

DESCRIPTION

PRODUCTS

Premium Power Station 250 / 500 / 750

HSPS250W / HSPS500W / HSPS750W

USER INSTRUCTIONS



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What's included?

In the standard power station kit are the following parts –

- Power station premium
- 12V AGM leisure battery
- Solar panel
- Solar panel mounting brackets
- Instructions bag containing –
 - Power station instructions (this document)
 - Inverter instructions
 - Charge controller instructions
 - Solar panel information
 - Spare fuses
 - 1x lighting fuse 10A blade type (red)
 - 1x system fuse 30A blade type (green)
 - 1x inverter fuse 35A type (purple)
 - 1x battery fuse 16A torpedo type (dark red)



Leisure battery



Depending on which version of the power station has been purchased, the AGM leisure battery supplied will be as per the size listed in the power station specifications at the end of this user guide.

The leisure battery for the power station is supplied separately and will need to be installed before you can use the power station.

Connect the negative wire (black) from the power station to the negative (black) terminal on the battery and tighten the bolt for a good connection.



Next, connect the positive wire (red) from the power station to the positive (red) terminal on the battery, again ensuring the bolt is tightened correctly.

The Battery 1 light on the charge controller inside the power station will now be on. See the charge controller section for what the colour of the light means



Between the charge controller and the positive (red) battery terminal, there is an in-line fuse holder. There is already a 16A torpedo fuse installed to protect the charge controller and battery from excess current, and there is

also a spare fuse provided in the pack.

NOTE: Make sure the battery inside the power station has been connected before the solar panel is plugged in.

Charge controller

Built into the power station is a 20A PWM charge controller capable of handling up to a maximum of 300W of solar power.

This device converts the incoming solar power from the panel to the required power for the battery.

There are no adjustments required for this device, as it is already connected to the power station wiring.

The “Sun” LED on the left will be lit when the solar panel is generating power, and the status of the battery will be indicated by the “Battery1” LED.

A copy of the user manual for this charge controller is included in the information pack, but if another copy is required it can be downloaded directly from our website here – [STCC20 manual](#).



Electrical Specifications	
Nominal System Voltage	12VDC
Battery Voltage Range:	6-36V
Rated Battery Current:	20A
Charge Circuit Voltage Drop	≤0.26V
Self-consumption:	≤6mA
Temperature Compensation Coefficient:	-30mV/°C/12V(25° ref)
Over Voltage Disconnect Voltage:	16V
Charging Limit Voltage:	14.6V
Equalize Charging Voltage:	14.6V
Float Charging Voltage:	13.8V
Operating temperature:	-35°C to +55°C
Overall dimensions:	135 x 70 x 35mm
Mounting hole size (in case):	3.8mm
Terminal size:	6mm ²
Net weight:	165g

Solar panel

The size of the solar panel supplied with the power station will depend on which model was purchased, but they range from 60-150W and come with 4m of cable pre-attached.



Also provided as part of the kit is a universal solar panel stand consisting of a fully adjustable pair of stand legs which can be either wall, roof or ground mounted. It is recommended that if ground or roof mounted, the stand legs are secured to ensure that the solar panel is not blown over in strong winds.

Once assembled, attach the solar panel to it and ensure it is aimed due South for the best efficiency, making sure that where practical no shadows will be cast upon the panel from nearby trees, telegraph poles or similar as the sun moves across the sky during the day.



Any shadows cast on the panel can have a significant effect on the amount of power the solar panel can produce, so this should always be avoided if at all possible.

Regardless of the model that has been purchased, the maximum solar power input that can be connected to the power station is 300W in total.

If the supplied kit doesn't include the expansion panel for the power station, then there is the option of adding additional solar power at a later date if it is required (see the [Accessories](#) section).

NOTE: Make sure the battery inside the power station has been connected before the solar panel is plugged in.

The solar panel supplied with the power station comes complete with MC4 connectors fitted to the end of the cables.

These connectors are polarised so there is only one way to connect the solar panel to the power station, which prevents the panel from being connected incorrectly.

Simply plug the solar panel into the connectors on the right-hand side of the power station, and push them fully in so that they lock in place.



Top panel and connections



1. DIN Socket

This socket allows you to connect peripheral devices that require a 12V supply.

2. Voltage indicator

This display indicates the voltage of the battery inside the power station when the unit has been switched on.

3. Twin USB sockets

This module has two USB sockets, each rated at 5V 2.1A, and can be used to charge a mobile phone or similar device.

4. 3x Independently switched light outputs (DC5521 sockets)

There are 3 independently switched light outputs, allowing the user to control which lights are powered in the environment where the power station has been installed.

5. 10A Lighting Fuse

The total current that can be drawn from the DIN socket and the light sockets is 10A. There is a red blade fuse already installed, and a spare is provided in the pack.



6. 30A System Fuse

The system fuse protects all devices, as this prevents the inverter and DC outlets from exceeding 30A of the total current draw. There is a green blade fuse already installed, and a spare is provided in the pack.



7. Main system on/off switch

This is the main power switch and isolates the inverter and the DC outputs. If the power station is not in use, it should be kept in the off position.

8. 220V AC Inverter switch

This is the power switch for the mains output (9). If no mains power is required it should be kept in the off position.

9. 230V AC Socket

This is the mains output socket. It is limited to a maximum output of 300W.

System operation



To turn the system on, click the system on/off switch (7) into the forward position. The panel voltage display (2) will come on and indicate the current battery voltage.

These indicative voltages show how much charge is left within the battery. Ideally, these readings should be taken after dark when the solar panel is not producing any power –

- 12.8V = 100%
- 12.6V = 75%
- 12.3V = 50%
- 12.0V = 25%

The voltage reading during the day when the battery is being charged could be up to 14.5V, but this doesn't accurately reflect the charge level of the battery because power is being supplied by the solar panel and charge controller.

The battery voltage should always be over 12.0V. If the voltage is below this it is recommended that the power station be switched off to allow the battery to charge for a couple of days and recover.

Once the power has been turned on via the system on/off switch, the 12V DIN socket (1) will then be live and can be used as a 12V power source for peripheral devices.

Equally, the USB-A sockets (3) will also now be available for use. There are 2 sockets under the protective flap, each capable of providing 2.1A at 5V to charge your mobile devices

There are 3 individually switched light outputs (4) for use with our range of 12V lighting solutions. These allow different sets of lights to be switched on independently, depending on which lights are plugged into which port.

The 10A lighting fuse (5) protects the following items –

- The 12V DIN socket (1)
- The panel voltage display (2)
- The USB-A sockets (3)
- The 3 individually switched light outputs (4)

The 30A system fuse (6) supplies 12V to the lighting fuse (5) and the inverter inside the power station.

System operation (cont.)

When a mains supply is required, click the inverter switch (8) to the “1” position. Please allow 5 seconds from when the inverter switch is turned on, for the mains supply to be available and ready for use from the mains socket (9).

The modified sine wave inverter can operate light loads of up to 300W but it is not recommended for powering voltage-sensitive or inductive equipment. Inductive loads such as fluorescent lights, acoustic equipment and equipment containing motors such as fans and compressors, may not be suitable for connection to the mains outlet on the power station.


When mains power is not required, it is recommended that the inverter switch (8) is toggled back to the “0” position. The inverter still uses some power if it is switched on, so it is always worth switching it off if you don’t need to use it.

To turn the system completely off, click the system on/off switch (7) into the backward position. The panel voltage display (2) will turn off, confirming the power station is now off.

We would recommend that all switches be set to their off positions if no power is required, as this ensures that no power stored in the battery is wasted.

If you are unsure as to how much power you may need, you can download a spreadsheet from the product page on our website that will help you calculate your likely usage, or from this link – [Spreadsheet calculator](#)

Basic fault finding

<p>No power when the power station is switched on.</p>	<p>Check the 30A system fuse and replace it as necessary.</p> <p>Is the battery charged? Double-check using a multimeter that it reads over 12V DC.</p>
<p>No output from the DIN socket, USB ports or lighting sockets.</p>	<p>Check the 10A lighting fuse and replace it as necessary.</p>
<p>No mains output from the mains socket.</p>	<p>Check the 220V switch is in the “1” position.</p> <p>Check the 30A system fuse and replace it as necessary.</p> <p>If both of the above are OK, check the 35A purple fuse built into the left side of the inverter and replace it as necessary.</p> 
<p>The battery is not charging.</p>	<p>Check the solar panel for contaminants and dirt, and clean the solar panel with soapy water and a sponge as required.</p> <p>Confirm that the solar panel is not partially in shade, as this has a significant effect on the solar panel’s efficiency.</p> <p>Check the solar panel connections are still firmly attached to the side of the power station.</p> <p>Check the 16A in-line fuse holder between the charge controller and the battery and replace the fuse if necessary.</p>
<p>If you are unable to resolve the issue and would like further support, please reach out to our technical support team –</p> <ul style="list-style-type: none"> • Email: support@solartechology.co.uk • Phone: 01684 774 000 	

Accessories

Here is a list of accessories that are available for the power station premium –

- [Lighting Pack 1](#) is ideal for a single office or hobby room and the perfect choice with Solar Power Station Premium 250.
- [Lighting Pack 2](#) is perfect as a lighting solution for workshops, garages and large stable blocks, and the perfect choice with Solar Power Station Premium 500.
- [Lighting Pack 3](#) is the big one! Designed for multi-roomed buildings such as a small cottage, garden retreat or glamping cabin - anywhere there are multiple users in up to three rooms and the perfect choice with Solar Power Station Premium 750.
- [Pass-Through Wall Switch](#) is a plug-and-play switch that can be used with all Hubi kits and the Hubi Solar Power Station Premium. It is useful if lighting is needed in multiple rooms and allows the lighting in each room to be switched individually.
- [Hubi 2.5m Extension Cable](#) is designed to connect to both the solar panel cable and any of the lighting options to extend the cable run by 2.5m.
- [Hubi 5m Extension Cable](#) is designed to connect to both the solar panel cable and any of the lighting options to extend the cable run by 5m
- [3W 300mm LED 12V Light Strip](#) (45W equivalent). These light strips incorporate 15 super bright white LEDs that are so luminous they can be used in daylight as well as at night. These light strips can be easily linked together for greater coverage and are waterproof.
- [6W 300mm LED 12V Light Strip](#) (90W equivalent). These light strips incorporate 30 super bright white LEDs that are so luminous they can be used in daylight as well as at night. These light strips can be easily linked together for greater coverage and are waterproof.
- [Table Lamp](#) with E14 light fitting and 5m cable. This stylish naked table lamp suits the 0.8W, 12V LED Bulb (see below) and is fitted with a 5m cable, in-line switch and connection to allow it to be plugged into one of the lighting ports on the Solar Power Station. It also features a lock ring allowing a shade to be fitted if desired. *(NOTE - no bulb is supplied with this product)*
 - [0.8 watt, 12 Volt LED Bulb](#) Warm White 3 Watt (25W equivalent), 12 Volt LED bulb with E14 fitting
- [In-line bulb Holder \(E27\)](#) with linking cable attached, suits either the cool or warm E27 bulbs below. *(NOTE - no bulb is supplied with this product)*
 - [3 Watt, 12 Volt LED Bulb Cool White](#) (25W equivalent), 12 Volt LED bulb with E27 fitting
 - [3 Watt, 12 Volt LED Bulb Warm White](#) (25W equivalent), 12 Volt LED bulb with E27 fitting
- [Floor Lamp](#) with E27 light fitting and 5m cable, suits either the cool or warm E27 bulbs below. *(NOTE - no bulb is supplied with this product)*
 - [3 Watt, 12 Volt LED Bulb Cool White](#) (25W equivalent), 12 Volt LED bulb with E27 fitting
 - [3 Watt, 12 Volt LED Bulb Warm White](#) (25W equivalent), 12 Volt LED bulb with E27 fitting

If you wish to look at the full range of accessories, please visit our website -

<https://www.solartechnology.co.uk/category/hubi/hubi-accessories/1/>

Specifications for Hubi Power Station Premium 250

Model Number	HSPS250W
System voltage	12V DC 230V AC
Battery	AGM solar battery 42Ah
Useable watts at 12V	252Wh
Useable watts at 5V	200Wh
Power output sockets	12V auto socket 3-pin UK/2-pin euro AC socket (on the inverter)
Power input	MC4 connectors (for solar panel)
Switch settings	On / Off
Max current	10A @12V DC / 1.3A @230V AC
Overload protection	Yes 20Ah charge controller fitted
Max solar input	300W
Solar panel supplied	60W (expandable) <i>see STP060 for more information</i>
Expandable	Yes. A further 240W of solar panel(s) can be added <i>Contact Solar Technology for more information</i>
Enclosure	Powder-coated steel for indoor use only
Dimensions	390 x 300 x 500mm (narrows to 165mm at the top)
Weight inc. battery	30Kg
Charge time	Flat to full in 5-6 hours. <i>NOTE: The weather conditions and the time of year could more than double the charge times</i>
Solar panel bracket	Adjustable ground/roof bracket <i>see FKA09 for more information</i>
Inverter	300W 12V DC to 230V AC Modified Sine Wave <i>see INV300 for more information</i>
Warranty	Solar Panel – 10 years Battery – 2 years Inverter – 2 years All other items – 5 years

Specifications for Hubi Power Station Premium 500

Model Number	HSPS500W
System voltage	12V DC 230V AC
Battery	AGM solar battery 85Ah
Useable watts at 12V	500Wh
Useable watts at 5V	1220Wh
Power output sockets	12V auto socket 3-pin UK/2-pin euro AC socket (on the inverter)
Power input	MC4 connectors (for solar panel)
Switch settings	On / Off
Max current	10A @12V DC / 1.3A @230V AC
Overload protection	Yes 20Ah charge controller fitted
Max solar input	300W
Solar panel supplied	100W (expandable) <i>see STPU100 for more information</i>
Expandable	Yes. A further 200W of solar panel(s) can be added <i>Contact Solar Technology for more information</i>
Enclosure	Powder-coated steel for indoor use only
Dimensions	390 x 300 x 500mm (narrows to 165mm at the top)
Weight inc. battery	45Kg
Charge time	Flat to full in 5-6 hours <i>NOTE: The weather conditions and the time of year could more than double the charge times</i>
Solar panel bracket	Adjustable ground/roof bracket <i>see FKA09 for more information</i>
Inverter	300W 12V DC to 230V AC Modified Sine Wave <i>see INV300 for more information</i>
Warranty	Solar Panel – 10 years Battery – 2 years Inverter – 2 years All other items – 5 years

Specifications for Hubi Power Station Premium 750

Model Number	HSPS750W
System voltage	12V DC 230V AC
Battery	AGM solar battery 125Ah
Useable watts at 12V	750Wh
Useable watts at 5V	1800Wh
Power output sockets	12V auto socket 3-pin UK/2-pin euro AC socket (on the inverter)
Power input	MC4 connectors (for solar panel)
Switch settings	On / Off
Max current	10A @12V DC / 1.3A @230V AC
Overload protection	Yes 20Ah charge controller fitted
Max solar input	300W
Solar panel supplied	150W (expandable) <i>see STPU150 for more information</i>
Expandable	Yes. A further 150W of solar panel(s) can be added <i>Contact Solar Technology for more information</i>
Enclosure	Powder-coated steel for indoor use only
Dimensions	390 x 300 x 500mm (narrows to 165mm at the top)
Weight inc. battery	55Kg
Charge time	Flat to full in 5-6 hours <i>NOTE: The weather conditions and the time of year could more than double the charge times</i>
Solar panel bracket	Adjustable ground/roof bracket <i>see FKA09 for more information</i>
Inverter	300W 12V DC to 230V AC Modified Sine Wave <i>see INV300 for more information</i>
Warranty	Solar Panel – 10 years Battery – 2 years Inverter – 2 years All other items – 5 years