

# SOLAR SMART

solar charged motorized operator

## Altering of Wiring or Solar Panel

Solar Smart was designed to primarily be installed within a single window/skylight unit with a single solar panel per operator, installed near the window/skylight. For some installations it may be necessary to install the solar panel at a greater distance away than the 10 ft. pigtail wire will allow. Some also may prefer to use a single larger solar panel to charge multiple operators. These decisions are often determined by the installation location, environmental conditions, or simply aesthetic preference. The following guidelines should be followed when additional wire length is needed and/or a change in the solar panel used.

**Warranty Note:** Using a solar panel other than the one provided will void the warranty, unless approved by Solar Smart prior to use.

## Solar Smart Wiring

The standard 10 ft. pigtail wire provided is white 18 AWG. On request, the pigtail length can be ordered to any custom length from Solar Smart, up to 1,000 feet long using black 16 AWG UV resistant braided wire.

Sometimes due to unforeseen issues, the wire may need to be lengthened after the time of order. When adding additional wire to the provided pigtail wire, select the appropriate gauge and type which will result in less than 0.015V drop at 100mA for the length of wire required. Special care must be taken to ensure the wire polarity is correct when connecting to the operator.

As with any electrical wiring project, the connections are the critical elements which determines the success of failure of an installation. Connections are even more critical when wiring a low voltage solar installation, exposed to exterior weathering conditions. For installations requiring external connections, select components that will resist UV degradation and that are water tight. It is best to avoid external connections at all and is avoidable by ordering the pigtail to the necessary length.

**Warranty Note:** Additional wiring and connections other than those provided is outside the scope of the Solar Smart warranty. Altering the wire pigtail connection to the solar panel will void the warranty.

## Solar Smart Solar Panel

The Solar Smart solar panel is made of amorphous silicon and is approximately 6 by 7 inches. Power output is a nominal 0.8 Watts at 10 VDC. Typical current output when connected to the operator is 0 to 120mA depending on weather and battery conditions. Expected 25% degradation in the first 1-2 years, then remains unchanged throughout the panel life of more than 20 years. This degradation is typical of solar panel assemblies. Solar Smart has been designed with this solar panel degradation in mind.

## Using a different solar panel to charge one or more operators.

It is important when selecting a solar panel to keep in mind that all solar panels will degrade considerably in the first 2 years of use. Amorphous silicon solar panels are recommended for consistent performance. The solar panel output should not exceed 12v DC and to be limited to 100mA of current per operator to be charged.

[www.solarsmartopener.com](http://www.solarsmartopener.com)



**2 YEAR**  
WARRANTY