



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 99ATEX3173** Issue: **5**

4 Equipment: **BPG Range of Junction Boxes**

5 Applicant: **ABTECH Limited**

6 Address: Sanderson Street
Lower Don Valley
Sheffield S9 2UA
UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50 014:1997 (amendments A1 to A2) EN 50 019:1994 EN 50281-1-1:1998

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2 G D

EEx e II T6 (Ta = -65°C to +40°C, +55°C, +60°C or +65°C)

EEx e II T4 (Ta = -65°C to +90°C)

EEx ia II T6 (Ta = -65°C to +40°C, +55°C, +60°C or +65°C)

EEx ia II T4 (Ta = -65°C to +90°C)

EEx ib II T6 (Ta = -65°C to +40°C, +55°C, +60°C or +65°C)

EEx ib II T4 (Ta = -65°C to +90°C)

(Temperature class, additional marking for dust and Ta maximum depends upon the maximum power dissipation, refer to certificate schedule)

Additional marking for dust

T85°C

T100°C

T85°C

T100°C

T85°C

T100°C

Project Number 51A17881

C. Index 04

C Ellaby
Certification Officer

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SCHEDULE

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Issue 5**

13 DESCRIPTION OF EQUIPMENT

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)

The total dissipated power for the enclosure shall be calculated in accordance with EN 50019:1994, Annex C,C.2 and shall not exceed the figures given in the table below:

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)	T4/T100°C Ta +90°C (max)
1	8.390	2.23	1.73	1.45	8.390
2	8.551	2.00	1.70	1.45	8.551
3	8.833	2.00	1.70	1.45	8.833
4	9.012	2.07	1.80	1.29	9.012
5	9.260	2.00	1.70	1.10	9.260
6	9.378	2.00	1.70	1.45	9.378
7	10.500	2.30	1.70	1.10	10.500
8	10.348	2.00	1.70	1.10	10.348
9	11.933	2.30	1.70	1.10	11.933
10	13.793	4.50	3.29	2.10	13.793
11	18.338	6.68	5.20	4.00	18.338
12	15.474	2.30	1.70	1.10	15.474
13	20.867	5.20	4.00	3.00	20.867
13.5	20.867	5.20	4.00	3.00	20.867
14	30.384	7.97	6.59	4.79	30.384
15	31.350	8.26	6.00	4.40	31.350

Junction boxes of size not specified in the table may be manufactured subject to the maximum dissipated power being based on a smaller enclosure.



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Variation 1 (dated 25 May 2001) - This variation introduced the following changes:

- i. The BPG range of junction boxes were permitted to have alternative power dissipation ratings that enable them to be used in an upper ambient temperature of either +40°C or +55°C or +60°C or +65°C, the associated ratings and markings were recognised.

Variation 2 (dated 28 September 2001) - This variation introduced the following changes:

- i. The recognition of a minor revision of the information marked on the label.

Variation 1 (dated 30 March 2005) - This variation introduced the following changes:

- i. When component certified, intrinsically safe terminals are used, alternative marking, 'ia' and 'ib', was recognised.

Variation 2 (dated 10 March 2008) - This variation introduced the following changes:

- i. The BPG 13.5 junction box covered by certificate number Sira 99ATEX3172U was added to the range.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report/File no.	Comment
0	19 January 2000	R51X6055E	The release of the prime certificate.
1	25 May 2001	R51A6746A	The introduction of Variation 1.
2	28 September 2001	53V7936	The introduction of Variation 2.
3	23 July 2002	R53A9009A	The prime certificate was re-issued to permit the following: <ul style="list-style-type: none">• The incorporation of previous variations 1 and 2.• The lower ambient temperature range was confirmed as -65°C.• The introduction of the changes included in Sira report number R53A9009A.
4	30 March 2005	R53V10438A	The introduction of Variation 1.
5	10 March 2008	R51A17881A	This Issue covers the following changes: <ul style="list-style-type: none">• All previously issued certification was rationalised into a single certificate, Issue 5, Issues 0 to 4 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.• The change of the Applicant's name, first recognised 31 January 2007, was re-confirmed.• The introduction of Variation 2.

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15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

None

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF CERTIFICATION**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 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: EN 60947
- measurement, control and laboratory use: EN 61010

17.4 This certificate does not cover terminals that may be fitted to the enclosure. All terminals fitted must be suitably certified and installed in accordance with their certificate conditions and the relevant codes of practice/wiring regulations. 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 be ceramic

17.5 Suitably certified Ex e equipment such as breathing devices and blanks may be fitted to the enclosure providing the enclosure maintains compliance with BS EN 60529:1992 code IP64 or better.

17.6 The maximum dissipated power in Watts for each junction box shall be calculated in accordance with EN 50 019:1994, Annex C,C.2. and shall not exceed the figures given in the table detailed in clause 13.

17.7 When the junction boxes are marked Ta -65°C to +90°C, the manufacturer shall fit silicone rubber gaskets.

17.8 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.

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Certificate Annexe

Certificate Number: Sira 99ATEX3173
Equipment: BPG Range of Junction Boxes
Applicant: ABTECH Limited



Issue 0 to 2: The drawings associated with these Issues were rationalised by those listed in Issue 3.

Issue 3

Number	Sheet	Rev.	Date	Description
ABT 10260	1 of 1	C	25 Jun 02	External Label (BPG)
ABT 10304	1 of 1	A	16 Nov 99	BPG Manufacturing Specification

Issue 4

Number	Sheet	Rev.	Date	Description
ABT 14842	1 of 1	-	01 Feb 05	BPG Range EEx ia Label
ABT 14845	1 of 1	-	01 Feb 05	BPG Range EEx ib Label

Issue 5: No new drawings were introduced.

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INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH 'BPG' Range Enclosures – SIRA99ATEX3173



Marking

The marking shown is for an apparatus certified terminal box.

The maximum power dissipation permitted in this terminal box is marked on the label and identified by RATING _____ WATTS.

The ambient temperature range for which this product is suitable is marked on the label and identified by T_{amb} _____.

Installation

These instructions assume that the required cable entries have been pre-drilled. Cable entries may be threaded.

- 1) Using the mounting dimensions data provided, either in the product catalogue data sheets or on the drawings supplied, (as part of the project documentation), mark out the positions for the mounting holes on the surface where installation is required.
- 2) Drill the mounting holes for M4 fixing studs (for size BPG1 to BPG5) or for M6 fixing studs (for size BPG6 to BPG15) as applicable.
- 3) Tap thread into mounting holes if required.
- 4) Place a mounting screw through one mounting hole in the box so that the thread of the screw protrudes from the back of the box. Lift the box into place, using such assistance as may be necessary to avoid personal injury and:-
 - a) If clearance mounting holes are used, insert the protruding thread through the appropriate clearance hole and secure with a nut on the other side of the mounting surface.Or
 - b) If threaded holes are used, locate the end of the mounting screw over the threaded hole and, using an appropriate screwdriver tighten the screw.
- 5) Rotate the box to line up the remaining mountings and repeat (4) above until all mounting screws have been fitted.
- 6) Install and secure the cable entry devices, cable glands and blanking plugs in accordance with the manufacturers instructions.
- 7) Pull the cables into the box, leaving trailing leads of a length specified by site practice or the site engineer and secure any cable armour in accordance with site practice.
- 8) Terminate the cables in the terminals provided in accordance with the requirements of BS EN 60079-14:1997. Consideration must be given to any use limitations or special conditions detailed on the certificates for the terminals fitted.
- 9) Secure the lid by closing the lid and tightening the lid fixing screws.

Earthing/Grounding

The enclosure may be provided with an external earth/ground connection. If such a connection is provided it must be connected to the appropriate earth bonding circuit before electrical power is connected to the contents of the enclosure

Operation

1. The lid must be secured using all of the lid screws provided in order to maintain the IP rating.
2. No attempt must be made to remove the enclosure lid whilst electrical power is connected to the contents of the enclosure.
3. If the enclosure is fitted with an external earth/ground facility it must be connected to the earth bonding circuit at all times when power is connected to the enclosure contents.

Maintenance

Routine maintenance is likely to be a requirement of local Health and Safety legislation. The laws of the applicable country must be considered and maintenance checks carried out accordingly

Additional periodic checks that are advisable to ensure the efficiency of ABTECH range enclosures are:-

Activity	Frequency
1 Check that the lid seal is in place and not damaged	Each time the enclosure is opened
2 Check that all lid fixing screws are in place and secured	Each time the enclosure is closed
3 Check that the mounting bolts are tight and free of corrosion	Every 3 years
4 Check the security of all cable glands and entry devices	Every 3 years
5 Check that all screw clamp terminals are secure	As manufacturers recommendations
6 Check enclosure for damage	Every 3 years

Chemical attack

The ABTECH BPG range of enclosures are manufactured using the following materials:-
glass reinforced polyester resin, (with or without carbon loading),
neoprene or silicone rubber,
316 stainless steel
Brass

Consideration should be given to the environment in which these enclosures are to be used to determine the suitability of these materials to withstand any corrosive agents that may be present.

Static hazard

Glass reinforced polyester resin has a surface resistance greater than 10E9 Ohms. They can present a hazard from static electricity and may not be cleaned except with a damp cloth.

Carbon loaded glass reinforced, identified by the suffix 'C', (e.g. BPGC9), have a surface resistance between 10E6 and 10E9 Ohms. They do not present a hazard from static electricity.

Vibration

BPG range terminal boxes are designed for use in areas subject to normal industrial levels of vibration. They are not designed for use in areas subject to intentional or extreme conditions of vibration.