MODEL: PV14
14A 12V HIGH EFFECINECY CHARGE CONTROLLER

PLAN AHEAD You will need the following items to finish the installation.

Red and Black Stranded & Tinned wire or cable. Size #14 or #16 AWG (American Wire Gauge).

Proper wire connectors or soldering tools and mounting screws for mounting the PV14, and to make connections to battery and solar panel(s). Connectors must not allow moisture to enter the connections.

Multi-meter to check the system operation (Optional).

General hand tools – Regular and Phillips screwdrivers and fixed or adjustable wrench for battery terminals.

INSTALLATION STEPS
Use on Solar Panels Only

1. **Mount the PV14** in a location where it will not get excessively warm or be subject to high levels of vibration (not on an engine for example). The PV14 should be located no more than 10 wired feet from the battery bank. If fuse replacement is necessary, install an 15A fast blow fuse.

2. **Connect PV14 to the battery bank**. Start with the PV14's BLACK BAT- wire and connect it to the Battery Bank's negative terminal. Next connect the PV14's RED BAT+ wire to the battery bank's positive terminal. If your battery installation is configured with a positive and negative bus bar you may connect to them instead of the battery posts.

3. **Connect the PV14 to the Solar panel.** Connect the PV14's Black PV- wire to the solar panel's negative wire. Connect the PV14's orange PV+ wire to the solar panel positive wire. Do not operate with no battery connected when the solar panels are producing power.

EXPANSION The PV14 can be expanded to hundreds of amps. See our web site at www.flexcharge.com

TEST / VERIFICATION STEPS

GETTING READY TO TEST

1. Make sure the sun is shining on the entire solar panel (No part of the panel is in the shade)

2. Ensure the ammeter is configured for measuring current and is set to measure up to 10 Amperes.

TESTING (Optional)

1. **Remove the PV14's fuse in the RED BAT+ wire**.

2. **Setup the Multi-meter** to measure current (10A scale) and making the measurement at the fuse holder, place one probe on the PV14's Red BAT+ wire and the other probe on the side of the fuse that is connected to the battery bank positive terminal.

3. **With the PV14's green charge light ON**, check to see that the measured current is similar to what you would expect from the solar panel.

4. **Re-install the fuse. (Finished).**

Note: *If the battery is being charged from another source (Alternator) the controller's GREEN light may be OFF, meaning the controller is fully regulating and not charging. The GREEN light must be ON to test the PV14. If the green light is switching from ON to OFF it means that the controller is REGULATING, (in the final stages of charging). Charging current will turn ON and OFF with the green light.*

You cannot check the open circuit output voltage of the controller. Without a battery connected the voltage will be very low,(1 to 4 volts) and the green charge light will flash on and off

A full length version of the PV7/PV7D/PV14 manual is available at our website. **www.flexcharge.com**

PV14 Specifications

ABSOLUTE MAXIMUMS	Min	Typ	Max	Units
Fuse (Fast Blow)	-	-	15	Amperes
Solar Panel Voltage	0	-	33	Volts
Battery Voltage	0	-	33	Volts
Operating Temperature	-30°C (-22°F)	-	50°C (122°F)	Degrees
Storage Temperature	-40°C (-40°F)	-	55°C (131°F)	Degrees
Humidity	2%	60%	100% (Condensing)	Percent
OPERATING VALUES	**Min**	**Typ**	**Max**	**Units**
Bat Voltage - Charging	0	-	15.0	Volts
Bat Voltage- Regulating (Constantly Varies)	13.4 (Reconnect)	13.8 (Averaged)	15.0 (Disconnect)	Volts
Bat Voltage (Not Charging)	0	12.6	-	Volts
Charging Current	0	Solar Panel Output	14	Amperes

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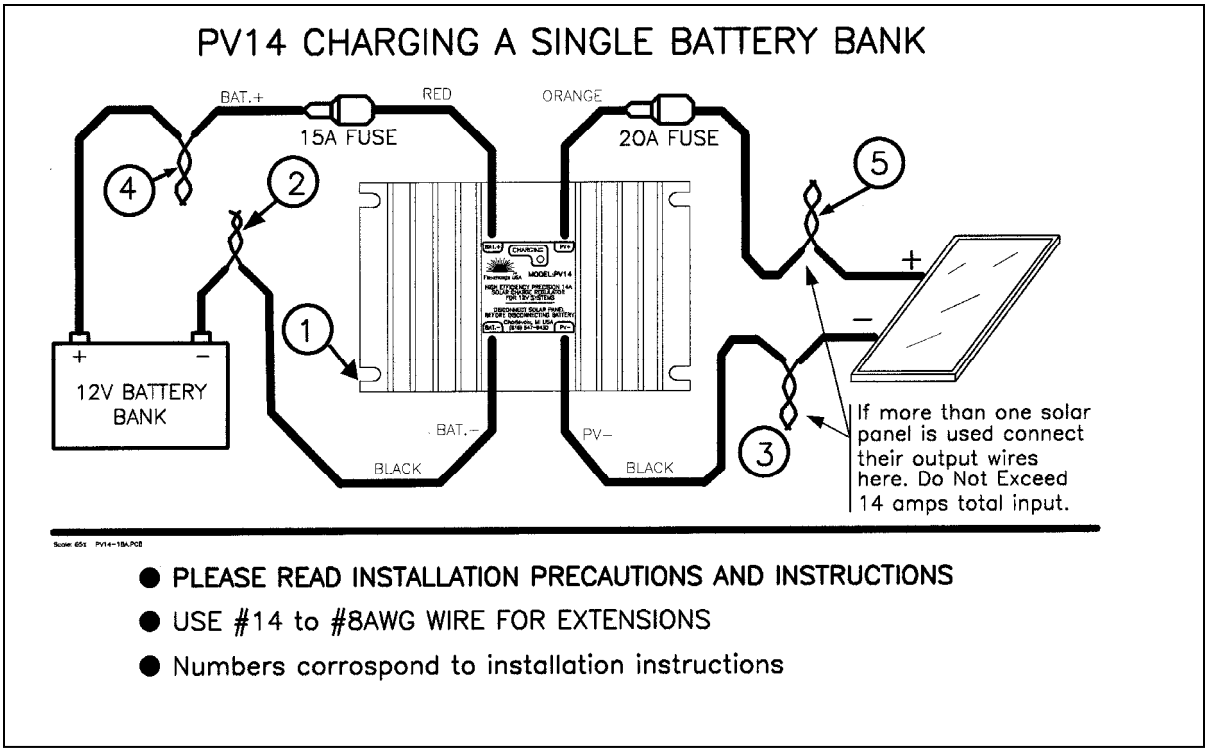
PV14 Installation Diagram

NOTE: You must solder all wire to wire connections. See our web site at www.flexcharge.com for complete instructions



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