



## EC - TYPE EXAMINATION CERTIFICATE

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

**UNCONTROLLED DOCUMENT**  
THIS DOCUMENT IS NOT  
SUBJECT TO AMENDMENTS

T.E.L. ENGINEERING LIMITED

EC – Type Examination Certificate Number : **Baseefa02ATEX0060**

Equipment or protective system: **Type TX4726, TX4727 and TX4728 Slip Ring Units**

Manufacturer : **T.E.L Engineering Limited also trading as Trolex Engineering**

Address : **Stockport, Cheshire, SK7 5DA**

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

Baseefa (2001) Ltd. Notified body number 1180, 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 Report No. **02(C)0180/3**

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

**EN50014: 1997 + Amendments 1 & 2    EN50018: 2000    EN50019: 2000    EN50281-1-1: 1998**

except in respect of those requirements listed at item 18 of the Schedule.

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

This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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

**⊕ II 2 GD    EEx de IIB T100°C (T<sub>amb</sub> = See schedule)**

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. **1428**

Project File No. **02/0180**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR

DIRECTOR  
On behalf of

Baseefa (2001) Ltd.

### Baseefa (2001) Ltd.

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Registered in England No. 4305578 at 13 Dovedale Crescent, Buxton,  
Derbyshire, SK17 9BJ



## Schedule

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T.E.L. ENGINEERING LIMITED

### 15 Description of Equipment or Protective System

**Type TX4726, TX4727 and TX4728 Slip Ring Units** comprise a fabricated mild steel or stainless steel flameproof enclosure incorporating slip rings and associated brush gear. Increased safety terminals for external connections are housed within two increased safety junction boxes. The flameproof enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other end. One increased safety junction box is attached to the fixed flameproof enclosure the other is attached to the revolving end cover. The slip rings are rated between 10A and 800A and may be used for power, signal and intrinsically safe circuits.

Options include an anti condensation heater, alternative increased safety terminal enclosures (TX4727L Units), high voltage (HV Units), increased ambient temperature (BW Units), and the addition of a low voltage emergency stop relay (R Units).

The slip ring units differ in the length of the flameproof enclosure and the static increased safety enclosure to accommodate differing quantities of slip rings and terminals respectively. The maximum voltage, capacity and ambient temperature range are indicated below.

Unit Type	Maximum Voltage	Maximum total Current (A)	Ambient Temperature Range
TX4726	750Va.c,	2800	-20°C to +40°C
TX4726.2	750Va.c.	2800	-20°C to +40°C
TX4726HV	4.2kV	2800	-20°C to +40°C
TX4726R	750Va.c,	2800	-20°C to +30°C
TX4727	750Va.c,	3000	-20°C to +40°C
TX4727HV	4.2kV	3000	-20°C to +40°C
TX4727BW	750Va.c,	1440	-20°C to +50°C
TX4727R	750Va.c,	3000	-20°C to +30°C
TX4727L	750Va.c,	2700	-20°C to +40°C
TX4728	750Va.c,	1800	-20°C to +40°C
TX4728HV	4.2kV	1800	-20°C to +40°C
TX4728R	750Va.c,	1800	-20°C to +30°C



**16 Report No.**

02(C)0180/3

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T.E.L. ENGINEERING LIMITED

**17 Special Conditions for Safe Use**

None

**18 Essential Health and Safety Requirements**

None additional to those covered by the standards listed at item 9

**19 Drawings and Documents**

Number	Sheet	Issue	Date	Description
1/4726/100	1 to 7 inc.	E	02.10.02	General Assembly and Label Details - TX4726 Unit
1/4726/416	1 to 4 inc.	B	02.10.02	Alternative Junction boxes - TX4726.2 Unit
1/4726/180	1 to 6 inc.	F	02.10.02	General Assembly and Label Details - TX4727 & L Units
1/4726/502	1	D	04.12.02	Alternative Assembly - TX4727BW Unit
3/4726/520	-	C	02.10.02	Nameplate - TX4727BW Unit
1/4726/300	1 to 5 inc.	C	02.10.02	General Assembly and Label Details - TX4728 Unit
1/4726/826	-	A	02.10.02	Cables and Glands Details – All Units
1/4726/825	-	B	02.10.02	Alternative Assembly 4.2kV- All HV Units
1/4726/660	-	D	02.10.02	Alternative Assembly – All R Units



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

3 Supplementary EC - Type **Baseefa02ATEX0060/1**  
Examination Certificate Number:

4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**

5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**

6 Address: **Stockport, Cheshire, SK7 5DA**

7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa02ATEX0060** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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**T.E.L. ENGINEERING LIMITED**

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. **1428**

Project File No. **04/0226**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

**Baseefa (2001) Ltd.**

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## Schedule

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T.E.L. ENGINEERING LIMITED

Certificate Number Baseefa02ATEX0060/1

### 15 Description of the variation to the Equipment or Protective System

#### Variation 1.1

Additional, compression type, cable glands, as certificate Sira01ATEX1272X. These glands are for use with single core cables as shown on the drawing below.

#### Variation 1.2

Additional, barrier compression type, cable glands, as certificates BAS01ATEX2079X, BAS01ATEX2080X, BAS01ATEX2082X, BAS01ATEX2077X, Sira00ATEX1073U, Sira01ATEX1285X and Sira03ATEX1479X. These glands are for use with multi core cables as shown on the drawing below.

#### Variation 1.3

Additional cables for use with the appropriate glands, electrical ratings and ambient temperatures as shown on the drawing below.

### 16 Report Number

Baseefa Certification Report 04(CI)0226

### 17 Special Conditions for Safe Use

None additional to those listed previously

### 18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

### 19 Drawings and Documents

Number	Sheet	Issue	Date	Description
I/4726/826	-	C	26 APR 04	Cables and Glands Details – All Units



**1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/2**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. **1428**

Project File No. **06/0775**

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## Schedule

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Certificate Number Baseefa02ATEX0060/2

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T.E.L. ENGINEERING LIMITED

15 Description of the variation to the Equipment or Protective System

### Variation 2.1

Revised cabling arrangements comprising the use of compression type glands as certificates Baseefa06ATEX0056X, and Baseefa06ATEX0057X only, and barrier compression type glands as certificates, Baseefa06ATEX0058X and SIRA 06ATEX1097X only.

Revised use of increased safety terminals comprising those having certificates KEMA 97ATEX1798U, KEMA 98ATEX1683U, KEMA 98ATEX1684U and KEMA 98ATEX1686U only.

To confirm that the equipment covered by this certificate as amended by the above changes has been reviewed against the requirements of EN60079-0: 2004, EN60079-1: 2004, EN 60079-7: 2003, IEC61241-0 and IEC61241-1 in respect of the differences from the standards to which this certificate was issued; none of these differences affect this equipment.

The units so formed are marked:

Ⓔ II 2 GD Exde IIB Ex tD A21 IP66 T100°C (T<sub>amb</sub> = see original certificate)

### Variation 2.2

Revised cabling arrangements comprising the use of compression type glands as certificates SIRA06ATEX1270X and SIRA01ATEX1272X only, and barrier compression type glands as certificates SIRA03ATEX1479X only.

Revised use of increased safety terminals comprising those having certificates KEMA 97ATEX1798U, KEMA 98ATEX1683U, KEMA 98ATEX1684U and KEMA 98ATEX1686U only.

To confirm that the equipment covered by this certificate as amended by the above changes has been reviewed against the requirements of EN60079-0: 2004, EN60079-1: 2004 and EN 60079-7: 2003 in respect of the differences from the standards to which this certificate was issued; none of these differences affect this equipment.

The units so formed are marked:

Ⓔ II 2 G Exde IIB T5 (T<sub>amb</sub> = see original certificate)

16 Report Number

None

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
1/4726/991	-	A	22 NOV 06	TX4726/7 & 8, EN/IEC Standards Glands & Terminals
3/4726/990	-	A	20 SEP 06	TX472* Series Slip Ring EN/IEC Standards
3/4726/992	-	A	30 NOV 06	TX472* Alternative Code Labels



## SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/3**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**

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- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.


Baseefa Customer Reference No. **1428**

Project File No. **07/0155**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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Baseefa (2001) Ltd.



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## Schedule

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Certificate Number Baseefa02ATEX0060/3

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T.E.L. ENGINEERING LIMITED

## 15 Description of the variation to the Equipment or Protective System

### Variation 3.1

Reduction in the maximum current rating for the Type TX4727 and the Type 4728 Slip Ring Units to form the Type TX4727BW and the Type 4728BW Slip Ring Units.

The maximum external ambient temperature for these units is increased to +45°C. The enclosures are not to be opened when a flammable gas or dust atmosphere is present; a warning label to that effect is attached.

Unit Type	Maximum a.c. Voltage	Maximum Total Current	Ambient Range
TX4726BW	750Va.c.	1500A	-20°C to +45°C
TX4728BW	750Va.c.	900A	-20°C to +45°C

The units so formed are marked:

⊕ II 2 GD Exde IIB Ex tD A21 IP66 T100°C (T<sub>amb</sub> = -20° to +45°C)

## 16 Report Number

None

## 17 Special Conditions for Safe Use

None additional to those listed previously

## 18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety requirements is not affected by this variation.

## 19 Drawings and Documents

Number	Sheet	Issue	Date	Description
1/4726/994	-	A	19 FEB 07	TX4726BW & TX4728BW Slip Ring Collector



**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/4**

Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**

Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**

Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**

This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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**T.E.L. ENGINEERING LIMITED**

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Baseefa Customer Reference No. **1428**

Project File No. **07/0662**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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**DIRECTOR**  
On behalf of  
Baseefa (2001) Ltd.



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Certificate Number Baseefa02ATEX0060/4

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T.E.L. ENGINEERING LIMITED

15 Description of the variation to the Equipment or Protective System

### Variation 4.1

To permit recovery of the bearing boss.

16 Report Number

None

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
1/4726/1010	-	A	11 AUG 07	Bearing Boss Recovery



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/5**

4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**

5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**

6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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This supplementary certificate shall be held with the original certificate.

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Baseefa Customer Reference No. **1428**

Project File No. **07/0796**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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## Schedule

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Certificate Number Baseefa02ATEX0060/5

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### 15 Description of the variation to the Equipment or Protective System

#### Variation 5.1

Alternative mounting positions for the cable entries on the increased safety junction box.

#### Variation 5.2

Alternative S6 40% duty cycle as defined in IEC 60034-1.

The maximum current in the motor power circuits is increased to 4500A at 500V a.c..

### 16 Report Number

None

### 17 Special Conditions for Safe Use

None additional to those listed previously

### 18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety requirements is not affected by this variation.

### 19 Drawings and Documents

Number	Sheet	Issue	Date	Description
1/4726/1012	-	A	21 JUNE 07	General Assembly TX4726/7/8



**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/6**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**
- 7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa02ATEX0060/6 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. **1428**

Project File No. **08/0229**

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**DIRECTOR**  
On behalf of  
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13 **Schedule**

14 **Certificate Number Baseefa02ATEX0060/6**

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15 **Description of the variation to the Equipment or Protective System**

**Variation 6.1**

Reduction in the maximum current throughput to 1650A and an increase in the maximum ambient temperature to 75°C.

The above variations apply only to the **Type TX4727 Slip Ring Unit**, the coding is to be amended to:-

Ⓔ II 2 GD Exde IIB Ex tD A21 IP66 T100°C (-20°C ≤ T<sub>amb</sub> ≤ +75°C)

or

Ⓔ II 2 G Exde IIB T5 (-20°C ≤ T<sub>amb</sub> ≤ +75°C)

**Variation 6.2**

Alternative mounting positions for the cable entries on the increased safety junction box.

16 **Report Number**

Baseefa Certification Report 08(C)0229

17 **Special Conditions for Safe Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
I/4726/1036	-	B	25 JUN 08	Type TX4726, TX4727 and TX4728 Slip Ring Units



**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

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**T.E.L. ENGINEERING LIMITED**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/7**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. **1428**

Project File No. **08/0553**

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Baseefa



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## Schedule

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Certificate Number Baseefa02ATEX0060/7

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T.E.L. ENGINEERING LIMITED

### 15 Description of the variation to the Equipment or Protective System

#### Variation 7.1

Reduction in the minimum ambient temperature to  $-40^{\circ}\text{C}$ .

The above variations apply to the **Type TX4726, TX4727 and TX4728 Slip Ring Units**,  
the coding is to be amended to:-

Ⓔ II 2 GD Exde IIB Ex tD A21 IP66 T100°C ( $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ )

or

Ⓔ II 2 G Exde IIB T5 ( $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ )

#### Variation 7.2

To confirm that the review of standards shown at variation 2.1 and 2.2 remain correct for EN 60079-0: 2006 replacing EN 60079-0: 2004. Note that the component certificates listed at those variations have been amended to show compliance with EN 60079-7:2003.

### 16 Report Number

Baseefa Certification Report 08(C)0553

### 17 Special Conditions for Safe Use

None.

### 18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

### 19 Drawings and Documents

Number	Sheet	Issue	Date	Description
3/4726/1064	-	B	9 SEP 08	Type TX4726, TX4727 and TX4728 Slip Ring Units- Lower Ambient Temperature



**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/8**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L Engineering Limited also trading as Trolex Engineering**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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**T.E.L. ENGINEERING LIMITED**

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Baseefa Customer Reference No. **1428**

Project File No. **09/0781**

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**Baseefa**

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e-mail [info@baseefa.com](mailto:info@baseefa.com) web site [www.baseefa.com](http://www.baseefa.com)  
Baseefa is a trading name of Baseefa Ltd  
Registered in England No. 4305578. Registered address as above.

**R S SINCLAIR**  
**DIRECTOR**  
On behalf of  
Baseefa



## Schedule

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14

Certificate Number Baseefa02ATEX0060/8

15 Description of the variation to the Equipment or Protective System

### Variation 8.1

Change to the temperature class with an increase in the maximum ambient temperature to +50°C.

The above variations apply to the Type TX4726, TX4727 and TX4728 Slip Ring Units, the marking is to be amended to:-

⊕ II 2 GD Exde IIB Ex tD A21 IP66 T135°C (-40°C ≤ T<sub>amb</sub> ≤ +50°C)

or

⊕ II 2 G Exde IIB T4 (-40°C ≤ T<sub>amb</sub> ≤ +50°C)

16 Report Number

Baseefa Certification Report 09(C)0781

17 Special Conditions for Safe Use

None.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
3/4726/1155	-	A	15 DEC 09	Type TX4726, TX4727 and TX4728 Slip Ring Units -40°C to +50°C

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**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060/9**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 9DY**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa02ATEX0060** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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Baseefa Customer Reference No. **1428**

Project File No. **11/0908**

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**Baseefa**

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Baseefa is a trading name of Baseefa Ltd  
Registered in England No. 4305578. Registered address as above.

**R S SINCLAIR**  
**DIRECTOR**  
On behalf of  
Baseefa



## Schedule

13

14

Certificate Number Baseefa02ATEX0060/9

15

Description of the variation to the Equipment or Protective System

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T.E.L. ENGINEERING LIMITED

### Variation 9.1

To permit the addition of a Type TX4727HT slipring rated up to 350A with a temperature classification of T4 and an ambient temperature range of -20°C to +60°C.

16

Report Number

Baseefa Certification Report GB/BAS/ExTR11.0304/00.

17

Specific Conditions of Use

None additional to those listed previously.

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

Number	Issue	Date	Description
3/4726/1265	A	10.11.11	Certification label TX 4727HT

This drawing is common to and held with IECEx BAS 09.0099.



## SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

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

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T.E.L. ENGINEERING LIMITED

Supplementary EC - Type  
Examination Certificate Number: Baseefa02ATEX0060X/10

Equipment or Protective System: Type TX4726, TX4727 and TX4728 Slip Ring Units

Manufacturer: T.E.L. Engineering Limited (Trading as Trolex Engineering)

Address: Newby Road, Hazel Grove, Stockport, Cheshire, SK7 9DY

This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

Item 9 of the original Certificate is replaced by "Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2004    EN 60079-1: 2004    EN 60079-7: 2003    EN 60079-28: 2007

except in respect of those requirements listed at item 18 of the Schedule."

The original marking of the equipment has not changed from the original Certificate and shall include the following:

⊕ II 2 GD    Ex de IIB T\* Ta -\*\*°C to + \*\*°C (\* and \*\* see original Certificate)

For the Type TX472\*FO the units are coded:

⊕ II 2 GD    Ex de op is IIB T\* Ta -\*\*°C to + \*\*°C (\* and \*\* see original Certificate)

This certificate shall be held with the original certificate and may only be reproduced in its entirety, without any change, schedule included.

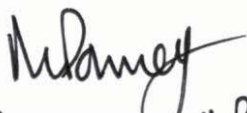
Baseefa Customer Reference No. 1428

Project File No. 12/0342

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### Baseefa

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Baseefa is a trading name of Baseefa Ltd  
Registered in England No. 4305578. Registered address as above.

  
P. S. SINCLAIR  
DIRECTOR  
On behalf of  
Baseefa



## Schedule

13

14

Certificate Number Baseefa02ATEX0060X/10

15 Description of the variation to the Equipment or Protective System

### Variation 10.1

To delete some of the sliprings and replace with a fibre optic rotary joint (FORJ) within the TX4726, TX4727 and TX4728 flameproof enclosure to produce Types TX4726FO, TX4727FO and TX4728FO units respectively.

The Type TX472\*FO units are coded:-

Ex de op is IIB T\* Ta -\*\*°C to + \*\*°C (\* as original certificate.)

### Variation 10.2

To provide extra blind fixing holes within the slipring endplates for the type TX4726, TX4727 and TX4728 slip rings.

16 Report Number

Baseefa Certification Report GB/BAS/ExTR12.0203/00.

17 Specific Conditions of Use

The optical power through the Types TX4726FO, TX4727FO and TX4728FO slip ring units is to be limited to a radiated power of less than 35mW and a peak power density of less than 5mW/mm<sup>2</sup> as defined by IEC60079-28.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
*1/4726/1285	-	B	01.08.12	General Assembly TX4726/7/8 Units with FORJ
1/4726/100	1 to 7 inc.	F	08.08.12	General Assembly TX4726 Unit
1/4726/180	1 to 6 inc.	G	09.08.12	General Assembly TX4727 Unit
1/4726/300	1 to 5 inc.	D	09.08.12	General Assembly TX4728 Unit
1/4726/1012	-	B	09.08.12	TX4726/7/8 Units with Duty Cycle
1/4726/1036	-	C	09.08.12	TX4727 High Temperature Unit
1/4726/825	-	C	08.08.12	TX4726/7/8 High Voltage Units
1/4726/660	-	E	09.08.12	TX4726/7/8 Units with Relay
3/4726/992	-	B	08.08.12	Nameplate TX4726/7/8 Units
3/4726/994	-	B	08.08.12	Nameplate TX4726/7/8 Units
3/4726/520	-	D	08.08.12	Nameplate TX4727BW Unit
3/4726/1155	-	B	09.08.12	Nameplate TX4726/7/8 Units Low Temperature
3/4726/1064	-	C	09.08.12	Nameplate TX4726/7/8 Units Low Temperature

\*This drawing is common to and held with IECEx BAS 09.0099X.

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**1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

**3** Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060X/11**

**4** Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**

**5** Manufacturer: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**

**6** Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**

**7** This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

**8** Item 9 of the original Certificate is replaced by “Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0:2012 EN 60079-1:2007 EN 60079-7:2007 EN 60079-28:2007 EN 60079-31:2009**

except in respect of those requirements listed at item 18 of the Schedule.”

**9** The marking of the equipment has changed from the original Certificate and shall include the following:

⊕ **II 2 GD Ex d e IIB T\* Gb T<sub>amb</sub> -\*\*\*°C to +\*\*°C (\* and \*\* see Schedule)  
Ex tb IIIC T\*\*°C Db**

With the exception of the Type TX472\*FO, which is instead marked:

⊕ **II 2 GD Ex d e op is IIB T4 Gb T<sub>amb</sub> -40°C to +50°C  
Ex tb IIIC T135°C Db**

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This certificate shall be held with the original certificate.

Baseefa Customer Reference No. **1428**

Project File No. **13/0415**

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Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

*PP R S SINCLAIR M BOWNEY*  
**PP R S SINCLAIR M BOWNEY**  
**GENERAL MANAGER**

On behalf of SGS Baseefa Limited

13

## Schedule

14

Certificate Number Baseefa02ATEX0060X/11

15 Description of the variation to the Equipment or Protective System

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### Variation 11.1

To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-28: 2007 and EN 60079-31: 2009 in respect of the differences from the standards to which this certificate was issued; none of these differences affect this equipment apart from a change to the marking requirements.

### Variation 11.2

To amend the marking of the equipment to include the 'tb' method of protection by enclosure.

### Variation 11.3

To clarify the technical drawings controlled by this certificate. Drawings not listed in section 19 below are no longer extant and are not controlled as part of this certificate.

### Variation 11.4

To change the T rating of the TX4726 only, from T4 to T5 with no change to the ambient temperature rating.

Equipment Marking Variations			
T*	** - T <sub>amb</sub>	Unit Type	Current
T5/T100°C	-40°C to +50°C	TX4726	3000A
T4/T135°C	-40°C to +50°C	TX4727	3000A
T4/T135°C	-40°C to +50°C	TX4728	1800A
T4/T135°C	-40°C to +50°C	TX472*FO (Fibre Optic variant)	3000A
T5/T100°C	-20°C to +75°C	TX4727HT (High Temperature, reduced current variant)	1650A
T5/T100°C	-20°C to +30°C	TX4726R (Relay Unit)	3000A
T4/T135°C	-20°C to +30°C	TX4727R (Relay Unit)	3000A
T4/T135°C	-20°C to +30°C	TX4728R (Relay Unit)	1800A

16 Report Number

GB/BAS/ExTR13.0151/00.

17 Specific Conditions of Use

None additional to those listed previously.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

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19 Drawings and Documents

Number	Sheet	Issue	Date	Description
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The following drawings are common to and held with certificate IECEX BAS09.0099X.

1/4726/1393	1 of 1	A	01/02/13	Nameplate Drawing
1/4726/1285	1 of 1	C	14/10/13	General Assembly TX472*FO

The following drawings are held with certificate Baseefa02ATEX0060X.

1/4726/100	1 to 7	H	07/10/13	General Assembly TX4726 Unit
1/4726/180	1 to 6	I	03/10/13	General Assembly TX4727 Unit
1/4726/300	1 to 5	E	08/10/13	General Assembly TX4728 Unit
1/4726/660	1 of 1	F	03/10/13	TX 4726/7/8 Units with Relay
1/4726/825	1 of 1	D	03/10/13	TX 4726/7/8 High Voltage Units
1/4726/1010	1 of 1	B	25/08/09	Bearing Boss Recovery
1/4726/1012	1 of 1	C	03/10/13	TX 4726/7/8 Units with Duty Cycle
1/4726/1036	1 of 1	D	10/10/13	TX4727 General Assembly

## SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060X/12**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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Baseefa Customer Reference No. **1428**

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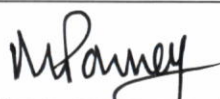
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e-mail [info@baseefa.com](mailto:info@baseefa.com) web site [www.baseefa.com](http://www.baseefa.com)

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Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

  
P R S SINCLAIR MPOWNEY  
GENERAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa02ATEX0060X/12**

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15 **Description of the variation to the Equipment or Protective System**

**Variation 12.1**

To clarify that the MCT2000 cable transit system is no longer available as an optional cable entry device in this equipment. All drawings showing the cable transit have been modified to remove this item.

16 **Report Number**

SGS Baseefa certification report GB/BAS/ExTR14.0078/00.

17 **Specific Conditions of Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
1/4726/1285	1 of 1	C	14/10/13	General Assembly TX4726/7/8 with FORJ

The drawing above is common to and held with certificate IECEx BAS 09.0099X.

1/4726/100	1 to 7	H	07/10/13	General Assembly TX4726 Unit
1/4726/180	1 to 6	I	03/10/13	General Assembly TX4727 Unit
1/4726/300	1 to 5	E	08/10/13	General Assembly TX4728 Unit
1/4726/660	1 of 1	F	03/10/13	TX 4726/7/8 Units with Relay
1/4726/825	1 of 1	D	03/10/13	TX 4726/7/8 High Voltage Units
1/4726/1012	1 of 1	C	03/10/13	TX 4726/7/8 Units with Duty Cycle
1/4726/1036	1 of 1	D	10/10/13	TX4727 General Assembly

1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060X/13**

4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**

5 Manufacturer: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**

6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0060X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. **1428**

Project File No. **14/0352**

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GENERAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa02ATEX0060X/13**

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15 **Description of the variation to the Equipment or Protective System**

**Variation 13.1**

To permit a new variant of the TX4726 Ring Unit only. This variant will operate at an increased maximum current of 3330A with a temperature classification of T4 ( $T_{amb}$  -40°C to +50°C). In this form the unit is designated TX4726HC.

⊠ II 2 GD Ex d e IIB T4 Gb ( $T_{amb}$  -40°C to +50°C)  
Ex tb IIIC T135°C Db

**Variation 13.2**

To allow an optional increase in the bore diameter of the central shaft from 22mm to 50mm. This applies only to the TX4726 and its variants, including the TX4726FO.

16 **Report Number**

SGS Baseefa certification report GB/BAS/ExTR14.0175/00.

17 **Specific Conditions of Use**

1. The optical power through the Types TX4726FO, TX4727FO and TX4728FO slip ring units is to be limited to a radiated power of less than 35mW and a peak power density of less than 5mW/mm<sup>2</sup> as defined by EN 60079-28.
2. The TX4726HC variant makes use of flamepaths with dimensions different to those listed in Table 1 of EN 60079-1; if further information is required the original manufacturer must be contacted.

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
1/4726/100	1 to 7	I	05/06/14	General Assembly TX4726 (ATEX Version)

The drawings above are common to and held with Baseefa02ATEX0060X only.

**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0060X/14**
- 4 Equipment or Protective System: **Type TX4726, TX4727 and TX4728 Slip Ring Units**
- 5 Manufacturer: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**
- 6 Address: **Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa02ATEX0060X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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Baseefa Customer Reference No. **1428**

Project File No. **14/0863**

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R S SINCLAIR

GENERAL MANAGER

On behalf of SGS Baseefa Limited

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## Schedule

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Certificate Number Baseefa02ATEX0060X/14

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Description of the variation to the Equipment or Protective System

### Variation 14.1

To allow for an increase in voltage to 6.3kV for the Type TX472\* High Voltage variant.

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Report Number

Baseefa Certification Report GB/BAS/ExTR14.0359/00.

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Specific Conditions of Use

None additional to those listed previously.

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Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

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Drawings and Documents

Number	Sheet	Issue	Date	Description
1/4726/1560*	1 of 1	B	10 Jan 2015	GA – TX 4276/7/8 High Voltage Units (ATEX)
IECEX 1/4726/1561**	1 of 1	B	10 Jan 2015	GA – TX 4276/7/8 High Voltage Units (IECEX)
1/4726/1532***	1 of 1	C	31 Jan 2015	6kV Terminal Arrangement

\*This drawing is common to and held with Baseefa02ATEX0060X.

\*\* This drawing is common to and held with IECEX BAS 09.0099X.

\*\*\* This drawing is common to Baseefa02ATEX0060X and IECEX BAS 09.0099X and is held with the latter.

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