

POWERLOCK BOX

Operation and Maintenance Guide



1. Colour Coding

Region	Earth	Neutral	L1	L2	L3
Europe	Green	Blue	Red	Black	Grey
United States	Green	White	Black	Red	Blue
Australia	Green	Black	Red	White	Blue

2. Un-packing

Ensure the unit is up the correct way before un-packing. The carton and its packing are recyclable and should be disposed according to national or local authority guidelines.

3. Contents

Before un-packing the part number of the POWERLOCK BOX should be checked against your order.. Also check that the current rating label on the unit matches your requirements. The carton should contain the following.

Qty	Description
1	PowerLock Box
1	6mm square drive key
1	2 pole cable connector for remote sensing
1	Operating / Maintenance guide

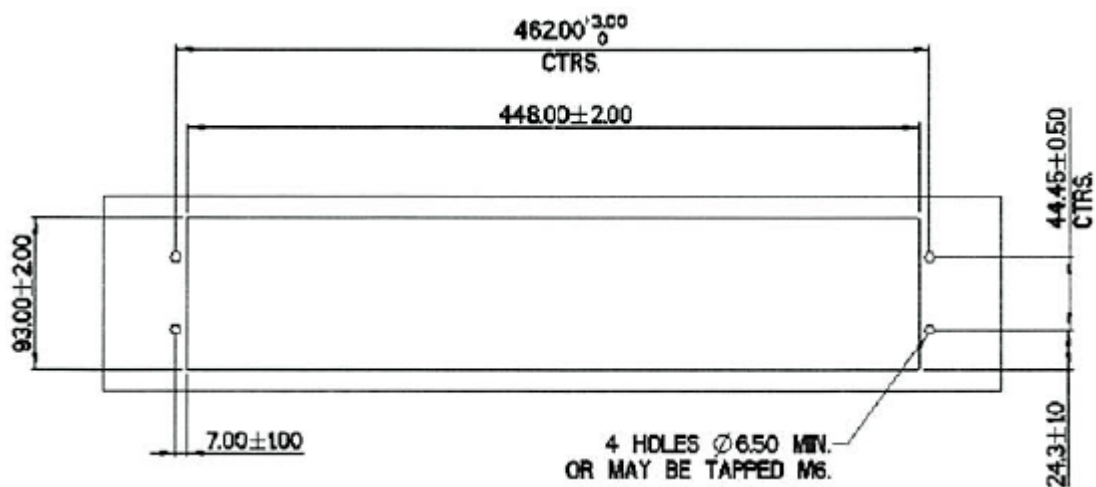
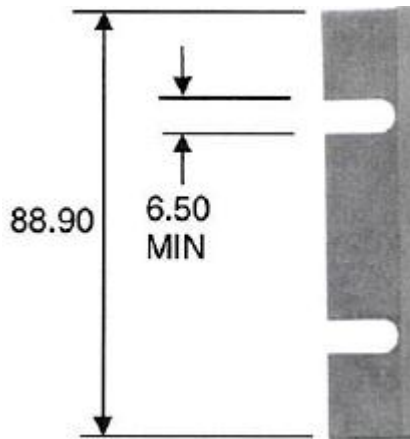
4. Mounting Instructions

Shown below are the components supplied for both POWERLOCK F6 drain and POWERLOCK D6 source connectors. Both connector types include the following:

- Cable Gland
- Contact
- Housing (Insulator)
- Retention Pin

The unit may be mounted into standard 19” rack systems or to dedicated panel mounts within buildings or remote cabinets. It is recommended that M6 screws / bolts and flat washers are used, and tightened to a torque of 2.94 Nm min. to 3.43 Nm max.

Caution – Tighten screws / bolts evenly and ensure the unit is adequately supported during mounting.



If fitting to a 19" rack that does not support all IEC 60297 fixing holes it may be necessary to use additional mounting plates.

5. Electrical Installations

The crimp die type and size are one of the most important aspects of the crimping operation

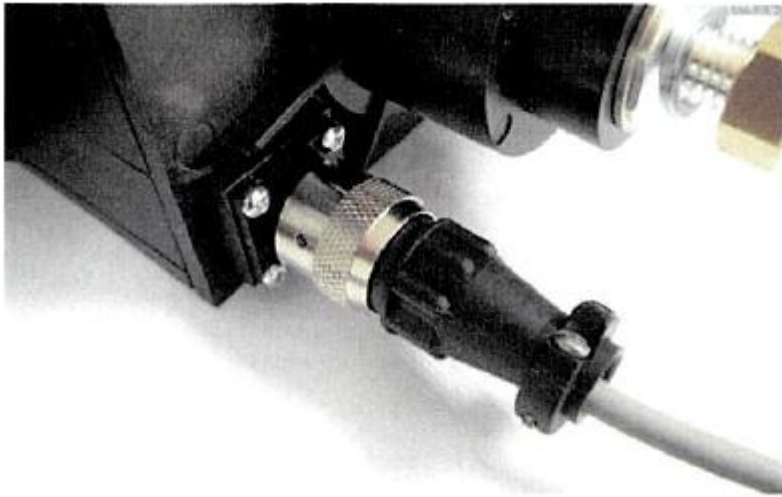
Caution – Electrical installations should only be carried out by a suitably qualified electrical engineer. It is the responsibility of the installer and user to ensure that the safe practices are adopted.

Power cable connections – M12 threaded posts on the rear of the unit are for connecting power cables fitted with cable lugs. Each position is marked on the back of the box. E (Ground), N, L1, L2 & L3. The threaded posts have a spring washer and nut that should be tightened to a torque of 27.5 Nm min. to 31.4 Nm max.

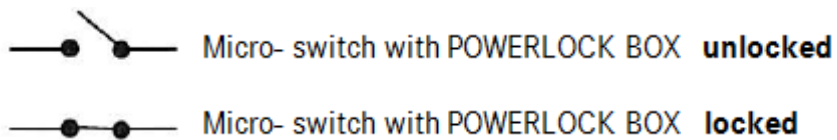
It is recommended that insulated spanners are used when making these connections.

6. Remote sensing Connector

A 2 pole Trident connector is located on the rear of the unit to provide a remote sensing function.



The 2 pole connector mounted on the rear is connected to a micro-switch inside the unit that is closed only when all connectors are in place and the unit is locked.



A Trident cable connector is provided with 2 loose contacts and an endbell strain relief. The connector body has 4 cavities however only 2 contacts are used in this application and are fitted in positions A & C (dummy contacts are pre-fitted to positions B & D to prevent use of the wrong cavities)

Full assembly instructions for this connector are shown in the Appendix.

7. POWERLOCK BOX Operating Instructions

Note – This box should only be operated by suitably qualified persons.

Only original POWERLOCK connectors should be used with this unit. The use of non-approved connectors may cause damage to the box and will invalidate any warranty.

On versions with the sealed lid, it will be necessary to open this using the square drive key before connections can be made.

Ensure that the current rating of the cables and connectors being used are suitable for the current rating of the POWERLOCK BOX and connected supply.

Do not connect live cables.

Ensure that power is switched off before connection/disconnection.

Connection of POWERLOCK connectors is made sequentially, starting with the Ground/Earth connection (Green) and working to the right.

1. Insert the Ground (Green) connector, aligning the “PUSH” arrow on the label of the connector in a 12 o’clock position. Fully insert the connector until it bottoms in the cavity and turn through 45 degrees clockwise until the connector stops.
2. Repeat the above process for the Neutral connector, followed in order by L1, L2, and L3. (If at any time a connectors does not rotate fully, check that the previous connector is fully turned).
3. Lock is the box as indicated on the front panel, using the square drive key provided, the lock is situated adjacent to the L3 connection.
4. Remove the key. All connectors, are now locked in place and cannot be removed until the box is unlocked.
5. To remove the connectors, ensure that the power is turned off and reverse the above procedure.

8. General

- Fitting and maintenance should only be carried out by suitably qualified persons
- Mating cable connectors are not supplied with the POWERLOCK BOX
- Recommended cross section area of wire for connection to back of the unit is
 - 120 mm² - 400 amp
 - 240 mm² - 660 amp
- The use of insulated spanners is recommended when connecting or disconnecting this box
- The POWERLOCK BOX is CE marked and complies with the relevant regulatory requirements
- It is the responsibility of the installer to ensure that the POWERLOCK BOX is located in a safe location.

Current rating	400 amp or 660 amp (check label for rating)
Voltage rating	1000V AC / 1500 DC
Dielectric strength	9.5Kv dc
Micro-switch operating voltage	125Vac max.
Micro-switch current rating	5 amp
Operating temperature	-30°C to +85°C
Environmental protection	Boxes without lid - IP65 when connectors are fitted Boxes with lid - IP65 when lid is locked or connectors are fitted
PowerLock Box weight	Unit with lid – 3.75Kg. approx Unit without lid – 3.25Kg. approx
Flammability rating	UL94-V0
Endurance	500 connection cycles

9. Maintenance

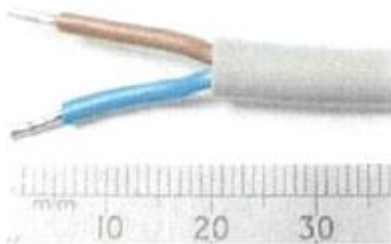
1. Periodic greasing of the O-Ring seals on the connector ports is recommended
2. The POWERLOCK BOX should regularly be inspected for damage, including a visual inspection of the contacts on PS (Power Source) versions
3. Periodic retention testing of PS (Power Source) contacts is recommended to confirm that contact life has not been exceeded.

10. Disposal

After use, the device should be disposed of in accordance with national or local authority guidelines.

Appendix 1 Assembly of 2 pole Connector for micro switch

Trident connector assembly instructions



1. Contacts will accept wire of between 14 and 26 AWG
2. Strip back insulation on wires by 6mm twist together stranded wires and pre-tin contacts and wire



3. Solder wire to contact



4. Separate the endbell clamping parts
5. Pass the wires/cable through the endbell



6. Insert the insulator into the coupling nut



7. Insert contacts into cavaties A & C of the connector



8. Screw the endbell to the connector and hand tighten



9. Select and fit a suitable clamp bar for your wire/cable and tighten screws



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