification was recognised.

**Issue 6** – this Issue introduced the following change:

1. The introduction of a new Conditions Of Certification and Condition Of Manufacture to give clarification on the use of appropriate certified right angle cable adaptors with the equipment.

**Issue 7** – this Issue introduced the following changes:

1. The use of an optional temperature sensor (RTD): 100 ohms, by JMS # 18248, Emerson P/N 2-4-0700-154 was recognised.
2. The amendment of a number of drawings which includes the following:
  - **Drawing DE-22114 to Rev D** – Replace 2-3-0710-007 with new PCA assembly part number 7A0055G02 on the BOM.
  - **Drawing DE-22143 to Rev F** – Updated drawing to BOM updates, to add revised methanator P/N, to add option to pick between CSA or ATEX certified plugs during final assembly, to update internal part number 2-4-0710-249 to 2-4-0710-266 on page 5 and amend drawing on page 3.
  - **Drawing BE-22145** – To rev. D: Updated drawing to change the threaded length from .800" to .900" including an undercut.
  - **Drawing DE-22003** – To rev. F: Updated drawing to add metrology holes in non-critical surfaces.
  - **Drawing DE-22008** – To rev. H: Updated drawing to add metrology holes in non-critical surfaces.
  - **Drawing CE-22178** – To rev D.: Updated epoxy call out for CSA units as described in CSA report 2194377.
  - **Drawing CE-22178** – To rev. C: Removed insulation pad call out from the BOM.– To rev G.: Updated to include French warning translations and Russian certification markings (not related to ATEX or IECEx certification)

**Issue 8** – this Issue introduced the following changes:

1. The use of a modified optional FID hose heater assembly was recognised.
2. Minor drawings amendments, none of which affect compliance with the standards listed.

**Issue 9** – this Issue introduced the following changes:

1. Following appropriate assessment for the existing products to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2007 was replaced by IEC 60079-0:2011 Ed. 6, IEC 60079-1:2007 Ed. 6 was replaced with IEC 60079-1:2014 Ed. 7. The markings were updated accordingly.
2. Assessment of the containment system according to the EN 60079-1:2014 requirements
3. Drawings Revisions.
4. Permission of the usage of Quintex line bushings LB\*\*\*\*\*, certified under IECEx EPS 11.0004X in the application of the single and dual flex cable bushings.
5. Permission of the usage of Renata 1000-0 battery on the CPU PCBA.
6. Permission of the usage of the optional microFPD hardware feature.
7. Assessment of the feed thru assembly BE-22147 to update the design and verify the 0.020 tubes as a flame arresting component.
8. Modification of dome and body enclosure thread dimensions.
9. The Applicant and Manufacturers name was changed from Rosemount Analytical, Inc. to Rosemount Inc.

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Annexe to: IECEx SIR 08.0093X Issue 14

Applicant: Rosemount Inc

Apparatus: 700XA Gas Chromatograph

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**Issue 10** – this Issue introduced the following change:

1. This allows for the removal of the manufacturing site; Emerson Process Management UK Limited and its associated QAR, no ExTR was issued.

**Issue 11** – this Issue introduced the following changes:

1. Assessment to demonstrate compliance with the latest technical knowledge, the standard IEC-60079-0:2011 Ed.6 has been replaced by IEC 60079-0:2017 Ed.7 + COR1:2020.
2. Removal of heated tube option.
3. To permit the use of alternate internal power supplies Meanwell RSP-320-24 and CUI Inc VGS-350C-24.
4. Drawing revisions.

**Issue 12** – this Issue introduced the following changes:

1. Nameplate drawing revision.

**Issue 13** – this Issue introduced the following changes:

1. Update of microFPD Component
2. Minor updates to non-critical features, including:
  - a. Relocation of cover set screw, and
  - b. Addition of serial number stamp on interior of cover.
3. Addition of P4023-D1R Powder Coating, updated in the Product Description.
4. Associated drawing updates

**Issue 14** – this Issue introduced the following changes:

1. Replacement of LOI Electronic Display Component
2. Change in Assembly Harness Length
3. Update of blind ground hole lug to tapped
4. Associated drawing updates
5. Addition of Manufacturing Location