



## RemotePro™ Lithium Solar Powered System

- Wireless Base Stations and Client Devices
- Surveillance Cameras
- Mission Critical Backup Power
- Remote Sensors



***Congratulations!*** on your purchase of the RemotePro™ Outdoor solar power system. Please take a moment to review this Qwik Install Guide before assembly or battery installation.



### **DANGER! Avoid Powerlines! You Can Be Killed!**

When following the instructions in this guide take extreme care to avoid contact with overhead power lines, lights and power circuits. Contact with power lines, lights or power circuits may be fatal. We recommend to install no closer than 20 feet to any power lines.

**Safety:** For your own protection, follow these safety rules.

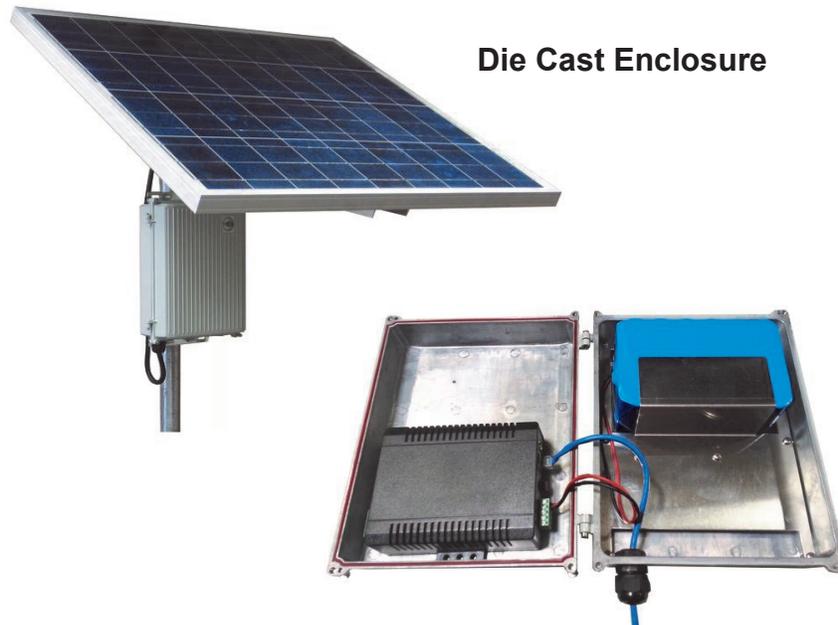
- **Perform as many functions as possible on the ground**
- **Do not attempt to install on a rainy, windy or snowy day or if there is ice or snow accumulation at the install site or if the site is wet.**
- **Make sure there are no people, pets, etc. below when you are working on a roof or ladder.**



**Recommended Tools:** Phillips Screwdriver, 8mm and 14mm Open End Wrench, 3mm allen wrench



**Please help preserve the environment and return used batteries to an authorized depot**



**Die Cast Enclosure**

## Qwik Install

**STEP 0:** The RemotePro™ Lithium comes partially assembled. All you need to do is mount the solar panel and enclosure, connect solar panel and battery to the controller, then connect your equipment to the controller. Connect the green solar/battery connector to the controller last.

**STEP 1:** Install the unit to a suitable pole using included hardware. First mount the solar panel using the instructions that came with the solar panel mount. The solar panel should be mounted so that it is facing due south at an angle that equals your Latitude x 0.9 + 29. This will give you the correct winter tilt angle for your location. Following are some typical winter tilt angles:

<i>Place</i>	<i>Optimum Winter Tilt</i>
Houston / Cairo	56 deg
Albuquerque / Tokyo	60.5 deg
Denver / Madrid	65 deg
Minneapolis / Milano	69.5 deg
Winnipeg / Prague	74 deg

## **Polycarbonate Enclosure**



**STEP 2:** Mount the enclosure. We recommend mounting the enclosure under the solar panel so that the enclosure is shaded from peak summer sun. This will help prevent excess heating of the enclosure during summer months. Be sure to mount just low enough that when you open the door, it will clear the panel.

**STEP 3:** The die cast enclosure mounts with brackets and u-bolts. Install the brackets to the back of the enclosure using the screws provided. Next install the u-bolts and pole clamps. Note: the unit can be installed to a wall by setting aside the u-bolts and pole clamps and just screwing the mounting brackets to a wall. The polycarbonate enclosure installs to a pole with the provided hose clamps or to a wall with customer supplied screws.



**STEP 4:** Install the controller to the inside of the front cover using Velcro strips provided.

**STEP 5: Polycarbonate enclosure:** Install the batteries in position using the Velcro straps mounted in the enclosure, making sure the straps are tight. Note: When installing 4 batteries, 3 are mounted on their side and 1 is mounted on its back.

**STEP 6: Polycarbonate enclosure:** Using the cable provided, connect

one end of the cable to the battery connection on the green connector on the front of the controller. Be sure to connect the red wire to Battery + and the black wire to Battery -. Note: You can shorten this cable if you desire. Remove the green connector with wire attached from the controller. Make sure wire connections are tight.

**STEP 7: Polycarbonate enclosure:** Remove the tape and strip the ends of all the battery black wires then twist them together with the black wire coming from the green connector using a RED wire nut provided.

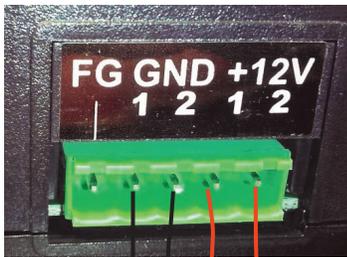
**STEP 8: Polycarbonate enclosure:** Next, remove the insulating tape and strip the ends of all the battery red wires, twist them together with the red wire coming from the green connector, then secure them using a RED wire nut provided.

**STEP 9:** Connect the solar panel cable to the solar panel and route to the controller green connector solar input. Be sure to connect positive to positive (+) and negative to negative (-).

**STEP 10:** Connect your equipment to the 12V POE Output connector or back 12V wire terminal connector as desired. Connect the green connector to the controller. The LOA LED on the controller should light.

**STEP 11:** Make sure lid gasket is clean and free from any particles, then carefully close the cover, making sure that wires are clear of the seam and hinge area. Tighten any cover screws.

**Note: Wire terminal connections on the back of the controller.**



**FG** = Frame Ground (Do Not Connect to V-)

**GND** = V- (There are two V- connections: 1 and 2)

**+12V** = V+ (There are two V+ connections: 1 and 2)

## SPECIFICATIONS

Subject to change without notice

<b>Battery Voltage (DC)</b>	12V
<b>POE Output Voltage (DC)</b>	12V 1A
<b>Wire Terminal Output Voltage (DC)</b>	12V 1.5A
<b>Capacity</b>	19Ah to 76Ah
<b>Battery Type</b>	Lithium-ion LiFePO4
<b>Battery Life</b>	5 –7 Years
<b>Controller Type</b>	Dual Input Solar/POE, PWM, Max Solar Panel Size 135W
<b>Overcharge Protection</b>	14.5V
<b>Over-discharge protection</b>	12V
<b>Over-discharge recovery voltage</b>	13V
<b>Controller Self Consumption</b>	<0.5W
<b>Controller POE IN Port</b>	18-48VDC 60W minimum
<b>Maximum POE Input Voltage (DC)</b>	24V
<b>Enclosure Type</b>	Die Cast Aluminum or Polycarbonate
<b>Operating Temperature</b>	-30°C to +60°C
<b>System Weight (without batteries)</b>	1.8kg (4lb)
<b>Battery Weight (each)</b>	2.2kg (4.9lb)

## TECH CORNER

- 1. CONTROLLER:** The controller turns off power to the load at 12V and reconnects when the battery reaches 13V. This protects battery from over-discharge and increases battery life and performance.
- 2. CAPACITY:** With a typical AP running 4W average. A single 12V 19Ah battery should be able to provide backup power for up to 48 hours at room temperature. For cold temperatures the capacity is reduced by 20-30%.
- 3. VENTING:** The enclosure is vented thru the wire feedthrus in the bottom of the enclosure. Don't make these airtight using silicon.

4. **DUAL INPUTS:** The RemotePro™ can be used with solar power alone or POE power alone or a combination of both.

5. **POE OUTPUT:** The POE output supplies 12VDC on pins 4,5 (V+) and 7,8 (V-)

6. **BATTERY MAINTENANCE:** The batteries used in the RemotePro™ systems don't require any maintenance. They should last up to 5 –7 years in normal use.

7. **BATTERY OVERDISCHARGE:** We highly recommend hooking all equipment loads to the controller voltage outputs. This output will disconnect the load if the battery voltage drops below 12V and this will protect the battery from over-discharge. If batteries get completely discharged because the equipment was connected directly to the battery, you will reduce the battery life.

8. **DUAL OUTPUTS:** The RemotePro™ has a POE output which is 12V passive POE. There is also an auxiliary protected output on the back of the controller to supply 12VDC.

9. **OTHER ACCESSORIES:** Tycon also offers a variety of voltage conversion products to meet almost any need. Just visit [tyconpower.com](http://tyconpower.com) for more info.

## Notes



## **Limited Warranty**

The RemotePro™ products are supplied with a limited 24 month warranty which covers material and workmanship defects. This warranty does not cover the following:

- Parts requiring replacement due to improper installation, misuse, poor site conditions, faulty power, etc.
- Lightning or weather damage.
- Physical damage to the external & internal parts.
- Products that have been opened, altered, or defaced.
- Water damage for units that were not mounted according to user manual.
- Usage other than in accordance with instructions and the normal intended use.