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

Certificate No.: **IECEx UL 22.0034X**

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Certificate history:
Issue 2 (2025-09-26)
Issue 1 (2025-02-25)
Issue 0 (2023-04-06)

Status: **Current**

Issue No: 3

Date of Issue: 2026-02-25

Applicant: **Chemelex Belgium NV**
Research Park
Haasrode - Zone 2
Romeinse straat 14
Leuven B-3001
Belgium

Equipment: **Safety Temperature Limiter, Elexant 5010i & Elexant 5010i-LIM**

Optional accessory:

Type of Protection: **Increased Safety "eb", Intrinsic Safety "ib", Encapsulation "mb", Dust Ignition Protection by Enclosure "tb"**

Marking: Ex eb ib mb [ib] IIC T4 Gb

Ex tb [ib] IIIC T67°C Db IP66

-50°C ≤ Tamb ≤ +60°C

Approved for issue on behalf of the IECEx Certification Body: **Lucy Frieders**

Position: **Staff Engineer**

Signature: (for printed version)

Date: (for printed version) 2026-02-25

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 www.iecex.com or use of this QR Code.

Certificate issued by:

UL Solutions (US)
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America

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Manufacturer: **Chemelex Belgium NV**
Research Park
Haasrode - Zone 2
Romeinse straat 14
Leuven B-3001
Belgium

Manufacturing locations: **Chemelex Belgium NV**
Research Park
Haasrode - Zone 2
Romeinse straat 14
Leuven B-3001
Belgium

Karré GmbH
Bayerwaldstraße 44,
81737 Munich
Germany

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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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:

US/UL/ExTR22.0039/00 US/UL/ExTR22.0039/01 US/UL/ExTR22.0039/02
US/UL/ExTR22.0039/03

Quality Assessment Reports:

DK/ULD/QAR24.0001/01 GB/BAS/QAR07.0053/11

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The ELEXANT 5010i-LIM Heat-Tracing Temperature Control Unit with Intelligent Safety Limiter, rated at 100V to 250V and up to 25A, comprises a certified eb tb IP66 plastic enclosure into which are encapsulated a number of printed circuit boards. Termination facilities are provided within the enclosure, above the level of the encapsulation, for the connection of power supply, external RTDs, alarm and data transmission facilities.

The encapsulated parts are divided into intrinsically safe and non-intrinsically safe circuits, with their associated segregated Ex ib and Ex eb termination facilities above the encapsulant.

Internal connections provided from the encapsulated printed circuit boards for three external resistance thermal detectors (RTDs), are made to Ex ib (RTD) terminals situated at the other side of the enclosure and are segregated from the non-intrinsically safe terminals. Internal connections from the encapsulated printed circuit boards supply a four-digit seven segment LED display, five indicator LEDs and two internal push button switches. All are mounted on a separate unencapsulated display printed circuit board behind a window in the lid of the enclosure.

An internal plastic cover provides an IP30 separation between the intrinsically safe display printed circuit board and the non-intrinsically safe termination facilities located on the terminal printed circuit board. A common Earth Terminal is provided adjacent to the Ex ib (RTD) terminals for the termination of cable screens.

External connection is provided via cable entry threaded holes, which enter the enclosure above the level of the encapsulation. Internal and external earthing facilities are provided. For Safety Parameters, refer to Certificate Annex.

A variation on the ELEXANT 5010i-LIM Heat-Tracing Temperature Control Unit with the safety limiter components omitted is given the designation: ELEXANT-5010i Heat-Tracing Temperature Control Unit. This unit omits all components associated with RTD3 and its associated internal switches.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Cable entry shall be Ex eb and tb IECEx certified and rated minimum IP 66 to maintain the IP66 rating of the enclosure. Cable entry devices must have a seal or gasket to provide sealing with enclosure.
2. Unused cable entries must be filled with Ex eb and tb IECEx certified and rated minimum IP 66 stopping plugs to maintain the IP66 rating of the enclosure. Cable entry plugs must have a seal or gasket to provide sealing with enclosure.
3. Not more than one solid or stranded wiring lead shall be connected into either side of the terminals.
4. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1mm of the metal of the terminal throat.
5. The maximum permitted current of the non-IS alarm contacts is 3A.
6. The earth pillar adjacent to the RTD connectors must be used only for RTD cable screens.
7. The external RTDs must be capable of withstanding a 500V test to earth.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Updated BOMs to add alternate components and component manufacturers. Addition of Manufacturing location Karré GmbH (DK/ULD/QAR24.0001/00).

Issue 2: Update Applicant/Manufacturer/Manufacturing company name to Chemelex Belgium NV.

Issue 3: Updated drawings related to the addition of alternate components.

Annex:

Annex to IECEx UL 22.0034X Issue 3.pdf

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PARAMETERS RELATING TO THE SAFETY

Electrical data
100-250Vac, 47/63Hz, 25A max

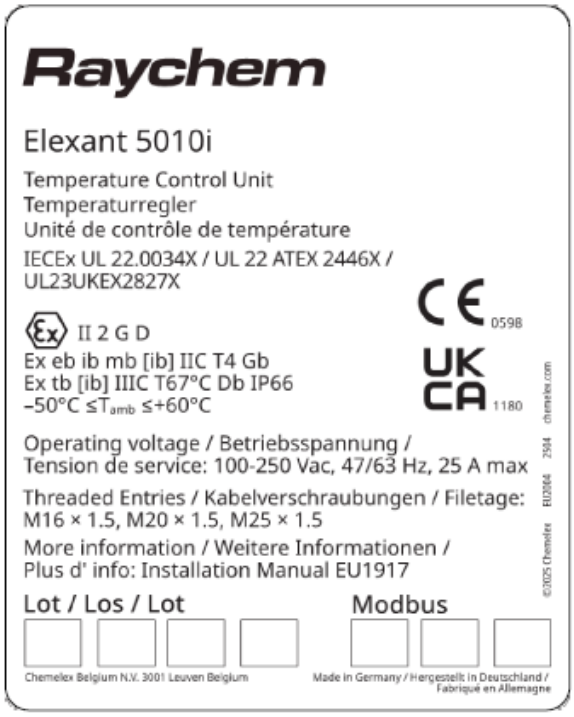
Intrinsically safe specifications:
Um : 250 V

RTD1, RTD2, or RTD3-LIMITER per channel:
Uo : 5.88 V
Io : 0.089 A
Po : 0.131 W
Lo : 4488 uH
Co : 42.7 uF

MARKING

Marking has to be readable and indelible; it has to include the following indications:





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ROUTINE EXAMINATIONS AND TESTS

- Each piece of “m” equipment shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion (separation of any adhered parts) or softening.

- Each manufactured sample of equipment shall be subjected to an electric strength test using a test voltage per table below. The test voltage shall be increased steadily within a period of not less than 5 s until it reaches the prescribed value, and it shall then be maintained for at least 2 s.

Description	Test Voltage
Input L&N, Output L&N and Alarm relay contact shorted together to grounding stud and RS-485 pins shorted together	2200Vac or 3100Vdc

LIST OF CERTIFIED COMPONENTS

The following previous editions of Standards noted under the “Standards” section of this Certificate were applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the “Standards” section.

Product	Certificate Number	Standards
Enclosure, Part No. 26.12 22 12, manufactured by Rose Systemtechnik GmbH	IECEx PTB 08.0003U	IEC 60079-0:2011 Ed. 6.0 IEC 60079-7:2015 Ed. 5.0 IEC 60079-31:2013 Ed. 2.0
	IECEx PTB 08.0004	IEC 60079-7:2015 Ed. 5.0