



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

Certificate No.: IECEx SIR 10.0107X

Issue No: 1

Certificate history:

Issue No. 1 (2018-10-26)

Issue No. 0 (2010-10-18)

Status: **Current**

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Date of Issue: **2018-10-26**

Applicant: **Trox Limited**
Newby Rd
Hazel Grove
Stockport
Cheshire, SK7 5DY
United Kingdom

Equipment: **TX6641 Intrinsically Safe Power Supply Chassis**

Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking:
[Ex ia Ma] I Ta = -20 °C ≤ Ta ≤ +55 °C

*Approved for issue on behalf of the IECEx
Certification Body:*

R A Craig for C Ellaby

Position:

Deputy Certification Manager

*Signature:
(for printed version)*

Date:

2018-10-26

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](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





IECEX Certificate of Conformity

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Manufacturer: **Trolex Limited**
Newby Rd
Hazel Grove
Stockport
Cheshire, SK7 5DY
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 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 apparatus 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 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements

Edition:4.0

IEC 60079-0 : 2007-10 Explosive atmospheres - Part 0:Equipment - General requirements

Edition:5

IEC 60079-11 : 2006 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition:5

*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 equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/SIR/ExTR10.0216/00](#)

[GB/SIR/ExTR18.0197/00](#)

Quality Assessment Report:

[GB/SIR/QAR07.0017/07](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The TX6641 Power Supply Chassis is primarily designed to provide an intrinsically safe supply to intrinsically safe equipment. It comprises a printed circuit board (PCB) that accommodates an intrinsically safe transformer, voltage clamping components, current and power limiting circuitry.

The following options are available:

Current output options 0.5A, 1.0A, 1.4A and 1.8A

Voltage output options 7.5V and 12V

Input supply options 230 Vrms, 110 Vrms or 24 Vrms

For Safety Parameters refer to the Annexes

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to the Annexes



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

This issue, Issue 1, recognises the following changes refer to the certificate annex to view a comprehensive history:

1. Capacitor C25 (120nF max) added to the power supply circuit board.
2. Capacitor C7 (120nF max) added to the Part List (previously shown on the schematic but not listed on the Part List).

Annex:

[IECEX SIR 10.0107X Annexe Iss 1.pdf](#)

Annexe to: IECEx SIR 10.0107X Issue 1

Applicant: Trolex Limited

Apparatus: TX6641 Intrinsically Safe Power Supply Chassis.



The connection to external hazardous area equipment is made via connector J7 and the electrical output parameters are as follows:

7.5 V PSU (U _o = 8.5V o/p crowbar)	Short circuit current, I _o in A	Max output Power, P _o in W	Lo/Ro Ratio in µH/W	Capacitance, C _o in µF
0.5 A	0.873	5.28	72.69	646
1.0 A	1.76	10.63	36.17	560
1.4 A	1.76	10.63	36.17	560
1.8 A	1.76	10.63	36.17	560

12.0 V PSU (U _o = 13.0 V o/p crowbar)	Short circuit current, I _o in A	Max output Power, P _o in W	Lo/Ro Ratio in µH/W	Capacitance, C _o in µF
0.5 A	0.873	6.33	72.6	32.0
1.0 A	1.76	12.73	36.17	30.29
1.4 A	2.38	17.23	26.72	19.46
1.8 A	2.38	17.23	26.72	19.46

The TX6641 may optionally be fitted with up to two relay boards providing up to 4 relay interfaces that have the following electrical parameters:

Option 1

I.S. circuit terminals 3, 5, 7, 9 wrt 0V

U_i = 13 V (for the 12 V relays)

U_i = 8.5 V (for the 9 V relays)

Non-I.S. circuits to relay contact terminals a, b and c of Relays 1-4

U_m = 375 V peak

I_m = 5 A

Option 2

Non-I.S. circuit terminals 3, 5, 7, 9 wrt 0V

U_i = 13 V (for the 12 V relays)

U_i = 8.5 V (for the 9 V relays)

I.S. circuits to relay contact terminals a, b and c of Relays 1-4

U_m = 30 V peak

I_m = 5 A

Specific Conditions of Use

The TX6641 Power Supply Chassis shall be housed in an enclosure in accordance with the following criteria:

- 1 Safe area applications The enclosure shall have a degree Ingress of Protection of at least IP20 and the circuits of the TX6641 shall have infallible creepage and clearance distances to the enclosure walls, as defined by clause 6.3 of IEC 60079-11:2006.

Hazardous area applications The enclosure shall be certified and suitable for use in the hazardous area application; the arrangement of the TX6641 with the enclosure shall be re-certified by a notified body.
- 2 The connections to the relay boards must both be configured as either Option 1 or Option 2. It is not permitted to mix the connection of these relays.

Date: 26 October 2018

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Annexe to: IECEx SIR 10.0107X Issue 1

Applicant: Trolex Limited

Apparatus: TX6641 Intrinsically Safe Power Supply Chassis.



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- 3 The wiring carrying non-hazardous area circuits to the relays must be routed to ensure that they are segregated from hazardous area circuits, maintaining compliance with Table 5 of IEC 60079-11:2006, namely 6mm of clearance through air and/or 1mm clearance through solid insulation for voltages up to 375V.

Conditions of Manufacture

- i. The mains transformer shall be subjected to routine tests and be able to withstand a test voltage of at least 2500Vrms applied between primary and secondary windings and at least 1500Vrms applied between all windings and the core or screen.

Full certificate change history

Issue 1 – this Issue introduced the following changes:

- i. Capacitor C25 (120nF max) added to the power supply circuit board
ii. Capacitor C7 (120nF max) added to the Part List (previously shown on the schematic but not listed on the Part List).

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