Fitting Instructions
Galvanic Isolator Gi120/S/LP

The Gi120/S/LP Galvanic Isolator is intended to prevent galvanic and stray currents from finding a circulating path through the earth connection of a shore supply (Electric hookup).

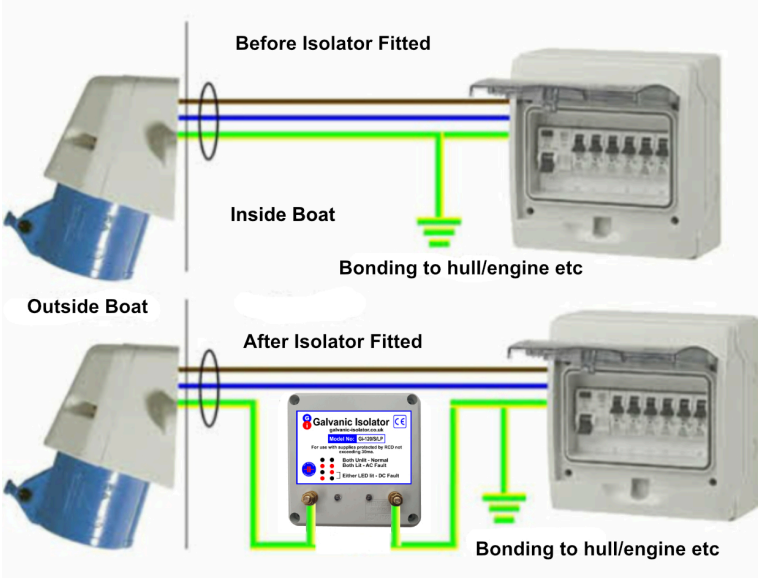
It does this by breaking the earth connection from the perspective of Galvanic/Stray currents, while ensuring an uninterrupted path to earth for fault currents.

Thus the integrity of the safety electrical earth is maintained.

The Gi120/S/LP is suitable for installations that are to be connected to shore supplies that are protected by an RCD not exceeding 30mA.

Please read through these instructions. If you are not confident that you can fit this item yourself, please consult a qualified electrician or exchange the unit for our plug in isolator of similar rating, which is “plug & play”, requiring no installation.

Siting the unit:
The unit is designed for internal use, and may be placed anywhere where it will not be subject to Water, excessive heat, or physical damage. It will usually be located near to the point where the mains electricity supply enters the vessel, or close to the fuseboard.



Ensure that no ground connections on the vessel bypass the Galvanic isolator.

This is a requirement of the Recreational Craft Directive, and essential for the electrical safety of the boat.

Follow these instructions to install your Galvanic Isolator easily and safely.

Mounting your isolator

Choose a suitable location for your isolator. This will often be close to the boat's consumer unit (fuse board), or power inlet connector.

Remove the isolator's cover, and mark four holes for mounting screws at positions circled in red.

Mount the isolator in your chosen location, taking care not to overtighten the screws. Alternatively, the isolator may be mounted using a suitable mastic adhesive applied to the rear.

1) Having mounted your isolator, disconnect the boat from the shore supply, and switch off that any invertors/generators, solar etc that may be supplying power to the boat.

2) Disassemble the power input connection attached to the boat, and locate the EARTH terminal. This will normally have a green or green/yellow cable connected to it. It is the LONGEST pin in the connector.

3) Disconnect the earth cable from the connector, and route it inside the boat to the isolator, extending it if necessary. **(If there are several cables in the earth connector terminal, they Must ALL be connected to the same stud of the isolator. This is CRUCIAL to ensure that earth bonding is retained, and your isolator works as intended)**. Label the cable(s) so that they can be identified later.

4) Connect a **new** cable from the earth terminal of the power input connection, and route it inside the boat to the isolator. This cable should have a cross sectional area of at least 2.5mm^2. Label the cable so it can be identified later.

5) Connect the single cable to either one of the terminals on the isolator. We recommend using a 5mm ring crimp connector (not supplied). Either terminal may be used.

6) Connect all of the other cable(s) to the remaining terminal of the isolator.

7) Ensure that the connections to the isolator are secure, taking care not to overtighten.

8) Reassemble the power input connection, ensuring that all connections are tight.

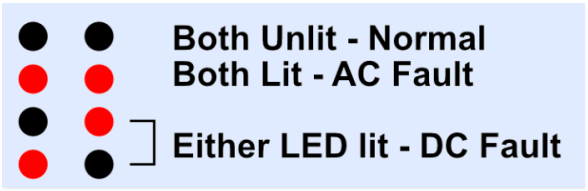
9) The power can now be reconnected.

10) Press the "Test" button on the boat's RCD (Earth leakage circuit breaker) to check that it is operational.

Key to Indicator Lights:

Normally, the lights should NOT be lit.

One light lit RED indicates a DC fault
Both lights lit RED indicates a DC fault



If any of the lights illuminate, earth leakage is present. **It is NOT a sign of a faulty isolator!** Please follow the link below, click the Instructions link, and select your model **Gi120/S/LP** and carefully follow the instructions in to the fault finding information at the end of the instructions.

Scan for full instructions

For full instructions, go to: www.galvanic-isolator.co.uk - Instructions - wire in instructions - Gi-120/S/LP or scan the QR code.

Your Galvanic Isolator has been designed to give many years of service. In the event of a major electrical fault, lightning strike etc, we recommend that your isolator is checked to confirm correct operation. We offer a free checking facility. If you wish to take advantage of the service, please email or phone us for a returns number.

Galvanic Isolator

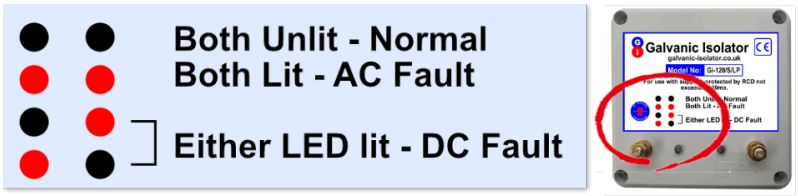
Gi120/S/LP

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

The LED's on your isolator inform you about any faults with your boats earthing system.

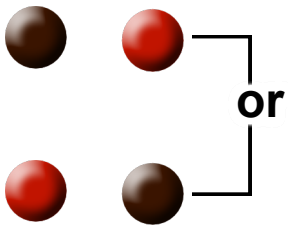
Illuminated LED's NEVER indicate a faulty isolator.

The LED's should normally be OFF (unlit)



Both Lights OFF: Normal operation. No action required – just check back occasionally to ensure that all's well.

Both Lights ON: If both lights are ON, this indicates AC leakage, usually from the mains wiring or a connected appliance. AC leakage can be a danger to life. Please see instructions for help in rectifying the problem.



One Light ON: If either of the lights are on, it indicates DC leakage. This can cause severe corrosion to your boat. Our instructions give advice on how to resolve the problem.

Occasionally, when you fit a Status Monitored galvanic isolator, one or both of the warning lights may glow straight away.

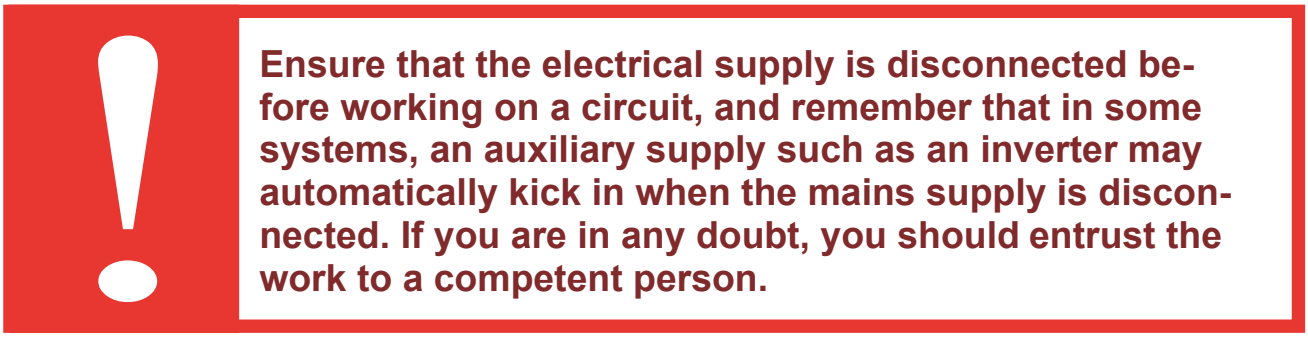
If both lights are illuminated on your galvanic isolator, you have AC earth leakage. **You do NOT have a faulty isolator**. In fact, your isolator is alerting you to a potentially dangerous situation that you may not previously have been aware of.

There are two main types of earth leakage: Mains Leakage and Imprinted Leakage.

Mains Leakage

Mains Leakage happens when an appliance, cable or connection has poor insulation resistance, and some of the circuit's current "leaks" away to earth. If there is sufficient leakage, the earth leakage circuit breaker, also known as the RCD, will trip, disconnecting the supply.

At lower levels of leakage, the RCD may not trip, but the lights on your galvanic isolator may still glow, alerting you to the likelihood of earth leakage. Usually, an earth leakage fault will only get worse, so you should always take this seriously and investigate.



No two electrical systems are the same, so it's only possible to give the broadest suggestions of how to locate any problem. Usually some detective work is required, and this starts by switching off the main RCD on the boat. In most cases, this will result in the lights going out. If not, there is probably something connected to the mains supply BEFORE the RCD.

Assuming the lights go out when the RCD is switched off, switch off ALL the circuit breakers, then switch the RCD back on. In most cases, the isolator's lights will stay off. You can then switch the circuit breakers back on one at a time until the isolators lights come back on. The last circuit breaker you switched on has the faulty circuit, or appliance connected to it.

Very rarely, even though all the circuit breakers (except the RCD) are switched off, the isolator lights will remain on. In this case you will need to disconnect all appliances, either by pulling out the plugs, or disconnecting any wired in appliances. Do this one at a time, taking care to ensure that you don't forget anything. As you disconnect items, check the isolator lights. The last item you disconnect is the one causing problems.

When you have traced the fault to a single appliance or circuit, it must then be checked for earth leakage by a competent person.

Imprinted Leakage

Imprinted Leakage typically occurs when equipment using a Switched Mode Power Supply Unit, (SMPSU), is connected to your system.

Pay close attention to earthing of equipment. Equipment is often installed without adequate earth bonding. Please consult the equipment's installation manual, or contact the manufacturers for more information.

Earth bonding point

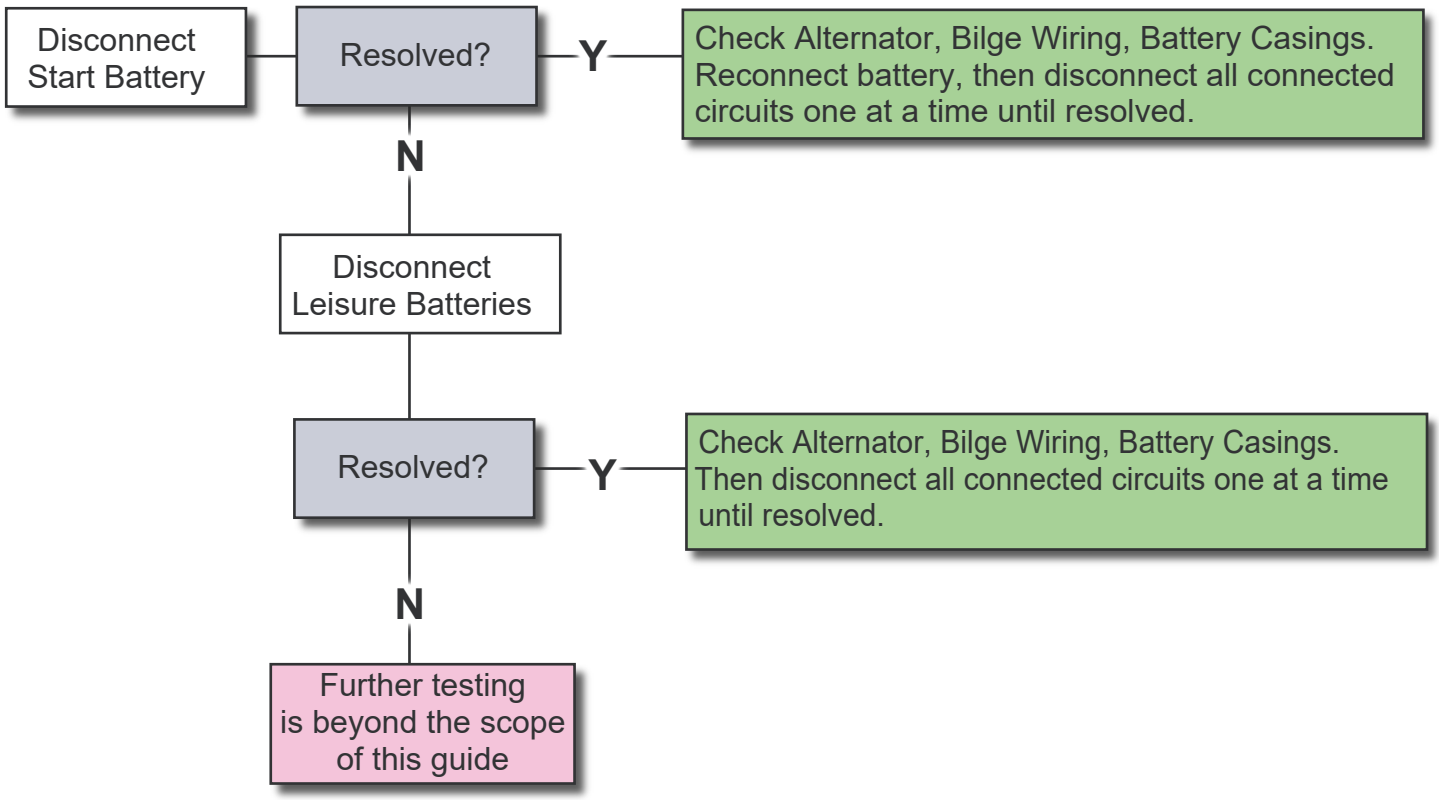
Equipment utilising SMPSU's include, Battery Chargers, Computers, TV's, Domestic Appliances, Phone Chargers etc.

In our experience, battery chargers are often the cause of imprinted leakage. CE regulations require that equipment should not create this kind of interference, but not all equipment is as "clean" as it should be.

Because of the way SMPSU's operate, some of them leak power into the boat's earth wiring. This can cause the galvanic isolators light to come on, as the isolator correctly detects the leakage.

Imprinted Leakage is traced in exactly the same way as for Mains Leakage. However, when you track the problem down to an individual appliance, it may still pass an Earth Leakage test. In that case, it's likely that the problem is Imprinted Leakage. Imprinted Leakage is often due to incorrect installation, but can also result from design or manufacturing issues.

ONE (either) LED glowing



BOTH LEDs glowing

This indicates a possibility of AC (mains voltage) leakage. Proceed with great care Danger of electrical shock. If in doubt, please consult a qualified electrician.