

INSTRUCTIONS FOR INSTALLATION OF FLEX POWER MAT™



1. Measure length and width to achieve proper alignment for placement of your New Flex Power Mat™



2. Clean surface with mild soap and water and then just water to remove any residue from surface. NOTE: Allow surface to dry completely before moving on to next step.



3. Lay mat out and align it. Roll back one end about 2 feet and score the protective paper film about 10 to 12 inches from the edge, exposing the pressure sensitive adhesive. Lay the mat back down with pressure for a permanent bond to roof surface.



4. Go to other end of Mat and role Mat back to the edge of protective paper film. Pull protective paper film off slowly in 2 foot increments applying pressure starting from center working towards outer edges until entire Mat is affixed to roof surface.



5. Lay out rubber edging around the perimeter of the Mat. Starting with the end opposite from the wires, making sure edging is properly fitted against Mat. Begin installing provided stainless steel/self tapping screws (No Pre-Drilling Required) until the end piece is completely fastened. Then remove protective film from each piece and lay each piece down applying pressure to ensure that bonding agent is completely affixed before moving on to next piece.



6. At wire end of Mat, run wires up through the provide ABS wire connection box. You will need to screw the (2) 1.5" inch stainless steel/self tapping screws through the aligning holes at the bottom of the wire connection box.

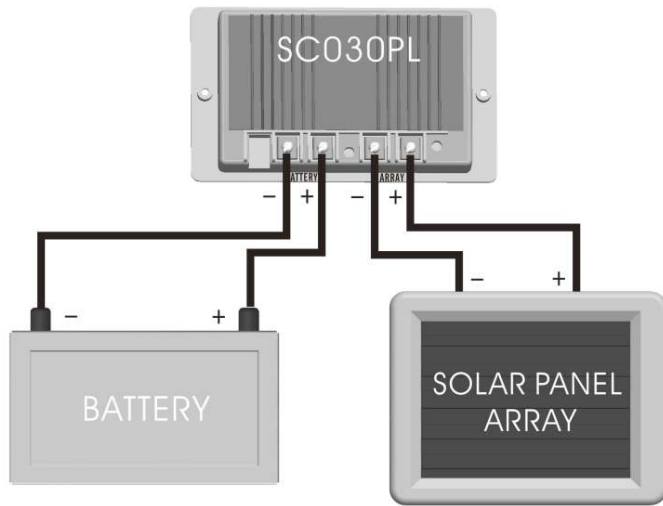
WARNING! DO NOT WALK ON MAT WHEN MAT IS WET. THIS CAN BE EXTREMELY SLIPPERY AND MAY CAUSE INJURY OR EVEN DEATH! DO NOT FOLD MAT! FOLDING WILL VOID WARRANTY! DO NOT ROLL MAT TIGHTER THAN 14 INCHES IN DIAMETER!

ATTENTION: ENERGY DEL SOL RECOMMENDS THAT ALL FLEX POWER MATS™ BE PROFESSIONALLY INSTALLED BY A CERTIFIED SOLAR INSTALLER...

Please visit to our website below for an online instructional video...

3800 Running Iron Drive * Prescott, AZ 86302 * (928) 771-0311 * Fax (928) 771-0315 * www.FlexEnergyDelSol.com

Connection diagram



CAUTION: Don't attempt to change the battery type selector switch after the controller proceeds charging, otherwise will affect LCD meter reading.

OPERATION

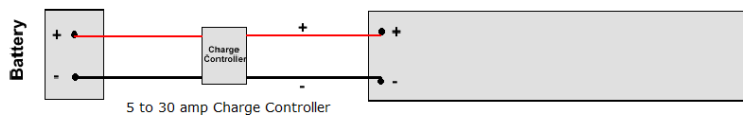
After completed above connection, the solar controller charges the battery automatically. The solar controller is based on three stage charging algorithm such as Bulk charge mode, Constant-voltage mode and Float mode. During charging period, you can change the select switch to read the battery voltage or charging current from LCD meter at any time. • Battery condition detect by LED bar-graph. The controller can indicate the battery condition with three states: GOOD, FAIR, LOW.

- PWM constant-voltage regulation to prevent heating and excessive battery gassing. Pulse charging to restore full battery capacity.
- Float: After battery is fully completed charged, the battery voltage will reduce to a lower regulated voltage in which safety maintains the battery at full charge.

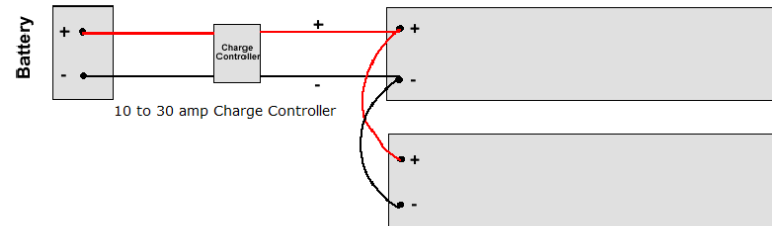
TROUBLE SHOOTING

1. The system of solar Panels-Controller-batteries is not sized incorrectly-The batteries will be under-charged if the solar array is too small, or if the battery bank is too small, or if the usage is too high.
2. Solar panel's problem - Solar panel can be seriously affected by the angle of the panel (as in winter months), minor shading, high level haze (barely visible) and dust on the panel.
3. Battery's problem - If the battery is going bad, a little charging or discharging will cause a large change in the battery voltage. A battery short somewhere can also reduce the battery voltage.
4. Controller incorrect connection - Include reversing the polarity from the panels or batteries, or switching the array and battery connections.

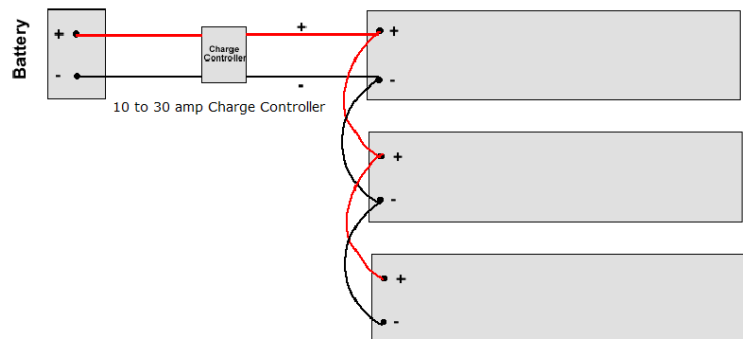
Single Panel Design, Mobile DC, RV or Marine 4.1 Amps - 16.5 Volts - 68 Watts



Two Panel Design, Parallel 8.2 Amps - 16.5 Volts - 136 Watts



Three Panel Design, Parallel 12.3 Amps - 16.5 Volts - 204 Watts



Four Panel Design, Parallel 16.4 Amps - 16.5 Volts - 272 Watts

