

## Outdoor Remote Power Systems

### Features

- Complete Remote Power Solution for Off-Grid Operation
- Weatherproof Outdoor Enclosure with up to 200Ah Battery
- Enclosures can be Wall or Pole Mounted
- High Performance Sealed Lead Acid Batteries
- PWM Charge Controllers
- Thermostatically Controlled Ventilation



### Applications

- Wireless Base Stations
- Wireless Bridge and Repeaters
- Remote Lighting
- Surveillance Cameras
- Off Grid Power
- Backup Power Systems

### Description

The RPST RemotePro™ series outdoor power systems are designed for applications that require a primary off-grid power source to run various equipment. The vented weatherproof enclosures have generous space available inside for mounting customer equipment. Multiple DIN Rail mount features are provided.

All enclosures are hinged and gasket sealed with tamper resistant locks for security. The enclosures can be mounted to a wall or pole with the included mounting bracket system.

The high quality solar panels have a 25year power output guarantee. The panel come with a side of pole mounting bracket for mounting to a pole or wall.

There are 12V and 24V battery configurations with 24V and 48V PoE outputs up to 30W. There are also systems which feature a 20A output unregulated solar controller for higher output power. Enclosures have four cable gland ports for CAT5/6 cable, antenna cables/connectors or other cabling. The enclosures include a thermostatically controlled fan assembly which turns on automatically when the temperature exceeds 45°C.

Batteries are a Non-Spillable Valve Regulated Sealed Lead Acid Advance Glass Matt (AGM) type which have excellent temperature and deep discharge performance. Expected battery life exceeds 5years.

The systems come with all cabling required to connect the batteries to the controller and 20' outdoor rated cable to connect the solar panels to the controller.



RPST with 100Ah of battery



RPST with 200Ah of battery



80W Solar Mount

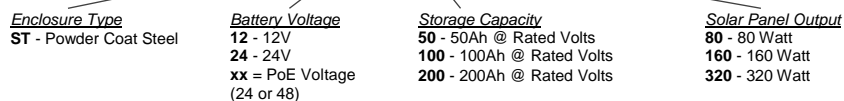


160W / 320W Solar Mount

## Specifications

|                                       | RPST12xx-100-80   | RPST12-100-160           | RPST12xx-100-160 | RPST24-50-160  | RPST24xx-50-160       | RPST12-200-320              | RPST24-100-320 | RPST24xx-100-320      |
|---------------------------------------|---|--------------------------|------------------|----------------|-----------------------|-----------------------------|----------------|-----------------------|
| <b>Rated Power Generation</b>         | 20W   | 35W                      | 35W              | 35W            | 35W                   | 65W                         | 65W            | 65W                   |
| <b>Reserve Time @ Rated Power</b>     | 30hrs   | 21hrs                    | 21hrs            | 21hrs          | 21hrs                 | 19hrs                       | 19hrs          | 19hrs                 |
| <b>PoE Output Voltage (DC) 30W</b>    | 24V or 48V  | No PoE                   | 24V or 48V       | No PoE         | 24V or 48V            | No PoE                      | No PoE         | 24V or 48V            |
| <b>Load Out (DC)</b>                  | 11V-15V<br>1.5A   | 11V-15V<br>20A           | 11V-15V<br>1.5A  | 22V-29V<br>20A | 24V 1.5A<br>Regulated | 11V-15V<br>20A              | 22V-29V<br>20A | 24V 1.5A<br>Regulated |
| <b>12V Battery Capacity (Amp Hrs)</b> | 100Ah   | 100Ah                    | 100Ah            | 100Ah          | 100Ah                 | 200Ah                       | 200Ah          | 200Ah                 |
| <b>Battery Voltage (DC)</b>           | 12V   | 12V                      | 12V              | 24V            | 24V                   | 12V                         | 24V            | 24V                   |
| <b>Battery Type</b>                   | Maintenance Free Non-Spillable Valve Regulated Sealed Lead Acid AGM |                          |                  |                |                       |                             |                |                       |
| <b>Battery Life</b>                   | 5+years   |                          |                  |                |                       |                             |                |                       |
| <b>Solar Controller Type</b>          | PWM (Pulse Width Modulated)   |                          |                  |                |                       |                             |                |                       |
| <b>Overcharge Protection</b>          | 14.4V   | 14.4V                    | 14.4V            | 28.6V          | 28.6V                 | 14.4V                       | 28.6V          | 28.6V                 |
| <b>Over-discharge protection</b>      | 11.0V   | 11.0V                    | 11.0V            | 22V            | 22V                   | 11.0V                       | 22V            | 22V                   |
| <b>Over-discharge recovery volts</b>  | 12.0V   | 12.0V                    | 12.0V            | 24.8V          | 24.8V                 | 12.0V                       | 24.8V          | 24.8V                 |
| <b>Controller Self Consumption</b>    | <0.5W   |                          |                  |                |                       |                             |                |                       |
| <b>Enclosure Type</b>                 | Pole/Wall Mount, Powder Coat Steel                                  |                          |                  |                |                       |                             |                |                       |
| <b>Enclosure External Size</b>        | 24 x 15 x 14" (610 x 381 x 356mm)                                   |                          |                  |                |                       |                             |                |                       |
| <b>Enclosure Internal Size</b>        | 23 x 14 x 12" (584 x 356 x 305mm)                                   |                          |                  |                |                       |                             |                |                       |
| <b>Internal Mount Features</b>        | Din Rail Mounts (3)   |                          |                  |                |                       |                             |                |                       |
| <b>Solar Panel Dims</b>               | 34" x 26"<br>(855x666mm)  | 67" x 26" (1710 x 666mm) |                  |                |                       | 67" x 52.4" (1710 x 1332mm) |                |                       |
| <b>Operating Temperature</b>          | -30°C to +60°C (-22°F to 140°F)                                     |                          |                  |                |                       |                             |                |                       |
| <b>System Weight (no batteries)</b>   | 86lb<br>(39kg)  | 109lb (49kg)             |                  |                |                       | 136lb (62kg)                |                |                       |
| <b>Battery Weight</b>                 | 81 lb (37kg)  |                          |                  |                | 161 lb (73kg)         |                             |                |                       |
| <b>Wind Speed Rating</b>              | 90MPH   |                          |                  |                |                       |                             |                |                       |
| <b>Warranty</b>                       | 2 Years   |                          |                  |                |                       |                             |                |                       |

### RPST 12xx-200-320



**System Ordering:**

| Model #          | Continuous Power Generation (6hrs peak sun) | Backup Time | Battery Voltage | PoE Output Voltage | 12V Battery Capacity | Solar Panel Size |
|------------------|---|-------------|-----------------|--------------------|----------------------|------------------|
| RPST1224-100-80  | 20W   | >30hrs      | 12VDC           | 24V                | 100Ah                | 80W              |
| RPST1248-100-80  | 20W   | >30hrs      | 12VDC           | 48V                | 100Ah                | 80W              |
| RPST12-100-160   | 35W   | >21hrs      | 12VDC           | ---                | 100Ah                | 160W             |
| RPST1224-100-160 | 35W   | >21hrs      | 12VDC           | 24V                | 100Ah                | 160W             |
| RPST1248-100-160 | 35W   | >21hrs      | 12VDC           | 48V                | 100Ah                | 160W             |
| RPST24-50-160    | 35W   | >21hrs      | 24VDC           | ---                | 100Ah                | 160W             |
| RPST2424-50-160  | 35W   | >21hrs      | 24VDC           | 24V                | 100Ah                | 160W             |
| RPST2448-50-160  | 35W   | >21hrs      | 24VDC           | 48V                | 100Ah                | 160W             |
| RPST12-200-320   | 65W   | >19hrs      | 12VDC           | ---                | 200Ah                | 320W             |
| RPST24-100-320   | 65W   | >19hrs      | 24VDC           | ---                | 200Ah                | 320W             |
| RPST2424-100-320 | 65W   | >19hrs      | 24VDC           | 24V                | 200Ah                | 320W             |
| RPST2448-100-320 | 65W   | >19hrs      | 24VDC           | 48V                | 200Ah                | 320W             |

**Must Have Accessories:****Tycon BreezePro® 400W Wind Turbine***(pn TPW-400DT-12/24)*

- Generates power on stormy days when there is limited sun.
- Auto ranging 12VDC or 24VDC
- Integrated controller and dump load

**Tycon Remote Monitoring and Control***(pn TPDIN-Monitor-WEB2)*

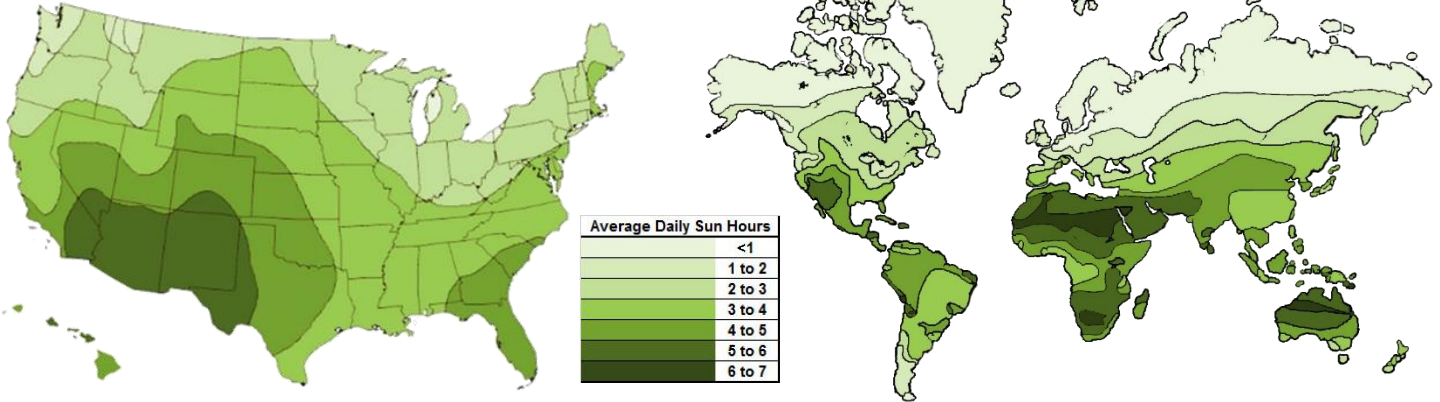
- Remotely monitor battery levels and overall system performance. Measure 4 voltages, 4 currents and 2 temperatures.
- Turn various equipment off or on remotely
- HTTP WEB interface, SNMP
- DIN Rail mounting, PoE or wire terminal powered



*Tycon also manufactures a comprehensive line of voltage conversion and PoE Switch products that work with our RemotePro™ Systems.*

**Design tools:** Use <http://tyconsystems.com/index.php/resources/tools> for simplified calculations.

Utilize the below map to help determine the average Peak Sun-hours in a location and the calculation tables to determine the right system. Specific system may need to be larger to account for fewer Peak Sun-hours in certain locations. Minimum Peak Sun-hour/day generally occur in the winter months and tend to be approximately one half of the annual daily average Peak Sun-Hours found on the maps below.



|                              |              | A        | B        | C   | D       | A x B           | A x B x D           |
|------------------------------|--------------|----------|----------|---|---------|-----------------|---------------------|
| Item (PD)                    | Model Number | Quantity | Power(W) | Voltage (V)<br><small>*should be consistent for all devices</small> | hrs/day | Total Power (W) | Energy/day (Wh/day) |
| Example 1<br>Camera          | X            | 2        | 2.4      | 24  | 12      | 4.8             | 57.6                |
| Example 2<br>Access Point    | EZGO-0214    | 1        | 5.5      | 24  | 24      | 5.5             | 132                 |
|                              |              |          |          |   |         |                 |                     |
|                              |              |          |          |   |         |                 |                     |
|                              |              |          |          |   |         |                 |                     |
|                              |              |          |          |   |         |                 |                     |
|                              |              |          |          |   |         |                 |                     |
|                              |              |          |          |   |         |                 |                     |
|                              |              |          |          |   |         |                 |                     |
| <b>Total</b>                 |              |          |          |   |         | <b>E</b>        | <b>F</b>            |
| <small>Example total</small> |              |          |          |   |         | 10.3W           | 189.6 Wh/day        |

|   | Example                        | Actual |               |
|---|--------------------------------|--------|---------------|
| Minimum Peak Sun-hours *winter estimate approximation = Average x 0.5 <sup>1</sup>  | G                              | 3      | Sun-hours/day |
| Days of Autonomy (days with little or no sun)   | H                              | 3      | Days          |
| System DC voltage   | I                              | 24     | Volts         |
| Minimum Solar module size (Watts)   | $(F \div G) \times 2$          |        | Watts         |
| <small>* It is recommended for the module to supply enough energy to power the system for a day, plus 1 extra day, thus the "x 2", less conservative: x 1, more conservative: x 3</small>   |                                |        |               |
| Minimum Battery bank (amp hours)  | $(F \div I) \times 2 \times H$ |        | Ah            |
| <small>* Be sure the voltage requirements of all Powered Devices are the same. If DC-DC or DC-AC conversions are required, be sure to go back and add those devices to the system power requirements. "2x" limits batteries to 50% maximum discharge.</small> |                                |        |               |
|   | 126.4                          |        |               |
|   | 47.4                           |        |               |

For best performance, make sure the RemotePro™ system chosen meets the minimum module and battery bank for the system. Maps are for reference only. Check with local resources for more accurate data on solar insolation for the install site.  
<sup>1</sup>More solar irradiance information can be found at [www.nrel.gov](http://www.nrel.gov)

**For further information contact:**

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