



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 05ATEX2032X

4 Equipment: GS4200, HI2000, HI2010, HP1003, PR3000, PR3100, PR3110, PR3200, PR3202, PR3400, PR3440, PR3441, PR3800, PR3820, PR3840, PR3850, PR3860, PR3900, PR3930, PR3940, PR3913, PR3920 and PR9000 Pressure Transmitters

5 Applicant: ESI Technology Ltd

6 Address: Sensor House  
Wrexham Technology Park  
Wrexham  
LL13 7YP  
UK

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 R52A11569A.

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 50014:1997	IEC 61241-0:2004
EN 50020:2002	IEC 61241-11:2005
EN 50284:1999	

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 1 GD  
EEx ia IIC T4  
Ex iaD 20 T200°C  
Ta = -20°C to +70°C

Project Number 52A11569  
Date 12 January 2007  
C. Index 13

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C. Ellaby  
Certification Officer

**Sira Certification Service**

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

Sira 05ATEX2032X

#### 13 DESCRIPTION OF EQUIPMENT

The Pressure Transmitters listed are used to monitor oil, gas, water and other liquids in the process, medical and aerospace industries. They are modular in construction and either utilise similar electronic circuitry, which is coupled to either a strain gauge that is bridge mounted on a ceramic or steel pressure diaphragm, or use silicon-on-sapphire sensor technology. Pressure measurement is electronically converted into a 4-20mA output signal. Electrical connection is achieved via a polarised three-pin connector, a cable entry device or by the use of potting to form a captive cable. Both the body and pressure port of the transducer are manufactured from mild steel, stainless steel or aluminium.

Explosion protection for flammable gases (zone 0) and dusts (zone 20) is by intrinsic safety alone and the Pressure Transmitters have the following safety description (note the different Ci value for different models):

<b>HI2000 &amp; HI2010</b>	<b>PR3000, PR3100, PR3110, PR3200, PR3400, PR3440, PR3441, PR3800, PR3820, PR3840, PR3850 &amp; PR3860</b>	<b>PR3202 &amp; PR9000</b>	<b>GS4200, HP1003, PR3913, PR3900, PR3920, PR3930 &amp; PR3940</b>
Ui = 28 V Ii = 93 mA Pi = 0.65 W Li = 0 Ci = 0	Ui = 28 V Ii = 93 mA Pi = 0.65 W Li = 0 Ci = 62 nF	Ui = 28 V Ii = 93 mA Pi = 0.65 W Li = 0 Ci = 66 nF	Ui = 28 V Ii = 93 mA Pi = 0.65 W Li = 0 Ci = 74 nF

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawing

Number	Sheet	Rev.	Date	Description
8727	1 of 1	003	24 Apr 06	ATEX Product Marking label
8840	1 of 1	001	13 Nov 05	PR3100 (CERAMIC) ASSEMBLY DRAWING
8841	1 of 1	001	13 Oct 05	PR3100 HOUSING
8842	1 of 1	002	30 Nov 06	ELECTRICAL CONNECTOR
8843	1 of 1	001	14 Oct 05	INTERNAL WIRING
8844	1 of 1	001	17 Oct 05	PR3100 SENSOR ASSEMBLY
8845	1 of 3	002	29 Mar 06	PR420 CIRCUIT BOARD ASSMEBLY
8845	2 of 3	002	29 Mar 06	PR420 CIRCUIT DIAGRAM
8845	3 of 3	002	29 Mar 06	PR420 CIRCUIT PARTS LIST
8852	1 of 1	002	08 Dec 06	PR3800 ASSEMBLY DRAWING
8853	1 of 1	002	30 Nov 06	PR3800 HOUSING
8854	1 of 1	001	08 Nov 05	PR9000 ASSEMBLY DRAWING
8855	1 of 1	001	08 Nov 05	PR9000 HOUSING
8856	1 of 3	002	29 Mar 06	PR420 / 9000 CIRCUIT BOARD ASSMEBLY
8856	2 of 3	002	29 Mar 06	PR420 / 9000 CIRCUIT DIAGRAM
8856	3 of 3	002	29 Mar 06	PR420 / 9000 CIRCUIT PARTS LIST
8857	1 of 1	001	08 Nov 05	PR9000 CONNECTOR ASSEMBLY

Date 12 January 2007

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## SCHEDULE

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Number	Sheet	Rev.	Date	Description
8858	1 of 1	001	08 Nov 05	LHP SENSOR ASSEMBLY
8859	1 of 1	001	07 Nov 05	GS4200 ASSEMBLY DRAWING
8860	1 of 1	001	09 Nov 05	GS4200 HOUSING
8861	1 of 3	002	29 Mar 06	GS420 CIRCUIT BOARD ASSMEBLY
8861	2 of 3	002	29 Mar 06	GS420 CIRCUIT DIAGRAM
8861	3 of 3	002	29 Mar 06	GS420 CIRCUIT PARTS LIST
8862	1 of 1	001	09 Nov 05	SOS SENSOR
8863	1 of 1	001	09 Nov 05	PR3100 (STAINLESS STL) ASSEMBLY DRAWING
8864	1 of 1	001	09 Nov 05	PR3100 HOUSING
8865	1 of 1	001	09 Nov 05	PR3100 STAINLESS STEEL SENSOR
8866	1 of 1	001	10 Nov 05	PR3441 ASSEMBLY DRAWING
8867	1 of 1	001	11 Nov 05	PR3441 HOUSING
8868	1 of 3	002	29 Mar 06	BH420 CIRCUIT BOARD ASSMEBLY
8868	2 of 3	002	29 Mar 06	BH420 CIRCUIT DIAGRAM
8868	3 of 3	002	29 Mar 06	BH420 CIRCUIT PARTS LIST
8869	1 of 1	001	11 Nov 05	ISOLATED STAINLESS STEEL SENSOR
8870	1 of 1	001	11 Nov 05	CABLE
8873	1 of 1	001	16 Nov 05	PR3400 ASSEMBLY DRAWING
8874	1 of 1	001	16 Nov 05	PR3400 HOUSING
8875	1 of 1	001	14 Nov 05	PC30 SENSOR
8876	1 of 1	001	14 Nov 05	CABLE
8878	1 of 1	001	16 Nov 05	PR3440 ASSEMBLY DRAWING
8879	1 of 1	001	16 Nov 05	PR3440 HOUSING
8880	1 of 1	001	17 Nov 05	HP1003 ASSEMBLY DRAWING
8881	1 of 1	001	17 Nov 05	HP1003 HOUSING
8882	1 of 1	001	17 Nov 05	HI2010 ASSEMBLY DRAWING
8883	1 of 1	001	17 Nov 05	HI2010 HOUSING
8884	1 of 1	001	17 Nov 05	CONNECTOR
8885	1 of 1	001	18 Nov 05	HI2000 ASSEMBLY DRAWING
8886	1 of 1	001	18 Nov 05	HI2000 HOUSING
8887	1 of 1	001	16 Nov 05	CABLE
8888	1 of 1	001	18 Nov 05	PR3200 ASSEMBLY DRAWING
8889	1 of 1	001	18 Nov 05	PR3200 HOUSING
8892	1 of 1	001	22 Nov 05	PR3202 ASSEMBLY DRAWING
8893	1 of 1	001	22 Nov 05	PR3202 HOUSING
8894	1 of 1	001	22 Nov 05	PR3202 SENSOR
8895	1 of 3	002	29 Mar 06	DPL420 CIRCUIT BOARD ASSMEBLY
8895	2 of 3	002	29 Mar 06	DPL420 CIRCUIT DIAGRAM
8895	3 of 3	002	29 Mar 06	DPL420 CIRCUIT PARTS LIST
8896	1 of 1	001	25 Nov 05	PR3000 ASSEMBLY DRAWING
8897	1 of 1	001	25 Nov 05	PR3000 HOUSING
8898	1 of 1	001	10 Jan 07	PR3913 ASSEMBLY DRAWING
8899	1 of 1	001	25 Nov 05	CABLE

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**SCHEDULE**

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Number	Sheet	Rev.	Date	Description
8900	1 of 1	001	25 Nov 05	PR3910 HOUSING
8901	1 of 1	001	28 Nov 05	PR3920 ASSEMBLY DRAWING
8902	1 of 1	001	28 Nov 05	PR3920 HOUSING
8904	1 of 1	001	28 Nov 05	M10 SOS SENSOR
8931	1 of 3	002	29 Mar 06	VL420 CIRCUIT ASSEMBLY
8931	2 of 3	002	29 Mar 06	VL420 CIRCUIT DIAGRAM
8931	3 of 3	002	29 Mar 06	VL420 CIRCUIT PARTS LIST
8997	1 of 1	001	20 Nov 06	PR3900 SERIES ASSEMBLY DRAWING
8998	1 of 1	001	20 Nov 06	PR3110 ASSEMBLY DRAWING
8999	1 of 1	001	20 Nov 06	PR3110 HOUSING
9001	1 of 1	001	20 Nov 06	PR3900 HOUSING

14.2 Report number R52A11569A

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

15.1 These Pressure Transmitters shall not be used with dusts that have a layer smouldering temperature of 200°C or less.

15.2 The PR3000, PR3200 and PR3202 Pressure Transmitters that have powder coated, aluminium enclosures shall be located where friction sparks with steel objects are avoided, in addition they shall be regularly inspected to ensure the coating is not damaged.

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 R52A11569A.

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 manufacturer shall ensure compliance of each manufactured unit with EN 50020:2002, clause 6.4.12, by applying a voltage between the intrinsically safe circuit and the enclosure of 500 Vrms. The test voltage shall be increased steadily to the specified value in a period of not more than 10 seconds and maintained at this level for at least 60 seconds. During this period no insulation breakdown or current in excess of 5 mA shall be observed.

17.4 When plastic materials are used in the outer construction of the enclosure, the following labels shall be fitted indicating the danger of static discharge:

**"Clean only with a damp cloth"**

**"Warning: Danger of propagating brush discharge"  These shall be followed by the warning symbol ISO3864 No. B.3.1 (black exclamation mark in black triangle, yellow background) meaning: Caution, refer to accompanying documents).**

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