



# 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 CML 23.0101X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 1 Issue 0 (2023-12-06)

Date of Issue: 2023-12-21

Applicant: **CZ Electric Co., Ltd.**  
No. 1 Qixing Road,  
Qixing Town,  
Nanhu District,  
Jiaxing,  
Zhejiang, 314002,  
China

Equipment: **CZ6474 Explosion Proof Light Fittings**

Optional accessory:

Type of Protection: **Flameproof Ex "d", Increased Safety Ex "e", Intrinsic Safety Ex "i" and Dust Protection by Enclosure Ex "t"**

Marking: CZ6474/235 and CZ6474/245 CZ6474/111, CZ6474/121, CZ6474/131 CZ6474/135 and CZ6474/145

Ex db eb IIC T6/T5 Gb (-40 °C);  
Ex db eb IIB+H2 Gb (-60 °C);  
Ex tb IIIC T80 °C /T95 °C Db  
-60 °C ≤Ta ≤+40 /+55 °C (IIB+H2)  
-40 °C ≤Ta ≤+40 /+55 °C (IIC)  
IP66

Ex db IIC T\* Gb  
Ex tb IIIC T\* °C Db  
-60 °C ≤Ta ≤+40 /+55 °C (IIC)  
-40 °C ≤Ta ≤+40 /+55 °C (IIC)  
IP66

Ex db IIC T6/T5 Gb (-40 °C);  
Ex db IIB+H2 Gb (-60 °C);  
Ex tb IIIC T80 °C /T95 °C Db  
-60 °C ≤Ta ≤+40 /+55 °C (IIB+H2)  
-40 °C ≤Ta ≤+40 /+55 °C (IIC)  
IP66

CZ6474/111, CZ6474/121 with IS  
buzzers

Ex db ib IIC T6 Gb  
Ex tb ib IIIC T80 °C Db  
IP 66  
(\* and \*\* See table below)

-60/-40 °C ≤ Ta ≤ +40 /+55 °C  
(+50 °C IS buzzers fitted)

Approved for issue on behalf of the IECEx  
Certification Body:

**R C Marshall**

Position:

**Operations Director**

Signature:  
(for printed version)

Date:  
(for printed version)

2023-12-21

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Certificate issued by:

**Eurofins E&E CML Limited**  
Unit 1, Newport Business Park  
New Port Road  
Ellesmere Port, CH65 4LZ  
United Kingdom





# IECEX Certificate of Conformity

Certificate No.: **IECEX CML 23.0101X**

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Date of issue: 2023-12-21

Issue No: 1

Manufacturer: **CZ Electric Co., Ltd.**  
No. 1 Qixing Road,  
Qixing Town,  
Nanhu District,  
Jiaxing,  
Zhejiang, 314002,  
**China**

Manufacturing  
locations:

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

[IEC 60079-11:2023](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:7.0

[IEC 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:3.0

[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:

[GB/CML/ExTR23.0276/00](#)

[GB/CML/ExTR23.0280/00](#)

Quality Assessment Report:

[NO/PRE/QAR20.0008/03](#)



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**EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

**CZ6474/135, CZ6474/145 Explosion-proof light fittings**

**CZ6474/111, CZ6474/121, CZ6474/131 Explosion-proof light fittings**

**CZ6474/235, CZ6474/245 Explosion-proof light fittings**

Refer to Annex for full description and conditions of manufacture.

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

Refer to Annex for specific conditions of use.



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

This issue introduced the following changes:

1. The Introduction of IS Buzzers for use with CZ6474/111 and CZ6474/121 versions.

### **Annex:**

[IECEX CML 23.0101X Iss 1 Certificate Annex.pdf](#)

**Annexe to:** IECEx CML 23.0101X Issue 1  
**Apparatus:** CZ6474 Explosion Proof Light Fittings  
**Applicant:** CZ Electric Co., Ltd.



## Description

The equipment is marked with the following:

Type	Max Power	Version	Configurations	Max Ambient Temperature Ta		
				≤+40°C	≤ +50°C	≤ +55°C
CZ6474/135	60 W	All	Pendant (A); Rack (B); Wall (C); Pole (D); Ceiling (E).	T6 / T80°C	T6 / T80°C	T5 / T95°C
	90 W					
CZ6474/145	60 W	All				
	90 W					
CZ6474/235	60 W	All	Bracket (B); Lamp Cap 90°(C/E); Lamp Cap 25°(D).	T6 / T80°C	T6 / T80°C	T5 / T95°C
	90 W					
CZ6474/245	60 W	All				
	90 W					

Type	Max Power	Version	Configurations	Max Ambient Temperature Ta		
				≤+40°C	≤ +50°C	≤ +55°C
CZ6474/111 (No IS Buzzers)	5 W	Flat Cover	Bracket (B); Portable (P); Recessed (R); Spot (H); Flat (S)	T6 / T80°C	T6 / T80°C	T5 / T95°C
	12 W			T5/ T95°C	T5/ T95°C	T4/ T135°C
CZ6474/121 (No IS Buzzers)	5 W	U Cover	Tri Color Light/ Warning Light	T6 / T80°C	T6 / T80°C	T5 / T95°C
	12 W			T6 / T80°C	T6 / T80°C	T5 / T95°C

Type	Max Power	Version	Configurations	Max Ambient Temperature Ta		
				≤+40°C	≤ +50°C	≤ +55°C
CZ6474/131 (No IS Buzzers)	5 W	Flat Cover	Wall (E)	T6 / T80°C	T6 / T80 °C	T5 / T95°C
	12 W			T5/ T95°C	T5/ T95 °C	T4/ T135°C
CZ6474/111 (IS Buzzers Fitted)	5 W	Flat Cover	Bracket (B); Portable (P); Recessed (R); Spot (H); Flat (S)	T6 / T80°C	T6 / T80 °C	N/A
CZ6474/121 (IS Buzzers Fitted)	5 W	U Cover	Tri Color Light/ Warning Light	T6 / T80°C	T6 / T80°C	N/A



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### **CZ6474/135, CZ6474/145 Explosion-proof light fittings**

A CZ6474/135 and CZ6474/145 series metallic explosion proof light fittings with a toughened glass light transmitting part. The light transmitted part is secured with epoxy to ensure degree of protection. The light fitting consists of two compartments, the electrical and lighting cavity, and the wiring cavity. The two compartments are secured together using a flameproof thread. The wiring cavity, located on the top of the light body can be fitted with multiple brackets to achieve various mounting orientations. All entries into the equipment are installed with suitably certified flameproof entry devices. An optional guard may also be added.

The joint board of electric and lighting cavity and wiring cavity are connected by a transition nut with flameproof thread.

### **CZ6474/111, CZ6474/121, CZ6474/131 Explosion-proof light fittings**

The CZ6474/111 and CZ6474/131 Series explosion proof light fittings consist of a metallic enclosure with a threaded cover, with a flat toughened glass light transmitting part sealed with epoxy to ensure the degree of protection. The CZ6474/121 has a dome shaped light transmitting part. All entries into the equipment are installed with suitably certified flameproof entry devices.

U-shaped or flat-shaped PC mesh of different colours can be selected at the transparent parts outside the explosion-proof cavity.

CZ6474 Series model types CZ6474/1[]1 Tricolour Warning/ Warning Signal Light versions may include up to 2 Intrinsic Safety Buzzers within threaded (M25) Flameproof entry devices.

The Intrinsically Safe Buzzer is connected to either as a single high or low voltage intrinsic safety interface printed circuit board (PCB) located inside the CZ6474 Series Explosion-proof Light enclosure. Up to 2 buzzers can be installed and connect to a single intrinsic safety interface PCB.

### **CZ6474/235, CZ6474/245 Explosion-proof light fittings**

The CZ6474/235, CZ6474/245 Series explosion proof light fittings with a toughened glass light transmitting part. The light transmitted part is secured with epoxy to ensure degree of protection, The lighting fixtures consist of two compartments, the increased safety wiring cavity and the electric and lighting cavity which are separated using an encapsulated bushing. All entries into the equipment are installed with suitably certified flameproof entry devices. The lighting fixtures have multiple bracket arrangements to allow for various mounting orientations. An optional guard may also be added.



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## Ratings

<b>CZ6474/135 and CZ6474/145</b>	<b>CZ6474/111, CZ6474/121, CZ6474/131</b> <b>(No IS Buzzers fitted)</b>	<b>CZ6474/235 and CZ6474/245</b>
100 – 250 VAC 50/60 Hz 127 – 250 VDC	100 - 250 VAC 50/60 Hz 127 - 250 VDC 20 - 40 VAC/VDC	100 - 250 VAC 50/60 Hz 127 – 250 VDC

<b>CZ6474/111, CZ6474/121</b> <b>( IS Buzzers fitted)</b> CZ6474/1[]1 Tricolour Warning Light, or CZ6474/1[]1 Warning Signal Light
100 - 250 VAC, 5W, Um = 250 V 127 - 250 VDC, 5W, Um = 250 V 20 V - 40 VAC/VDC, 5W, Um = 60V.



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## 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 of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.
- ii. The manufacturer shall ensure that all Ex-Components are installed in accordance with their schedule of limitations, the creepage and clearance requirements of IEC 60079-7, manufacturer's instructions and that the equipment markings are within the service temperature range and ratings of all the Ex-Components fitted
- iii. The routine dielectric strength test on the Increased safety (eb) CZ6474/235, CZ6474/245 Series with applied voltage shall be performed at  $2U + 1,000V$  with a minimum value of  $1,500V$  ( $U =$  maximum rated voltage of the lamp), between each circuit and earthed metal parts as per IEC 60079-7 Clause 7.1.
- iv. Each enclosure shall be subjected to a routine static overpressure test in accordance with IEC 60079-1:2014, clause 16.1. The test shall be carried out for at least 10 seconds. There shall be no evidence of permanent damage or deformation, nor shall there be any leakage through the enclosure walls.

Test sample	Max. reference pressure		The relative pressure applied shall be	
	Electrical light source cavity	Wiring cavity	Electrical light source cavity	
CZ6474/235	769 kPa	-	1.5 x reference pressure	1,200 kPa
CZ6474/245	972 kPa	-	1.5 x reference pressure	1,500 kPa
CZ6474/135	903 kPa	771 kPa	1.5 x reference pressure	1,400 kPa
CZ6474/145	890 kPa		1.5 x reference pressure	1,400 kPa

- v. The Intrinsically Safe Buzzers are not complete equipment. They have been assessed as being suitable for Gas Group IIC and Dust IIIC for Intrinsic Safety only and shall only be installed as part of a suitably certified enclosure for which they have been assessed and that provides the necessary Flameproof or Dust Ignition Proof protection.
- vi. The following limitations used in the Intrinsically Safe Buzzers must be considered:
  - The Intrinsic Safety Buzzers shall only be used with the CZ6474 Series model types CZ6474/1[]1 Tricolour Warning/ Warning Signal Light versions.
  - Shall only be used with the 5 W versions (T6/T80°C in a maximum ambient temperature of +50 °C).
  - The rating of components on the interface printed circuit board limits the maximum ambient temperature to +50 °C (5 °C less than that for an enclosure without the IS Buzzers installed).



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- A maximum of 2 buzzers can be installed using a single interface Printed Circuit Board (PCB).
  - The following encapsulation materials are used in their construction:
    - PURE52/AP13 shall only be used in ambient temperatures -60°C to +50 °C.
    - WEVOPUR 552 FL shall only be used in ambient temperatures -40 °C to +50 °C.
  - The equipment must be marked with the applicable ambient temperature range of the material used.
  - The internal reference pressure of the Flameproof or Dust Ignition-proof shall not exceed 944 kPa.
  - The markings of the complete equipment shall include:
    - Um (60 V or 250 V) in addition to the ratings of the Flameproof/Dust Ignition-proof enclosure.
    - Applicable Gas Group (IIC or IIB+H2) and Dust (IIIC) that is relevant to the certified Flameproof or Dust Ignition Proof enclosure.
- vii. The threaded entry is rated IP 66. The buzzer is rated IP20.

### Specific Conditions of Use

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

- i. Repair of the threaded joints must be made in compliance with the specifications provided by the manufacturer. Repairs must not be made only on the basis of values specified in table 4 of IEC 60079-1.
- ii. Fasteners screws shall only be replaced with the correct type. Provided by the manufacturer.

### Components used which are covered by Ex Certificates issued to older editions of Standards

None



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