RPST-2424

RemotePro™ Remote Power System

- Wireless Base Stations and Client Devices
- Surveillance Cameras
- Remote Sensors
- Remote Lighting
- Off Grid Electronics

Congratulations! on your purchase of the RemotePro™ off-grid remote 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.

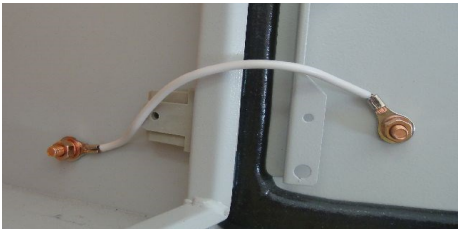
- **Perform as many functions as possible on the ground**
- **Do not attempt to install on a rainy, windy or snowy day or if there is ice or snow accumulation at the install site or if the site is wet.**
- **Make sure there are no people, pets, etc. below when you are working on a roof or ladder.**

Recommended Tools: Phillips Screwdriver, 13mm and 10mm Open End Wrench, 5/16” nut driver, Flat Blade Screwdriv-

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

Qwik Install

STEP 1: Add Grounding Wire Between Door and Enclosure: Remove plastic covers on copper studs on inside of door and inside of enclosure. Add jumper wire between 2 copper studs and use copper washers and nuts to secure.



STEP 2: Add wire feedthrus and any necessary connectors into

the bottom connector plate. Plug any unused holes with hole plugs provided. Attach the connector plate to the bottom of the enclosure using self tapping screws provided.

STEP 3: Install hole plug in drain hole in bottom right corner of the enclosure.

STEP 4: Mount any equipment to the orange backplate and secure the backplate in the enclosure. Equipment can also be mounted to the inside of door if more room is required.

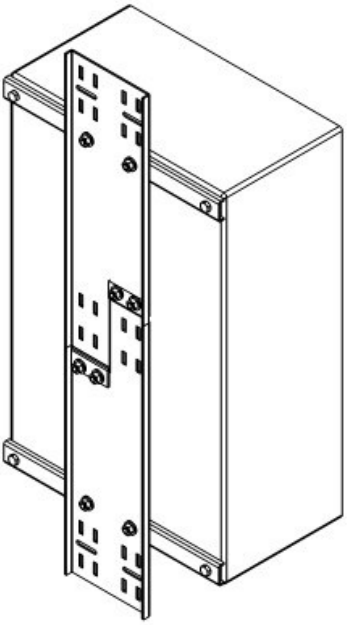
STEP 5: Insert the battery platform in the bottom of the enclosure. The battery platform has cutouts so wires can be routed under the battery as needed.

STEP 6: Connect Battery Cable to Controller. Be sure to observe proper connection polarity.

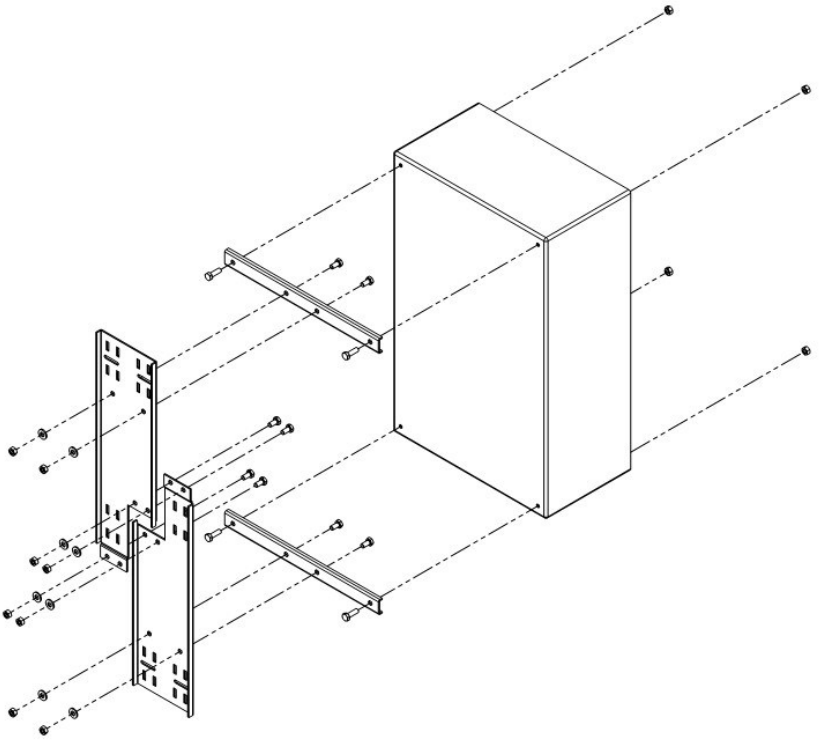
STEP 7: If pole mounting the enclosure, assemble the pole mount kit to the back of the enclosure and mount the enclosure to a pole using the 6 hose clamps provided. The enclosure can also be wall mounted using the 4 holes in the back of the enclosure.

STEP 8: Assemble the solar panel mount and set the correct tilt angle based on your Latitude. There is a useful tool to calculate optimum angle at http://tyconpower.com If you will be using a fixed angle all

year we recommend using the optimum angle for winter sun. Mount the solar panel mount to the pole using hose clamps provided. Be sure to mount high enough so the door of the enclosure clears the solar panel mount when opened. You can also mount the panel to a wall using lag



bolts.



STEP 9: Attach the solar panel to the solar panel mount so that the wire junction box is towards the top or side.

STEP 10: Install the batteries in the enclosure. If using multiple batteries, connect in parallel for 12V output or connect in series for 24V output.

If batteries are installed on their side make sure to apply an insulator to the top of the battery terminal to prevent the battery terminals from shorting to the metal enclosure in case the battery shifts inside the enclosure during an earthquake.

STEP 11: Connect the Battery cables to the Battery. Be sure to observe polarity. Black wire connects to battery negative terminal and BAT(-) terminal on the controller. When a fully charged battery is connected, the Green LOA LED should light on controller.

STEP 12: Route the solar panel cable out thru one of the feedthrus and install to the solar panel wire junction box. Be sure to connect in the proper polarity, red wire to + and black wire to –. Make sure connections are waterproofed.

STEP 13: Tighten all wire feedthrus. If they don't tighten on a small diameter wire, you can wrap some electrical tape around the wire in the seal area to increase its diameter and make a better seal. The enclosure needs some small amount of venting so be sure not to

seal all holes and feedthrus with silicon.

STEP 14: 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. Use the special key to close the two cover locks.

TECH CORNER

Additional Information you may find useful

1. **CONTROLLER:** The controller turns off power to the load at 22V and reconnects when the battery reaches 24V. This protects battery from overdischarge and increases battery life and performance.

2. **CAPACITY:** The RemotePro RPST2424 is rated at 30W continuous power output with 6 hours of peak sun per day. Reserve battery capacity at 15W load is 33 hours and 17hours at 30W

3. VENTING: The enclosure is vented thru the wire feedthrus and various hole plugs in the bottom of the enclosure. Don't make these airtight.

4. BATTERY MAINTENANCE: The batteries used in the Remote Pro systems don't require any maintenance. They should last up to 5 years in normal use. **Note: Never store batteries for any length of time in a discharged state or it will kill the battery.**

5. SOLAR PANEL TILT: There is a solar panel tilt calculator at the Tyconpower website http://tyconpower.com/learning_center/learning_center.htm. We recommend using a fixed tilt and setting to optimize for winter sun. The panel should face South if you are in the Northern Hemisphere and face North if you are in the Southern Hemisphere. Some typical winter tilt angles are as follows:

6. BATTERY OVERDISCHARGE: We highly recommend hooking all equipment loads to the controller voltage output. This output will disconnect the load if the battery voltage drops below 22V 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 and you will most likely need to supercharge them with a good quality 10A automotive battery charger. Once they are back to a normal operating range, the integrated charge controller will maintain the charge.

7. WIND TURBINE: A wind turbine can be added to this system at any time. Wind Turbines are good sources of power, often in times when the sun isn't shining, like on stormy days. We like to think of a wind turbine as uptime insurance. Tycon Power Systems offers small wind turbines perfectly suited to augment the RemotePro systems. The TPW-400-24 is a 400W 24V wind turbine. The TPW-200-24 is a 200W 24V wind turbine. To add a wind turbine, it mounts to the top of a 2" diame-

SPECIFICATIONS

Subject to change without notice

Continuous Power Rating	30W
Reserve Power @ 30W Load	17 hours
Solar Panel Capacity	24V 120W
Battery Voltage (DC)	24V
Battery Capacity	51Ah
Battery Type	Valve Regulated Sealed Lead Acid / GEL
Battery Life	5 Years
Controller Type	PWM, 12/24V 8A *Max Solar Panel Size 120W*
Overcharge Protection	28.6V
Over-discharge protection	20V
Over-discharge recovery voltage	22V
Controller Self Consumption	<0.5W
Enclosure Type	Powder Coat Steel
Operating Temperature	-30°C to +60°C

ter pole. You will need to mount the controller inside the enclosure and connect the output of the controller to the batteries. The connection will be in parallel with the existing solar controller connection.

8. POE SWITCH: Tycon Power offers a universal voltage 5port and 8port POE switch if more than one device needs to be powered from the battery system. The **TP-SW5-NC** and **TP-SW8-NC** offer

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

the unique feature that the voltage supplied to the switch is the POE voltage sent to the devices. So 24VDC in and you get 24VDC POE to the devices. The operating voltage is 12V to 56VDC.

9. OTHER ACCESSORIES: Tycon also offers a variety of voltage conversion products to meet almost any need. Just visit tyconpower.com for more info.

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.