Galvanic Isolator
Gi-120/ST

Instructions

Model Gi-120/ST

More Detailed Instructions Online
Go to: galvanic-isolator.co.uk
Select "Instructions" Scroll down and select your model (Gi-120/ST)

Note:
Suitable for shore supplies supplied by an RCD (Earth Leakage Circuit Breaker) with a trip current not exceeding 30mA, and an MCB (Circuit breaker) not exceeding 16A.

If in doubt, please consult a qualified electrician, or call us. We will be glad to help.

IMPORTANT:
To prevent water ingress, before installation, and periodically, check Gland Nuts on both ends for tightness (Blue in photo). They should be as tight as possible USING HAND FORCE ONLY.

Tel: 0757 807 3490 **www.galvanic-isolator.co.uk**

Galvanic Isolator
Gi-120/ST

The galvanic isolator protects your boat from corrosion caused by galvanic and leakage currents that arise due to chemical interactions between your boat and nearby boats/structures and bank- side.

This model can be used as either a Plug In or Wire in Galvanic Isolator. When used as a Plug In isolator, it simply connects to EITHER end of your shore line. It can be connected either at the boat end or the shore end. Both options work equally well.

Locate your isolator where it (and the connectors) will not be subjected to excessive heat, physical damage or water ingress.

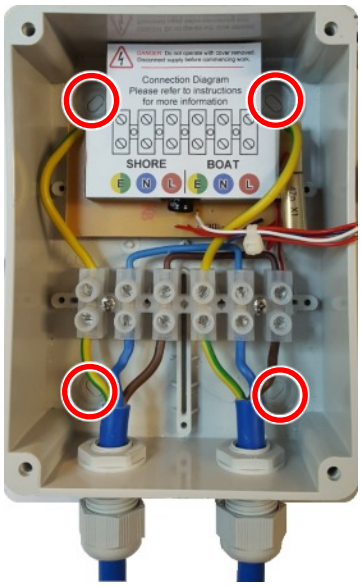
We strongly advise that the cable entries to the isolator and the connectors should point downwards.

Installation - Fixing the Isolator

Locate a suitable position for the isolator, protected from excess heat, moisture etc.

The cable entries must point downward. Although the isolator is protected against water, it is still wise to keep it, and the connectors as dry as possible.

The Isolator may be mounted to practically any flat surface.
The most secure method of mounting is to use the screw positions inside the isolator enclosure. Alternatively, it can be fixed using a mastic type adhesive. If mounting using adhesive, please ensure that surfaces are sound, clean and dry. Support the isolator until adhesive has fully set, and use cable clips to prevent undue stress on the adhesive.



Fixing Points Circled Red

If using screws to fix, remove the lid. **Take care not to strain the cables connecting the lid and body.** Drill the screw positions in each corner of the enclosure, marked red in the photo. Drill JUST large enough to accept the mounting screws you will use. **Hold the internal cables clear of the drill to avoid damaging them.** Alternatively, the holes can be drilled from the rear of the case, again, **take care not to damage the internal cables.**

Mark through the screw positions on to the surface to which the isolator is to be mounted, and pilot drill or drill & tap holes if neccessary. Alternatively, use the driling template in these instructions.

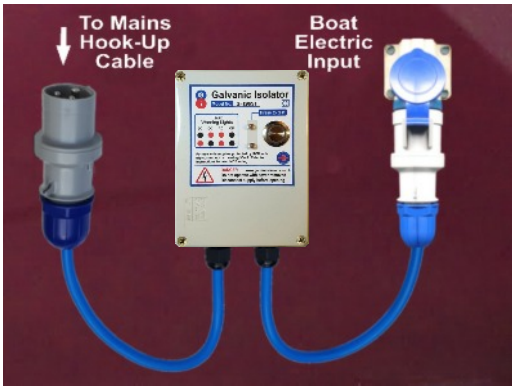
Fix with chosen screws, taking care not to overtighten, as this could damage the enclosure.

To prevent water ingress, apply a small amount of sealant on the rear of the isolator at the screw positions, and fix the isolator to the surface.

Continued...

Installation - Fixing the Isolator continued

As a further measure to prevent water ingress, when fixed, apply a little sealant to the heads of the fixing screws. Re fit the lid to the isolator.



Plug-in installation - Connecting the Isolator

Switch off the electricity supply at the shore supply, then disconnect the electric hook up cable from either the boat inlet connector or the shore electric bollard.

Connect the isolator between the hook up cable and the boat inlet / electric bollard.

Switch on the electricity supply at the shore supply.

Check that the RCD test button on the boat operates normally.

You are now protected.

! When testing in bright conditions shield the LED's from light to make them easier to see.

How to test

1) Check that LED's are NOT lit. 2) Press & hold TEST button.

3) Check both LED's lit. 4) Release button. 5) Test passed.

1) Check that LED's are NOT lit

2) Press & hold TEST button

3) Check both LED's lit

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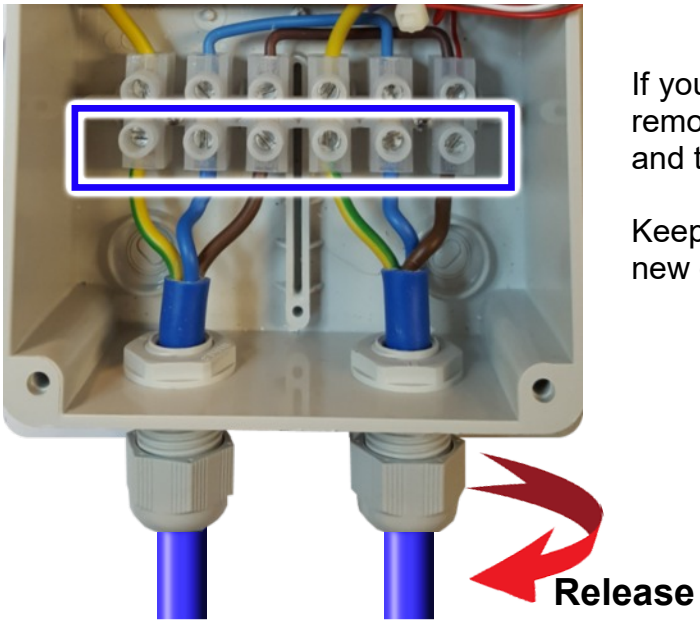
Wire In Installation

If the isolator is to be fitted as a wire in type, the cables may need replacing to suit your installation. As well as the earth, the isolator **must** have a Live and Neutral connection to the electrical supply.

Before commencing work, ensure that all electrical supplies are isolated, and there is no possibility of the installation becoming "Live" while you are working on it.



If you will be replacing the isolator's connecting cables, remove the existing cables by releasing the Gland Guts, and the 6 screws holding the cables (see opposite).

Keep the old cables to use as a pattern when stripping the new cables.

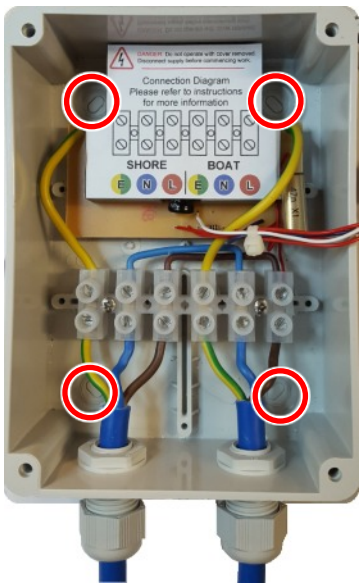
Locate a suitable position for the isolator, away from excessive heat and moisture, and where it will not be physically damaged.

The Isolator may be mounted to practically any flat surface.

The most secure method of mounting is to use the screw positions inside the isolator enclosure. Alternatively, it can be fixed using a mastic type adhesive. If mounting using adhesive, please ensure that surfaces are sound, clean and dry. Support the isolator until adhesive has fully set, and use cable clips to prevent undue stress on the adhesive.

If using screws to fix, remove the lid. **Take care not to strain the cables connecting the lid and body.** Drill the screw positions in each corner of the enclosure, marked red in the photo. Drill JUST large enough to accept the mounting screws you will use. **Hold the internal cables clear of the drill to avoid damaging them.** Alternatively, the holes can be drilled from the rear of the case, again, **take care not to damage the internal cables.**

Use the drilling template in these instructions, or mark through the screw positions on to the surface to which the isolator is to be mounted, and pilot drill or drill & tap holes if neccessary.

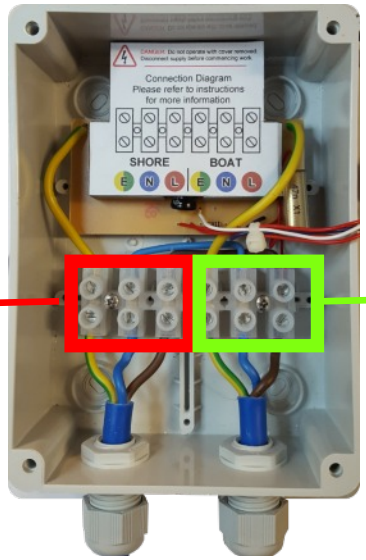


Fixing Points Circled Red

Fix with chosen screws, taking care not to overtighten, as this could damage the enclosure.

To prevent water ingress, apply a small amount of sealant on the rear of the isolator at the screw positions, and fix the isolator to the surface.

It is ESSENTIAL that the SHORE and BOAT connections are not interchanged, or the TEST button will not operate.



Shore Connections (Inlet socket)

Boat Connections (Consumer Unit (Fuse Board))

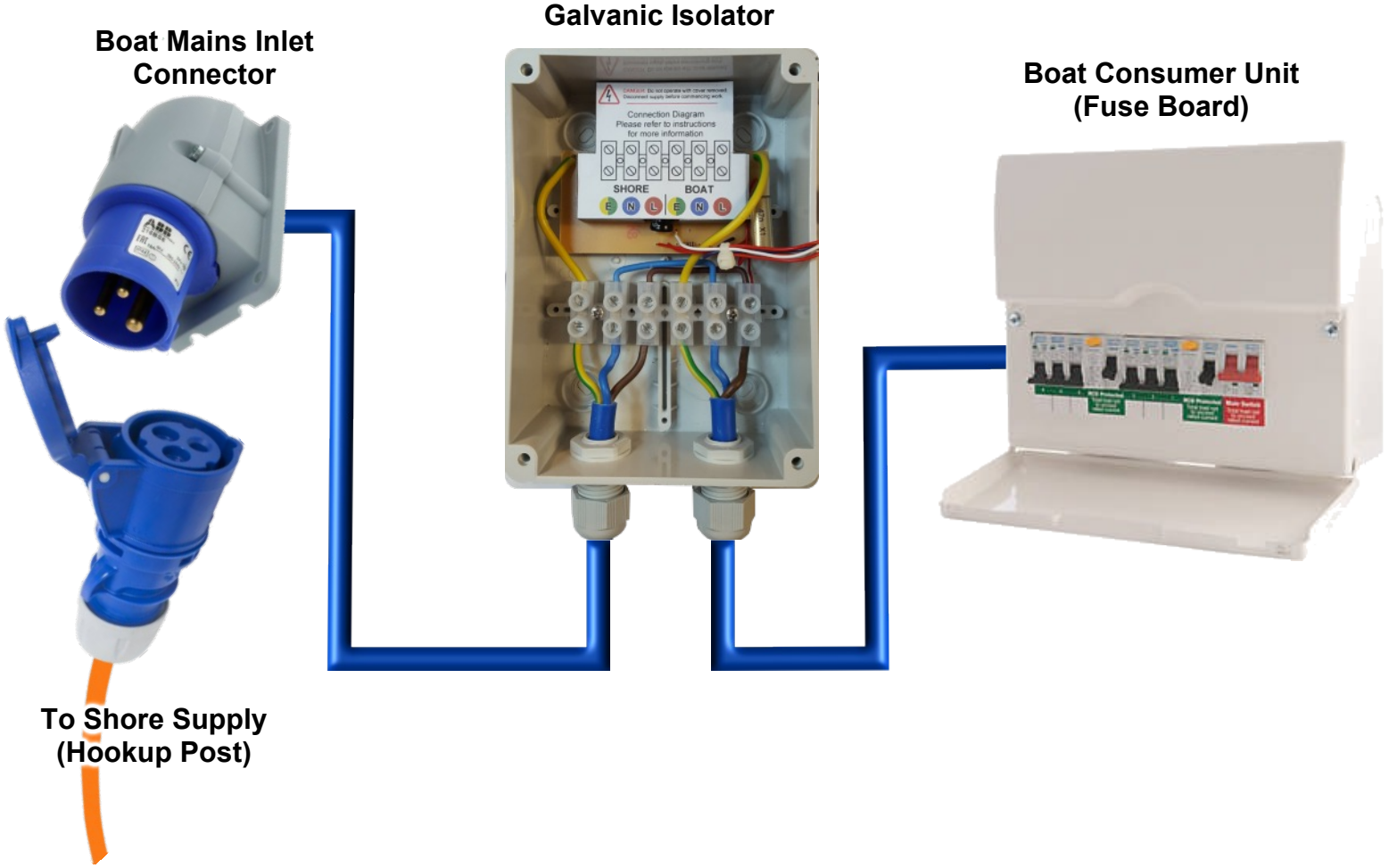
The left hand three connectors in the isolator (red box above) connect to the boat's shore power inlet. The shore power inlet's earth connection must ONLY be connected to the isolator. It must NOT be connected to the hull (or vessel earth) of the boat.

The right hand three connections (green box above) connect to the consumer unit supply terminals. The earth at the consumer unit MUST be bonded to the hull, or vessel earth.

Boat Mains Inlet Connector

Galvanic Isolator

Boat Consumer Unit (Fuse Board)



To Shore Supply (Hookup Post)

About "Bonding"

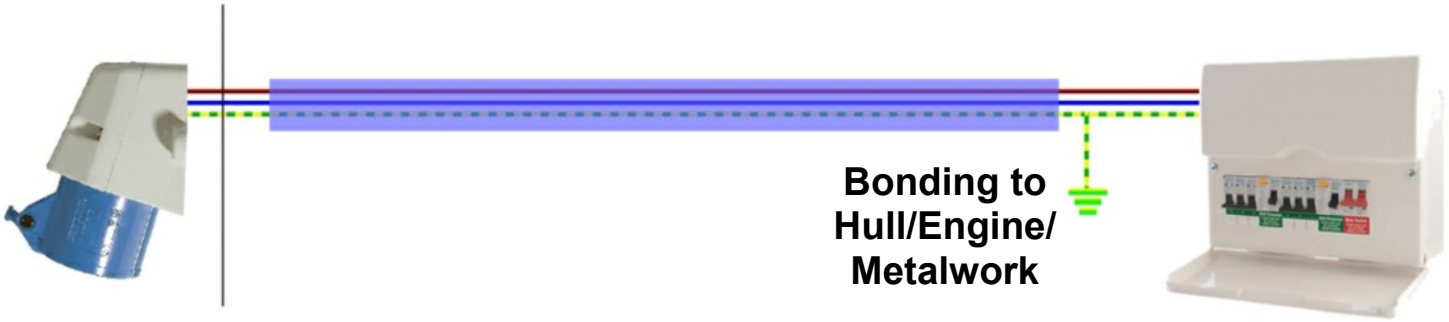
It's important that everything metallic on a boat is connected together electrically. This is called "bonding", and helps keep you safe from electric shocks, and also prevents galvanic corrosion.

On metal boats, the hull will normally be the main ground. On wooden or GRP boats, it will usually be the engine, and any metal framework etc.

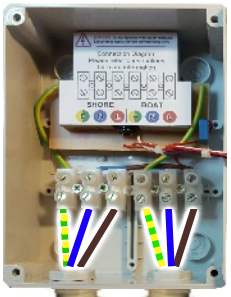
When you fit a wire in isolator, the earth cable from the mains inlet connector must be connected to the Galvanic Isolator INPUT terminal, (marked SHORE on this model), and **nowhere** and **nothing** else. The OUTPUT (BOAT) terminal of the isolator must be bonded (connected) to ground, and to the earth bar inside the consumer unit.

Before Galvanic Isolator installation...
In an installation WITHOUT a Galvanic Isolator, the earth connection of the mains inlet connector is bonded directly to ground. Where and how it's bonded varies. In some cases this is done as the supply enters the boat - immediately behind the inlet connector. In other cases, it's at the consumer unit/fuse board. There are other variations, depending on the boat layout & installation.

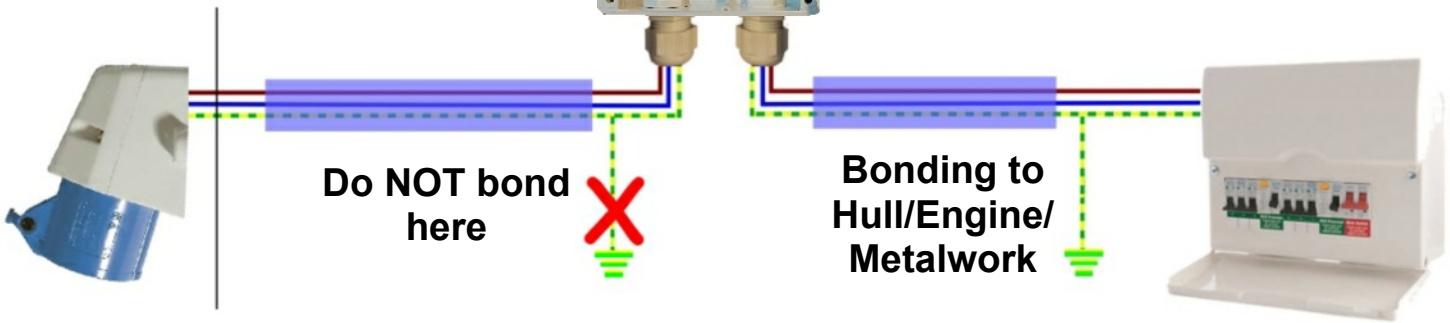
BEFORE
Isolator installation



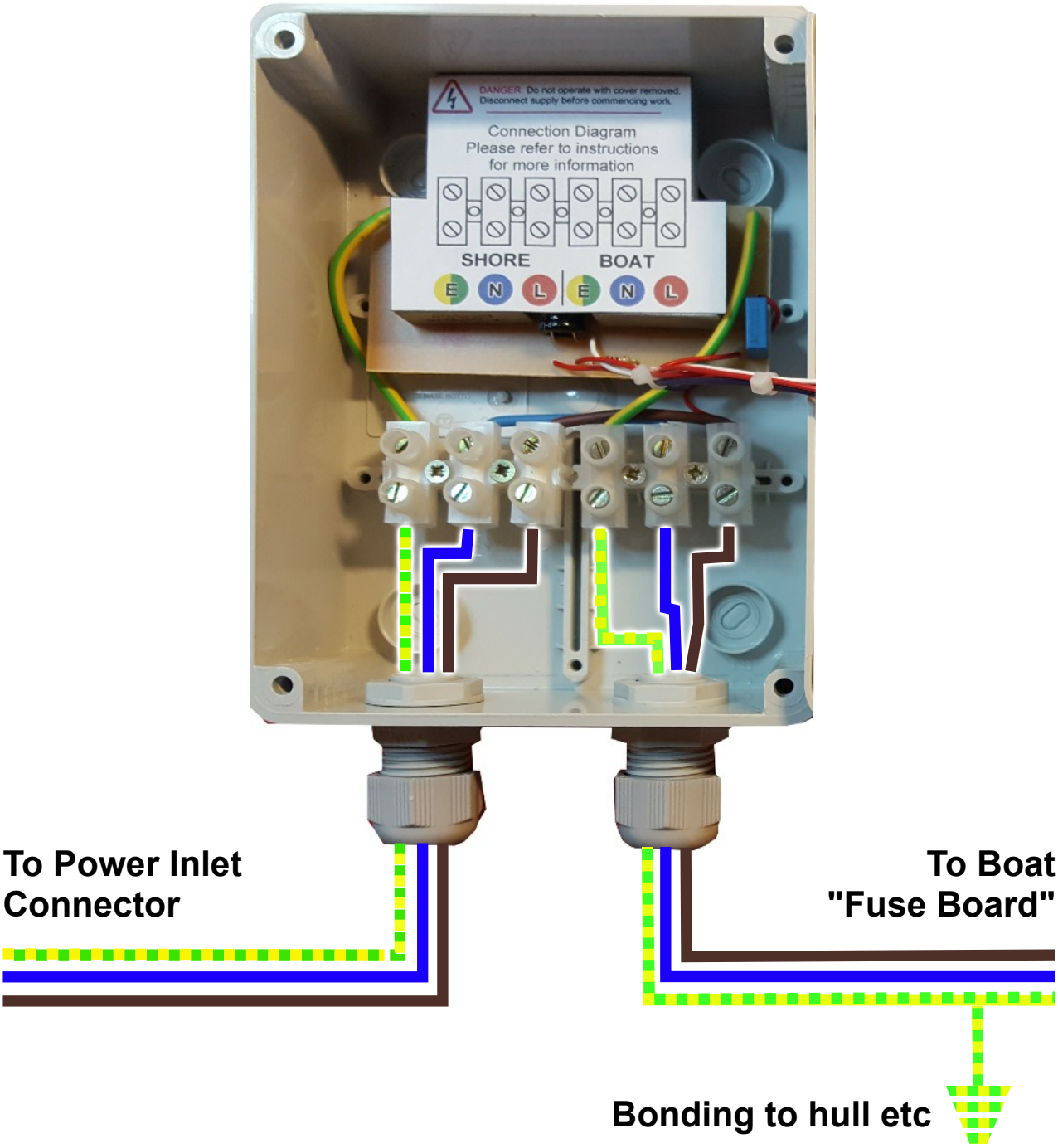
AFTER
Isolator installation



**See next page for
Larger image**



After Galvanic Isolator installation...
Ensure that no ground connections on the vessel bypass the Galvanic isolator.
When a Galvanic Isolator is installed, it's ESSENTIAL that the ONLY connection to ground is on the OUTPUT side of the isolator (marked BOAT). The bonding must NOT be on the input side, or the isolator may not work as intended.


DANGER. Do not operate with cover removed.
Disconnect supply before commencing work.
Connection Diagram
Please refer to instructions
for more information
SHORE
BOAT
E N L E N L
To Power Inlet
Connector
To Boat
"Fuse Board"
Bonding to hull etc

TESTING

In order for the TEST button to work, the isolator must be connected to a live supply, and be wired in accordance with the instructions.

Before testing, ensure that the two LED's are not lit. If they are, this indicates a fault on the installation. The fault must be located and rectified before testing can be carried out.

Note:
Illuminated LED's are NEVER indicate a faulty isolator.

To test the isolator, simply press the TEST button. BOTH LED's should light.

If both LED's light, the Isolator is working. It is recommended to re-test on a monthly basis.

Do not hold the TEST button down for more than 10 seconds.

LED's not Lighting?
If the LED's do NOT light, this may be due to the electrical supply being switched off/disconnected. Please check by confirming that the sockets etc. on the boat are working normally.

If the LED's do not light, the isolator may be damaged, or the earthing from the electric hook up point or connecting cable may not be effective.

To check, connect the isolator **directly** to a **different** hook up point. If the LED's still don't illuminate please return the isolator for checking/repair. If the LED's DO illuminate, suspect the hook up cable or original hook up point.

! When testing in bright conditions shield the LED's from light to make them easier to see.

How to test

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Drilling Template

Check dimensions before drilling