

# INSTALLATION & OPERATING INSTRUCTIONS

**SURGE GUARD**  
RV Power Protection  
www.SurgeGuard.com

## MODEL 40300

### Optional Hardwire Remote Power Monitor LCD Display w/ Navigation

**Please read these instructions carefully.**

In the event you have any questions concerning use or care of this product, please contact TRC at 1-800-780-4324.

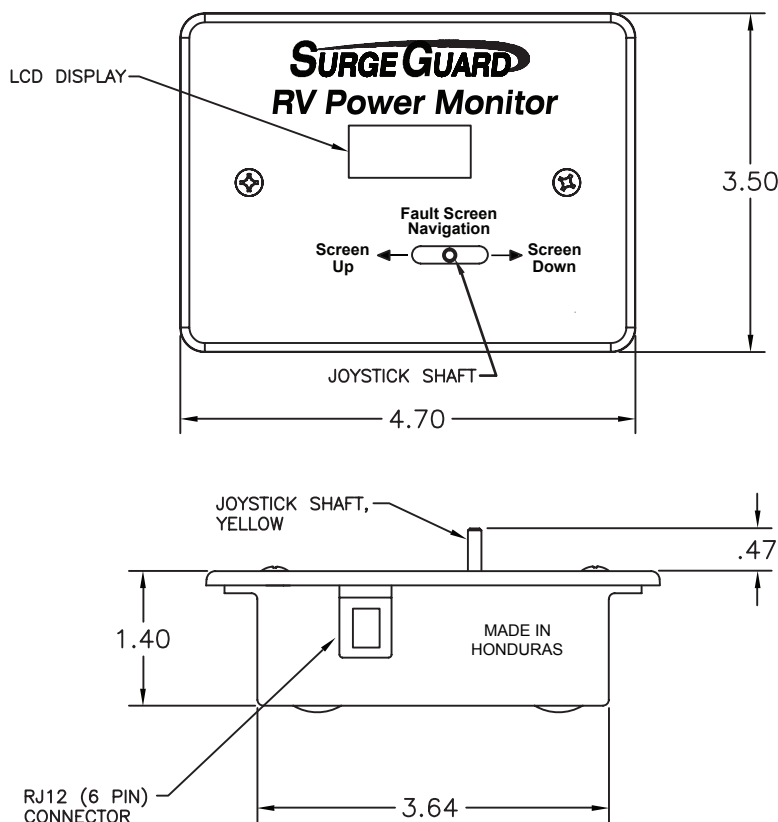
For use with Surge Guard Hardwire units, the optional Remote Power Monitor LCD Display is connected to a Surge Guard unit via a RJ12 (6 pin) connector cable and conveniently monitors your electrical power anywhere inside your RV remotely from the Surge Guard's location.

This display allows you to see more detailed information such as voltages for Line 1 and Line 2 (typically 110-120VAC), current draws, and status/conditions of the Surge Guard Hardwire unit. Electrical faults such as Low Voltage or an Open Ground connection that cause the Surge Guard Hardwire to shut off power are shown on the remote display, allowing you to retrieve via the joystick a log of the fault conditions kept by the Surge Guard pf electrical power at your location.

The 40300 Remote Display is a helpful diagnostic tool that allows you to comprehend and correct problems with your RV's power. The display also features an up/down navigation button/lever allowing navigation through various informational screens.

#### Complete set of features and information displayed includes the following:

- **Main Screen:** The Main Screen of the Display is used to show a continuous status of the RV's electrical power. These include: incoming Line Voltages and Currents (Amps) being used by the RV; Reverse Polarity State which is a faulty shore power condition; Delay State which is a waiting state that the Surge Guard goes into whenever it is first powered up or whenever there is a fault with shore power. The display will revert back to the Main Screen by default if it is left in any other screen for more than 3 minutes.
- **L1/L2 Volt and Current Screens:** Displays Line 1/2 Voltage or Current. This is handy as it allows you to view the voltage or current when there is a fault condition being displayed on the Main Screen.
- **Faults Screen:** Allows you to view a history of up to 50 faults which have been logged by the hardwire unit. Each fault that has been logged contains the fault, the voltages and currents at the time of the fault, and the time and date when it occurred.
- **Joystick Lever:** to navigate through screens and set the time and date.



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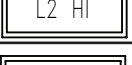
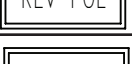
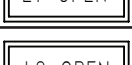




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## INSTALLATION INSTRUCTIONS

- Determine a convenient location where the remote display can be viewed. The display provides a continuous visual indication of source voltages, load currents, and fault diagnostics. The RJ12 (6 pin) connector cable allows for installation virtually anywhere inside the RV. It may also be installed in the same location as the Surge Guard unit. Mounting is not necessary. Leave enough cable length for accessibility. Balance of cable can be bundled with a plastic tie wrap. Should a remote location be desired, route cable through the coach as needed. (Cable ends and remote display must be located in a dry interior location away from inclement weather and moisture.)
- Suggested mounting procedure.
  - Remove cover plate. (Do not allow foreign matter to fall into open box).
  - Using the open box as a template, mark outline on mounting surface.
  - Allow room for connector cable.
  - Position box, with cable installed and secure with mounting screws (not supplied).
  - Attach cover plate.
- Connect Remote Display to Surge Guard using RJ12 (6 pin) connector cable. The Remote Display can be connected to the Surge Guard before or after the Surge Guard has been powered up.

## FAULT CODE INDICATORS






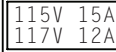
	Surge Protection Expended
	Line 1 voltage is low (below 102 VAC)
	Line 1 voltage is high (above 132 VAC)
	Line 2 voltage is low (below 102 VAC)
	Line 2 voltage is high (above 132 VAC)
	Reverse polarity condition (hot wire and neutral are swapped)
	Line 1 connection missing or mis-wired
	Line 2 connection missing or mis-wired
	Delay mode waiting for power to come back on
	Open ground fault condition (ground wire missing or mis-wired)
	Current > 130%

## OPERATING INSTRUCTIONS

### Screen Navigation

#### Using the Button/Lever

There are several information screens associated with the Remote Display which can be selected via the lever on the front of the unit. Pushing the lever to the RIGHT repeatedly will access the screens in the following order. Pushing the lever to the LEFT accesses the screens in the reverse order.

On the 30A Surge Guard, the Remote Display will not show the L2 VOLT or the L2 CURR screens, as they are not applicable.

When VIEW FAULTS screen is displayed, pushing down on the lever accesses a log of faults which have been stored by the Surge Guard unit. Viewing the fault log data will be explained in more detail below.

#### Display for Normal Operation

During normal operation, the Remote Display screen reads the status of the RV electrical power, showing continuous voltages and currents for power Lines 1 and 2 coming into the RV on the main screen.

#### Display During Fault Conditions



If there are any faults or problems with your electrical power, the Remote Display will show the particular faults on the LCD screen with a 3 second interval between each item. The faults displayed can be any combination of the Surge Guard Fault codes, SEE FAULT CODE INDICATION.

#### Display During Delay State

When the Surge Guard is powered up, the Remote Display will display "Delay" and the elapsed time in seconds until it reaches 128 seconds. After the delay is completed, if shore power is good the Surge Guard will connect power to the RV, and the unit will go to the Normal Operating screen showing voltages and currents as described above.


#### L1 VOLT | L2 VOLT Screens

These screens are useful for viewing the line voltages when the Main Screen is in Delay or when L1 or L2 have a fault (line voltage that is too low or too high). The Main Screen will display line voltage between 102 and 132 volts; otherwise it will show that the line has a fault. The L1 VOLT and L2 VOLT screens however display a greater range, from 90 to 140Volts. The L2 VOLT screen is only shown when using a 50Amp Surge Guard.

	
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#### L1 CURR | L2 CURR

These screens are useful for viewing the line currents in amps when the Main Screen is in Delay or when it shows that L1 or L2 have a fault. The L2 CURR screen is only shown when using a 50Amp Surge Guard.

	
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#### VIEW FAULTS Screen

This allows you to view the Faults recorded whenever the Surge Guard detected a fault with electrical power. To view, momentarily push the front lever DOWN or In. The screen will display Fault 1, which is the most recent fault that occurred and was detected by the Surge Guard. To see the next fault, push lever right, showing Fault 2. Keep pushing the lever right to see up to 16 faults. Pushing the lever left goes backwards through the faults.

To exit the fault screens, push the lever DOWN/IN momentarily, returning to VIEW FAULTS screen from which you can navigate as previously described.

