



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 10ATEX2237X** Issue: **0**

4 Equipment: **GaugerGSM Ultrasonic transducer**

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 60079-11:2007 EN 60079-26:2007

EN 60079-0:2006 has been included 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 1G

Ex ia IIB T4 Ga

Ta = -30°C to +70°C

Project Number 22970

  
C Ellaby  
Deputy Certification Manager

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

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#### 13 DESCRIPTION OF EQUIPMENT

The GaugerGSM is an ultrasonic level meter, operating at 50, 75 or 125 kHz, with an integrated GSM cellular modem and a USB interface. It is designed to measure the distance through gas to the surface of liquids or solids. The GaugerGSM is equipped with a graphic display and keypad. The GaugerGSM transmits measurement information via SMS or GPRS to a cellular phone or cellular PC modem. Internally, the equipment comprises the following printed circuit boards: main board, display board, ultrasonic board, adaptor board, of these, the main and ultrasonic board, as well as the ultrasonic transducer, are encapsulated. The circuitry is housed in a plastic enclosure.

There are three supply options:

- supplied from associated apparatus
- supplied from external 3-cell battery pack, Sira 10ATEX2236X
- supplied from external 4-cell battery pack, Sira 10ATEX2236X

Parameter	Power supply option			RS485	Relay	Temperature	Digital
	1	2	3				
Ui	28 V	11.7 V	15.6 V	5.88 V	30 V	Simple apparatus only	5.88 V
Ii	0.170 A	0.487 A	0.358 A	0.113 A			-
Pi	1.19 W	1.212 W	1.189 W	0.166 W	1.2 W		-
Rs	164.7 $\Omega$	24.07 $\Omega$	43.62 $\Omega$	52.25 $\Omega$			-
Ci	0	0	0	0	0		0
Li	0	0	0	43 $\mu$ H	0		43 $\mu$ H
Uo				5.88 V	0	5.88 V	
Io				0.113 A		0.007 A	
Po				0.166 W		0.214 W	0.010 W
Co				25 nF			25 nF
Lo				100 $\mu$ H			100 $\mu$ H

Initial programming while the unit is in the non-hazardous area can be executed via the USB port, connected to a computer. The input parameters at this port are:  $U_m = 5$  V,  $I_m = 100$  mA.

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	6 October 2011	R22970B/00	The release of the prime certificate.



## SCHEDULE

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Issue 0

- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
- 15.1 The user shall only use generation 2G or 3G SIM cards in the SIM card port.
- 15.2 Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment 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. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- 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.
- 17.3 For each complete manufactured item that includes an external antenna and/or an external earthing screw, the manufacturer shall perform a dielectric strength test in accordance with EN 60079-11:2007 clause 10.3: 500 Vac shall be applied for 60 s between the inputs at J2 connected together and the outside of the unit, wrapped in aluminium foil. The foil shall make contact with the antenna and the external earthing screw. There shall be no flashover or breakdown and the maximum current flowing shall not exceed 5 mA. Alternatively, the test may be performed at 600 Vac for 1s. This test is not required where there is neither an external antenna nor an external earthing screw.

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# Certificate Annexe

Certificate Number: Sira 10ATEX2237X  
Equipment: GaugerGSM Ultrasonic transducer  
Applicant: Solid Applied Technologies



## Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
4990003	1 of 1	EX_V1	22 Aug 11	GSM schematic – display (LCD) bd
4990003ART	1 to 3	2	22 Aug 11	GSM artwork – display (LCD) board
4990007	1 to 4	EX_V1	22 Aug 11	GSM schematic – ultrasonic board
4990007ART	1 to 8	02	23 Aug 11	GSM artwork – ultrasonic board
4990008	1 to 8	EX_V1	22 Aug 11	GSM schematic – main board
4990008ART	1 to 8	1	23 Aug 11	GSM artwork – main board
4990009	1 of 1	1.0	22 Aug 11	GSM schematic – adapter board
AI_GA_GAUGER_EX	1 to 16	V3	23 Aug 11	GSM assembly
CC01	1 to 2	V7.6	22 Aug 11	GSM critical component list
DD-GA-GAUGER-EX	1 of 1	T8	22 Aug 11	GSM general assembly
LB20005	1 of 1	V3	22 Aug 11	GSM marking
SD01	1 of 1	21	03 Oct 11	GSM sector diagram

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