

EU Type Examination Certificate CML 26ATEX2074X Issue 0

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 **Equipment** TX6648.40(.x...) 3.5Ah UPS Power Supply
- 3 **Manufacturer** Trolex Limited
- 4 **Address** Newby Road,
Hazel Grove,
Stockport,
Cheshire, SK7 5DY,
United Kingdom
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN IEC 60079-7:2015+A1:2018

EN 60079-5:2015

EN IEC 60079-11:2024¹

- 1 **Although this standard does not appear on the harmonised list, the content has been reviewed, and as it is the latest technical knowledge and addresses all the same requirements as the previous edition, it is accepted as meeting the same EHSRs of the Directive as the previous, harmonised edition. The assessment is included in the flexible scope assessment document**

- 10 The equipment shall be marked with the following:



Ex eb q [ia Ma] I Mb*

Ta= -20°C to +55°C



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

11 Description

The TX6648.40(.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. 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 or 24 Vrms

I.S. Output Terminals +V and 0 V

7.5 PSU (U _o = 8.5 V o/p crowbar)	Short Circuit Current, I _o in A	Max Output Power, P _o in W	Lo/Ro Ratio in μH/Ω	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

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/Ω	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

Output terminal C1 (V_{sig}) and C2 (0V)

U _i	=	16.5 V	C _o	=	10μF
U _o	=	13.65 V	L _o	=	700 mH
I _o	=	25 mA	L _o /R _o	=	5470 μH/ohm
P _o	=	85.2 mW			
C _i	=	12 nF			
L _i	=	0			

Output Terminals C3 (I_{sig}) and C2 (0V)

U _i	=	16.5 V	C _i	=	12 nF
P _i	=	0.3 W	L _i	=	0
U _o	=	13.65 V	C _o	=	10 μF
I _o	=	213.6 mA, Transient	L _o	=	9.4 mH
I _o	=	105.4 mA, continuous	L _o /R _o	=	312 μH/ohm
P _o	=	1.25 W			

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

U _i	=	90 V
I _i	=	0.25 A
P _i	=	3.0 W

Switch terminals T1 and T2

Connect to a volt free switch:

U _i	=	0 V
I _i	=	0 A
P _i	=	0 W

12 Certificate history and evaluation reports

Issue	Date	Associated Report	Notes
0	28 Apr 2026	R21364A/00	Issue of Prime Certification

Note: Drawings that describe the equipment or component are listed in the Annex.

13 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.
- iii. The equipment shall be subjected to routine verification. No damage shall be evident to the conformal coating or encapsulation, this includes but is not limited to;
 - Cracks;
 - non-homogeneous covering of the encapsulated or coated parts;
 - inadmissible shrinkage;
 - swelling;
 - decomposition;
 - failure of adhesion (separation of any adhered parts) or flaking; and
 - softening.

14 Specific Conditions of Use (Special Conditions)

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.

Certificate Annex

Certificate Number CML 26ATEX2074X
Equipment TX6648.40(.x...) 3.5Ah UPS Power Supply
Manufacturer Trolex Limited



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved Date	Title
P5531-300	1 of 1	A	28 Apr 2026	General arrangement TX6648.40
P5531.1002	1 of 1	A	28 Apr 2026	PCB coating details for TX6648/9 Power Supplies
P5093.27	1 of 1	D	28 Apr 2026	Reed Relay
P5531.04	1 of 1	C	28 Apr 2026	Transformer (Certifications Details)
P5531.04.01	1 of 1	C	28 Apr 2026	Transformer (24Vac) (Certification Details)
P5531.04.02	1 of 1	A	28 Apr 2026	Transformer (42Vac) (Certifications Details)
P5531.2055	1 of 1	A	28 Apr 2026	ATEX/IECEX Certification Marking – TX6648.40
P5531.05	1 of 1	C	28 Apr 2026	Battery Timer Switch PCB Artwork
P5531-10	1 of 2	C	28 Apr 2026	Battery Timer Switch – Certified Circuit Diagram
P5531-10	2 of 2	C	28 Apr 2026	Battery Timer Switch – Certified Circuit Diagram
P5531.49	1 of 1	B	28 Apr 2026	Mains Input Terminal PCB Artwork
P5531.61	1 of 2	F	28 Apr 2026	UPS MASTER CIRCUIT DIAGRAM Certified Circuit Diagram
P5531.61	2 of 2	F	28 Apr 2026	UPS MASTER CIRCUIT DIAGRAM Certified Parts List
P5531.62.01	1 of 1	D	28 Apr 2026	PCB Bottom Layer
P5531.62.02	1 of 1	D	28 Apr 2026	PCB Bottom Overlay
P5531.62.03	1 of 1	D	28 Apr 2026	PCB Inner Layer 1
P5531.62.04	1 of 1	D	28 Apr 2026	PCB Inner Layer 2
P5531.62.05	1 of 1	D	28 Apr 2026	PCB Top Layer
P5531.62.06	1 of 1	D	28 Apr 2026	PCB Top Overlay
P5531.65	1 of 1	B	28 Apr 2026	I.S. Output Terminal PCB Artwork
P5531.106	1 of 1	B	28 Apr 2026	Regulator Reset PCB
P5531.107	1 of 2	C	28 Apr 2026	Input Regulator and Reset PCB – Certified Circuit Diagram
P5531.107	2 of 2	C	28 Apr 2026	Input Regulator and Reset PCB – Certified Parts List
P5531-02-01	1 of 1	C	28 Apr 2026	General Arrangement (TX6641 Power Supply Chassis)

Certificate Annex

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Drawing No	Sheets	Rev	Approved Date	Title
P5531-108	1 of 1	B	28 Apr 2026	Fuse, potted.
P5531-83	1 of 1	A	28 Apr 2026	Relay Details, Battery Switching