


# Installation manual for the 48V battery bank on a rack

*For 24kWh 48V AGM deep cycle battery bank (24 x 500Ah 2V)  
Product code: AGM500AH-24SETR*



## Part 1. Assembly instructions for the battery rack

### Contents of the battery rack package

Item	Quantity	Picture
Side frame	2	





Photonic Universe Ltd  
VAT: GB 124 6724 21

Registered office:  
13 David Mews  
Porter Street  
London W1U 6EQ UK

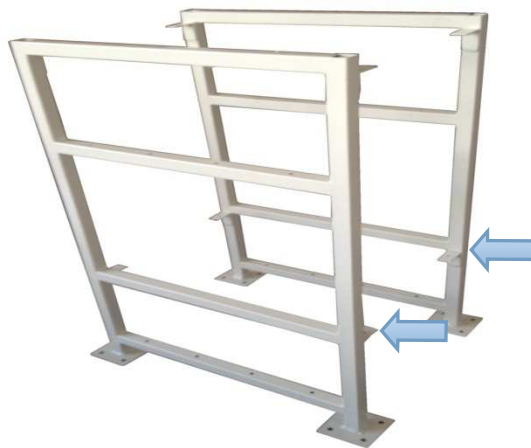
Company number: 7722726

Registered in England and Wales

Tel: +44 (0) 203 150 11 11  
Fax: +44 (0) 203 150 12 12  
Email: [info@photonicuniverse.com](mailto:info@photonicuniverse.com)  
Web store: [www.photonicuniverse.com](http://www.photonicuniverse.com)

Shelving bars	8	
Side bars	4	
Bolts with an L-shaped hex key	24 + 1	
Anchor bolts	16	

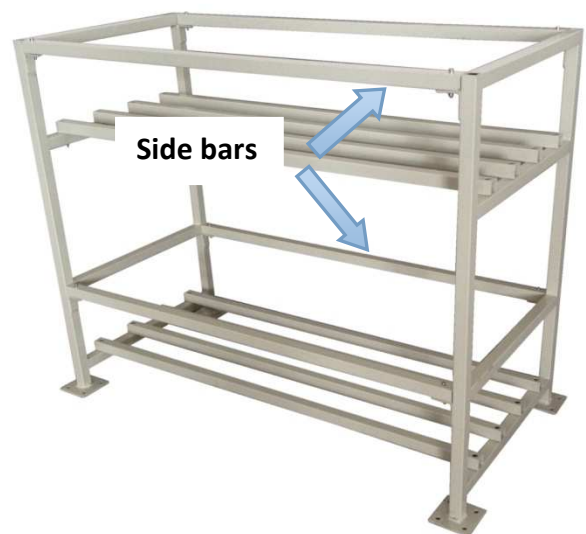
- 1) Put two side frames on the floor so that the side angle brackets are facing each other



- 2) Fix 8 shelving bars to the side frames using the supplied bolts with hex heads. Note that the large hole in the shelving bars should remain on top, while the small hole should be at the bottom. Use the supplied washers on the bolts when getting the bolts through holes, and tighten all bolts with the hex key.



- 3) Fix 4 side bars to the frames. Initially the bolts of the side bars can be kept loose as it will be easier to put the batteries on the rack without side bars. Later when the batteries are on the rack, the bolts of the side bars will need to be tightened.



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- 4) Put the battery rack into the designated place and make sure there are no objects that can fall on the rack from the top. Mark and drill holes in the supporting surface at the bottom and fix the rack using the anchor bolts. Note that anchor bolts are designed for hard materials only (concrete, bricks, blocks or stone).



## Part 2. Installation and connection of batteries

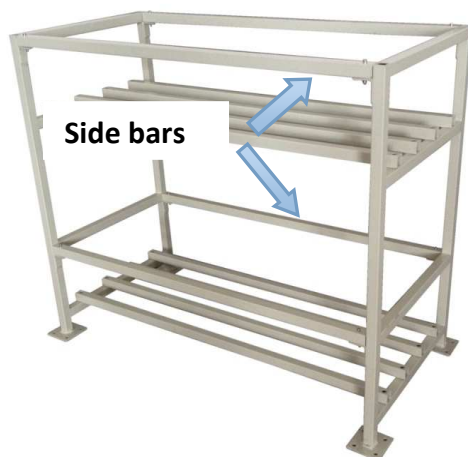


*Working with electricity and batteries can be dangerous. The information provided in this manual is for general guidance only. All work should follow the safety standards and should be carried out by an appropriately qualified person.*

### Contents of the battery bank delivery

Item	Specification	Quantity
Battery	500Ah 2V AGM deep cycle	24
Connecting cable	50mm <sup>2</sup> cross section 850mm length	4
Connector A	100×25×3 mm	40
Connector B	420×25×3 mm	1
Connector C	163×25×3 mm	2

- 1) Before batteries are placed on the rack, the side bars can be temporarily removed.



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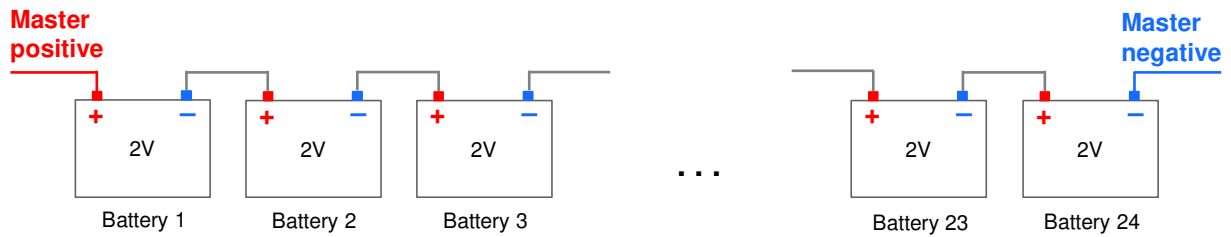
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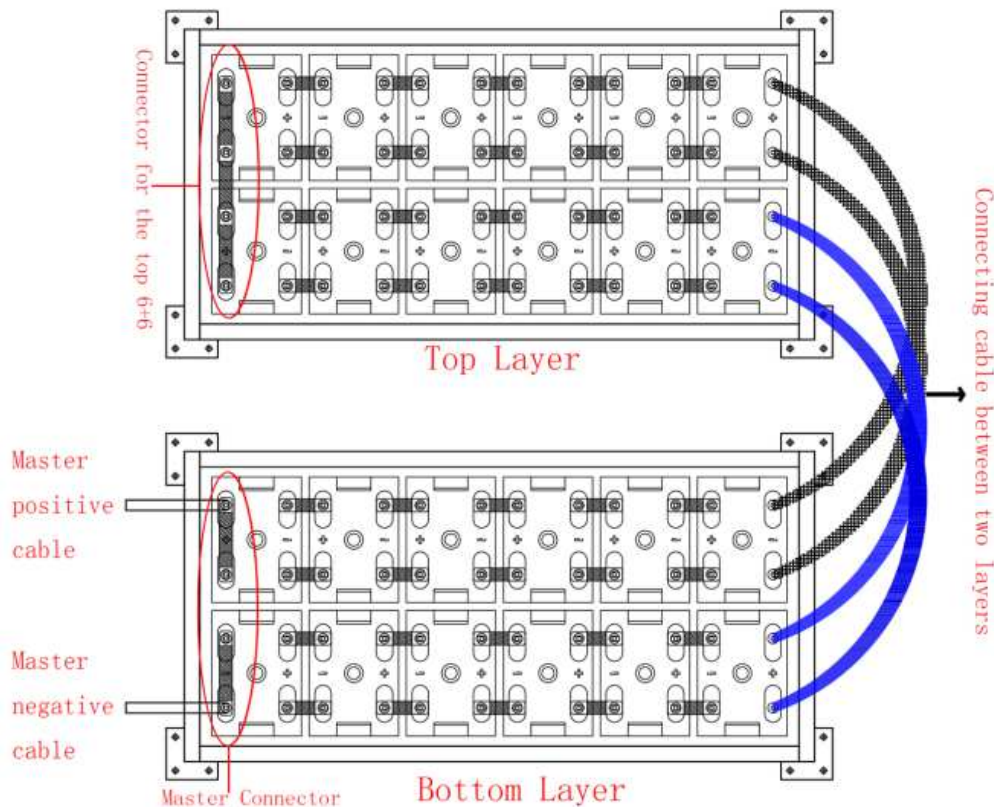
- 2) The batteries should be connected in series (in a positive to negative chain). The electrical connection diagram is provided below.

*Electrical connection scheme*



- 3) Put the batteries on the rack. In order to connect the batteries in series, the coloured silk printed side of batteries should normally be positioned outward on the upper level, and inward on the lower level of the rack.

*Connection diagram for batteries on the rack*



- 4) Wear insulated gloves. Using connector A (100mm), connect batteries in series in arrays of 6 on each level (positives of one battery to the negatives of the other battery)
- 5) Using connector B (420mm), connect the two arrays of batteries (6+6) at the top level together as per the diagram (positives of the end battery of one array to the negatives of the end battery of the other array).

- 6) Using connecting cables, connect the upper level with the lower level (battery positive terminals on one level to the battery negative terminals on the other level)
- 7) Connect the 2 end (master) positive terminals of the end battery using one of the connectors C (163mm), and other 2 end (master) negative battery terminals using the other connector C (163mm), as per the diagram.
- 8) Double check all terminals to make sure they are all tight. Put covers on top of batteries. Ensure that there is no risk of something falling on top of batteries.
- 9) Using a digital multimeter, check the voltage at the master positive and master negative terminals to confirm that it corresponds to a 48V battery bank voltage range.
- 10) If all the checks are ok, install the side bars of the rack and tighten all terminals.
- 11) Check all connections periodically to make sure they are all tight.

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