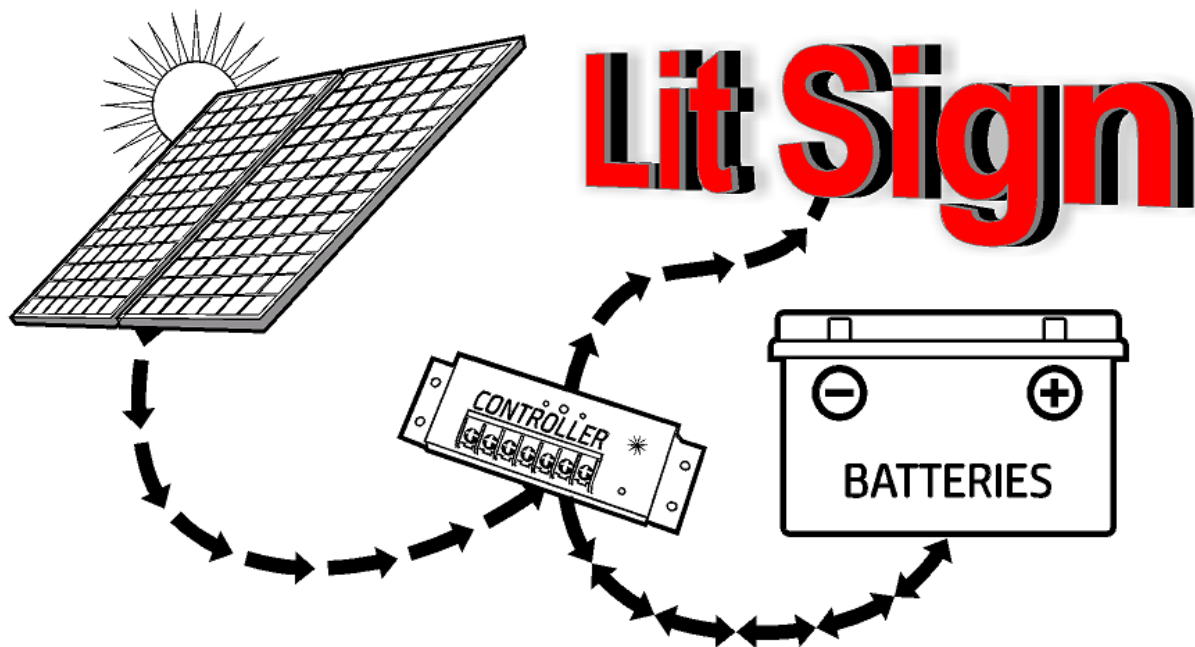


## Solar Sign Lighting Instructions

Since all our lit sign products are lit with low voltage LEDs, it is a simple conversion to Solar Power your sign. This can be something you are doing for environmental conservation or to install a Lit Sign where there is no utility power source. Either way, we can help you to make this happen.



### Purchasing your sign:

All our lit products can be “solar powered” including [EZLit Plug-n-Play Channel Letters](#), [Raceway Mounted Channel Letters](#) and [Lit Shape Signs](#). Pay attention to the size and estimated wattage of your sign. The higher the wattage the larger the solar panels and battery that will be required.

Our customer service team would be happy to guide you through this process.

## Solar Sign Lighting Instructions

### Parts for Solar Conversion:

- **SignMonkey.com Lit Sign**
- **Morningstar Sunlight 10/20,**  
Lighting Controller with LVD



One 20 amp Lighting Controller will run up to 240 watts of sign load. These controllers can be ran in parallel if your sign is too large for one unit.

[Buy 10 amp MS Controller](#) for 12 volt Letters and Shapes

[Buy 20 amp MS Controller](#) for 12 volt Letters and Shapes

Link: [Sunlight Light Controller Product Information](#)

Link: [Sunlight - 10 or 20 Data Sheet](#)

Link: [Sunlight - 10 or 20 Manual](#)

Link: [Support Documents](#)

If your sign is over 240 watts but less than 480 watts you can parallel the Controllers with more than one panel. [240w + Instructions](#)

- **Solar Panels**

I have not found a significant difference between solar panels brands. I would suggest a Polycrystalline panel or Monocrystalline Panels, the Wattage of the panels should be about 4 or more times the Wattage of your sign. Do not use panels that exceed 30 volts and 240 watts each.

## Solar Sign Lighting Instructions

- **Mounting Structure**

Depending on your location, there are mounting options to mount to a single pole, sloped roof or flat roof. If you have a specialty situation, we can assist you in building a custom mounting structure.

[Shop for Solar Panel Mounting Structures](#)

Of course you will want to face your panels south and you can determine the angle from this chart. Instead of moving your solar panels at different times of the year, you can just use the average for your City.

[Elevation Angle Chart](#)

- **Wiring**

Since you will be working in only Direct Current (DC) for your solar sign installation, it is important to keep your wires as short as possible. Use only copper wire with minimum 75°C insulation rating and between 10 AWG gauge. The negative system conductor should be properly grounded.

- **Batteries**

We suggest a maintenance free battery such as a Gel type or Absorptive Fiberglass Mat glass type, they do not store as much energy as the Flooded type but you do not have to add water or check on periodically. It is important that the batteries stay charged if stored in a unheated location. They can freeze if not charged and this will ruin them.

Link: [Battery we have used](#)



## Solar Sign Lighting Instructions

- **Installation**

The physical installation of your sign will be the same as it would be if the sign was not Solar Powered. The solar conversion of your sign from Conventional Electric AC line voltage to Solar DC is very simple.

There are one or more AC to 12VDC Power Supplies inside the sign when you receive it. You are going to bypass the power supplies with your wire from the Morningstar Sunlight Controller. We can walk you through this if you are unfamiliar with this type of thing.

Your sign will then be controlled by the Morningstar Sunlight Controller. On the controller you can determine when your sign turns and off based on how much sunlight is hitting the solar panel. You can also control how long the sign stays on a night so to not drain your battery by staying on late in the evening when you are not get any benefit from it.