

# Heart Interface Link 1000

## Frequently Asked Questions:

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### **I'm missing part or all of the Display**

What part of the display is missing?

Are the bar graph LEDs lighting? If so, and you are lacking only the segmented LEDs (these are what make up the letters and numbers of the main display), try pushing the SEL or SET buttons.

1. If the meter still doesn't look right, measure the voltage at the back of the terminal block between pins 1 (negative) and 4 (positive). You should read between 10 and 40V. A voltage check between pins 1 (negative) and 5 (positive) should read between 10 and 50V.
2. Check the fuses for the positive voltage wires between the battery and the Meter (you did fuse them, right?)

3. If all these checks are good refer to the [Reset](#) section of this guide. If that doesn't resolve the problem, please contact [Customer Support](#).

### **Erroneous Current reading**

If the current is reading the reverse of what you expect (positive current when you are discharging and negative current while charging) then you have reversed the shunt sense leads. This is a common problem. Double-check the wires at pins 2 and 3. The wire at pin 2 (Green) should go to the Load side of the shunt (that is the side that is electrically the same side as your loads). Pin 3 (Orange) should go to the Battery side of the shunt. This is the same side as the cable that leads directly to the battery negative. If all this is too complicated for you, simply reverse the wires at pins 2 and 3. Your problem should go away.

If the meter is not reading the current for a particular load or charger but you are sure the load is operating (consuming current) then that load or charger is not wired to the shunt properly. All loads and chargers **MUST** go to the load side of the shunt. If you wire something to the battery side of the shunt or to the battery negative post the meter will never see the current flow through the shunt. This will affect the meter's ability to properly monitor your batteries. In other words, only one cable should be attached to the battery bank negative post and to the large bolt on the battery side of the shunt. Everything else must be on the other side of that shunt.

Does the meter need to be re-calibrated? The meters are calibrated and tested in a wide amperage range. While the unit is being programmed in the factory, the technicians program your meter's processor to compensate for any internal component offset errors. Among other things, this means if you have no loads or charging sources energized your meter should read 0.0 amps (+/- .1). If you are unsure if your meter is reading 0.0 amps correctly then there are a few things we need to determine and test before you decide you need to call us.

Are you using twisted pair wires for the shunt sense leads? If not, this may be the cause of a problem. Twisted pair wires help to eliminate some noise induced into the wires. This can come from AC interference or electrically noisy devices. Please call us if you need to purchase twisted wire. If noise is the problem, move the wires, or try grounding the offending device and shielding every wire and cable going to or from the device. Also try shielding the shunt sense wires. Usually the problem is due to running the sense wires alongside, or in the same pathway, as your AC wires.

If you are absolutely sure your installation is not the cause of the problem take the following steps:

1. Disconnect either the Green or Orange wire from the shunt and hook it up to the other side of the shunt with the opposite color wire. For instance, if you lift

the Orange, hook it up along to the same screw the Green wire is attached. You have now defeated the purpose of the shunt and your Amps should read "0.0" +/- .1.

2. Now follow the manual's instructions for Resetting Amp-Hours. Let your unit run for 24 hours with the shunt wires bypassed. At the end of the test you should not read more than +/- 2.4 AH. If you do, give our Customer Support department a call so we can re-calibrate the meter at your convenience.

### **Cannot access setup functions**

First lets verify you are doing it correctly.

1. Press and hold the "SET" button for several seconds until "SEL" appears in the display.
2. Press the "SEL" button until you highlight the function or display you want to program.
3. Now press the "Set" button to change the value to what you want programmed.
4. If the display drops out of setup mode as soon as you attempt the previous step you are locked out of the setup mode. To turn off the "Lock" function follow steps 1 and 2 until the "LOC" LED is lit at the top of the meter. Now press "SET" until it reads "OFF". You have now unlocked the front panel and can resume normal setup of the meter by starting from step 1 again.

### **Cannot get the "Fuel Gauge" LED to flash green**

For starters, the right LED will flash green - not when the batteries are full - but when the meter has re-calculated battery Charge Efficiency. The steps necessary to do that are:

1. You must discharge at least 10% of the declared battery capacity.
2. You must have returned 100% of the energy back to the batteries. A reading of "0.0" AH or slightly higher is not good enough. A true indication for this is KWHR (Kilowatt- Hours). Follow your manual for changing the AH display to KWHRs (Function F4). When this value is at or above "0.0" KWHRs, you have completed this step.
3. You must be at or above the Charged Voltage you programmed (i.e., 13.2V for a 12V system)
4. You must be at or below the Charge Current you programmed (normally 2% of the AH capacity)
5. You must meet the above criteria for 5 minutes. If you have programmed the meter for Alternative Energy mode (F05) - this would be 1 minute.

If any one of those steps are not completed, the batteries may be full, the meter may say they are full, but you won't get a re-calculation of the CEF. In turn you won't get the blinking LED. This is not a problem, however you won't be getting full use out of your meter.

### **How do I "Reset" the meter?**

There are several types of resets you can perform. One method is to simply reset your Amp-Hours to zero should your meter become out of sync with the battery State-of-Charge. If your processor is glitched due to a ragged input voltage or a nearby electrical storm you can do a power reset. Lastly you can reset the processor to factory defaults.

Should your meter become out of sync with the battery's State-of-Charge you will need to determine what is not programmed properly in the meter. You would verify this by comparing the values programmed (Charged Voltage, Charged Current and Amp Hours) to what they should be for your given installation. After that, fully charge the batteries. When the charger goes to Float mode, that is your indication the batteries are now adequately charged. If the meter indicates a positive AH you need do nothing more. The meter will reset the AH's to zero as soon as it senses negative current. If AH's have a negative indication when the charger is in float you will have to reset the AH's to zero.

1. First go to the setup mode. Press and hold the "SET" button until "SEL" is indicated in the display.
2. Now press the "SEL" button multiple times until the "RESET" LED is lit.
3. Press and hold the "SET" button. "AH" will be displayed - but don't let go until "ALL" appears in the display.
4. When "ALL" comes up on the display, let go of the button. In a second the meter will return to it's normal display mode. Go to the AH display and the meter should read 0.0

If the display looks wacky or the meter is not responding properly it's possible that it's processor has "glitched" (non scientific term). Among other things this is usually caused by a ragged input voltage or electrical storms (nearby lightning). As with most processors in the world today, if you think it's the processor that is acting up, simply perform a power reset. Go to the fuse for the red wire and disconnect it for 15 minutes. This ensures the internal capacitors are discharged as well as shutting down the processor. Then reattach the fuse in a nice clean motion because rapid intermittent power connections can lock up the processor. This procedure will lose some battery information so you might want to go ahead and recharge the batteries after the meter is up and running.

For resetting to factory defaults all you have to do is follow the steps for resetting Amp-Hours in step 1 above, only don't let go of the SET button when

"ALL" is displayed. Just keep the button pressed until the display drops you out of setup mode and shifts to a normal display.

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