



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 04ATEX5339X

4 Equipment: 25kHz and 50kHz Ultrasonic Sensors

5 Applicant: Solid Applied Technologies Limited

6 Address: 40 Hutzot Hayotzer Street
South Ind. Zone
8170
Ashkelon 7
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 confidential report number R52A11542A.

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 60079-0:2004

EN 60079-18:2004

EN 50281-1-1:1998 + Amendment A1

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 D T105°C

EEx mb II T4 (Tamb= -40°C to + 80°C) - 25kHz Sensor

EEx mb II T4 (Tamb= -40°C to + 100°C) - 50kHz Sensor

D R Stubbings BA MIEE
Certification Manager

Project Number 52A11542
Date 17 January 2005
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This certificate and its schedules may only be reproduced in its entirety and without change

Sira Certification Service

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The 25kHz and 50kHz Sensors are level measuring devices that utilise ultrasonic waves. They comprise a printed circuit board (PCB), a thermistor and a sensor assembly, all housed in a plastic enclosure. All of the component parts are encapsulated.

The sensors are low power devices being driven by pulses in a duty cycle. The 25kHz sensor is driven by a signal of 30V peak and the 50kHz sensor is driven by a signal of 750V peak.

25kHz sensor

Rated input voltage = 30V peak

50kHz sensor

Rated input voltage = 750V peak

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

25kHz Sensor

Drawing no:	Sheets	Rev.	Date	Description
DD-ASH0005A	1 of 1	B	19 Dec 04	25kHz Ex Sensor general assembly
ED-ASB0018C	1 of 1	A	21 Dec 03	25kHz Ex Sensor circuit diagram
DD-490003C	1 of 1	A	21 Dec 03	25kHz Ex Sensor PCB layout
PL-ASB0018C	1 of 1	A	21 Jan 04	25kHz Ex Sensor bill of material
DD-SN25Ex-Labels FM	1 of 1	E	09 Jan 05	25kHz Ex Sensor label
DD-TEC0010C	1 of 1	1	21 Dec 03	SmartScan 25kHz Ex Sensor encapsulation procedure

50kHz Sensor

Drawing	Sheets	Rev.	Date	Description
DD-ASH0040	1 of 3	C	07 Dec 04	50kHz Ex Sensor general assembly
DD-ASH0040	2 of 3	C	07 Dec 04	50kHz Ex Sensor general assembly
DD-ASH0040	3 of 3	B	07 Dec 04	50kHz Ex Sensor general assembly
DD-ASH0041	1 to 2	B	24 Nov 04	50kHz Ex Sanitary Sensor general assembly
ED-490002A	1 of 1	2	28 Jun 04	50kHz Ex Sensor circuit diagram
DD-490002A	1 of 1	A	28 Nov 04	50kHz Ex Sensor PCB layout
ASB0020	1 of 1	A	14 Oct 04	50kHz Ex Sensor bill of material
DD-LB00067	1 of 1	E	09 Jan 05	50kHz Ex Sensor label

14.2 Report number R52A11542A

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

- 15.1 The sensors shall not be located in direct sunlight or light from luminaires.
- 15.2 The encapsulated Type 'm' sensors in the series shall be supplied from apparatus that provides protection against prospective short circuit currents of up to 1500 A or appropriate to the supply prospective current.
- 15.3 Under certain extreme circumstances, the non-metallic enclosures of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be used in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.

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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 report number R52A11542A.

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.

17.3 The encapsulated parts of the apparatus shall be subjected to a visual inspection as described in clause 9.1 of EN 60079-18:2004. No visible damage of the compound shall be evident, such as cracks, exposure of the encapsulated parts, impermissible shrinkage, swelling, decomposition or failure of adhesion or softening.

17.4 In accordance with clause 9.2 of EN 60079-18:2004, an electric strength test shall be applied between the circuits and the outer enclosures for 1 second; this test shall be performed at the appropriate voltage defined below:

25kHz Sensor - 500 Vrms

50kHz Sensor - 2500 Vrms

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