



## Model 67050

### 50A Surge Guard\* Portable Marine Power Protection Device with LCD Display

Surge Guard devices protect your watercraft from low quality or incorrect shore power.

Normally shore power should be around 115 –120 Volts AC from L1 or L2 to Neutral, or 240V from L1 to L2. When power falls too far outside this range, it represents a poor or hazardous condition to your watercraft’s electrical system. Surge Guard devices provide protection to your watercraft by turning off power when the line voltages L1 or L2 fall below 102 Volts AC or goes above 132 Volts AC.

These devices also protect your electrical system from a reverse polarity condition which indicates that the hot and neutral lines of shore power are swapped or reversed. This can be hazardous to equipment and safety. Surge Guard devices will not connect power to your watercraft until the reverse polarity fault is corrected.

In the event your device is not functioning as expected, perform the following troubleshooting steps to determine and correct any malfunctions. Note: Testing should be performed with AC units and electrical appliances turned off, then verified with appliances turned on.

Connect the shore power cord to a 240V, 50A power source. The LCD screen will display “DELAY” for 128 seconds while the device is monitoring the incoming power. Note that this guide also applies if using 120V, 30A power with a suitable adapter.



PROBLEM	TROUBLESHOOTING STEPS
Watercraft powers up after 128 seconds but then turns off after another 8-10 seconds.	The device may be operating properly, and you may have a low voltage condition. In this case, turn off as many loads as possible. It is not safe to operate some equipment with low voltage. Verify that the input voltage is greater than 102VAC with loads turned on and off.
Watercraft does not power up after 128 seconds after connecting to shore power.	Check the LCD display and the Caution When Flashing light (Red LCD). Check voltage with voltmeter at connection.
LCD shows a fault such as L1 or L2 Low or L1 High and the Caution When Flashing light is blinking.	There could be an open conductor or unsafe power. Check the input connections, shore power cord, and adapter (if applicable).
L1 and L2 are within range (102 – 132VAC) and there is no power.	Call Southwire Technical Support at 1-800-780-4324.
LCD screen displays “REVERSE POLARITY” and the Caution When Flashing light is blinking	Shore power connections are reversed and you have an unsafe condition. In this case, notify your marina of the condition in order to correct the fault.
A fault occurs such as a low or a high voltage during normal operation when shore power is within good operating range	The device will turn off power to the watercraft and will display a fault message on the LCD display. If the power returns to normal, the device will display “DELAY” on the LCD screen and will wait 128 seconds before turning power to the watercraft back on.

1. Low Voltage – If the input voltage drops below 102VAC for more than 8 seconds, the power will be removed protecting your electronics. This condition may be caused by overloading the marina’s power grid. Try reducing your loads. Otherwise, do not operate until power is restored to safe levels.
2. High Voltage – If the input voltage increases above 132VAC for more than 8 seconds, power will be removed. In generator mode, check for load balance. Check the generator’s voltage regulator and adjust to safe operating levels.
3. Line 1, Line 2, or Neutral Open – Check all input wiring to the Surge Guard. Check the shore power cord and wiring from the generator if applicable. Check/replace adapter if reducing down to 120V, 20A service. Notify marina for shore power problems if applicable.
4. Caution When Flashing Light – If the caution light is on bright, there is high voltage on the ground or neutral wires. If the light is dimly lit, there is a low voltage on the neutral wire. It is not uncommon for 2 to 3 volts to be on the neutral wire with respect to ground.

**For technical assistance, please call 1-800-780-4324 x 20311**

Manufactured by Southwire Company, LLC, 5250 140th Avenue North, Clearwater, Florida 33760



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#### TROUBLESHOOTING ERROR CODES

ERROR MESSAGE	DESCRIPTION	
REPLAC E SURG E	<b>Surge Expended</b> The Surge Guard* built-in surge protection has been sacrificed to protect your equipment and is no longer functioning properly. The unit is recommended to be replaced.	
OPEN GROUND	<b>Open Ground</b> Disconnect unit. Use a voltmeter to check the ground and neutral. Voltage should read -0-. If not, finding another power source is recommended.	
REVERSE POLARITY	<b>Any Line Wired to Neutral</b> Use a voltmeter to check for voltage on ground or neutral. Voltage should read -0-. If not, finding another power source is recommended.	
L1 High 118V 42A	115V 32A L2 High	<b>High Voltage</b> Voltage is over recommended operation, check with power source to lower voltage to >132V.
L1 Low 118V 42A	L1 High L2 Low	<b>Low Voltage</b> Voltage is under recommended operation, check with power source to raise voltage to <102V.
NEUTRI P CUR=65A	<b>High Neutral Current</b> Voltage on neutral return over 65A on load side. Check with voltmeter to verify voltage on the neutral at the connection. If voltage exists, it is recommended to find another power source.	
CUR HIGH	<b>Current High</b> Current exceeds the recommended operation. Check connection with voltmeter and verify voltages are within normal operation. If not, it is recommended to find another power source.	
PLU G OVERHEAT	<b>Over-Temperature</b> Temperature exceeds the recommended operation. Check connection with voltmeter and verify voltages are within normal operation. If temperature exceeds, disconnect unit, allow to cool completely and recommend to find another power source.	

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