IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx TRC 12.0025X	Issue No: 1	Certificate history:
			Issue No. 1 (2016-01-04)
Status:	**Current**	Page 1 of 4	Issue No. 0 (2014-01-22)
Date of Issue:	**2016-01-04**		

Applicant:

ESI Technology Ltd.,
Sensor House,
Wrexham Technology Park,
Wrexham,
LL13 7YP
United Kingdom

Electrical Apparatus:

Pressure Transmitters, GS4200, HI2000, HI2010, HP1003, HP1103, PR3100, PR3110, PR3200, PR3202, PR3400, PR3420, PR3440, PR3441, PR3800, PR3820, PR3840, PR3850, PR3860, PR3880, PR3900, PR3930, PR3940, PR3913, PR3920, PR9000 and PR9000DP

Optional accessory:

Type of Protection:

Intrinsic Safety

Marking:

Ex ia IIC T4 Ga Ex ia IIIC T135°C Da Ex ia I Ma

Approved for issue on behalf of the IECEx Certification Body:

Stephen Winsor

Position:

Certification Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Element Materials Technology
Unit 1 Pendle Place
Skelmersdale
West Lancashire
WN8 9PN

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Manufacturer:	**ESI Technology Ltd.,** Sensor House, Wrexham Technology Park, Wrexham, LL13 7YP **United Kingdom**	
Additional Manufacturing location(s):		

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/TRC/ExTR12.0024/00 GB/TRC/ExTR12.0024/01

Quality Assessment Report:

GB/SIR/QAR13.0022/01

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Pressure Transmitters are used to monitor oil, gas, water and other liquids in the process, medical, oil and gas industries, 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 connection, 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 (in some cases the pressure port is manufactured from titanium).

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The power source feeding the apparatus shall be an IECEx approved barrier only.
2. The PR3200 and PR3202 Pressure Transmitters that have powder coated aluminium enclosures shall only be situated in the hazardous areas where impact and friction sparks are avoided; in addition they shall be regularly inspected to ensure the coating is not damaged.
3. When plastic materials are used in the outer construction of the enclosure, these apparatus shall be cleaned only with a damp cloth.
4. For the maximum cable lengths stated the cable capacitance shall not exceed 200pF/m otherwise the overall capacitance of Ci plus the cable capacitance shall not exceed 83nF.
5. The pressure Transmitters have been IECEx certified for an ambient temperature range, Tamb = -20°C to +70°C.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Addition of a diode, change to a resistor value, change to the range of pressure sensors which can be used in this equipment, addition of a new model HP1103 and a typographical correction to one drawing.

Annex:

Annex to IECEx TRC 12.0025X is 1.pdf

Element Materials Technology,
Unit 1, Pendle Place,
Skelmersdale,
West Lancashire, WN8 9PN,
United Kingdom

Annex to IECEx Certificate of Conformity IECEx TRC 12.0025X issue No.:1

Entity Parameters:

Table of entity parameters					
Parameters	**HI2000 & HI2010**	**PR3110, PR3400, PR3420, PR3440, PR3441, PR3800, PR3820, PR3840, PR3850, PR3860 & PR3880**	**PR3202 & PR9000**	**PR9000DP**	**GS4200, HP1003, HP1103, PR3100, PR3200, PR3900, PR3913, PR3920, PR3930 & PR3940**
Ui	28V	28V	28V	28V	28V
Ii	119mA	119mA	119mA	119mA	119mA
Pi	0.65W	0.65W	0.65W	0.65W	0.65W
Li	0.1µH	0.1µH	0.1µH	0.1µH	0.1µH
Ci	0	62nF	66nF	68nF	74nF
Max. cable length(1)	50(2)m	105m	85m	75m	45m

Routine tests
1. The manufacturer shall ensure compliance of each manufactured unit with cl. 6.3.13 in IEC60079-11:2011 by applying a voltage of 500Vrms between the intrinsically safe circuit and the enclosure. 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 5mA shall be observed.

Annex to IECEx Certificate of Conformity **IECEx TRC 12.0025X issue No.:1**

Manufacturer's Documents

Title:	Drawing No.:	Rev. Level:	Date:
ATEX PRODUCT MARKING	8727	05	2015-11-19
PR3100 CERAMIC DIAPHRAGM PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8840	02	2012-07-02
PRESSURE TRANSMITTER ELECTRICAL CONNECTOR	8842	03	2012-05-16
PRESSURE TRANSMITTER INTERNAL WIRING	8843	02	2012-07-02
CERAMIC PRESSURE SENSOR ASSEMBLY	8844	02	2012-06-29
PR420 CIRCUIT BOARD / ELECTRONICS (3 sheets)	8845	03	2012-06-05
PR3800 PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8852	03	2012-05-02
PR3800 PRESSURE TRANSMITTER – HOUSING DETAIL	8853	03	2012-07-02
PR9000 PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8854	02	2012-05-01
PR9000 PRESSURE TRANSMITTER HOUSING DETAIL	8855	02	2012-07-02
PR420/9000 CIRCUIT BOARD / ELECTRONICS (3 sheets)	8856	03	2012-07-02
PR9000 PRESSURE TRANSMITTER ELECTRICAL CONNECTION	8857	02	2012-05-16
GS4200 PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8859	02	2012-07-02
GS420 CIRCUIT BOARD & ELECTRONICS (3 sheets)	8861	04	2015-11-19
SOS PRESSURE SENSOR DETAIL	8862	02	2012-05-16
GS4200 & PR3100 PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8863	03	2015-11-19
PR3441 PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8866	02	2012-05-31
PR3441 HOUSING DETAIL	8867	02	2012-05-15
BH420 PRINTED CIRCUIT BOARD & ELECTRONICS (3 sheets)	8868	04	2015-11-19
ISOLATED STAINLESS STEEL SENSOR ASSY – 19MM	8869	02	2012-03-30

POLYURATHANE VENTED CABLE	8870	02	2012-07-05
PR3400 SUBMERSIBLE PRESSURE TRANSMITTER – INTRINSICALLY SAFE	8873	02	2012-05-31
PR3400 PRESSURE TRANSMITTER – HOUSING DETAIL	8874	02	2012-05-15
4 CORE SCREENED CABLE	8876	02	2012-05-17
PR 3440 PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8878	02	2012-05-31
PR3440 HOUSING DETAIL	8879	02	2012-05-15
HP1003 & HP 1103 HIGH PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8880	03	2015-11-19
HI2010 PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8882	02	2012-05-08
HI2010 PRESSURE TRANSMITTER – HOUSING DETAIL	8883	02	2012-05-15
6 PIN BAYONET CONNECTOR SHELL SIZE 10	8884	02	2012-05-16
HI2000 PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8885	02	2012-05-08
HI2000 HOUSING DETAIL	8886	03	2012-08-20
6 CORE PTFE SHEATHED CABLE	8887	02	2012-05-16
PR3200 DIFFERENTIAL PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8888	02	2012-07-02
PR3200 DIFFERENTIAL PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8889	02	2012-09-27
PR3202 DIFFERENTIAL PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8892	02	2012-05-31
PR3202 HOUSING DETAIL	8893	02	2012-09-29
PR3202 PRESSURE SENSOR	8894	02	2012-05-18
DPL420 CIRCUIT BOARD & ELECTRONICS (3 sheets)	8895	04	2015-11-19
PR3913 SERIES PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8898	03	2012-06-01
SINGLE CORE ETFE INSULATED WIRE	8899	02	2012-05-16
PR3913 HOUSING DETAIL	8900	02	2012-07-02
PR3920 DIFFERENTIAL PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8901	02	2012-06-01
PR3920 HOUSING DETAIL	8902	02	2012-07-02
M10 SOS SENSOR DETAIL	8904	02	2012-05-16

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VL420 CIRCUIT BOARD & ELECTRONICS (3 sheets)	8931	03	2012-05-23
PR3900 SERIES, HIGH PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	8997	02	2012-05-17
PR3110 ISOLATED DIAPHRAGM PRESSURE TRANSMITTER – INTRINSICALLY SAFE [ATEX]	8998	02	2012-07-02
PR3900 PRESSURE TRANSMITTER HOUSING DETAIL	9001	02	2012-09-27
DP CONNECTION BOARD	9406	01	2012-07-04
PR9000-DP DIFFERENTIAL PRESSURE TRANSMITTER – INTRINSICALLY SAFE (ATEX)	9411	01	2012-07-02
PR9000-DP DIFFERENTIAL PRESSURE TRANSMITTER HOUSING	9412	01	2012-07-02
PRESSURE TRANSMITTER HOUSING, HP1003, GS4200, PR3100, PR3110	9415	01	2012-09-27
ATEX/IECEx PRODUCT INSTRUCTIONS	*	01	2012-11-27

* no information provided