



**RV SOLAR
CONNECTIONS**

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Programming Victron Inverter/Charger VE. Bus - LiFePO4

Updating Firmware

Firmware must be updated prior to any programming. **Firmware is the first step!**

To update firmware, [download the VictronConnect app](#) for your Mac or PC and follow the instructions listed [here](#).

On rare occasions, firmware updates will fail within VictronConnect. If this is the case, you'll need to use VE. Flash to upload the latest firmware. If you believe you need to use VE. Flash, contact RV Solar Connections for assistance at support@rvsolarconnections.com, or (720)-594-5272.

Programming

The most user-friendly means to program the inverter/charger is through VictronConnect. You can use a Mac or PC with a USB-MK3 adapter. If you prefer to use an android phone or tablet, you can do so with the addition of an [on-the-go \(OTG\) cable](#).

If working with a system where multiple inverter/chargers are to be configured in parallel, split-phase, or 3-phase, reference that documentation first before proceeding.

Programming can also be done via the VRM and VEConfig (see 'Remote Updates & Programming via VRM')

VictronConnect

Access the full settings menu with the password: zzz

For most systems, there are only a few settings that will need to be changed. For a more in-depth understanding of the function for each setting, check out the descriptions [here](#).

General Settings

All General Settings default except the following:

Current Limit - 15a, 30a or 50a depending on service (This settings doesn't really matter if "Overruled by Remote" is enabled)

A Note on Current Limit (and considerations with generator use):

Current Limit can be accessed a few ways

1. Via the Digital Multi Control (DMC)
2. Through VictronConnect by means of the VE.Bus Smart Dongle
3. Via the remote console or GX Touch 50 by navigating to "Device List" and selecting the MultiPlus. From here, reduce the current limit to 80-85% of generator rating. For example, 80% of a 3000 watt generator is 2400. 2400 divided by the voltage of the generator (120v) is 20. In this case, you would reduce the current limit to 20 amps whenever the generator was supplying power. This current limit could be the "default" setting, and you would only increase it when connecting to a higher power shore service, such as 30 or 50 amps.

Overruled by Remote - **Enabled** if Digital Multi Control (DMC), Smart Dongle or Cerbo GX are present.

Dynamic Current Limiter - This feature is intended to reduce load impacts on low-power generators, such as portable inverter technology models. **These generators may be unable to respond to sudden load impacts. By activating the limiter, the PowerAssist function of the MultiPlus will absorb the change in load and transfer it smoothly to the generator, giving it time to react.** The default setting for this is off.

Enable Battery Monitor - **Off**, unless there is no other battery monitor in the system

Grid

All Grid Settings default.

Possible exception if generator is being used:

The UPS function is an important one to note. UPS stands for Uninterruptible Power Supply and when this is checked, the idea is that the MultiPlus can instantly start inverting in the event of an interruption in the shore power. The switch over is so fast that devices like computers continue working without interruption. The UPS function means that the MultiPlus must keep track of the incoming shore power and follow it exactly. **If the incoming power is a small generator and gets distorted when the loads are high, it can become impossible for the MultiPlus to stay in sync with it. If the MultiPlus cant keep in sync it stops charging. If this happens, unchecking the UPS box will usually eliminate the problem** and allow the MultiPlus to continue to charge batteries.

Inverter & Charger Settings

This is where the majority of changes will be made. When in doubt, check with your battery manufacturer to confirm what their particular recommendations are. The settings outlined below should work in most cases for **12V LiFePO4** battery chemistries. In the case of 24V systems, simply double the values listed below. As the installer, it is your responsibility to confirm with the battery manufacturer that these settings are appropriate.

Inverter

All Inverter Settings default except the following:

DC Input Low Shut Down - 11.2v

DC Input Low Restart - 12.5v

DC Input Low Pre-alarm - 12v

AES: Typically leave Disabled.

Charger

All Charger Settings default except the following:

Scroll down to “Lithium Battery” and enable.

Absorption Voltage - 14.2v

Float Voltage - 13.6v

Charge Curve - Fixed

Absorption time: 0.5 hours per 100 Ah battery

AC Input Control

All AC Input Control Settings default.

Congratulations! You've successfully updated and programmed your Victron Inverter/Charger. You are now ready to charge the battery bank via shore power and supply 120V to AC appliances.