



# **P90-BP36, BP48, BP72**

External Battery Packs

User & Installation Manual

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## Important Safety Instructions

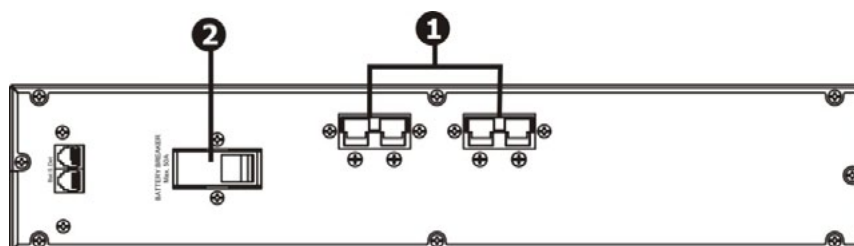
Please comply with all warnings and operating instructions in this manual strictly. Save this manual properly and read carefully the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully.

- Do not try to repair the unit yourself, contact your local supplier or your warranty will be void.
- To eliminate any overheating of the battery box, keep all ventilation openings free from obstruction and do not place any foreign objects on top of the battery bank. Keep the battery box 20cm away from the wall.
- Make sure the battery box is installed within the proper environment as specified. (0-40°C and 30-90% non-condensing humidity)
- Do not install the battery box under direct sunlight. Your warranty will be void if the batteries fail due to overheating.
- This battery box is not designed for use in dusty, corrosive and salty environment.
- The warranty for this battery bank will be void if water or other liquid is spilled or poured directly onto the battery box. Similarly we do not warrant any damage to the battery box if foreign objects are deliberately or accidentally inserted into the battery box enclosure.
- The battery will discharge naturally if the system is unused for a period of time.
- It should be recharged every 2-3 months if unused. If this is not done, then the warranty will be null and void. During normal operation, the batteries will automatically remain in charged condition.
- Servicing of batteries should be performed or supervised by trained personnel with knowledge of batteries and the required precautions.
- When replacing batteries, it is necessary to replace ALL batteries with the same quantity, type & capacity.
- CAUTION – Do not dispose of battery or batteries in a fire. The battery may explode.
- CAUTION – Do not open or mutilate the batteries. The electrolyte from the batteries is toxic and harmful to the skin and eyes.
- CAUTION – Risk of Electric Shock –Hazardous voltage may exist between battery terminals and ground. Test before touching with bare hands.
- CAUTION – A battery can present a risk of electrical shock and high short circuit current. The following precaution should be observed when working on batteries:
  1. Remove watches, rings, or other metal objects.
  2. Use tools with insulated handles.
  3. Wear rubber gloves and boots.
  4. Do not lay tools or metal parts on top of batteries.
  5. Disconnect charging source prior to connecting or disconnecting battery terminals.
- Do not plug or unplug the battery connector if UPS works in DC (discharging) mode.

## Product Overview and Setup

**NOTE:** Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. Please keep the original package in a safe place for future use.

### Rear Panel View



1. DC connector : connects to either UPS or 2nd battery box
2. DC breaker: Battery over-current protection breaker

## Installation and Setup with UPS

### Unpacking & Inspection

1. Remove the battery box from the packing.

**Note:** The battery box is very heavy, be cautious when unpacking and lifting the unit to avoid injury.

2. Check the inside package
  - Battery box unit
  - Manual
  - Battery connection cable x 1
  - Ear x 2 & screw x 8
  - Extended stand

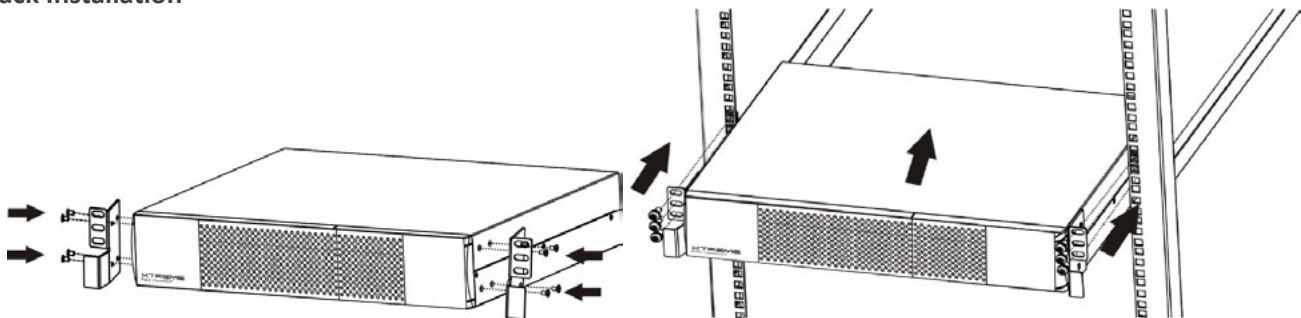
### Selecting Installation Position

It is necessary to select a proper environment to install the unit, in order to minimize the possibility of damage to the battery box and extend the life of the batteries. Please follow the instructions below:

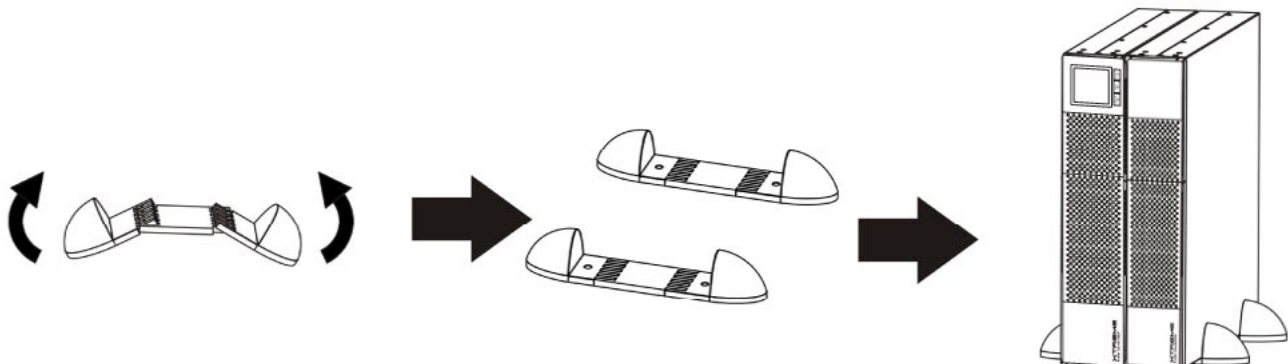
1. Keep at least 20cm (8 inches) clearance from the rear panel of the unit from the wall or other obstructions.
2. Do not block the air-flow to the ventilation openings of the unit.
3. Please ensure the installation site environmental conditions are in accordance with the unit's working specifications to avoid overheat and excessive moisture.
4. Do not place the unit in a dusty or corrosive environment or near any flammable objects.
5. This unit is not designed for outdoor use.

This unit can either be rack mounted or placed vertically on the desk.

### Rack Installation

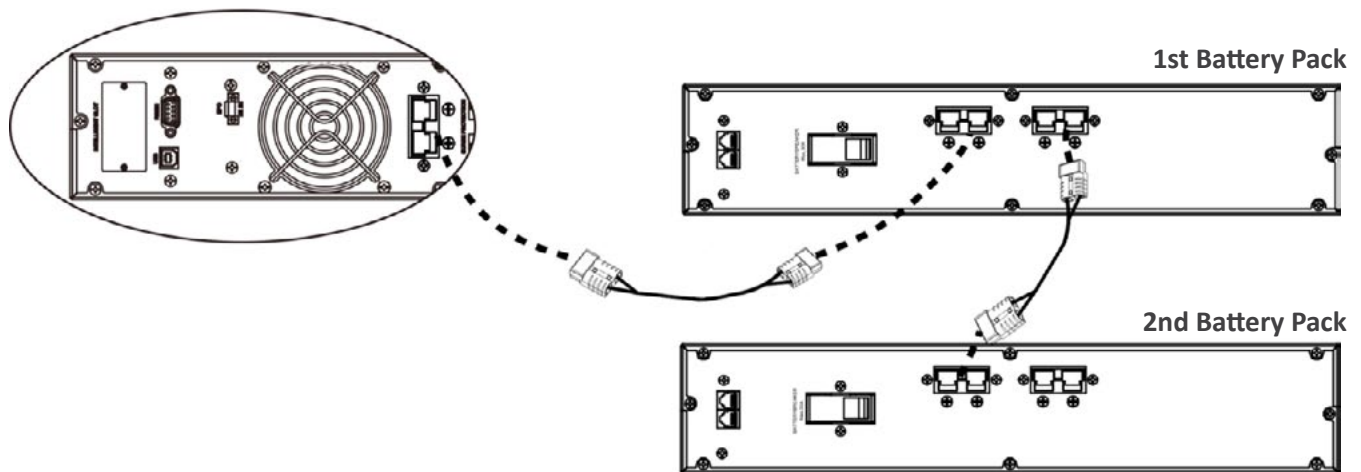


### Tower Installation



### Connecting with UPS and Other Battery Box

Follow below installation chart to connect with UPS and other battery box with included cable.



### Type of Battery Required

This battery box has been designed to operate with the following types of batteries:

36V/9Ah Version: 3 pieces of 12V 9Ah batteries per string

48V/9Ah Version: 4 pieces of 12V 9Ah batteries per string

72V/9Ah Version: 6 pieces of 12V 9Ah batteries per string

### Battery Replacement

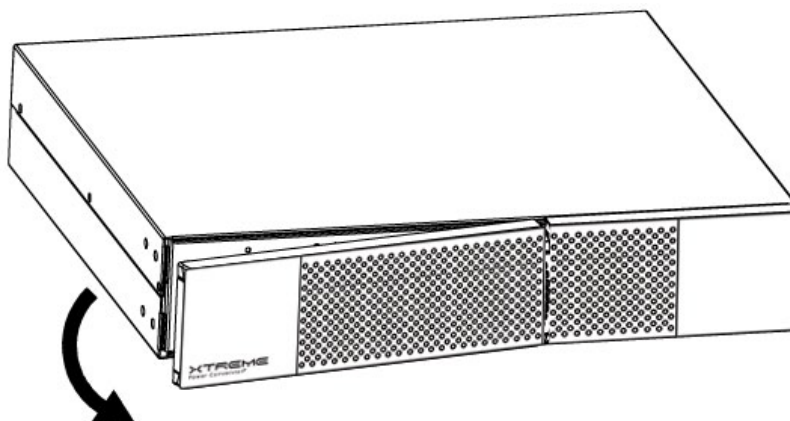
If your battery box is not installed with batteries, please follow proper procedure to put batteries inside of unit.

**NOTE:** MAKE SURE THAT THE BATTERY BOX IS DISCONNECTED FROM THE UPS BEFORE PERFORMING THE FOLLOWING SEQUENCE OF OPERATIONS.

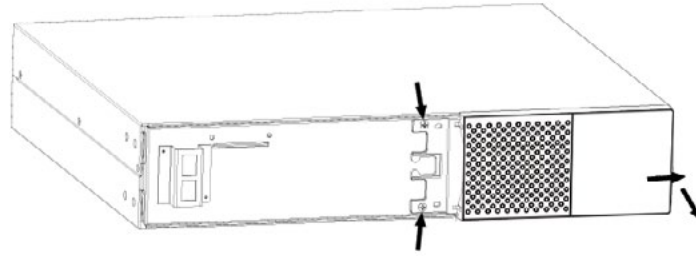
#### ***P90-BP36***

Step 1 : Open the package and place the battery box on a horizontal plane.

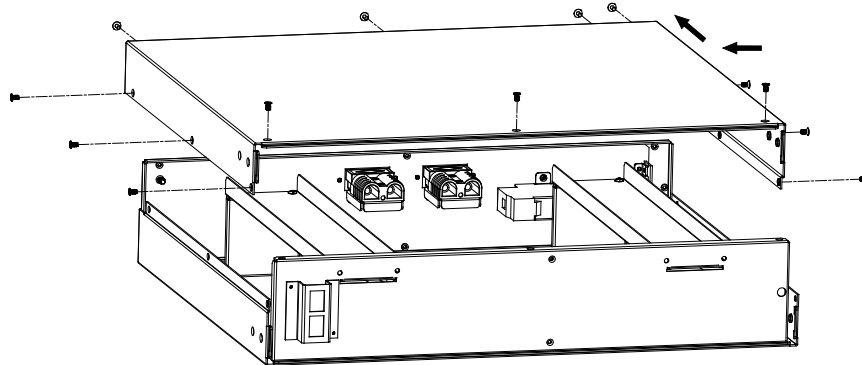
Step 2: Remove the removable front panel part by pulling it from the lower extremity.



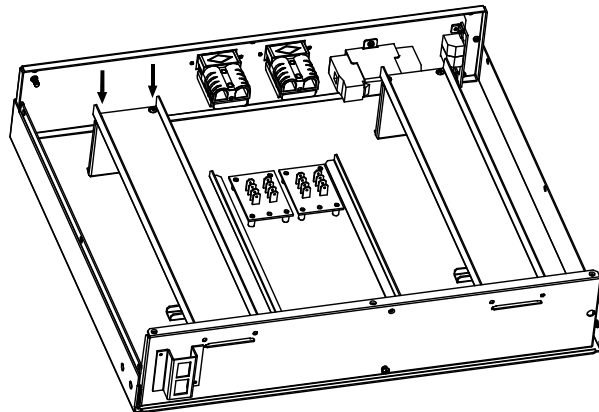
Step 3: Remove the fixed part of the front panel by removing the 2 screw present.



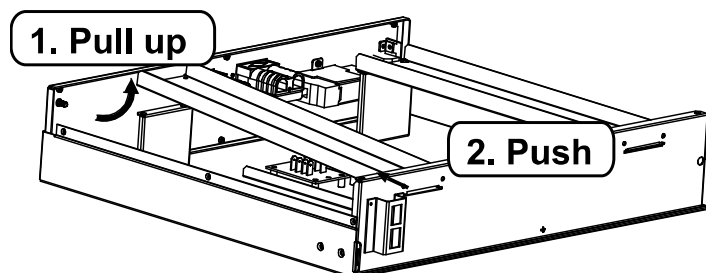
Step 4: Remove the metal top cover of the battery box by unscrewing 6 screws present on the two sides (3 on the right side and 3 on the left side), 3 screws on the top and 4 screws on the back side.



Step 5: Once the battery box is opened, remove the battery hold down brackets present on the left side of the battery box by unscrewing the 2 screws on each bracket.

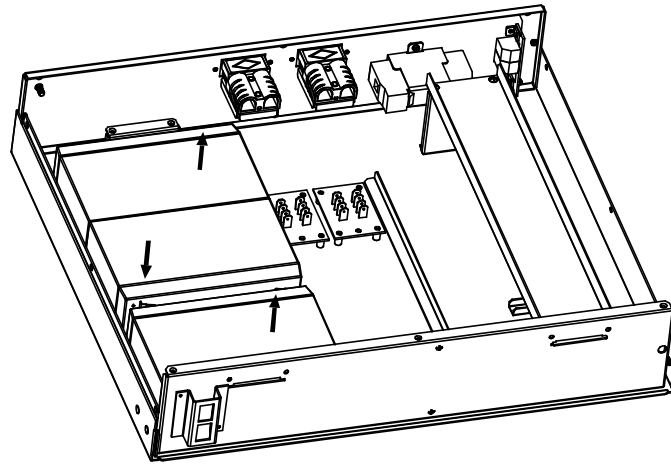


Pull up first and then push the battery fixing plate.



**Note:** To install the second string of batteries, repeat the same procedure on the battery hold down brackets on the right side of the battery box.

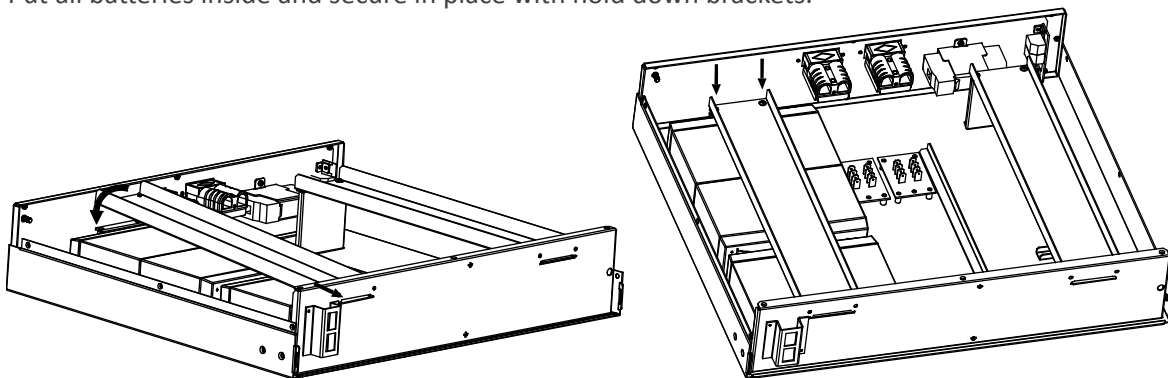
Step 6: Now, it is possible to put all batteries inside the unit by following the below picture (the following drawing are indicates the wire fastener positions for the correct battery placement).



**Note:** To install the second string of batteries, repeat the same procedure on the right side of battery box.

Step 7: Connect all batteries following the wiring diagram shown in next chapter.

Step 8: Put all batteries inside and secure in place with hold down brackets.



**Note:** To install the second string of batteries, repeat the same procedure on the right side of battery box.

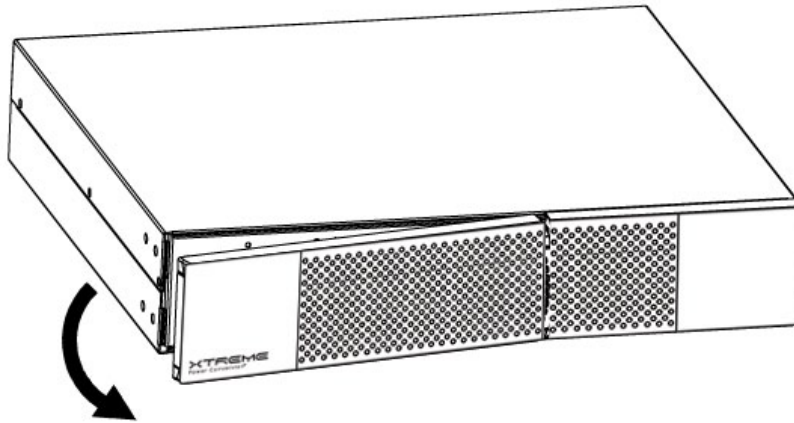
Step 9: Put the metal top cover back on the unit. Close the front fixing plate and the two parts of the front panel and secure it with screws.

Step 10: Connect the battery box to the UPS.

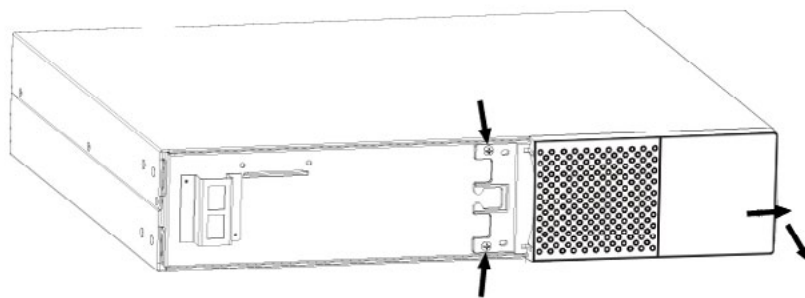
## ***P90-BP48***

Step 1 : Open the package and place the battery box on a horizontal plane.

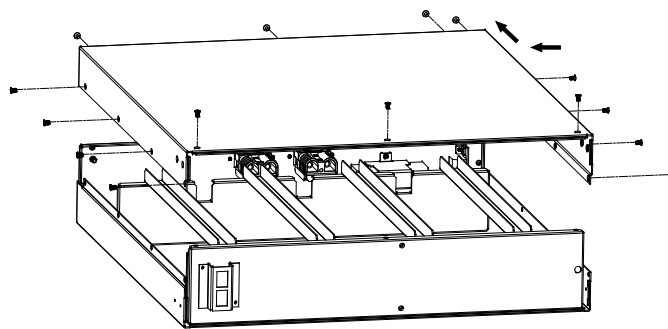
Step 2: Remove the removable front panel part by pulling it from the lower extremity



Step 3: Remove the fixed part of the front panel by removing the 2 screw present.

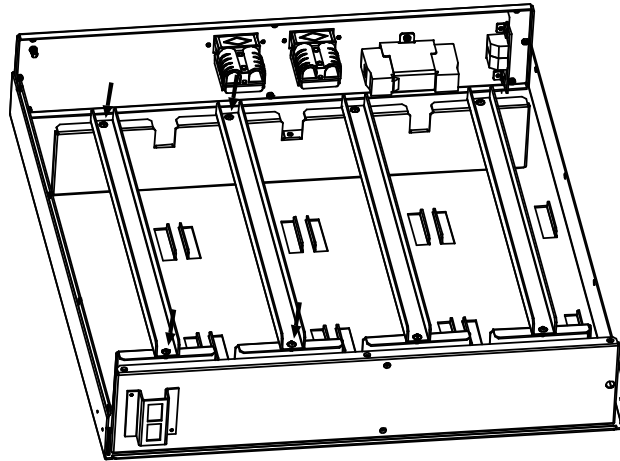


Step 4: Remove the metal top cover of the battery box by unscrewing 8 screws present on the two sides (4 on the right side and 4 on the left side), 3 screws on the top and 4 screws on the back side.



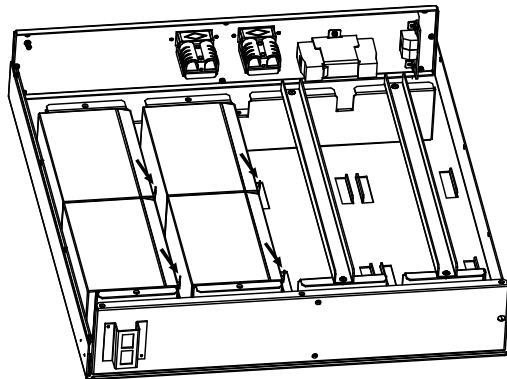


Step 5: Once the battery box is opened, remove the battery hold down brackets present on the left side of the battery box by unscrewing the 2 screws on each bracket.



**Note:** To install the second string of batteries, repeat the same procedure on the battery hold down brackets on the right side of the battery box.

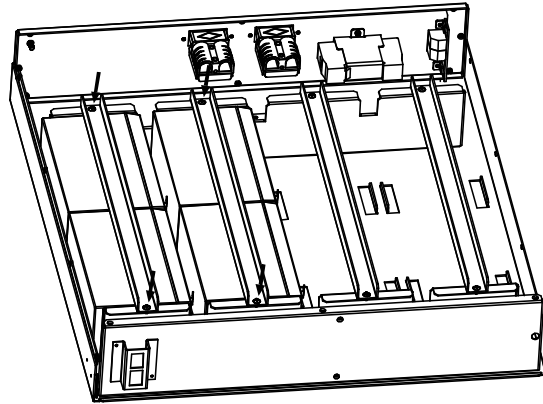
Step 6: Now, it is possible to put all batteries inside the unit by following the below picture (the following drawing are indicates the wire fastener positions for the correct battery placement).



**Note:** To install the second string of batteries, repeat the same procedure on the right side of battery box.

Step 7: Connect all batteries following the wiring diagram shown in next chapter.

Step 8: Put all batteries inside and secure in place with hold down brackets.



**Note:** To install the second string of batteries, repeat the same procedure on the right side of battery box.

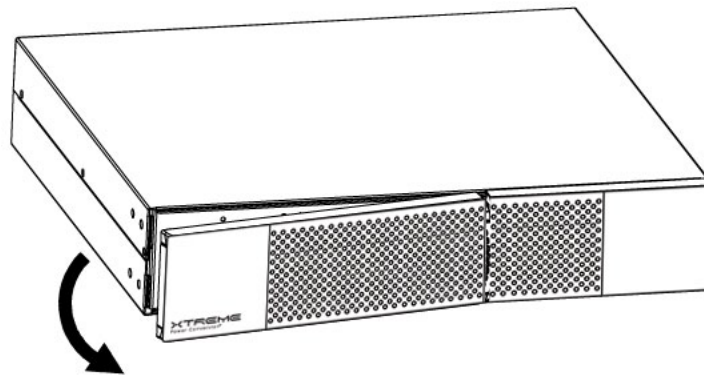
Step 9: Put the metal top cover back on the unit. Close the front fixing plate and the two parts of the front panel and secure it with screws.

Step 10: Connect the battery box to the UPS.

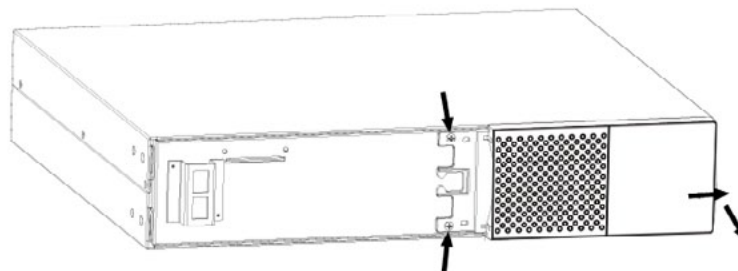
### ***P90-BP72***

Step 1 : Open the package and place the battery box on a horizontal plane.

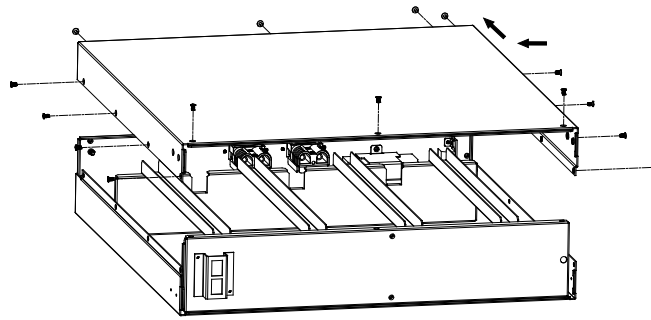
Step 2: Remove the removable front panel part by pulling it from the lower extremity



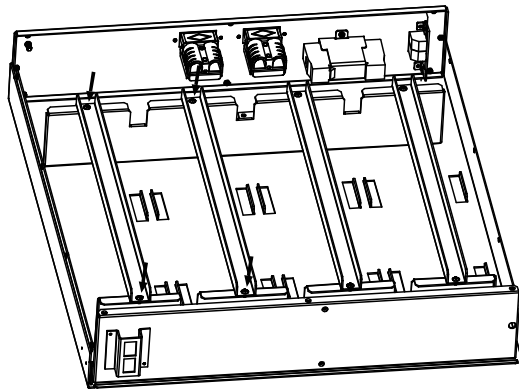
Step 3: Remove the fixed part of the front panel by removing 2 screw present.



Step 4: Remove the metal top cover of the battery box by unscrewing 8 screws present on the two sides (4 on the right side and 4 on the left side), 3 screws on the top and 4 screws on the back side.

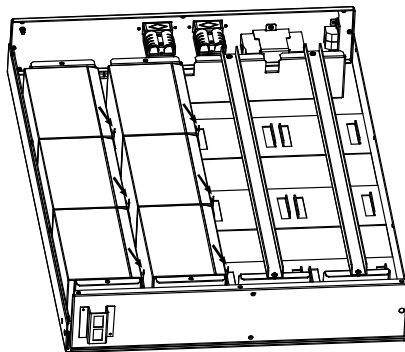


Step 5: Once battery box is opened, remove the battery hold down brackets present on the left side of the battery box by unscrewing the 2 screws on each bracket.



**Note:** To install the second branch of batteries, repeat the same procedure on the battery fixing plate on the right side of battery box.

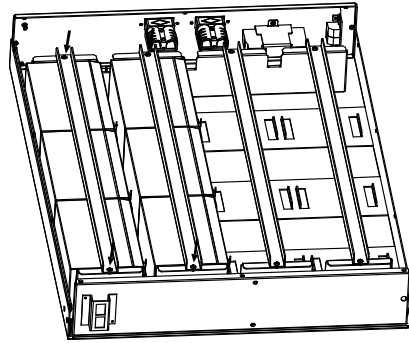
Step 6: Now, it is possible to put the batteries inside following below picture (in the following drawing are indicated the fasten positions for the correct batteries placing).



**Note:** To install the second string of batteries, repeat the same procedure on the right side of battery box.

Step 7: Connect all batteries following the wiring diagram shown in next chapter.

Step 8: Put all batteries inside and secure in place with the hold down brackets.



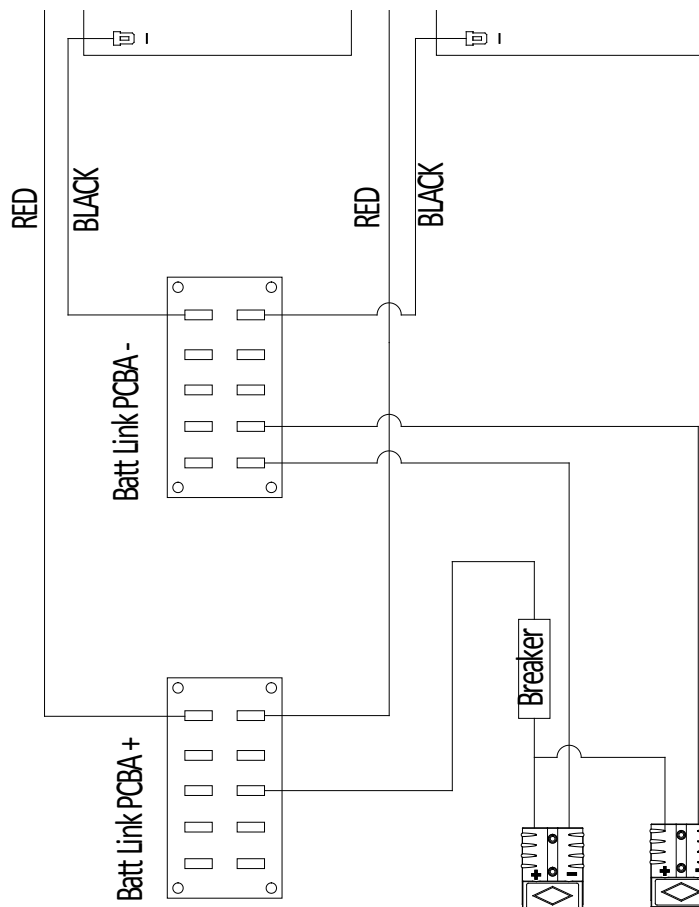
**Note:** To install the second string of batteries, repeat the same procedure on the right side of battery box.

Step 9: Put the metal top cover back on the unit. Close the front fixing plate and the two parts of the front panel and secure it with screws.

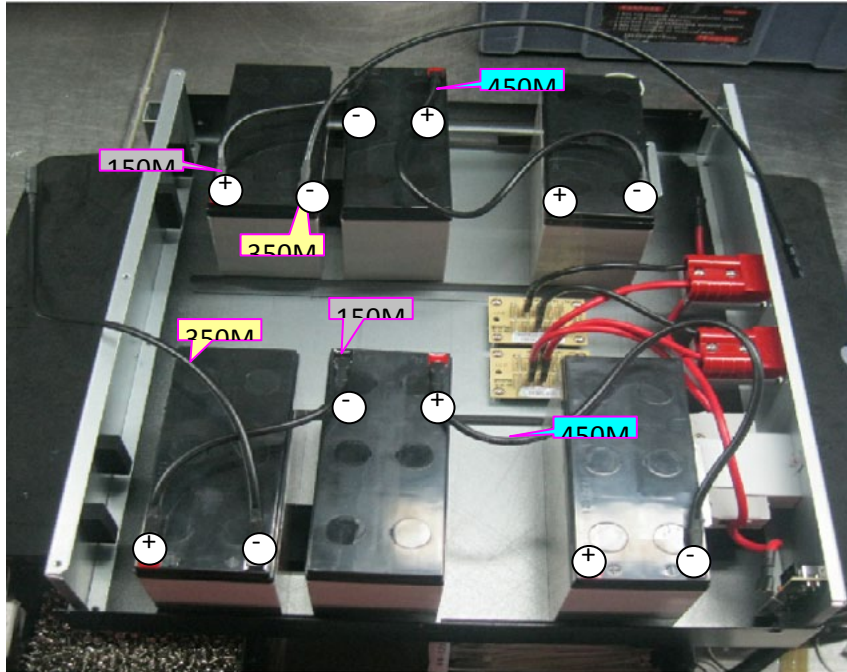
Step 10: Connect the battery box to the UPS.

## Wiring Diagram

### P90-BP36

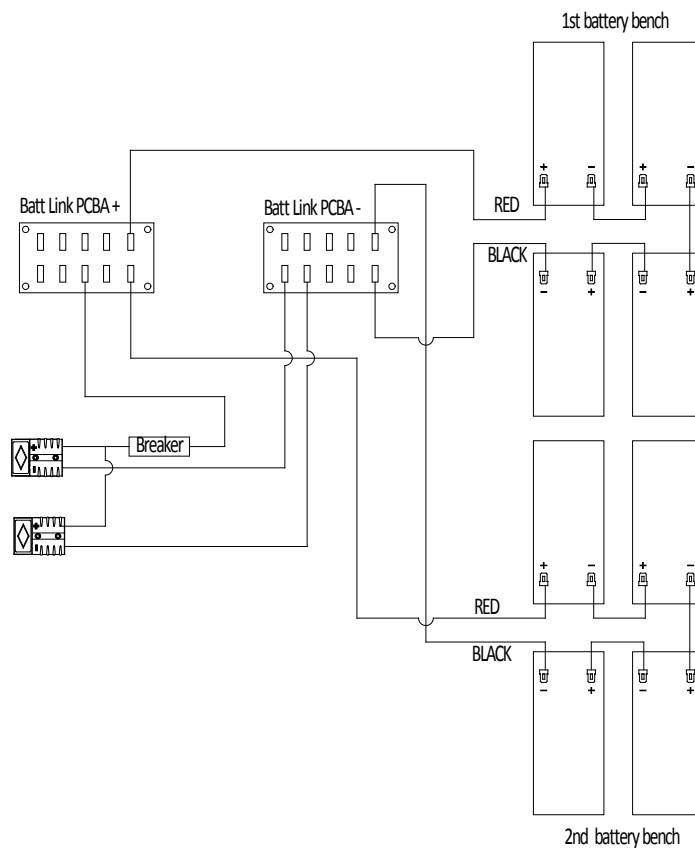


Picture example as below:

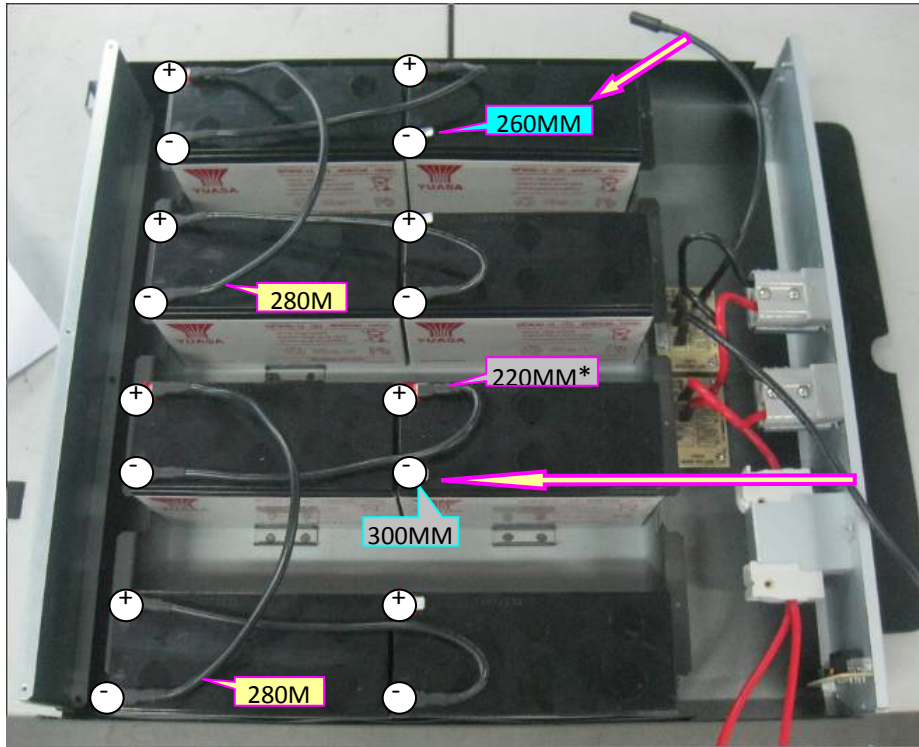


**Note:** The cable connection from the external battery connector to PCB is already present inside the battery box. All the other cable connections should be made in accordance with the above wiring diagram.

### P90-BP48

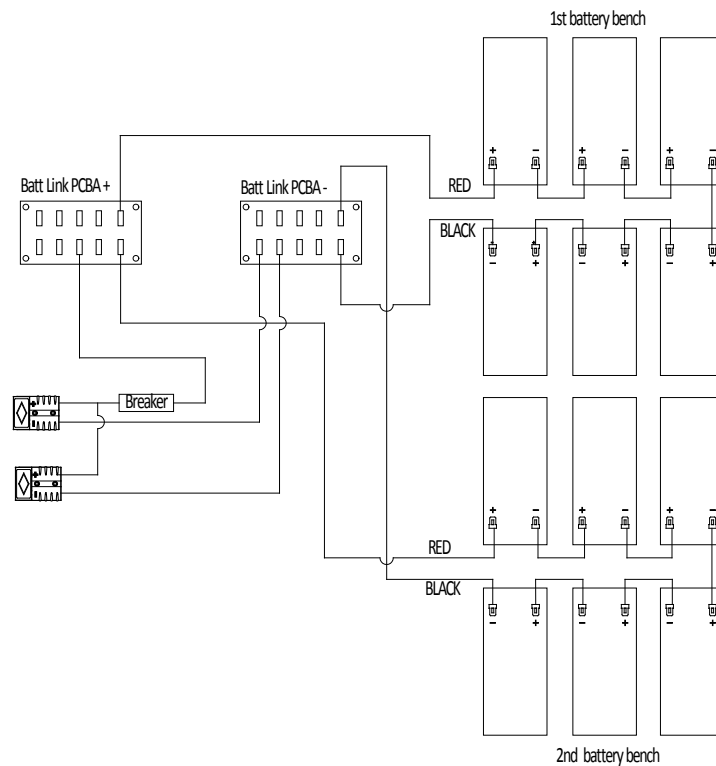


Picture example as below:

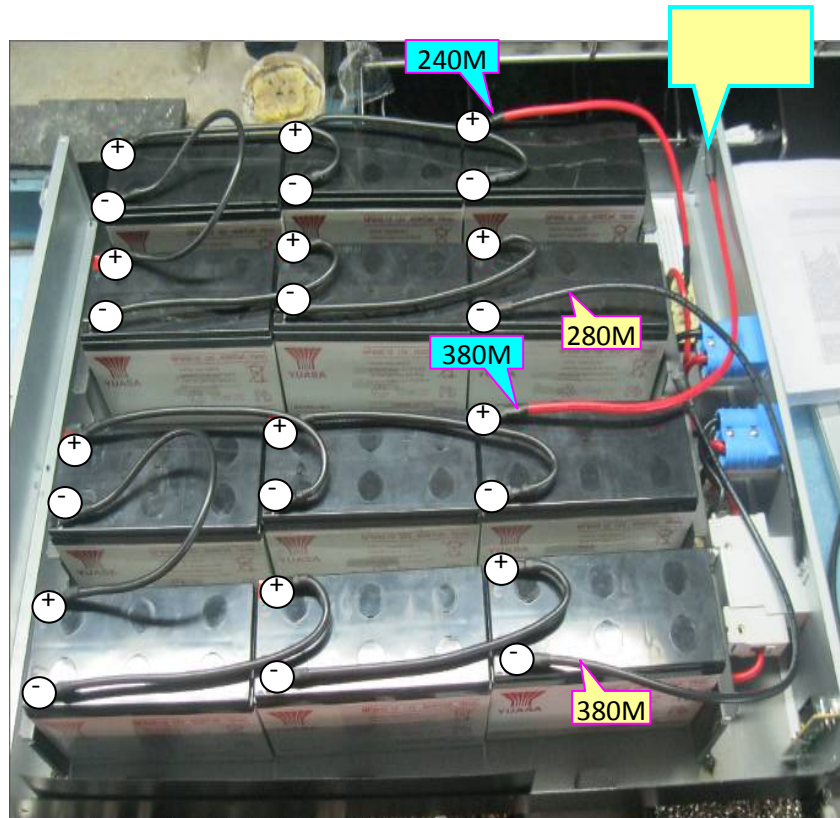


**Note:** The cable connection from the external battery connector to PCB is already present inside the battery box. All the other cable connections should be made in accordance with the above wiring diagram.

### P90-BP72



Picture example as below:



**Note:** The cable connection from the external battery connector to PCB is already present inside the battery box. All the other cable connections should be made in accordance with the above wiring diagram.

## Storage & Maintenance

The unit contains no user-serviceable parts. If the battery service life (3~5 years at 25°C ambient temperature) has been exceeded, the batteries must be replaced. In this case, please contact your dealer.



Be sure to deliver the spent battery to a recycling facility or ship it to your dealer in the replacement battery packing material.

### Storage

Before storing, charge the unit 4 hours. Store the unit covered and upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

Storage Temperature	Recharge Frequency	Charging Duration
-25°C - 40°C	Every 3 months	1-2 hours
40°C - 45°C	Every 2 months	1-2 hours