

Solar Panels & Batteries

Installation Manual



24/7 Support

Your purchase of this TrueLook system includes customer and technical support. If you have any questions regarding the use or configuration of this equipment and software, please don't hesitate to contact us.

Phone 833.878.3566

Email support@truelook.com

Office 575 4th Street E, Winston Salem, NC 27101

Online Resources

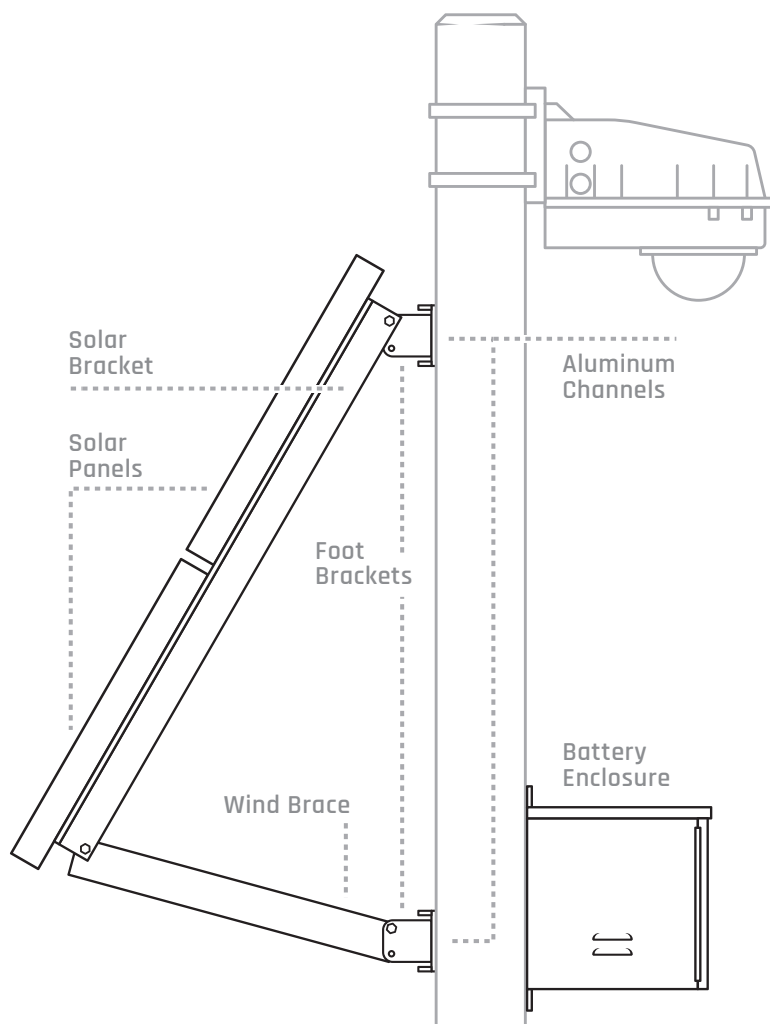
Use this QR code or visit truelook.com/install to access:

- 1 An admin guide to walk you through creating your time-lapses and other administrative settings.
- 2 Video demonstrations of installation procedures.
- 3 A digital PDF of this install guide.
- 4 Download links for the TrueLook mobile app.
- 5 Other helpful resources.



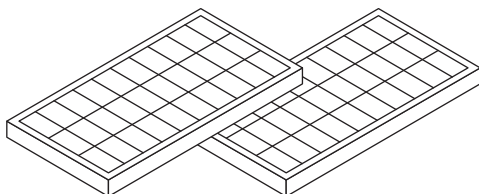
For Terms & Conditions as well as Warranty information, visit truelook.com/terms-conditions.

Full Solar Module Assembly

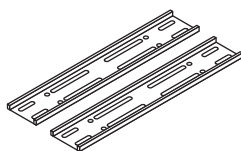


Hardware Packing List

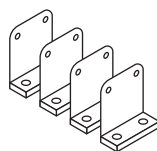
Solar Panels and Mounting Bracket



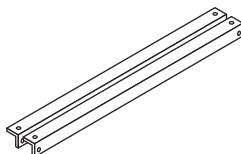
Solar Panels



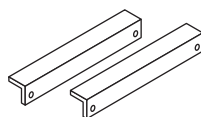
Aluminum Channels



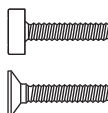
Foot Brackets



Solar Brackets



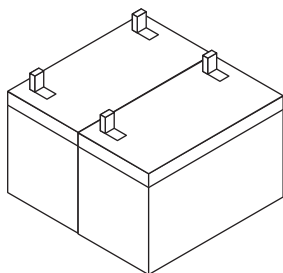
Wind Braces



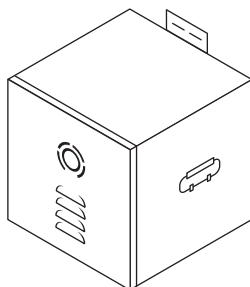
Assorted Hardware for Assembling Solar Bracket

Hardware Packing List

Battery and Battery Housing



Battery



Battery Housing

Positioning Solar Panel



FAILURE TO OBSERVE ALL FOLLOWING REQUIREMENTS MAY RESULT IN SYSTEM DOWNTIME. UNITS SELF-RECOVER AUTOMATICALLY ONCE PANEL RECEIVES SUFFICIENT SUNLIGHT.



Face panel **due south**.

Mount solar panel so it faces the equator (due south) in order to capture adequate sunlight.



Ensure panel remains **unobstructed**.

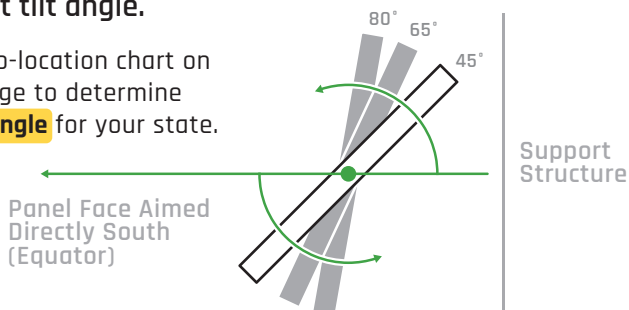
Panel must receive direct sunlight all day. Do not let trees, dirt, structures, or anything else block the sun - at any time of day.

Review **Solar Panel Positioning Chart** (page 7) for correct and incorrect panel placements.



Set correct tilt angle.

Refer to geo-location chart on the next page to determine **proper tilt angle** for your state.



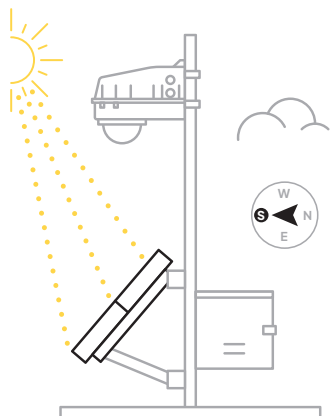
Geo-location Chart

Alabama	45°	New Jersey	65°
Alaska	80°	New Mexico	45°
Arizona	45°	New York	65°
Arkansas	60°	North Carolina	60°
California	45°	North Dakota	70°
Colorado	55°	Ohio	60°
Connecticut	60°	Oklahoma	50°
Delaware	65°	Oregon	65°
District of Col.	60°	Pennsylvania	65°
Florida	45°	Rhode Island	65°
Georgia	55°	South Carolina	55°
Hawaii	40°	South Dakota	65°
Idaho	65°	Tennessee	60°
Illinois	65°	Texas	45°
Indiana	65°	Utah	65°
Iowa	65°	Vermont	65°
Kansas	65°	Virginia	60°
Kentucky	60°	Washington	65°
Louisiana	45°	West Virginia	60°
Maine	65°	Wisconsin	65°
Maryland	60°	Wyoming	65°
Massachusetts	65°		
Michigan	65°		
Minnesota	65°		
Mississippi	45°		
Missouri	60°		
Montana	70°		
Nebraska	65°		
Nevada	65°		
New Hampshire	65°		

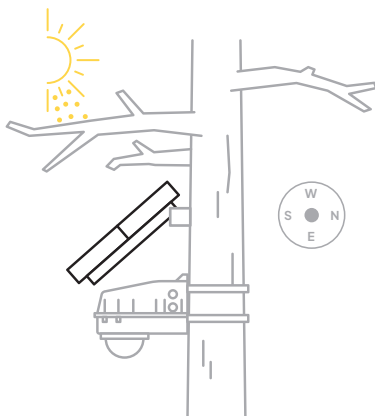
Need Help Measuring Your Tilt Angle?

Use the simplified protractor provided on the back cover of this manual.

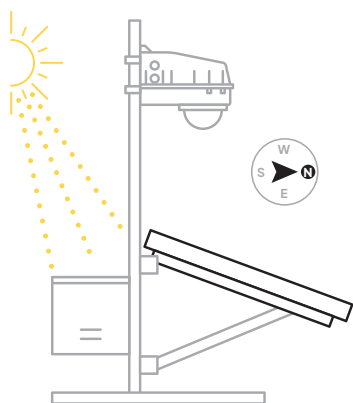
Solar Panel Position Chart



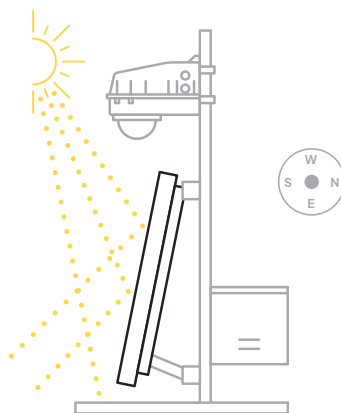
Correct



Obstructed



Wrong Orientation



Wrong Angle

Solar Module Installation



BEFORE BEGINNING THE SOLAR MODULE INSTALLATION, PLEASE COMPLETE THE FULL HARDWARE INSTALLATION PROCESS, DETAILED IN ACCOMPANYING 'CAMERA INSTALLATION MANUAL.'

STEP 01

Using supplied 5/16" hardware, install 2 foot brackets into first aluminum channel.

Brackets should be installed facing away from each other. Leave brackets loose so they can be slid through the channel.



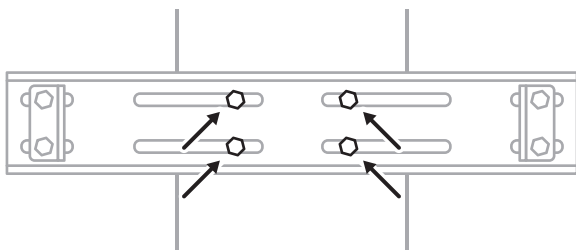
Repeat process for the second channel.

INSTALLATION

STEP 02

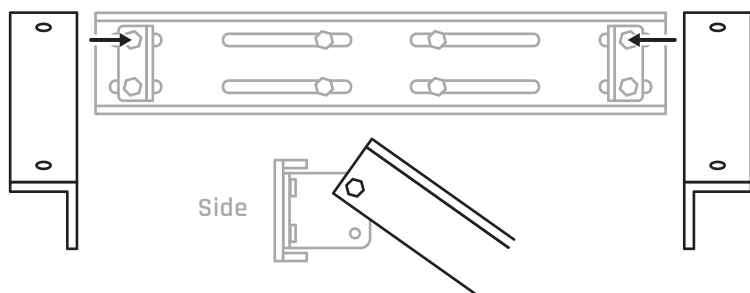
Secure the channels to desired structure.

Note: Unless ordered with the 10' non-penetrating roof mount, hardware is not included for this step. Solar module assembly should be mounted using hardware (lag bolts, straps, etc) that is appropriate for mounting surface and weight of the module. 10' non-penetrating roof mounts come with U-bolts for mounting.



STEP 03

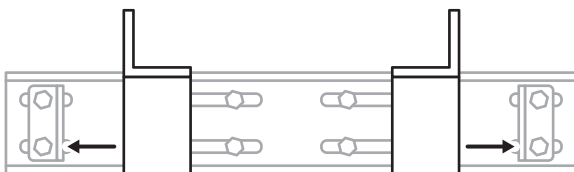
Attach the solar brackets to the first channel.



INSTALLATION

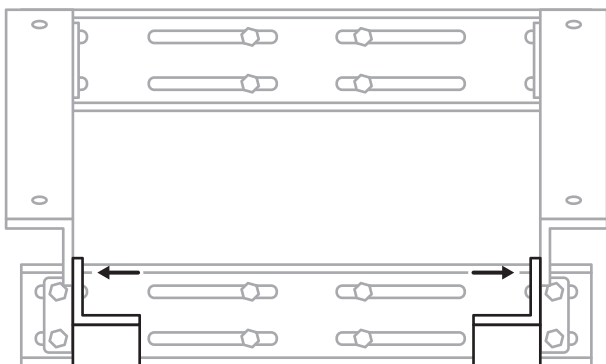
STEP 04

Attach the wind braces to the second channel.



STEP 05

Attach the wind braces to the solar brackets.



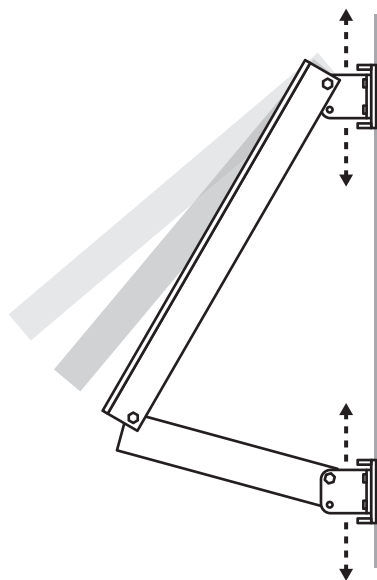
INSTALLATION

STEP 06

Set the correct tilt angle.

Refer to **Geo-location Chart** on page 6 to determine proper tilt angle for your state. This is easiest to do by adjusting either the top or bottom channel to achieve proper angle **BEFORE** the solar panels are attached to the brackets.

Tip: There is a simplified protractor on the back of this install guide to help gauge proper angle.



STEP 07

Install solar panels to solar brackets using supplied 1/4" hardware. Once brackets are spaced correctly to accept panels, fully tighten all foot brackets to channels.

Tip: Install bottom solar panel first and allow the top solar panel to rest on the bottom panel while you attach panel to brackets.

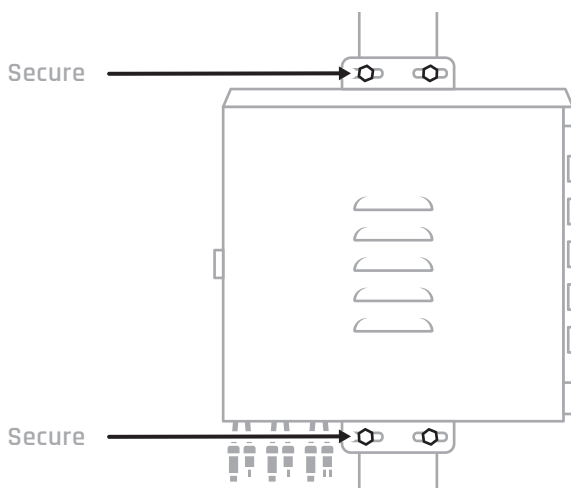


Battery Enclosure

STEP 01

Secure the enclosure to the pole or other structure via the holes at the top and bottom of the enclosure.

Note: Unless ordered with the 10' non-penetrating roof mount, hardware is not included for this step. Solar module assembly should be mounted using hardware (lag bolts, straps, etc) that is appropriate for mounting surface and weight of the module. 10' non-penetrating roof mounts come with U-bolts for mounting.



Dual Battery Installation



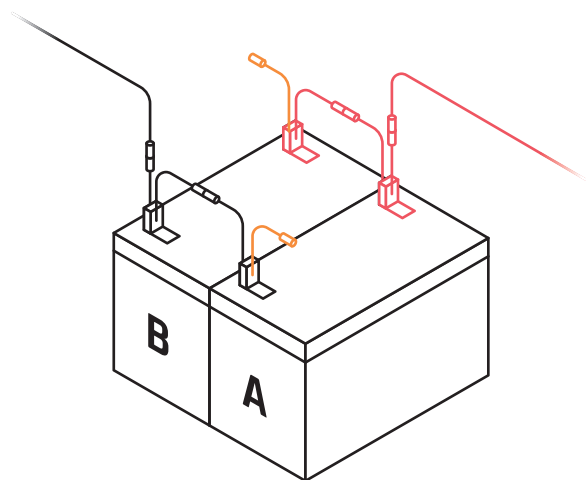
NEVER CONNECT NON-MATCHING COLORS, I.E. RED TO BLACK.

Snap the Positive (red) battery cable to the Positive (red) connector on **Battery A**.

Snap the Negative (black) battery cable to the Negative (black) connector on **Battery B**.

Snap the Positive (red) connector on **Battery A** to the Positive (red) connector on **Battery B**.

Snap the Negative (black) connector on **Battery A** to the Negative (black) connector on **Battery B**.



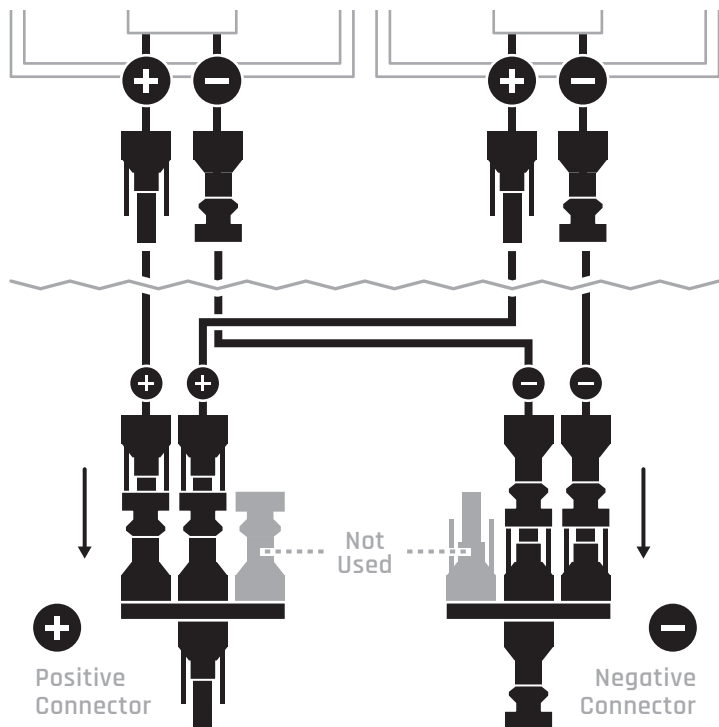
Note: There will be an unused set of connections (highlighted in orange).

Connecting Dual Solar Module and Camera

STEP 01

Each solar panel has two short cables coming from them, one positive and one negative.

Connect the positive cables to the two open ports on the positive 3-to-1 connector and the negative cables to the two open ports on the negative 3-to-1 connector. There will be one port on each 3-to-1 connector that will not be used.

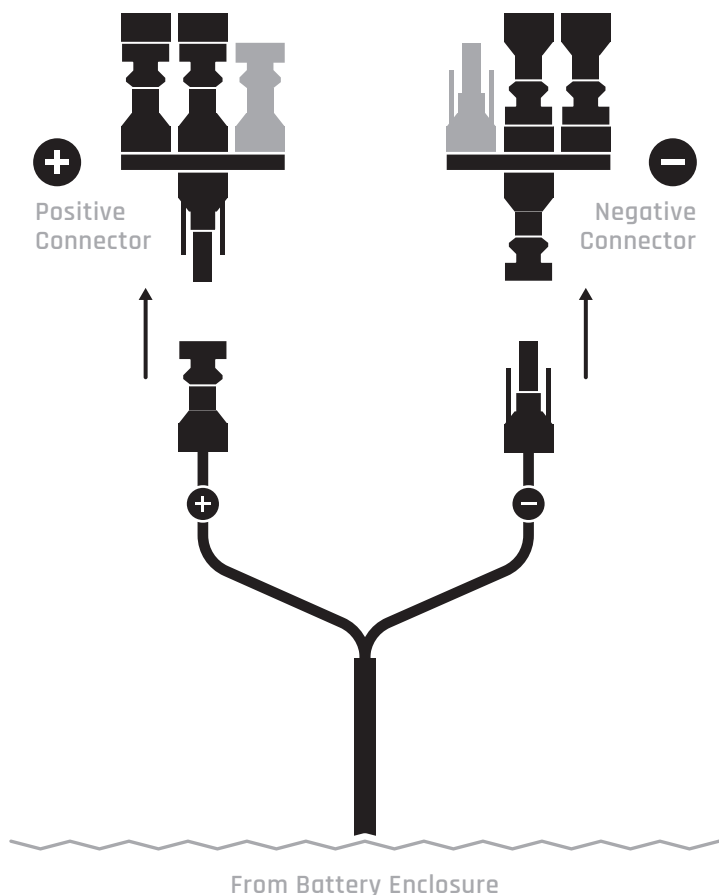


INSTALLATION

STEP 02

Connect the 20' cables from the battery enclosure to the single connection sides of the 3-to-1 connectors, positive cable to positive 3-to-1 connector and negative cable to negative 3-to-1 connector.

The connectors are positive locking mechanisms, and each pair is keyed differently to ensure they are connected properly.

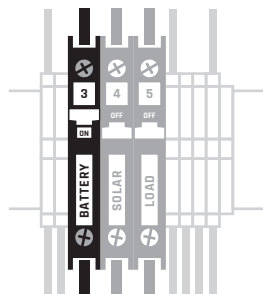


Commissioning System

STEP 01

Locate series of breakers in the upper right of the battery enclosure.

Turn battery breaker on.
The ProStar unit will power on and boot up.

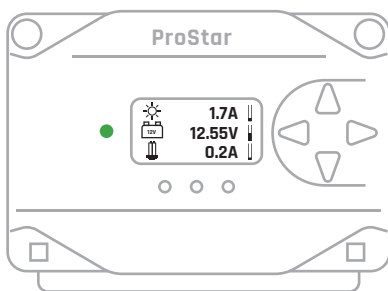
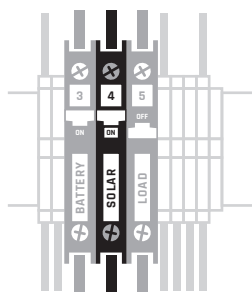


TO PREVENT DAMAGE TO THE SYSTEM, BATTERY BREAKER MUST BE SET TO "ON" BEFORE CONTINUING TO STEP 2.

STEP 02

Turn solar breaker on. With sunlight, the leftmost LED on the ProStar unit will turn green within 2 minutes.

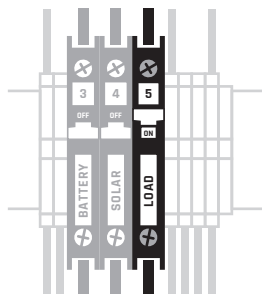
It is important to verify the panel is charging the unit.



INSTALLATION

STEP 03

Turn load (Camera) breaker on.



STEP 04

Verify that the following numbers are displayed on the ProStar's digital readout. You may need to cycle left/right using the arrows to get to the pictured screen.

Solar Amps ☀️

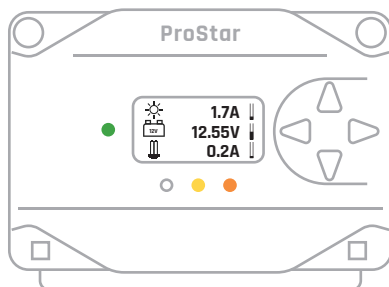
0.5 - 4+

Battery 🔋

12 - 14+

Load Amps ⚡

0.3 - 0.7



If numbers are displayed correctly, the system should be fully functioning at this stage.

Troubleshooting

If something seems wrong with the system (for example, the load is not working or the battery is not charging), then it may be necessary to troubleshoot the controller. Some basic troubleshooting procedures are listed below.

CAUTIONS:

- Troubleshooting should be attempted by qualified personnel only.
- Remember that a battery can cause serious damage if shorted.
- Do not disassemble the ProStar from its case. There are no user serviceable parts inside the ProStar.
- Observe all normal precautions.

CAMERA NOT OPERATING PROPERLY

- 1 Check that the load breaker is turned on.
- 2 Check that the camera cable connectors are securely fastened to each other.
- 3 Check for proper LED indications on the ProStar. If the **BATTERY CHARGE LED** (red) is on, the load has been disconnected due to low battery voltage. This is generally a normal state when the load exceeds the output due to weather and sunlight conditions.
- 4 If all LED indicators are flashing in sequence, the load may be shorted. For this scenario, contact technical support.
- 5 If the ProStar internal temperature is above 80°C/176°F, the load will be disconnected. All LED's will be flashing in sequence. Check to ensure for clear airflow around the ProStar and that nothing is obstructing the vents at the top of the case.

BATTERY IS NOT CHARGING

- 1 Check for proper LED indications on the ProStar. The **CHARGING LED** (green) should be on if it is daytime. One of the **BATTERY CHARGE LED's** should be on. Check for proper battery voltage and array current.
- 2 Check that the proper **BATTERY TYPE** has been selected. Correct type is **SEALED**.
- 3 Check that all wire connections in the system are correct and tight.
- 4 Still having trouble? Call **TrueLook Support** and we will be happy to help!

BATTERY REPLACEMENT

We recommend the Duracell Ultra Platinum AGM BCI Group 31M Deep Cycle Marine & RV Battery as a replacement. These are available at www.batteriesplus.com (as well as other dealers).

If you are unable to find this specific battery, the battery should meet the following specifications:

Product Category: Marine/RV

Voltage: 12

Format: BCI Group 31M

Chemistry: Lead Acid

Lead Acid Type: Deep Cycle, Dual Purpose (Starting/Cycling)

Lead Acid Design: AGM

Capacity: 105AH

Capacity 20hr: 105AH

Cranking Amps: 1000

Cold Cranking Amps: 800

Marine Cranking Amps: 1000

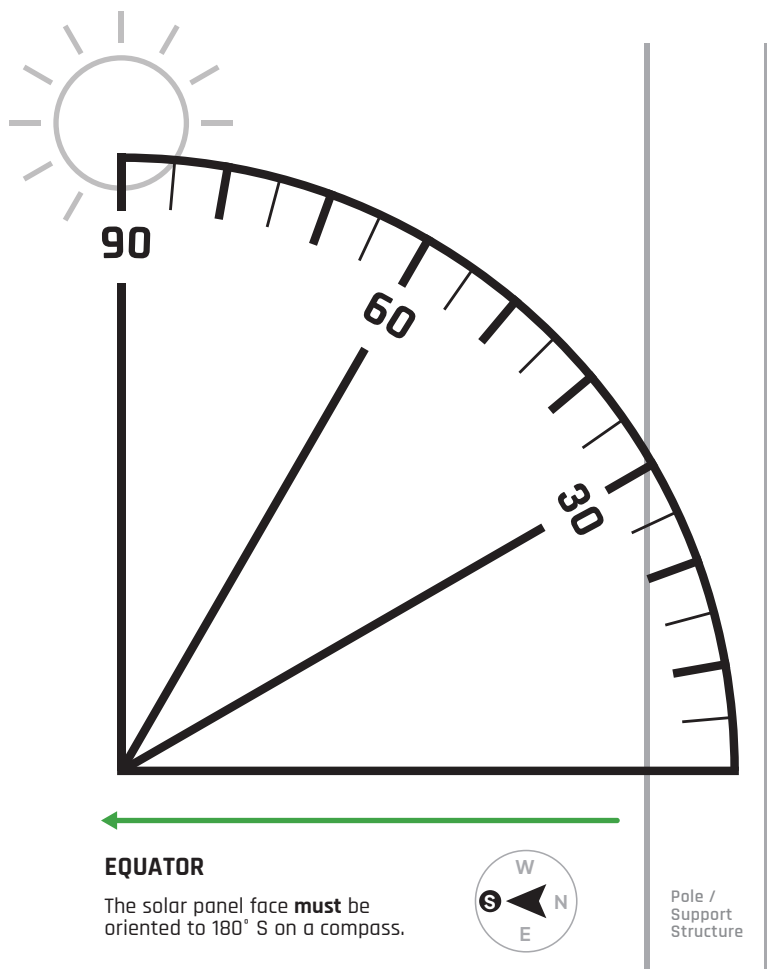
Terminal Type: DT, SAE/M8 Stud, SAE/M8 Threaded Post, WNT

Notes

Notes

Notes

Simplified Protractor



TRU23019-2003