

UK Type Examination Certificate CML 22UKEX3124X Issue 1

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **HVJB, NKJB and SCJB Junction Boxes**
- 3 Manufacturer **Abtech Limited**
- 4 Address **199/201 Newhall Road,
Lower Don Valley,
Sheffield, S9 2QJ,
United Kingdom**

- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

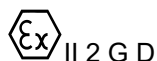
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN IEC 60079-7:2015+A1:2018

EN 60079-31:2014

- 10 The equipment shall be marked with the following:



II 2 G D

Ex eb IIB/IIC T* Gb

Ex tb IIIC T*°C Db

Ta= -40°C to +40°C*

Ta= -50°C to +55°C*

Ta= -65°C to +60°C

*** – The temperature class, assigned maximum surface temperature and ambient range are dependent on the model, the component enclosure used and the power rating. Refer to section 11, Description, and section 13, Conditions of Manufacture.*

Note: Where the 'standard' ambient range of -20°C to +40°C applies, it is not essential that this is marked.





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11 Description

The HVJB, NKJB and SCJB are a range of high voltage junction boxes with maximum rated working voltage of 11 kV. The maximum dissipated power is dependent on enclosure size and model. The enclosures utilise a previously certified stainless-steel enclosure, certified under IECEx CML 15.0039U / CML 15ATEX3078U and coded Ex eb IIB/IIC Gb or Ex tb IIIC Db and IP rated to IP66 according to EN IEC 60529. The enclosure sizes may be increased to allow additional phases, or larger number of cables to be accommodated. Where the enclosure has been increased in size, the power dissipation values noted in the table below must be met.

Alternatively, the terminal arrangements may be fitted inside a Nautilus enclosure certified under IECEx CML 14.0008X/CML 14ATEX3021X and IP rated to IP64/68 according to EN IEC 60529.

Internally are an arrangement of up to six copper bus bars supported on insulators which provide connection facilities for two single cables per phase or multiple cables per phase, depending on the arrangement. Optionally, connections may be facilitated by suitably certified separable couplers, either connected directly and/or via a junction coupler. Insulated partitions are fitted between busbars to maintain creepage and clearance distances between live parts. Cables may enter the enclosure from any of the four sides or through the rear face of the enclosure. Cable entry devices may be fitted directly to the enclosure wall or by means of a removeable gland plate, allowing cable entries to be made at site. Optionally, a separate enclosure may be fitted to the side(s) of the enclosure and used to house Fibre Optic and/or field electrical connections.

Additional separately certified terminals and internal BPG terminal boxes may be fitted, as well as a separately certified Anti-Condensation heater, optical arrangements, thermostat(s), Hygrostat(s) (humidity control), Gas sensors, MCB/RCBO(s), isolator switches, Power supply, Relays, Ventilation Fan(s), Thermal Monitoring of busbars, all of which may be connected directly via suitably certified cable entry device(s) or connected to a suitably certified electrical connection box fitted inside the enclosure. Suitably certified signal lamps and MCB inspection window may be fitted to the door or side faces of the enclosure.

Maximum Power Dissipation – High voltage and medium voltage terminals:

Type/Model	Ambient Temperature Range (Maximum)	Maximum Dissipated Power (W) HV Enclosure	Maximum Dissipated Power (W) FO Enclosure	T Class	Dust Surface Temperature Marking
HVJB-7 / SCJB-7	-40°C to +40°C	259	N/A	T4	T70°C
	-65°C to +55°C	129.5		T4	T70°C
	-65°C to +60°C	103.6		T4	T70°C
	-65°C to +55°C	259		T150°C	T110°C
HVJB-8 / SCJB-8	-40°C to +40°C	346	N/A	T4	T70°C
	-65°C to +55°C	173		T4	T70°C
	-65°C to +60°C	138.4		T4	T70°C
	-65°C to +55°C	246		T150°C	T110°C



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Type/Model	Ambient Temperature Range (Maximum)	Maximum Dissipated Power (W) HV Enclosure	Maximum Dissipated Power (W) FO Enclosure	T Class	Dust Surface Temperature Marking
HVJB-125 / SCJB-125	-40°C to +40°C	346	68	T4	T70°C
	-65°C to +55°C	173	15.95	T4	T70°C
	-65°C to +60°C	138.4	15.95	T4	T70°C
	-65°C to +55°C	246	15.95	T150°C	T110°C
NKJB-7	-40°C to +40°C	259	N/A	T4	T70°C
	-65°C to +55°C	259		T150°C	T110°C
NKJB-8	-40°C to +40°C	346		T4	T70°C
	-65°C to +55°C	346		T150°C	T110°C

For FO compartment, when terminals are fitted, they should have a maximum operating temperature $\geq 85^{\circ}\text{C}$.

Note: The above ambient temperatures are maximum values and the ambient temperature marked on the equipment may be reduced/restricted, dependant on parts fitted, customer requirements and allowable power dissipation.

Maximum Dissipated Power when fitted with field terminals:

Ambient Temperature Range	Maximum Dissipated Power (W)	
	Field terminals	High Voltage terminals
-40°C to +40°C	86.5	259.5
-65°C to +55°C	43.25	129.75
-65°C to +60°C	34.6	103.8

Maximum Dissipated Power when fitted with internal BPG junction box:

Type	Maximum Dissipated Power and Maximum Current – Main Terminals and Wiring					
	4-Way		3-Way		2-Way	
	Power (W)	Current (A)	Power (W)	Current (A)	Power (W)	Current (A)
HVJB-7	Not permitted	Not permitted	248	938	165	624
HVJB-8	335	949	251	710	167	473



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Notes:

- BPG Junction Boxes shall not be fitted into HVJB junction boxes marked T150°C for gas or T110°C for dust.
- When fitted with separable couplers, the product designation shall be changed to SCJB
- Optionally, the enclosures may be painted.

Variation 1

This variation introduces the following change:

- To include a SCJB version to the range, (Separable Connector Junction Box).
- To increase the maximum allowable current to 1250A
- To allow the marked ambient temperature range to be reduced, dependent on the model, parts fitted and customer requirements, the description and Conditions of manufacture have been updated in accordance with this modification.
- To correct typographical errors.
- The introduction of new Ex parts to the scope of this equipment.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	21 Apr 2022	R15108B/00	Issue of the prime certificate. CML 16ATEX3324X, Issue 6 is attached and shall be referred to in conjunction with this certificate.
1	30 Mar 2026	R18791A/00	Introduction of Variation 1.

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- If the terminals are fitted with cables/wiring by the manufacturer; then a routine dielectric strength test shall be carried out on each unit in accordance with EN 60079-7:2015, clause 7.1.

The test voltage shall be determined on the basis of the marked maximum rated voltage, with the appropriate safety factor and test duration applied in accordance with EN 60079-7:2015, clause 6.1.

No flashover or breakdown shall occur.
- The products covered by this certificate incorporate separately certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices. The manufacturer shall inform CML of any modifications of the devices that may impinge upon the explosion safety of their design.

In addition, this certificate relies on the following previously certified products. When the Junction Box is fitted with anti-condensation heater that includes a thermostat; the key attributes listed in the table below shall still be maintained by their original certificate.



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Description	Certificate No.	Key Attributes
Anti-Condensation heater fitted with a thermostat	As appropriate	Suitably certified by a notified/certification body as a piece of equipment with a T6-T4 temperature class and suitable for the exposed ambient temperature. The thermostat of the incorporated heater shall have a limiting temperature set to no higher than +35°C.

- iii. When fitted with high voltage (11 kV maximum working voltage) or medium voltage (3.3 kV maximum working voltage) terminals, the maximum dissipated power of the Junction Boxes shall be calculated in accordance with EN 60079-7:2015, Annex E.2, and shall not exceed the maximum power rating defined in the Description on this certificate.
- iv. When installed, the increased safety auxiliary “field” terminals shall have at least 12 mm creepage and 10 mm clearance between live parts and conductive metal parts.
- v. When the HVJB-8 Junction Box is fitted with field terminals, the total dissipated power for the “field” terminals and wiring shall be calculated in accordance with EN 60079-7:2015, Annex E.2 and shall not exceed the values defined the Description on this certificate.
- vi. When the HVJB Junction Boxes are fitted with internal BPG Junction Boxes, as approved under Sira99ATEX3172X, the total dissipated power and current shall not exceed the values in defined in the Description on this certificate.
- vii. Junction Boxes that are marked with the ambient range -50°C to +55°C/+60°C shall only be constructed using an SX component enclosure with a minimum depth of 300 mm, without windows and fitted with silicone gaskets, as approved by CML15ATEX3078U.
- viii. The maximum ambient temperature, temperature class and assigned maximum surface temperature of the equipment are dependent on the model and maximum power dissipation/current rating. The maximum ambient, temperature class, assigned maximum surface temperature, power and voltage ratings shall be marked in accordance with the Description on this certificate and with the approved drawings listed on this certificate.
- ix. BPG Junction Boxes shall not be fitted into HVJB junction boxes marked T150°C for gas or T110°C for dust.
- x. For the FO compartment, when terminals are fitted, they should have a maximum operating temperature $\geq 85^{\circ}\text{C}$ and when a FO cassette is utilised, the maximum allowable ambient range marked shall not exceed -40°C to $+60^{\circ}\text{C}$.
- xi. When the junction box enclosures are coated or painted and the DFT exceeds 0.2mm (IIC) or 2.0mm (IIB), the following additional warning shall be applied “WARNING – CLEAN ONLY WITH A DAMP CLOTH”
- xii. When fitted with the Gas Detector, model XGard Bright, the following conditions must be met :
 - a. Unused cable entries must be sealed using an ATEX Ex db and Ex tb certified stopping plug with minimum IP65/IP66 ingress protection.
 - b. Only the cables/wires which are specified in the user manual can be used.
 - c. External earthing should be considered and installed according to user manual before use.



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14 Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

- i. Enclosure marked for -65°C shall not be opened until the temperature rises to -60°C.
- ii. When fitted with the Mini-thermostat type IRM^{**/**}, the final user must ensure that the circuit of the mini-thermostat is protected by a circuit breaker with tripping characteristic C to the rated current of 16A.

Certificate Annex

Certificate Number CML 22UKEX3134X
Equipment HVJB, NKJB and SCJB Junction Boxes
Manufacturer Abtech Limited



The following documents describe the equipment defined in this certificate:

Issue 0

For drawings describing the equipment, refer to attached certificate CML 16ATEX3324X

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
ABT45119	1 to 2	A	30 Mar 2026	Permitted auxiliary and control devices for HVJB, SCJB, ABJB, 4TJB – MV HV Enclosures
ABT31185	1 of 1	B	30 Mar 2026	HVJB with Field Terminals
ABT31187	1 of 1	B	30 Mar 2026	HVJB with Internal BPG
ABT31188	1 of 1	B	30 Mar 2026	HVJB-8 with Earth Points
ABT31189	1 of 1	B	30 Mar 2026	HVJB with MV Terminals
ABT31190	1 of 1	B	30 Mar 2026	NKJB Series
ABT31191	1 of 1	E	30 Mar 2026	HVJB Certification Labels
ABT33322	1 of 1	B	30 Mar 2026	HVNB-7x (IP68) General Arrangement
ABT33323	1 of 1	B	30 Mar 2026	HVNB-7x (IP68) with MV Terminals
ABT33324	1 of 1	B	30 Mar 2026	HVNB-7x (IP68) with MV Terminals
ABT44911	1 of 1	A	30 Mar 2026	HVJB-7x, HVJB-8x and HVJB-125 General Arrangement
ABT44912	1 of 1	A	30 Mar 2026	HVJB Insulation Plates & Cover
ABT44913	1 of 1	A	30 Mar 2026	HVJB with Field Terminals
ABT44914	1 of 1	A	30 Mar 2026	NKJB Insulation Plates & Cover
ABT44915	1 of 1	A	30 Mar 2026	SCJB-8 & SCJB-125 General Arrangement
ABT44916	1 of 1	A	30 Mar 2026	Optional Electrical Accessories HVJB / SCJB / NKJB Range