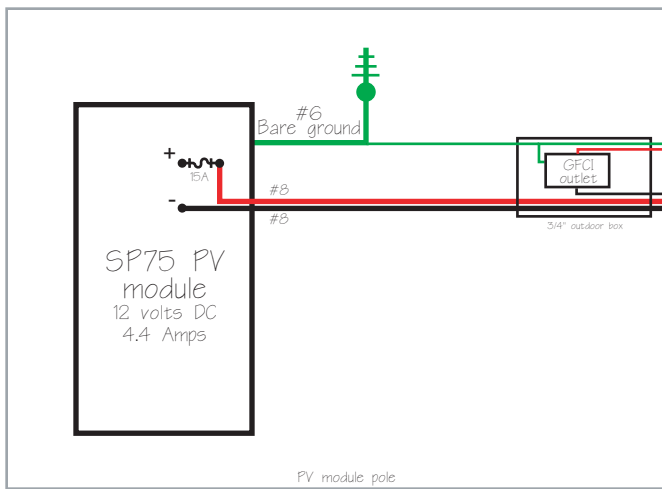


Basic 12 volt negative ground PV system

7/3/2003
Amended 5/8/2005
For reference ONLY



120v AC wire size / length chart:
Calculated with a 3% maximum voltage drop.

	AMPS		
	30	15	10
50'	#10	#14	#14
100'	#8	#10	#12
150'	#6	#8	#10
200'	#4	#8	#8/10

Notes:

Some PV controllers calculate battery voltage using a temperature sensor on the controller. This type of controller and the batteries must be in the same enclosure to work properly. There are controllers that can use a remote temp. sensor.

PV to controller wire sizes for 50':

(Max amps = Short circuit voltage * 1.25 irradiance)

- (1) 75 watt panel @ 12v / 5.5A = #8
- (2) panels = 150 watts @ 12v / 11A = #4
- (2) panels = 150 watts @ 24v / 5.5A = #10
- (4) panels = 300 watts @ 24v / 11A = #8

