



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 04ATEX3306** Issue: **2**

4 Equipment: **VPJB Junction Box**

5 Applicant: **ABTECH Limited**

6 Address: Sanderson Street
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 60079-0: 2006

EN 60079-7: 2003

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

Ex e II T4 (Ta = -40°C to + 55°C).

Project Number 51A17090
C. Index 04

C Ellaby
Certification Officer

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 04ATEX3306
Issue 2

13 DESCRIPTION OF EQUIPMENT

The VPJB Junction Box is rated at 3.3 kV, 1800 A and 1535 W and uses an enclosure that is covered by Sira 99ATEX3170U and coded EEx e II. Inside this enclosure, an arrangement of three copper busbars is mounted on raised insulators to provide connection facilities. The positioning of these busbars permits the supply cables to enter and exit the enclosure at 180° to each other. The Junction Box has the option to incorporate additional, cable restrictors that are fitted to non-penetrating, welded studs; these are used to hold the earth cable in place and prevent it from twisting.

Variation 1 - This variation introduced the following change:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents originally listed in section 9, EN 50014:1997 (amendments A1 to A2) and EN 50019:2000, were replaced by EN 60079-0:2006 and EN 60079-7:2003, the markings in section 12 were updated accordingly.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	1 October 2004	R51E12459A	The release of the prime certificate.
1	29 October 2004	R51E12459A	The prime certificate was re-issued to correct a typographical error.
2	26 February 2008	R51A17090E	This Issue covers the following changes: <ul style="list-style-type: none">• All previously issued certification was rationalised into a single certificate, Issue 2, Issues 0 to 1 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.• The introduction of Variation 1.• The change of the company name from AB Controls and Technology, first recognised 31 January 2007.

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 If the terminals are fitted with cables, then a routine electric strength test shall be carried out according to EN 60079-7: 2003 clause 6.1.

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Sira Certification Service

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Certificate Annexe

Certificate Number: Sira 04ATEX3306
Equipment: VPJB Junction Box
Applicant: ABTECH Limited



Issues 0 and 1

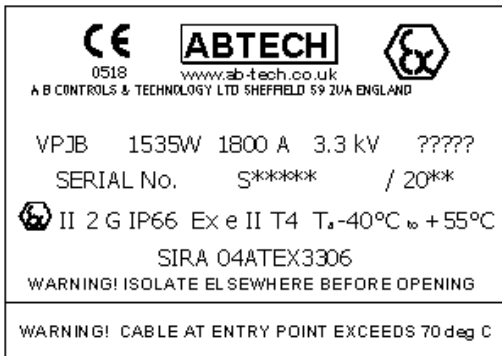
Drawing	Sheet	Rev.	Date	Description
ABT14199	1 of 1	A	23 Sep 04	VPJB
ABT14340	1 of 1	A	24 Sep 04	VPJB certification label

Issue 2

Drawing	Sheet	Rev.	Date	Description
ABT 14340	1 of 1	B	06 Dec 07	Certification Label

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INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH 'VPJB' series – SIRA04ATEX3306



Marking

The maximum power dissipation and voltage permitted in this terminal box are marked on the label and identified as ***W and ___kV. The ambient temperature range for which this product is suitable is -20 to +55°C

Installation

- 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 either M8 or M10 fixing studs.
- 3) Insert the top two studs leaving 8 to 10mm protruding and lift the enclosure into position using such assistance as may be necessary to avoid injury and hang the top fixing brackets of the box onto the studs. Ensuring that the box is secure, insert and tighten the bottom two studs. Now complete tightening the top two studs.
- 4) Unfasten the lid securing screws and remove the enclosure lid. Put the lid in a safe place.
- 5) Install and secure the cable glands in accordance with the manufacturers instructions.

Main Power Cable Connections

- 6) Pull the cables into the box leaving trailing leads long enough to reach their respective crimp lugs after routing through the cable clamps.
- 7) Trim each cable core so that the conductor end will reach the inside stop of the crimp lug on which it is to be terminated.
- 8) Strip the insulation of each cable core by the length of the crimping barrel plus 2mm.
- 9) In turn, remove each crimping lug from the terminal post and place the fasteners and clamp plate to one side.
- 10) Crimp each lug onto the respective conductor using die sets appropriate for the cable size. Ensure that the crimp die set used not damaged or excessively worn. The crimp die set may produce either a hexagon type crimp or an indent type crimp. With hexagon die sets execute at least two crimps on each lug.
- 11) Replace the holes in the palm of the now attached cable lug on top of its respective current bar aligned with its fixing holes and replace the fasteners to secure it in place. Tighten the fasteners to normal hand tight with a standard length spanner, then apply a further 1/8 to 1/4 turn. If desired, use wire through the holes in the screw heads to prevent loosening.
- 12) Repeat from 9) above for each crimping lug.

Ground Cable Connections

- 13) Feed the grounding wire through the cable gland entry on the bottom long side of the enclosure, ensuring that there is sufficient to reach the grounding bar.
- 14) Strip the insulation of the grounding cable by the length of the crimping barrel plus 2mm.
- 15) Crimp the M12 ring lug onto the grounding cable.
- 16) Feed the grounding cable through the cable clamps provided and place over the M12 stud on the left hand end of the grounding bar.

- 17) Secure the lug using the M12 nuts and washers provided.
- 18) Tighten up the cable clamp securing screws.
- 19) Feed the cable screens from the power cables to the earth bar maintaining a clearance from the power current bars of at least 50mm using insulating sleeves as appropriate.
- 20) Secure all the cable screens in place using appropriate crimping lugs.
- 21) Ensure that all screws and securing bolts have been correctly tightened.
- 22) Ensure that there are no loose conductor strands and remove all debris from inside the enclosure.
- 23) Replace the lid and secure it by closing the lid and tightening the lid fixing screws. Ensure that all gland plate securing screws are tightened.
- 24) Test the installation

Earthing/Grounding

The VPJB unit is provided with an internal and external earthing/grounding facility. This must be connected to the appropriate earth bonding circuit before electrical power is connected to the contents of the enclosure. Any earth/ground conductor brought into the enclosure must be terminated onto either the enclosure internal ground bar or the enclosure earth/ground stud.

Operation

1. The lid must be secured using all 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. The earthing/grounding facility must be connected to the earth bonding circuit at all times when electrical power is connected to the enclosure.

Maintenance

The laws of the applicable country must be considered and maintenance checks carried out accordingly.

Additional checks that are advisable to ensure the efficiency of ABTECH 'S' range enclosures on which the VPJB is based are:-

Activity	Frequency
1 Check that the lid seal is not damaged and is in place	Each time the enclosure is opened
2 Check that all lid fixing screws are in place and secured	Each time the enclosure is opened
3 Check that all gland plate fixing screws are in place and secured	Each time the enclosure is opened
4 Check the internal power and ground connections are secure	Annually
5 Check that the mounting bolts are tight and free of corrosion	Annually
6 Check the security of all cable glands	Annually
7 Check the enclosure for damage	Annually

Chemical Attack

The ABTECH VPJB is manufactured from 316 stainless steel. The following additional material are also used:

Neoprene or silicone rubber,
 Copper and Brass,
 Pressure moulded thermosetting GRP
 High tensile steel
 Styrene

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

The HVJB does not present a hazard from static electricity.

Vibration

The HVJB is 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.

Protection From Foreseeable Faults

Circuits connected in the enclosure must be externally protected using suitable circuit interruption devices to prevent overloading. Provided the enclosure is correctly installed, there should be no foreseeable faults.