

1 EU-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No:** FM16ATEX0037X

4 **Equipment or protective system:** ELK-AG-Ex Series PFA Insulated Heating Cable Systems and ELVB-AG-NA Integral Splice Kit
(Type Reference and Name)

5 **Name of Applicant:** eltherm production GmbH

6 **Address of Applicant:** Ernst-Heinkel Str 6-10
Burbach
D-57299
Germany

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

8 FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 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 confidential report number:

3052962 dated 19th August 2016

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN IEC 60079-0:2018, EN60079-30-1:2017 and EN 60529:1991+A1:2000+A2:2013

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. 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:



II 2 G Ex 60079-30-1 IIC T6...T2 Gb Ta = -60°C to +60°C

II 2 D Ex 60079-30-1 IIIC T85°C...T300°C Db Ta = -60°C to +60°C

 Digitally signed by
Richard Zammitt
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Certification Manager, FM Approvals Europe Ltd.

Issue date: 24th April 2019

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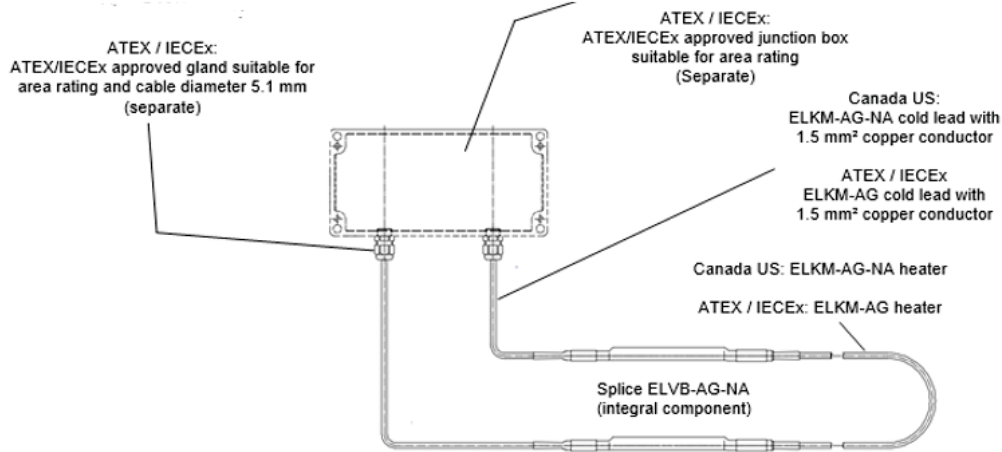
SCHEDULE

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13 Description of Equipment or Protective System:

ELK-AG-Ex heaters consist of a single core series heater ELKM-AG with PFA insulation, nickel plated copper braid and PFA outer jacket. The heater is connected to 1.5 mm² cold leads of the same design by integral, crimped splice in ELVB-AG-NA splice kit. The free end of the cold lead is to be connected to the power supply by means of separately certified junction boxes equipped with certified terminals and certified glands with suitable clamping range

The pictorial view of the ELK-AG-Ex is shown below:



The specific models are as follows:

ELK-AG-Ex-a series PFA insulated heating cable and ELVB-AG-NA Integral Splice Kit (0X81150)

a = resistance (up to 8 ohm/m); Maximum Voltage 750V ac; Maximum Current 40A

14 Specific Conditions of Use:

For ELK-AG-Ex System

1. The ELK-AG-Ex-a series trace heating cables and integral splices shall have a minimum and maximum operating temperature range of -60°C to +250°C.
2. The maximum surface temperature in or on the ELK-AG-Ex series Trace Heating System is limited to the maximum allowed values by means of controlled design or stabilized design in accordance with EN 60079-30-1.

For Stabilized Design -

The design information from eltherm GmbH and the calculation tool "eltherm designer version 2.0" shall be such that they ensure temperature stabilization at lower values than the specified maximum surface temperature class selected, T6...T2 or the corresponding maximum surface temperature of the specific gas for EPL Gb, or T85°C...T300°C for the specific dust or fiber for EPL Db.

For Control design -

The device applied as a temperature limiter for the controlled temperature design shall comply with the requirements of Clause 4.4.3.a) of EN 60079-30-1. The temperature sensors for temperature control or limitation shall be ATEX Certified and comply with the types of protections listed in Clause 1 of EN 60079-0 as EPL Gb or Db equipment.

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3. The ELK-AG-Ex Trace heaters shall be installed in accordance with the manufacturer's instructions and connected in accordance with EN 60079-14. The connections shall be made using a suitably rated ATEX Certified flameproof enclosure and gland "d" or a suitably rated ATEX Certified increased safety enclosure and gland "e" or in the case of dust installations using an ATEX Certified and suitably rated "tb" enclosure and gland.
4. Notification shall be given that the design information shall be retained as a record of system documentation for each controlled design system for as long as the system is in use. The set point in the system documentation shall be checked during commissioning of the system.
5. A ground fault protection device must be used with this heating device.

For ELVB-AG-NA Splice Kit

1. This Splice Kit shall only be used with the eltherm GmbH ELKM-AG trace heaters and their corresponding Cold Leads.
2. Minimum installation temperature is -60°C.
3. Maximum exposure temperature is 250°C.
4. The Temperature class shall be T6...T2 or the corresponding maximum surface temperature of the specific gas for EPL Gb, or T85°C...T300°C for the specific dust or fiber for EPL Db.
5. A ground fault protection device must be used with this heating device.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
24 th August 2016	Original Issue.
24 th April 2019	<u>Supplement 1:</u> Report Reference: - RR218081 dated 02 nd April 2019. Description of the Change: Certification standards & Ex ratings' markings updates & relevant documentation updates. Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.

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