



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 SIR 05.0069X** issue No.:1

Certificate history:
Issue No. 1 (2014-1-30)
Issue No. 0 (2006-5-22)

Status: **Current**

Date of Issue: **2014-01-30** Page 1 of 4

Applicant: **Flameproof Electrical Enclosures Ltd**
1 -1A St Martin's Industrial Estate
Tat Bank Road
Oldbury, West Midlands, B69 4NP
United Kingdom

Electrical Apparatus: **Range 9000 Junction Boxes**
Optional accessory:


Type of Protection: **Increased Safety and Dust**

Marking: **Ex e IIC T6, T5 or T3* Gb**
Ex tb IIIC T85°C, T100°C or T150°C* Db
* See Annexe for details

Approved for issue on behalf of the IECEx
Certification Body: **C Ellaby**

Position: **Deputy Certification Manager**

Signature:
(for printed version)



2014-01-30

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom



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Manufacturer: **Flameproof Electrical Enclosures Ltd**
1 -1A St Martin's Industrial Estate
Tat Bank Road
Oldbury, West Midlands, B69 4NP
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 60079-31 : 2008 Edition: 1 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't' |
| 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:

[GB/SIR/ExTR06.0045/00](#)

[GB/SIR/ExTR14.0001/00](#)

Quality Assessment Report:

[GB/SIR/QAR06.0022/00](#)
[GB/SIR/QAR06.0022/03](#)
[GB/SIR/QAR06.0022/06](#)

[GB/SIR/QAR06.0022/01](#)
[GB/SIR/QAR06.0022/04](#)
[GB/SIR/QAR06.0022/07](#)

[GB/SIR/QAR06.0022/02](#)
[GB/SIR/QAR06.0022/05](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Range 9000 Junction Boxes comprise a glass reinforced polyester enclosure with a hinged lid secured by four socket head screws. They are fitted with an internal/external earth assembly, an internal earth continuity plate is also an option.

For additional information refer to Annexe.

CONDITIONS OF CERTIFICATION: YES as shown below:

The enclosure is non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.



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

| Issue 1 – this Issue introduced the following change: | |
|--|--|
| 1. | Following appropriate re-assessment, reference to the previous standards IEC 60079-0:2004, IEC 60079-7:2001, IEC 61241-0:2004 and IEC 61241-1:2004 were replaced by IEC 60079-0:2011 Ed. 6, IEC 60079-7:2006 Ed. 4 and IEC 60079-31:2008 Ed. 1; the markings were updated accordingly. |
| 2. | The design and drawings were modified to recognise the introduction of new, certified, component parts that include devices such as terminals and internal/external earth assemblies (note: the product description was amended because the earth assemblies may now be brass or stainless steel). |
| 3. | The Conditions of Manufacture were reviewed; as a result, the conditions detailed in report number R51A15124E were introduced; in addition, a new, precautionary condition associated with static was recognised. |
| 4. | The Condition of Certification applicable to static was clarified. |

Annexe to: IECEx SIR 05.0069X Issue 1
Applicant: Flameproof Electrical Enclosures Ltd
Apparatus: Range 9000 of Junction Boxes



The following table lists specific increased safety terminals that have been tested and can be used in the Range 9000 Junction Boxes:

Table 1:

| Manufacturer | Terminal type | Coded | Certificate number |
|--------------|-----------------|------------------|---------------------------------------|
| Conta-Clip | RK | EEx e II | NEMKO 03ATEX020U |
| Weidmuller | Type SAK K | EEx e II/Ex e II | SIRA 03ATEX3245U & IECEx SIR 05.0032U |
| Weidmuller | Type BK | EEx e II/Ex e II | SIRA 02ATEX3247U & IECEx SIR 05.0035U |
| Weidmuller | Type MK 3 | Ex e II | IECEx SIR 05.0036U |
| Weidmuller | Type MK 6 | EEx e II/Ex e II | BAS 99ATEX2123U & IECEx SIR 05.0037U |
| Weidmuller | Type AKZ & AKE | Ex e II | IECEx SIR 05.0038U |
| Weidmuller | Type WDU 2.5/TC | Ex e II | IECEx SIR 05.0039U |
| Weidmuller | Type WDU SL | Ex e II | IECEx SIR 05.0040U |
| Weidmuller | Type DK | Ex e II | IECEx SIR 05.0041U |
| Weidmuller | Type SAK | EEx e II | KEMA 97ATEX1798U |
| Weidmuller | Type WDU | EEx e II | KEMA 98ATEX1683U |

When a tested combination of terminals is supplied, the arrangements, maximum voltage and maximum current, as defined in the manufacturer's drawings, are shown on an internal label and the following code is applied:

Ex e II T6 (Ta = -40°C to +50°C) T85°C

Alternatively, any of the terminals listed in the table above, may be fitted, as the Junction boxes can be supplied using the maximum dissipated power method according to IEC 60079-7:2001. A maximum dissipated power rating of 7.2 W is assigned for this purpose.

When using the power dissipation method to select terminals the following certification codes are appropriate:

Ex e II T6 (Ta = -40°C to +40°C) T85°C
 Ex e II T5 (Ta = -40°C to +50°C) T100°C
 Ex e II T5 (Ta = -40°C to +55°C) T100°C
 Ex e II T3 (Ta = -40°C to +130°C) T150°C

Stopping plugs, reducers and adapters and a breather drain may be provided into the enclosure via threaded holes, the permitted types are as follows:

Table 2:

| Manufacturer | Terminal type | Coded | Certificate number |
|--------------------------------|--------------------------------------|------------|--------------------|
| Stopping Plugs | | | |
| Redapt Ltd | PD-U - Dome head with O ring seal | EEx de IIC | Sira 00ATEX1094 |
| Redapt Ltd | PD-E-4 - Dome head with O ring seal | EEx de IIC | Sira 00ATEX3091 |
| Reducers & Adapters | | | |
| Redapt Ltd | ADU and RDU – Metric female | EEx de IIC | Sira 00ATEX1094 |
| Redapt Ltd | ADU and RDU –Non-metric female | EEx de IIC | Sira 99ATEX1115U |
| Redapt Ltd | AD-E-4 and RD-E-4– Metric female | EEx e II | Sira 00ATEX3091 |
| Redapt Ltd | AD-E-4 and RD-E-4– Non-metric female | EEx e II | Sira 99ATEX3116U |
| Breather Drain | | | |
| Redapt Ltd | DP-E | EEx e II | Sira 99ATEX3050U |

Annexe to: IECEx SIR 05.0069X Issue 1
Applicant: Flameproof Electrical Enclosures Ltd
Apparatus: Range 9000 of Junction Boxes



Conditions of Manufacture

The Manufacturer shall comply with the following:

- i. The following routine test applies to enclosures supplied by Flameproof Electrical Enclosures Ltd that have been wired at the manufacturer's premises:

An electrical strength test of 2 x rated voltage +1000 V, rms (minimum 1500 V) shall be applied between live parts and earth for at least 60 s and no more 63 s as required by clause 6.1 of IEC 60079-7. Alternatively the test voltage shall be 1.2 x this maximum value and the duration shall be 100 ms in accordance with 7.1 of IEC 60079-7.

- ii. The products covered by this report incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of the products.

- iii. The terminals fitted into the Range 9000 Junction Boxes shall conform to the following requirements:

| Temperature Class/T Dust | Requirement |
|--------------------------|--|
| T6/T85°C | For T6 rating terminals that have an operating temperature of 80°C minimum shall be used. |
| T5/T100°C | For T5 rating terminals that have an operating temperature of 100°C minimum shall be used. |
| T3/T150°C | For T3 rating terminals shall be ceramic. |

- iv. All terminals fitted shall be installed in accordance with their certificate conditions and the relevant codes of practice/wiring regulations.
- v. When using the maximum dissipated power method, the power of a particular junction box shall be calculated in accordance with IEC 60079-7, Annex E, E2 and this shall not exceed the maximum dissipated power rating of the enclosure, 7.2 W.
- vi. The equipment shall be marked with the Static Hazard warning. Information on how to clean the equipment safely and prevent static charge build up shall be provided in the instructions.