



# MODEL: PV7D (SHORT FORM)

## 7A 12V HIGH EFFECINECY DUAL BATTERY CHARGE CONTROLLER



### 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 PV7D's fuse in the BLACK 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 PV7D's BLACK BAT- wire and the other probe on the side of the fuse that is connected to the battery bank NEGATIVE terminal.
3. With the PV7D'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 PV7. 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 at a fast rate.

A full length version of the PV7D manual is available at our website. [www.flexcharge.com](http://www.flexcharge.com)

### INSTALLATION PROCEDURES

#### WORKS WITH FLOODED, GEL, AND AGM BATTERIES

**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 PV7D, 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 PV7D** 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 PV7 should be located closer than 10 wired feet from the battery bank. If fuse replacement is necessary, install an 8A fast blow fuse.
2. **Connect PV7D to the battery bank.** Start with the PV7D's BLACK BAT- wire and connect it to the Battery Bank's negative terminal. Next connect the PV7D's RED BAT+ wire to the primary 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. If you have a second battery bank connect the YELLOW wire to the second battery bank positive. If there is only one battery use the RED wire only or connect the RED and YELLOW together.
3. **Connect the PV7D to the Solar panel.** Connect the PV7D's Black PV- wire to the solar panel's negative wire. Connect the PV7D'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 PV7D can be expanded to hundreds of amps. See our web site at [www.flexcharge.com](http://www.flexcharge.com)

### PV7D Specifications

	ABSOLUTE MAXIMUMS			Units
	Min	Typ	Max	
Fuse (Fast Blow)	-	-	8	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			Units
	Min	Typ	Max	
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	8	Amperes



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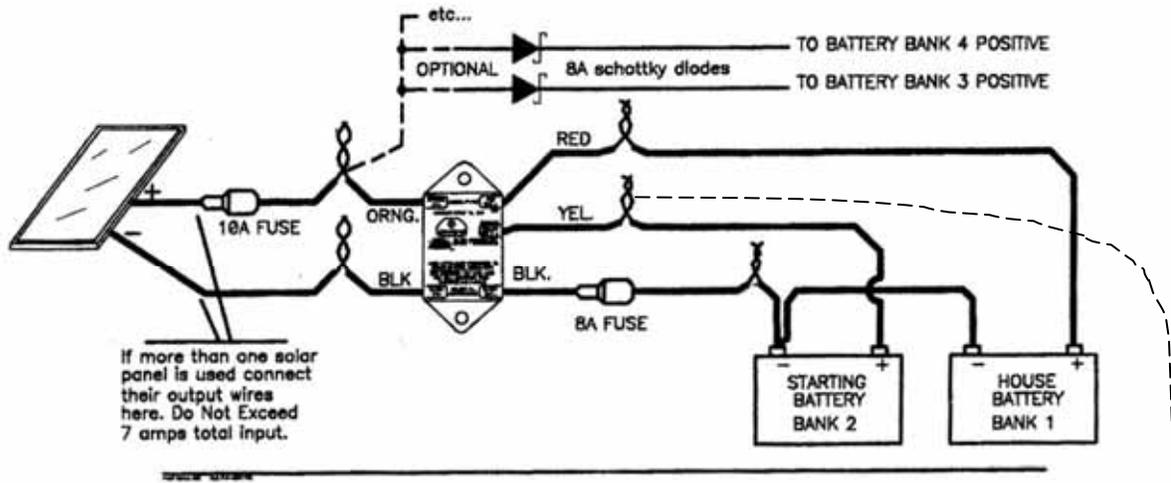
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**NOTE: You must solder all wire to wire connections. See our web site at [www.flexcharge.com](http://www.flexcharge.com) for complete instructions**

## PV7 Installation Diagram

### INSTALLATION INSTRUCTIONS

MODEL: PV7D FOR TWO OR MORE BATTERY BANKS



- PLEASE READ INSTALLATION INSTRUCTIONS
- USE #16 to #12 AWG WIRE FOR EXTENSIONS
- Numbers Corrospnd to Installation Instructions

If only one battery bank use the RED wire only. Or connect RED and YELLOW together