



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 02ATEX9205X

4 Equipment: DPJB2 and DPJB 4 Junction Boxes

5 Applicant: A B Controls & Technology

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 confidential report number R53A9330A.

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 1127-1:1997
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 2GD
IIC T6

Project Number 53A9330
Date 26 September 2002
C. Index 04

M D Shearman
Certification Manager

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Sira Certification Service

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 02ATEX9205X

13 DESCRIPTION OF EQUIPMENT

The DPJB2 and DPJB4 Junction Boxes provide a facility for connecting a three phase motor to a supply not exceeding 6.6 kV and 200 A per phase. Two, three or four connectors may be fitted, which are rated at 200 A. In the DBPJB4, one connector forms a neutral connection. The Junction Boxes can also fitted with another box for connecting a six way pilot cable or optical fibres.

The enclosure comprises an SX7/200 enclosure, covered by component certificate Sira 99ATEX3170U coded EEx e II, fitted internally with an insulating mounting board, cable clamps and up to four Elastimold connectors type 151SR-W-X and 151SP-W-X. Insulating barriers are also fitted between phases.

The box for connecting the pilot cable or optical fibres is either an SX range junction box covered by Sira 99ATEX3171 coded EEx e II T6 or a BPG10 covered by Sira 99ATEX3173. The instrument cables are limited to 0.5 A maximum. A special condition for safe use applies to the optical fibres.

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Rev.	Sheet	Date	Title
	ABT12105	1 of 1	A	19 Jul 02	DPJB-4 General arrangement
	ABT12171	1 of 1	A	15 Aug 02	Hook cleat
	ABT11471	1 of 1	A	11 Sept 01	Coupler clamp
	ABT12149	1 of 1	A	8 Aug 02	Label
	ABT12106	1 of 1	A	22 Jul 02	Phase separator

14.2 Report No. R53A9330A

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

15.1 The DPJB2 and DPJB 4 Junction Boxes shall be regularly maintained to ensure that the cable clamps are tight and the connectors are maintained in their correct position.

15.2 When used with optical fibres the following shall apply:

- Continuous wave sources shall have a maximum power of 5 W/mm².
- Pulse wave sources shall have a maximum energy of 0.1 J/mm².

(Pulse wave sources with a pulse wave interval less than 5 seconds are regarded as continuous wave sources)

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSR'S)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R53A9330A.

17 CONDITIONS OF CERTIFICATION

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

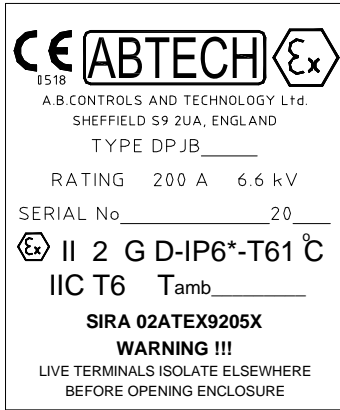
Date 26 September 2002

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DPJB 2, DPJB 4 - INSALLATION, OPERATION & MAINTENANCE INSTRUCTIONS



Marking

The marking shown is for an apparatus certified DPJB connection box.

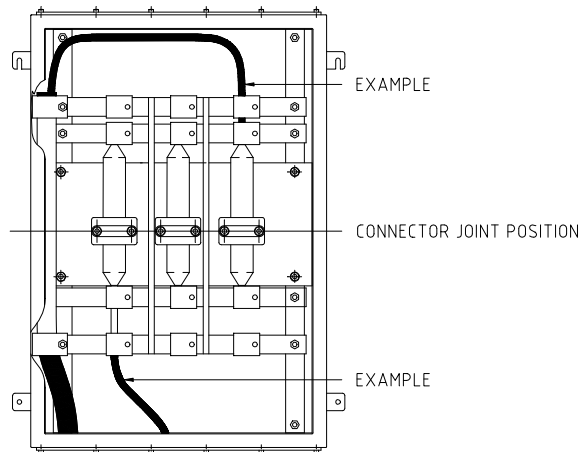
The maximum current and voltage ratings for this terminal unit are marked on the label as 200A 6,6kV.

The ambient temperature range for which this product is suitable is marked on the the label and identified by T_{amb} if above +40°C or below – 20°C

Installation Instructions

Note: Consideration must be given to the possibility of electric fields strong enough to cause air ionisation (corona) which can result in flashover. These may result from inappropriate cable layout and/or inadequate conductor screening. Where such fields are considered possible steps should be taken to minimise the risk. ABTECH do not make recommendations in this respect and the responsible site engineer must be consulted.

- 1) Installation should be carried out generally in accordance with the Code of Practice EN60079-14.
- 2) Secure the box to its mounting location using four machine screws of minimum size M8.
- 3) Open the box door by loosening all of the fixing screws and swinging the door on its hinges. The lid screws are captive but **DO NOT LOSE THE SCREWS**.
- 4) Lift off the door and place securely.
- 5) For each cable to be installed, measure the route each cable core will follow and record the longest distance measured. For the cable terminating in the socket half of the connector measure to the where the connector joint will be after assembly and subtract 70mm. For the cable terminating in the plug half of the connector measure to the where the connector joint will be after assembly.



DPJB 2, DPJB 4 - INSALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

- 6) If the gland plate(s) is/(are) un-drilled remove it/(them) and drill the cable gland entry. DO NOT LOSE THE SECURING SCREWS. Otherwise remove the blanking plug from the cable entry.
- 7) Removal of the gland plate for installation of the cable and cable gland is optional. If the gland plate is removed DO NOT LOSE THE SECURING SCREWS.
- 8) If not already fitted, install the cable gland(s). This should be done in a manner to maintain the minimum IP66 rating, in accordance with the manufacturers instructions.
- 9) For each cable to be installed, insert the cable through the gland and pull a length of cable through the cable gland at least equal to the longest distance measured in 3) above. **NOTE :-** Unused cable entries should be fitted with IP66 rated blanking plugs, removable only with a tool. If plastic blanking plugs are used they must be EEx e certified.
- 10) Re-affix the gland plate.
- 11) Strip the inner sheath over the cable core insulation back to 25mm from the last multi-core clamping position. The cable gland in also a designated clamping position. **NOTE :-** If only single core cables are being used any sheath over the core insulation should be stripped back to 25mm from the cable gland.
- 12) In turn, remove the restraining clamps holding the connector in place, remove the connector and pull it in half.
- 13) Select the cable core that is to terminate in the socket half (the long half) of the connector and strip the core insulation by 40mm.
- 14) Insert the cable core into the pin crimp connector and crimp into place.
- 15) Apply silicone lubricant as provided in the kit to the pin connector and the cable.
- 16) Insert the pin connector into the socket housing from the narrow end and push home using a back and forth twisting motion. Persevere as these are often very stiff. Ensure that the front of the pin chamfer comes flush with the inside face of the socket housing.
- 17) Select the core that is to terminate into the plug half of the same connector and strip the core insulation by 40mm.
- 18) Insert the cable core into the female contact crimping barrel and crimp into place.
- 19) Apply silicone lubricant as provided in the kit to the female connector and the cable.
- 20) Insert the female connector into the plug housing from the narrow end and push home using a back and forth twisting motion. Persevere as these are often very stiff. Ensure that open end of the female contact is flush with the end of the plug housing.
- 21) Sparingly apply silicone lubricant to both the plug nose and the inside face of the socket.
- 22) Place the nylon venting wire inside the socket and insert the plug.
- 23) Push the plug in as far as it will go and remove the venting wire.
- 24) Position the completed connector back into its restraining clamps and secure in place.
- 25) Repeat the process for each connector from 12), above.
- 26) Clear debris from the inside of the box.

Replace the door on its hinges, close and secure the door using all of the fixing screws.

NOTE :-

The IP rating cannot be guaranteed unless all lid and gland plate fixing screws are in place and properly secured.

DPJB 2, DPJB 4 - INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

Earthing / Grounding

All DPJB units are 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 DPJB terminals. When used for three phase power distribution any earth/ground conductor brought into the box must be terminated on the internal earth/ground stud. When used for single phase or DC applications the spare terminal may be used for earth continuity connection.

Operation instructions

1. When a control cable terminal box is fitted and used to terminate optical fibres a continuous wave source shall have a maximum energy of 5 W/mm². Pulse wave sources shall have a maximum energy of 0,1J/mm². Pulse wave sources with a pulse wave interval less than 5 seconds shall be regarded as continuous wave sources.
2. The lid must be secured using all the lid screws provided to maintain the IP rating of the enclosure.
3. No attempt must be made to open the enclosure whilst electrical power is connected to the contents of the enclosure.
4. The earthing/grounding facility must be connected to the earth bonding circuit at all times when electrical power is connected to the enclosure.

Maintenance instructions

Routine maintenance is a requirement of BS5345 : Part 1 : 1989 as is likely to be a requirement of local health and safety legislation. The laws of the applicable country must be considered and maintenance checks performed accordingly.

The following maintenance checks are essential at a period of 6 months :-

1. Ensure that the connector and cable clamps are tight and secure and that the couplers are maintained in their correct positions.
2. Additional checks that are advisable to ensure the efficiency of the enclosure IP rating 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 that the mounting bolts are tight and free of corrosion	Annually
5 Check the security of all cable glands	Annually
6 Check the enclosure for damage	Annually

Chemical attack

The ABTECH DPJB units are manufactured in 316 stainless steel. Other materials may include Neoprene or silicone rubber, brass, cast epoxy resin, copper, GPR, styrene, Acetal and Nylon. Consideration should be given to the environment in which the unit is to be used to determine the suitability of these materials to withstand any corrosive agents that may be present.

Vibration

DPJB units are designed to 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.

Static hazard

DPJB units do not present a hazard from static electricity.