

### BEFORE STARTING

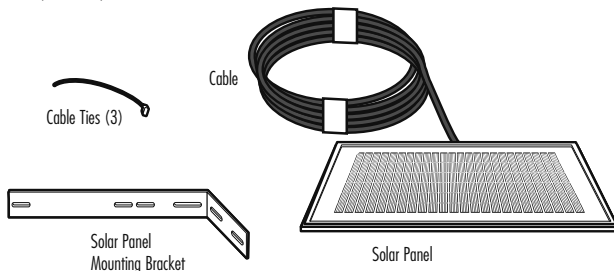
Read and follow all instructions. Access the gate operator's control box and disconnect all power and batteries. Do not connect batteries until instructed.

**NOTE:** These instructions and illustrations may vary slightly from the solar panel you purchased.

#### CARTON INVENTORY

Verify carton inventory below.

Hardware (not shown)

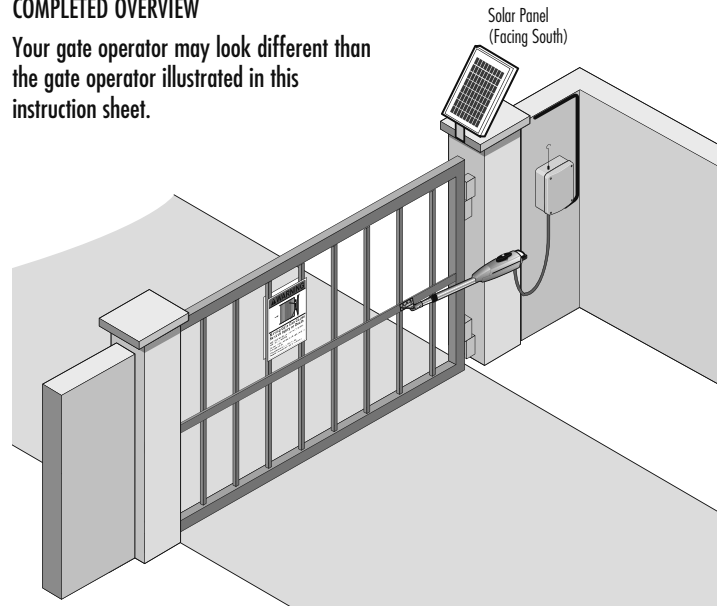


### ⚡ WARNING

To avoid **SERIOUS PERSONAL INJURY** or **DEATH** from a moving gate, disconnect **ALL** electric and battery power **BEFORE** performing **ANY** service or maintenance.

#### COMPLETED OVERVIEW

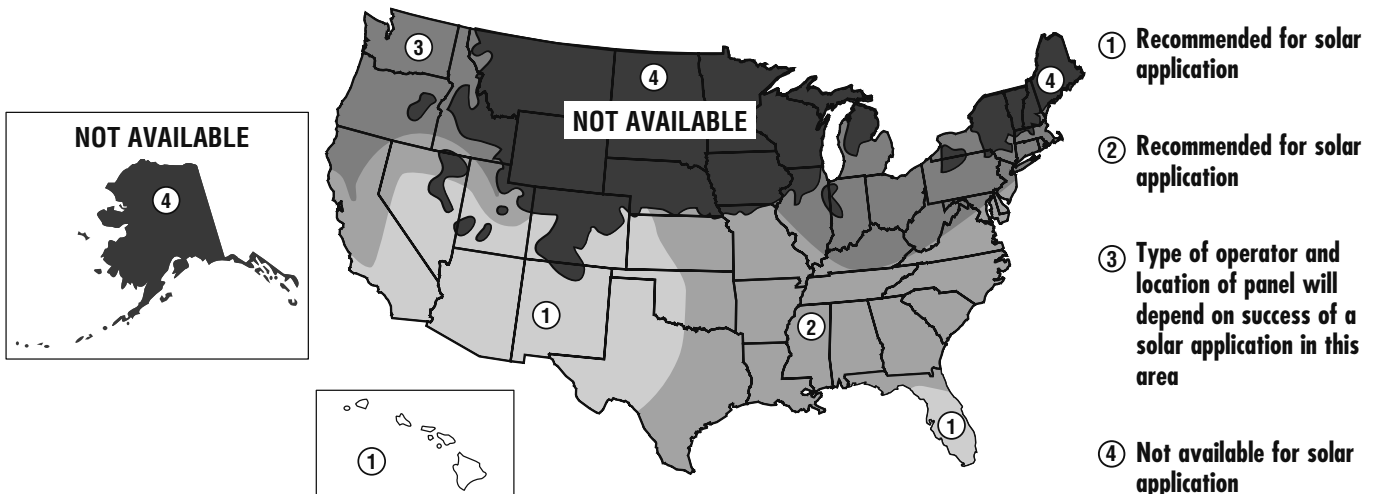
Your gate operator may look different than the gate operator illustrated in this instruction sheet.



### SELECT SITE

The solar panel(s) come with a 10 foot cable. If a location near the control box/gate operator cannot be found, an additional cable will be required. Maximum wire run distance depends upon the wattage limits of the control board for the gate operator. See gate operator owner's manual.

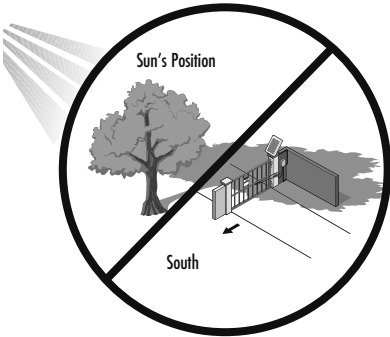
Solar panel recommendations are based upon the average solar radiation and the temperature effects on batteries in the given zones as shown on the map below. Local geography and weather conditions may require additional solar panels. Solar powered gate operator installations are not supported in northern climates where temperatures reach below -4°F. This is due to cold weather and a reduced number of hours of sunlight during the winter months. Cycle rate may vary from the solar chart for areas that reach below 32°F. The cycles/day ratings are approximations and do not account for installed accessories that draw additional battery power. Ratings vary based on gate construction and installation. Solar panels cannot be installed in areas that experience heavy fog or lake effect snow and rain. Refer to your gate operator owner's manual for the maximum number of allowable panels to achieve the cycles per day required for your application.



# POSITION

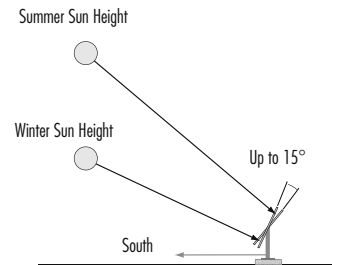
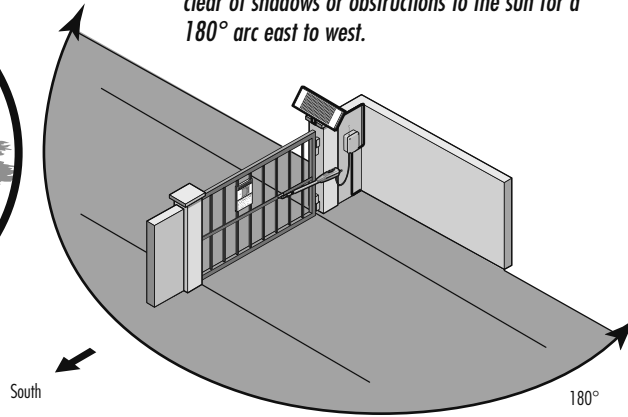
The location of the panel(s) is critical to the success of the installation. In general, the panel(s) should be mounted using the provided angle bracket facing **DUE SOUTH**. The solar panel(s) should be mounted in an area clear of all obstructions and shade from buildings and trees. If the panel(s) is not casting a shadow, the battery is not being charged.

**NOTE:** Tall trees or buildings that do not shade the solar panel(s) in the summer could shade the solar panel(s) during the winter months when the sun sits lower in the sky.



**TIP:** Wire runs should be kept as short as possible. The solar panel(s) can be located up to 100 feet from the operator using #16 AWG wire in any direction, including elevating it.

**TIP:** The area around the solar panel(s) should be clear of shadows or obstructions to the sun for a 180° arc east to west.

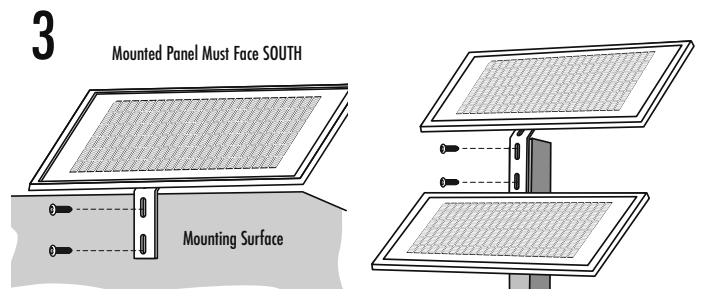
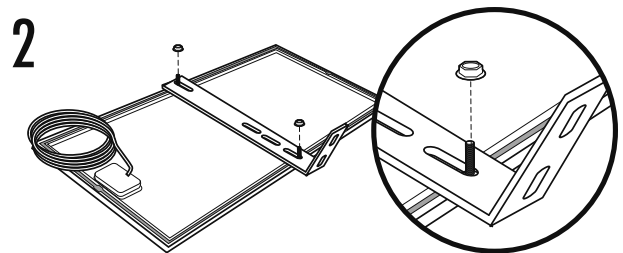
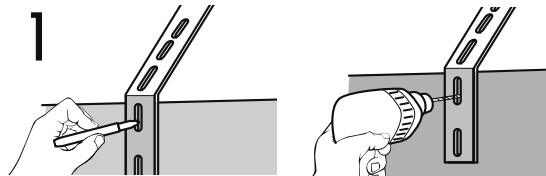


**TIP:** To optimize the system for winter operation the angle can be increased an additional 15° (solar panel(s) sits more vertical).

# INSTALLATION

Solar panel(s) **MUST** be installed facing south. Use a compass to determine direction. Below are general instructions for installing the solar panel(s). Your installation may vary slightly depending on the solar panel purchased.

- 1 Position the mounting bracket on the mounting surface. Mark and drill holes.
- 2 Secure the solar panel to the mounting bracket using the provided hardware.
- 3 Secure the solar panel to the mounting surface using appropriate hardware.



# POWER WIRING

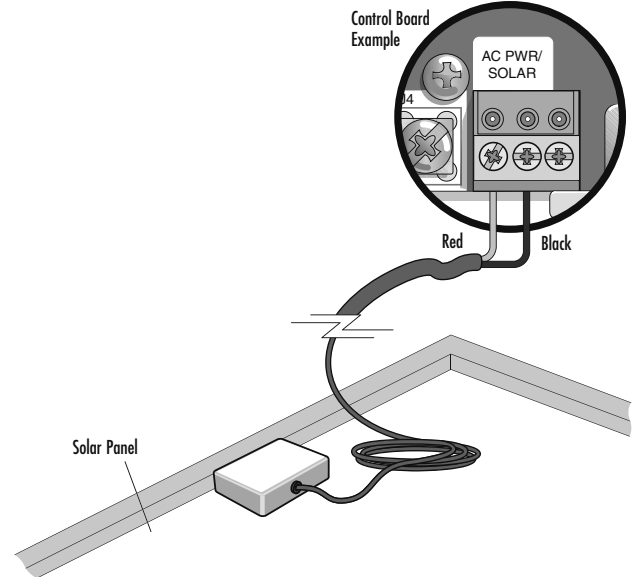
Follow all gate operator instructions for the maximum wattage and type of solar panels to be connected.

- 1 Disconnect all power and batteries from the control board.
- 2 Run the solar panel cable to the bottom of the control box.
- 3 Connect the solar panel wires to the input on the control board designated for solar. **NOTE:** Labels for input on the control board may vary depending on your model, refer to the owner's manual to determine which input is for solar power.
- 4 Reconnect the batteries and verify that the operator and all safety devices work correctly.
- 5 Use the cable ties to secure the solar panel cable away from places where it could be damaged.

**⚡ ⚠ WARNING**

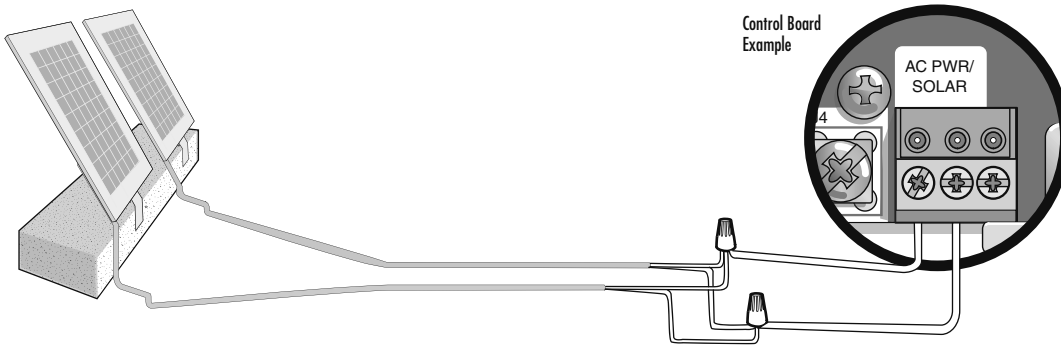
To avoid **SERIOUS INJURY** or **DEATH** from a moving gate:

- Disconnect **ALL** electric and battery power **BEFORE** performing **ANY** service or maintenance.
- Connect solar panels **ONLY** in accordance with gate operator instructions.
- **DO NOT** connect solar panel(s) when power supply is connected.



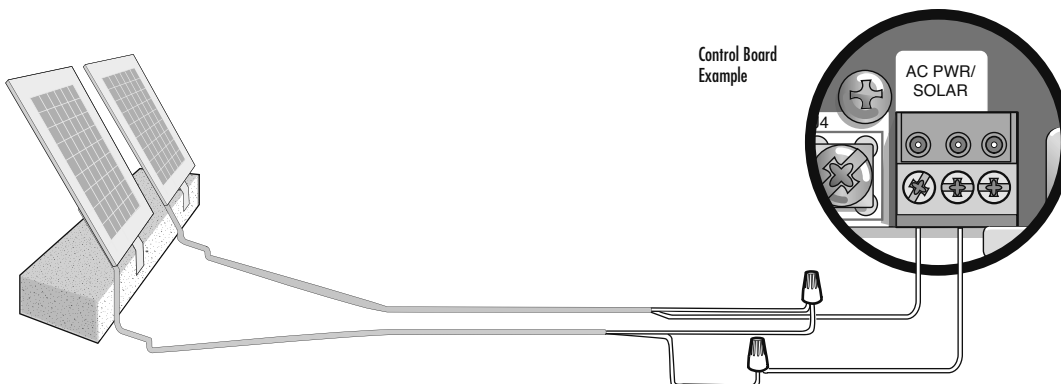
## 12 Vdc APPLICATIONS

When multiple panels are required, they should be wired in parallel as shown below.



## 24 Vdc APPLICATIONS

When multiple panels are required, they should be wired in series as shown below.



# MAINTENANCE

The glass of the solar panel(s) should be cleaned monthly to keep the panels operating at peak performance. Debris or dirt on the surface will diminish or completely obstruct the panels' ability to charge the operator.

**NOTE:** If panel(s) become damaged in any way, they must be replaced.

# TROUBLESHOOTING

**NOTE:** Follow these steps if any of the components of the solar kit or the gate operator fail to operate properly.

SYMPTOM	SOLUTION
<b>OPERATOR DOES NOT POWER UP WHEN SOLAR PANEL IS CONNECTED.</b>	<ol style="list-style-type: none"><li>1. <b>Too cloudy or dark.</b> There may not be enough sunlight to power up the operator. If the solar panel is not casting a shadow, there is not enough sunlight to power the operator.</li><li>2. <b>Solar panel is obstructed.</b> Check the orientation and position of the solar panel to make sure it is facing south. Make sure the glass of the panel is clean and free of debris.</li><li>3. <b>Wire disconnected.</b> Recheck the wiring and make sure that the panel is connected to the solar input on the control board. If multiple panels are used, make sure they are wired up in parallel with red wires connected to red wires and black wires connected to black wires.</li></ol>
<b>OPERATOR POWERS UP BUT DOES NOT RUN PROPERLY.</b>	<ol style="list-style-type: none"><li>1. <b>Batteries are not connected.</b> The system requires the batteries to run. Make sure there is a connection at the battery and the control board.</li><li>2. <b>Batteries are low.</b> Make sure that the batteries are fully charged. It may require a full day of bright sunlight to recover discharged batteries with the solar panel.</li><li>3. <b>Obstruction sensed.</b> Make sure that all safety inputs are clear. Make sure that no cables or other obstructions are preventing the gate(s) from moving freely.</li></ol>
<b>OPERATOR WORKS FINE FOR SEVERAL WEEKS OR MONTHS BUT THEN BATTERIES DIE.</b>	<ol style="list-style-type: none"><li>1. <b>Batteries not being charged.</b> Make sure the solar panel is facing south and free of all obstructions throughout the day. Make sure the panel is clean of debris and connected correctly to the control board.</li><li>2. <b>Operator is over used.</b> Consult the cycles/day chart in the gate operators owner's manual to determine if the operator is being over cycled based on the number of solar panels being used. It may be necessary to add a second panel.</li><li>3. <b>Batteries are old.</b> As batteries age, their ability to store energy decreases. Batteries typically must be changed every 3 to 5 years, depending on usage, temperature, and other factors.</li></ol>

FOR TECHNICAL SUPPORT CALL OUR TOLL FREE NUMBER: 1-800-528-2806