Self-consumption hub-1

Self-consumption Hub-1	
Welcome This assistant is designed to make optimal use of solar energy, produced to Chargers which are directly connected to the battery.	oy Victron Solar
Refer to the Hub-1 manual for more info.	
Principle of operation Normally solar chargers will reduce their power, when the batteries bed prevent overcharging the batteries. This implies that solar energy is wa A Multi/Quattro system connected to the batteries can prevent this en converting the surplus DC solar power to AC power. This power will the connected AC loads or, when there is a surplus, it can optionally be fe mains.	come full, to asted! ergy waste by en be fed to the d into the
 IMPORTANT The firmware version in the Multi has to be xxxx3xx/xxxx4xx. (morversions) Since batteries are charged by an external device the State of Clunknown by the Multi/Quattrol Please do not use this assistant to assistants which rely on the State of Charge calculation. This assistant must be placed in ALL possible phase masters When using a Lynx Ion BMS, It MUST be connected to the mast This will be indicated by the assistant. Extended systems (e.g. a system with more than 1 AC input, build not possible in combination with a Lynx Ion BMS. (Note: A system with 2 AC inputs build with Quattros is not an ext Take care that the total charge current (Multis + Solar chargers) exceed the maximum allowed charger current for the batteries. 	re info about harge is ogether with ter of phase L1. I with Multis) are ended system!) does not
 Charge process When there is communication between the MPPT charger and the Multi/Quattro system, the charge process is controlled by the assistant and optimized for solar energy. (More info on this communication will be given further on, depending on the selections made.) Under normal circumstances the batteries will not be charged with power from the AC mains but only with solar power. Exceptions:	
 Once per 28 days (standard setting) a full charge request is issued. If, at the end of the day, the battery is not fully charged, energy will be taken from the mains to complete the request. * Also when automatic equalization (for OPzS/OPzV batteries) is selected it is possible that during equalization energy is taken from the mains. 	
 The following settings in VEConfig are not relevant: "Stop after 10Hr bulk" "Storage mode" "Use tubular plate traction battery curve" "Charge curve" "Absorption time / Maximum absorption time" 	
Cancel << >>	,



When to use the hub-1 Assistant?

Use the Assistant for these systems with Solar chargers, ie. dc-coupled solar power:

• Grid that allows feed-back

- Grid that does not allow feed-back
- Grid + a backup generator

Do not use this Assistant for the following systems, even though they have solar chargers:

- No grid nor generator; solar only
- Only a generator connected to the ac-input of the Multi or Quattro, no grid.

See also our blog post on hub-1.

Frequently asked questions

Do I need to connect the Multi or Quattro to the MPPT with VE.Can?

No it is not required, just much recommended. And make sure to only use it when grid-feedback is enabeld. The advantages of using the VE.Bus to VE.Can interface are:

- The MPPT will automatically use the settings from the Multi, no need to configure the MPPT.
- Equalize is managed by the Multi
- The charge states will be synchronized
- No risk that the MPPT switches to float before the Multi does, and therefore backfeeding will stop

Notes for systems where the Multi and the MPPT are not communicating (for example an MPPT 100/50 that does not have a VE.Can comm. port):

- Power can still be fed back to the grid!
- Set the absorption and float voltage of the MPPT slightly higher than the same set points in the Multi
- In a Lithium system, make sure that the MPPT can be switched off by the BMS.

More information in the VE.Can to VE.Bus interface manual.

What happens when there is to power to be fed back, but there is no grid available?

The solar charger will charge the batteries until the absorption voltage is reached, and then reduces it's output. It switches to regulation on battery voltage instead of MPPT or output current. In other words: the batteries will not be overcharged.

What happens when the battery is full and feeding back the grid is has not been enabled in the configuration?

See previous answer.

I do not have a Multi with the new microprocessor, what are my alternatives?

With older Multis and Quattros it is unfortunately not possible to feed power from DC back into the grid. It is possible to prioritize solar in a dc-coupled system.

~~DISQUS~~

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