

## UK Type Examination Certificate CML 22UKEX2008X Issue 0

### United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres  
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Infrared Temperature Sensor, ExTempMini and OSAT-Mini Series**
- 3 Manufacturer **Calex Electronics Ltd**
- 4 Address **Leedon House, Billington Road,  
Leighton Buzzard,  
Bedfordshire, LU7 4TN,  
United Kingdom**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.  
  
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

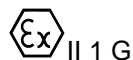
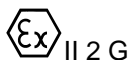
EN IEC 60079-0:2018

EN 60079-11:2012

- 10 The equipment shall be marked with the following:

Main enclosure:

Sensing head:



Ex ia [ia Ga] IIC T4 Gb

Ex ia IIC T4 Ga

Ta = -20 °C to +70 °C

Ta = -20 °C to 115 °C

Ex ia IIC T3 Ga

Ta = -20 °C to 180 °C



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## 11 Description

The ExTempMini Series (alternatively known as OSAT-Mini Series) is intrinsically safe, 4-20 mA two-wire, non-contact, infrared temperature sensors. They consist of a remote sensing head connected by a permanently attached cable to a main enclosure housing the main PCB. The sensing head is approved for use in Zone 0 and the main enclosure is approved for use in Zone 1.

The ExTempMini and OSAT-Mini are supplied in a number of configurations defined by the model number as follows,

EXM8-aaa-bb-cc-ddd or OSATM8-aaa-bb-cc-ddd

Where:

- aaa = Field of view
- bb = Measurement temperature range
- cc = Sensing Head Cable Length (25 m maximum)
- ddd = Other options

The equipment has the following safety parameters,

- Ui = 28 V
- Ii = 93 mA
- Pi = 0.651 W
- Ci = 5.17 nF
- Li = 1.99 uH

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	15 Feb 2022	R14832A/00	Issue of Prime Certificate

Note: Drawings that describe the equipment are listed in the Annex.

## 13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. A routine dielectric strength test shall be carried out on the sensing head in accordance with EN 60079-11:2012 Clause 6.3.13 at a test voltage of 500 Vrms for a minimum of 60 seconds. Alternatively, a voltage of 20 % higher may be applied for 1 second. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.



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#### **14 Specific Conditions of Use**

The following conditions relate to safe installation and/or use of the equipment.

- i. The main enclosure does not meet the dielectric strength test of EN 60079-11:2012 Clause 6.3.13. This shall be taken into account when installing the equipment.

## Certificate Annex

**Certificate Number** CML 22UKEX2008X  
**Equipment** Infrared Temperature Sensor, ExTempMini & OSAT-Mini  
**Manufacturer** Calex Electronics Ltd



The following documents describe the equipment defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
IRI-00048-EX	1 of 1	02	15 Feb 2022	ExTemp-Mini, General arrangement drawing, Main enclosure
IRI-00049-EX	1 of 1	02	15 Feb 2022	ExTemp-Mini, General arrangement drawing, Sensing head
IRI-00050-EX	1 of 1	02	15 Feb 2022	ExTemp-Mini, Main schematic
IRI-00051-EX	1 of 1	01	15 Feb 2022	ExTemp-Mini, Main PCB
IRI-00052-EX	1 of 1	03	15 Feb 2022	ExTemp-Mini, Main PCB BOM
IRI-00053-EX	1 of 1	02	15 Feb 2022	ExTemp-Mini, Sensing head schematic and bill of materials
IRI-00054-EX	1 of 1	03	15 Feb 2022	ExTemp-Mini, Product marking