IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx CML 16.0100X**

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Certificate history:

Issue 6 (2022-04-21)
Issue 5 (2020-12-11)
Issue 4 (2019-08-28)
Issue 3 (2018-01-04)
Issue 2 (2017-11-01)
Issue 1 (2017-06-23)
Issue 0 (2016-10-05)

Status: **Current**

Issue No: 7

Date of Issue: 2026-03-30

Applicant: **ABTECH Limited**
199 Newhall Road
Sheffield
S9 2QJ
United Kingdom

Equipment: **HVJB, NKJB and SCJB Junction Boxes**

Optional accessory:

Type of Protection: **Increased Safety Ex "eb", Dust Ignition Ex "tb"**

Marking: Ex eb IIB or IIC T* Gb

Ex tb IIIC T*°C Db

Tamb = -40°C to +40°C or -50°C to +55°C* or -65°C to +60°C*

* T-class, assigned maximum surface temperature and ambient range depend on the model and power rating. Refer to Annex.

Approved for issue on behalf of the IECEx Certification Body: **L A Brisk**

Position: **Certification Officer**

Signature: (for printed version)

Date: (for printed version) 30 Mar 2026

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 www.iecex.com or use of this QR Code.

Certificate issued by:

Eurofins E&E CML Limited
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Ellesmere Port, CH65 4LZ
United Kingdom

IECEx Certificate of Conformity

Manufacturer: **ABTECH Limited**
199 Newhall Road
Sheffield
S9 2QJ
United Kingdom

Manufacturing locations: **ABTECH Limited**
199 Newhall Road
Sheffield
S9 2QJ
United Kingdom

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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 Reports:

GB/CML/ExTR16.0140/00 GB/CML/ExTR17.0108/00 GB/CML/ExTR17.0202/00
GB/CML/ExTR18.0001/00 GB/CML/ExTR20.0263/00 GB/CML/ExTR22.0049/00
GB/CML/ExTR26.0004/00

Quality Assessment Report:

GB/CML/QAR16.0021/13

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The HVJB, NKJB and SCJB are a range of high voltage junction boxes with maximum rated working voltages of 11 kV. The maximum dissipated power is dependent on enclosure size and model.

See Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:
See Annex for Specific Conditions of Use.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This issue introduced the following change:

1. To include an option to allowed the enclosure to be painted with a coating thickness up to 2mm for 'IIB' applications. The description and marking has been modified accordingly.

Issue 2

This issue introduced the following change:

1. To allow the ambient temperature to be optionally increased to +60°C.

Issue 3

This issue introduced the following change:

1. To allow the terminal arrangements to be fitted in an alternative Nautilus enclosure. The description has been modified accordingly.

Issue 4

This issue introduced the following change:

1. To update QAR reference

Issue 5

This issue introduced the following changes:

1. To correct a Condition of Manufacture
2. To clarify that an optional internal power supply connection box for heater may be fitted. The description was modified accordingly.

Issue 6

This issue introduced the following changes:

1. To allow anti-condensation heaters with a higher temperature class to be utilised.
2. To allow the temperature setting of the anti-condensation heater to be increased. The Condition of Manufacture has been altered accordingly.
3. To reduce the allowable lower ambient to -65°C, the Specific Conditions of Use have been updated in accordance with this modification.
4. Update standards 60079-0 and 60079-7 to the latest edition

Issue 7

This issue introduced the following changes:

1. To include a SCJB version to the range, (Separable Connector Junction Box).
2. To increase the maximum allowable current to 1250A.
3. 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.
4. To correct typographical errors.
5. The introduction of new Ex parts to the scope of this equipment.

Annex:

Certificate Annex IECEx CML 16.0100X Issue 7_1.pdf

Annexe to:	IECEx CML 16.0100X Issue 7
Apparatus:	HVJB, NKJB and SCJB Junction Boxes
Applicant:	Abtech Limited

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

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-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
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 ≥85ºC.

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

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.

Conditions of Manufacture

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

i. 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.

ii. 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 many 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/hygrostat, the key attributes listed in the table below shall still be maintained by their original certificate.

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-T3 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 5°C below the maximum ambient temperature.

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 CML 20ATEX3009X, 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.

xi. For the FO compartment, when terminals are fitted, they should have a maximum operating temperature ≥85ºC and when a FO cassette is utilised, the maximum allowable ambient range marked shall not exceed -40°C to +60°C.

xii. 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”

xiii. 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/IECEx 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.

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.

Components used which are covered by Ex Certificates issued to older editions of Standards

None.

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