## How to add an Assistant from start to finish

Note: below screenshots are just an example. The same procedure works for other Assistants as well. The used example refers to an Assistant which has later been renamed to PV Inverter support, and is also rarely used on new installations. The Self-consumption Hub-2 Assistant is used instead. It is not necessary, nor possible, to combine it with the PV Inverter support Assistant.

Note for three-phase and parallel systems: some Assistants need to be configured in in all Multis or Quattros in the system, others only in the master of L1 or in all phase-masters. Carefully read the instructions in the Assistant pages while configuring.

## Prerequisite

To work with Assistants, VE.Bus Multis, Inverters and Quattros must be loaded with a a different firmware first. More information about which firmware type to choose for an installation, and the updating instruction, is available in our PDF VE.Bus firmware versions explained.

## Step by step instructions

Open VEConfigure3 on your computer, connect to the Victron product and open the Assistants tab. Don't see the assistants tab? See here.

Then, from the drop down menu select the Grid Converter support

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VE Configure 3 (Quattro 24/30 File Port selection Target Defa 응답 Quattro	ults Options Special Help General Inverter Charger Battery monitor Virtual switch Assistants
UMains 235 V IMains 0.7 A UOut 235 V IOut 0.4 A Udc 26.1 V Udc ripple 0.1 V Idc 0 A Freq. Out 50.2 Hz	Assistant Configuration Assistant Tools  Assistant Setup  Available assistants:  grid converter support (0114)  use 1140-interface to set input current limit (0115  here to s
Freq. In 50.4 Hz SoC Ignore AC 0 aux. relay 0 show VE.Bus monitor	Lynx Ion BMS support (0116) programmable relay (011E) relay locker (0104) Self-consumption Hub-2 v2 (011D) VE.Bus BMS (0122)
Get settings	Start assistant     Save assistant     Delete assistant       Summary     Load assistant

Click add assistant

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VE Configure 3	(Quattro 24/30	
File Port selection Quattro UMains IMains UOut IOut	236 V -1.7 A 236 V 0.0 A	Baults       Options       Special       Help         General       Inverter       Charger       Battery monitor       Virtual switch       Assistants         Assistant Configuration       Assistant Tools       Assistant Setup       Available assistants:       Add assistant
Udc Udc ripple Idc Freq. Out Freq. In SoC Ignore AC aux. relay show VE.Bus	28.9 V 0.1 V 7 A 50.2 Hz 50.4 Hz 0 0 0	Used assistants:
-	<u>G</u> et settings <u>S</u> end settings	
Victron Energy		Start assistant     Save assistant     Delete assistant       Summary     Load assistant

The assistant will appear in the 'Used assistants' box and it will be in italics, as it has not been configured yet.

Now Click on Start assistant

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	//3000/70-50/30 )
File       Port selection       Target       D         Quattro       UMains       236 V       V         UMains       -1.9 A       UOut       236 V         UOut       236 V       UOut       0.0 A         Udc       28.9 V       Udc ripple       0.1 V         Idc       6 A       Freq. Out       50.0 Hz         Freq. In       50.1 Hz       SoC       Image: Complement of the second s	efaults Options Special Help General Inverter Charger Battery monitor Virtual switch Assistants Assistant Configuration Assistant Tools Assistant Setup Available assistants: grid converter support (0114) Used assistants: grid converter support f
show VE.Bus monitor	+
Victron Energy	Start assistant     Save assistant     Delete assistant       Summary     Load assistant

The Welcome screen is very important and contains important information. Read it carefully.

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e grid converter support		
Welcome This assistant will help you to setup a solar system IMPORTANT: Make sure to read and follow the requirements below introduction)	!! (at the end of the	
<ul> <li>INTRODUCTION:</li> <li>A Multi/Inverter can be used in conjunction with a grid-connecter converter to make an island system.</li> <li>Normally all extra energy (=solar energy minus load) will flow to the This can cause the batteries to become over charged!</li> <li>To prevent this, the solar converter should be limited in power or when the battery voltage becomes too high.</li> <li>Victron Bluesolar Grid Inverters can be limited in power by adjustioutput frequency of the Multi. So by changing the frequency the process can be regulated.</li> <li>This assistant will help you to setup such a system.</li> <li>When this assistant is used, changing the 'system frequency' on page has no effect on the inverter frequency. (It can still have effected be frequency range of the transfer switch, see the help to REQUIREMENTS:</li> <li>Any assistants which have effect on whether or not the incomit accepted must be placed BEFORE this assistant. If any such assistant is used in a Multi phase system they MUS be used in phase 1.</li> <li>All Multis in the system must load this assistant.</li> <li>A Multi-phase system must be symmetrical, this implies:</li> <li>* Each phase must have the same number of Multis/Quattros * Each input must 'switch as group' (see 'VE.Bus System Context)</li> </ul>	e battery. shut off ing the 'charge' the general ffect on the file) ing AC is	
(When using VE.Bus Quick Setup' most conditions are satisfi automatically. Only the Solar power must be balanced per ph		

Make sure you know the frequency at which the Grid Inverter will switch off, it must be entered on this page

% grid converter support	
Disconnect frequency Enter the frequency at which the grid converter disconnects. Note: the assistant assumes that: * solar power will be reduced to minimum at (Disconnect frequency - 0.2Hz) * solar converter will be switched off at (Disconnect frequency + 0.1Hz)	
The solar converter disconnects at 52.90 Hz.	
X Cancel	

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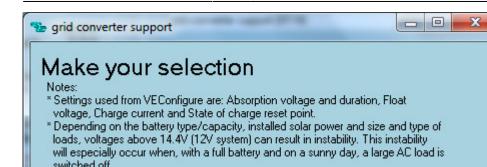
Here enter the total amount of PV power installed in Watts.

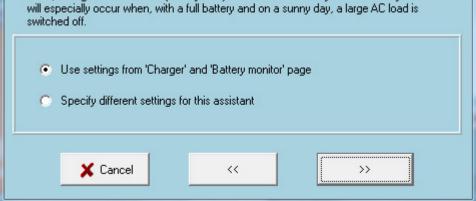
-	🐲 grid converter support	J
	Relative solar power Please calculate the relative solar power as: Total installed solar converter power / Total nr of Multis or Quattros	
	Relative solar power is 2500 Watts.	
	X Cancel << >>	

The Battery type can be selected here

<ul> <li>grid converter support</li> <li>Battery type</li> <li>Specify the battery type. The sele of the assistant.</li> <li>(Also, when Lithium batteries are seles)</li> </ul>			
<ul> <li>Lithium batteries</li> <li>Other</li> </ul>			
🗶 Cancel	~	>>>	

The charger settings can either be used from the Charger page or you can define other settings.





The Restart voltage should not be changed unless it is absolutely necessary. It can be set lower maybe but we don't recommend settings it any higher.

Se grid converter support
Restart voltage When more loads are connected or when solar energy becomes less the inverter starts to work and battery voltage will drop. If voltage becomes low the Solar charge process should be reset (i.e. switched to Bulk). Specify the reset voltage. (Use 13.35V for LiFePO4 batteries)
When, at any time during the process, the battery voltage becomes lower than 25.50 Volts for 60 seconds, the charge process is reset.
X Cancel << >>

Once the assistant set up pages are finish you will the 'grid converter support' is now in normal text.

At this point if all the normal settings on the other pages of the software are complete you can select 'send settings'

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	000/70-50/30 )
Quattro UMains 233V IMains 1.0A UOut 234V IOut 0.3A Udc 28.8V Udc ripple 0.1V Idc 4A Freq. Out 50.2 Hz Freq. In 50.1 Hz SoC Ignore AC 0 aux. relay 0	aults Options Special Help     General Inverter Charger Battery monitor Virtual switch Assistants     Assistant Configuration Assistant Tools     Assistant Setup   Available assistants:   grid converter support (0114)     Used assistants:     grid converter support     f
show VE.Bus monitor Get settings Send settings	Start assistant     Save assistant     Delete assistant
Victron Energy	Summary Load assistant

You will be asked which normal settings you want to send.



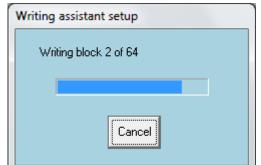
Then you will be asked whether the assistant set up must be sent also.

Confirm	X
?	Would you like to send the assistant setup to the device? (Be aware: the device will be switched off while the assistants are sent.)
	<u>Y</u> es Cancel

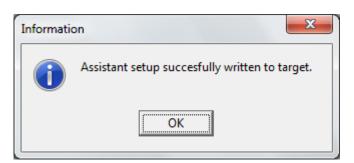
The Inverter/charger will switch off while sending the assistant set up to the Unit. This screen will appear.

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When the 'writing' of the assistant is finished this screen will appear, the Inverter/charger will restart, if OK is selected it also restarts.



## DISQUS

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