



PE 142/6  
Manufacturer: Pyropress Engineering  
Bell Close  
Plympton, Plymouth.  
Devon, England.  
PL7 4JH

**The Manufacturer hereby declares that the Flameproof products:-**

**Titan Type:** PF261 PR261, PF262, PR261 Pressure Switch  
PF263, PR263, PF264, PR264 High Pressure Switch.  
DPF265, DPR265, DPF266, DPR266 Differential Pressure Switch.  
PF266, PR266 Low Pressure Switch.  
VF266, VR266 Vacuum Switch.  
DPF296, DPR296, High Static Differential Pressure Switch  
TF171, TR171, TE171, TF172, TR172, TE172, Temperature Switch.  
TF175, TR175, TF176, TR176 Capillary Temperature Switch.  
FF503, FR503 Flow Switch.  
LF34, LR34 Horizontal Level Switch.  
LF35, LR35 Vertical Switch.

As being in compliance with the requirements of:  
EU Directive 94/9/EC, for the use in potentially explosive atmospheres:  
II2G Exd IIB+H<sub>2</sub> T6...T2 Gb.  
With or without resistors:  
T6 Tamb -60°C to +75°C  
T5...T2 Tamb -60°C to +90°C  
IP66 rated

International Electrotechnical Commission IEC Certification Scheme for Explosion Atmospheres  
Exd IIB+H<sub>2</sub> T6...T2 Gb  
T6 Tamb -60°C to +75°C  
T5...T2 Tamb -60°C to +90°C  
IP66 rated

When used within the limitations and conditions of the product specifications, working instructions and

**EC Type Examination Certificates:**

ITS14ATEX17965X IECExITS14.0006X

**Harmonised standards applied:**

EN 60079-0:2012, EN60079-1:2007, IEC60079-0:2011, IEC60079-1:2007-04

**Other Directives applied:**

Pressure Equipment 97/23/EC, Sound Engineering Practice (SEP) Article 3 (3)

**Notified Body responsible for Quality Assurance & EC type Examination:**

Intertek Testing & Certification Ltd, Intertek House, Cleeve Road, Leatherhead, Surrey  
England KT22 7SB. Notified body No 0359.

**Equipment Specification:** Product specifications are listed in the Technical file TCF 1002

**This Declaration may only be used in its entirety & without change.**

**Modification of this equipment / product without prior approval from Pyropress Engineering will render this declaration null & void.**

Responsible Person: Ian Chapple, Quality and Technical Manager  
On Behalf of Pyropress Engineering

Signed..........Dated.....10<sup>th</sup> June 2014.





1. **EC-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. **EC-Type Examination Certificate Number:** ITS14ATEX17965X

4. **Equipment or Protective System:** Titan Ex d Switch Enclosure

5. **Manufacturer:** Pyropress Engineering

6. **Address:** Bell Close, Plympton, Plymouth, PL7 4JH, United Kingdom

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.


The examination and test results are recorded in confidential Intertek Report 101396279MAN-001B dated February 2014.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2012 and EN 60079-1:2007, except in respect of those requirements referred to at item 16 of the Schedule.

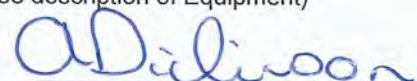
10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This EC Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

 II 2 G Ex d IIB+H<sub>2</sub> T6...T2 Gb  
Tamb -60°C to +40°...+90°C

\*(Ambient temperature dependant on internal power dissipation - see description of Equipment)



A Dickinson  
Certification Officer  
1 May 2014

**Intertek Testing & Certification Limited**  
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[www.intertek.com](http://www.intertek.com)

**Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.**

This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification's Conditions for Granting Certification.





## SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS14ATEX17965X

### 13. Description of Equipment or Protective System

The Titan Ex d switch is used to sense changes in temperatures, pressure, level or flow via mechanical actuators. A generic two-chamber enclosure is utilised for all applications, this is manufactured from either Stainless Steel or LM25TF aluminium with a magnesium content of less than 7.5% by weight. All construction materials have less than 7.5% of magnesium, titanium and zirconium by weight. The lower chamber houses the operating rod assembly which is screwed into a 1/2" BSF to form a threaded flamepath. The operating rod forms a cylindrical flamepath. The upper chamber contains the electrical connection facilities and PCB. The upper chamber had an access opening, which has a flange flamepath joint. The cable entry can be fitted with a straight through adapter or 90° adaptor. These adaptors form a flange flamepath with the enclosure and a M20 x 1.5 or NPT equivalent threaded flamepath with the suitably certified cable entry device. The equipment has different maximum surface temperatures dependant on the ambient range. The table below details the ambient range/T-Class combinations;

T Class	Ambient Temperature Range (°C)	Permitted Process Temperature (°C)	Power Rating (W)
T6	-60 to +75	-60 to +65	2.5
T6	-60 to +70	-60 to +65	5
T6	-60 to +60	-60 to +65	10
T6	-60 to +50	-60 to +65	15
T6	-60 to +40	-60 to +55	20
T5	-60 to +90	-60 to +80	2.5
T5	-60 to +75	-60 to +80	10
T5	-60 to +70	-60 to +75	12.5
T5	-60 to +60	-60 to +70	17.5
T5	-60 to +50	-60 to +65	22.5
T5	-60 to +40	-60 to +60	27.5
T4	-60 to +90	-60 to +130	2.5
T4	-60 to +75	-60 to +130	10
T4	-60 to +70	-60 to +130	12.5
T4	-60 to +60	-60 to +130	17.5
T4	-60 to +50	-60 to +130	22.5
T4	-60 to +40	-60 to +130	27.5
T3	-60 to +90	-60 to +195	2.5
T3	-60 to +75	-60 to +195	10
T3	-60 to +70	-60 to +195	12.5
T3	-60 to +60	-60 to +195	17.5
T3	-60 to +50	-60 to +195	22.5
T3	-60 to +40	-60 to +195	27.5
T2	-60 to +90	-60 to +280	2.5
T2	-60 to +75	-60 to +280	10
T2	-60 to +70	-60 to +280	12.5
T2	-60 to +60	-60 to +280	17.5
T2	-60 to +50	-60 to +280	22.5
T2	-60 to +40	-60 to +280	27.5

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SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS14ATEX17965X

14. **Report Number**

Intertek Report Ref: 101396279MAN-001B dated April 2014.

15. **Conditions of Certification**

(a). Special Conditions for safe use

- No modifications must be made to flamepaths of the unit without consultation of the drawings listed in section 17.
- Suitably rated cable must be selected based on T Class shown above.
- Fasteners of yield strength 240Nmm<sup>2</sup> or greater are to be utilised.
- Only suitably certified Ex d IIC Gb cable glands to be used.

(b). Conditions of Manufacture

- None

16. **Essential Health and Safety Requirements (EHSR's)**

The relevant EHSR's have been identified and assessed in Intertek Report Ref: 101396279MAN-001B dated February 2014.

17. **Drawings and Documents**

Title	Drawing No.:	Rev. Level:	Date:
Ex d CERTIFICATION DRAWING Ex CERTIFIED TITAN $\Delta$	1340A1	2	30/10/13
Exd LABEL CERTIFICATION Ex CERTIFIED TITAN	1341A3	2	31/10/13

*This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.*

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# 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](http://www.iecex.com)

Certificate No.: IECEx ITS 14.0006X Issue No: 0 Certificate history:  
Status: **Current** Page 1 of 5 Issue No. 0 (2014-05-01)

Date of Issue: **2014-05-01**

Applicant: **Pyropress Engineering**  
Pyropress Engineering  
Bell Close  
Plympton  
Plymouth  
PL7 4JH  
**United Kingdom**

Electrical Apparatus: **Titan Ex d Switch Range**  
*Optional accessory:*

Type of Protection: **Ex d**

Marking:  
Ex d IIB+H2 T6...T2 Gb  
-60°C to +40°C...90°C


Approved for issue on behalf of the IECEx  
Certification Body:

Andrew Dickinson

Position:

Certification Officer

Signature:  
(for printed version)

  
\_\_\_\_\_  
1 May 2014  
\_\_\_\_\_

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](http://www.iecex.com).

Certificate issued by:

**Intertek Testing & Certification Limited**  
ITS House, Cleeve Road,  
Leatherhead,  
Surrey, KT22 7SB  
United Kingdom







# IECEX Certificate of Conformity

Certificate No: IECEX ITS 14.0006X Issue No: 0

Date of Issue: **2014-05-01** Page 2 of 5

Manufacturer: **Pyropress Engineering**  
Pyropress Engineering  
Bell Close  
Plympton  
Plymouth  
PL7 4JH  
**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** Explosive atmospheres - Part 0: General requirements  
Edition:6.0

**IEC 60079-1 : 2007-04** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:6

*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/ITS/ExTR14.0006/00](#)

Quality Assessment Report:

[GB/ITS/QAR11.0004/01](#)



# IECEX Certificate of Conformity

Certificate No: IECEx ITS 14.0006X

Issue No: 0

Date of Issue: 2014-05-01

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Titan Ex d switch is used to sense changes in temperatures, pressure, level or flow via mechanical actuators. A generic two-chamber enclosure is utilised for all applications, this is manufactured from either Stainless Steel or LM25TF aluminium with a magnesium content of less than 7.5% by weight. The lower chamber houses the operating rod assembly which is screwed into a ½" BSF to form a threaded flamepath. The operating rod forms a cylindrical flamepath. The upper chamber contains the electrical connection facilities and PCB. The upper chamber had an access opening, which has a flange flamepath joint. The cable entry can be fitted with a straight through adapter or 90° adaptor. These adaptors form a flange flamepath with the enclosure and a M20 x 1.5 or NPT equivalent threaded flamepath with the suitably certified cable entry device. The equipment has different maximum surface temperatures dependant on the ambient range. The table below details the ambient range/T-Class combinations;

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T6	-60 to +60	-60 to +65	10
T6	-60 to +50	-60 to +65	15
T6	-60 to +40	-60 to +55	20
T5	-60 to +90	-60 to +80	2.5
T5	-60 to +75	-60 to +80	10
T5	-60 to +70	-60 to +75	12.5
T5	-60 to +60	-60 to +70	17.5
T5	-60 to +50	-60 to +65	22.5
T5	-60 to +40	-60 to +60	27.5
T4	-60 to +90	-60 to +130	2.5
T4	-60 to +75	-60 to +130	10



# IECEx Certificate of Conformity

Certificate No: IECEx ITS 14.0006X

Issue No: 0

Date of Issue: 2014-05-01

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T4	-60 to +70	-60 to +130	12.5
T4	-60 to +60	-60 to +130	17.5
T4	-60 to +50	-60 to +130	22.5
T4	-60 to +40	-60 to +130	27.5
T3	-60 to +90	-60 to +195	2.5
T3	-60 to +75	-60 to +195	10
T3	-60 to +70	-60 to +195	12.5
T3	-60 to +60	-60 to +195	17.5
T3	-60 to +50	-60 to +195	22.5
T3	-60 to +40	-60 to +195	27.5
T2	-60 to +90	-60 to +280	2.5
T2	-60 to +75	-60 to +280	10
T2	-60 to +70	-60 to +280	12.5
T2	-60 to +60	-60 to +280	17.5
T2	-60 to +50	-60 to +280	22.5
T2	-60 to +40	-60 to +280	27.5

CONDITIONS OF CERTIFICATION: YES as shown below:





# IECEX Certificate of Conformity

Certificate No: IECEx ITS 14.0006X

Issue No: 0

Date of Issue: **2014-05-01**

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- Suitably rated cable must be selected based on T Class shown above.
- Fasteners of yield strength 240Nmm<sup>2</sup> or greater are to be utilised.
- Only suitably certified Ex d IIC Gb cable glands to be used.

**Annex:**

[Annex to IECEx ITS 14.006X issue 01.pdf](#)



**Schedule of Drawings for Certificate: IECEx ITS 14.006X**

Manufacturer:  
Pyropress Engineering Company Ltd  
Bell Close  
Plympton  
Plymouth  
PL7 4JH  
United Kingdom

Drawing Number	Revision	Date	Title
1340A1	2	30/10/13	Ex d CERTIFICATION DRAWING Ex CERTIFIED TITAN $\Delta$
1341A3	2	31/10/13	Exd LABEL CERTIFICATION Ex CERTIFIED TITAN

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