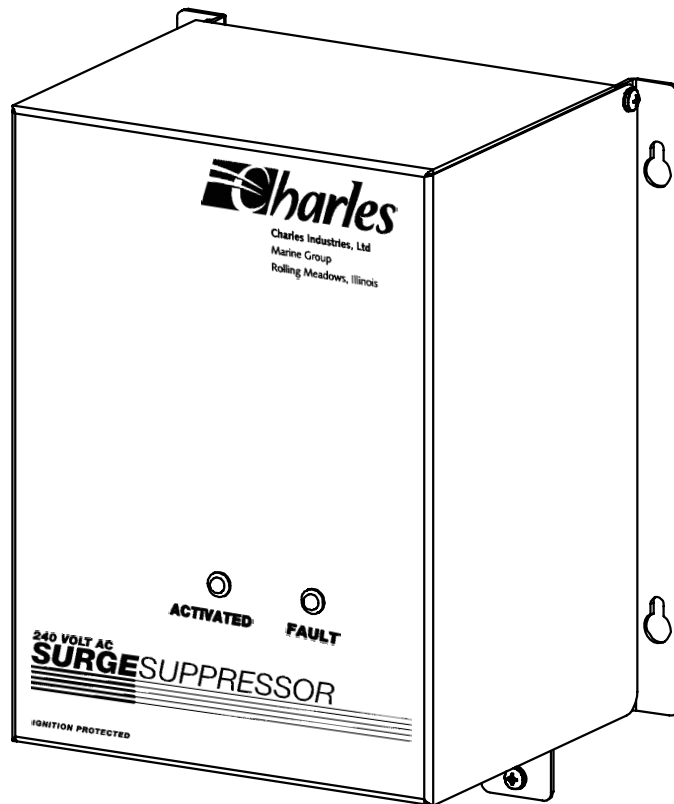


240 Volt Surge Suppressor

INSTALLATION INSTRUCTIONS & OWNER'S MANUAL Models 93-SSXF50 93-SS50



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INTRODUCING... THE 240 VOLT AC SURGE SUPPRESSOR

Thank you for purchasing the 240 Volt AC Surge Suppressor. Your surge suppressor is designed to provide protection from surges, spikes, or lightning through the on-shore power supply.

Units Covered in this Manual

This document covers the following units.

Model #	Description
93-SSXF50/100	240 volt surge suppressor with filter. The filter reduces high-frequency noise which may interfere with other appliances.
93-SSF50/100	240 volt surge suppressor without filter.

MOUNTING THE SURGE SUPPRESSOR

The surge suppressor may be mounted on any surface as close as possible to the wiring. Choose a location that allows the most direct connection to the phase conductors and neutral-ground busses. This unit is intended to be mounted inside the boat, in an area protected from excessive moisture and strong sunlight.

Choosing Mounting Hardware

As with any marine equipment, secure mounting is of utmost importance. The bolts or screws used to secure the unit must be #8 or #10, backed with a flat washer, and kept vibration-free with a lock washer. Take the mounting surface into consideration when choosing the length of the bolts or screws used. All hardware should be corrosion-resistant.

Step	Action
1.	Hold the suppressor vertically flush on the mounting surface.
2.	Mark the mounting holes and remove the unit.
3.	Drill the mounting holes.
4.	Insert one side of the mounting hardware half-way into the drilled mounting holes.
5.	Align the mounting slots on the unit with the secured hardware and slide the unit's mounting flange under the washers.
6.	Insert the mounting hardware for the other side.
7.	Secure all mounting hardware.

WIRING THE SUPPRESSOR

Cut all wires as short as possible and strip wires about 1/4 inch before making connections. Avoid unnecessary loops and bends in the wire. The longer the connecting leads between the surge suppressor and the power panel are, the higher the residual transient voltage will be.

WARNING

DANGEROUS VOLTAGES EXIST ON AC LINES! Prior to wiring, disconnect power to the boat.

Recommended Wire Gauge

Minimum 10 AWG/maximum 4 AWG.

Recommended Length of Connecting Leads

LT93-SSF50-1

Note: Each 250 millimeter increase in cable length increases clamping voltage by 250 volts per 1000 amps of surge current discharged.

WARNING

Terminals marked N (neutral) and GND (ground) must be connected correctly to their respective terminals. Incorrect connections may result in damage or danger. See Figure 1 for proper connections.

This unit is connected in parallel across the supply to be protected. The connecting cable carries only the current associated with suppressing transient overvoltage; it carries NO supply current.

Step	Action
1.	Using a Phillips screwdriver, remove the 2 screws at the bottom of the housing and open the cover.
2.	Remove the rubber grommet. Cut it open, and run conductor and ground wires through it. Note: Bind the phase neutral and ground connectors tightly over the entire run from the suppressor to the service panel.
3.	Connect the conductor and ground wires to the screw terminals as shown in Figure 1.
4.	Replace the grommet in its slot. Close and screw down the cover, and connect the power.

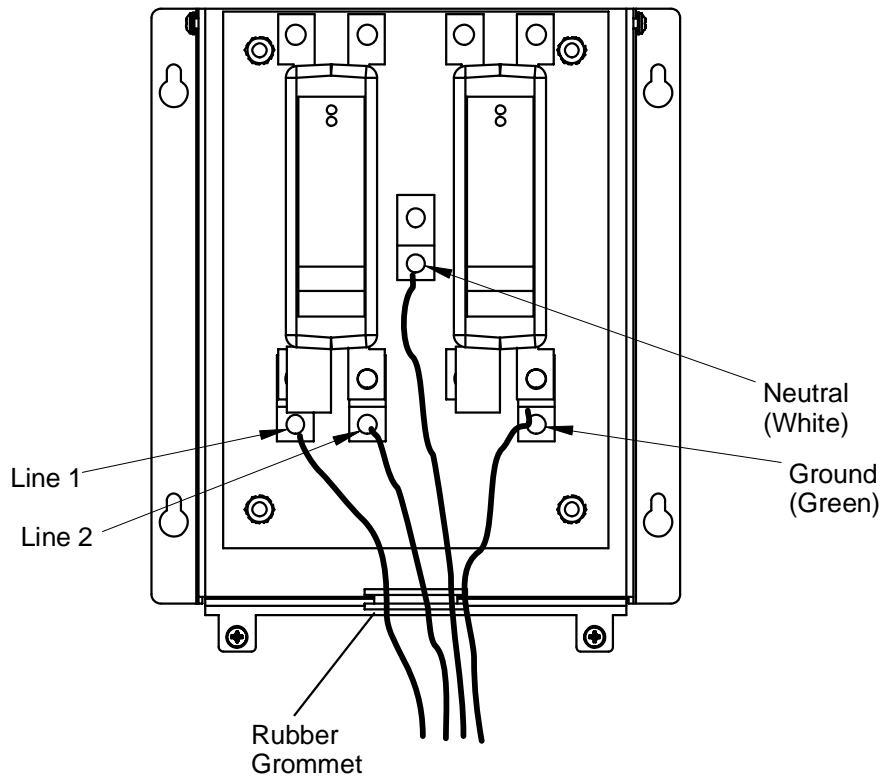


Figure 1. Surge Suppressor Wiring

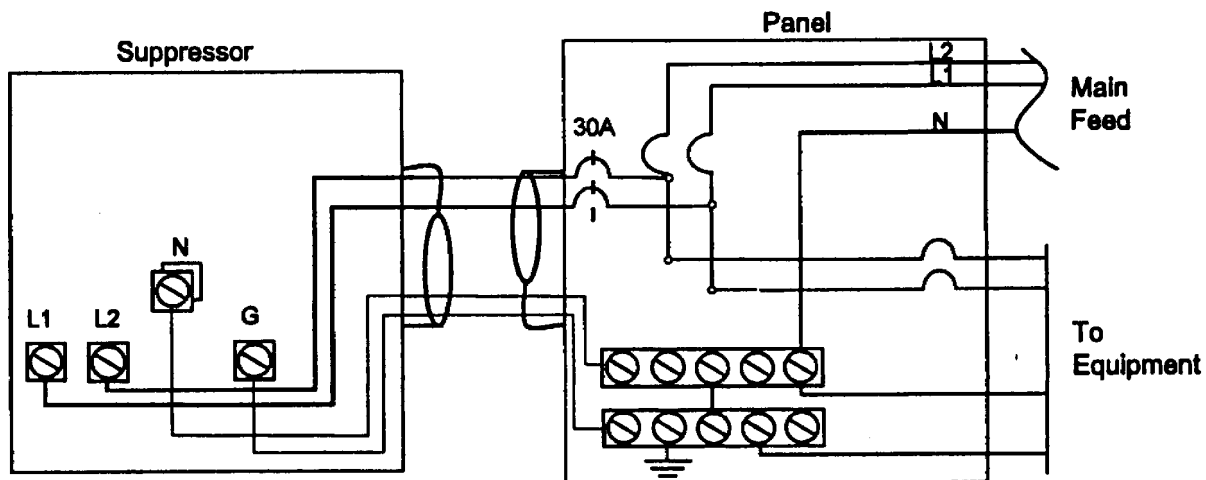


Figure 2. Wiring to Distribution Panel

MAINTENANCE

Every two months, check the status of the indication lights and the condition of the connecting cables and terminals.

TROUBLESHOOTING

See Table 1 for LED status and troubleshooting.

Table 1. LED Status

Status	ACTIVATED/ Green	FAILURE/ Green	Indicates...
Full protection	ON	OFF	Normal operation; surge suppressor active.
Fault	OFF	ON	Unit failure. See Warranty and Customer Service
No power/ unit failure	OFF	OFF	Suppressor not powered. Check boat power. Unit failure. See Warranty and Customer Service

WARRANTY & CUSTOMER SERVICE

Warranty

The CHARLES Marine & Industrial Group warrants the unit will be free from defects in materials and workmanship that cause mechanical failure for two (2) years, as set forth in the Limited Warranty. Notice of any alleged defect in material or workmanship must be provided within thirty (30) days of discovering the problem, and within the warranty period. Follow the procedure outlined below to obtain warranty service.

Service Center and Repair Correspondence

Note: Do not attempt to service the unit. Contact the Service Center.

To contact the Service Center via telephone directly:

800-830-6523 (Toll Free)

217-932-2317 (Voice)

217-932-2473 (FAX)

Call to obtain a Returned Materials Authorization (RMA) number prior to returning any unit to Charles Industries.

Return the unit for repairs to the Service & Repair Center address below:

Charles Industries, Ltd.
Marine & Industrial Group
503 NE 15th Street
Casey, IL 62420-2054
USA

Correspondence can be sent to Corporate Headquarters via the address below:

Note: Do not return the unit to this address.

Charles Industries, Ltd.
Marine & Industrial Group
5600 Apollo Drive
Rolling Meadows, IL 60008-4049
USA
847-806-6300
www.charlesindustries.com

