VictronConnect manual

Table of Contents

1. Introduction

Welcome to the VictronConnect Manual. Use the VictronConnect App to configure, monitor, update and diagnose the VictronConnect compatible products.

VictronConnect is available for Android, iOS, Windows, and macOS X.

It can connect to Victron products via Bluetooth, USB and WiFi/LAN/Internet. How to connect depends on the product, some product ranges have Bluetooth, some do not. Some product ranges have WiFi, others do not. For details, see chapter 11.

Documentation

See the table of contents for all general VictronConnect information covered in this document.

Other product specific relevant documents are:

- Specific documentation for MPPT Solar Chargers located in their product manuals

- VE.Bus Configuration for MultiPlusses, Quattros, EasySolars and other inverter/chargers.

- Specific documentation for Orion Smart DC-DC Chargers located in their product manuals.

2. Download and installation

VictronConnect is available to users of Windows PCs, macOS X, iOS and Android phones, as well as tablets. Use this link to download the app suitable for you.

Also, it is available for Linux - though not officially supported.

See chapter 4 [6] for details regarding compatible phones, tablets and laptops, as well as required minimum Operating System versions.

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3. Connecting

There are three ways to connect to a Victron product:

Method	iOS	Android	Windows PC	macOS X
Products with built-in Bluetooth	Yes	Yes	No	Yes
VE.Direct Bluetooth Smart dongle	Yes	Yes	No	Yes
VE.Direct USB interface	No	Yes (1)	Yes	Yes

(1) Requires a USB On-The-Go cable. These cables are available in mobile phone and phone-repair shops, as well as on the internet.

Use the Compatible Victron products chapter to verify that your product is compatible.

3.1. Bluetooth Smart - Pairing and Connecting

To connect to your Victron product, over Bluetooth, always connect from within VictronConnect. Do not connect from the phone's system menu because VictronConnect will not find your Victron product.

Here is how to connect:

1. Enable the Bluetooth on your phone.

2. Open VictronConnect, and scan:

    a. On a phone or tablet, pull down the screen, or tap the refresh button to initiate a scan.

    b. On a computer or laptop: click the "Scan or Refresh" button on the left.

3. The first time you attempt to connect the phone will ask to pair with the Victron product. Enter the PIN code. The default PIN code is 000000

4. The connection is complete.

If the connection was not successful please refer to section 11. Troubleshooting below.

3.2. Bluetooth Smart - Changing the PIN code

To prevent unauthorised connections to your Victron product we recommend you change the PIN code. Avoid using obvious PIN codes such as 111111 or 123456.

To change the PIN code, first, complete your connection. Then go to the **Product info** page. To access that page, click the button on the upper right. For some products, it will be the settings icon: ⚙. After opening that menu press ⋮ , and click **Product info**.

For other products you'll find the ⓘ button on the upper right, which takes you straight to the Product info page.

On this page, select the change PIN code button.

Note that after changing the PIN code, all other phones connected to the Victron product need to have their pairing information refreshed; and first, the old pairing information needs to be removed. See section 3.4 [4] to learn how to remove the pairing information.

3.3. Bluetooth Smart - Resetting the PIN code

If the PIN code is lost, it can be reset to 000000. The way you reset depends on which product you are using:

VE.Direct Bluetooth Smart dongle

Reset the PIN code by pressing and holding the 'Clear PIN' button. After holding the button for 5 seconds, both LEDs will blink twice. This indicates that the PIN code has been reset.

Blue Smart Chargers IP65

Reset the PIN code by pressing and holding the 'Mode' button on the charger. After holding the button for 10 seconds, all blue LEDs will blink twice. This indicates that the PIN code has been reset.

Blue Smart Chargers IP22

On the device list: tap or click the three-dots menu on the right side of the product description. A menu will pop up offering a 'Reset PIN code' option. Click that, and enter the PUK code. The PUK code can be found on the product label, on the back of the product.

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It can also be done on the charger itself:

Reset the PIN code by pressing and holding the 'Mode' button on the charger. After holding the button for 10 seconds, all blue LEDs will blink twice. This indicates that the PIN code has been reset.

Blue Smart Chargers IP67

On the device list: tap or click the three-dots menu on the right side of the product description. A menu will pop up offering a 'Reset PIN code' option. Click that, and enter the PUK code. The PUK code can be found on the product label, on the back of the product.

Smart Solar Charger

On the device list: tap or click the three-dots menu on the right side of the product description. A menu will pop up offering a 'Reset PIN code' option. Click that, and enter the PUK code. The PUK code can be found on the product label, on the back of the product.

BMV-712 Smart

On the device list: tap or click the three-dots menu on the right side of the product description. A menu will pop up offering a 'Reset PIN code' option. Click that, and enter the PUK code. The PUK code can be found on the product label, on the back of the product.

Smart LiFePO4 Batteries

On the device list: tap or click the three-dots menu on the right side of the product description. A menu will pop up offering a 'Reset PIN code' option. Click that, and enter the PUK code. The PUK code can be found on the product label, on the back of the product.

SmartShunts

On the device list: tap or click the three-dots menu on the right side of the product description. A menu will pop up offering a 'Reset PIN code' option. Click that, and enter the PUK code. The PUK code can be found on the product label, on the back of the product.
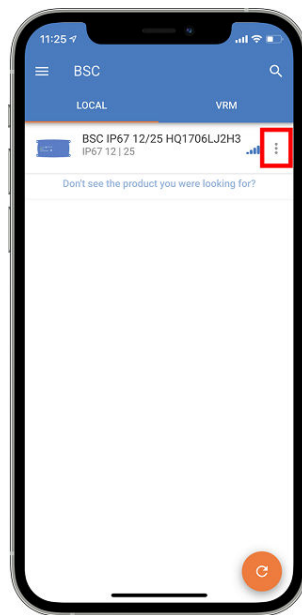
3.4. Bluetooth Smart - Removing from the list of paired devices

You may want or need to remove a product from the list of Bluetooth paired devices on your phone. For example, if the PIN code of your product has been changed on a different phone.

To remove the pairing information you will need to go to your phone's Bluetooth settings. Watch the videos below to learn how to remove the pairing information from iOS and Android:

Remove Bluetooth pairing on iOS:

(click to play, double-click to enter fullscreen mode)

https://www.victronenergy.com/live/_media/victronconnect:video_unpair_ios.mp4

Remove Bluetooth pairing on Android:

(click to play, double-click to enter fullscreen mode)

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https://www.victronenergy.com/live/_media/victronconnect:video_unpair_android_cropped.mp4

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4. Phone, tablet and laptop compatibility

4.1. Windows PC

VictronConnect requires Windows 7, Windows 8 or Windows 10. For older Windows versions, XP and Vista, check our archive of previous versions. [7]

Note that on Windows, VictronConnect cannot use Bluetooth Smart to connect to a product. Other connection methods, such as USB, or LAN and WiFi do work properly.

USB Driver installation

Windows 10 ships with a compatible driver for both the VE.Direct USB cable and the MK3-USB cable: there is normally no need to install a driver for that. In case you do have issues connecting to a Victron product via USB, we recommend to manually install the VE.Direct USB driver, by downloading it from our website on the Software downloads page.

For Windows 7 and Windows 8, we do recommend to always install the USB driver.

It might be good to know that these USB drivers can be installed even without the USB cable connected to your computer. It will install the files, which will then automatically be used once you connect the cable.

4.2. macOS

Today's version of VictronConnect runs on any Mac with Intel or Apple M1 chip that runs macOS version 10.12 (OS X Sierra) or newer, up to macOS 13 (Ventura).

For the older macOS 10.11/10.10/10.9 versions, an older version of VictronConnect is still available in the Apple Store. Do note that that older version is unsupported: if it works then great, that is why we provide that older version. If it does not work, then too bad and we'll not be able to help. The solution is then to get another laptop or device, that can work with the most recent version of VictronConnect.

To connect to a Victron product with Bluetooth, the Apple Laptop needs to have Bluetooth 4.0 aka Bluetooth Smart.

4.3. Android

> For devices with Android 12 and later in connection with VictronConnect v5.70 and later it is not necessary to grant Access for Location Service. When opening the VictronConnect app or installing it, you are not asked for it. We recommend updating the mobile device to Android 12 and later whenever possible.
>
> For older Android and/or VictronConnect versions, the following applies in regard to Android Location Service.

Android 5.0 is the minimum version required to run VictronConnect.

An older version of VictronConnect that works for some users of Android 4.3 and 4.4 is still available in archive [7] – but unsupported.

The required hardware is ARMv7 and later, as well as x86 or ARM64bit.

Notes for Android 5

Android 5 devices with a 64bit CPU will experience a crash at startup due to an issue in the libraries we use to develop VictronConnect. This is not expected to be fixed. A workaround for this issue is to manually install the VictronConnect APK that can be downloaded in the software section.

The pairing does not work on some phones running Android 5. The PIN code pop-up does not appear, or it appears without a text field to enter the PIN code. If you have this situation, your phone might report that it has been paired with the Victron product - but it has not.

Unfortunately, this is a bug in Android over which we have no control, and are therefore unable to fix.

Devices where we have seen this issue are:

• Asus Zenfone 2 with 5.0 ← Android 6 is available, update the phone to solve the issue

• Motorola Moto G 2 ← Android 6 is available, update the phone to solve the issue

• Medion tablet with Android 5.0

Notes for Android 6 and later

No known issues, when Access to Locations Services are enabled. See also the note at the beginning of the chapter.

Why is Access to Location Services required?

Android 5 and later requires access permission for VictronConnect to the (coarse) Location Services. Otherwise it can not scan for the Bluetooth products.

Besides permitting access to its data, the Location Services also need to be enabled in many (but not all) cases.

Note that after enabling Location Services, the GPS itself, can be switched off again: the Android Location Services are more than GPS. Bluetooth, and WiFi-, scan results can technically also be used to approximate the phone's location; hence these requirements.

Despite the above, you can be sure that Victron is not interested in, nor tracking your location.

Being sensitive to privacy issues at Victron ourselves, we are not happy with this requirement. But there is nothing we can do about it, unfortunately. More information about why it is needed to enable the Location Services is here.

List of known non-compatible Android devices

Manufacturer	Model	USB OTG	Bluetooth Smart
HTC	One+	?	No
HTC	One M7	?	No
Huawei	P8 Lite (2015)	No	Only if Location Services are disabled
Lenovo	Tab 3 A7	?	No
Samsung	Galaxy S3 Mini	No	No
Samsung	Galaxy S2	Yes	No
ZTE	Telstra Max	?	No

List of known compatible Android devices

We have tested the following Android devices and can confirm that they are compatible with VictronConnect*:

Google Nexus 6P; LG G4; Sony Xperia Z5; HTC One M9; HTC One S9; OnePlus 3T; Asus Zenfone 2; Samsung Galaxy S5; Samsung Galaxy S5 mini; Samsung Galaxy S7; Samsung Galaxy S8; Samsung Galaxy Tab E 9.6.

*Assumes the phone runs the latest firmware released by the manufacturer.

4.4. Apple iOS iPhones and iPads

VictronConnect works on the following iPhones and iPads running iOS 11 or later:

• iPhone 5S and later

• iPad mini 2 and later

• iPad (5th generation) and later

• iPod touch (6th generation) and later

Unfortunately Apple iPhone/iPad doesn't support USB OTG.

4.5. Linux

Details here.

4.6. Archive of previous versions

It would be nice to forever support all existing versions of Android, iOS, Windows, and other systems. But unfortunately, it is impossible to do so. Therefore, now and then, a new release of VictronConnect doesn't work anymore on your phone; whereas the previous version worked perfectly.

In such a situation, we recommend updating your phone to the latest OS. For situations where that is not possible we make these older versions available:

Warning: These versions are no longer supported or recommended to use by Victron, only use it as a last resort if you don't have access to a compatible phone with the latest VictronConnect release version. Under the download link find the last available VictronConnect version that still works on those older operating systems.

OS Version	Download link
Windows XP and Windows Vista	VictronConnect 3.3

OS Version	Download link
Android 4.3 to 4.4.4 armv7 architecture	VictronConnect 5.8
Android 4.3 to 4.4.4 x86 architecture	VictronConnect 5.8
macOS 10.9 (OS X Mavericks)	VictronConnect 3.2
macOS 10.10, 10.11 & 10.12 (OS X Yosemite / Sierra)	VictronConnect 5.8

5. Application overview

5.1. Screenshots (click to enlarge)

Device list

LOCAL - This page shows all the Victron products that have been discovered by your phone, and to which a connection can be made. Click on the desired product.
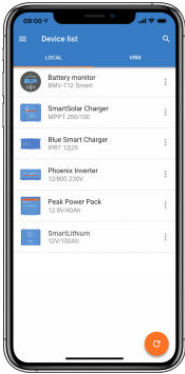
VRM - This page will show a GX product if it is connected to your VRM account.

Battery Monitor pages:

Clicking on 'Battery Monitor' will show the current state of charge, and allows you to toggle between screens showing more detailed information concerning the current battery STATUS, and HISTORY data.

• To access 'Settings' click on the cog ⚙ icon at the top right of the screen.

From 'Settings' you can change the data concerning your battery storage; set alarms and relays; change charging parameters; tailor the appearance and quantity of data displayed and set up or join an existing VE.Smart network.

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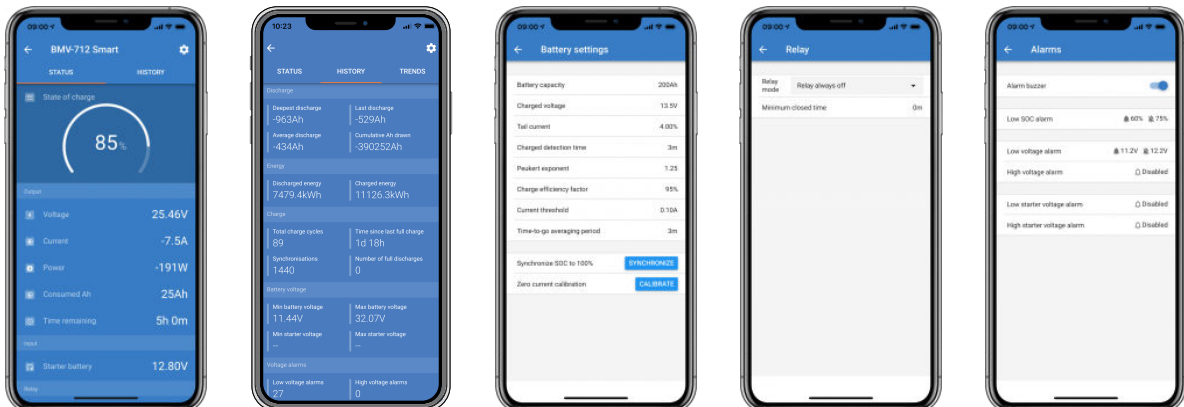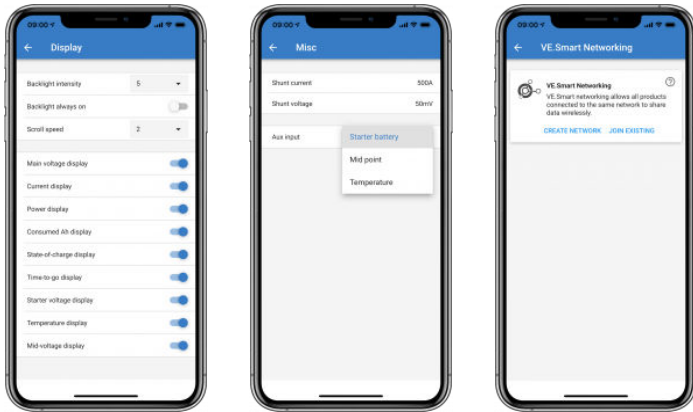
Solar Charge Controller pages

Clicking on your Solar Charge Controller product allows you to view the current charging status.

• To access 'Settings' click on the cog ⚙ icon at the top right of the screen.

'Settings' will allow access to the extensive range of functions available on your solar charge controller, including programming the charge settings; initiating relays which are triggered by solar time, or by voltage parameters; together with comprehensive historical analysis.

For a full explanation of the Solar Charge Controller options follow this link.
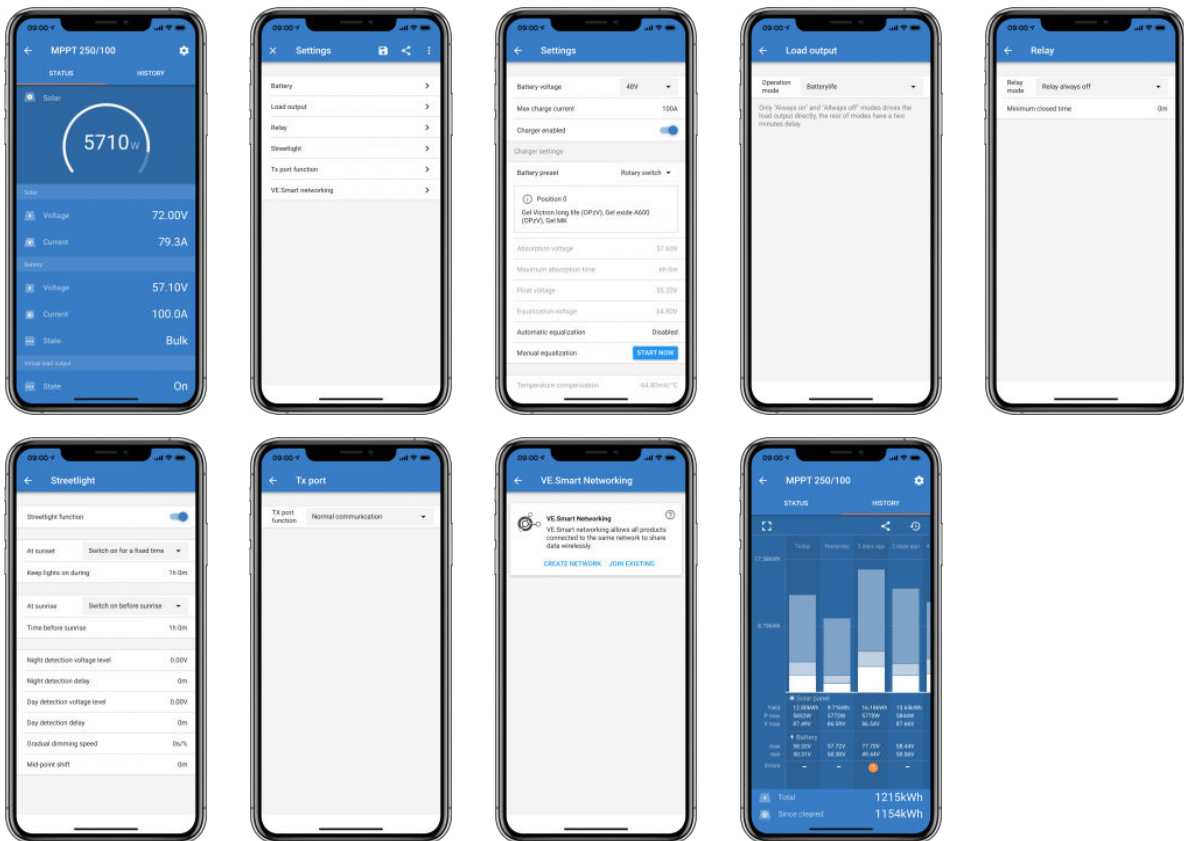
Phoenix Inverter pages

Clicking on the Phoenix Inverter allows you to view dynamic data such as power-draw of connected loads; a power bar will show how hard your inverter is working, and you will find information such as battery voltage, etc.

• To access 'Settings' click on the cog ⚙ icon at the top right of the screen.

'Settings' will allow you to set output voltages/frequency; set low voltage shut-downs, and restarts - together with their alarms; set a dynamic cut-off - based on load; together with other settings about which more information can be found here.

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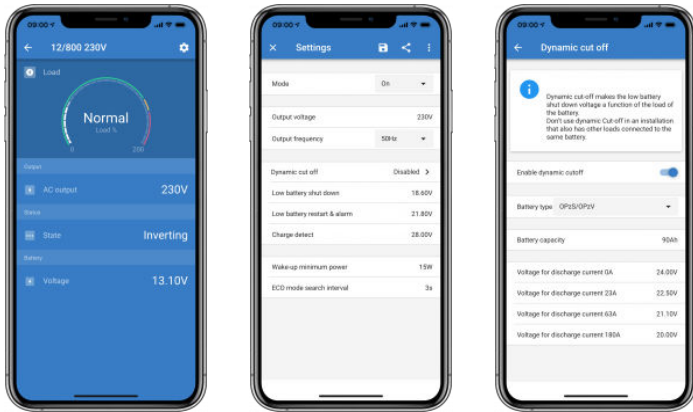
Blue Smart IP65 charger pages

The Blue Smart IP65 battery charger comes with Bluetooth already built-in. When the Blue Smart charger is powered-up it will be discoverable using the VictronConnect app on your phone. (Except Windows PC - See 3.1 Windows PC, above).

The 'home' page shows information about the battery voltage, charge current, and where your battery is in the charging cycle.

• To access 'Settings' click on the cog icon ⚙ at the top right of the screen.

Lithium Batteries Smart

Lithium Batteries Smart have Bluetooth built-in. Clicking on the Lithium battery from the Device list will allow you to view live data about the battery status, voltage, and temperature. You will also see the voltage of each cell - which is an essential guide to battery health.

• To access 'Settings' click on the cog icon ⚙ at the top right of the screen.

From 'Settings' you can change discharge and temperature parameters.

Peak Power Pack

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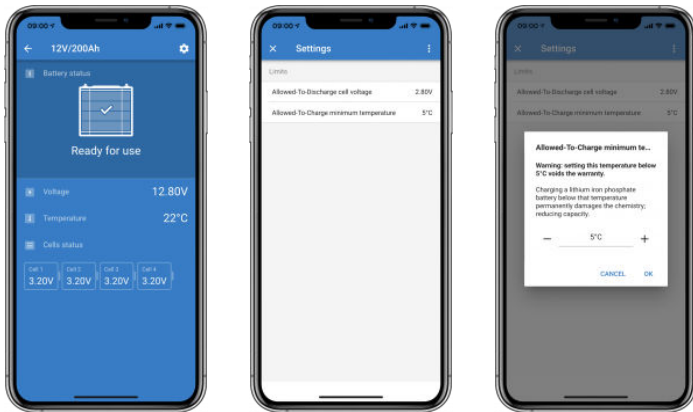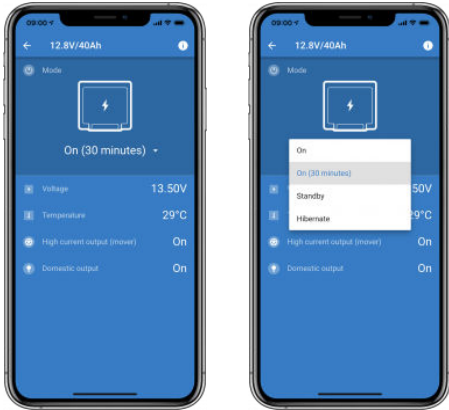
Windows

Here is a VictronConnect app screenshot from a PC using a version of the Microsoft Windows operating system showing information from an MPPT.
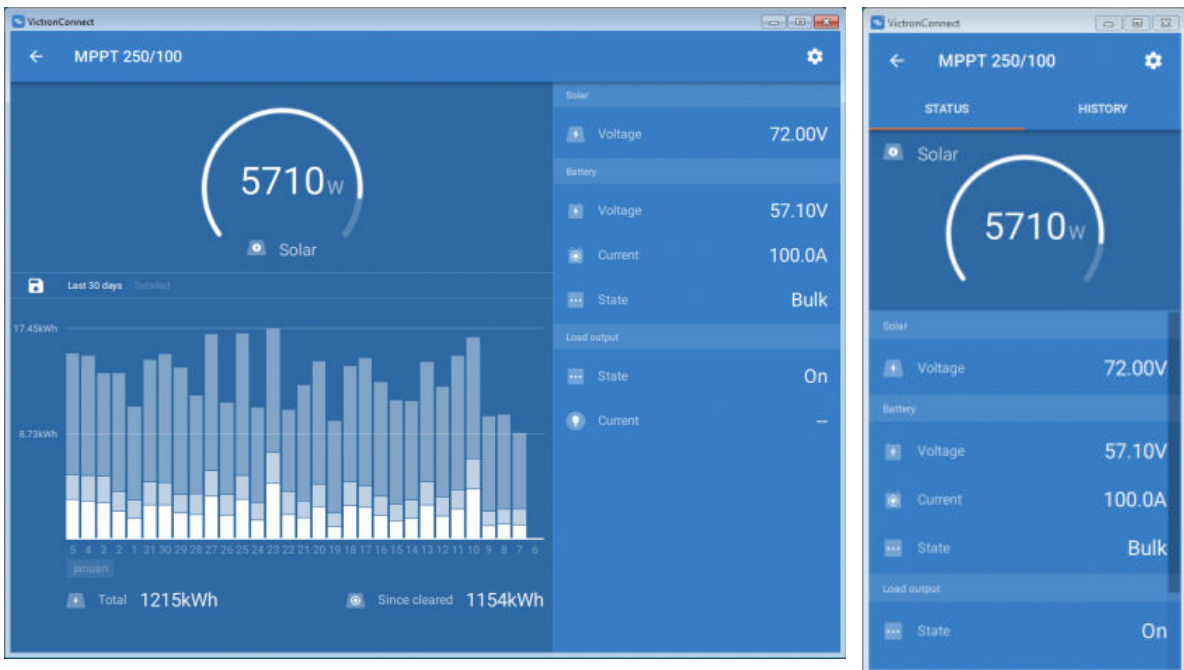
macOS X

Here is a VictronConnect app screenshot from a PC running the Mac Operating System showing information from an MPPT.
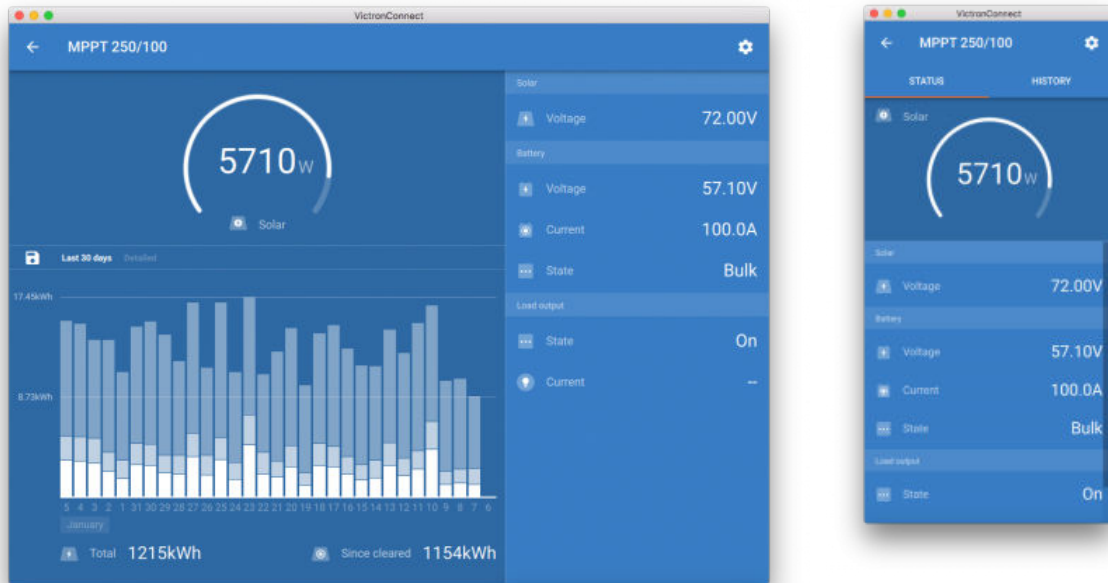
5.2. Videos

Blue Smart IP65 Charger

This video will show you how to download the VictronConnect App onto a smartphone (in the video we use an iPhone). It will also show you how to use the app to view information and control the settings of a Blue Smart IP65 charger.

https://www.youtube.com/embed/bbdLxsfMu74

BlueSolar MPPT

This video will show you how to download the VictronConnect App onto a smartphone (in the video we use an iPhone). It will also show you how to use the app to view Live Data and historical information from your Victron MPPT Solar Charge Controller. A full description of all the settings available on our Solar Charge Controllers can be found on this page.

https://www.youtube.com/embed/vZJA4eTd6vw

5.3. Renaming your products

It is possible to change the name of your Victron product to make identification easier. This is especially useful if you have multiple products, such as 3 MPPTs and 2 BMVs.

To change the name: First, complete your connection; then go to the **Product info** page. To access that page, click the button on the upper right. For some products, it will be the settings icon: ⚙. After opening that menu press ⓘ, and click **Product info**.

For other products you'll find the ⓘ button on the upper right, which takes you straight to the Product info page.

Go to the Custom Name option, and select Edit and Done.
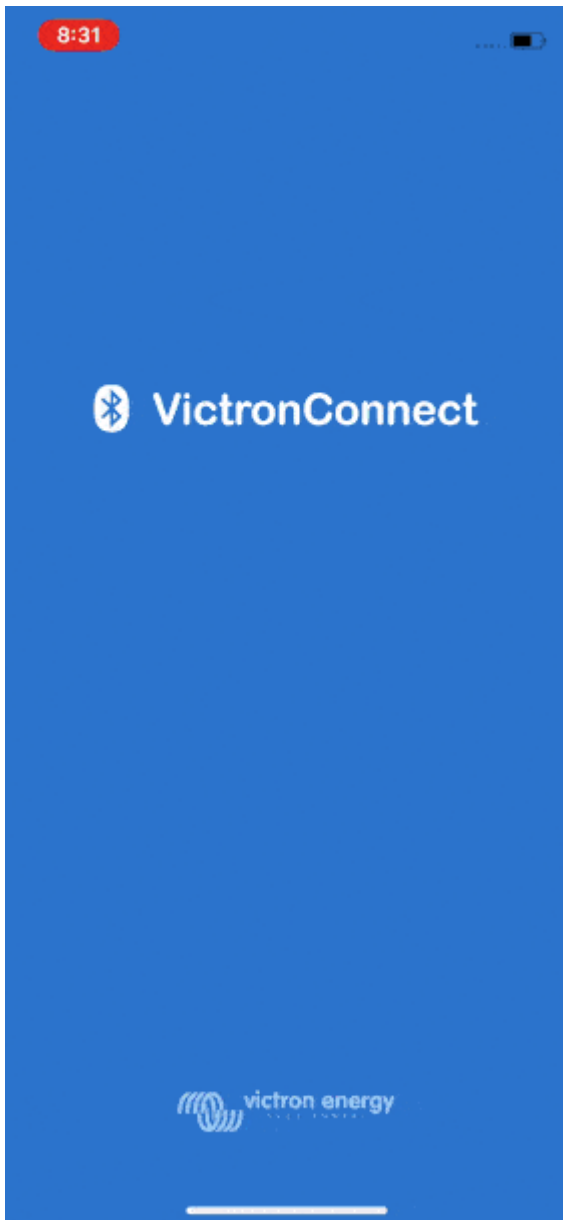
5.4. How to disable and re-enable Bluetooth

All our products that have Bluetooth built-in, have a feature that allows disabling Bluetooth. Typically the reason for doing so is security, even though the Bluetooth connection is protected by a PIN code, there is nothing more secure than disabling it.

In most cases, it's also possible to re-enable Bluetooth after disabling. For example by using a VE.Direct cable.

There are, however, a few exceptions:

• The Blue Smart IP67 Chargers

• The Lithium Smart batteries

• The Orion Smart DC-DC Chargers

Once Bluetooth is disabled on these products, it is disabled **permanently** and is **irreversible**.

Finding the Bluetooth menu

First, complete your connection; then go to the **Product info** page by clicking the button on the upper right:

• For some products, it will be the settings icon: . After opening that menu press , and click Product info.

• For other products you'll find the button on the upper right, which takes you straight to the Product info page.

If the product has the feature that Bluetooth can be disabled, you will see the field "Bluetooth" with a switch button next to the text "Bluetooth enabled". Toggle the switch to off, the button will turn from light-blue to grey and a dialogue will be displayed to confirm

your action. If you choose to "Cancel" the change Bluetooth will remain on and the switch button and text will return the "Bluetooth enabled" position.

For some products, a Disable button is shown instead of a toggle switch.

How to re-enable Bluetooth

> ⚠️ Warning: For **Lithium Smart Batteries**, **Blue Smart IP67 Chargers** and **Orion Smart DC-DC Chargers**: Bluetooth cannot be re-enabled! Once Bluetooth is disabled on these products, it is disabled **permanently** and is **irreversible**.

There are a few different ways to re-enable Bluetooth depending on your product, always check the manual of your product for more detailed instructions:

Re-enable Bluetooth using VE.Direct

Connect the product with a VE.Direct to USB cable to your phone and use VictronConnect to re-enable Bluetooth in the **Product Info** page (see here on how to reach the Product info page).

Re-enable Bluetooth using the MODE button on the product

Press and hold the MODE button on the product for 10 seconds will perform a Bluetooth reset. This means that the following actions will be executed:

• Bluetooth will be re-enabled

• The connected Bluetooth product will be disconnected

• The PIN code is reset to its default value

• The pairing information is cleared; this requires removing the product from the list of the paired devices [4] as well.

Lithium Smart batteries

The product page can be found here.

Once Bluetooth is disabled, it is disabled **permanently** and is **irreversible.** This means that VictronConnect will ask for a confirmation code displayed in the dialogue; if you are sure that you want to permanently disable Bluetooth, enter the code displayed, and choose "Ok".

Orion Smart DC-DC Chargers

The product page can be found here.

Once Bluetooth is disabled, it is disabled **permanently** and is **irreversible.** This means that VictronConnect will ask for a confirmation code displayed in the dialogue; if you are sure that you want to permanently disable Bluetooth, enter the code displayed, and choose "Ok".

Phoenix Smart IP43 Chargers

The product page can be found here.

Once Bluetooth is disabled, there are multiple ways to re-enable it again:

1. Using the MODE button

2. Using a VE.Direct to USB cable to your phone.

Blue Smart IP22 Chargers

The product page can be found here.

Once Bluetooth is disabled, it can be re-enabled with the MODE button.

Blue Smart IP65 Chargers

The product page can be found here.

Once Bluetooth is disabled, it can be re-enabled with the MODE button.

Blue Smart IP67 Chargers

The product page can be found here.

For these chargers there are two options:

• Disable Bluetooth **permanently**. This option is **irreversible** and VictronConnect will ask for a confirmation code displayed in the dialogue; if you are sure that you want to permanently disable Bluetooth, enter the code displayed and choose "Ok".

• Enable Bluetooth for 30 seconds at power-up. This allows you to connect to the product and to perform a firmware update or re-enable Bluetooth. If you do not connect within the first 30 seconds Bluetooth will be disabled.

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SmartSolar MPPTs

The product page can be found here.

Bluetooth can be re-enabled by connecting a VE.Direct to USB cable to your phone and following these instructions.

Smart BatteryProtect

The product page can be found here.

Bluetooth can be disabled/re-enabled by connecting the PROG pin to ground and selecting **F** (enable) or **h** (disable). Check the product manual for more details.

Smart BMV-712

The product page can be found here.

The BMV-712's onboard Bluetooth module can be turned on or off through the settings menu (setting #71). Check the product manual for more details.

Smart BMS

The product page can be found here.

Bluetooth is temporarily enabled at power-up for 30 seconds. You can connect within these 30 seconds to perform a firmware update or re-enable Bluetooth. If you do not connect within the first 30 seconds Bluetooth will be disabled.

SmartShunt

The product page can be found here.

Bluetooth can be re-enabled by connecting a VE.Direct to USB cable to your phone and following these instructions.

5.5. Importing and converting a GX Product Family database File

VictronConnect allows you to import and convert the .SQLITE3 database log file (that is created by the VenusOS on the GX Product Family) to a Microsoft Excel .XLSX file.

This can be useful if the site is remote, and without an internet connection to upload the file to the VRM Portal, of if you do not wish to upload your data to Victron servers.

This feature is only available for macOS and Windows version of VictronConnect.
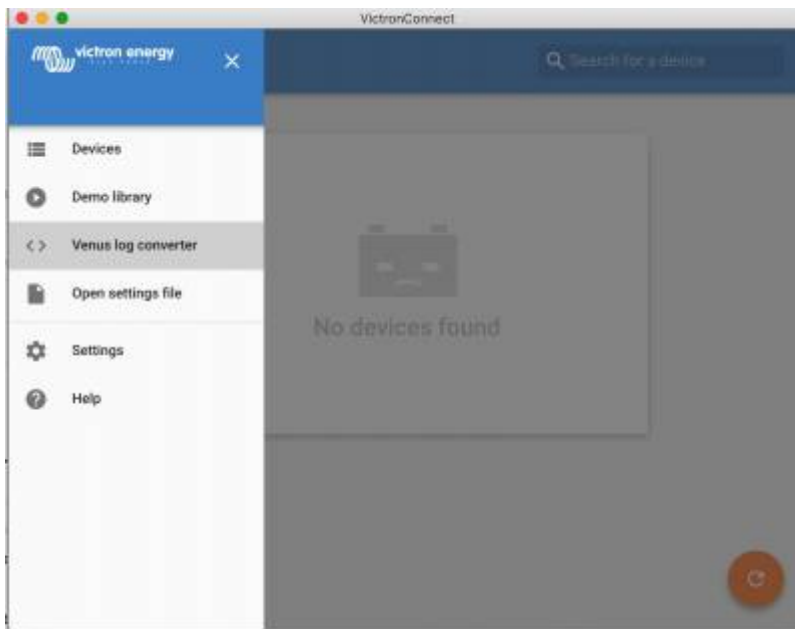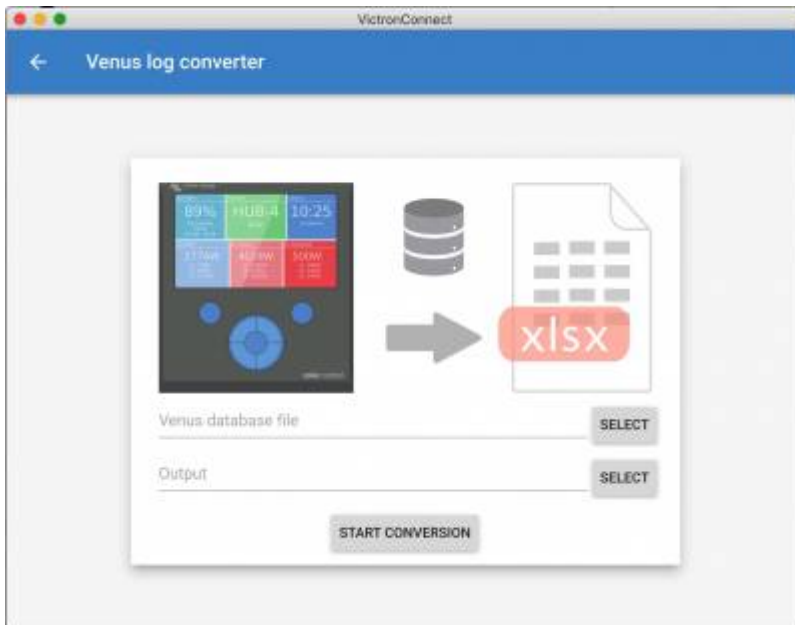
In order to retrieve this log file, you need to have a GX device with a USB thumb drive or microSD card installed (memory stick), and the GX cannot be connected to VRM.

If the GX device is connected to VRM via the internet, then the log data will be pushed to VRM, and not saved to the memory stick.

It is important if you want to remove the memory stick that it is safely ejected first. This is done in the VRM online portal menu of the GX device (when a memory stick is detected).

Figure 1.
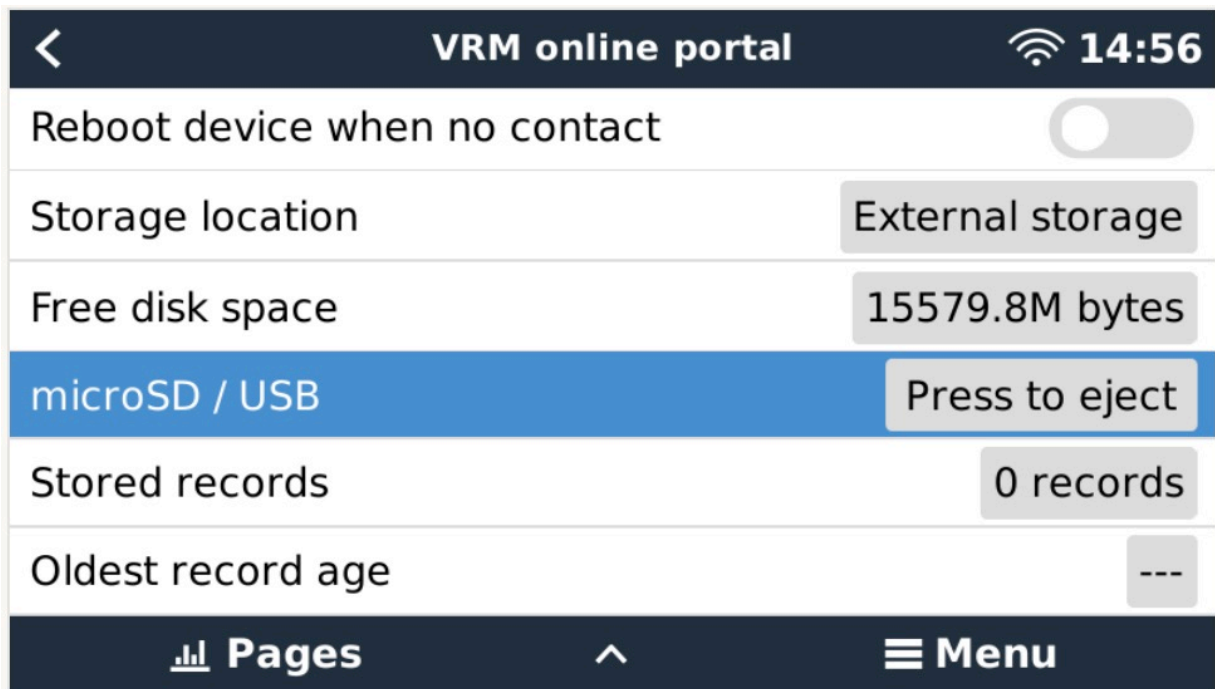
Once the memory stick is safely ejected, you can connect it to the computer running VictronConnect.

This feature is not available in the iOS and Android mobile versions of VictronConnect.

Copy the database file (located in the root directory of the memory stick) to the local hard drive of the computer.

You can then open VictronConnect, and select the Venus log converter from the side bar menu, and navigate to the Venus database file.

Select the output location, where it will create the .XLSX file (native Windows Excel, but importable to other spreadsheet tools such as Apple Numbers, or Google Sheets).

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Click START CONVERSION.

There is no upper limit to the size of the database that you can import, and it can potentially be many years of data, so please be patient during the conversion process.

This process does not require an internet connection, it can be done remotely on site, and your data will never come into contact with Victron servers.

Note if you would like to use the graphical tools of VRM, it is possible to ZIP compress and upload the pre-conversion database file to VRM as well.

Here is a sample set of 1 month of data that has been converted from the .sqlite3 database to the .xlsx spreadsheet.

Sample data from VictronConnect conversion of GX device database

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6. Product alarms & errors

Behind the scenes VictronConnect has a full monitoring system which checks for alarms and errors on the connected product. As soon as an alarm or error is reported by the product, the alarm/error and its description is shown on the live data page.

(Note that alarms and errors are only shown when the app is active.)
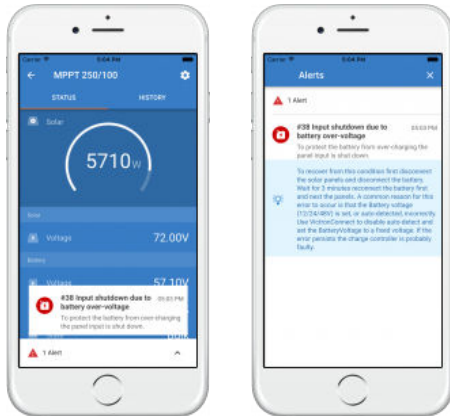
7. Settings files

7.1. Save, load, share and manage settings

This feature allows you to save product settings to a file so that they can be loaded onto the Victron product you are connected to …or another product, at a later time.

Save settings

Connect your phone to the Victron product, go to the 'Settings' page, and click on the floppy disc icon 🅱.
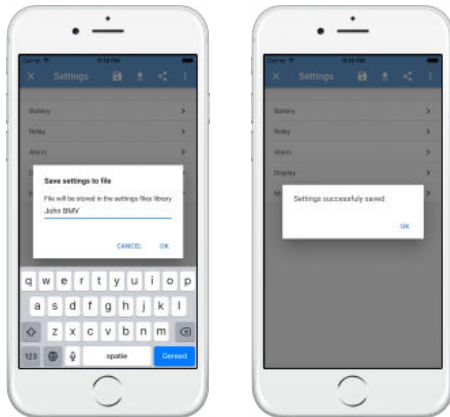
Load settings

Connect your phone to the Victron product, go to the 'Settings' page, and click on the load icon ⬇, and then select a file from the list.

When the file is loaded, the changes are not immediately applied to make it possible to review them first. The differences between the product's *current* settings, and the *new* settings contained in the loaded file, will be marked-up in orange.
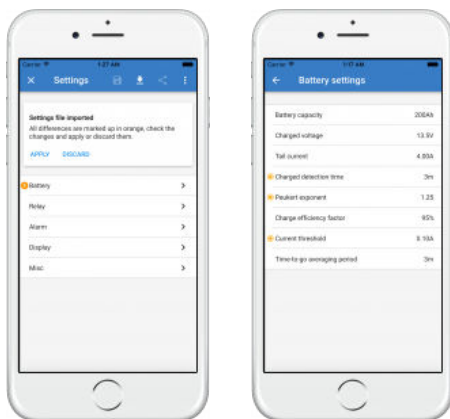
Once you have reviewed them, click 'Apply' …or you may choose to 'Discard' them.

Share settings

The 'Share settings' feature allows you to share the current product settings with other products, using your phone. Also, settings you have already saved using VictronConnect are stored in a settings file and can be shared with other products through the 'Settings file manager'.

Settings file manager

The Settings file manager is located in the main menu, and shows all stored settings:

victron energy
BLUE POWER
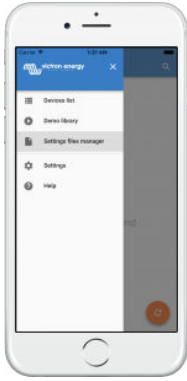
From here files can be opened, shared or removed:
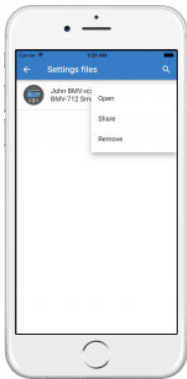
7.2. Settings files and the demo library

The demo library can be a great tool for an installer to create a set of settings, and then share it to a customer whom can then apply it to their product.

Note that whilst saving settings from the demo library is possible, loading settings from within the demo library is not possible.

7.3. Limitation in opening older settings files

There are two methods to open a previously stored settings-file:

1. From the settings file manager, as in the above screenshot, to see the settings without having to be connected to the product. A snapshot of all data, including voltage readings, history data, and so forth, will be loaded and visible to inspect.

2. From the product settings pages, only possible when connected to a product.

Note that the first method only works when the settings file is created with the exact same VictronConnect version that was used to store the file. To open a file made with an older VictronConnect version, use the second method: connect the same product, and then load the settings.

8. Demo feature

VictronConnect contains a library with demonstration settings for all the supported products.

The demo feature can be used to:

• Learn about the settings which are available on your Victron product. By exploring the library's example-settings you will discover the full capability of your product.

• Create a specific product setup, save it …and then send it to a customer so that they have those settings on their phone, and can install them on their Victron product.

• Besides loading products from the standard library, it is also possible to load them from a saved file using the 'Settings file manager'.

• Review settings made to your installations, make changes, and then send them to whoever is on-site so that they can apply them.

Loading demos

The Demo library can be accessed through the main menu.
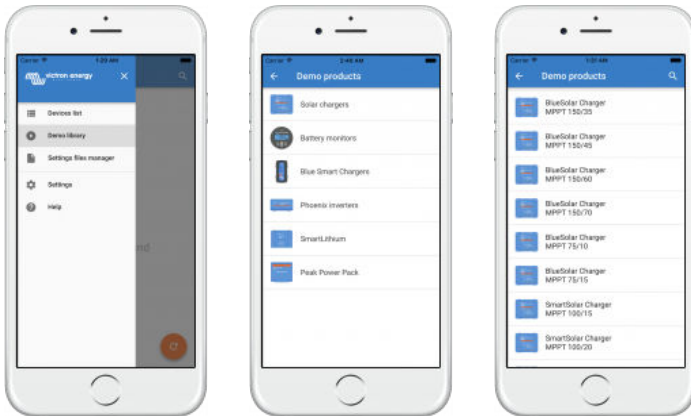
To load a saved settings file as a demo, go to the 'Settings file manager', click on the file's menu button, and select "Open".
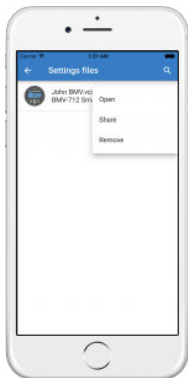
9. Firmware updates

9.1. Introduction & automatic updates

What about updating Firmware on VE.Bus products such as MultiPlus and Quattro?

Please follow this seperate Firmware guide for updating products such as MultiPlus and Quattro that use a VE.Bus connection via an MK3-USB adaptor, instead of VE.Direct or Bluetooth.

How can I see what firmware version is available?

First, connect to the product, then go to the **Product info** page. Under the Firmware version you will see a text informing you if you are using the latest available version or if there is an update available. If a new version is available you can start the update process by pressing the "Update" button.

Some firmware versions are mandatory. When you connect to the product, VictronConnect will prompt to update immediately in case there is a mandatory version available.

Or, when not close to the product, open the Demo library, and select the product. The Product info page will show the latest available version that is shipped with VictronConnect.

Do I need to be connected to the internet for updating firmware?

No. Updating firmware does **not** require an internet connection, the latest Firmware files are already loaded inside VictronConnect, on your phone. When updating the app, all firmware files are updated as well automatically.

How does it work?

After connecting your product, VictronConnect will automatically check whether a mandatory update is available, and in that case, you will be guided through the update procedure before doing anything else.

If an update is available but is not mandatory, you will be able to see your product's overview page, but you won't be able to change any settings and the Settings page will prompt you to update the product. You can start the update to the latest version via the dialog on the **Settings** page, or going to the **Product Info** page and pressing the "Update" button.

A firmware update - when available - will need to be completed in order to change settings on your Victron product using VictronConnect.

Will I need to reconfigure my MPPT or BMV after the update?

No. The settings of your VE.Direct and Bluetooth products will not be affected by the firmware update …and so you will not need to reconfigure your product after the update. Also, the History data of BMVs and MPPTs will be preserved throughout a firmware update.

9.2. Updating to a self-supplied firmware file

The previous chapter explained how VictronConnect will automatically update to the latest firmware version. Besides that, it is also possible to update a product with a file that you supply yourself.

This is not needed very often. Some reasons to do so could be:

• Update to a very recent version, that's already available on Victron Professional but not yet shipped with VictronConnect. Note that instead of going through this effort, you can also wait a bit longer, for a new version of VictronConnect to be released.

• Update a product to a special or unreleased version.

Instructions for Windows and MacOS computers

With your phone and Victron product connected to VictronConnect, go to the "Product info" page, click on "Update" and open the correct firmware file.

There is no need to worry about using a wrong file - VictronConnect will always first check if the file matches the product. And if wrong, it will show a "wrong firmware file error".
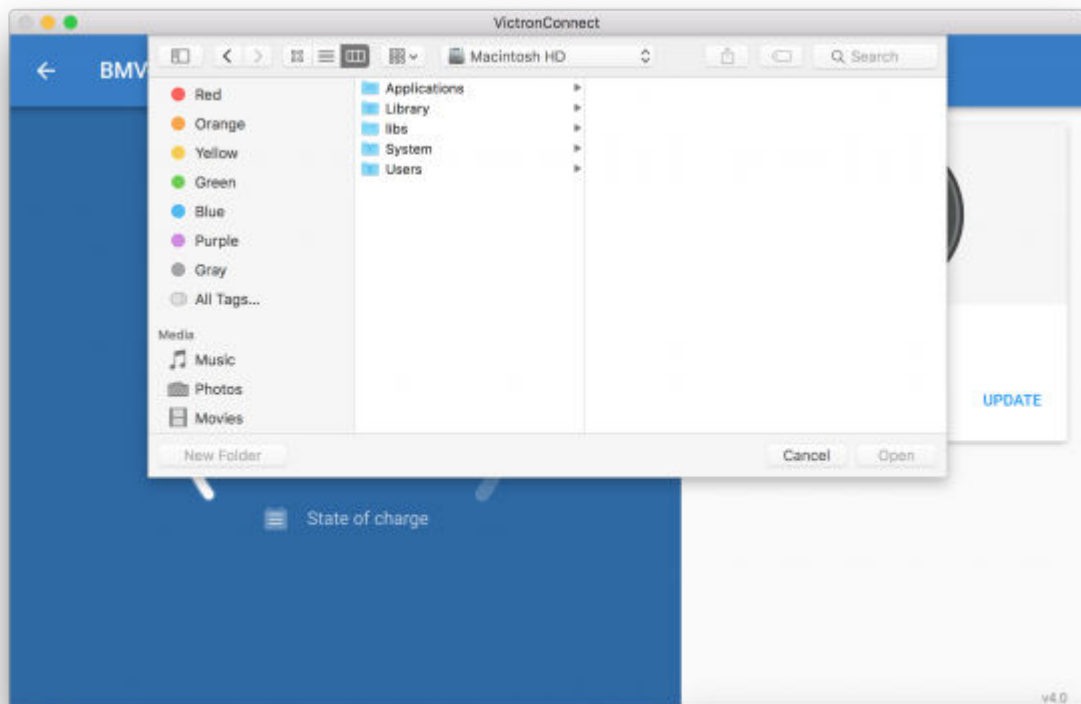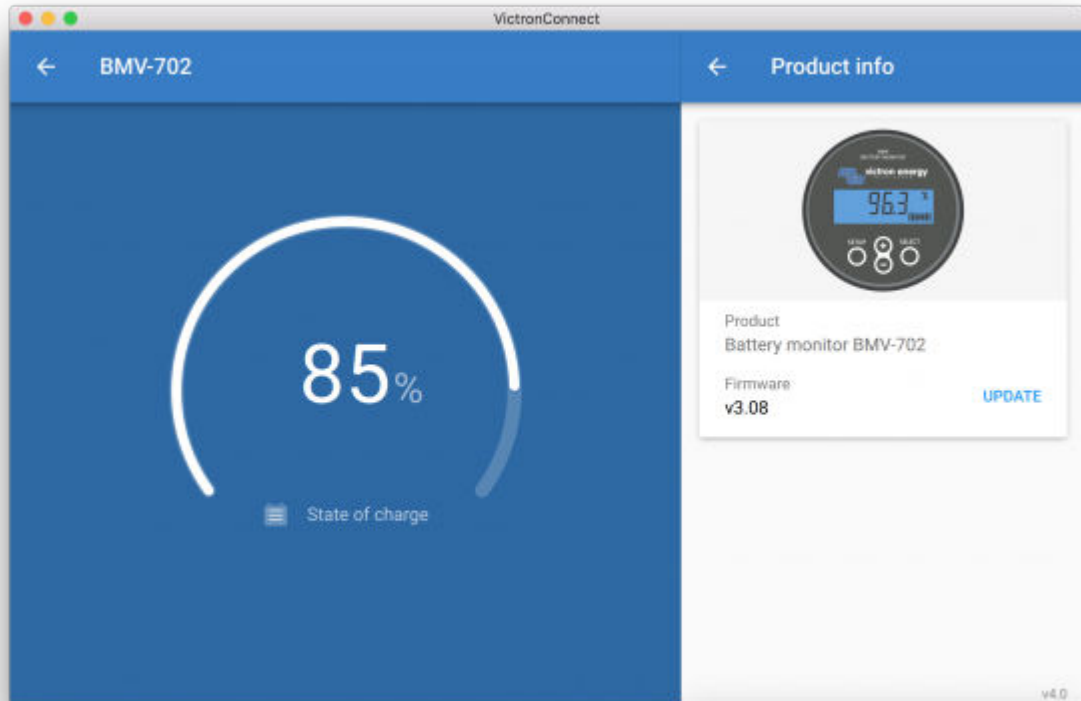
Instructions for Android and iOS phones and tablets

The process is slightly different from the Windows/macOS routine, as there is no file browser on a mobile device.

Firstly, you need to add the desired firmware file to the VictronConnect firmware library. Firmware files can be added to the library from an email attachment, web browser, Dropbox, file browser, and any kind of app that can handle files. For both iOS

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BLUE POWER

and Android the procedure to add the file is the same: go to the app that contains the firmware file, tap on it, and open it with VictronConnect. VictronConnect will be opened and show: "File added to the firmware library".

If the message doesn't appear, repeat the previous step or try opening from a different app (for example, Dropbox instead of the internet, or Email).

In case you are not sure which file to use, it is not a problem to add multiple files to the library. In the next step, VictronConnect will automatically only show the files that match with the connected product.

• **Note for iOS:** The current version of Google Chrome for iOS fails to download ".dup" files from the Victron Professional website - so we recommend using Apple Safari, the default browser on iOS, instead.

• **Note for Android:** VictronConnect needs to be running before opening files.

Open VictronConnect and, without closing it, switch to the app containing the file, select it, and choose to open it with VictronConnect.

Here are screenshots showing the detailed steps:
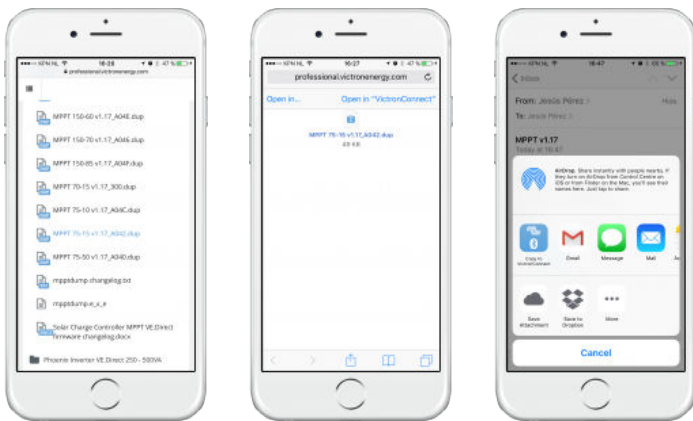
Now, after adding the firmware file to the library, go to the "Product info" page and tap on "Update firmware":
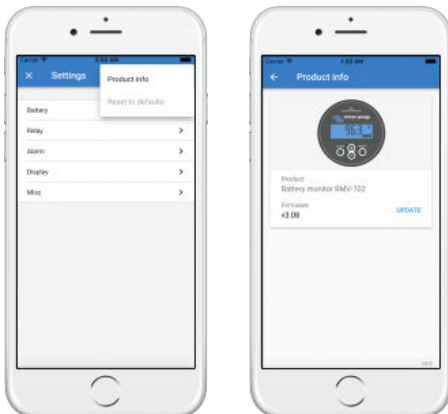
Select the desired file from the list, see next screenshot - it shows one entry in the list:

Note that the update mechanism will detect-and-reject firmware files which are not targeted for the current product: there is no need to worry about loading a wrong firmware file.
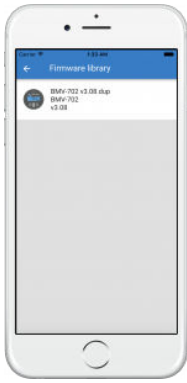
Once selected you will be guided through the update process:
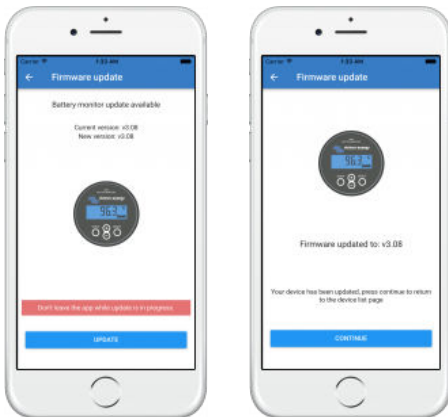
9.3. Troubleshooting firmware updates

A troubleshooting guide relevant to firmware updates can be found in chapter 11.3 [42]

9.4. Error codes

In spite of our painstaking efforts, sometimes errors occur. But don't worry, it is always possible to recover your product.

In most cases, errors are caused by communication problems. Always make sure to check all cable connections and, if you are using Bluetooth, stay as close to the product as possible and check that the Bluetooth function is enabled on your phone. Sometimes you may need to remove the Bluetooth pairing information from your phone [4] in order to be able to reconnect with your product.

Check chapter 10.3 [31] of this manual for Troubleshooting firmware updates. When asking for help, make sure to always mention the error code.

VE.Direct products

Error	Description
D3	No VE.Direct product(s) found.
D4	Unknown error occurred. Try again and check the product settings once updated.
D10	Error closing com port.
D20	Could not start updating, no updatable product found.
D26	Updating failed, communication lost. The product might be unusable. Check connection and power supply. Try again and check the product settings once updated.
D29	Could not start updating, the firmware file is corrupt.
D31	Updating failed, the product is unusable. Try again and check the product settings once updated.
D32	Could not start updating, entering boot mode failed.
D33	Could not start updating, the firmware file is not found.

Error	Description
D90	Could not start updating, the firmware is not for this product.
D91	Could not start updating, an unknown product was found.
D92	Updating failed, erasing firmware failed. The product might be unusable. Try again and check the product settings once updated.
D93	Error starting firmware after updating. Power cycle (off/on) your product and if that does not help, try updating again, and check the product settings once updated.
D94	Product updated successfully, but an error occurred reading the previous settings. Check the product settings.
D95	Product updated successfully, but an error occurred restoring the previous settings. Check the product settings.
D96	Updating failed due to version mismatch. Power cycle (off/on) your product and if that does not help try updating again, and check the product settings once updated.
D97	Dup executable too old.
D98	Firmware file is not a valid dup file.
D99	Product updated successfully, but an error occurred restoring the settings. Check the product settings.
D100	Cannot migrate settings because the application is not active. Manual action required.

Blue Smart Charger, Smart Lithium, and VE.Direct Bluetooth Smart dongle

Error	Description
B1	Error reading file.
B2	Victron BLE service not found. Please remove the product from the list of paired devices and retry.
B3	Dfu BLE service not found. Please remove the product from the list of paired devices and retry.
B4	The product disconnected unexpectedly. Perhaps the bond information is no longer valid? Please remove the product from the list of paired devices and retry.
B5	A write to the device failed.
B6	The product did not activate its bootloader - although it should have.
B7	The product did not disconnect - although it should.
B8	Timeout waiting for access to the Victron BLE service.
B9	Timeout waiting for access to the Dfu BLE service.
B10	Timeout waiting for a response.
B11	Timeout while writing to the product. Perhaps a pairing dialogue is shown? Please retry.
B12	Device was no longer found. Perhaps out of range? Please retry.
B13	The product did not start the new firmware. Please try again. If you are still having problems, send a service report to Victron Energy.
B14	Could not start updating, firmware is not for this product. Please make sure you selected a valid update file and try again.
B96	An internal error occurred (Opcode not supported). Please send a service report to Victron Energy.
B97	The requested encryption is not supported by the product. Please send a service report to Victron Energy.
B98	An internal error occurred (Data size exceeds limits). Please send a service report to Victron Energy.
B99	The product could not store the firmware in its memory. Please retry, and if the problem persists, please contact Victron Energy.
B100	An internal error occurred (CRC error). Please send a service report to Victron Energy.
B101	An internal error occurred (Data length error). Please send a service report to Victron Energy.
B102	An internal error occurred (Not allowed). Please send a service report to Victron Energy.
B103	An internal error occurred (Unexpected data length). Please try again. "If you are still having problems, send a service report to Victron Energy.
B104	An internal error occured (Unsupported data). Please try again. If you are still having problems, send a service report to Victron Energy.

victron energy
BLUE POWER

Error	Description
B105	An internal error occured (Version mismatch). Please try again. If you are still having problems, send a service report to Victron Energy.
B106	This firmware is too old, make sure you have the latest version and try again.

VE.Bus Products

Error	Description
V1	No product detected. Please check all the cable connections and try again.
V2	An unexpected timeout was triggered. Please check all the cable connections and try again.
V3	Incomplete vff file. Nonce missing. Please make sure you selected a valid update file and try again.
V4	Incomplete vff file. EEPROM lines missing. Please make sure you selected a valid update file and try again.
V5	The vff file contains more EEPROM data than supported. Please make sure you selected a valid update file and try again.
V6	The calibration map in the file exceeds the device calibration map. Please make sure you selected a valid update file and try again.
V7	Device calibration data size bigger than expected. Please make sure you selected a valid update file and try again.
V8	Bootloader did not respond to bootloader setup. Please check all the cable connections and try again.
V9	Bootloader response to version request failed.
V10	Incompatible bootblock. Function version invalid.
V11	Incompatible bootblock. Version invalid.
V12	Bootloader did not start after bootblock update.
V13	Incompatible bootblock type.
V14	No or unexpected response to target id query.
V15	No or unexpected response to EEPROM read action.
V16	No or unexpected response to calibration map query.
V17	The supplied firmware contains new unsupported calibration values. The updater does not know how to handle them.
V18	No response received to EEPROM write command. Please check all the cable connections and try again.
V19	Invalid response received to EEPROM write command. Please check all the cable connections and try again.
V20	No response received to code write command. Please check all the cable connections and try again.
V21	Invalid reponse received to code write command. Please check all the cable connections and try again.
V22	The MK2/MK3 did not respond. Please check all the cable connections and try again.
V23	The connected product does not match the specified model in the file. Please make sure you selected a valid update file and try again.
V24	The hardware revision specific EEPROM defaults data is corrupt. Please make sure you selected a valid update file and try again.
V25	Updates can not be performed with a VE.BUS BMS connected.
V26	Updates can not be performed with a DMC connected.
V40	Failed to start Update. Could not allocate memory. Malloc error.
V50	Failed to start Update. File open error. Please check the file location and access permissions. Make sure you selected a valid update file and try again.
V51	Failed to start Update. File write error. Please check file location and access permissions. Make sure you selected a valid update file and try again.
V52	Failed to start Update. File read error. Please check file location and access permissions. Make sure you selected a valid update file and try again.
V53	Failed to start Update. File checksum error. File corrupted or not a valid VFF file. Please make sure you selected a valid update file and try again.

victron energy
BLUE POWER

Error	Description
V54	Failed to start Update. File has an incompatible version number. Please make sure you selected a valid update file and try again.
V55	Failed to start Update. File section not found. File corrupted or not a valid VFF file. Please make sure you selected a valid update file and try again.
V56	Failed to start Update. Format error. File corrupted or not a valid VFF file. Please make sure you selected a valid update file and try again.

All other products (XUP update files)

Error	Description
X51	Invalid updater state. Please try again.
X52	File Error. No Product Id found in the update file. Please make sure you selected a valid update file and try again.
X53	File Error. No VE.Direct baudrates found in the update file. Please make sure you selected a valid update file and try again.
X54	File Error. No Xup Format Version found in the update file. Please make sure you selected a valid update file and try again.
X55	File Error. No Minimum Updater Version found in the update file. Please make sure you selected a valid update file and try again.
X56	File Error. No Firmware (product) Version found in the update file. Please make sure you selected a valid update file and try again.
X57	File Error. No Instance Blob could be found in the update file. Please make sure you selected a valid update file and try again.
X58	File Error. Invalid instance Blob attribute. Please make sure you selected a valid update file and try again.
X60	File Error. Instance Blob defined more than once. Please make sure you selected a valid update file and try again.
X61	File Error. No Firmware Version for instance found in the update file. Please make sure you selected a valid update file and try again.
X62	File Error. The update file does not match XML standard. Please make sure you selected a valid update file and try again.
X63	File Error. No/invalid Firmware data found for instance in the update file. Please make sure you selected a valid update file and try again.
X64	Update (xup) file format not supported. Please make sure you selected a valid update file and try again.
X65	Updater (version) too old.
X66	Firmware not for Product (Id). Please make sure you selected a valid update file and try again.
X67	Communication Error. No Callback handler connected. Please check the connection and try again.
X68	Communication Error. Vreg ack-ed with an unexpected error. Please check the connection and try again.
X69	Communication Error. Unexpected Vreg Ack received. Please check the connection and try again.
X70	Communication Error. The instance could not be reached. Please check the connection and try again.
X71	Fail on Minimum Firmware Version check. Please make sure you selected a valid update file and try again.
X72	Failed to Begin Update. Please check the connection and try again.
X73	Update Error. Invalid Ack on non-final Update Data. Please check the connection and try again.
X74	Update Error. Invalid sequence# in Update Data Ack. Please check the connection and try again.
X75	Update Error. Invalid instance# in Update Data Ack. Please check the connection and try again.
X76	Update Error. Invalid Ack on final Update Data. Please check the connection and try again
X77	Verification Error. Invalid Firmware Version Ack. Please check the connection and try again.
X78	Verification Error. Invalid UDF Version Ack. Please check the connection and try again.
X79	Verification Error. Invalid instance field in Minimum Firmware Version Ack. Please check the connection and try again.
X80	Verification Error. Invalid instance field in Firmware Version Ack. Please check the connection and try again.
X81	Verification Error. Invalid instance field in UDF Version Ack. Please check the connection and try again.

Error	Description
X82	Failed to verify Minimum Firmware Version. Please check the connection and try again.
X83	Failed to verify Firmware Version. Please check the connection and try again.
X84	Failed to verify UDF Version. Please check the connection and try again.
X85	Failed on Minimum Firmware Version verification. Please check the connection and try again.
X86	Failed on Firmware Version verification. Please check the connection and try again.
X87	Still in Bootloader Mode after the update. Please try again.
X88	Communication Error. Vreg Ack timeout. Please check the connection and try again.
X89	Communication Error. No product found. Please check the connection and try again.
X90	Communication Error. Comm port error. Please check the connection and try again.
X91	Update Error. Failed to set baudrate. Please check the connection and try again.
X92	Update Error. Update in progress on another interface.
X93	Update Error. Invalid instance# in Ack. Please check the connection and try again.
X94	Update Error. Vreg Ack error: Invalid instance. Please check the connection and try again.
X95	Update Error. Vreg Ack error. Please check the connection, power cycle the product and try again.
X96	Communication Error. CAN Network address error. Please check the connection, power cycle the product and try again.

10. VictronConnect-Remote (VC-R) – Configuration and monitoring via VRM

10.1. Introduction

VictronConnect-Remote functionality enables Victron products with a VE.Direct or a VE.Can-only interface to be accessed remotely through a GX product, via the VRM online portal.

This powerful feature allows full product configuration and monitoring from practically anywhere in the world using the VictronConnect app.

The user interface experience is just like the products were connected locally using Bluetooth or a wired VE.Direct to USB interface.

A video demonstrating the feature is available here:

https://www.youtube.com/embed/9P2W4FmTvbY

10.2. Compatibility

The VictronConnect-Remote feature is ONLY compatible with products connected to a GX product with a VE.Direct or a VE.Can-only interface. VE.Can devices that have both a VE.Can AND a VE.Direct interface, must be connected to the GX device via VE.Direct for VictronConnect-Remote to work.

This includes;

• MPPT solar chargers with a VE.Direct interface (SmartSolar and BlueSolar)

• Battery monitors with a VE.Direct interface (BMV and SmartShunt)

• Specific inverters with a VE.Direct interface (Phoenix Inverter VE.Direct and Phoenix Inverter Smart)

• Specific mains chargers with a VE.Direct interface (Phoenix Smart IP43)

And VE.Can-only devices:

• Lynx Smart BMS and Lynx Shunt VE.Can

• Inverter RS, Multi RS and MPPT RS (they also have VE.Direct but must be connected via VE.Can for VC-R)

• Blue/Smart Solar VE.Can MPPTs – Tr and MC4 models

• Skylla-i and Skylla-IP44/-IP65 (requires firmware v1.11)

• Unsupported products:

  • BlueSolar VE.Can MPPT 150/70 and BlueSolar VE.Can MPPT 150/85

  • Lynx Ion, Lynx Ion + Shunt, Lynx Ion BMS 150A, 400A, 600A, 1000A

Products connected with a VE.Bus interface, such as MultiPlus/Quattro inverter/chargers and larger Phoenix Inverters are NOT compatible. However, another feature Remote VEConfigure already exists to configure these products remotely.

10.3. Setup

10.3.1. Minimum Requirements

• VictronConnect SW: v5.20

• GX Product- Venus OS FW: v2.40 (However v2.53 recommended for full functionality)

10.3.2. VictronConnect

1. Confirm that the phone has VictronConnect installed and that the software version meets or exceeds the minimum requirements - upgrade if necessary

2. Authorize VictronConnect to access your VRM account;

  • Open the VictronConnect app

- Swipe across to the VRM tab, then select 'SIGN IN TO VRM'

- Complete your email address and VRM password, then select 'Authorize Victron Connect'

•
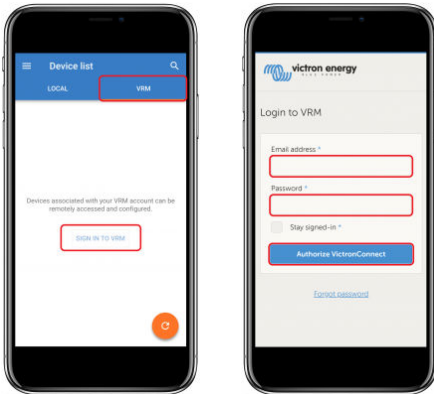
- If using a tablet or PC your browser may also request permission to open VictronConnect, if prompted select 'Open'

10.3.3. GX Product

1. Confirm that the GX Product is running Venus OS firmware version that meets or exceeds the minimum requirements - upgrade if necessary

2. Enable 'VRM two-way communication' under Device List > Settings > VRM Online Portal
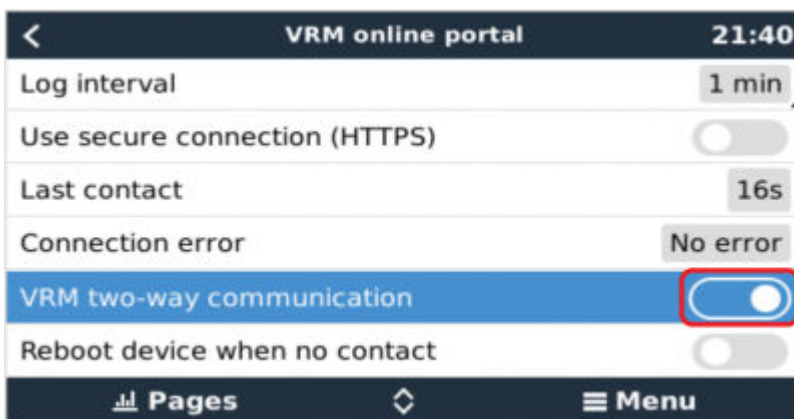
10.4. Local Tab

The local tab displays all products that are within local Bluetooth and wireless LAN range or physically connected to the phone with VictronConnect (such as with a VE.Direct to USB or MK3 to USB interface cable)
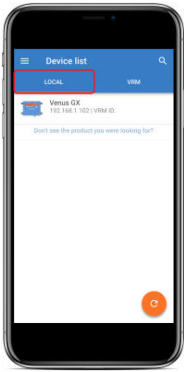
10.5. VRM Tab

The VRM tab displays all VRM installations associated with the VRM user profile.

Any installation can be selected to access the VRM online portal or connected products.
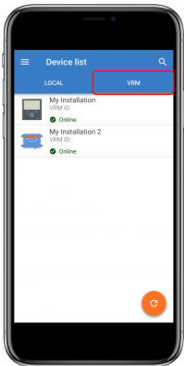
When a VRM installation is selected it will take a few seconds for a connection to be made, once the connection is established two tabs will appear, an 'OVERVIEW' tab and a 'DEVICES' tab.

10.5.1. Overview Tab

The 'OVERVIEW' tab has an image of the GX product, the name of the VRM installation, and a direct link to the associated VRM Online Portal.
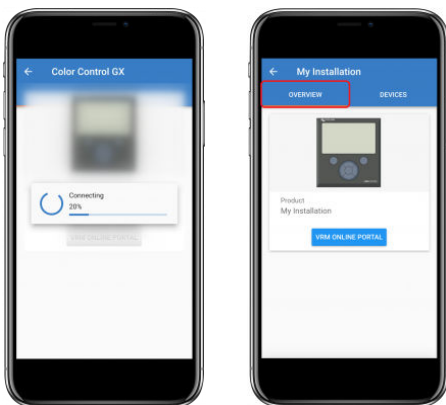
10.5.2. Devices Tab

The 'DEVICES' tab has a list of all compatible products that are physically connected to the GX product.
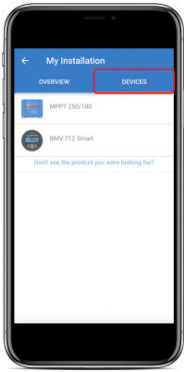
If using a tablet or PC, the 'DEVICES' tab is shown as a panel on the right side of the same screen.
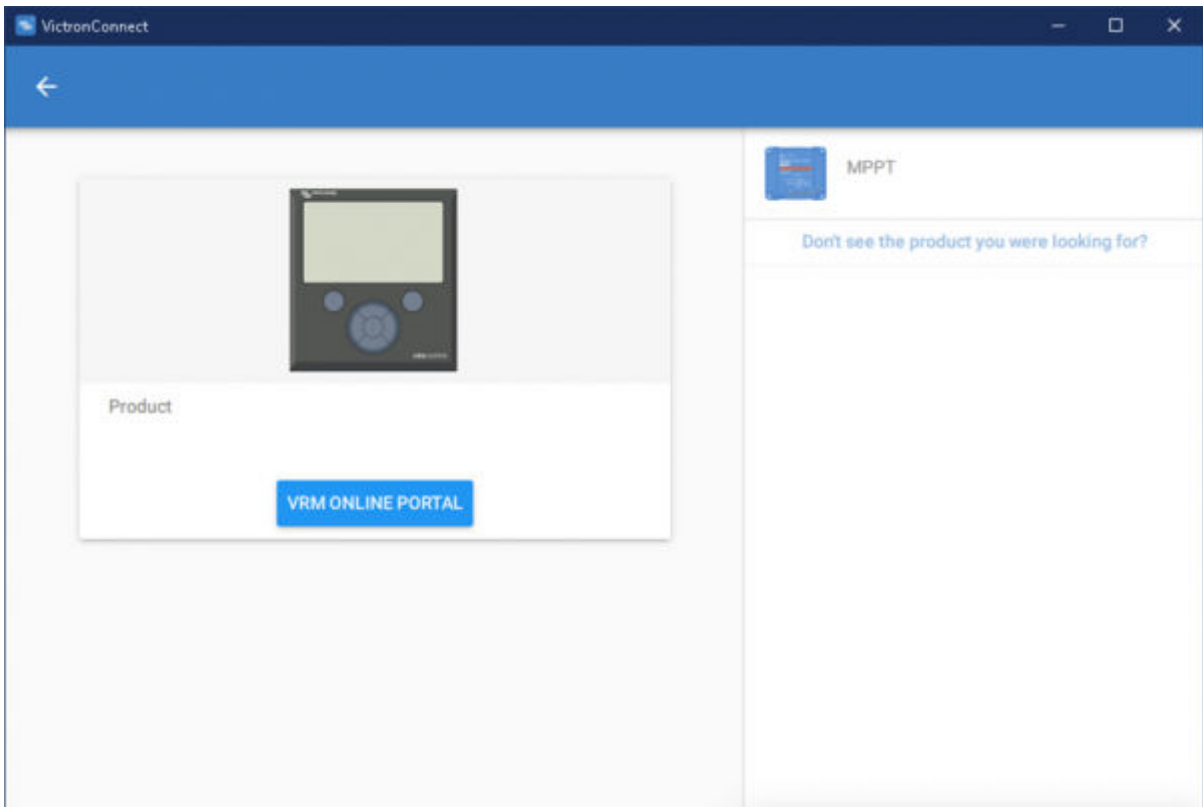
10.6. Remote product access

When a product is selected it will take a few seconds for a connection to be made, once the connection is established live product information/data will begin to appear.
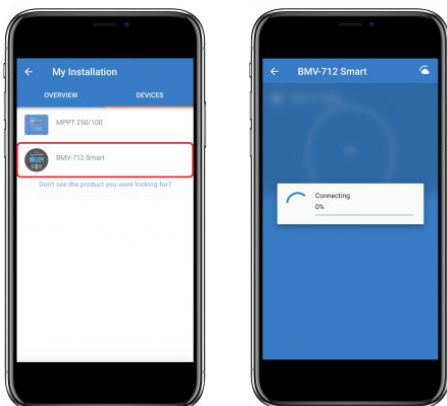
Immediately after initial connection settings and historical data will be downloaded, during this time a cloud symbol will remain in the upper right corner (this typically takes less than 30 seconds).

Settings cannot be accessed until the cloud symbol is replaced by the normal settings gear symbol.
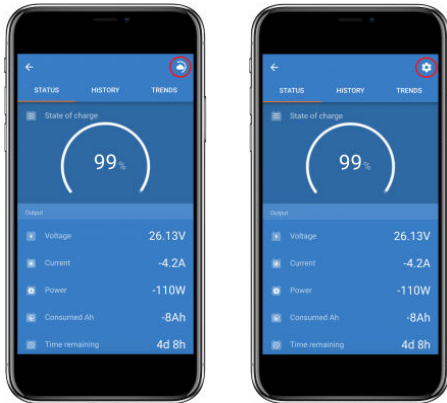
10.7. Signing out

To disable the link between VictronConnect-Remote and your VRM account, expand the main menu and then select 'Settings'.
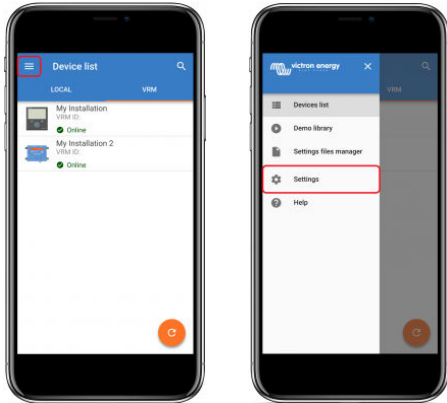
In the settings page select 'SIGN OUT' and then select 'OK' in the prompt window to confirm.
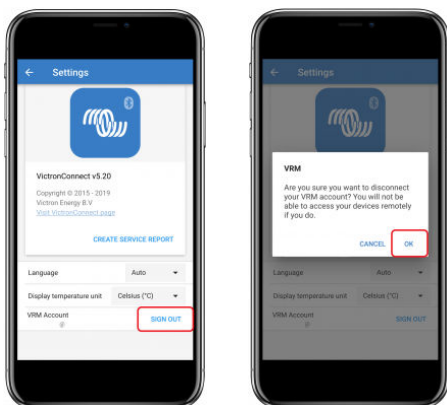
After signing out VictronConnect-Remote will no longer have access to the VRM account or any of the associated VRM installations. To reinstate access the log in procedure needs to be repeated.

10.8. Troubleshooting and FAQ

Product not found

• VictronConnect-Remote is only compatible with products that use a VE.Direct or VE.Can-only interface to the GX product – see the 'compatibility' section.

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BLUE POWER

- Ensure that the missing product is physically connected to the GX product, with the VE.Direct or VE.Can cable properly installed at both ends.

- Ensure that the product is running a recent firmware version.

Installation/GX product not found or offline

- Confirm that the installation is currently online and communicating with the VRM online portal.

- Ensure that the installation is linked to the VRM account used during initial VictronConnect-Remote sign in to VRM.

- Ensure that 'VRM two-way communication' is enabled – see the 'settings' section.

- Ensure that the GX product is running the minimum compatible Venus OS firmware version – see the 'settings' section.

VictronConnect has no VRM tab

- Ensure that the phone is running the minimum compatible VictronConnect software version – see the 'settings' section.

VRM account

- It is necessary to have an active VRM account linked to your installation and any others that you intend to monitor or configure using VictronConnect-Remote - creating a new account is quick and easy.

- For further information in relation to VRM (Victron Remote Management) see Getting started with VRM and the VRM online portal site.

Systems with no GX product

- VictronConnect-Remote functionality is not possible unless the system includes a GX product. A GX product can be easily added to any system and there are a range of products available.

Installations with no internet connection

- VictronConnect-Remote functionality is not possible unless the GX product at the installation site has an active internet connection.

- For remote sites without an existing internet connection or with mobile installations, a Victron GX GSM modem can be easily be added to the system in order to provide an internet connection.

Large systems

- The use of the VictronConnect-Remote feature will slightly increase the GX product CPU load.

- In some large/complex systems (with many products connected to the GX product) the CPU may already be operating at its limit and any additional CPU load could exceed its capability - this will typically be recognisable by slow user interface response and/or unexpected system reboots.

- It is important to select a GX product that has sufficient performance capability in relation to the system design, for example, a Cerbo GX has significantly more processing power than a Color Control GX and is much better suited to large/complex systems – see the performance section in the GX product range comparison table.

VictronConnect-Remote troubleshooting

VictronConnect will report errors encountered during communication attempts with VRM in a message box with an error code. The code can have one of the following value:

Error	Description
-100	Call to retrieve a list of child devices expired (60 seconds). The most common cause is a bad internet connection.
1	No link to VRM can be established. Check if the internet is present and try again.
2	VRM encountered temporary difficulties. Try again in a while.
5	The local system ran out of resources. Free some system resources and try again.
8	An error occurred with the network (e.g., the network cable was accidentally plugged out).
13	Proxy authentication error. VictronConnect does not support communication over proxy.
14	Failed to establish a secure connection to VRM.
65538	VRM MQTT broker is not responding. Please try again in a while.

There are also other error codes that could be reported. They are a result of internal errors in VictronConnect and/or VRM. In case these errors persist after a retry, please create a "Service Report" and submit it for examination.

VictronConnect-Remote is establishing communication with a range of services on the 'victronenergy.com' domain. Please make sure that traffic with this domain is allowed in your firewall and internet security application.

11. Stored trends & Instant readout

11.1. Stored trends

Stored trends is a new feature, which records and stores data into the non-volatile memory of compatible smart devices, even if during a loss of power or disconnection from the battery.

The data is recorded at an interval of 30 minutes, so the number of recorded days is about 46 days. The exception is the Smart Battery Sense: it has a storage period of 181 days.

> This only works if you connect to the Victron product via Bluetooth. Unfortunately, this will not work if you connect via a VE.Direct USB cable, and (therefore) these trends will not work on a Windows device as they can only be connected via the VE.Direct USB cable.

Currently SmartSolar chargers, BMV-712 Smart, SmartShunt and Smart Battery Sense support stored trends. More smart devices will follow.

The stored values differ depending on the Victron smart device:

• SmartSolar chargers support trends for Battery Voltage, Current and Temperature, as well as Load output current, PV voltage and PV current.

• BMV-712 Smart and SmartShunt support trends for Battery voltage, Current, State of Charge as well as the Aux input (battery temperature, or midpoint deviation, or starter battery voltage.

• Smart Battery Sense support trends for Battery voltage and Battery temperature.

How it works:

1. Open the VictronConnect app.

2. Tap the device whose stored trends you want to view.

3. From the Status screen, tap on the TRENDS tab. This fetches the stored data, which may take a few seconds.

4. Select the parameters for the blue and orange colored graphs.

5. Use the + and - buttons or pinch-to-zoom to zoom in or out to the desired time period.

6. Use the slider at the bottom of the graph to view the exact values for each data point at any date and time within the interval.
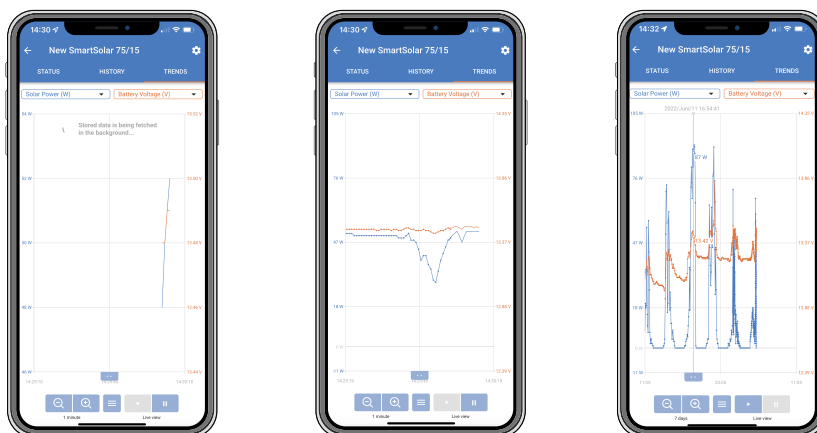
11.2. Instant Readout

VictronConnect can display the most important data of smart products on the Device list page without the need to connect to the product.

The advantage is:

• Better range than a regular Bluetooth connection.

• No need to connect to the smart product.

• The key data at a glance.

• Encrypted data.

• VE.Direct and VE.Can devices also benefit from this feature; no new firmware and no setup required. The instant readout data is automatically displayed on the VRM Devices page in VictronConnect.

• VE.Direct products also automatically display Instant readout data when using the VE.Direct to USB cable for connection to a PC or Mac.
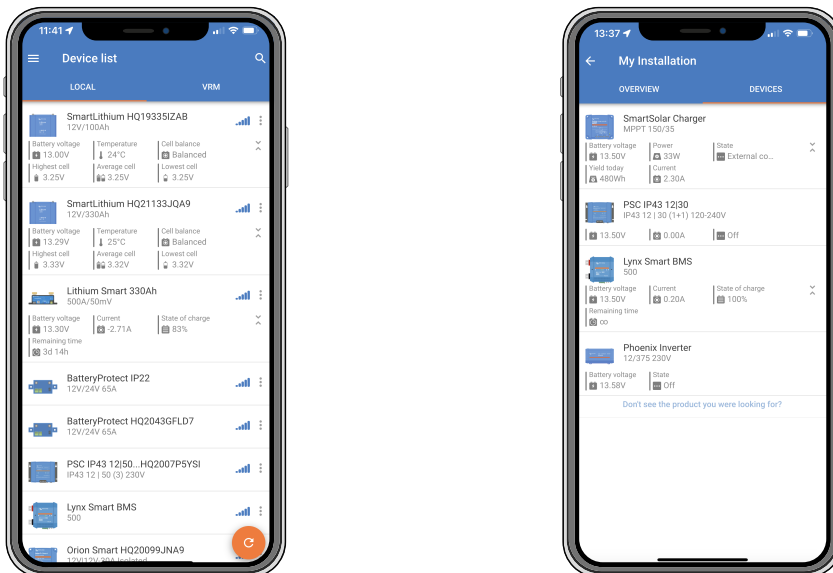
Instant readout data is transmitted locally via Bluetooth (left) and VE.Direct / VE.Can (right) via VictronConnect-Remote

Instant readout transmission is disabled by default and can be enabled on the Product info page as described below:

1. Open the VictronConnect app.

2. Tap the device for which you want to enable Instant readout.

3. On the device status screen tap on the cog wheel to get to the Settings page.

4. Tap on the three dots in the top right corner.

5. At the bottom of the Product info page, enable Instant readout. If this selection is not available, your smart product is not yet compatible. See the compatibility chart [40].
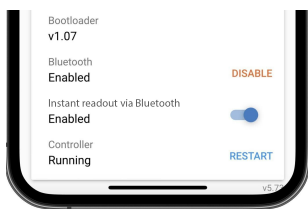
6. Now Instant readout data will be visible in the device list for this device.

7. If you tap on the two vertical arrows on the right side, more important information about the device becomes visible.

11.3. Stored trends and Instant readout compatibility

See the table below for an overview of Victron smart products and which of them support stored trends and/or instant readout. Products not listed are not supported even though they have Bluetooth.

Victron smart device	Stored trends	Instant readout
Smart Solar Charger	Yes	Yes
Inverter RS, Multi RS, MPPT RS	No	Yes
Lynx Smart BMS	No	Yes
Lithium Battery Smart	No	Yes
SmartShunt	Yes	Yes
BMV-712	Yes	Yes
Smart Battery Sense	Yes	Yes
Phoenix Inverter Smart	No	Yes
Sun Inverter	No	Yes
Orion-Tr Smart DC-DC Charger	No	Yes
VE.Bus Smart dongle	No	Yes
VE.Bus Inverter/Charger	No	Yes[1]

[1] VE.Bus Inverter/Chargers supports instant readout, either wired (via an MK3 interface) or wireless (via VE.Bus Smart dongle). Note that when wired through an MK3 interface, communication with a GX device will be blocked (and thus may result in alarm and error conditions for the VE.Bus device) as long as this cable connection exists.

12. Troubleshooting

12.1. Troubleshooting Bluetooth connection issues

First step: restart the phone

The #1 first step before attempting any of the specific troubleshooting advice below is to restart your phone. Make sure to really restart it, just locking and then unlocking is not sufficient. Please check Google to learn how to restart your specific phone, or tablet.

I cannot find my product listed

1. Make sure that you have a "Smart" Victron product. It needs to have a Bluetooth symbol.

2. Make sure your product is in range.

3. Only one phone can be connected to a product at the same time. Make sure that no other phone is already connected.

4. Make sure you are attempting to connect from *within* VictronConnect - not from the system menu of your phone. If you have connected from the system menu: close VictronConnect, remove the pairing information from your phone, and then open and connect to your product from *within* VictronConnect.

5. If a firmware update failed, the product *Custom Name* might have reverted to its original name and serial number, check if that is the case. Once the update is completed, the *Custom Name* will be back. See more tips about troubleshooting firmware updates on section 11.3 [26].

I can see but cannot connect to my product

1. Make sure you are trying to connect to the right product. See section 4.3 [6] to learn how you can give your product a *Custom Name*.

2. Make sure your product is in range. It can be that you are close enough to see the product but not close enough to connect to it.

3. Make sure that Bluetooth is still enabled on your phone. If Bluetooth was disabled after scanning, you may be able to see your product listed but you won't be able to connect to it.

4. Bluetooth bonding information may be outdated. This happens when the PIN code has been changed in the product, or if your Victron product has been connected to too many phones. The product will only remember the last 10 phones connected to it. To solve this, remove the pairing completely from your phone system menu. Then open VictronConnect and re-pair the product and your phone. Watch these instructional videos to learn how to remove the pairing on Android or iOS.

5. If you are using an Android phone, check section 11.2 [42] below for issues particular to Android as well.

Connection fails around 20%

1. Make sure you are up to date with the latest version of VictronConnect.

2. Remove the product from the paired devices list in the phone's Bluetooth settings. This section [4] explains how.

3. Then Reset the PIN code.

4. Force close the VictronConnect App. Instructions: how to for iPhone and iPad, how to for Android. If you are unsure how to do this, then uninstalling and re-installing the app works as well)

5. Reconnecting in VictronConnect using the default PIN 000000.

6. Then change the PIN code [3].

Connection fails after filling in the PIN code (PIN code is not accepted)

1. Reset the PIN code to the default value of "000000" using the procedure described in section 3.3 [3]

2. Connect to the product and when asked for the PIN code, use "000000"

3. It is advised to immediately change the PIN code to a new value

4. Remove the pairing on other phones/tablets. The procedure is described in section 3.4 [4]

Restart the Victron product

In case any of the above steps didn't solve the issue. And in case of an Android device the steps in the next chapter also didn't help, then power cycle the Victron product. For example, with a Solar Charger, you must isolate the MPPT from both the battery and solar voltage so that no lights appear, before reconnecting it again.

12.2. Bluetooth connection issues on Android

> Before starting this chapter, first complete all steps in chapter 11.1
>
> Also note that steps 3 and 4 are not necessary when running Android 12 or later and VictronConnect v5.70 or later. See the note in the beginning of chapter 4.3. Android [6].

Step 1: Check that your Android device is supported

See section 4.3 Compatibility for Android [6]

Step 2: Check the Android version

• Android 4.2 or earlier: this Android version is not supported. The earliest Android version which can be used with Bluetooth is 4.3.

• Android 5: check for known Android PIN code pop-up bug. [6]

• Android 6 or later: no known issues.

Step 3: Check that VictronConnect has access to the location services

On Android 5 and later VictronConnect needs access to the phone's location services to be able to scan nearby Bluetooth products. Unless you checked "Don't show again", VictronConnect will warn on each discovery attempt when permissions are not granted or location services are disabled.

Permission to access location services is requested each time the app starts …but if you checked the "Don't show again" option while denying, the request won't appear again.. You can grant permission by going to the Android settings → Applications → VictronConnect → Permissions, and then enable the "Location" permission. Another way is to uninstall and then reinstall VictronConnect.

Why this access is required is explained in the "Why is Access to Location Service required" section, part of the Android chapter [6].

Step 4. Enable Location (or GPS) functionality in the system settings

For Bluetooth scanning to work, the Location (or GPS) functionality on the phone needs to be enabled.

Why this access is required is explained in the "Why is Access to Location Service required" section, part of the Android chapter [6].

Step 5. Search & connect from within VictronConnect, and NOT from the system Bluetooth menu

Make sure you are attempting to connect from *within* VictronConnect - not from the system menu of your phone. If you have connected from the system menu: close VictronConnect, remove the pairing information from your phone, and then open and connect to your product from *within* VictronConnect.

Step 6. PIN code pop-up never shows

On some Android phones, the PIN code pop-up dialog doesn't show. It is hidden into the notifications bar.

Try to connect and when the connection is stuck at 80%, open the notifications bar and check if the PIN code/Pair request is there, if this is the case open it and enter the PIN code.

On Android it is also possible that other apps prevent the PIN code pop-up from showing, even when pairing in the Android Bluetooth settings menu. One such an app is "FrSky Free Link", which even blocks pairing with Bluetooth headsets. In this case, the thing to do is remove the problematic app. This can be done by uninstalling apps one by one (starting with apps that use or connect to Bluetooth devices), removing all apps or even resetting the phone to factory defaults. When the Victron products are paired to the phone/tablet, the problematic app can be re-installed.

The default PIN code is 000000, six times zero.

Step 7. Try another phone at first

If you are still experiencing difficulties, having tried the steps above, try connecting using another phone; preferably an Apple phone or tablet as they work without any issues.

When successfully connected using another phone, VictronConnect will automatically update the firmware in the Victron Bluetooth product. After the firmware has been updated you may find that you can use the Android phone with which you were experiencing difficulties.

12.3. Problems during firmware updating

First of all, it's good to know that you can always restart the firmware update procedure. The update process will be restarted each time you connect to the product.

Keep your phone as close to the product as possible. If the update fails due to Bluetooth connectivity problems, and if your phone is already paired to a product, try and remove the pairing completely from your phone's system menu. Then open VictronConnect and re-pair the product and your phone. Watch these instructional videos to learn how to remove the pairing on Android or iOs .

If the firmware update stops at a random percentage during each retry, just keep trying - it will succeed eventually. If the update fails even after many attempts, try using another phone or tablet, if possible an Apple iOS phone - they usually work without any issues. After the update, you may find that you can use the phone with which you were having difficulty.

Update stops at 4% or earlier

When the firmware update fails at 4% or less, VictronConnect cannot make the product switch to the update mode.

Solution for Blue Smart IP65 Chargers

• If you are in the firmware update screen, first force close VictronConnect.

• Unplug the mains cable from the charger and wait for 30 seconds.

• Press and hold the MODE button on the charger and plug in the mains cable again until the yellow and blue LEDs are blinking alternately to force the charger into update mode.

• Release the MODE button. You now have 30 seconds to connect to the product, after 30 seconds the charger will automatically leave the update mode.

• Start VictronConnect and click on the product in the device list.

• The firmware update screen will appear again. You should now be able to update your charger to the latest firmware version.

Solution for VE.Direct Smart dongle

• If you are in the firmware update screen, first force close VictronConnect.

• Unplug the dongle from the VE.Direct port.

• Press and hold the 'Clear PIN' button on the dongle and connect it to the VE.Direct port again, the red and blue LEDs will blink alternately; indicating that the dongle is in update mode.

• Release the 'Clear PIN' button. You now have 30 seconds to connect to the product, after 30 seconds the dongle will automatically leave the update mode.

• Start VictronConnect and click on the product in the device list.

• The firmware update screen will appear again. You should now be able to update the dongle to the latest firmware version.

12.4. VE.Direct USB driver problem on macOS X 10.9 (Mavericks)

The driver included in macOS X 10.9 "Mavericks" doesn't work properly with the VE.Direct USB cable. To fix this issue we recommend updating to a later version of macOS.

If updating the operating system is not possible, there is a workaround which disables the Apple FTDI (Future Technology Devices International) driver and installs a compatible driver. Follow these steps:

> cd /System/Library/Extensions/IOUSBFamily.kext/Contents/PlugIns
>
> sudo mv AppleUSBFTDI.kext AppleUSBFTDI.disabled

Step 2. Restart the computer

Step 3. Download and install the compatible FTDI driver

http://www.ftdichip.com/Drivers/VCP.htm

Step 4. Restart the computer

VictronConnect should now show the connected products.

12.5. VictronConnect on Windows doesn't find VE.Direct USB connected products

Check chapter 4.1 [6], and follow its instructions to install the driver.

12.6. VictronConnect on Android doesn't show files opened from email or file manager apps

VictronConnect needs to be running before opening files.

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Open VictronConnect and without closing it switch to the app containing the file, select it and choose to open it with VictronConnect.

12.7. How to create a VictronConnect Service Report

If you are experiencing issues with VictronConnect or your Victron product, you may be asked to create a "VictronConnect Service Report". Please note that this service report is for Victron internal use and is not able to be read or used for any other purpose than developer troubleshooting.

To do this,

1. Open VictronConnect

2. Perform the action that leads to the bug or issue

3. Return to the main menu

4. Select the three lines menu

5. Select Settings

6. Click or tap CREATE SERVICE REPORT

7. Save, email, or copy the file to Victron, via email or the Victron Community.
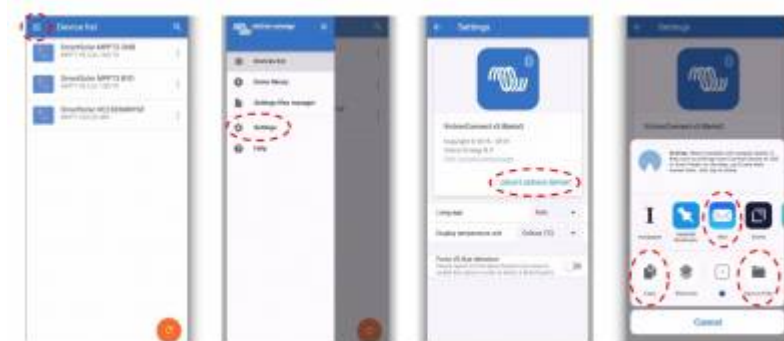
If you require more detailed power system diagnostic information, for example, detailed monitoring of battery voltage and state of charge readings over time, this may require connecting a GX product.

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13. Compatible Victron products

13.1. Solar Chargers

13.1.1. SmartSolar MPPT Charge Controllers

	USB via VE.Direct port	Wireless Via Bluetooth
MPPT 75/10	VE.Direct to USB accessory required	Yes - Built in
MPPT 75/15	VE.Direct to USB accessory required	Yes - Built in
MPPT 100/15	VE.Direct to USB accessory required	Yes - Built in
MPPT 100/20	VE.Direct to USB accessory required	Yes - Built in
MPPT 100/30	VE.Direct to USB accessory required	Yes - Built in
MPPT 100/50	VE.Direct to USB accessory required	Yes - Built in
MPPT 150/35	VE.Direct to USB accessory required	Yes - Built in
MPPT 150/45 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in
MPPT 150/60 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in
MPPT 150/70 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in
MPPT 150/85 Tr and MC4	VE.Direct to USB accessory required (*)	Yes - Built in (*)
MPPT 150/100 Tr and MC4	VE.Direct to USB accessory required (*)	Yes - Built in (*)
MPPT 250/60 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in
MPPT 250/70 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in
MPPT 250/85 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in
MPPT 250/100 Tr and MC4	VE.Direct to USB accessory required	Yes - Built in

(*) Note for early versions of SmartSolar MPPT 150/85 and 150/100: it is not possible to use both the VE.Direct port and the built-in Bluetooth Smart function at the same time. When connecting to VE.Direct, the built-in Bluetooth Smart function will not be available. These early versions can be recognized by their part number:

• SmartSolar MPPT 150/85 Tr. Early version: SCC010085210.

• SmartSolar MPPT 150/85 MC4. Early version: SCC010085310.

• SmartSolar MPPT 150/100 Tr. Early version: SCC010100210.

• SmartSolar MPPT 150/100 MC4. Early version: SCC010100310.

The same models, but then with a different part number do support using both the VE.Direct port and the built-in Bluetooth Smart function at the same time. As do all other SmartSolar MPPT models.

13.1.2. BlueSolar MPPT Charge Controllers

	USB via VE.Direct port	Wireless Via Bluetooth
MPPT 70/15	Not compatible	
MPPT 75/10	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 75/15	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 75/50	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 100/15	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 100/30	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 100/50	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 150/35	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 150/45 Tr and MC4	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required

	USB via VE.Direct port	Wireless Via Bluetooth
MPPT 150/60 Tr and MC4	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 150/70 Tr and MC4 VE.Direct (*)	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 150/85 Tr and MC4 VE.Direct (*)	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
MPPT 150/70 CAN-bus	Not compatible	
MPPT 150/85 CAN-bus	Not compatible	
MPPT 150/100 Tr and MC4	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required

13.2. Battery Chargers

Blue Smart IP22	USB via VE.Direct port	Wireless Via Bluetooth	Bluetooth on/off	Charge cycle history	Advanced settings
All Blue Smart IP22 Chargers	No	Yes - Built in	Yes - Since firmware v3.12	No	No
Blue Smart IP65	**USB via VE.Direct port**	**Wireless Via Bluetooth**	**Bluetooth on/off**	**Charge cycle history**	**Advanced settings**
Blue Smart IP65 12/25 Charger	No	Yes - Built in	Yes	Yes	Yes
Blue Smart IP65 24/13 Charger	No	Yes - Built in	Yes	Yes	Yes
Other Blue Smart IP65 Chargers	No	Yes - Built in	Yes - Since firmware v3.12	No	No
Blue Smart IP67	**USB via VE.Direct port**	**Wireless Via Bluetooth**	**Bluetooth on/off**	**Charge cycle history**	**Advanced settings**
All Blue Smart IP67 Chargers	No	Yes - Built in	Yes - Since firmware v3.12	No	No
Phoenix Smart IP43	**USB via VE.Direct port**	**Wireless Via Bluetooth**	**Bluetooth on/off**	**Charge cycle history**	**Advanced settings**
All Phoenix Smart IP43 Chargers	Yes	Yes - Built in	Yes	No	No
IMPULSE-II Smart	**USB via VE.Direct port**	**Wireless Via Bluetooth**	**Bluetooth on/off**	**Charge cycle history**	**Advanced settings**
All IMPULSE-II Smart Chargers	No	Yes - Built in	Yes - Since firmware v3.09	Yes - Since firmware v3.09	No

13.3. Orion-Tr Smart DC-DC Charger Isolated

	USB via VE.Direct port	Wireless Via Bluetooth
All Orion-Tr Smart DC-DC Chargers Isolated	No	Yes - Built in

13.4. Battery Monitors

	USB via VE.Direct port	Wireless Via Bluetooth
BMV-700	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
BMV-702	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
BMV-700H	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
BMV-712	VE.Direct to USB accessory required	Yes - Built in

13.5. Phoenix Inverters VE.Direct

	USB via VE.Direct port	Wireless Via Bluetooth
Phoenix Inverter 12V 250VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 12V 375VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 12V 500VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 12V 800VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 12V 1200VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 24V 250VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 24V 375VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 24V 500VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 24V 800VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 24V 1200VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 48V 250VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 48V 375VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 48V 500VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 48V 800VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Phoenix Inverter 48V 1200VA	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required

13.6. Peak Power Pack

	USB via VE.Direct port	Wireless Via Bluetooth
Peak Power Pack 12.8 8Ah	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Peak Power Pack 12.8 20Ah	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Peak Power Pack 12.8 30Ah	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required
Peak Power Pack 12.8 10Ah	VE.Direct to USB accessory required	VE.Direct to Bluetooth accessory required

13.7. Smart LiFePO4 Lithium Batteries

	USB via VE.Direct port	Wireless Via Bluetooth
LiFePO4 battery 12,8V/60Ah	No VE.Direct port	Yes - Built in
LiFePO4 battery 12,8V/90Ah	No VE.Direct port	Yes - Built in
LiFePO4 battery 12,8V/100Ah	No VE.Direct port	Yes - Built in
LiFePO4 battery 12,8V/150Ah	No VE.Direct port	Yes - Built in
LiFePO4 battery 12,8V/160Ah	No VE.Direct port	Yes - Built in
LiFePO4 Battery 12,8V/200Ah	No VE.Direct port	Yes - Built in
LiFePO4 Battery 12,8V/300Ah	No VE.Direct port	Yes - Built in
LiFePO4 Battery 25,6V/200Ah	No VE.Direct port	Yes - Built in

13.8. Smart Battery Sense

	USB via VE.Direct port	Wireless Via Bluetooth
Smart Battery Sense	No VE.Direct port	Yes - Built in

13.9. MultiPlus, EasySolar, Quattro, Phoenix Inverter with VE.Bus, and similar products

This section applies to MultiPlus, MultiPlus-II, MultiCompact, Multi (the models introduced in 2018), Quattro, Quattro-II, EasySolar, EasySolar-II, MultiGrid, and ECOMultis.

In order to keep this section short, all these products are referred to as VE.Bus products.

The minimal required version of the VE.Bus products are 19xx111 for European units and 20xx111 for 120V, which were released in 2007. Older models, 18xxxxx are not supported.

The currently sold generation, VE.Bus firmware 26xxxxx and 27xxxxx is supported.

Mixed systems (1954208 in parallel to 2654208) are not supported by VE.Bus-interface, not for readout and not for settings; use VEConfigure instead.

Inverter/chargers can be connected to in two ways:

1. Using USB, this requires the MK3-USB, full details here.

2. Wirelessly, over Bluetooth. Requires the VE.Bus Smart dongle accessory. The available functionality is monitoring as well as operation of the product: switching between on/off/charger-only and setting the input current limit. Changing the configuration, as well as firmware updating a VE.Bus product, is not supported.

Note that switching between on/off/charger-only as well as setting the input current limit is not possible when there is a DMC or VE.Bus BMS installed.

For systems with a GX product installed, and running firmware version 415 or newer, switching between on/off/charger-only and setting the input current limit IS possible.

13.10. RS Product line

	USB via VE.Direct port	Wireless Via Bluetooth
SmartSolar MPPT RS 450/100-Tr	VE.Direct to USB accessory required	Yes - Built in
SmartSolar MPPT RS 450/200-Tr	VE.Direct to USB accessory required	Yes - Built in
Inverter RS 48/6000 230V Smart	VE.Direct to USB accessory required	Yes - Built in
Inverter RS 48/6000 230V Smart Solar	VE.Direct to USB accessory required	Yes - Built in
Multi RS Solar 48/6000/100-450/80	VE.Direct to USB accessory required	Yes - Built in

13.11. EV Charging Station

	USB via VE.Direct port	Wireless Via Bluetooth
EV Charging Station*	No VE.Direct port	Yes - Built in
EV Charging Station NS	No VE.Direct port	Yes - Built in

* Requires firmware v1.24 or later