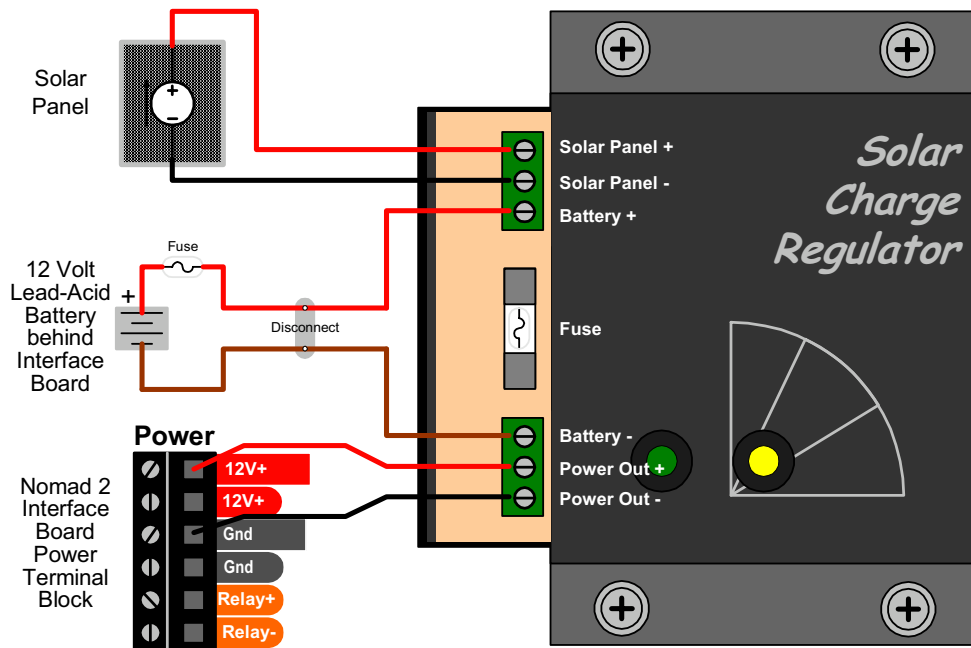


WIRING AND MOUNTING SOLAR PANELS

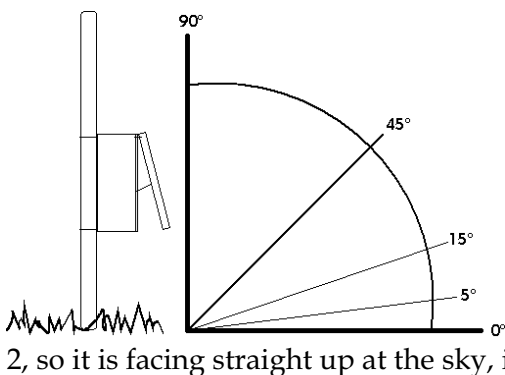
Wiring the Solar Panel, Solar Charge Regulator, and Battery

The Second Wind solar package consists of a 10 Watt photo-voltaic (PV) panel, PV panel mounting brackets, a pre-installed solar charge regulator, and a pre-installed sealed gel-cell lead acid battery pack. The PV system is wired as shown below. Once the solar panel is mounted, run the wires into the logger through one of the cable grips and wire to the regulator. Apply power by joining the polarized molded connectors between the 12 Volt battery and the NOMAD 2 interface board.



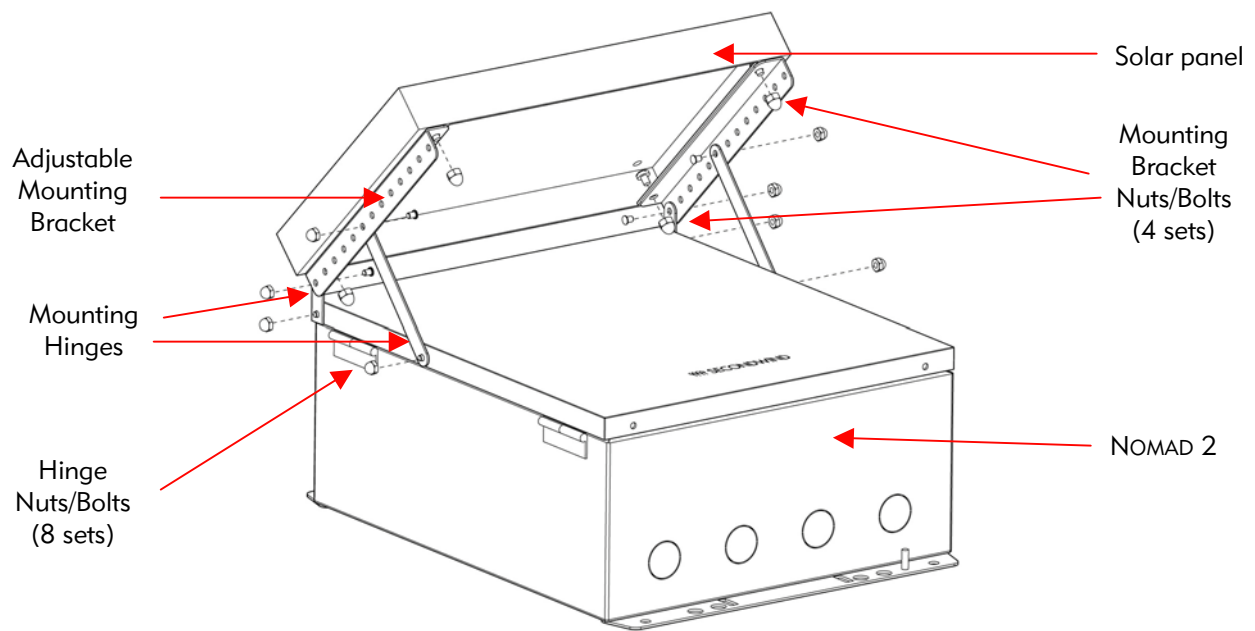
The regulator comes with a fuse installed in it. This fuse will protect the battery and the load. The regulator output leads will be connected to the power terminal as shown. The regulator has two LED lights on it. The green LED (closest to the connector), will light when the PV panel is delivering energy. It will start to flash when the controller begins to regulate. The other LED will change color depending on battery voltage. It will be red below 11.8 Volts, yellow between 11.8 and 12.8 Volts, and green above 12.8 Volts. The regulator will automatically disconnect the power below 11.8 Volts.

Mounting the Solar Panel



To calculate the best tilt angle of the solar panel for consistent energy output throughout the year, first determine the site latitude, and add 20 degrees. Mount the NOMAD 2 to face south if you are located in the northern latitudes, and north if you are located in the southern latitudes. (Note: if you mount the panel at 5 to 15 degrees, you will get the maximum energy output in the summer, but less energy in the winter.)

To get yourself oriented, imagine the solar panel is mounted flush against the door of the NOMAD 2, and facing the horizon. The panel is now at 90°. If you were to mount the panel perpendicular to the door of the NOMAD 2, so it is facing straight up at the sky, it is now at 0°.



Once you have calculated the best tilt angle for the solar panel, look up the corresponding Mounting Strut Hole and Short Hinge Angle in the table below. The short hinge connects to the uppermost hole on the mounting strut. Set it at the angle shown in the table. Connect the long hinge to the appropriate Mounting Strut Hole from the table.

Mounting Strut Hole	Short Hinge Angle	Solar Panel Angle
1	57°	21°
2	57°	25°
3	57°	27°
4	57°	29°
5	57°	32°
6	57°	37°
7	57°	42°
5	0°	46°
6	0°	47°
7	0°	49°
8	0°	51°
9	0°	54°
10	0°	58°
11	0°	63°
12	0°	68°
2	<0°	69° - 90°

