

IM2160 Galvanic Isolator Range

The Index Marine galvanic isolators are designed to prevent galvanic and stray currents from creating a circuit through a boat's earth connection when plugged in to shore power, leading to potentially dangerous corrosion of metal parts of the boat exposed to the water. This is achieved by blocking the path for small currents while allowing the continuity for an earth fault path, ensuring that electrical faults will cause an RCD (residual current device) or circuit breaker to trip in the normal way. The range of galvanic isolators will actually permit full load to earth for short periods in case the shore power system's circuit breakers are faulty.

The Index Marine IM2160 galvanic isolator range comprises 16Amp, 32Amp and 70Amp variants suitable for small and medium size vessels, allowing the user to select the current rating that is equal to or greater than the RCD or circuit breaker ratings on the boat's electrical distribution board or the shore power system.



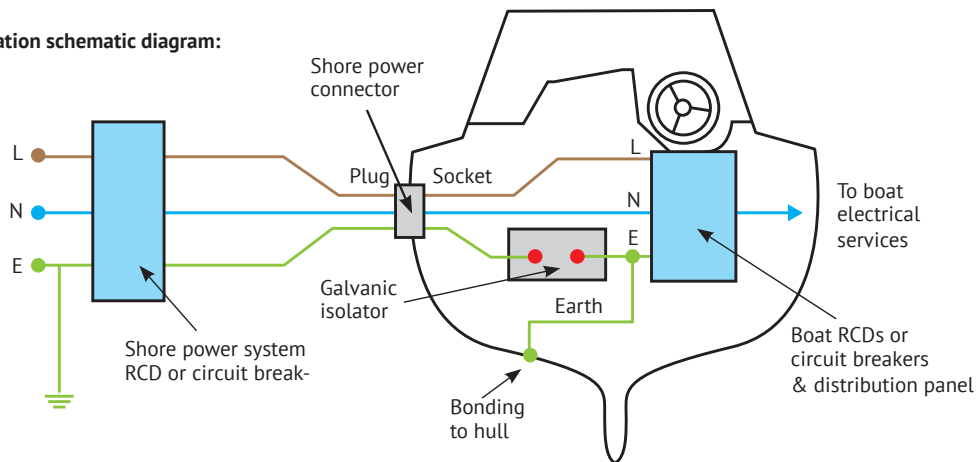
Mains (shore power) electricity is 240Volts AC, and can deliver a fatal electric shock. If you are not familiar with marine and high voltage electrical practices please seek the guidance or services of a qualified electrician.

Galvanic Isolator Installation Guide

Firstly, ensure that the current rating of the selected IM2160 galvanic isolator equals or exceeds the current rating of the RCDs or circuit breakers in the vessel and shore power systems.

- 1 Mounting the isolator: The IM2160 galvanic isolator unit should be mounted using the screws provided and located in a position that will not be subjected to excessive heat (e.g. close to the engine or exhaust system). It should also be positioned as close as possible to the shore power connector – the point at which the mains electricity supply enters the vessel.
- 2 Disconnect the boat from the shore power and ensure that all on-board generators, inverters and electrical appliances are switched off.
- 3 Disconnect the earth cable (green) from the shore power connector and connect this to the 'VESSEL' terminal on the galvanic isolator using 6mm ring terminals.

System installation schematic diagram:



If there is more than one wire connected to the shore power earth terminal you must connect ALL of them to the galvanic isolator unit. To comply with the European Directives, the earth connection of your boat must be bonded electrically to the hull. This is a requirement of the Recreational Craft Directive and essential for the electrical safety of the boat. This bonding must not be broken and should be in place before the galvanic isolation can be effective.

- 4 Connect a new cable from the earth terminal in the shore power socket to the 'SHORE' terminal of the galvanic isolator using 6mm ring terminals. Ensure that the cable selected for making connections to the galvanic isolator is rated for electric current equal to or greater than the current rating of the galvanic isolator.

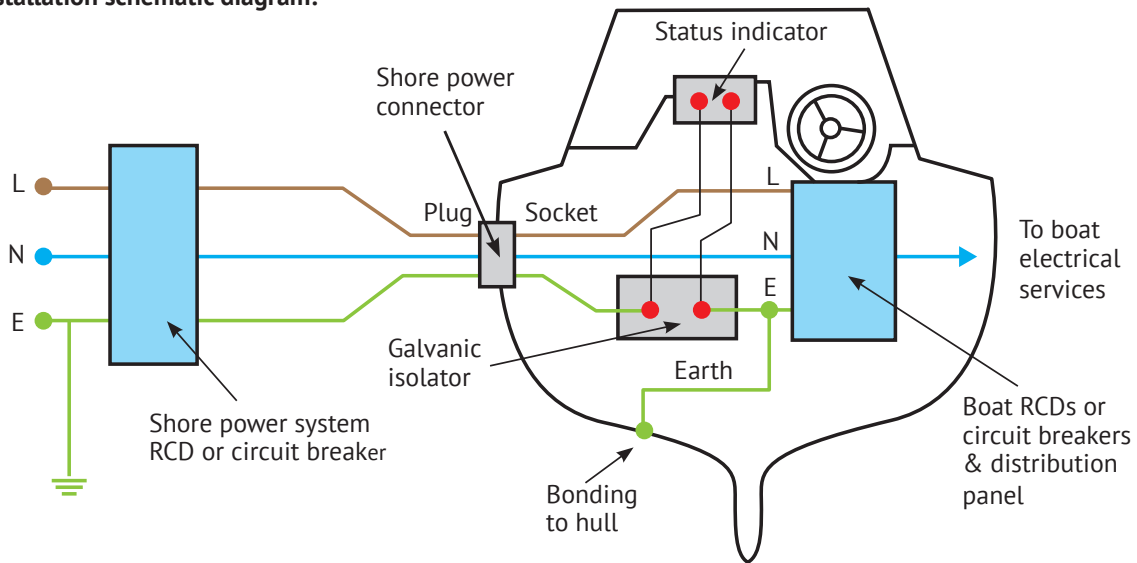
IM2200 Passive Electrical Status/Fault Indicator

The IM2200 Passive Electrical Status/Fault Indicator has been designed to utilise the galvanic isolator as a sensor of anomalous current flow through the earth connection between vessel and shore power. LEDs light to show DC or AC faults which may be due to an electrical fault with the boat's electrical systems, the shore power system, or even an electrical fault caused by a nearby boat connected to shore power. 'Passive' refers to the fact that no electrical power is used by the status indicator, so the LEDs will only light under fault conditions involving the vessel or shore electrical systems.



IM2200

System installation schematic diagram:



- 1 Mounting the indicator unit: The IM2200 electrical status/fault indicator unit should be mounted in a prominent position where it will be easily visible, ensuring a fault condition can be quickly responded to. Use the mounting screws provided.
- 2 Route the connecting cable from the remotely mounted indicator unit to where the galvanic isolator is located. (Index Marine IP68 cable glands, such as the DG8 should be used where the cable passes through bulkheads or decks).
- 3 Connect the two wires from the indicator unit to the terminals on the galvanic isolator unit using the 6mm ring terminals provided (polarity does not matter – i.e. either wire from the indicator unit can be connected to either terminal on the galvanic isolator). At this stage you should tighten the nuts to secure the connections.
- 4 Reconnect the power.



If a light appears on your indicator immediately this is not an indication of a faulty isolator and you should contact a qualified electrician to evaluate your wiring. These galvanic isolators are not Safety devices and do not serve as a replacement for adequate RCD and MCB protection. They are designed to work in conjunction with a fully protected circuit.