



# 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 21.0048X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2021-07-06

Applicant: **Trolex Limited**  
Newby Road  
Hazel Grove  
Stockport  
Cheshire  
SK7 5DY  
United Kingdom

Equipment: **TX6648.35( xx...) 3.5 Ah UPS Power Supply and TX6649.35( xx...) 25 Ah UPS Power Supply**

Optional accessory:

Type of Protection: **Powder Filled "q", Increased Safety "eb", Intrinsic Safety "ia" / "[ia]"**

Marking: **Ex eb q [ia Ma] I Mb \***  
**Ex ia I Ma \*\***  
**Ta = -20°C to +55°C**  
**\*applies when the equipment is operating on mains power**  
**\*\*applies when the equipment is operating on battery back-up**

Approved for issue on behalf of the IECEx  
Certification Body:

**R C Marshall**

Position:

**Operations Manager**

Signature:  
(for printed version)

Date:

2021-07-06

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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.



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

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Manufacturer: **Trolex Limited**  
Newby Road  
Hazel Grove  
Stockport  
Cheshire SK7 5DY  
**United Kingdom**

Additional  
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 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

**IEC 60079-5:2015** Explosive atmospheres –Part 5: Equipment protection by powder filling “q”  
Edition:4.0

**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 Report:

[GB/CML/ExTR21.0089/00](#)

Quality Assessment Report:

[GB/SIR/QAR07.0017/10](#)



# IECEx Certificate of Conformity

Certificate No.: **IECEx CML 21.0048X**

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Date of issue: 2021-07-06

Issue No: 0

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The TX6648.35(.x...) and TX6649.35(.x...) Un-Interruptible Power Supply (UPS) incorporates a modified TX6641 Intrinsically safe power supply chassis housed inside a metal enclosure which is powder filled and sealed. It also incorporates a separate battery compartment, attached to the main enclosure which is not powder filled. A battery timer switch circuit board is located in the powder filled part of the enclosure. The battery timer switch circuit detects if the battery is being used to supply power and can switch off the power after a pre-determined length of time.

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.

## **Annex:**

[IECEx CML 21.0048X Certificate Annex\\_1.pdf](#)

**Annexe to:** IECEx CML 21.0048X Issue 0  
**Applicant:** Trolex Limited  
**Apparatus:** TX6648.35(.x...) 3.5Ah UPS Power Supply  
TX6649.35(.x...) 25Ah UPS Power Supply

## Description

The TX6648.35(.x...) and TX6649.35(.x...) Un-Interruptible Power Supply (UPS) incorporates a modified TX6641 Intrinsically safe power supply chassis housed inside a metal enclosure which is powder filled and sealed. It also incorporates a separate battery compartment, attached to the main enclosure which is not powder filled. A battery timer switch circuit board is located in the powder filled part of the enclosure. The battery timer switch circuit detects if the battery is being used to supply power and can switch off the power after a pre-determined length of time.

Only the 0.5A and 1.0A versions of the TX6641 Chassis are used for the UPS. The TX6648 uses two 3.5 Ah batteries and the TX6649 uses two 25 Ah batteries. These provide power to equipment located in the hazardous area if the mains power supply fails or is turned off for safety reasons.

When mains powered, this equipment is deemed to be Category M2(M1) EPL Mb(Ma) equipment. When battery powered, this equipment is deemed to be Category M1 EPL Ma Equipment

The Electrical output parameters are as follows:

Current output options	-	0.5A or 1.0 A
Voltage output options	-	7.5 V or 12 V
Input Supply options Um	-	230 rms, 110 Vrms, 55 Vrms, 42 Vrms <sup>1</sup> or 24 Vrms

Note 1: Only available for TX6648 model

I.S. Output Terminals +V and 0 V

<b>7.5 PSU</b> <b>(U<sub>o</sub> = 8.5 V o/p crowbar)</b>	<b>Short Circuit current, I<sub>o</sub> in A</b>	<b>Max output Power, P<sub>o</sub> in W</b>	<b>Lo/Ro Ratio in <math>\mu\text{H}/\Omega</math></b>	<b>Capacitance, C<sub>o</sub> in <math>\mu\text{F}</math></b>
0.5 A	0.873	5.28	72.69	646
1.0 A	1.76	10.63	36.17	560

  

<b>12.0 V PSU</b> <b>(U<sub>o</sub> = 13.0 V o/p crowbar)</b>	<b>Short Circuit current, I<sub>o</sub> in A</b>	<b>Max output Power, P<sub>o</sub> in W</b>	<b>Lo/Ro Ratio in <math>\mu\text{H}/\Omega</math></b>	<b>Capacitance, C<sub>o</sub> in <math>\mu\text{F}</math></b>
0.5 A	0.873	6.33	72.6	32.0
1.0 A	1.76	12.73	36.17	30.29

Output terminal C1 (V<sub>sig</sub>) and C2 (0V)

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Company Reg No. 8554022 VAT No. GB163023642

U <sub>i</sub>	=	16.5 V	Co	=	10μF
U <sub>o</sub>	=	13.65 V	Lo	=	700 mH
I <sub>o</sub>	=	25 mA	Lo/Ro	=	5470 μH/ohm
P <sub>o</sub>	=	85.2 mW			
C <sub>i</sub>	=	12 nF			
L <sub>i</sub>	=	0			

Output Terminals C3 (I<sub>sig</sub>) and C2 (0V)

U <sub>i</sub>	=	16.5 V	C <sub>i</sub>	=	12 nF
P <sub>i</sub>	=	0.3 W	L <sub>i</sub>	=	0
U <sub>o</sub>	=	13.65 V	Co	=	10 μF
I <sub>o</sub>	=	213.6 mA, Transient	Lo	=	9.4 mH
I <sub>o</sub>	=	105.4 mA, continuous	Lo/Ro	=	312 μH/ohm
P <sub>o</sub>	=	1.25 W			

Relay contact terminals P1 (common), P2 (normally closed) and P3 (normally open)

U <sub>i</sub>	=	90 V
I <sub>i</sub>	=	0.25 A
P <sub>i</sub>	=	3.0 W

### Switch terminals T1 and T2

Connect to a volt free switch:

U <sub>i</sub>	=	0 V
I <sub>i</sub>	=	0 A
P <sub>i</sub>	=	0 W

## **Conditions of Manufacture**

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

- i. The Mains transformer shall be subjected to routine tests and be able to withstand a test voltage of at least 2500 Vrms applied between primary and secondary windings and at least 1000 Vrms applied between all windings and the core or screen.
- ii. The routine Electric strength test of the filling material shall be carried out prior to the filling process.

## **Specific Conditions of Use**

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

- i. All cable entries shall be made using suitably certified Ex e cable glands.
- ii. The use of conduit is not permitted