



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 10ATEX2236X** Issue: **0**

4 Equipment: **Battery Enclosure and Programmable Timer Switch**

5 Applicant: **Solid Applied Technologies**

6 Address: **40 Hutzot Hayotzer Street
Ashkelon
78170
Israel**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2006

EN 60079-0:2009

EN 60079-11:2007

EN 60079-0:2006 has been included in the list of standards because there is a dated reference to it in EN 60079-11:2007

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2 G

Ex ib IIB T3(162°C) Gb

Ta = -30°C to +70°C

Project Number 22970

D R Stubbings
Certification Manager

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The battery enclosure and PTS are designed to power external equipment in locations (such as sewers) where a remote supply is not available. The equipment comprises two parts, interconnected by a cable:

- Battery enclosure, containing LiSOCl₂ cells, either three or four Tadiran TL-5930 cells in series
- Programmable Timer Switch (PTS), which connects between the battery enclosure and the equipment in order to save energy and batteries lifetime by disconnecting the equipment at pre-configured intervals.

The battery enclosure connects to the PTS by means of a 3-wire cable. The PTS connects to the external equipment via a 5-wire cable that provides power and an RS485 signal. The battery enclosure can only be connected to other equipment via the PTS, which contains additional current-limiting circuitry. The safety description of the output from the PTS is as follows:

	3-cell battery enclosure and PTS			4-cell battery enclosure and PTS		
	Power	RS485	Combined	Power	RS485	Combined
U _o	11.7 V	5.88 V	11.7 V	15.6 V	5.88 V	15.6 V
I _o	0.487 A	0.113 A		0.358 A	0.113 A	0.477 A
P _o	1.212 W	0.166 W	1.378 W	1.189 W	0.166 W	1.355 W
R _s	24.07 Ω	52.25 Ω	-	43.62 Ω	52.25 Ω	-
C _o	10.3 μF	10.3 μF	10.3 μF	3.03 μF	3.03 μF	3.03 μF
L _o	392 μH	392 μH	392 μH	602 μH	602 μH	602 μH

Note: the quoted entity parameters of C_o and L_o are applicable for the distributed capacitance and inductance in cable. Where there is circuit capacitance or inductance in the connected equipment (represented by C_i and L_i respectively), then these values shall not exceed 50% of the quoted C_o and L_o.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	07 October 2011	R22970A/00	The release of the prime certificate.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 The battery enclosure/PTS circuit is not isolated from the screen of the cables. The user shall take this into account during installation.
- 15.2 Under certain extreme circumstances, the enclosure may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.

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Sira Certification Service

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- 15.3 The equipment is awarded a T3 temperature class on account of the battery pack, whereas the PTS meets the requirements for T4. If the battery pack is located in a non-hazardous area, supplying the PTS in a hazardous area, then the PTS can be assumed to have a T4 temperature class.
- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**
The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.
- 17 **CONDITIONS OF CERTIFICATION**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

Certificate Annexe

Certificate Number: Sira 10ATEX2236X
Equipment: Battery Enclosure and Programmable Timer Switch
Applicant: Solid Applied Technologies



Issue 0

Drawing	Sheets	Rev	Date (Sira stamp)	Title
010251	1 to 8	Ex_V1	24 Aug 11	PTS – schematic & parts list
4990016	1 to 4	Ex_V1	07 Sep 11	PTS – artwork
AI-0102500-EX	1 to 4	4	24 Aug 11	PTS – general assembly
AI-0102600-EX	1 to 4	8	24 Aug 11	Battery pack – GA and parts list
DD-LB20012	1 of 1	V5	07 Sep 11	Battery pack – marking
DD-LB20013	1 of 1	V4	24 Aug 11	PTS – marking
SD03	1 of 1	11	24 Aug 11	Battery/PTS sector diagram

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