

VRM: Remote firmware update

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1. Remote firmware update

1.1. Introduction

This chapter describes how to update the firmware remotely via the VRM Portal. This functionality requires the device to be connected to a GX device (Cerbo GX, or other, whose firmware can also be updated via VRM).

See the demonstration video [Remotely update VE.Direct firmware on Youtube](#)

1.2. Notes on firmware updating in general

Stable systems should be left with their current firmware.

A firmware update may introduce new issues, either in the update process itself, or as a result of a change made.

It is not required to keep your Victron equipment updated to the latest firmware version.

Firmware updates should only be done when it is recommended to fix an issue you are experiencing, or add a new feature that is required by the installation.

- Newer is not always better
- Don't break it if it works

Changelogs can be downloaded from [Victron Professional](#).

1.3. Details

1.3.1. Requirements

- GX device must be running Venus OS v2.17 or later
To update the GX device itself remotely via VRM, it must be running Venus OS v2.80, preferably v2.90 or later.
- System must be connected to the internet and communicating to the VRM Portal.
- The Full access setting, which is on the GX device menu → Settings → VRM Online Portal → VRM Portal must be enabled.

1.3.2. Compatible products

The following product ranges can be updated remotely via VRM. Be sure to read the [Limitations \[2\]](#) section before performing a remote firmware update.

Product ranges for which the firmware can be updated remotely:

- Products connected via VE.Direct communication port:
 - MPPT Solar Charge Controllers, including MPPT RS (See note 1 below)
 - BMV Battery Monitors
 - SmartShunts
 - Phoenix Inverters
- Products connected via VE.Can communication port:
 - MPPT Solar Charge Controllers
 - Skylla-i battery chargers
 - Inverter RS, Multi RS and MPPT RS

- Lynx Smart BMS
- Products that communicate with VRM via internet:
 - GX devices (see the [Limitations \[2\]](#) and [Requirements \[1\]](#) section for more info)

Victron Energy Multis, Quattros, and other VE.Bus-connected inverterchargers can be updated as well, see [these instructions](#).

1.3.3. How does it work?

1. The new firmware file is first uploaded to the system.
2. Once received and verified, the GX device starts updating the firmware of the connected device. This eliminates any problems that could be caused by an intermittent internet connection. In case the internet does break while performing the update, the system will continue with the firmware update.

1.3.4. Where to find the firmware file?

It is not necessary to get a file yourself; the VRM Portal already has all the latest firmware files available. See [Victron Professional](#) for the changelogs.

1.3.5. Limitations

- **MPPT Solar Chargers connected with VE.Direct**
 - During the update of a VE.Direct connected MPPT Solar Charger, any configuration in the device will be maintained, but in the event that the update fails, which is unlikely, VE.Direct MPPT Charge Controllers will have lost their configuration. Also it is not possible to reconfigure them remotely. All other devices work with a different process and will not lose their settings during an update; even if it fails.
- **BMVs**
 - Updating firmware on a BMV that is connected via a canbus interface is not possible.
- **Lynx Ion BMS Series**

Remotely updating firmware of these Lynx series of products is not possible:

 - Lynx Ion - product-id 0x0142
 - Lynx Ion + Shunt 350 & 600A model: product-id 0xA130

Whereas remote updating the Lynx Ion BMS 150A, 400A, 600A and 1000A model is possible.

Notes:

1. The firmware library does not always have the files. Download the file from Victron Professional and use the option to self upload a file.
 2. Make sure that the GX device is powered on the Aux-power output. That is the only port that will remain powered during the firmware update process. All others (main contactor, and also Allow-to-charge and Allow-to-discharge signals) will disconnect; causing Multis and also loads to switch off. Once the update is completed, the Lynx BMS will restart and restore everything.
 3. In case the update fails, it can be retried; just like all other products. But in case of the Lynx BMS, this has to be done within 5 minutes. Otherwise it will go to sleep mode and a push on the start button is required.
- **GX devices**
 - GX devices will not be shown in the device list of updatable devices if they are running a firmware version prior to v2.80.
 - It does not allow manual updating of the GX device.
 - The firmware version to search and update is the same as configured in the GX device Settings → Firmware → Online Updates menu. Example: If 'Image type' is set to 'Large' and 'Update feed' is set to 'Latest release candidate', the latest Venus OS Large beta firmware will be searched for and updated.

1.3.6. Step-by-step instructions

1 In VRM go to the installation and click Device list on the left hand menu.

2 Scroll down to the Firmware Update button. Click it.

3 After scanning for connected devices, a list of upgradable devices is displayed. Devices with an available firmware update have a blue Update Device button.

4 Click on one of the Update Device buttons (if available) to start the firmware update process for that specific device.

5 A pop-up window will appear showing the update process.

6 Once update is finished, another pop-up window will appear indicating that the firmware update was successful.

1.3.7. Manually uploading a firmware file

In most situations the system will already have a firmware file available; no need to upload anything yourself. Sometimes however it is necessary to upload a file from your computer; and this chapter explains how that's done.

The screenshot shows a table of devices with the following columns: Product Name, Model, Path, Current Version, and Status. The first row is 'SmartSolar Charger MPPT 75/15', 'A053', '/dev/ttyUSB0', 'v1.61', and 'v1.61 ✓ Up to date'. The second row is identical but includes an 'Upload file' link and a close button. A modal dialog titled 'Firmware File Upload' is open, showing a plus icon, the title, a description, the selected product name, and a 'Select file' button. Three numbered callouts (1, 2, 3) are overlaid on the image: 1 points to the three dots menu icon, 2 points to the 'Upload file' link, and 3 points to the modal dialog.

Product Name	Model	Path	Current Version	Status	Actions
SmartSolar Charger MPPT 75/15	A053	/dev/ttyUSB0	v1.61	v1.61 ✓ Up to date	⋮
SmartSolar Charger MPPT 75/15	A053	/dev/ttyUSB0	v1.61	v1.61 ✓ Up to date	Upload file ✕

Firmware File Upload

Here you can upload your custom firmware file (.dup or .xup).

Selected product:
SmartSolar Charger MPPT 75/15,
A053

Select file

1. Start with having the system list the updatable devices as explained in the [Step-by-step instructions \[3\]](#).
2. Click on the three dots to the right of the device to be updated; The Upload file button will show.
3. Click that and select the file on your computer; the rest of the procedure will continue as explained in the previous chapter.

1.3.8. Troubleshooting

- Error 1341 Not updatable
 - Typically shows when it is not a Victron product.
- Error 1343 Not updatable: Blacklisted
 - See [Limitations chapter \[2\]](#). The product you are trying to update cannot be updated remotely.