

**ProMariner®**

# ProSafeFS

**FailSafe 30 and 60 Amp Galvanic Isolators**



## Owner's Manual and Installation Guide



**ProSafe FS30**

**For 30 Amp Shore Cord Applications**



*Patent Pending*

**ProSafe FS60**

**For (1) 50 Amp or (2) 30 Amp Shore Cord Applications**

Certified by UL to ABYC A-28 Released 7-31-2008, CE, Ignition Protected

Models	Part No.	Shore Cord Inlet Compatibility	Ratings VAC/ MAX. AMPS/ Hz
ProSafeFS30	22034	Single 15, 16, 20 or 30	120/240 VAC / 41A / 50 or 60 Hz
ProSafeFS60	22074	Single 50 or Dual 15's, 16's, 20's or 30's	120/240 VAC / 82A / 50 or 60 Hz

### IMPORTANT NOTICE

This manual contains important safety and operating instructions for the 30 (Part Number 22034) and 60 amp (Part Number 22074) FS Series Galvanic Isolators. Please save and read all safety, operating, and installation instructions before installing or connecting to the green wire.

Please visit our website at [www.promariner.com](http://www.promariner.com) for any warranty, service or installation assistance and FAQ's or call our Customer Care Department at 800-824-0524 from 8:30 am to 5 pm (Eastern Time).

### PLEASE RECORD YOUR:

Model Number: \_\_\_\_\_ Date of Purchase: \_\_\_\_\_

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## ► Why You Need a FailSafe Galvanic Isolator

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It is very important that while a vessel is at the dock, plugged into shore power, that the bonding system be electrically connected to earth. Without this connection the chance is increased that, through accident or failure in the electrical distribution system or in AC electrical equipment aboard the boat, the bonding system could become electrically "HOT" (presence of 110 or 220 VAC). An occurrence of this type could quickly become deadly both to anyone in the water or aboard the vessel.

The ProSafe FS Series Galvanic Isolator is installed in the ground wire circuit between the shore power green wire as close to the AC inlet as practical. The purpose of the galvanic Isolator is to allow the bonding system to be isolated electrically from the dock and other vessels at voltages below 1.4 volts but to maintain a connection to the shore ground at high voltage potentials. The low voltage isolation will prevent the vessel's zinc from protecting the underwater metal on another vessel sharing a common AC ground wire.

This product will isolate you from other boats in the same dock circuit so your anodes are protecting your boat only.

*Note: It is extremely dangerous to swim or be in the water at a marina due to potential AC current that may be present in the water. Please take all necessary precautions as this may be life threatening.*

## ► Introduction

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Congratulations on your purchase of a FS Series Galvanic Isolator. The FS or "Fail Safe" Series is designed to meet and has been certified by Underwriters Laboratories to ABYC A-28 published July 31, 2008. This guideline states that if a failure is to occur that the Galvanic Isolator fail in a safe condition, meaning it will continue to allow a path through the green wire at its rated capacity.

### World Wide Approvals and Certifications:

Certified by UL to ABYC A-28 Released 7-31-2008, CE, Ignition Protected



# Safety Instructions

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## ► Safety Markings

*Note: These Galvanic Isolators include a capacitor in the circuit providing Galvanic Isolation. This capacitor will prevent stray AC current sometimes present on the AC ground wire from defeating the purpose of the Galvanic Isolator.*

Please note the below locations of important safety labels.



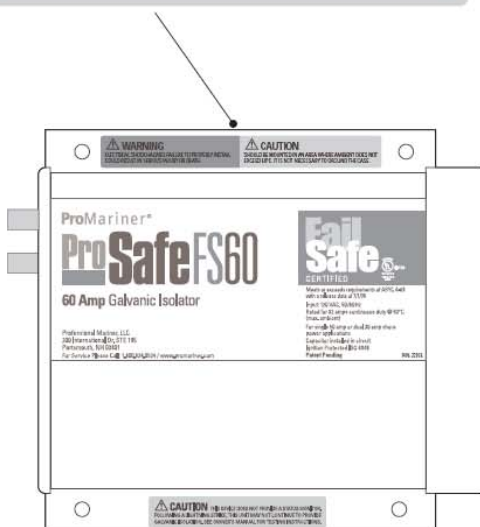
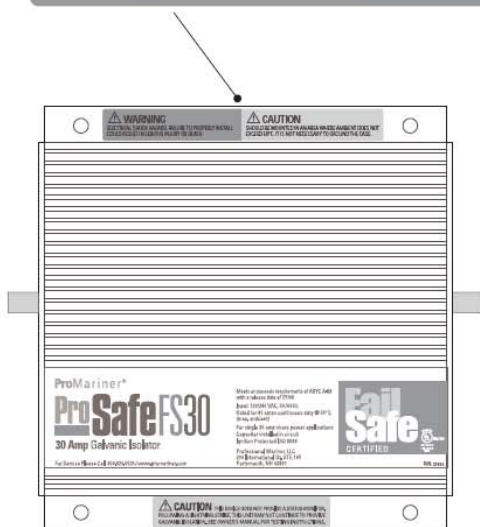
### WARNING

ELECTRICAL SHOCK HAZARD. FAILURE TO PROPERLY INSTALL COULD RESULT IN SERIOUS INJURY OR DEATH.



### CAUTION

SHOULD BE MOUNTED IN AN AREA WHERE AMBIENT DOES NOT EXCEED 50°C. IT IS NOT NECESSARY TO GROUND THE CASE.



**CAUTION** THIS DEVICE DOES NOT PROVIDE A STATUS MONITOR. FOLLOWING A LIGHTNING STRIKE, THIS UNIT MAY NOT CONTINUE TO PROVIDE GALVANIC ISOLATION. SEE OWNER'S MANUAL FOR TESTING INSTRUCTIONS.

## ► Installation

### ProSafe Galvanic Isolator- 30 Amp

The galvanic isolator is connected in series with the AC grounding conductor (green or green w/yellow stripe) in a manner that no other ground conductor will bypass the isolator back to the shore power ground. Professional Mariner would also recommend that you place the Galvanic Isolator in a dry and ventilated location close to the point of shore cable entry. The 30 amp galvanic isolator (PN 22034) is for use with Single shore cords up to 30 amps 120/240v 50/60hz. The green wire(s) coming from the shore cable inlet is connected to one of the galvanic isolator studs. The green wire from the boat bonding system terminal strip is connected to the second stud. Secure the Galvanic Isolator to the bulkhead. Torque the stud nut to 8.8 lbs/in (10Kg/cm) when securing wires.

Mount using screws or bolts (4 locations)



**Water damage is not covered under warranty**

*Note: Connection points to Galvanic Isolator are non polarized. Also allow reasonable clearance on all sides including the height of the unit to allow for cooling. Do not block air inlet or output*

# Installation Guidelines

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## ► Installation

### ProSafe Galvanic Isolator- 60 Amp

The galvanic isolator is connected in series with the AC grounding conductor (green or green w/yellow stripe) in a manner that no other ground conductor will bypass the isolator back to the shore power ground. Professional Mariner would also recommend that you place the Galvanic Isolator in a dry and ventilated location close to the point of shore cable entry. The 60 amp galvanic isolator (PN 22074) is for use with single or dual shore cords with a total ampacity of 60 amps (i.e. single 50 amp shore cord or Dual 30 amp shore cords), either 120/240v 50/60Hz. The green wire(s) coming from the shore cable inlet is connected to one of the galvanic isolator studs. The green wire from the boat bonding system terminal strip is connected to the second stud. Secure the Galvanic Isolator in a vertical position. Torque the stud nut to 8.8 lbs/in (10Kg/cm) when securing wires.

Mount using screws or bolts (4 locations)

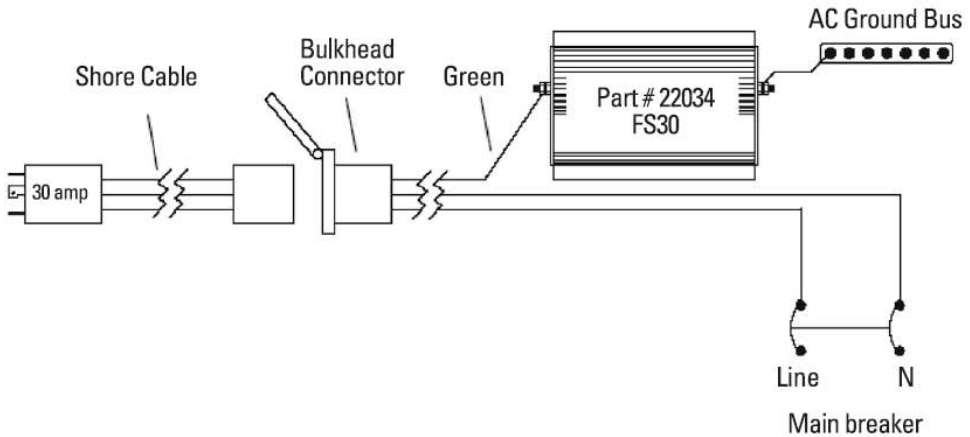


**Water damage is not covered under warranty**

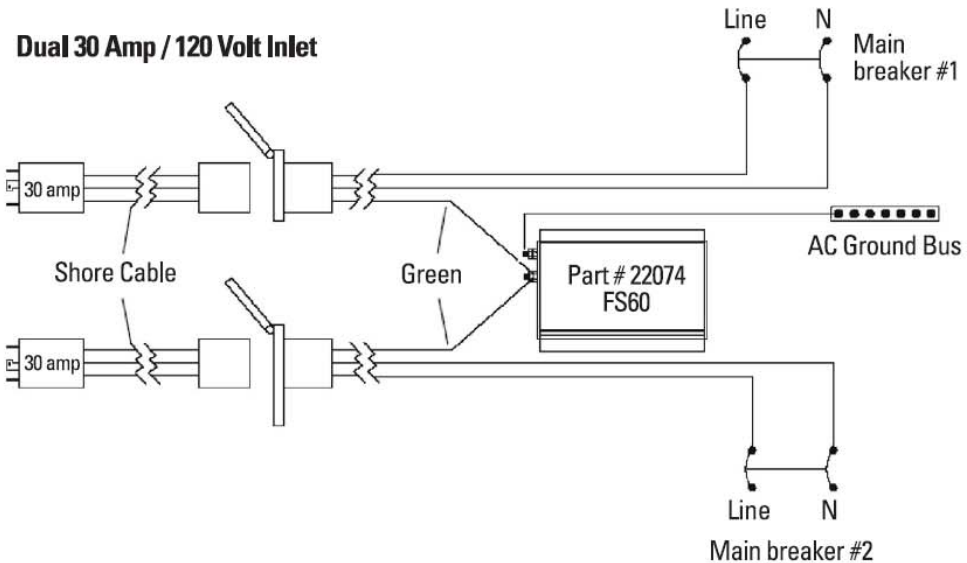
*Note: Connection points to Galvanic Isolator are non polarized. Also allow reasonable clearance on all sides including the height of the unit to allow for cooling. Do not block air inlet or output*

## Installation Diagrams

### Single 30 Amp / 120 Volt Inlet



### Dual 30 Amp / 120 Volt Inlet

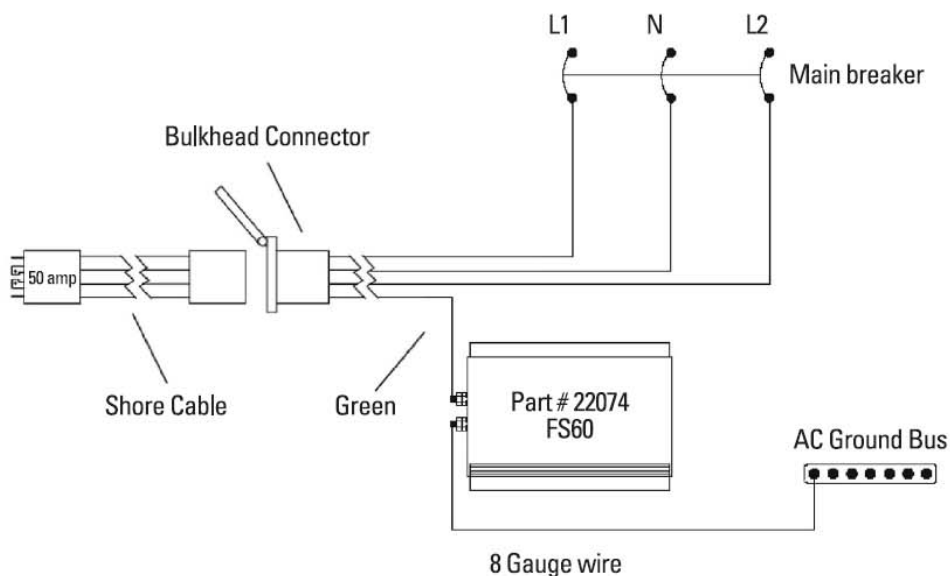


For 2 - 30 amp shore cords - see ABYC E-11 for exact wire size to use.  
For 1 - 50 amp shore cord - see ABYC E-11 for exact wire size to use.



## ► Installation Diagrams

### Single 50 Amp / 220 - 250 Volt Inlet




## ► Troubleshooting

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### TESTING THE ISOLATOR

**CAUTION** - Because of the presence of deadly high voltages, troubleshooting the FS Galvanic Isolator should be done by qualified service personnel only.

1. Turn off the AC panel main breaker.
2. Unplug all shore chords.
3. Remove all green wires from the Galvanic isolator.
4. With a multimeter in the DIODE TEST POSITION (  ) place the first test probe on one stud and the second probe on the second stud. Hold the test probes in place for approximately 1 minute; the meter will typically display .800 to 1.00. Reverse the test probes; hold for 1 minute or until the readout is stable. The second reading should be very similar to the first; within 10%. If both readings are within 10% the isolator is functioning properly.
5. RECONNECT THE GREEN GROUND WIRES, plug in the shore chords and turn on the main *IF THE ISOLATOR HAS FAILED IT WILL BE IN A SHORTED MODE AND THERE WILL BE NO VOLTAGE DROP IN THE TEST PROCEDURE.*
6. If the isolator fails, it will fail in a shorted condition and will still allow a connection to shore power. This condition is no longer providing galvanic isolation and should be replaced to protect the boats underwater metal parts. (Potential Galvanic Isolator failure may occur in the event of a lightning strike.)

## ► Fan Operation (60 Amp / 22074 only)

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The fan will operate only when there is a fault to ground and the isolator is conducting current. The fault to ground should activate an AC breaker if an event is to occur.

**WARNING:** If you notice the fan running immediately disconnect from shore power and contact a qualified marine electrician to isolate and repair the problem aboard your boat or with the shore power connection.

## ► Maintenance

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The FS Series Galvanic Isolator is self contained and should need no service. Periodically check all connection points to be sure they are tight. Also inspect the installation for corrosion or excessive moisture or salt spray as water damage is not covered under warranty.



## ► Customer Service & Warranty

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We are committed to customer satisfaction and value your business. If at any time during the warranty period you experience a problem with your ProSafe Galvanic Isolator simply call us at 1-800-824-0524 or email [info@promariner.com](mailto:info@promariner.com) for technical support.

WARRANTY CARD CAN BE REGISTERED AT [WWW.PROMARINER.COM](http://WWW.PROMARINER.COM)  
or the warranty card included in this manual can be completed  
and sent to ProMariner by mail.

### FAIL SAFE SERIES GALVANIC ISOLATOR FIVE YEAR WARRANTY WITH LIMITED LIFETIME REPLACEMENT POLICY

Each ProSafe model is guaranteed against defects in material and workmanship to the original consumer in normal use for 5 years from the date of purchase. Each serial numbered product has an adjustment provision after the 5 year limited warranty that limits the maximum charge for replacement to 50% of the current list price, plus shipping and handling.

- Warranty is adjusted and calculated from manufacture date if not registered within two weeks of sale.
- Warranty void if unauthorized repairs attempted.
- Customer is responsible for returning the product to Professional Mariner, LLC. Inbound shipping costs must be prepaid.
- This warranty does not cover blemishes due to normal wear and tear or damage caused by accidents, abuse, alterations or misuse.
- Cosmetic repairs can be done at owner's request and expense.
- Water damage is not covered by the warranty.

Purchase or other acceptance of the product shall be on the condition and agreement that Professional Mariner SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.) This warranty is made in lieu of all other obligations or liabilities on the part of Professional Mariner. Professional Mariner neither assumes nor authorizes any person for any obligation or liability in connection with the sale of this product.

To make a claim under warranty, go to [www.promariner.com](http://www.promariner.com) and click on the support tab and follow the instructions making sure to identify the product and the problem. If you can not use our online warranty claim registration, please feel free to call ProMariner at the toll free number listed below. Professional Mariner will make its best effort to repair or replace the product, if found defective within the terms of the warranty, within 30 days after return of the product to the company. Professional Mariner will ship the repaired or replaced product back to the purchaser.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This warranty is in lieu of all others expressed or implied.

Factory Service Center & Technical Support  
Professional Mariner, LLC  
200 International Drive, STE 195  
Portsmouth, NH 03801  
Tel: 1-800-824-0524

Professional Mariner, LLC  
Tel: (603) 433-4440 / Fax: (603) 433-4442

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- Advanced 4 Step Dry Mount Marine Battery Chargers
- Battery Maintainers
- AC Plug Holders
- Battery Isolators
- ProSport Cup Holder Inverters
- TruePower Marine Inverters 200 - 3000 Watts
- Corrosion Control Products
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