



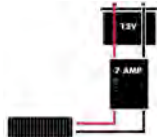


Eliminator Power Panel Instructions

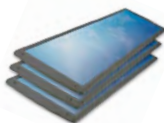
 <p>Solar Power Panel 1.8 W / 125 mA 11-1880-2</p>	 <p>Solar Power Panel 5 W / 350 mA 11-1881-0</p>	 <p>Solar Power Panel 15 W / 1 A 11-1882-8</p>
<p>READ this manual BEFORE and DURING the use of this product.</p>	<p>READ this manual BEFORE and DURING the use of this product.</p>	<p>READ this manual BEFORE and DURING the use of this product.</p>
<p>Installation</p> <p><i>Placement:</i> Insert the suction cups into the predrilled ends of the solar panel ensuring that they are securely placed. Choose a clean, dry surface that is facing the sun, then lubricate the suction cups (using saliva or petroleum jelly) and mount to vehicle's dash or windshield.</p> <p><i>Connection through the cigarette lighter:</i> Attach the cigarette adaptor to the unit. Plug the male-end of the cigarette adaptor (12 V plug) into the female cigarette socket making sure that both ends are secure and aligned correctly. For optimal charging power, ensure the panel (solar cell up) is directly facing the sun.</p> <p><i>Connection to a battery:</i> Attach the clips to the unit. Connect the red positive clip (+) to the red positive terminal (+) on the battery. Connect the black negative clip (-) to the black negative terminal (-) on the battery. WARNING: The clips MUST be placed on to the battery in the aforementioned order—wrong connections may cause sparking or explosion. For optimal charging power, ensure the panel (solar cell up) is directly facing the sun.</p> <p><i>Connection to Power Pack:</i> Connect using barrel connector included.</p>	<p>Installation</p> <p><i>Placement:</i> Securely place the solar panel in a high-sunlight area. If permanent installation is desired, use the four stainless steel mounting screws included. To increase heat dissipation, a heat-resistant spacer should be used between the panel and the surface.</p> <p><i>Connection through the cigarette lighter:</i> Attach the cigarette adaptor to the unit. Plug the male-end of the cigarette adaptor (12 V plug) into the female cigarette socket making sure that both ends are secure and aligned correctly. For optimal charging power, ensure the panel (solar cell up) is directly facing the sun.</p> <p><i>Connection to a battery:</i> Attach the clips to the unit. Connect the red positive clip (+) to the red positive terminal (+) on the battery. Connect the black negative clip (-) to the black negative terminal (-) on the battery. WARNING: The clips MUST be placed on to the battery in the aforementioned order—wrong connections may cause sparking or explosion. For optimal charging power, ensure the panel (solar cell up) is directly facing the sun.</p> <p><i>Connection to Power Pack:</i> Connect using barrel connector included.</p>	<p>Installation</p> <p><i>Placement:</i> Securely place the solar panel in a high-sunlight area. If permanent installation is desired, use the four stainless steel mounting screws included. To increase heat dissipation, a heat-resistant spacer should be used between the panel and the surface.</p> <p><i>Connection through the cigarette lighter:</i> Attach the cigarette adaptor to the unit. Plug the male-end of the cigarette adaptor (12 V plug) into the female cigarette socket making sure that both ends are secure and aligned correctly. For optimal charging power, ensure the panel (solar cell up) is directly facing the sun.</p> <p><i>Connection to a battery:</i> Attach the clips to the unit. Connect the red positive clip (+) to the red positive terminal (+) on the battery. Connect the black negative clip (-) to the black negative terminal (-) on the battery. WARNING: The clips MUST be placed on to the battery in the aforementioned order—wrong connections may cause sparking or explosion. For optimal charging power, ensure the panel (solar cell up) is directly facing the sun.</p> <p><i>Connection to Power Pack:</i> Connect using barrel connector included.</p>
<p>NOTE: This solar panel has a built-in blocking diode that protects the battery from reverse discharge. The use of the panel is not recommended while the vehicle is in use. The panel is not weatherproofed. If panel is weathered, the warranty will become void.</p>	<p>NOTE: This solar panel has a built-in blocking diode that protects the battery from reverse discharge.</p>	<p>NOTE: This solar panel has a built-in blocking diode that protects the battery from reverse discharge. It is strongly recommended that a Motomaster® Eliminator Battery Charge Controller (11-1890-0; sold separately) be used to prevent overcharging.</p>
<p>FAQ What types of batteries does this solar panel maintain? Any 12 V battery used in cars, boats, RVs, motorcycles, etc.</p> <p>How long does it take to charge a dead battery? This solar panel is ideal for trickle charging all types of vehicle batteries and power packs. If the battery or power pack is completely drained, use a larger Solar Power Panel (11-1881-0 or 11-1882-8).</p> <p>Can I use this solar panel outdoors? No, this solar panel is not weatherproofed. If this solar panel is weathered, the warranty will become void.</p> <p>Do I need a Motomaster® Eliminator Battery Charge Controller (11-1890-0)? No, a Battery Charge Controller is only need for panels 15 W or greater.</p> <p>Can I start/drive my vehicle while the unit is connected to the battery or cigarette lighter? No, please make sure that this panel is not in use while you are using your vehicle.</p> <p>Can I extend the wire? Without loss of power or voltage, the 12' wire can be extended up to a maximum of 25' with a 16-gauge wire. Ensure proper connections.</p>	<p>FAQ What types of batteries can this solar panel charge? Any 12 V battery used in cars, boats, RV's, motorcycles, etc.</p> <p>Can I use this solar panel outdoors? Yes, this solar panel has been weatherproofed. The weatherproofing includes UV protection and protects from weather effects of -35°F to 175°F.</p> <p>How long does it take to charge a battery? This solar panel generates 5 W of power per hour, which is equal to 350 mA of current under ideal conditions. For example, under ideal conditions, the panel will generate 5 W x 7 hours per day x 7 days per week for a total of 245 W of power.</p> <p>Do I need a Motomaster® Eliminator Battery Charge Controller (11-1890-0)? No, a Battery Charge Controller is only need for panels 15 W or greater.</p> <p>Can I extend the wire? Without loss of power or voltage, the 12' wire can be extended up to a maximum of 25' with a 16-gauge wire. Ensure proper connections.</p> <p>Can I start/drive my vehicle while the unit is connected to the battery or cigarette lighter? No, please make sure that this panel is not in use while you are using your vehicle.</p> <div style="border: 2px solid black; padding: 5px;"> <p>TROUBLESHOOTING: Problem: My panel is not functioning. Solution: -Ensure battery is operational. -Ensure that the distance of the wires are not longer than 25' and all connections are secure. -Measure the panel voltage with a voltmeter. The voltage reading should be between 16 to 25 V in the sun.</p> </div>	<p>FAQ What types of batteries can this solar panel charge? Any 12 V battery used in cars, boats, RV's, motorcycles, etc.</p> <p>How long does it take to charge a depleted battery? In direct sunlight, this solar panel produces 1 A/hr. By adding up to 10 solar panels, the time needed for charging would decrease. For example, under ideal conditions, one panel will generate 15 W x 7 hours per day x 7 days per week for a total of 735 W of power.</p> <p>How can I run 120 V AC appliances with my Solar Power Panel (11-1882-8)? Connect the battery to a power inverter that converts DC power to AC power.</p> <p>Can I overcharge my battery? Yes, it is strongly recommended that a Battery Charge Controller (11-1890-0; sold separately) be used to prevent overcharging.</p> <p>Can I use this Solar Power Panel outdoors? Yes, this Solar Power Panel has been weatherproofed. The weatherproofing includes UV protection and protects from weather effects of -35°F to 175°F.</p> <p>Can I extend the wire? Without loss of power or voltage, the 12' wire can be extended up to a maximum of 25' with a 16-gauge wire. Ensure proper connections.</p> <p>Can I start/drive my vehicle while the unit is connected to the battery or cigarette lighter? No, please make sure that this panel is not in use while you are using your vehicle.</p>

Eliminator Power Panel Instructions

Battery Charge Controller 11-1890-0



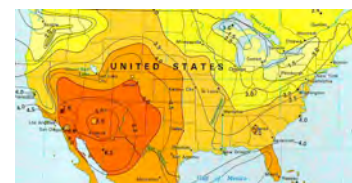
Installation of Multiple Panels



General Info

How do solar cells generate electricity?
Solar panels, also known as photovoltaics (PV), can be thought of as a direct current (DC) generator powered by the sun. When light photons of sufficient energy strike a solar cell, they "knock" electrons free in the structure forcing them through an external circuit (battery or direct DC load), and then returning them to the other side of the solar cell to start the process all over again.

Will solar panels work in my location?
Solar panels work in any outdoor location depending on the irradiance. Irradiance is a measure of the sun's power available at the surface of the earth and it averages about 1000 W/m².



READ this manual BEFORE and DURING the use of this product.

Installation

Connection to a battery:
Attach the Battery Charge Controller positive (+) wire to the positive (+) battery terminal. Then connect the Battery Charge Controller negative (-) wire to the negative (-) battery terminal. **WARNING:** The clips **MUST** be placed on to the battery in the aforementioned order—wrong connections may cause sparking or explosion.

Connect to Solar Panel:
Strip the solar panel wires. Connect positive (+) to positive (+) and negative (-) to negative (-). Ensure the connections are secure.

Operation:
Green light indicates a full-charged battery. When the battery reaches 14.2 V, the Battery Charge Controller will cutout voltage thereby ensuring no overcharging.

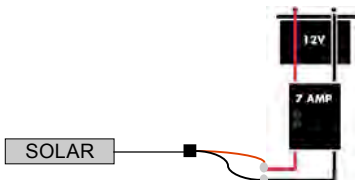
Yellow light indicates a battery that is being charged. When the battery reaches 13 V, the Battery Charge Controller will cut-in and charging will begin.

NOTES:

- It is normal for both lights to flicker on and off during normal operation. The Battery Charge Controller should be placed within 5' of the battery in a dry, well-ventilated area. This Battery Charge Controller can support up to 100 W and up to 7 A of array current. All connections should be parallel to ensure 12 V (positive to positive and negative to negative).

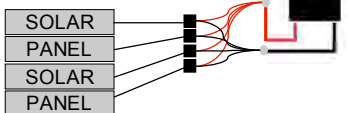
FAQ

- How many panels can I connect to my 7 Amp Solar Charge Controller?
A. You can connect up to 105 Watts of Solar Power to the 7 Amp Solar Charge Controller. Panels should be connected in parallel – positive to positive, negative to negative.
- When will the Charging Indication light (green) light up?
A. The charging controller indication green light will light up when the battery voltage reaches 14.2 Volts and the SCC will prevent the solar panels from overcharging the battery. It is normal for the SCC LED to light on and off as the battery voltage cuts in and out.



Installation of Multiple Panels:

- Use the included connector plug which quick connects striped wires to each 15W utilized
- Join all positive wires and all negative wires. Ensure all connections are tight. Use of included wire nut connector. Insulating materials may also prove helpful.
- Keep positive to positive and negative to negative to ensure 12V usage
- Use a 7 Amp Solar Charge Controller to prevent Battery Overcharge



GENERAL TESTING PROTOCOL

Always test outdoors under optimal sunlight conditions.

A. Test Solar Panels for Voltage.

Connect Voltmeter to each individual panel separately and observe Open Voltage. Open Voltage can range from 16 Volts to 24 Volts. Once all panels test for voltage, proceed to step B.

B. Test Connection to Charge Controller for Voltage.

Reconnect Solar Panels, and connect to charge controller as per instructions. Measure open circuit Voltage at the battery side of the charge controller. Open circuit voltage should read 5-10% lower than without charge controller. Open circuit measurement will read between 15 and 23.5.

C. Connect charge controller to battery

First, disconnect solar panels and connect charge controller to battery. Always connect charge controller to battery first and remove last. Observe polarity – positive to positive and negative to negative.

D. Reconnect Solar Panels to Charge Controller.

If battery voltage is 14.2 or higher, the GREEN light should be on. If battery voltage is between 13 and 14.2, the YELLOW LED should be on. If battery voltage is 13 or lower, the YELLOW LED should be on.

If all testing results within the above indicated ranges, solar system is in acceptable range. If Voltage reading indicate lower ranges, repeat above connections and retest. Finally, it is common to have 12V Battery issues such as dead cells or non-rechargeable battery problems.

What is the difference between amorphous and polycrystalline cells?

These panels are amorphous solar panels. Amorphous solar panels contain no cells, but are created through a deposition process that actually forms the silicon material directly on the glass substrate. Amorphous panels are made up of an interconnecting "thin-film" of laser-patterned silicon. The amount of silicon used is up to a 100 times thinner than that of a polycrystalline cells. Amorphous panels are better at generating electricity.

5-year Warranty

This Motomaster® Eliminator product carries a **five (5) year warranty** against defects in workmanship and materials. Motomaster® Canada agrees to replace the defective product free of charge, within the stated warranty period, when returned by the original purchaser with **proof of purchase**. This product is not guaranteed against wear or breakage due to misuse and/or abuse.