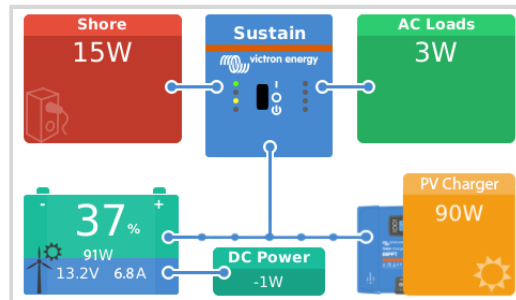


## Solar & Wind Priority

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## 1. Introduction



The solar and wind priority function ensures that solar and wind energy are used to charge the battery. At the same time, shore power is only used to prevent the battery from becoming too deeply discharged.

When activated, the system remains in this mode, called Sustain, for seven days; if there is not enough sun or wind, a full charge cycle will take place, charging the batteries to 100%. This ensures they remain in optimal condition and are ready for later use.

After these seven days, the system will not return to sustain mode. Instead, it will keep the batteries fully charged and prioritise solar power over shore power wherever possible during the day to run DC loads such as pumps and alarm systems.



The intended applications for solar and wind priority are boats, campers and other systems connected to shore power.

For installations with a permanent utility connection, such as houses, farms and other stationary installations, we have another solution: [ESS](#).

Watch the video below for a quick overview:



## 2. Details & Requirements

### Requirements:

- Victron inverter/charger such as Multi, MultiCompact, MultiPlus, MultiPlus-II or Quattro with new microprocessor (26/27).
- Solar, preferably a Victron solar charger, but not necessarily, or a wind generator with a designated charger. Note that Victron does not supply charge regulators for wind.
- To use the 'Charge the battery to 100%' feature, either a [VE.Bus Smart Dongle](#) + [VictronConnect App](#), which is an effective and simple monitoring solution; easy to retrofit onto existing systems, is needed, or the more advanced option, a GX device like the [Cerbo GX](#) or [Ekrano GX](#).

### Further details and specifications:

- While in sustain mode, the inverter/charger uses shore power to ensure the battery voltage does not drop below the configured sustain voltage.
- For charging the battery, as well as powering DC loads, solar and wind are prioritised. For AC loads that is not the case; shore power will be used to power them, which in many systems is not really an issue since they are rather small. If you prefer to also power AC loads from the battery, solar and wind, look into our Ignore AC input options in VictronConnect, available as the 'Conditional AC input connection' settings menu. Also described in detail in [this blog post on Panbo.com](#).
- The feature works purely on voltage, making it simple, robust and effective. It does not require an integration with battery monitors, GX devices or central control mechanisms such as DVCC.
- The Solar and wind priority mode works for systems with a managed battery, where a BMS manages the charging process (DVCC) and more traditional systems where the inverter/charger runs its own charge process. Examples of managed battery systems are Lynx Smart BMS, MG Energy Systems batteries with MG Master LV, and similar. For such systems, during those first seven days, the inverter/charger will charge using the configured sustain voltage rather than the battery-commanded charge voltage (CVL).
- Generator support: The system will automatically detect that a generator is running and then charge at full power as usual. For Quattros, it requires the generator to be wired to the AC-in-1 input. In case of Multis with an external transfer switch wired in front of it, the GX device can be used to detect if the generator is active (with a digital input) and pass that information along to the Multi. When using a Digital Multi Control panel (DMC) and closing the generator select input terminals of the screw connector on the backside, the system will charge at full power also.

## 3. Configuration



**WARNING:** Updating the firmware of this product range and making configuration changes is strongly advised to be carried out by trained personnel only. Doing the update will cause all settings to be reset to their default. We therefore advise saving the settings before updating and after updating reinstalling the configuration.

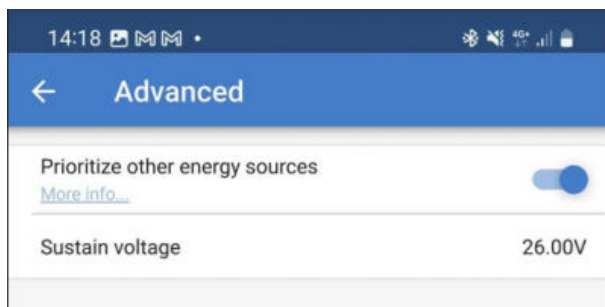
### 1. Installation of software and firmware updates

- Download VictronConnect version 5.92 or later from the Google or Apple App Store
- Update the inverter/charger firmware to version 506 or later using VictronConnect (MK3 required, not supported for iOS devices), VE.Flash (MK3 required) or [VRM: Remote VE.Bus Firmware Updates](#).

### 2. Configuration

- **Via VictronConnect** (requires an MK3 to USB interface)

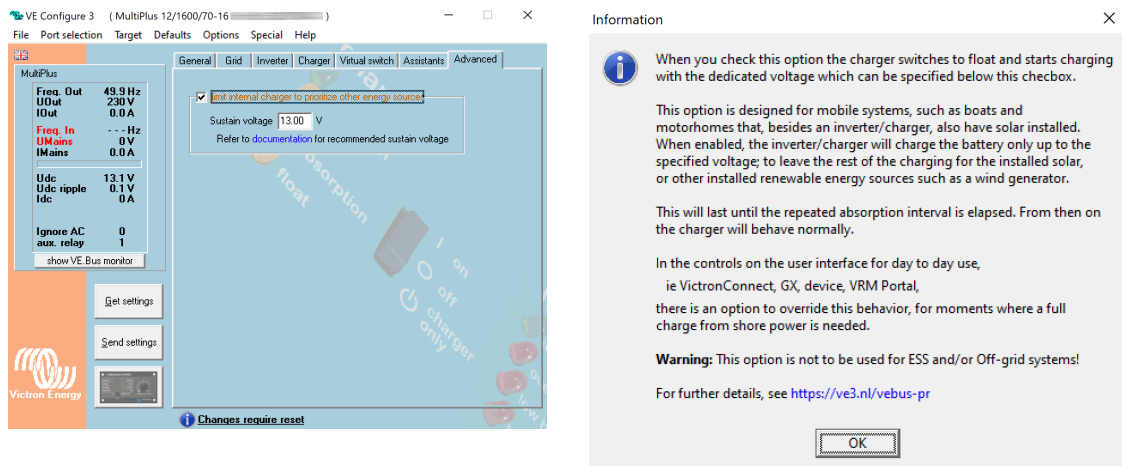
The setting is available in VictronConnect on the Advanced tab:



Use the slider to enable solar & wind priority

- **Via VEConfigure** (preferably via [VRM: Remote VEConfigure](#) or VEConfigure and MK3 to USB interface)

The setting is enabled in VEConfigure on the Advanced tab:



- Adjust the sustain voltage according to the table below. Note that these are recommended voltages:

For lithium batteries, setting Sustain to 13.0V, which equals 3.25V per cell, makes the system maintain a minimum state of charge of approximately 30%.

For Lead batteries (AGM, Gel), setting Sustain to Float minus 0.2V, makes the system maintain a minimum state of charge of approximately 95% (using 13.8V float voltage as an example).

System voltage	LiFePO4	Lead (AGM, Gel)
12V	13.0V	Float* minus 0.2V
24V	26.0V	Float* minus 0.3V
48V	52.0V	Float* minus 0.4V
* See the battery manufacturer's recommendations for float voltage		

**3. Check other settings**

- If the storage setting is enabled, after 12 hours of float the system will go into storage mode as usual.
- Repeated absorption interval: With solar and wind priority enabled, this setting controls both the duration of the initial Sustain mode and the repeated absorption interval. Increase this setting in case it is preferred to keep the system in Sustain for longer - allowing more days for solar and wind to charge the battery before falling back to shore.

## 4. Operation

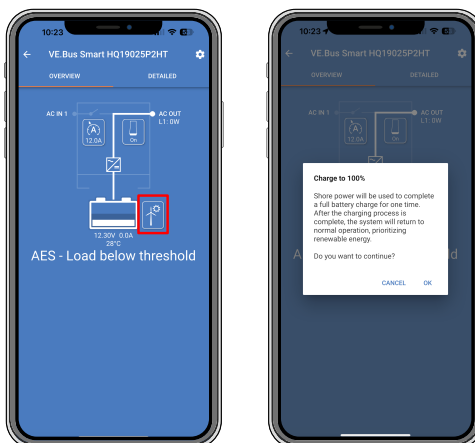
Once solar and wind priority is activated, it can be overridden at any time via a virtual switch in VictronConnect, the VRM portal or the GX device to force charging with shore power to charge the battery to 100%. Once charging is complete, the system will return to sustain mode and prioritise solar and wind power.

This is especially useful when you go on a trip with a fully charged battery or to balance the lithium batteries. The forced charging via shore power can be cancelled anytime using the same switch.

### Via VictronConnect:

To force a charge from shore power or stop a forced charge with VictronConnect:

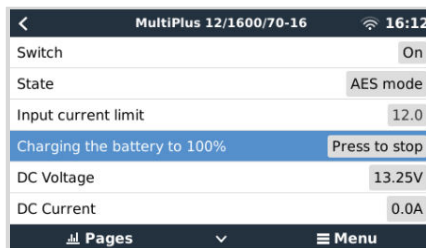
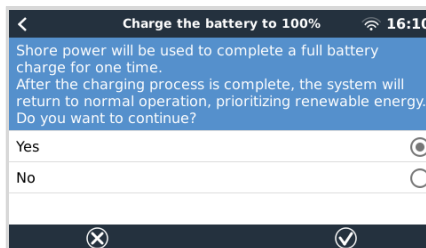
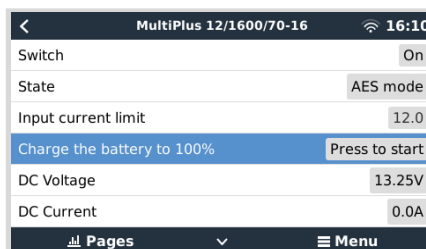
1. Open VictronConnect and tap on the VE.Bus inverter/charger overview (connected either via VE.Bus Smart Dongle or MK3 to USB interface)
2. Tap the Solar & Wind icon next to the battery icon.
3. Tap 'OK' in the pop-up window.



### Via GX device menu:


To force a charge from shore power or stop a forced charge via the Remote Console:

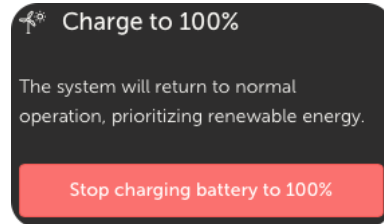
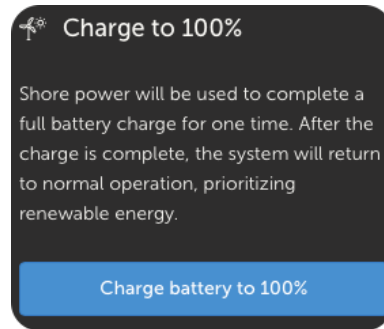
1. Open the Remote Console.
2. Go to Device List → [your\_MultiPlus\_or Quattro].
3. Click on 'Charge the battery to 100%'.
4. In the menu that opens, click 'Yes'.
5. Click 'Charging the battery to 100%' to stop the forced charge.
6. In the menu that opens, click 'Yes'.



### Via VRM Portal:

To force a charge from shore power or stop a forced charge via the VRM Portal:

1. Access the VRM portal (using the VRM app or a browser) and select the installation where you want to charge the battery to 100%.
2. Navigate to the installation dashboard and click the 'Controls' button  in the top-right corner.
3. Click on 'Charge battery to 100%'.
4. In the next window, either confirm the action or wait for the 5-second timer to expire. The battery will then charge to 100% from shore power.
5. To stop the charging process at any time before it's finished, click the 'Controls' button again and select 'Stop charging battery to 100%'.



Watch the video below to learn how to use the solar and wind priority features:

