Galvanic Isolator
16A / 32A

Owners Manual

Read the owners manual carefully before installing the GI!

Features

- Reduces corrosion
- Very easy installation

Purpose

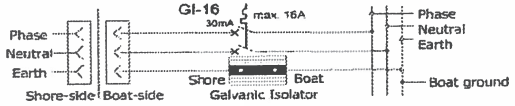
To satisfy the current CE standard (ENISO13297) the earth wire for the shore power installation on boats and yachts must be connected with the boat's earth. The boat's earth is also connected with the hull, fuel tank, motor, screw propellers, propeller shaft, zinc anodes, etc.

Because your boat is now earthed the shore circuit breaker will trip in the event of a grounding failure. This ensures a safe situation on board. However, this advantage also has a disadvantage. Since all boats are now connected by means of the shore power earth, galvanic effect arises between the boats and between boats and the shore. This is because boats and shore docks are made of different metals. As is generally known there are voltage differences between different metals.

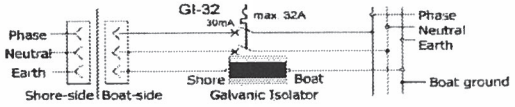
To neutralize this voltage difference a so called galvanic isolator is placed between the shore power earth and the boat. This galvanic isolator provides a threshold voltage of approx. 1 volt. This neutralizes the voltage differences between the metals. Because the galvanic isolator is placed between the earth connections a sound construction is of vital importance! This enables the galvanic isolator to handle a very high current during a grounding failure.

Naturally an isolation transformer gives the same result as a galvanic isolator. Especially when a low weight is wanted the galvanic isolator is preferable to the isolation transformer. The galvanic isolator is constructed from an anodized aluminium heat sink and the electrical connections are made from high quality material. The electronic circuitry is sealed enabling it to also function under difficult circumstances and requires no further maintenance.

Wiring diagram GI-16



Wiring diagram GI-32



Location

- Place the GIxx in a heat-resistant environment.
- Install the GIxx in a dry, well ventilated space.
- Avoid the presence of chemicals, synthetic components or textile in the immediate surroundings of the GIxx.
- A space of at least 10 cm around the GIxx should be kept free for cooling.
- The GIxx must be mounted vertically for maximum cooling. Under normal circumstances the heat sink will not become more than 20°C warmer compared to the surroundings. In the event of short-circuit current the machine can become hot.

Installation

- The GIxx should be connected to the green/yellow earth wire connection, before the ground connection to the boat.
- Connections and protection devices must be installed in accordance with the locally applicable regulations.
- Use cable with the correct wire cross section in accordance with the desired amperage.
- Mount the galvanic isolator in the green/yellow earth wire connection as indicated in the above wiring diagrams.

Warnings:

- The product may only be connected by skilled installers / engineers, who are aware of the regulations for working with high voltages.
- The use of poor quality connection materials and/or excessively thin cables may result in damage to the product.
- A short circuit between the positive and negative terminals of the battery may cause severe damage to your system.

Testing

To be certain that the GIxx functions correctly and is not defect it must be tested at least every 3 months with the help of a multimeter with diode test. This testing must be done in an environment of approximate 20°C and the shore connection may not be connected.

1. Adjust the multimeter to diode test.
2. Connect the positive terminal of the multimeter to pole 1 of the GIxx.
3. Connect the negative terminal of the multimeter to pole 2 of the GIxx.
   - ✓ Correct: The voltage on the multimeter will now indicate approximately 0.9V.
   - ✗ Incorrect: The voltage on the multimeter indicates 0V. This means that the GIxx is short-circuited.
   - ✗ Incorrect: The voltage is very high or "illegible". The GIxx is open.
4. Repeat the complete test but now reverse the poles of the multimeter.

Technical details

General

	GI16	GI32
AC power supply to	16A	32A
Peak current	1600A / 20ms	3200A / 20ms
Connection	2 M6 bolts (brass nickel plated)	
Tested according to	ANSI/ABYC A-28	

Enclosure

		GI16	GI32
Material		Anodized aluminium	
Protection class		IP 67	
Weight		1kg	2kg
Dimensions	Length	200 mm	200 mm
	Length (incl. bolt)	-	235 mm
	Width	120 mm	164 mm
	Height	37 mm	63 mm
	Height (incl. bolt)	55 mm	-