

1 EU - TYPE EXAMINATION CERTIFICATE

2 Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III

3 EU - Type Examination Certificate No.: **TRAC12ATEX0060X (incorporating variations V1 to V3)**

4 Product: **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**

5 Manufacturer: **ESI Technology Limited**

6 Address: **Sensor House, Wrexham Technology Park, Wrexham, LL13 7YP, United Kingdom**

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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

TRA-007518-33-00A, TRA-029446-33-00A & TRA-050579-33-00A

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0:2012+A11:2013 EN 60079-11:2012 EN 60079-26:2007
EN 50303:2000**

Except in respect of those requirements listed at section 18 of the schedule.

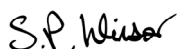
10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

 **II 1 G Ex ia IIC T4 Ga
II 1 D Ex ia IIIC T135°C Da
I M 1 Ex ia I Ma**

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.



S P Winsor, Certification Manager

Issue date: 2020-11-26

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13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER TRAC12ATEX0060X (incorporating variations V1 to V3)

15 Description of Product

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).

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	28 V	28 V	28 V	28 V	28 V
Ii	119 mA	119 mA	119 mA	119 mA	119 mA
Pi	0.65 W	0.65 W	0.65 W	0.65W	0.65 W
Li	0.1 µH	0.1 µH	0.1 µH	0.1 µH	0.1 µH
Ci	0	62 nF	66 nF	68 nF	74 nF
Max. cable length	50 m	105 m	85 m	75 m	45 m

16 Test Report No. (as added for this issue of the certificate): TRA-050579-33-00A.

17 Specific Conditions of Use

1. The power source feeding the apparatus shall be an ATEX/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 200 pF/m otherwise the overall capacitance of Ci plus the cable capacitance shall not exceed 83 nF.
5. The pressure Transmitters have been ATEX and IECEX certified for an ambient temperature range, T_{amb} = -20 °C to +70 °C.



Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

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18 Essential Health and Safety Requirements (Directive Annex II)

The standards listed in section 9 of this certificate are no longer listed within the Official Journal and are therefore not harmonised. A gap analysis has been conducted by Element Materials Technology against the relevant, latest versions of the harmonised EN 60079 series standards and has confirmed continued compliance with the Essential Health and Safety Requirements. This analysis is detailed in report: TRA-050579-33-00A.

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

20 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.

21 Specific Conditions for Manufacture

None.

22 Photographs

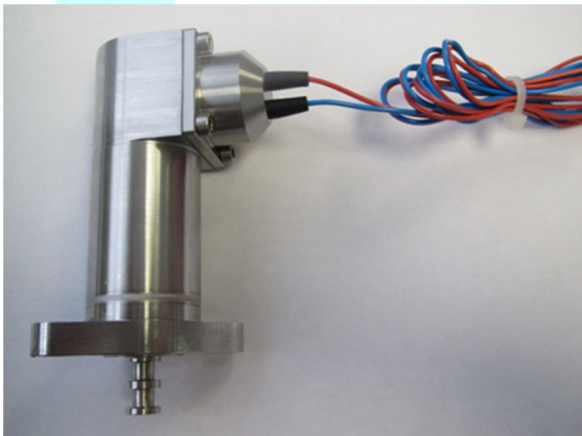


Fig 1. PR3913

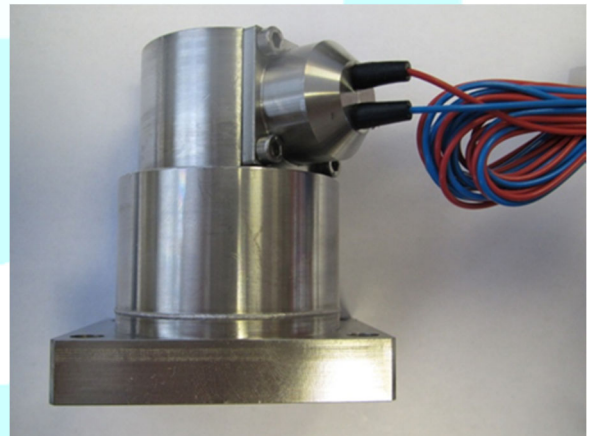


Fig 2. PR3920

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Fig 3. GS4200



Fig 4. From left to right – HI2000, HI2010, PR3100



Fig 5. PR3200



Fig 6. PR3202



Fig 7. PR3400, PR3440



Fig 8. PR3441, PR3800

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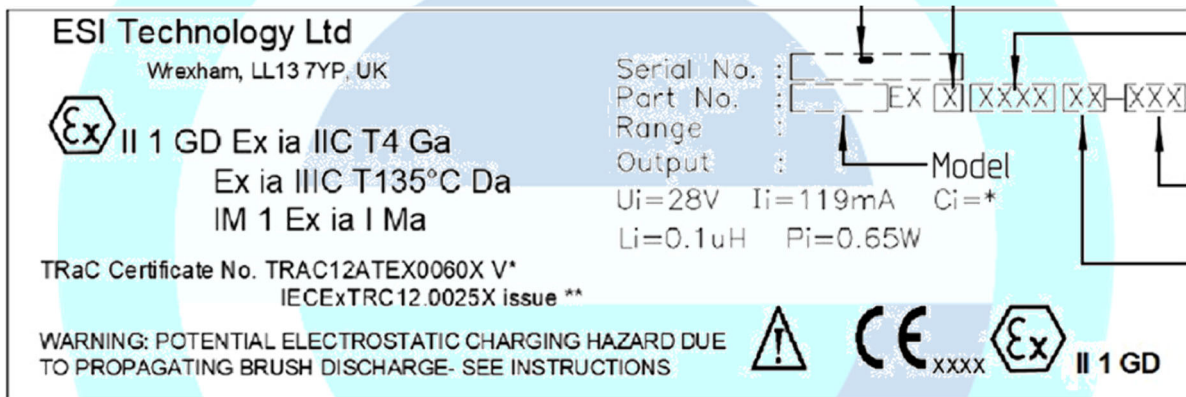


Fig 9. PR3900



Fig 10. PR9000

23 Details of Markings



24 Certificate History

Original certificate	2012-12-21	First issue.
Variation V1	2016-01-04	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..
Variation V2	2019-11-02	This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation.
Variation V3	2020-11-26	Addition of an optional character in the product part code.

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations and amendments.

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

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26 Notes to this certificate

Element Materials Technology certification reference: ERO032645P64 (GU-ESIQ-0001).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

- (i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.
- (ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**CERTIFICATE NUMBER TRAC12ATEX0060X (incorporating variations V1 to V3)****APPENDIX A - TECHNICAL DOCUMENTS**

Title:	Drawing No.:	Rev. Level:	Date:
ATEX PRODUCT MARKING	8727	06	2020-05-19
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

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HP1003 & HP1103 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
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	-	08	2020-10-19

Note: The symbol “ - ” indicates that this information was not available.