IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.: IECEx TRC 12.0014U

Issue No: 2

Certificate history:
Issue No. 2 (2019-05-31)
Issue No. 1 (2017-10-23)
Issue No. 0 (2012-09-17)

Status: **Current**

Date of Issue: **2019-05-31**

Applicant: **JCE (Europe) Ltd.**
East Way,
Lee Mill Industrial Estate,
Ivybridge,
Devon,
PL21 9LL
United Kingdom

Ex Component: **Indicator lamps**

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Flameproof, encapsulation and dust**

Marking:

Ex db mb IIC Gb

Ex mb tb IIIC Db

Approved for issue on behalf of the IECEx Certification Body: Stephen Winsor

Position: Certification Manager

Signature:
(for printed version)

Date:

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 the Official IECEx Website.

Certificate issued by:

Element Materials Technology
Unit 1 Pendle Place
Skelmersdale
West Lancashire

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Manufacturer: **JCE (Europe) Ltd.**
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Ivybridge,
Devon,
PL21 9LL
United Kingdom

Additional Manufacturing location(s):

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 Component 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 Ex Component 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-18 : 2014 Edition:4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the Ex Component listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/TRC/ExTR12.0013/00 GB/TRC/ExTR12.0013/01

Quality Assessment Report:

GB/SIR/QAR10.0001/06

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Schedule

Ex Component(s) covered by this certificate is described below:

The JCE Indicator lamps (or pilot lights) are component devices designed for use within approved equipment enclosures. They consist of a range of Indicator lamps of varying types manufactured mainly from stainless steel. Plastic materials are used for a range of lens caps. The differences between models relate to the internal electronics and external lens colour only.

The Indicator lamps have ¾" NPSM, ¾" BSPP or M25 threaded bodies with locking rings (fitted internal to the final enclosure).

The equipment was evaluated for use with gas group IIC and dust group IIIC, within an ambient temperature range of -40°C to +70°C.

The range assessed consists of the models PL1 (230Vac), PL2 (110Vac) and PL3 (24Vac/dc) which have a specific coloured lens depending on suffix letter: Lens suffix letters are A (amber), G (green), R (red), W (white) or B blue. Hence models are designated: "PLx–y" (where x = 1, 2 or 3 and y = A. G, R, W or B).

The indicator lamps must be installed with an external 1A fuse.

SCHEDULE OF LIMITATIONS:

1. The indicator lamps are designed to be used in an ambient temperature range of -40 °C to +70 °C.
2. The indicator lamps shall only be used without a routine overpressure test in conjunction with enclosures that have a reference pressure of ≤ 15 bar. The equipment must be overpressure tested at 1.5 x the enclosure reference pressure when being used with an enclosure that has a reference pressure > 15 bar and ≤ 40 bar (maximum).
3. The indicator lamps must be installed with a 1 A fuse (1500 A prospective short circuit current) rated in excess of the voltage rating of the model.
4. When fitted to an Ex d enclosure, the maximum exposed surface temperature was determined, under normal operation and fault condition, to be less than +85 °C (at Ta = +70 °C).
5. If the lens becomes damaged or detached then the Indicator Lamp should be replaced.
6. The maximum rated service temperature is +104 °C

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

Issue 2

1. Change of ambient range to -40 °C to +70 °C.
2. A routine test has been added for enclosures with a reference pressure of >15 bar and ≤ 40 bar.
3. Revised maximum surface temperature with respect to new upper ambient of 70 °C.
4. Statement of service temperature included in schedule of limitations.
5. A standard update from IEC 60079-18:2009 to IEC 60079-18:2014.
6. Change of dust protection concept from Ex t to Ex mb tb.

Annex:

Annex to IECEx TRC 12.0014U issue 2.pdf

Element Materials Technology,
Unit 1, Pendle Place,
Skelmersdale,
West Lancashire, WN8 9PN,
United Kingdom

Annex to IECEx Certificate of Conformity IECEx EMT 12.0014U issue No.: 2

Routine Tests
1. The encapsulation of each Indicator Lamp 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 or softening. 2. A dielectric strength test of 1500 Vrms shall be applied for 1 second between the metal body and the electrical connection terminals. The test shall be deemed as passed if no breakdown or arcing occurs during testing. 3. A 1.5 x overpressure test must be performed when the equipment is used with enclosures that have a reference pressure of >15 bar and ≤ 40 bar (maximum).

Manufacturer's Documents

Title:	Drawing No.:	Rev. Level:	Date:
Certification drawing for PL range of indicator lamps to Exdb mb IIC (5 pages)	A3C-3006	3	2019-04-23
PL Series Pilot Light Installation, Operation and Maintenance Information	-	2	2019-04

- Denotes information not provided by manufacturer

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.