



# 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)

### Ex COMPONENT CERTIFICATE

Certificate No.: **IECEX LCIE 13.0025U**

Page 1 of 4

Certificate history:

Status: **Current**

Issue No: 5

Issue 4 (2020-09-29)

Issue 3 (2018-09-28)

Issue 2 (2016-12-19)

Issue 1 (2015-04-13)

Issue 0 (2014-01-20)

Date of Issue: 2023-02-28

Applicant: **Tyco Electronics France S.A.S.**  
3 rue Jean Perrin  
69680 CHASSIEU  
**France**

Ex Component: Terminal blocks - Type ZK...

*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: **Ex eb**

Marking: TE  
Type: ZK... (1)  
Ex eb I Mb IIC Gb

IECEX LCIE 13.0025U

(1) Completed as per the model

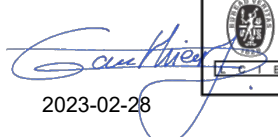
Approved for issue on behalf of the IECEx  
Certification Body:

**Certification Officer**

Position:

**Julien GAUTHIER**

Signature:  
(for printed version)

  
2023-02-28

**LABORATOIRE CENTRAL DES  
INDUSTRIES ELECTRIQUES**  
S.A.S au capital de 15.745.984 €  
RCS Nanterre B 408 363 174  
33 avenue du Général Leclerc  
F - 92266 FONTENAY AUX ROSES

Date:  
(for printed version)

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Certificate issued by:

**Laboratoire Central des Industries Electriques (LCIE)**  
33 Avenue du General Leclerc  
FR-92260 Fontenay-aux-Roses  
**France**





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Page 2 of 4

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Manufacturer: **Tyco Electronics France S.A.S.**  
3 rue Jean Perrin  
69680 CHASSIEU  
**France**

Manufacturing locations: **Tyco Electronics France S.A.S.**  
3 rue Jean Perrin  
69680 CHASSIEU  
**France**

**TE Connectivity Industrial Poland**  
**S.p z o.o**  
Ulica Grunwaldzka 38  
84-351 NOWA VIES - LEBORSKA  
**Poland**

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 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[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 component listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[FR/LCIE/ExTR14.0002/00](#)  
[FR/LCIE/ExTR18.0086/00](#)

[FR/LCIE/ExTR15.0026/00](#)  
[FR/LCIE/ExTR20.0056/00](#)

[FR/LCIE/ExTR16.0082/00](#)  
[FR/LCIE/ExTR23.0003/00](#)

Quality Assessment Report:

[FR/LCI/QAR08.0007/15](#)



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Certificate No.: **IECEX LCIE 13.0025U**

Page 3 of 4

Date of issue: 2023-02-28

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

ZK Range of terminal blocks includes feed-through terminal blocks and protective conductor terminal blocks with a connection system "push-in/spring" intended for the connection of flexible or rigid copper conductors.

They are protected by increased safety in level of protection "eb" (EPL Gb).

The terminal blocks can be made in different colours: grey, blue, orange, yellow, green, red, purple, brown, white or black.

Terminal blocks type ZK...-PE... allow the connection of protective earthing conductors.

**Range details:** see Annex.

**Ratings:** see Annex.

**Routine tests:**

The terminal blocks shall be successfully submitted to a dielectric strength test according to the specifications of the clause 7.1 of the standard IEC 60079-7.

**SCHEDULE OF LIMITATIONS:**

- a. Permissible operating temperature range: -55 °C up to +105 °C.
- b. The use of terminal blocks (with or without their accessories) shall respect the specifications (voltage, current...) given in manufacturer's notices and in the tables of this certificate (see attachment). When incorporating terminal blocks into an enclosure, the requirements for clearance and creepage distances according to table 1 of IEC 60079-7 must be observed.
- c. When a jumper bar with "cut extremity" is used, an additional accessory (end section or circuit separator) must be installed on the cut side of the jumper bar.
- d. For a use in the presence of potentially explosive gas atmospheres, the terminal blocks shall be mounted inside a suitable certified enclosure providing at least the degree of protection IP54.
- e. For a use in the presence of potentially explosive dust atmospheres, the terminal blocks shall be mounted inside a suitable "Ex t" certified enclosure (IEC 60079-31).
- f. The terminal blocks can be used for the connection of intrinsically safe circuit type ia, ib, and ic.



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Certificate No.: **IECEX LCIE 13.0025U**

Page 4 of 4

Date of issue: 2023-02-28

Issue No: 5

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

### **Issue No. 1:**

- Addition of models ZK10-3P, ZK10-PE-3P, ZK16-3P and ZK16-PE-3P, with their associated accessories.
- Addition of a manufacturing location.

### **Issue No. 2:**

- Addition of models ZK2.5-T1, ZK2.5-T3, ZK2.5-T1-PE, ZK2.5-L-L-PE and ZK2.5-L-N-PE, with their associated accessories.
- Update of limitations.

### **Issue No. 3:**

- Change of company name applicant/manufacturer.
- Normative update according to IEC 60079-7 Ed. 5.0: for certain blocks, the maximum current has been decreased.

### **Issue No. 4:**

- Normative updates according to IEC 60079-0 Ed. 7.0 and IEC 60079-7 Ed. 5.1 standards.
- Modification of the design of JB10 jumper bars.
- Clarification of the configurations for the use of JB5, JB6, JB8, JB10 and JB12 jumper bars and update of maximal voltages in these configurations.

### **Issue No. 5:**

- Addition of models ZK4-D1, ZK4-D2, ZK4-D1-PE and ZK4-D2-PE, with their associated accessories.

### **Annex:**

[Annex 01 to Certificate IECEx LCIE 13.0025U issue 5.pdf](#)



## Annex 01 to Certificate IECEx LCIE 13.0025U issue 5



### RANGE DETAILS

Product	Model
Feed-through terminal blocks, single deck.....:	ZK2.5 ; ZK4 ; ZK6, ZK10 ; ZK16
Feed-through terminal blocks, single deck, 3 connections.....:	ZK2.5-3P ; ZK4-3P ; ZK6-3P ; ZK10-3P ; ZK16-3P
Feed-through terminal block, single deck, 4 connections.....:	ZK2.5-4P ; ZK4-4P
Feed-through terminal blocks, double deck.....:	ZK2.5-D1 ; ZK2.5-D2 ; ZK2.5-D2-PE (upper deck) ; ZK4-D1 ; ZK4-D2 ; ZK4-D2-PE (upper deck)
Feed-through terminal blocks, triple deck.....:	ZK2.5-T1 ; ZK2.5-T3 ; ZK2.5-T1-PE ; ZK2.5-L-L-PE (upper and middle decks) ; ZK2.5-L-N-PE (upper and middle decks)
Protective conductor terminal blocks.....:	ZK2.5-PE ; ZK4-PE ; ZK6-PE ; ZK10-PE ; ZK16-PE
Protective conductor terminal blocks, 3 connections.....:	ZK2.5-PE-3P ; ZK4-PE-3P ; ZK6-PE-3P ; ZK10-PE-3P ; ZK16-PE-3P
Protective conductor terminal blocks, 4 connections.....:	ZK2.5-PE-4P ; ZK4-PE-4P
Protective conductor terminal blocks, double deck.....:	ZK2.5-D1-PE ; ZK2.5-D2-PE (lower deck) ; ZK4-D1-PE ; ZK4-D2-PE (lower deck)
Protective conductor terminal blocks, triple deck.....:	ZK2.5-T1-PE ; ZK2.5-L-L-PE (lower deck) ; ZK2.5-L-N-PE (lower deck)

For terminal blocks in a colour different than the standard grey, the designation of the type will be followed by suffixes -BL, -O, -YL, -GN, -RD, -PR, -BR, -WH or -BK indicating the colour of the terminal block (example: ZK4-BL is a blue coloured terminal block with a 4 mm<sup>2</sup> cross section).

List of colour codes:

- BL: blue.
- OR: orange.
- YL: yellow.
- GN: green.
- RD: red.
- PR: purple.
- BR: brown.
- WH: white.
- BK: black.

## RATINGS

**Table 1 - Range of terminal blocks type ZK... Use without accessory**

Model	Rated cross section (mm <sup>2</sup> )	Maximum cross section (mm <sup>2</sup> )	Maximum voltage (V)	Maximum current (A)	Stripping length (mm)
ZK2.5	2.5	2.5	693	21	11
ZK2.5-PE	2.5	2.5	--	--	11
ZK2.5-3P	2.5	2.5	693	21	11
ZK2.5-PE-3P	2.5	2.5	--	--	11
ZK2.5-4P	2.5	2.5	693	21	11
ZK2.5-PE-4P	2.5	2.5	--	--	11
ZK2.5-D1	2.5	2.5	693	21	11
ZK2.5-D1-PE	2.5	2.5	--	--	11
ZK2.5-D2	2.5	2.5	693	21	11
ZK2.5-D2-PE (upper deck)	2.5	2.5	693	21	11
ZK2.5-D2-PE (lower deck)	2.5	2.5	--	--	11
ZK2.5-T1	2.5	2.5 <sup>(1)</sup> / 4 <sup>(2)</sup>	440	19	11
ZK2.5-T1-PE	2.5	2.5 <sup>(1)</sup> / 4 <sup>(2)</sup>	--	--	11
ZK2.5-T3	2.5	2.5 <sup>(1)</sup> / 4 <sup>(2)</sup>	440	19	11
ZK2.5-L*-PE (upper and middle decks)	2.5	2.5 <sup>(1)</sup> / 4 <sup>(2)</sup>	440	19	11
ZK2.5-L*-PE (lower deck)	2.5	2.5 <sup>(1)</sup> / 4 <sup>(2)</sup>	--	--	11
ZK4	4	4	693	28	12.5
ZK4-PE	4	4	--	--	12.5
ZK4-3P	4	4	693	28	12.5
ZK4-PE-3P	4	4	--	--	12.5
ZK4-4P	4	4	693	29	12.5
ZK4-PE-4P	4	4	--	--	12.5
ZK4-D1	4	4 <sup>(1)</sup> / 6 <sup>(2)</sup>	550	26	12.5
ZK4-D1-PE	4	4 <sup>(1)</sup> / 6 <sup>(2)</sup>	--	--	12.5
ZK4-D2	4	4 <sup>(1)</sup> / 6 <sup>(2)</sup>	550	25	12.5
ZK4-D2-PE (upper deck)	4	4 <sup>(1)</sup> / 6 <sup>(2)</sup>	550	25	12.5
ZK4-D2-PE (lower deck)	4	4 <sup>(1)</sup> / 6 <sup>(2)</sup>	--	--	12.5
ZK6	10	10	--	--	15
ZK6-PE	10	10	880	54	15
ZK6-3P	10	10	--	--	15
ZK6-PE-3P	16	16	693	69	15
ZK10	16	16	--	--	15
ZK10-PE	16	16	880	69	15
ZK10-3P	16	16	--	--	15

**Table 1 (continued)**

Model	Rated cross section (mm <sup>2</sup> )	Maximum cross section (mm <sup>2</sup> )	Maximum voltage (V)	Maximum current (A)	Stripping length (mm)
ZK10-PE-3P	10	10	--	--	15
ZK16	16	16	693	69	15
ZK16-PE	16	16	--	--	15
ZK16-3P	16	16	880	69	15
ZK16-PE-3P	16	16	--	--	15

<sup>(1)</sup> Flexible conductor

<sup>(2)</sup> Rigid conductor

**Table 2 - Range of terminal blocks type ZK... Use with accessory (jumper bar, shield connector)**

Model	Ref.	Max. current (A)	With <u>jumper bar</u>					With <u>shield connector</u>	
			Configuration of the jumper bar					Ref.	Max. voltage (V)
			Use of 1 or 2 jumper channel(s)	Use of 1 jumper channel		Use of both jumper channels, alternated poles			
			Standard use (1)	Cut pole	Cut extremity (2)	Cut pole (3)	Other configurations (4) (including cut extremity (2))		
Max. voltage (V)								Ref.	Max. voltage (V)
ZK2.5	JB5...	21	693	275	440	275	275	SHBP	55
ZK2.5-PE	JB5...	--	--	--	--	--	--	--	--
ZK2.5-3P	JB5...	21	693	275	440	275	275	--	--
ZK2.5-PE-3P	JB5...	--	--	--	--	--	--	--	--
ZK2.5-4P	JB5...	21	693	275	440	275	275	--	--
ZK2.5-PE-4P	JB5...	--	--	--	--	--	--	--	--
ZK2.5-D1	JB5...	21	693	176	440	176	176	SHB	352
ZK2.5-D1-PE	JB5...	--	--	--	--	--	--	--	--
ZK2.5-D2	JB5...	21	693	176	440	176	176	SHB	352
ZK2.5-D2-PE (upper deck)	JB5...	21	693	176	440	176	176	--	--
ZK2.5-D2-PE (lower deck)	JB5...	--	--	--	--	--	--	--	--
ZK2.5-T1	JB5...	19	440	137.5	352	--	--	--	--
ZK2.5-T1-PE	JB5...	--	--	--	--	--	--	--	--
ZK2.5-T3	JB5...	19	440	137.5	352	--	--	--	--
ZK2.5-L-* -PE (upper and middle decks)	JB5...	19	440	137.5	352	--	--	--	--
ZK2.5-L-* -PE (lower deck)	JB5...	--	--	--	--	--	--	--	--
ZK4	JB6...	28	693	440	440	275	275	--	--
ZK4-PE	JB6...	--	--	--	--	--	--	--	--
ZK4-3P	JB6...	28	693	440	440	275	275	--	--
ZK4-PE-3P	JB6...	--	--	--	--	--	--	--	--
ZK4-4P	JB6...	29	693	440	440	275	275	--	--
ZK4-PE-4P	JB6...	--	--	--	--	--	--	--	--
ZK4-D1	JB6...	26	550	176	550	--	--	--	--
ZK4-D1-PE	JB6...	--	--	--	--	--	--	--	--
ZK4-D2	JB6...	25	550	176	550	--	--	--	--
ZK4-D2-PE (upper deck)	JB6...	25	550	176	550	--	--	--	--
ZK4-D2-PE (lower deck)	JB6...	--	--	--	--	--	--	--	--



**Table 2 (continued)**

Model	Ref.	Max. current (A)	With <u>jumper bar</u>					With <u>shield connector</u>	
			Configuration of the jumper bar					Ref.	Max. voltage (V)
			Use of 1 or 2 jumper channel(s)	Use of 1 jumper channel		Use of both jumper channels, alternated poles			
			Standard use (1)	Cut pole	Cut extremity (2)	Cut pole (3)	Other configurations (4) (including cut extremity (2))		
			Max. voltage (V)						
ZK6	JB8...	36	693	440	440	352	352	--	--
ZK6-PE	JB8...	--	--	--	--	--	--	--	--
ZK6-3P	JB8...	37	693	440	440	352	352	--	--
ZK6-PE-3P	JB8...	--	--	--	--	--	--	--	--
ZK10	JB10...	51	693	440	440	220	137.5	--	--
ZK10-PE	JB10...	--	--	--	--	--	--	--	--
ZK10-3P	JB10...	54	693	440	440	220	137.5	--	--
ZK10-PE-3P	JB10...	--	--	--	--	--	--	--	--
ZK16	JB12...	69	693	440	550	220	137.5	--	--
ZK16-PE	JB12...	--	--	--	--	--	--	--	--
ZK16-3P	JB12...	69	693	440	550	220	137.5	--	--
ZK16-PE-3P	JB12...	--	--	--	--	--	--	--	--

Details of notes (1), (2), (3) and (4) are given on next page.

❖ **Note (1): Standard use**

Example of standard use (with whole jumper bar) when both jumper channels are used



❖ **Note (2): Mandatory additional accessory when a jumper bar with “cut extremity” is used**

Model of block	Mandatory additional accessory	Model of block	Mandatory additional accessory
ZK2.5	EK2.5 or CS-R2	ZK4-PE-4P	EK2.5-4P
ZK2.5-PE	EK2.5 or CS-R2	ZK4-D...	EK4-D2
ZK2.5-3P	EK2.5-3P or CS-R3	ZK6	EK2.5
ZK2.5-PE-3P	EK2.5-3P or CS-R3	ZK6-PE	EK2.5
ZK2.5-4P	EK2.5-4P or CS-R3	ZK6-3P	EK6-3P
ZK2.5-PE-4P	EK2.5-4P or CS-R3	ZK6-PE-3P	EK6-3P
ZK2.5-D...	EK2.5-D2	ZK10	EK10
ZK2.5-T...	EK2.5-T3	ZK10-PE	EK2.5
ZK2.5-L...	EK2.5-T3	ZK10-3P	EK10-3P
ZK4	EK2.5	ZK10-PE-3P	EK10-3P
ZK4-PE	EK2.5	ZK16	EK10
ZK4-3P	EK2.5-3P	ZK16-PE	EK10
ZK4-PE-3P	EK2.5-3P	ZK16-3P	EK10-3P
ZK4-4P	EK2.5-4P	ZK16-PE-3P	EK10-3P

Mandatory additional accessory: circuit separator “CS...” or end section “EK...”.

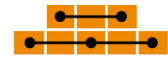
❖ **Note (3): Cut pole(s) – use of both jumper channels**

Cut pole(s): use of jumper bars with same number of poles and shifted poles.



❖ **Note (4): Other configurations – use of both jumper channels**

Jumper bars with a different number of poles, and with cut poles



Jumper bars shifted, with same number of poles, with cut poles and cut extremities.



Jumper bars aligned, with same number of poles, and with cut poles.

