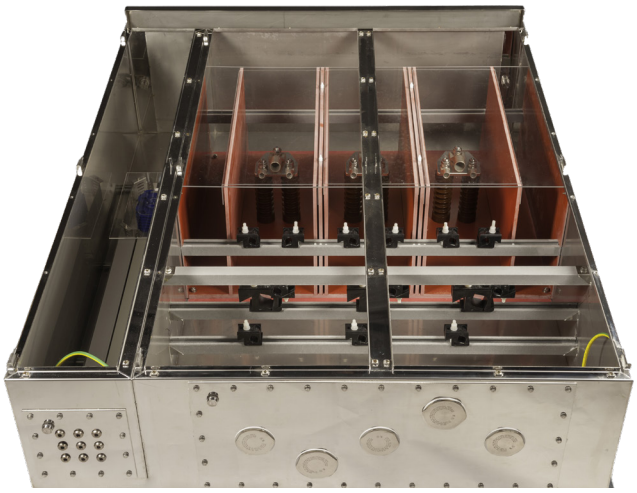
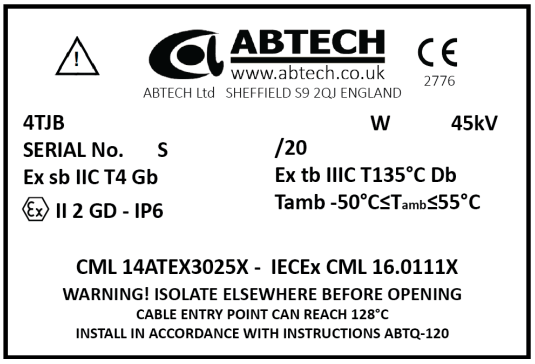
Installation, Operation, Maintenance:
4TJB RANGE



Certification Details

ATEX:	ABTECH Ltd.	CML 14ATEX3025X
IECEx:	ABTECH Ltd.	IECEx CML 16.0111X



Marking
The marking shown is for an apparatus certified 4TJB connection box. The IP rating, shown as IP6, is available as IP66, IP67 or IP68 (depth and duration to be agreed).

The maximum power dissipation for the maximum ambient temperature (shown as +55°C) is 288W. This will increase to 346W is the maximum ambient temperature is limited to +40°C.

The maximum operating voltage is marked as 45kV. A separate client specified label may be provided to mark the actual operating voltage.

The gas group IIC marking may be replaced by IIB marking. When marked IIC the maximum coating thickness is 200 microns. When marked IIB the maximum coating thickness is 2.0mm. If the coating is conductive these thickness limitations do not apply.

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) Secure the box to its mounting location using four machine screws of minimum size M10.

2) 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**.

3) Lift off the door and place securely.

4) Remove the flat, transparent cover sheet by loosening the M6 nylon securing screws and remove the phase covers. Place aside in a clean and safe location.

5) For each cable to be installed, measure the route each cable core will follow and record the distance measured.

6) If the gland plate is un-drilled remove it and drill the cable gland entries. DO NOT LOSE THE SECURING SCREWS. Otherwise remove the blanking plugs 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 gland manufacturer's instructions. All cable glands must be certified Ex e.

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 5) above, plus additional length corresponding to the length of the crimping barrel.
NOTE : *Unused cable entries MUST be fitted with an Ex e certified blanking plug.*

10) Re-affix the gland plate; if removed.

11) Strip any shields and/or semi-conductive layers over the cable core back to 25mm from the cable gland.

12) Install the cable termination kit according to the manufacturer's instruction.
NOTE: *the cable termination kit is not part of the certified product, is not covered by the certification and may have been sourced separately. ABTECH take no responsibility for the selection, use or installation of cable termination kits.*

13) Remove the top half of each cable clamp and place each cable along its intended route through the remaining halves of the cable clamps.

14) Offer up each conductor core to its appropriate crimp lug to check for adequate length. There must be sufficient conductor core to reach the crimp lug with spare length to insert into the crimping barrel.

15) Strip the insulation from the end of the conductor core, sufficient for the conductor to be inserted fully into the crimping barrel.

16) Remove the crimp lug from its fixing stud. Place the nuts and locknuts provided in a safe location.

17) Insert the conductor into the crimp lug barrel. Rotate the lug to ensure that it will lie flat with the bus bar and crimp onto the cable core using a compression tool appropriate to the cable size. Either an indent or HEX tool may be used. Compression tools suitable for Cembre lugs are recommended.

18) Repeat with the other cable cores and secure them to the appropriate stud using the nuts and locknuts provided. It is not necessary to use a torque wrench, but the fitter should ensure that they are properly tight without damaging the threads. If a torque wrench is used, for M10 studs set to 35Nm, for M20 studs set to 55Nm.
NOTE: *Use a flat spanner on the locknut beneath the bus bar to prevent transfer of the torque through the insulating pillar.*

19) Check that all connection lugs have been fully tightened down.

20) Ensure that any earth tape or braid supplied as part of the cable has been securely connected to the internal earth stud using a proprietary earthing kit.

21) Connect the gland plate earth stud and the door earth stud to the internal enclosure earth stud using insulated copper earth conductor with a minimum cross section of 4mm². Use ring type crimps suitable for the stud size as required.

22) Clear debris from the inside of the box and replace the phase covers and the flat, transparent cover plate, securing the cover plate in place with the M6 nylon screws provided.

23) Following installation and prior to use the equipment shall be subject to an electric strength test conducted at '2 x operating voltage +1kV r.m.s.' for one minute. (The maximum test voltage shall not exceed 91kVAC, giving a maximum operating voltage of 45kVAC). The equipment and associated cabling shall withstand this test without breakdown.

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 properlysecured and all seals remain free of damage.*

Earthing / Grounding

All 4TJB 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 4TJB 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.

Operation instructions

1. The lid must be secured using all the lid screws provided to maintain the IP rating of the enclosure.

2. No attempt must be made to open the enclosure 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 instructions

Routine maintenance is a requirement of BS EN 60079-14 and 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. Additional checks that are advisable to ensure the efficiency of the enclosure IP rating include:-

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 the gland plate seal is not damaged and is in place	Every time it is disturbed
4	Check that all gland plate fixing screws are in place and secured	Each time the enclosure is opened
5	Check that the dust layer on top of the enclosure does not exceed a thickness of 5mm.	Annually for gas hazard. Weekly for dust hazard
6	Check that the mounting bolts are tight and free of corrosion	Annually
7	Check the security of all cable glands	Annually
8	Check the enclosure for damage	Annually

Installation and maintenance activities may involve the temporary removal or disconnection of the gland plates, phase covers, cable clamps and crimp lugs. Such parts can be re-installed following the installation processes detailed above. The removal or disassembly of any parts not so covered will render the hazardous area certification void.

Chemical attack

The ABTECH 4TJB units are manufactured in 316 stainless steel. Other materials may include silicone rubber, brass, cast epoxy resin, copper, GPR, styrene, acetyl, acrylic 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.

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Vibration
4TJB 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
4TJB units do not present a hazard from static electricity.

Applicable standards (as shown on the certificate)
EN/IEC 60079-0:2012
EN/IEC 60079-7:2015
EN/IEC 60079-31:2009