BatSol

keep the power

The universal storage solution for micro-inverters

USER MANUAL

www.batsolpower.com

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Manual

Thank you for purchasing Batsol®the easiest solar storage solution ever. Batsol® is very easy and straightforward to use and you should not face any problem installing and running it. But here are a few important recommendations that we believe will make it work longer and will prevent any safety or operational problems. Please read this manual carefully before installing your Batsol®. It will save you time, money and most of all, fair amounts of clean solar energy.

Items included

In each Batsol® box, you will find:

- A complete Batsol® unit
- An adjustable plate
- A set of 4 rubber holders
- A locking tool
- A quality control sheet
- A specification sheet
- This manual

Handling and Storage

The Batsol® is lightweight and is easily handled by one person. It can be piled up and stored in any position. When not used, it should be kept in a dry and cool place, away from mice and insects. The temperature of the storage place should not exceed 50°C.

The Batsol® maximum storage duration shouldn't exceed 3 months.

Equipment Needed

Be careful with the edges of the Batsol® that might be sharp.

For installation

- gloves
- locking tool
- serial number template form

For maintenance and servicing

None. The Batsol® does not need maintenance. When it is not working, just replace it and send the faulty unit back to the factory.

When kept unused, the Batsol® should be kept half-charged to prevent excess ageing or discharge. Please refer to the warranty terms for detailed recommendations.

Inspection

Upon arrival, check the Batsol® for visible damage (i.e. cracks, dents, deformation and other visible abnormalities). Verify connectors, assure that they are clean.

In case there is a visible problem, please contact your retailer to determine if the battery needs replacement.

Installation

Batsol® can be used for a wide variety of applications. No matter the application, always be certain that the Batsol® is properly secured, and that all connections are in good contact with the terminals.

Positioning the Batsol®

Although the Batsol® can be installed in any position, there are positions where it will work better.

- Thermal considerations: the Batsol®, as all NiMH based batteries, is affected by temperatures. It will work best with ambient temperatures from +5°C to +45°C. And when temperature goes below 0°C or over 50°C, an internal electronic protection switches the Batsol® off. When installing, try to:
    - Set the Batsol® at the bottom of the solar panel if the panel is in a portrait position,
    - Set the Batsol® close to the most open end of the solar panel on a landscape configuration,
    - Keep some air space between the Batsol® and the roof to allow for natural air cooling
    - Keep the cables, or any other item, from obstructing the air gap between the Batsol® and the panel back sheet or the chimneys placed across the Batsol®.
- Electrical and mechanical considerations:
    - Set the Batsol® in order not to interfere with the panel mounting holes when they are used to fit the panel on the supporting structure,

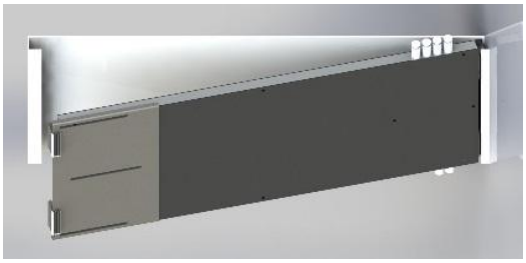
- Set the Batsol® close enough to connect the two MC4 panel leads without needing extensions,

Fitting the Batsol® inside the solar panel

The Batsol® can fit in any standard 60 or 72 cells solar panel about 1m wide with an aluminum frame without any hole drilling or screws. The frame has to be 30 to 50mm thick. Please make sure you have ordered the right rubber holders to match your panel frame.

1. Insert the rubber holders into the frame manually. Do not use a hammer. Be careful to insert them the right way, with the slot on the external side, far from the panel back sheet. The rubbers' spacing can be adjusted later manually to fit the Batsol®

2. Insert the Batsol® into the rubber holders on one side. The Batsol® plate should fit into the rubbers holders' slot. The adjusting plate should be fully retracted.



3. Place the Batsol® inside the panel and extend the adjusting plate until it fits into the free rubber holders' slot. Once fully engaged, tighten the locking screw with the locking tool. The Batsol® shoul not touch the panel back sheet and should be firmly attached to the panel.

Connecting

4. Once the Batsol® is firmly fitted into the solar panel, connect the two panel MC4 leads to the PV MC4 inputs on the Batsol® (check labels).

5. Install the micro-inverter (you can use the Batsol® holding plate) and connect the two micro-inverter leads to the INV MC4 outputs.

6. As BatMatch is involved on the system, it is time to connect the communication leads too. Check the BatMatch Manual for details.

Commissioning

Before starting using the Batsol®, which is theoretically ready to use, we would recommend letting the sun charge it first for a whole day. This way, you will be able to start with a fully charged system in the best conditions.

Trouble shooting

The Batsol® has a CAN-bus port that can be connected to a BatMatch using the B-Adaptor® cable kit for immediate inspection. The BatMatch® hosts a webserver and can be accessed through an IP address with any web browser.

1. Connect the B-Adapator cable to one of the Batsol® communication input and to the BatMatch, then connect the BatMatch to your PC. Open your favorite web browser, type the correct IP address and...
2. ...check the values. Warning messages should let you know right away what goes wrong.

For more details, check the BatMatch User Manual.

Technical specifications[1]

Item	Unit	Value
Name		Batsol®
Voltage min nominal max	Vdc	20 24 29
Nominal capacity at 20°C	Ah	30
Nominal capacity (energy)	Wh	720
Technology		NiMH
Current max IN (from PV) 0.3C	A	10
Currentt max OUT (to µ-inverter) 1C	A	15
Voltage MPP max IN	Vdc	35
Open circuit voltage Voc max IN	Vdc	40
Power max OUT	W	300
Cycle life		1500
Temperatures min max (operation)	°C	-20°C / +60
Temperatures min max (storage)	°C	-45 / +70
Storage duration without charge max at 25°C	Month	3
Humidity max	%	95
Dimensions (L x l x e)	mm	960 x 760 x 56
PV Module frames sizes Batsol® can fit in: - width	 mm	Modules 60 or 72 standards cells standard aluminium frame 980 < L < 1150
Weight	kg	11
IP rating		IP64
BMS		Included. Protection over voltage, over current, under voltage, temperature, cell balancing
Communication		CAN Bus
One cycle efficiency		92%
Standards and certifications EMC Directive 2004/108/EEC and Safety Directive 2006/95/EC - EN60950-1: 2005 Safety EN61000-6-2: 2007 EMC- Emission - EN61000-6-3: 2006 EMC- Emission		

[1] Technical specifications of the Batsol®may be changed without notice.

Warranty

The Batsol® is guaranteed during 3 years after its production date against manufacturing defects or design flaws. Please check www.batsolpower.com for further details.