



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 06.0087X** issue No.:5

Status: **Current**

Date of Issue: **2014-07-30** Page 1 of 4

Applicant: **ABTECH Limited**
A B Controls & Technology
Sanderson Street
Lower Don Valley
Sheffield S9 2UA
United Kingdom

Certificate history:
Issue No. 5 (2014-7-30)
Issue No. 4 (2014-5-20)
Issue No. 3 (2014-5-8)
Issue No. 2 (2012-10-25)
Issue No. 1 (2010-7-27)
Issue No. 0 (2006-10-25)

Electrical Apparatus: **BPG Range of Junction Boxes**
Optional accessory:

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

Marking: Ex e IIC T6 Gb (Ta -65°C to +#°C) or Ex ia IIC T6 Ga (Ta -65°C to +#°C)
Ex e IIC T5 Gb (Ta -65°C to +#°C) Ex ia IIC T5 Ga (Ta -65°C to +#°C)
Ex e IIC T4 Gb (Ta -65°C to +#°C) Ex ia IIC T4 Ga (Ta -65°C to +#°C)
Ex ib IIC T6 Gb (Ta -65°C to +#°C) Ex ta IIIC T85°C Da (Ta -65°C to +#°C)
Ex ib IIC T5 Gb (Ta -65°C to +#°C) Ex ta IIIC T100°C Da (Ta -65°C to +#°C)
Ex ib IIC T4 Gb (Ta -65°C to +#°C)
Ex tb IIIC T85°C Db (Ta -65°C to +#°C)
Ex tb IIIC T100°C Db (Ta -65°C to +#°C)
(Temperature class, marking for dust and Ta maximum depends upon the maximum power dissipation, refer to Annexe)

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

Position: **Deputy Certification Manager**

Signature: *(for printed version)*

C. Ellaby

2014-07-30

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: **ABTECH Limited**
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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 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
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/ExTR06.0101/01
GB/SIR/ExTR14.0113/00

GB/SIR/ExTR12.0245/00

GB/SIR/ExTR14.0107/00

Quality Assessment Report:

GB/SIR/QAR06.0046/00
GB/SIR/QAR06.0046/03

GB/SIR/QAR06.0046/01
GB/SIR/QAR06.0046/04

GB/SIR/QAR06.0046/02



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The BPG Junction Boxes comprise a polyester, BPG Enclosure, component certified as IECEx SIR 06.0086U, that is fitted with terminals. Refer to certificate Annexes for a full product description.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. When used in an EPL ta (Da) application the power supply to the equipment is to be rated for a prospective short circuit current of not more than 10 kA.



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

Issue 1 – this Issue introduced the following changes:	
1	To allow GB/SIR/ExTR06.0101/01 to replace GB/SIR/ExTR06.0101/00
Issue 2 – this Issue introduced the following changes:	
1	The Description was aligned with certificate no. Sira 99ATEX3173 associated with this Junction Box, this included recognising the following changes assessed as part of that certificate. * The BPG 13.5 enclosure was added to the range. * The option to fit slotted trunking inside the enclosures, this trunking may be sited as required. The instructions were modified to recognise additional restrictions associated with this change and a new Condition of Manufacture was introduced.
2	Following appropriate re-assessment to demonstrate compliance with the requirements of the latest standards, the documents previously used for assessment were replaced by those currently listed, the markings were updated accordingly. In addition, the enclosure was allowed to be used for intrinsically safe applications and IEC 60079-11:2012 Edition 6 was included in the list of supporting standards.
4	The Condition of Certification related to static was removed; in addition the Conditions of Certification were rationalised to bring them into line with Sira 99ATEX3173.
5	It was recognised that a new procedure for selecting terminals has been adopted by the manufacturer; this allows the terminals to be chosen from an Approved Component Document, Sira 12AC087, that is issued and controlled by Sira.
Issue 3 – this Issue introduced the following change:	
1.	Issued to recognise item 4 of issue 2 above.
Issue 4 – this Issue introduced the following change:	
1.	Using IEC 60079-26, the junction boxes were allowed to be marked with 'Ex ia' and 'Ex ta' concepts for EPL levels Ga and Da, as a result of this change, the maximum power dissipation table was modified and a Special Condition for Safe Use was introduced necessitating the addition of an 'X' suffix to the certificate number.
2.	The BPG range of junction boxes were allowed to be used in an upper ambient +55°C with a temperature class/surface temperature of T5/T100°C, the associated maximum power dissipation ratings (W) and markings were recognised.
Issue 5 – this Issue introduced the following change:	
1.	Issued to correct a typographical error

Annexe to: IECEx SIR 06.0087X Issue 5

Applicant: ABTECH Limited

Apparatus: BPG Range of Junction Boxes



The BPG range of junction boxes utilises a BPG enclosure covered by certificate number Sira 99ATEX3172U and are fitted with an arrangement of suitably certified terminals.

BPG ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	13.5	14	15
Length	80	110	160	190	230	122	220	160	260	360	560	255	400	400	600	400
Width	75	75	75	75	75	120	120	160	160	160	160	250	250	250	250	405
Height	55	55	55	55	55	90	90	90	90	90	90	120	120	160	120	120

(All dimensions are in mm)

Before the Junction Box is installed, its total dissipated power for the particular application will be calculated in accordance with EN 60079-7:2003, Annex E, E.2 and will not exceed the values given in the tables below (Junction boxes of size not specified in the tables may be manufactured subject to the maximum dissipated power being based on a smaller enclosure):

EPL Ga Gb Db						
BPG ref.	Maximum Power Dissipation (W)					
	T6/T85°C Ta +40°C (max)	T6/T85°C Ta +55°C (max)	T6/T85°C Ta +60°C (max)	T6/T85°C Ta +65°C (max)	T5/T100°C Ta +55°C (max)	T4/T100°C Ta +90°C (max)
1	8.390	2.23	1.73	1.45	8.390	8.390
2	8.551	2.00	1.70	1.45	8.551	8.551
3	8.833	2.00	1.70	1.45	8.833	8.833
4	9.012	2.07	1.80	1.29	9.012	9.012
5	9.260	2.00	1.70	1.10	9.260	9.260
6	9.378	2.00	1.70	1.45	9.378	9.378
7	10.500	2.30	1.70	1.10	10.500	10.500
8	10.348	2.00	1.70	1.10	10.348	10.348
9	11.933	2.30	1.70	1.10	11.933	11.933
10	13.793	4.50	3.29	2.10	13.793	13.793
11	18.338	6.68	5.20	4.00	18.338	18.338
12	15.474	2.30	1.70	1.10	15.474	15.474
13	20.867	5.20	4.00	3.00	20.867	20.867
13.5	20.867	5.20	4.00	3.00	20.867	20.867
14	30.384	7.97	6.59	4.79	30.384	30.384
15	31.350	8.26	6.00	4.40	31.350	31.350

EPL Da						
BPG ref.	Maximum Power Dissipation (W)					
	T6/T85°C Ta +40°C (max)	T6/T85°C Ta +55°C (max)	T6/T85°C Ta +60°C (max)	T6/T85°C Ta +65°C (max)	T5/T100°C Ta +55°C (max)	T4/T100°C Ta +90°C (max)
1	4.195	1.115	0.865	0.725	4.195	4.195
2	4.2755	1	0.85	0.725	4.2755	4.2755
3	4.4165	1	0.85	0.725	4.4165	4.4165
4	4.506	1.035	0.9	0.645	4.506	4.506
5	4.63	1	0.85	0.55	4.63	4.63
6	4.689	1	0.85	0.725	4.689	4.689
7	5.25	1.15	0.85	0.55	5.25	5.25
8	5.174	1	0.85	0.55	5.174	5.174
9	5.9665	1.15	0.85	0.55	5.9665	5.9665
10	6.8965	2.25	1.645	1.05	6.8965	6.8965
11	9.169	3.34	2.6	2	9.169	9.169
12	7.737	1.15	0.85	0.55	7.737	7.737
13	10.4335	2.6	2	1.5	10.4335	10.4335
13.5	10.4335	2.6	2	1.5	10.4335	10.4335
14	15.192	3.985	3.295	2.395	15.192	15.192
15	15.675	4.13	3	2.2	15.675	15.675

Annexe to: IECEx SIR 06.0087X Issue 5
Applicant: ABTECH Limited
Apparatus: BPG Range of Junction Boxes



Conditions of manufacture

The Manufacturer shall comply with the following:

- i. When the manufacturer has equipped the junction boxes with terminals, a routine electric strength test shall be carried out only if the components are wired. This test shall be carried out according to the following standards:
- industrial control equipment: IEC 60947 - measurement, control and laboratory use: IEC 61010
- ii. The terminals used in these Junction Boxes will be IECEx approved devices chosen from the Approved Component Document number Sira 12AC087 that is issued by Sira. All terminals will be installed in accordance with their certificate conditions and the relevant codes of practice/wiring regulations paying particular attention to the following:
 - The maximum service temperature range.
 - The minimum creepage and clearance distances shall be maintained.
 - The rated voltages and currents may vary if cross-connection facilities are used.
 - The reduction in rating of adjacent terminals shall be observed, where applicable.

The terminals fitted into the junction boxes shall also conform to the following requirements:

Temperature class/ Dust marking	Requirement
T6/T85°C	The terminals shall have an insulation limiting temperature of 100°C minimum
T4/T100°C	The terminals shall have an insulation limiting temperature of +130°C.

- iii. Suitably certified Ex e equipment such as breathing devices and blanks may be fitted to the enclosure providing the enclosure maintains compliance with IEC 60529 code IP64 or better.
- iv. The manufacturer will take all reasonable steps to ensure that the power dissipated by the Junction Box does not exceed the maximum value stipulated in the table detailed in the Description of Equipment, in addition, the manufacturer will supply all the relevant information that will enable the user/installer to calculate the dissipated power in Watts for each Junction Box in accordance with IEC 60079-7 Annex E, E2.
- v. When the junction boxes are used for intrinsically safe applications, a 3 mm separation distance between the enclosure is required, there shall also be a minimum of 6 mm between different intrinsically safe circuits.
- vi. When trunking is fitted, it may be sited as required and the minimum creepage and clearance distances shall still be met.
- vii. The products covered by this certificate 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 will inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.