

1. Before beginning installation, inspect the components for shipping damage. The kit should include: Hero™ Rectifier Monitor with 6' wire pigtail installed, battery, pole mounting lag bolts. If any of these items are missing or damaged, contact OmniMetrix® for replacement.
  
2. Required components and equipment (not included in kit):
  - Conduit sealer (such as Kearney Aqua Seal)
  - Assorted crimp connectors:
    - 18 gauge ring terminals to connect Rectifier output terminals
    - 18 gauge ring terminals or FastOns to connect shunt terminals
    - 10 gauge butt splice for interrupter relay connections



**Safety Warning:**

- The installer shall have appropriate qualifications to perform this work and must utilize appropriate PPE and tools that are in good condition.
- Verify the Rectifier cabinet is grounded properly prior to working on the equipment.

Rectifier Site: \_\_\_\_\_

Rectifier Site Name/Identification: \_\_\_\_\_

Installer Name: \_\_\_\_\_

Date of Installation: \_\_\_\_\_

## Record Rectifier Parameters:

While the Rectifier is still energized, record the following parameters for future use:

### Rectifier Output Voltage \_\_\_\_\_ VDC

Set Fluke meter to DC Volts and attach red lead to the Rectifier positive terminal and the black lead to negative terminal. Verify the meter gives a positive voltage reading.

### Rectifier Shunt Current \_\_\_\_\_ mVDC

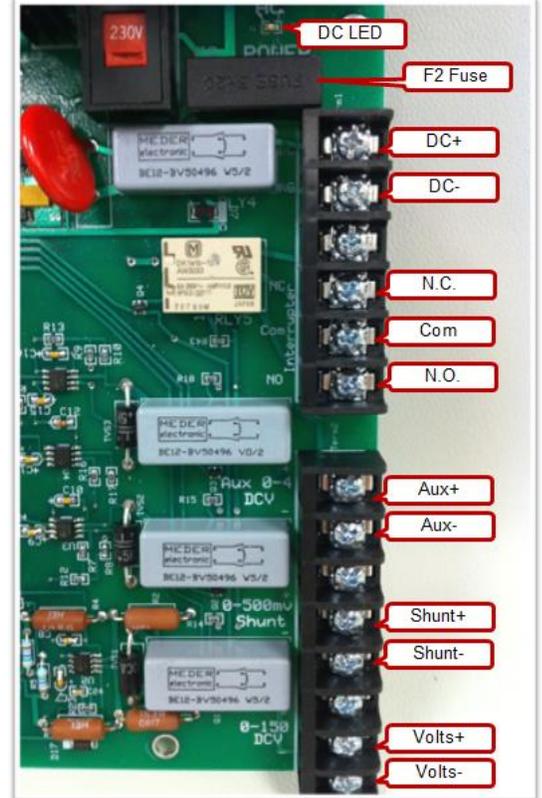
Set Fluke meter to DC mV and attach red lead to the positive side of the shunt and the black lead to the negative side. Verify the meter gives a positive voltage reading. Note: Place the meter leads at the exact points where the remote monitor wires will be attached.

### Rectifier Shunt Ratio \_\_\_\_\_ mV/ \_\_\_\_\_ Amps

### Source of DC Power \_\_\_\_\_ (Solar or TEG)

### DC Power Voltage \_\_\_\_\_ VDC

Set Fluke meter to DC Volts and place leads across the power source; a TEG output or the solar power batteries.



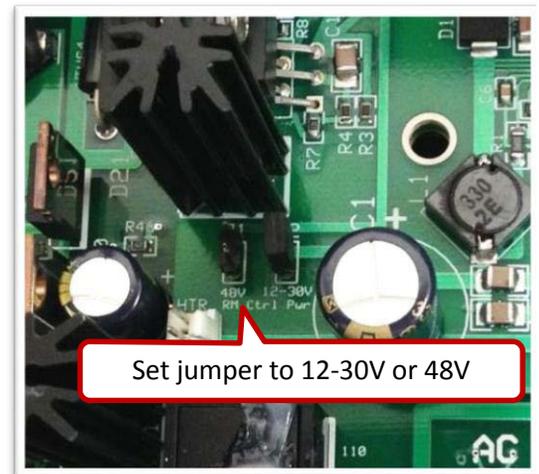
Installation Procedure: Do not connect the Hero Rectifier Monitor's battery wires at this point. Connecting the battery will activate the Hero Rectifier Monitor and should not be done until the final step of installation.

1. Power down the Rectifier and the local DC power source.
2. Mount the Hero Rectifier Monitor securely (pole mount lag bolts included in kit). The monitor should be mounted above the Rectifier. Make sure there is clearance for the monitor door to swing open. The top of the monitor must have a clear view of the sky. Eliminate all obstructions to the line of sight from the top of the monitor.

## DC Power Connections:

Note: The DC Powered Hero Rectifier Monitor is our standard AC powered monitor, factory converted to operate utilizing DC power. The DC Hero Rectifier Monitor still has the AC labeling. The green power light (located above the terminal strip) is labeled 'AC Power', but will be indicating DC power in this instance.

Locate the Hero Rectifier Monitor DC module, a small circuit board attached to the main circuit board in the upper right corner. Set the jumper on this board to the correct voltage. If the available DC power is 12 or 24 VDC, set the jumper to the '12-30V'



position. If the DC power is 48 VDC, move the jumper to the '48V' position.

3. On the black monitor terminal (TRM1), locate the fuse-holder 'F2' that is on the left of the TRM1 label. Remove the F2 fuse and temporarily place it on the floor of the monitor enclosure (you will replace this fuse later).

Note: All external connections are made via the 6' wire pigtail. Do not bring any other wires into the Hero Rectifier Monitor enclosure. Do not bring a ground wire to any part of the monitor.

4. DC Power Connection: DC power wires are polarity dependent. The red wire from pin 1 is the positive lead and the black wire from pin 2 is the negative lead. Make power connections at the Solar Cell battery pack or the TEG panel.
5. Shunt Connections: Locate the Shunt signal cable. It is a shielded cable with black insulation. The red wire from pin 9 connects to the Rectifier Shunt positive side. The black wire from pin 10 and the bare shield wire connect to the shunt negative side. Note that the bare shield wire does not connect to the orange monitor terminal (TRM1); the only connection is on the Rectifier end (to ensure accurate measurements, it is important to connect these signal wires to the exact points used when taking Fluke meter measurements).
6. Rectifier Output Connections: Locate the Rectifier output signal cable. It is a shielded cable with gray insulation. The red wire from pin 11 connects to the Rectifier positive terminal. The black wire from pin 12 and the bare shield wire connect to the negative terminal. Note that the bare shield wire does not connect to the orange monitor terminal (TRM1); the only connection is on the Rectifier end.
7. Interrupter Relay Connections: Locate the 2 gray 10 gauge wires connected to the Hero Rectifier Monitor interrupter relay. Cut the Rectifier lead coming from the diode stack to the back of the Rectifier negative terminal. Use crimp-on butt splices to connect one gray wire to the cut lead from the diode stack, and splice the second gray wire to the cut lead from the back of the negative terminal.

**Note:** Some Rectifier installations may require an external interrupter relay. Refer to the installation instructions packaged with the external interrupter assembly for the 10 gauge wire connections.

8. Apply sealant such as Kearney Aqua Seal to the cable hub and wires inside the Hero Rectifier Monitor enclosure to make the cable entrance watertight.
9. Turn on the local DC control power and energize the Rectifier.
10. Use a Voltmeter to measure the voltages at the Hero Rectifier Monitor terminal (TRM1).
  - Pins 1 and 2 have DC control voltage. DC reading should be similar to the DC power measurement recorded above. Make certain the DC jumpers are set to the correct voltage (steps 5 and 6).
  - Shunt DC mV voltage at pins 9 and 10 should be similar to that recorded above. Verify the polarity is correct (pin 9 is positive).
  - Rectifier DC voltage at pins 11 and 12 should be similar to that recorded above. Verify the polarity is correct (pin 11 is positive).
11. Activate the Hero Rectifier Monitor:
  - Retrieve the fuse from the floor of the Hero Rectifier Monitor enclosure and install at F2.
  - Attach the Hero Rectifier Monitor leads, observing correct polarity.
12. The green 'AC Power' lamp (under the blue transformer) should now be illuminated, indicating the monitor has DC power.
13. A blue LED will begin to flash on the main circuit board. Wait several minutes until the blue lamp has a steady beat of one flash per second (this could take up to 10 minutes).
14. Secure the enclosure door. Installation is complete.

**If you have any questions, please call OmniMetrix Tech Support at 770-209-0012 or email at [techsupport@omnimetrix.net](mailto:techsupport@omnimetrix.net).**