



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 CML 15.0066X Issue No: 0 Certificate history:
Issue No. 0 (2016-02-05)

Status: **Current** Page 1 of 3

Date of Issue: **2016-02-05**

Applicant: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**
Newby Road
Hazel Grove
Stockport
SK7 5DA
United Kingdom

Electrical Apparatus: **Type TX4714 Slip Ring Unit**
Optional accessory:

Type of Protection: **Ex d, Ex e & Ex t**

Marking:
Ex db eb IIB T6 Gb
Ex tb IIIC T85°C Db
Tamb = -40°C to +55°C , or, -20°C to +45°C

Approved for issue on behalf of the IECEx
Certification Body:

M D Shearman FlinstMC

Position:

Managing Director

Signature:
(for printed version)

Date:

February 5, 2016

1. This certificate and schedule may only be reproduced in full.
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3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Certification Management Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port
CH65 4LZ
United Kingdom



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IECEx Certificate of Conformity

Certificate No: IECEx CML 15.0066X

Issue No: 0

Date of Issue: **2016-02-05**

Page 2 of 3

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

Newby Road
Hazel Grove
Stockport
SK7 5DA
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 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*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/CML/ExTR15.0069/00](#)

Quality Assessment Report:

[GB/BAS/QAR08.0003/05](#)

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IECEx Certificate of Conformity

Certificate No: IECEx CML 15.0066X

Issue No: 0

Date of Issue: **2016-02-05**

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type TX4714 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The flameproof enclosure is stationary when installed and has a flange or foot at one end for mounting the enclosure. There is an increased safety terminal compartment mounted to the side of the stationary flameproof enclosure, and housing increased safety terminals.

Refer to certificate Annex for full description.

CONDITIONS OF CERTIFICATION: YES as shown below:

Refer to certificate Annex

Annex:

[IECEx CML 15.0066X - Certificate Annex Issue 0.pdf](#)

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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

Certificate No.: IECEx CML 15.0066X

Issue No: 1

Certificate history:

Issue No. 1 (2018-07-25)

Issue No. 0 (2016-02-05)

Status: **Current**

Page 1 of 4

Date of Issue: **2018-07-25**

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

Unit 2 Levens Road
Newby Road Industrial Estate
Hazel Grove
Stockport
Cheshire
SK7 5DL
United Kingdom

Equipment: **Type TX4714 Slip Ring Unit**

Optional accessory:

Type of Protection: **Ex d, Ex e & Ex t**

Marking:

Ex db eb IIB T6 Gb

Ex tb III C T85°C Db

Tamb = -40°C to +55°C , or, -20°C to +45°C

Approved for issue on behalf of the IECEx
Certification Body:

A Snowdon MIET

Position:

Certification Officer

Signature:
(for printed version)

A Snowdon

Date:

July 25, 2018

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IECEx Certificate of Conformity

Certificate No: IECEx CML 15.0066X Issue No: 1

Date of Issue: 2018-07-25 Page 2 of 4

Manufacturer: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**
Unit 2 Levens Road
Newby Road Industrial Estate
Hazel Grove
Stockport
Cheshire
SK7 5DL
United Kingdom

Additional Manufacturing location(s):

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STANDARDS:

The 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 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*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/CML/ExTR15.0069/00](#) [GB/CML/ExTR18.0119/00](#)

Quality Assessment Report:

[GB/BAS/QAR08.0003/07](#)

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IECEx Certificate of Conformity

Certificate No: IECEx CML 15.0066X

Issue No: 1

Date of Issue: 2018-07-25

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type TX4714 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The flameproof enclosure is stationary when installed and has a flange or foot at one end for mounting the enclosure. There is an increased safety terminal compartment mounted to the side of the stationary flameproof enclosure, and housing increased safety terminals.

Refer to certificate Annex for full description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to certificate Annex

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IECEx Certificate of Conformity

Certificate No: IECEx CML 15.0066X

Issue No: 1

Date of Issue: 2018-07-25

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

Issue 1 introduces the following modifications

1. Update of the applicant/manufacture's address.

Annex:

[IECEx CML 15.0066X - Certificate Annex Issue 1.pdf](#)

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Annexe to: IECEx CML 15.0066X Issue 1
Applicant: T.E.L. Engineering Limited
(Trading as Trolex Engineering)
Apparatus: Type TX4714 Slip Ring Unit



Description

The Type TX4714 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The flameproof enclosure is stationary when installed and has a flange or foot at one end for mounting the enclosure. There is an increased safety terminal compartment mounted to the side of the stationary flameproof enclosure, and housing increased safety terminals.

There is a shaft through the centre of the flameproof enclosure which rotates on rolling element bearings. A second increased safety terminal enclosure, housing increased safety terminals, is mounted to the top of the shaft, allowing it to rotate in relation to the flameproof enclosure.

Electrical connections are made between the flameproof enclosure and the two increased safety enclosures via certified flameproof cable glands.

The maximum supply voltage of the equipment is 1000 V. The internal slip rings are individually rated up to 100 A, and may be used for power, signal and intrinsically safe circuits. The maximum total throughput current is 400 Amps plus earths, screens and Neutral.

Conditions of Manufacture

The following are conditions of manufacture:

- i. The flameproof compartment of each unit shall be subjected to a routine overpressure test in accordance with IEC 60079-1:2014, clause 16. A pressure of 12 bar shall be applied for a period of at least 10 seconds. There shall be no permanent deformation or damage to the enclosure or leakage via the enclosure walls or any welded joints.
- ii. The increased safety compartments of each unit shall be subjected to routine dielectric strength testing in accordance with IEC 60079-7:2015, clause 7.1. A test voltage of 3000 V r.m.s. shall be applied for 1 minute. Alternatively, a test voltage of 3600 V r.m.s. shall be maintained for 100 ms. No dielectric breakdown or flashover shall occur.
- iii. The equipment covered by this certificate includes previously certified devices. It is the manufacturer's responsibility to continually monitor the status of these certified devices. These devices shall be installed in accordance with their certificates and instructions. The manufacturer shall also inform Certification Management Limited of any changes to these devices that may impact upon the explosion safety aspects of their equipment. A copy of the appropriate certification documentation for these devices shall be provided to the end user.

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- iv. Regarding the threaded holes between the flameproof and increased safety compartments; these shall be fitted with IECEx approved cable glands, certified Ex db IIB Gb and be suitable for the following service temperature range:

Marked ambient on equipment	Service temperature range of glands
-40°C to +55°C	-40°C to +74°C
-20°C to +45°C	-20°C to +64°C

These shall be installed in accordance with their IECEx certificate, their instruction manual, and with IEC 60079-14. A suitable cable shall be selected. Any unused threaded holes shall be fitted with stopping plugs which meet the above installation and certification requirements.

The cable entries into the increased safety compartment may also occasionally be fitted with cable glands and cable by the manufacturer. In these cases, these cable glands shall be certified Ex e II Gb and Ex tb IIIC Db, and also be selected and installed in accordance with the above requirements.

IECEx Conditions of Certification (Special Conditions for Safe Use)

- i. External cable glands installed into threaded entries on the increased safety enclosures shall be fitted with their associated gasket/sealing ring at the enclosure interface. The cable glands shall be IECEx certified Ex eb IIC Gb and Ex tb IIIC Db and capable of maintaining an IP rating of at least IP64 when the gaskets/seals are installed.



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.:	IECEx CML 15.0066X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2018-07-25) Issue 0 (2016-02-05)
Date of Issue:	2022-05-05		
Applicant:	T.E.L. Engineering Limited (Trading as Trolex Engineering) Unit 2 Levens Road Newby Road Industrial Estate Hazel Grove Stockport Cheshire SK7 5DL United Kingdom		
Equipment:	Type TX4714 Slip Ring Unit		
Optional accessory:			
Type of Protection:	Ex d, Ex e & Ex t		
Marking:	Ex db eb IIB T6 Gb Ex tb III C T85°C Db Tamb = -40°C to +55°C , or, -20°C to +45°C		

Approved for issue on behalf of the IECEx
Certification Body:

L A Brisk

Position:

Certification Officer

Signature:
(for printed version)

Date:
(for printed version)

2022-05-05

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Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

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IECEx Certificate of Conformity

Certificate No.: **IECEx CML 15.0066X**

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Date of issue: 2022-05-05

Issue No: 2

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

Unit 2 Levens Road
Newby Road Industrial Estate
Hazel Grove
Stockport
Cheshire SK7 5DL
United Kingdom

Manufacturing locations: **T.E.L. Engineering Limited (Trading as Trolex Engineering)**

Unit 2 Levens Road
Newby Road Industrial Estate
Hazel Grove
Stockport
Cheshire SK7 5DL
United Kingdom

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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 Reports:

[GB/CML/ExTR15.0069/00](#)

[GB/CML/ExTR18.0119/00](#)

[GB/CML/ExTR22.0092/00](#)

Quality Assessment Report:

[GB/BAS/QAR08.0003/09](#)

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IECEx Certificate of Conformity

Certificate No.: **IECEx CML 15.0066X**

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Date of issue: 2022-05-05

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Type TX4714 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The flameproof enclosure is stationary when installed and has a flange or foot at one end for mounting the enclosure. There is an increased safety terminal compartment mounted to the side of the stationary flameproof enclosure, and housing increased safety terminals.

Refer to certificate Annex for full description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to certificate Annex

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IECEx Certificate of Conformity

Certificate No.: **IECEx CML 15.0066X**

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Date of issue: 2022-05-05

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This variation introduces the following modification:

1. Update of the applicant/manufacture's address.

Issue 2

This variation introduces the following modifications:

1. Updating EN 60079-0:2012 and IECEx 60079-0:2011 Ed 6 to EN IEC 60079-0:2018 and IEC 60079-0:2017 Ed 7
2. Updating EN 60079-7:2007 to EN IEC 60079-7:2015+A1:2018 and IEC 60079-7:2015 Ed 5 to IEC 60079-7:2017 Ed 5.1

Annex:

[Certificate Annex IECEx.pdf](#)

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T.E.L. ENGINEERING LIMITED

Annexe to: IECEx CML 15.0066X Issue 2
Applicant: T.E.L. Engineering Limited (Trading as Trolex Engineering)
Apparatus: Type TX4714 Slip Ring Unit

Description

The Type TX4714 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The flameproof enclosure is stationary when installed and has a flange or foot at one end for mounting the enclosure. There is an increased safety terminal compartment mounted to the side of the stationary flameproof enclosure, and housing increased safety terminals.

There is a shaft through the centre of the flameproof enclosure which rotates on rolling element bearings. A second increased safety terminal enclosure, housing increased safety terminals, is mounted to the top of the shaft, allowing it to rotate in relation to the flameproof enclosure.

Electrical connections are made between the flameproof enclosure and the two increased safety enclosures via certified flameproof cable glands.

The maximum supply voltage of the equipment is 1000 V. The internal slip rings are individually rated up to 100 A, and may be used for power, signal and intrinsically safe circuits. The maximum total throughput current is 400 Amps plus earths, screens and Neutral.

Conditions of Manufacture

- i. The flameproof compartment of each unit shall be subjected to a routine overpressure test in accordance with EN 60079-1:2014, clause 16. A pressure of 12 bar shall be applied for a period of at least 10 seconds. There shall be no permanent deformation or damage to the enclosure or leakage via the enclosure walls or any welded joints.
- ii. The increased safety compartments of each unit shall be subjected to routine dielectric strength testing in accordance with EN 60079-7:2007, clause 7.1. A test voltage of 3000 V r.m.s. shall be applied for 1 minute. Alternatively, a test voltage of 3600 V r.m.s. shall be maintained for 100 ms. No dielectric breakdown or flashover shall occur.

Eurofins E&E CML Limited
Newport Business Park
New Port Road
Ellesmere Port
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E info@cmlex.com

www.cmlex.com

Company Reg No. 8554022 VAT No. GB163023642



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- iii. The equipment covered by this certificate includes previously certified devices. It is the manufacturer's responsibility to continually monitor the status of these certified devices. These devices shall be installed in accordance with their certificates and instructions. The manufacturer shall also inform Certification Management Limited of any changes to these devices that may impact upon the explosion safety aspects of their equipment. A copy of the appropriate certification documentation for these devices shall be provided to the end user.
- iv. Regarding the threaded holes between the flameproof and increased safety compartments; these shall be fitted with ATEX approved cable glands, certified Ex db IIB Gb and be suitable for the following service temperature range:

Marked ambient on equipment	Service temperature range of glands
-40°C to +55°C	-40°C to +74°C
-20°C to +45°C	-20°C to +64°C

These shall be installed in accordance with their ATEX certificate, their instruction manual, and with EN 60079-14. A suitable cable shall be selected. Any unused threaded holes shall be fitted with stopping plugs which meet the above installation and certification requirements.

The cable entries into the increased safety compartment may also occasionally be fitted with cable glands and cable by the manufacturer. In these cases, these cable glands shall be certified Ex e II Gb and Ex tb IIIC Db, and also be selected and installed in accordance with the above requirements.

Specific Conditions of Use

- i. External cable glands installed into threaded entries on the increased safety enclosures shall be fitted with their associated gasket/sealing ring at the enclosure interface. The cable glands shall be ATEX certified Ex eb IIC Gb and Ex tb IIIC Db and capable of maintaining an IP rating of at least IP64 when the gaskets/seals are installed.