

Solar Module 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

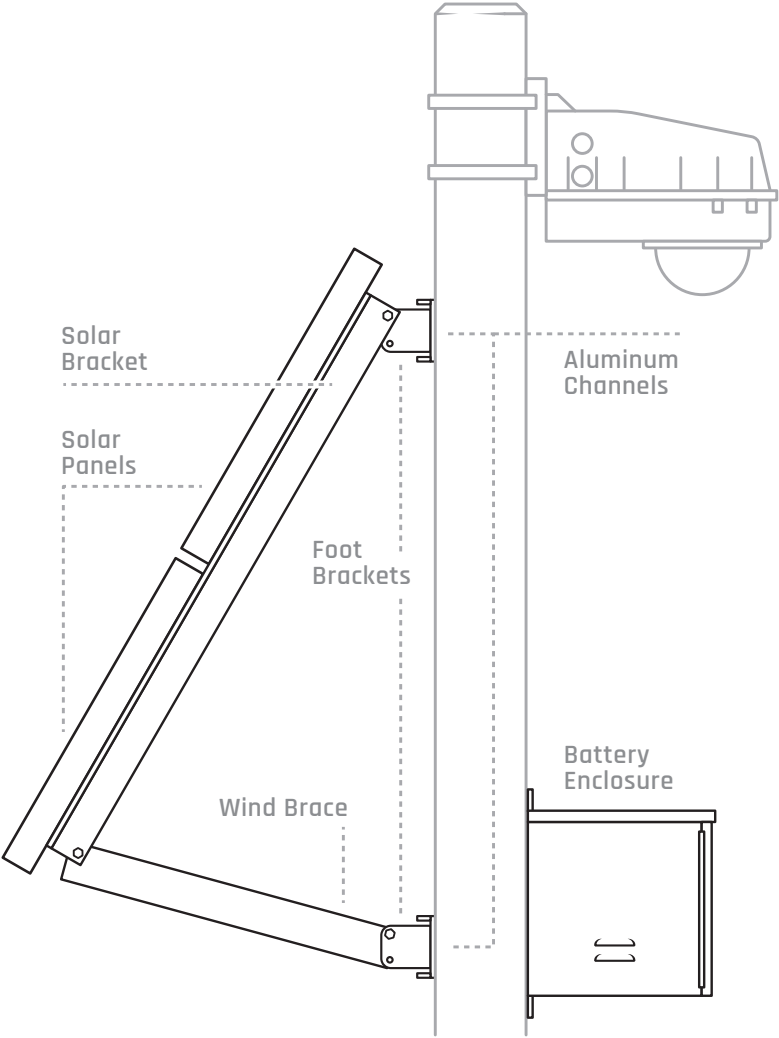
Online Resources

Use this QR code or visit www.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 help resources.



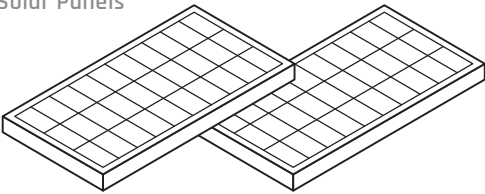
Full Solar Module Assembly



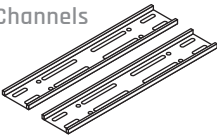
Hardware Packing List

Solar Panels and Mounting Bracket

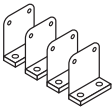
Solar Panels



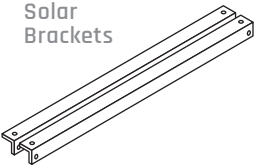
Aluminum Channels



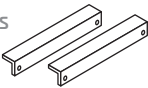
Foot Brackets



Solar Brackets



Wind Braces

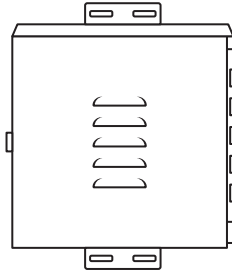
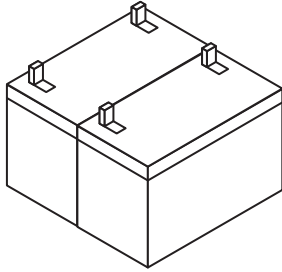


Assorted Hardware for Assembling Solar Bracket



Hardware Packing List

Battery and 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**.

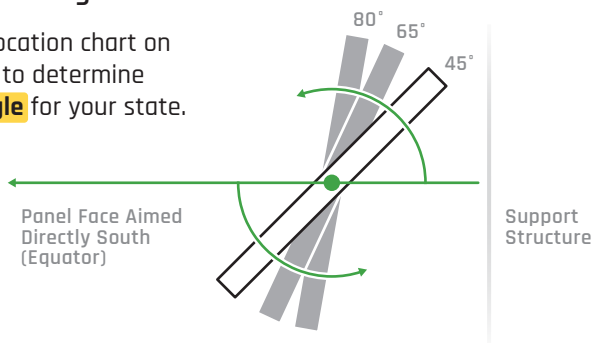
Panel must receive direct sunlight all day. Do not let trees, dirt, structures, or anything else block the sun - at any time of day.

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.



Positioning Solar Panel

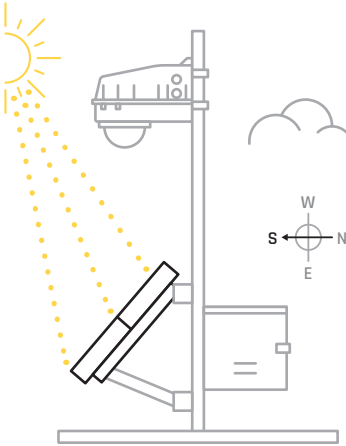
Geo-location Chart

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

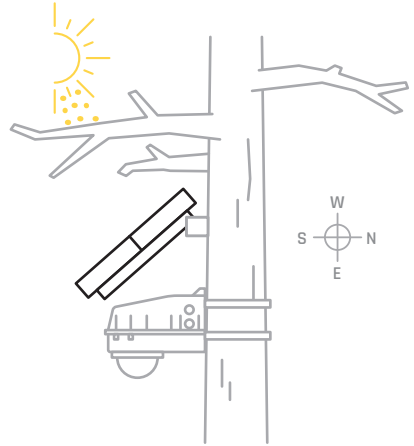
Need Help Measuring Your Tilt Angle?

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

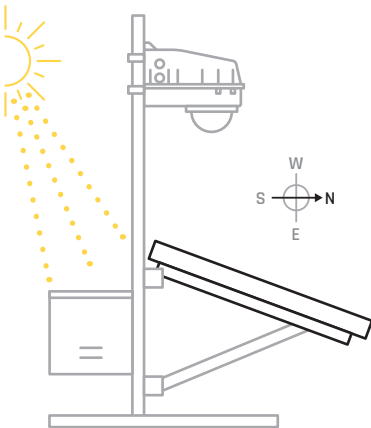
Solar Panel Positioning Chart



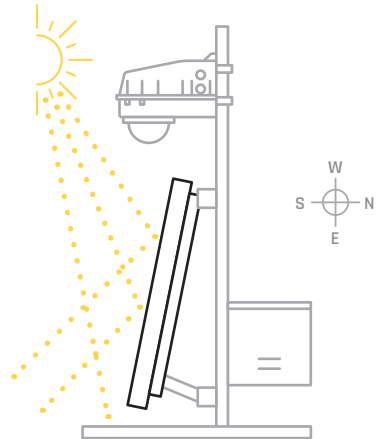
CORRECT



OBSTRUCTED



WRONG ORIENTATION



WRONG ANGLE

Dual 130W 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.



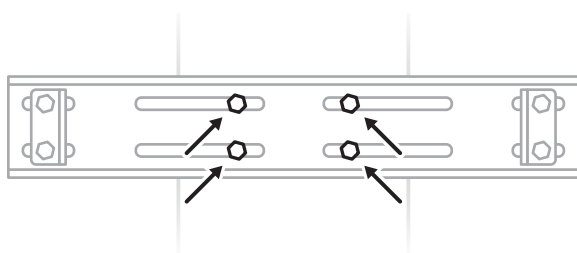
Repeat process for the second channel.

SOLAR PANEL INSTALLATION

STEP 02

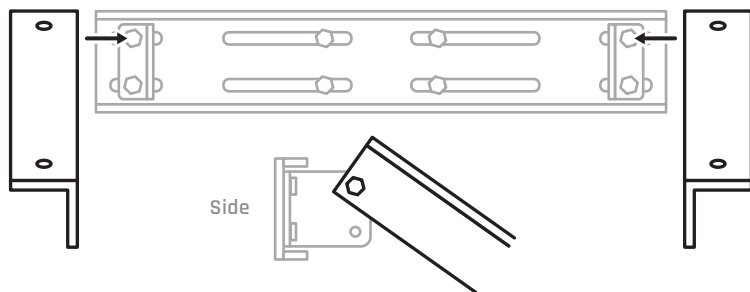
Secure the channels to desired structure.

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

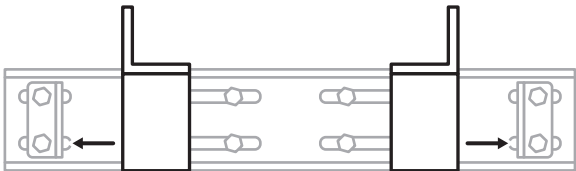
Attach the solar brackets to the first channel.



SOLAR PANEL INSTALLATION

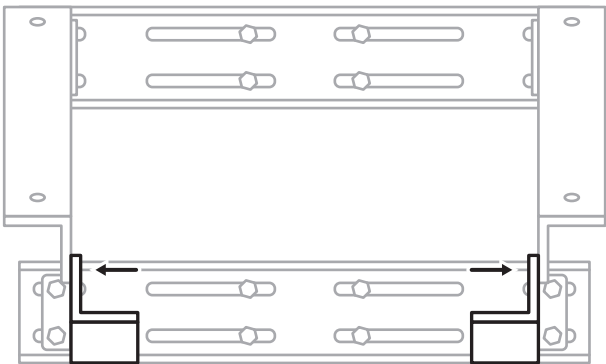
STEP 04

Attach the wind braces to the second channel.



STEP 05

Attach the wind braces to the solar brackets.



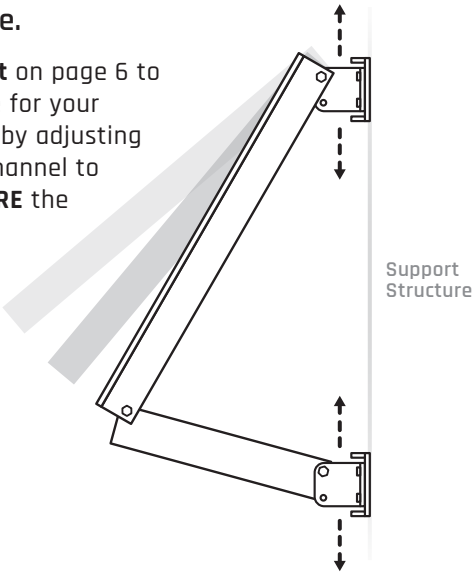
SOLAR PANEL INSTALLATION

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.

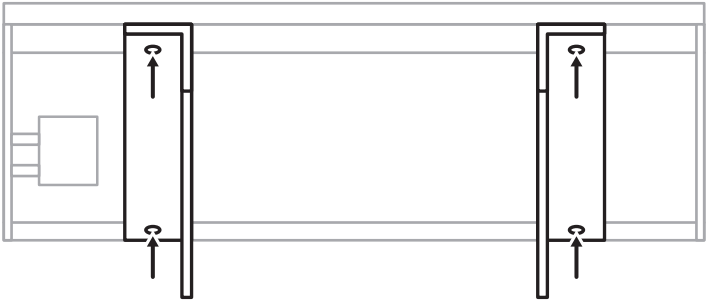
Tip: There is a simplified protractor on the back of this install guide to help gauge proper angle.



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.

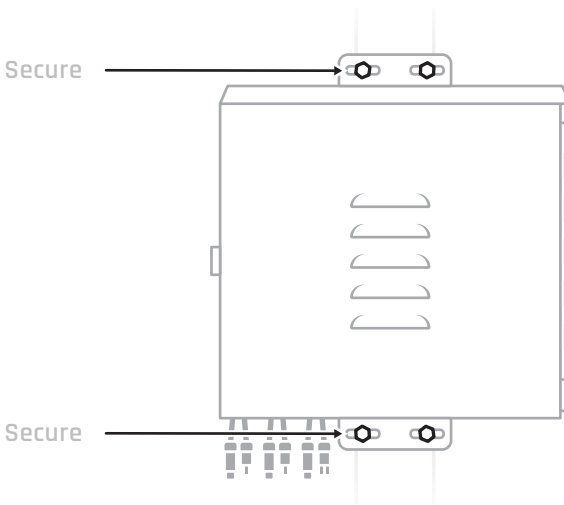


Battery Enclosure

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



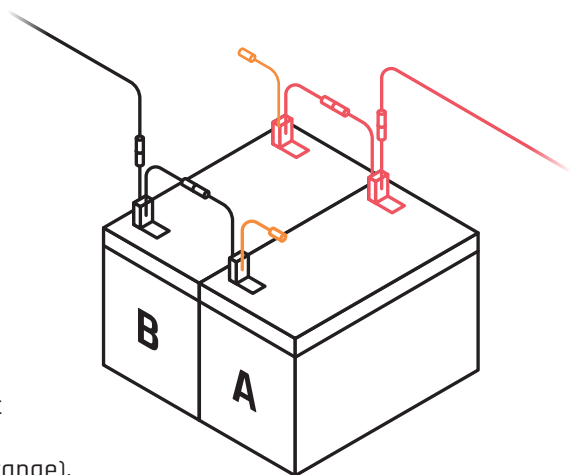
NEVER CONNECT NON-MATCHING COLORS, I.E. RED TO BLACK.

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**.

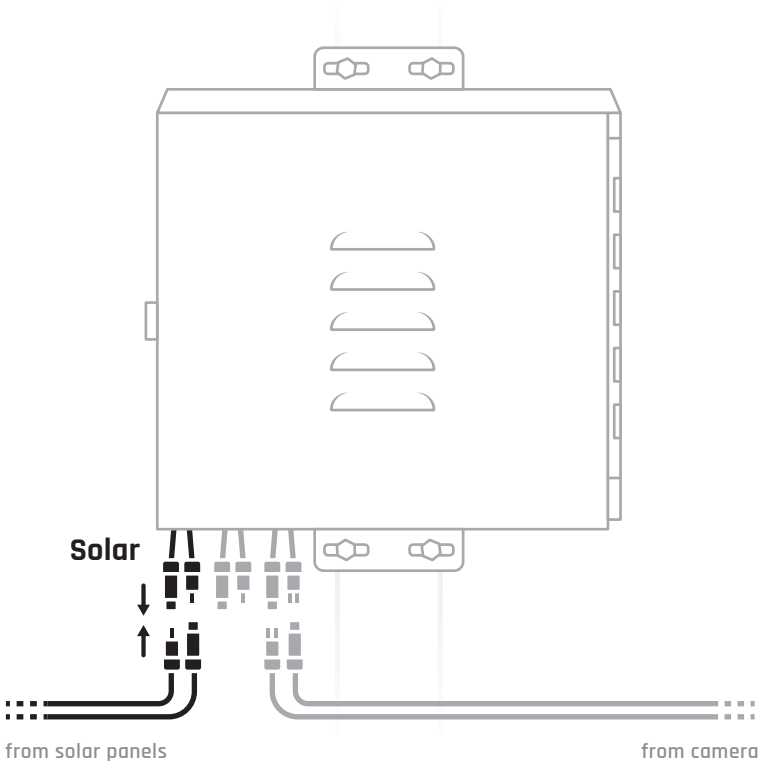


Note: There will be an unused set of connections (highlighted in orange).

Connecting Dual Solar Module and Camera

Connect the 25' length cable to input labeled **[Solar]** located on the bottom of the battery enclosure.

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

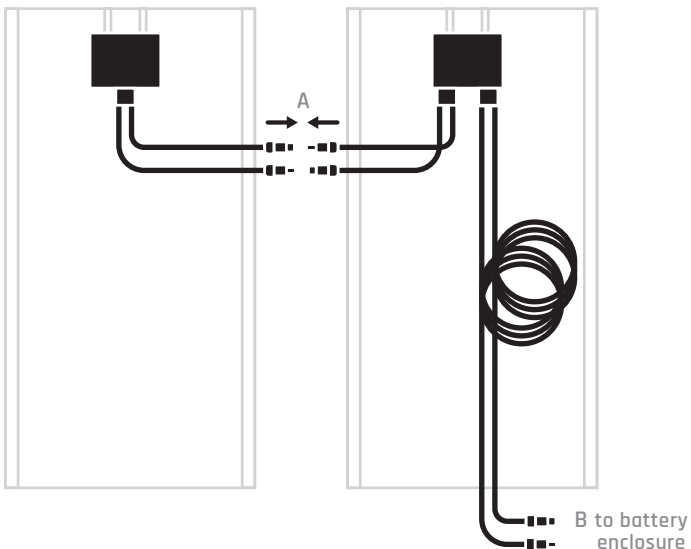


Connecting Dual Solar Module and Camera

Both solar panels will have SHORT cables coming from them. Connect the male and female connectors (A) together to pair the two panels.

One solar panel will ALSO have a 25' length cable coming from it to connect to the battery enclosure.

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

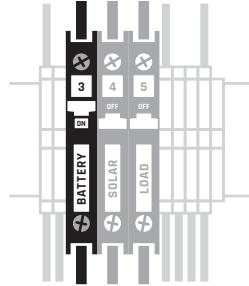


Commissioning System

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.

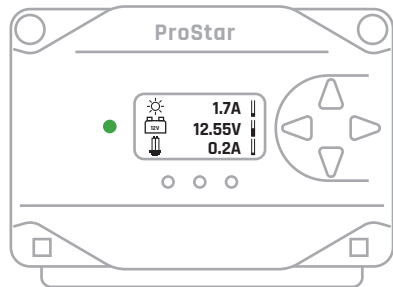
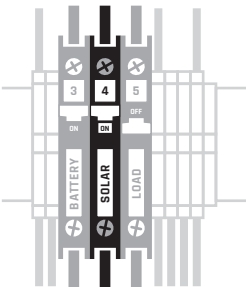


TO PREVENT DAMAGE TO THE SYSTEM, BATTERY BREAKER MUST BE SET TO "ON" BEFORE CONTINUING TO STEP 2.

STEP 02

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

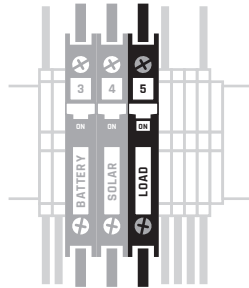
It is important to verify the panel is charging the unit.



Commissioning System


STEP 03


Turn load (Camera) breaker on.



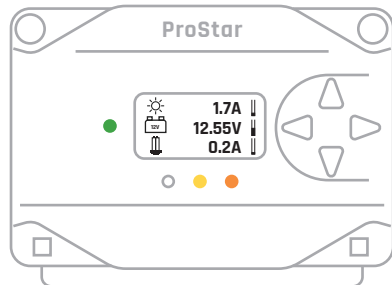
STEP 04

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.

Troubleshooting

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	Capacity: 105AH
Voltage: 12	Capacity 20hr: 105AH
Format: BCI Group 31M	Cranking Amps: 1000
Chemistry: Lead Acid	Cold Cranking Amps: 800
Lead Acid Type: Deep Cycle, Dual Purpose (Starting/Cycling)	Marine Cranking Amps: 1000
Lead Acid Design: AGM	Terminal Type: DT, SAE/M8 Stud, SAE/M8 Threaded Post, WNT

Notes

Notes

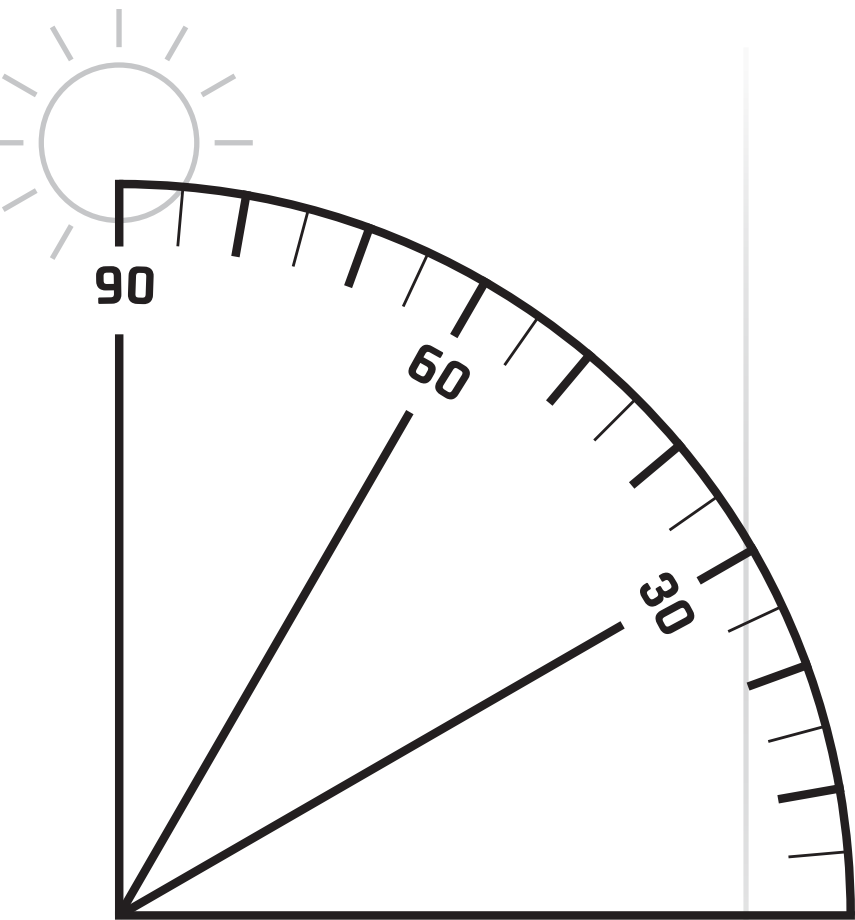
Terms and Conditions

Customer is responsible for installation of all Products. It is Customer's responsibility to install Products in accordance with all applicable laws, codes, rules, regulations, requirements and safety standards. Notwithstanding the foregoing, upon request by Customer, TrueLook may provide installation assistance, either itself or through a contractor, on mutually agreeable terms. For full terms and conditions visit: www.truelook.com/terms-conditions/

Warranty

If you purchase a TrueLook SAAS subscription along with your new webcam, TrueLook will provide continuing warranty coverage for such webcam after expiration of the Manufacturer's Warranty subject to the same terms and limits set forth in the Manufacturer's Warranty up to replacement of a defective webcam so long as you remain continuously subscribed to the TrueLook SAAS that you purchased with such new webcam (the "TrueLook Extended Warranty"); provided, that TrueLook's maximum liability under the TrueLook Extended Warranty shall be to exchange a defective webcam for a new webcam of the same or a comparable model. For avoidance of doubt, if such TrueLook SAAS subscription ends or lapses for any reason, the TrueLook Extended Warranty on such webcam shall expire and will not be reactivated if such TrueLook SAAS subscription is reinstated. For full warranty visit: www.truelook.com/terms-conditions/

Simplified Protractor



EQUATOR

The solar panel face **must** be oriented to 180° S on a compass.



Pole /
Support
Structure