



# **UPS-PL-120**

## **UPSPro<sup>®</sup>**

### **Outdoor UPS System**

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



***Congratulations!*** on your purchase of the UPSPro<sup>®</sup> Outdoor UPS backup 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, Flat Blade Screwdriver, 3/8" Deep Socket for enclosure bolt



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

# Qwik Install

**CAUTION: Be sure to connect the battery to the controller first and disconnect it last. Connecting solar panels to the controller without the battery connected could damage the controller.**

**STEP 1:** The UPSPro<sup>®</sup> is Solar Ready<sup>™</sup> so a solar panel can be added at any time to provide supplemental or full time power. Solar panel will be connected to PV input (Solar Panel Symbol) in parallel with AC Power supply. Solar panels must have blocking diodes which is the standard for most solar panels.

**STEP 2:** Install 2 or 4 batteries in a 12V or 24V configuration, depending on which system you purchased. Connect wires first to the Solar Controller battery input (Battery Symbol), then connect to batteries. Observe proper polarity. Red wire is always V+.

**STEP 3:** Connect the 120W 12V or 24V battery charger to the Solar Controller PV input (Solar Panel Symbol). Make sure to observe proper polarity. Red wire is always V+. The controller has a pluggable 2 wire AC cord. You can cut this cord to hardwire into the mains. You can also mount conduit to the enclosure if local codes require it. During operation the charger will be very warm to the touch. This is normal.

**STEP 4:** Mount the solar charge controller to the metal plate with the Velcro tape provided.

**STEP 5:** Mount any customer electronics to the inside of the door using Velcro tape with 3M VHB adhesive. There is about 2.5" of depth available between the cover and the lower battery area. Connect any loads to the Solar Controller LOAD output. (Light Bulb Symbol). Press red button to turn on/off the LOAD output.

**Note:** There are multiple rubber feedthrough in the bottom of the enclosure. Slice a small "+" in the rubber using a blade and feed the wires through the opening, stretching the rubber in the process.

**STEP 6:** Test the enclosure operation before installing outside. The solar controller display shows battery voltage, charging current, load current and temperature.

**STEP 7:** Install the enclosure to a pole using stainless steel hose clamps provided or to a wall using lag bolts. Prior to install you may want to temporarily remove the batteries so install weight is less.

**STEP 8:** 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. The cover snaps into place. There is one center 3/8" security bolt that can be used to secure the cover.

**NOTE: If you have any unconnected battery connectors on battery cable after installation, make sure they are wrapped with electrical tape so that there is no chance of shorting the connector to any**

metal. You can also remove the extra cable/connector permanently by cutting the cable at the existing battery connection.

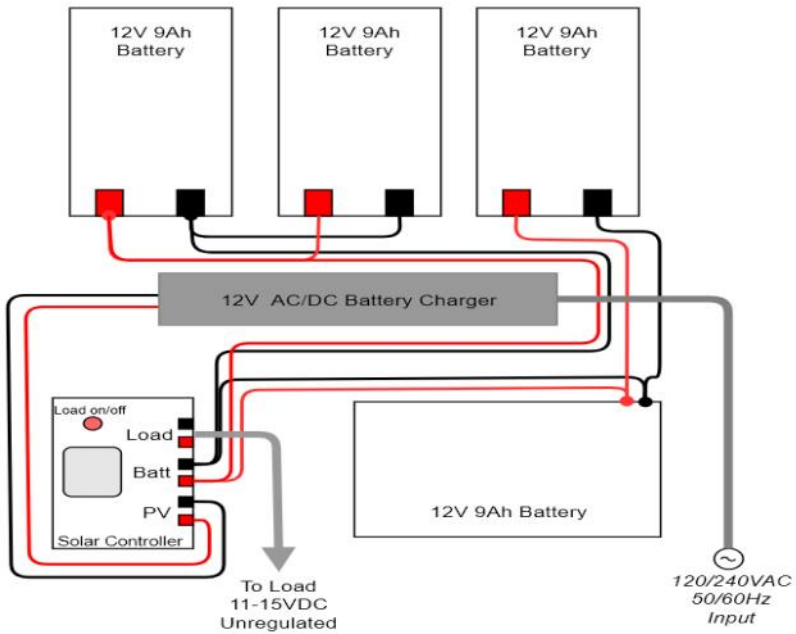


4 Battery 12V Layout

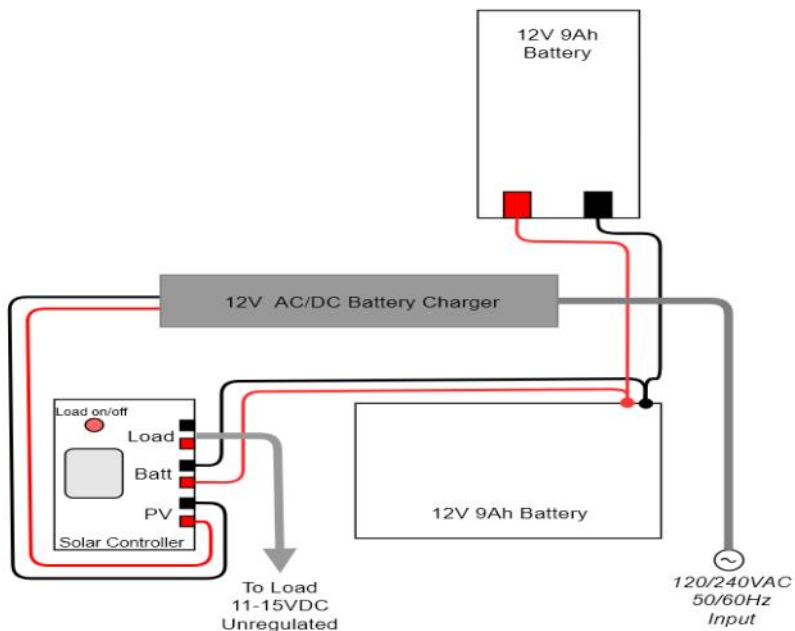


2 Battery 24V Layout

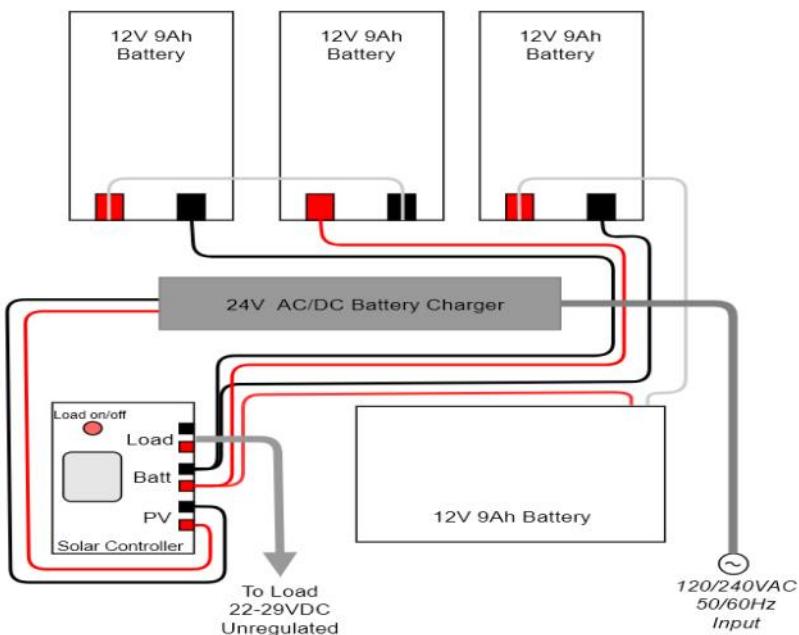
### UPS-PL-120 12V 4 Battery Configuration



## UPS-PL-120 12V 2 Battery Configuration



## UPS-PL-120 24V 4 Battery Configuration

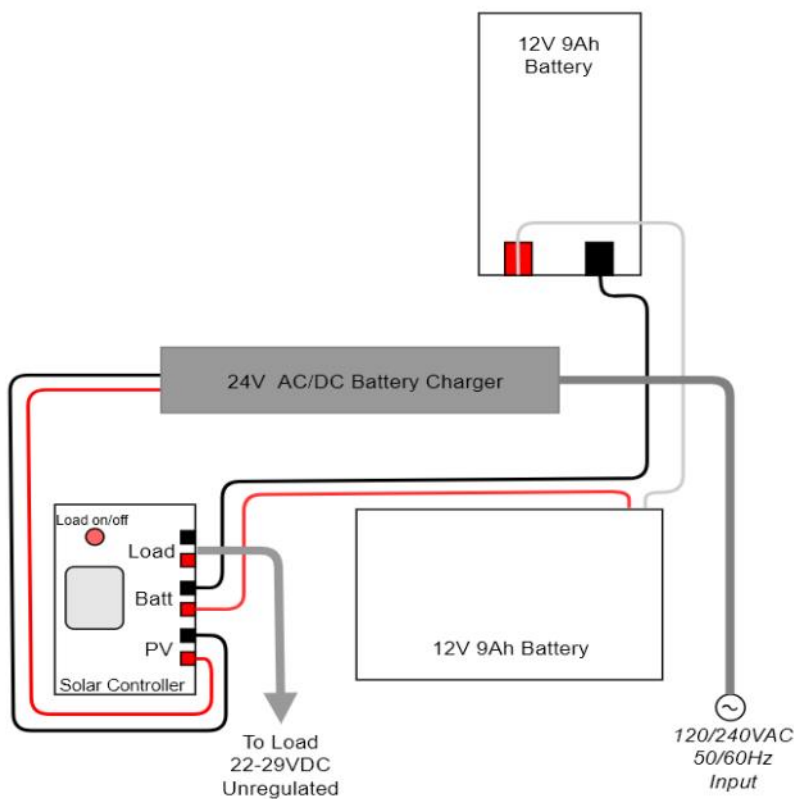


# SPECIFICATIONS

Subject to change without notice

<b>Battery Voltage (DC)</b>	12V or 24V
<b>Load Output Voltage (DC)</b>	11-15VDC / 22-29VDC
<b>Suggested Max Load</b>	100W
<b>AC Input Voltage</b>	120/240VAC 50/60Hz 2.5A Max
<b>Battery Charge Voltage</b>	14.4V / 28.8V
<b>Battery Charge Current</b>	8.3A / 4.35A
<b>Battery Charge Capacity</b>	120W
<b>Capacity</b>	9Ah to 36Ah
<b>Battery Type</b>	Valve Regulated Sealed Lead Acid / Absorbent Glass Mat (AGM)
<b>Battery Life</b>	5 Years
<b>Controller Type</b>	20A PWM with status display and load control
<b>Overcharge Protection</b>	14.4V / 28.6V
<b>Over-discharge protection</b>	11V / 22V
<b>Over-discharge recovery voltage</b>	12.5V / 25V
<b>Controller Self Consumption</b>	<0.3W
<b>Enclosure Type</b>	Polycarbonate
<b>Enclosure External Size</b>	17.5 x 12.5 x 6" (445 x 318x 152mm)
<b>Enclosure Internal Size</b>	14 x 10 x 5" (356 x 254 x 127mm)
<b>Operating Temperature</b>	-30°C to +60°C
<b>System Weight (without batteries)</b>	6lb (2.7kg)
<b>Battery Weight (each)</b>	2.5kg (5.5lb)

## UPS-PL-120 24V 2 Battery Configuration



## TECH CORNER

1. **CONTROLLER:** The controller turns off power to the load at 11V (22V if 24V array) and reconnects when the battery reaches 12.5V (25V if 24V array). This protects battery from over-discharge and increases battery life and performance.
2. **CAPACITY:** With a typical AP running 4W average. A single 12V 9Ah battery should be able to provide backup power for up to 24 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.
4. **DUAL INPUTS:** The UPS-PL-120 can be used with AC Power alone or Solar Power alone or a combination of both.
5. **SOLAR PANEL:** The controller used in the UPS-PL can handle a maximum panel size of 160W. Do not exceed 10A into the solar panel input of the solar controller.
6. **BATTERY HOOKUP:** Always connect the battery first and disconnect the battery last. The controller should not be run without a battery connected.
7. **BATTERY MAINTENANCE:** The batteries used in the UPSPro 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.**
8. **BATTERY OVERDISCHARGE:** We highly recommend hooking all equipment loads to the controller load output. This output will disconnect the load if the battery voltage is too low 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.
9. **LOAD OUTPUT:** The LOAD output on the Solar Charge Controller is unregulated. What that means is the voltage output follows the battery voltage. This is typically 11-15V for a 12V system and 22-29V for a 24V system. It is up to the user to make sure the connected load is compatible with these voltages. A voltage regulator can be added to provide regulated output voltages.

## **Limited Warranty**

The UPSPro® products are supplied with a limited 36 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.

## **NOTES**