



LCIE



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 LCI 06.0005X**

Issue No.: **0**

Status : **Current**

Page 1 of 4

Date of Issue : **2006-04-28**

Applicant : **Heatex Limited**
Threxton Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Electrical Apparatus : **Liquid air gas Heater**

Optional accessory :

Type of Protection : **'e'**

Marking: **Ex e II T1 to T6**
LCI 06.0005 X
Ta = -60°C to +60°C
Maximum safety trip temperature :
Element: Process / Flange:
WARNING – DO NOT OPEN WHEN ENERGIZED

Approved for issue on behalf of the IECEx
Certification Body :

Marc GILLAUX

Position :

Ex Certification Manager

Signature :
(for printed version)

Date : *29/05/2006*

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 :

**Laboratoire Central des Industries
Electriques (LCIE)**
33 Avenue du Général Leclerc
FR-92260 Fontenay-aux-Roses
France



LCIE



L C I E



IECEX Certificate of Conformity

Certificate No. : **IECEX LCI 06.0005X**

Date of Issue : **2006-04-28**

Issue No.: **0**

Page **2** of **4**

Manufacturer: **Heatex Limited**
Threxton Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Manufacturing location(s): **Heatex Limited**
Threxton Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
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 manufacture'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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: 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:

[FR/LCI/ExTR06.0009/00](#)

Quality Assessment Report:

[FR/LCI/QAR06.0005/00](#)



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IECEx Certificate of Conformity

Certificate No. : IECEx LCI 06.0005X

Date of Issue : 2006-04-28

Issue No.: 0

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Schedule

EQUIPMENT :

Equipment and systems covered by this certificate are as follows :

The main enclosure is made of stainless steel or coated mild steel, with gland plates of the same material. This enclosure comes in a range of size from 100mm x 100mm x 60mm up to 2000mm x 2000mm x 550mm. A gasket is bonded using RTV silicon to the lid of the box and gland plates which are closed by M6x12 hexagonal head screw associated to M6 rivet bush. The temperature inside the box is limited to 80°C. Anti-condensation heaters may be fitted inside the main enclosure.

Supply cables enter the box via "Ex e" or "Ex d" certified cable glands fitted into the gland plates. Both of the internal and external earth studs are made from brass or stainless steel.

Tubular heating elements made of stainless steel, incoloy, inconnel or titanium with an insulating bead made of steatite or high alumina ceramic have a minimum cold length of 20mm and a maximum length of 6700mm. They enter the base of the enclosure via heating element gland made of brass or stainless steel including nitrile or silicon rubber 'o'ring. These elements may be paralleled together with small bus bars before being connected to the supply terminals.

An auxiliary terminal box may be fitted to connect the temperature sensors. This junction box may be positioned on any side providing that it is not within the stand off area. This box is designed on the same principles than the main enclosure. The temperature sensors are connected via Ex 'e' certified terminals. If an anti-condensation heater is mounted, any separate junction box must be mounted at least 50mm away from the anti-condensation heater.

CONDITIONS OF CERTIFICATION: YES as shown below

1. Flameproof Ex d barrier glands shall not be used
2. For assembly 150 mm minimum stand-off and non-stand-off versions, the auxiliary terminal box shall not be mounted nearer than the minimum stand-off distance of 50mm from the main enclosure side/base when the optional anti-condensation heater is mounted.
3. For assembly dummy flange version, additionally to the condition n°2, the installer and/or end user shall ensure that the dummy flange is fully seal welded to the lagging cover and that this cover prevents ingress of hazardous area. The installer and/or end user shall ensure that the lagging is applied between the dummy flange process and the process flange.
4. For assembly Heat shield version, additionally to the condition n°2, the installer and/or end user shall ensure that the heat shields are left unobstructed at all times.
5. For assembly type submersible heater, additionally to the condition n°2, the installer and/or end user shall ensure that the heater is de-energised if the liquid level does not completely cover the heating elements.
6. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1 mm of the metal of the terminal throat.



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IECEx Certificate of Conformity

Certificate No. : IECEx LCI 06.0005X

Date of Issue : 2006-04-28

Issue No.: 0

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Schedule

CONDITIONS OF CERTIFICATION (continued)

7. All the terminal screws used and unused shall be tightened down.

8. Suitable Ex d or Ex e cable glands and Ex e blanking plugs are to be fitted to maintain the required Ingress Protection rating.

9. Supply terminal lugs shall be insulated for the appropriate voltage and this insulation shall be set to maintain a minimum clearance of 15 mm.

10. A suitable temperature controller shall be fitted with a manually re-settable temperature trip (access to which is only possible by use of a key or tool) set to a maximum of :

T6 75 °C

T5 90 °C

T4 125 °C

T3 195 °C

T2 290 °C (Heat shield version only)

T1 440 °C (Heat shield version only)

and a trip response to allow the temperature class to be met or the elements shall be suitably down rated to allow an uncontrolled temperature maximum of 80°C (T6), 90°C (T5), 130°C (T4), 195°C (T3) when equated to an ambient of 40°C, 50°C or 60°C as appropriate.

11. The safety trip shall be set using the manufacturers setting up procedure number WI/09/131, prior to use, failure to adhere to this mandatory requirement nullified all certification.

12. Faulty/replacement safety trip controllers shall be set up as condition n°11, prior to use, failure to adhere to this mandatory requirement nullified all certification.

13. The anti-condensation heater supply shall be interlocked to prevent energization whilst the main power is present.

14. When installing supply cables due note should be taken that the anti-condensation heater without a guard may reach high temperature and the cables shall be routed a minimum of 50 mm away this heat source.

15. Busbars are only suitable for use at ambient from -40°C to +60°C.

16. Melamine terminals are suitable for use at ambient from -60°C to +60°C.

17. Conditions of certification concerning the components already certified depend on the relevant certificates.



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 LCI 06.0005X issue No.:1

Status: **Current**

Certificate history:

Issue No. 1 (2008-1-2)
Issue No. 0 (2006-4-28)

Date of Issue: 2008-01-02 Page 1 of 4

Applicant: **EXHEAT Ltd**
Threxton Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Electrical Apparatus: **Liquid Air Gas Heater**
Optional accessory:

Type of Protection: **Increased safety 'e'**

Marking: **EXHEAT Ltd**
Type
Serial Number
Ex e II T1 to T6
LCI 06.XXXX X
Ta = -60°C to +60°C
Maximum safety trip temperature :
Element: Process / Flange:
WARNING - DO NOT OPEN WHEN ENERGIZED

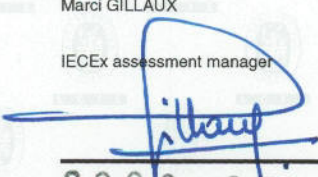
Approved for issue on behalf of the IECEx
Certification Body:

Marci GILLAUX

Position:

IECEX assessment manager

Signature:
(for printed version)


2008-07-10

Date:

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Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France



LCIE



IECEX Certificate of Conformity

Certificate No.: IECEx LCI 06.0005X

Date of Issue: 2008-01-02

Issue No.: 1

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Manufacturer: **EXHEAT Ltd**
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Manufacturing location(s):
EXHEAT Ltd
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
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 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: 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:

[FR/LCI/ExTR06.0009/00](#)

Quality Assessment Report:
[FR/LCI/QAR06.0005/00](#)

Certificate No.: IECEx LCI 06.0005X

Date of Issue: 2008-01-02

Issue No.: 1

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The main enclosure is made of stainless steel or coated mild steel, with gland plates of the same material. This enclosure comes in a range of size from 100mm x 100mm x 60mm up to 2000mm x 2000mm x 550mm. A gasket is bonded using RTV silicon to the lid of the box and gland plates which are closed by M6x12 hexagonal head screw associated to M6 rivet bush. The temperature inside the box is limited to 80°C. Anti-condensation heaters may be fitted inside the main enclosure.

Supply cables enter the box via "Ex e" or "Ex d" certified cable glands fitted into the gland plates. Both of the internal and external earth studs are made from brass or stainless steel.

Tubular heating elements made of stainless steel, incoloy, inconnel or titanium with an insulating bead made of steatite or high alumina ceramic have a minimum cold length of 20mm and a maximum length of 6700mm. They enter the base of the enclosure via heating element gland made of brass or stainless steel including nitrile or silicon rubber 'o'ring. These elements may be paralleled together with small bus bars before being connected to the supply terminals.

An auxiliary terminal box may be fitted to connect the temperature sensors. This junction box may be positioned on any side providing that it is not within the stand off area. This box is designed on the same principles than the main enclosure. The temperature sensors are connected via Ex 'e' certified terminals. If an anti-condensation heater is mounted, any separate junction box must be mounted at least 50mm away from the anti-condensation heater.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Flameproof Ex d barrier glands shall not been used
2. For assembly 150 mm minimum stand-off and non-stand-off versions, the auxiliary terminal box shall not be mounted nearer than the minimum stand-off distance of 50mm from the main enclosure side/base when the optional anti-condensation heater is mounted.
3. For assembly dummy flange version, additionally to the condition n°2, the installer and/or end user shall ensure that the dummy flange is fully seal welded to the lagging cover and that this cover prevents ingress of hazardous area.
The installer and/or end user shall ensure that the lagging is applied between the dummy flange process and the process flange.
4. For assembly Heat shield version, additionally to the condition n°2, the installer and/or end user shall ensure that the heat shields are left unobstructed at all times.
5. For assembly type submersible heater, additionally to the condition n°2, the installer and/or end user shall ensure that the heater is de-energised if the liquid level does not completely cover the heating elements.
6. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1 mm of the metal of the terminal throat.
7. All the terminal screws used and unused shall be tightened down.
8. Suitable Ex d or Ex e cable glands and Ex e blanking plugs are to be fitted to maintain the required Ingress Protection rating.
9. Supply terminal lugs shall be insulated for the appropriate voltage and this insulation shall be set to maintain a minimum clearance of 15 mm.
10. A suitable temperature controller shall be fitted with a manually re-settable temperature trip (access to which is only possible by use of a key or tool) set to a maximum of :
T6 75 °C
T5 90 °C
T4 125 °C
T3 195 °C
T2 290 °C (Heat shield version only)
T1 440 °C (Heat shield version only)
and a trip response to allow the temperature class to be met or the elements shall be suitably down rated to allow an uncontrolled temperature maximum of 80°C (T6), 90°C (T5), 130°C (T4), 195°C (T3) when equated to an ambient of 40°C, 50°C or 60°C as appropriate.
11. The safety trip shall be set using the manufacturers setting up procedure number WI/09/131, prior to use, failure to adhere to this mandatory requirement nullified all certification.
12. Faulty/replacement safety trip controllers shall be set up as condition n°11, prior to use, failure to adhere to this mandatory requirement nullified all certification.
13. The anti-condensation heater supply shall be interlocked to prevent energisation whilst the main power is present.
14. When installing supply cables due note should be taken that the anti-condensation heater without a guard may reach high temperature and the cables shall be routed a minimum of 50 mm away this heat source.
15. Busbars are only suitable for use at ambient from -40°C to +60°C.
16. Melamine terminals are suitable for use at ambient from -60°C to +60°C.
17. Conditions of certification concerning the components already certified depend on the relevant certificates.



IECEX Certificate of Conformity

Certificate No.: IECEX LCI 06.0005X

Date of Issue: 2008-01-02

Issue No.: 1

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

The company name has changed. HEATEX LIMITED becomes EXHEAT Ltd.



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 LCI 06.0005X issue No.:2
Status: **Current**
Date of Issue: **2013-11-29** Page 1 of 4

Certificate history:
Issue No. 2 (2013-11-29)
Issue No. 1 (2008-1-2)
Issue No. 0 (2006-4-28)

Applicant: **EXHEAT LIMITED**
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Electrical Apparatus: **Liquid, Air or Gas Heater**
Optional accessory:

Type of Protection: **Increased safety 'e'**

Marking: EXHEAT LIMITED
Type : ISE
Serial Number : ...

Ex e or d e IIC T6 up to T1 Gb
IECEX LCI 06.0005 X
Un = ... V
In = ... A
Ta = -60°C up to +60°C
Maximum safety trip temperature :
Element: Process / Flange:
WARNING – DO NOT OPEN WHEN ENERGIZED

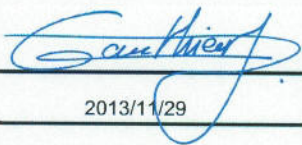
Approved for issue on behalf of the IECEx
Certification Body:

Julien GAUTHIER

Position:

Certification Officer

Signature:
(for printed version)



Date:

2013/11/29

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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:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France

Documents relative to LCIE certification activities (Certificates, QARs, ExTRs) can be registered under the references "LCI" or "LCIE".



LCIE



IECEX Certificate of Conformity

Certificate No.: IECEX LCI 06.0005X

Date of Issue: 2013-11-29

Issue No.: 2

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Manufacturer: **EXHEAT LIMITED**
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
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 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-7 : 2006-07 Edition: 4	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:
FR/LCI/ExTR06.0009/00

FR/LCI/ExTR06.0009/01

Quality Assessment Report:

FR/LCI/QAR06.0005/06



IECEx Certificate of Conformity

Certificate No.: IECEx LCI 06.0005X

Date of Issue: 2013-11-29

Issue No.: 2

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

ISE heater is composed of :

- A main terminal box (stainless steel or coated mild steel) and an auxiliary terminal box.
- Tubular heating element
- Anti-condensation heaters certified Ex e or Ex d
- Thermocouple/RTD/transmitter certified Ex e or Ex d
- Terminal assemblies
- Cable glands, only Ex e or Ex d

Depending on the options the ATEX marking can be either Ex e IIC T6 ... T1 Gb or Ex d e IIC T6 ... T1 Gb (if Ex d components are used).

The main enclosure is made of stainless steel or coated mild steel, with gland plates of the same material. This enclosure comes in a range of size from 100mm x 100mm x 60mm up to 4000mm x 4000mm x 1000mm. The temperature inside the box is limited to 80°C. Anti-condensation heaters may be fitted inside the main enclosure.

Tubular metal sheathed heating elements with an insulating bead made of steatite or high alumina ceramic . They enter the base of the enclosure via heating element gland. These elements may be paralleled together with small bus bars before being connected to the supply terminals. Optional solid cast heater is possible.

An auxiliary terminal box may be fitted to connect the temperature sensors. This junction box may be positioned on any side providing that it is not within the stand off area. This box is designed on the same principles than the main enclosure. The temperature sensors are connected via Ex 'e' certified terminals. If an anti-condensation heater is mounted, any separate junction box must be mounted at least 50mm away from the anti-condensation heater.

CONDITIONS OF CERTIFICATION: YES as shown below:

See attachment n°01 of this certificate



IECEx Certificate of Conformity

Certificate No.: IECEx LCI 06.0005X

Date of Issue: 2013-11-29

Issue No.: 2

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

Initial issue :

(2006/04/28)

Initial IECEx assessment according to IEC 60079-0:Ed.4.0 and IEC 60079-7:Ed.3 standards.

Issue 01 :

(2008/01/02)

Manufacturer name modification : HEATEX LIMITED becomes EXHEAT Ltd.

Issue 02 :

Normative update according with IEC 60079-0:Ed.6.0, IEC 60079-1:Ed.6 and IEC 60079-7:Ed.4 standards.

Manufacturer name modification : EXHEAT Ltd becomes EXHEAT LIMITED

Addition of a cast type heater option.



IECEX LCI 06.0005X issue 02 Attachment n°01



Conditions of certification :

1. Flameproof Ex d barrier glands shall not been used
2. For assembly 150 mm minimum stand-off and non-stand-off versions, the auxiliary terminal box shall not be mounted nearer than the minimum stand-off distance of 50mm from the main enclosure side/base when the optional anti-condensation heater is mounted.
3. For assembly dummy flange version, additionally to the condition n°2, the installer and/or end user shall ensure that the dummy flange is fully seal welded to the lagging cover and that this cover prevents ingress of hazardous area.
The installer and/or end user shall ensure that the lagging is applied between the dummy flange process and the process flange.
4. For assembly Heat shield version, additionally to the condition n°2, the installer and/or end user shall ensure that the heat shields are left unobstructed at all times.
5. For assembly type submersible heater, additionally to the condition n°2, the installer and/or end user shall ensure that the heater is de-energized if the liquid level does not completely cover the heating elements.
6. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1 mm of the metal of the terminal throat.
7. All the terminal screws used and unused shall be tightened down.
8. Suitable Ex d or Ex e cable glands and Ex e blanking plugs are to be fitted to maintain the required Ingress Protection rating.
9. Supply terminal lugs shall be insulated for the appropriate voltage and this insulation shall be set to maintain a minimum clearance of 15 mm.
10. A suitable temperature controller shall be fitted with a manually re-settable temperature trip (access to which is only possible by use of a key or tool) set to a maximum of :
T6 75 °C
T5 90 °C
T4 125 °C
T3 195 °C
T2 290 °C (Heat shield and dummy flange versions only)
T1 440 °C (Heat shield and dummy flange versions only)

and a trip response to allow the temperature class to be met or the elements shall be suitably down rated to allow an uncontrolled temperature maximum of 80°C (T6), 90°C (T5), 130°C (T4), 195°C (T3) when equated to an ambient of 40°C, 50°C or 60°C as appropriate.



**IECEX LCI 06.0005X issue 02
Attachment n°01**



11. The safety trip shall be set using the manufacturers setting up procedure number WI/09/131, prior to use, failure to adhere to this mandatory requirement nullified all certification.
12. Faulty/replacement safety trip controllers shall be set up as condition n°11, prior to use, failure to adhere to this mandatory requirement nullified all certification.
13. The anti-condensation heater supply shall be interlocked to prevent energize whilst the main power is present.
14. When installing supply cables due note should be taken that the anti-condensation heater without a guard may reach high temperature and the cables shall be routed a minimum of 50 mm away this heat source.
15. Bus bars are only suitable for use at ambient from -40°C to +60°C.
16. Melamine terminals are suitable for use at ambient from -60°C to +60°C.
17. Conditions of certification concerning the components already certified depend on the relevant certificates.
18. A dielectric strength test shall be performed on each equipment according to clause IEC 60079-7:Ed.4.