# VictronConnect manual

## 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.

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

## 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 your device.

See chapter 4 for details regarding compatible phones, tables and laptops, as well as required minimum Operating System versions.

# 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 device's system menu because VictronConnect will not find your Victron product.

Here is how to connect:

1. Enable the Bluetooth on your phone, tablet or laptop (device).
2. Open VictronConnect, and scan:
    1. On a phone or tablet, pull down the screen, or tap the refresh button to initiate a scan.
    2. 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 device. Enter the pin code. The default pin code is 000000
4. Connection is complete.

If connection was not successful please refer to section 9. Troubleshooting below.

## 3.2 Bluetooth Smart - Changing the PIN code

To prevent unauthorised connections to your device 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, tablets, and laptops 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 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: Press and hold the product description for which you would like to reset the PIN code. 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.

On a desktop (Windows, Mac), 'right click' the product description instead of pressing and holding.

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: Press and hold the product description for which you would like to reset the PIN code. 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.

On a desktop (Windows, Mac), 'right click' the product description instead of pressing and holding.

### Smart Solar Charger

On the device list: Press and hold the product description for which you would like to reset the PIN code. 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.

On a desktop (Windows, Mac), 'right click' the product description instead of pressing and holding.

### BMV-712 Smart

On the device list: Press and hold the product description for which you would like to reset the PIN code. 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.

On a desktop (Windows, Mac), 'right click' the product description instead of pressing and holding.

### Smart LiFePO4 Batteries

On the device list: Press and hold the product description for which you would like to reset the PIN code. 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.

On a desktop (Windows, Mac), 'right click' the product description instead of pressing and holding.

## 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/tablet/laptop. For example, if the PIN code of your product has been changed on a different device.

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

**Remove Bluetooth pairing on iOS devices:**

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

[video_unpair_ios.mp4](video_unpair_ios.mp4)

**Remove Bluetooth pairing on Android devices:**

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

[video_unpair_android_cropped.mp4](video_unpair_android_cropped.mp4)

# 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.

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

## 4.2 macOS X

Todays version of VictronConnect requires macOS version is 10.12 (OS X Sierra), or later.

For the older macOS 10.11/10.10/10.9 versions, an (unsupported) previous version of VictronConnect is still available in the Apple Store.

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

## 4.3 Android devices

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 – but unsupported.

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

**Notes for Android 5**

The pairing does not work on some devices running Android 5. The pin code popup does not appear, or it appears without a text field to enter the PIN code. If you have this situation on your device, the phone/tablet 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.

**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 devices.

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 devices location; hence these requirements.

Despite 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 its 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 device 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 Archive of previous versions

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

In such situation, we recommend to update your phone/laptop 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 device 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 |
| 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 |

# 5. Application overview

## 5.1 Screenshots (click to enlarge)

**Device list**
This page shows all the Victron products that have been discovered by your device, and to which a connection can be made. Click on the desired product.
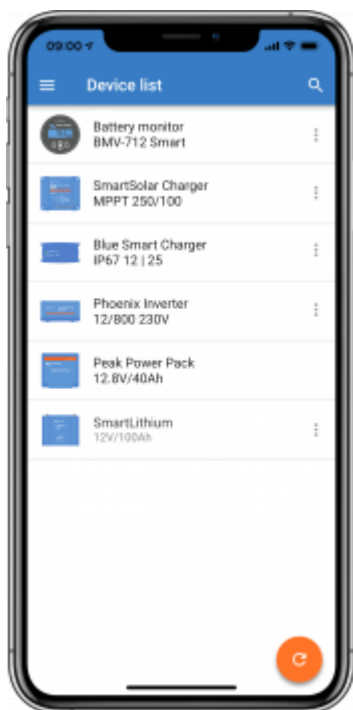
**Battery Monitor pages**:

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.
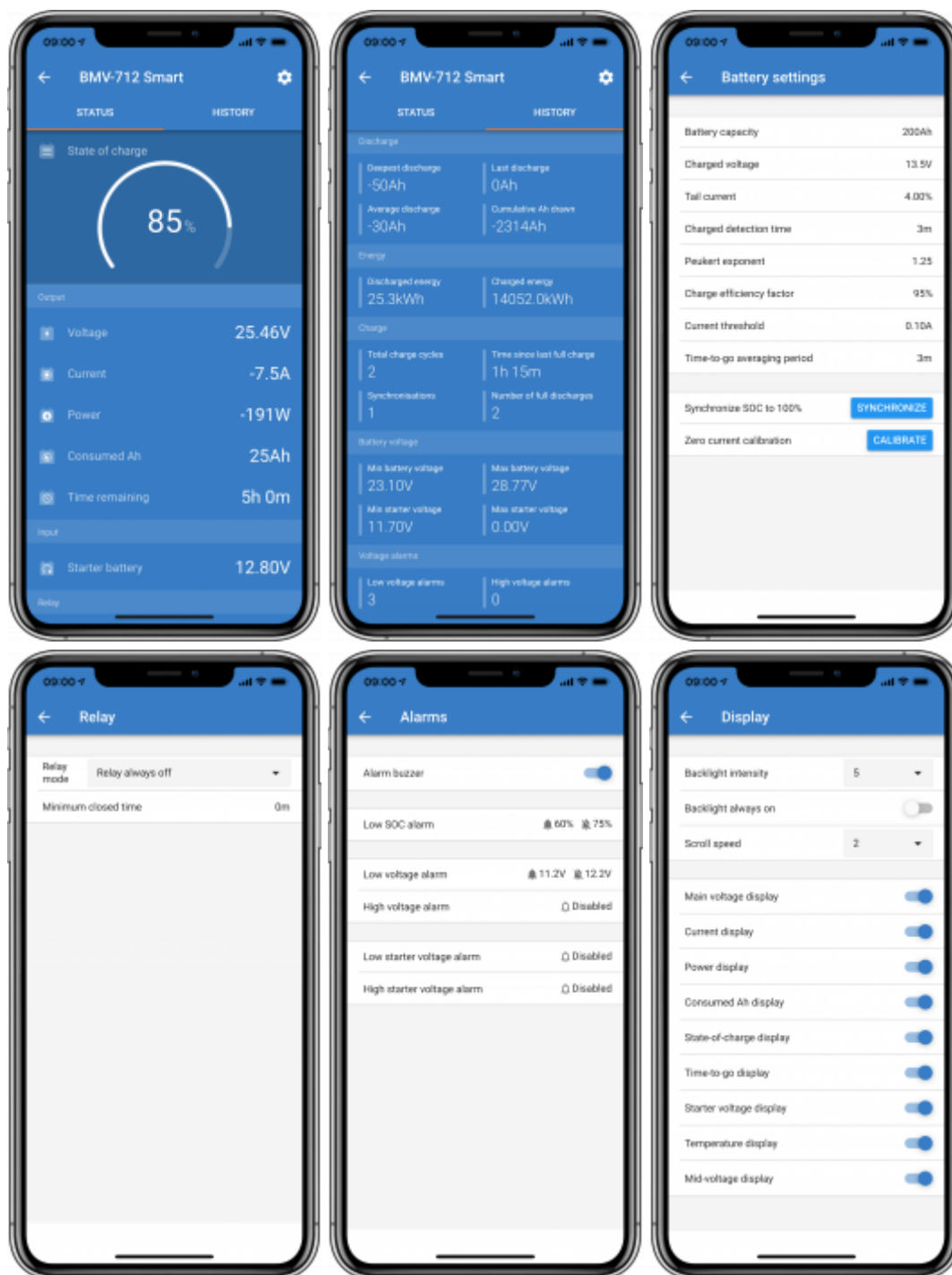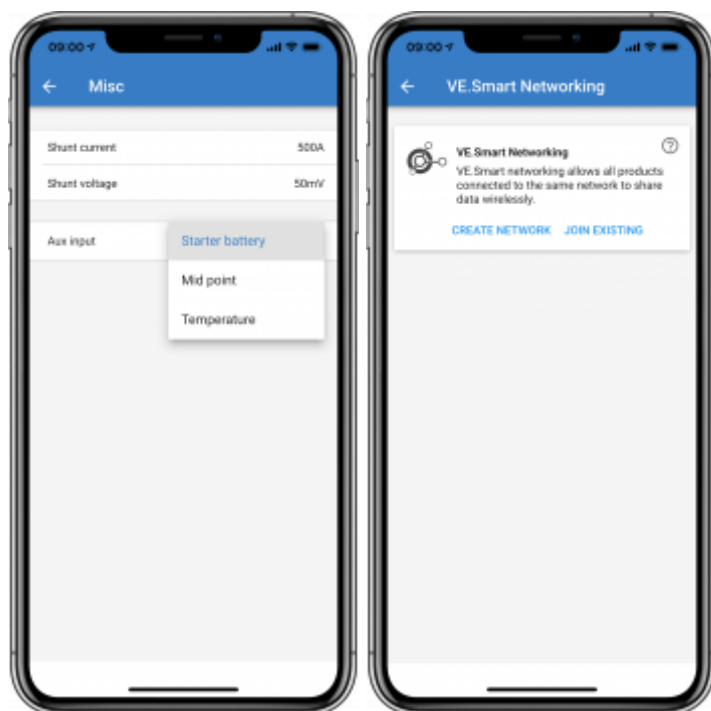
## Solar Charge Controller pages

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 history analysis.

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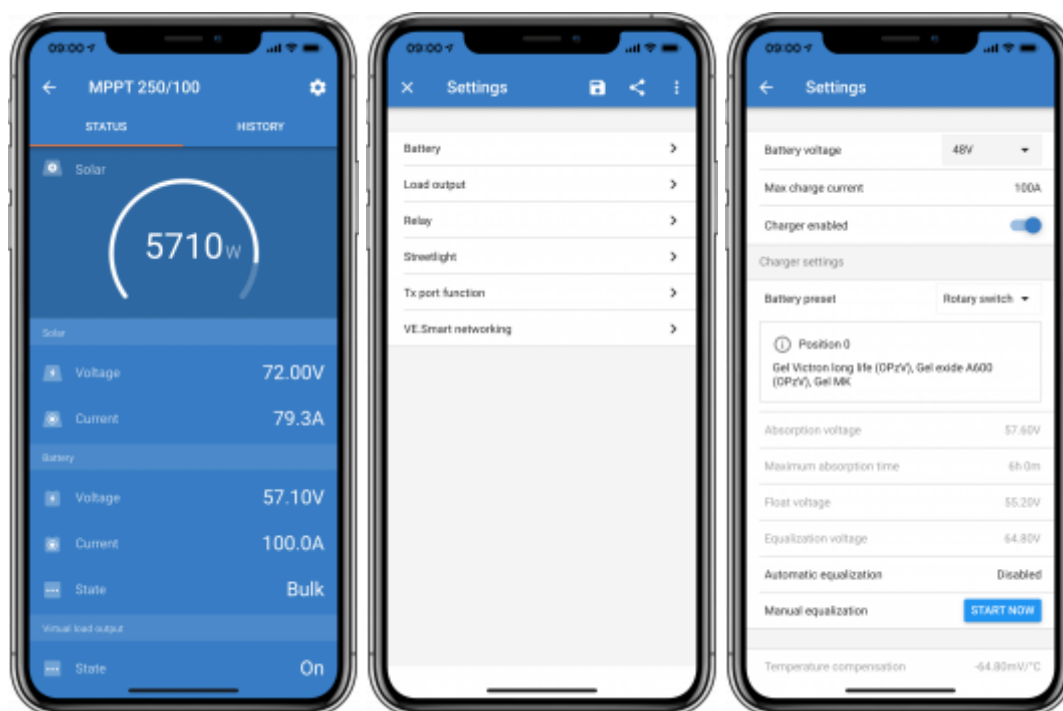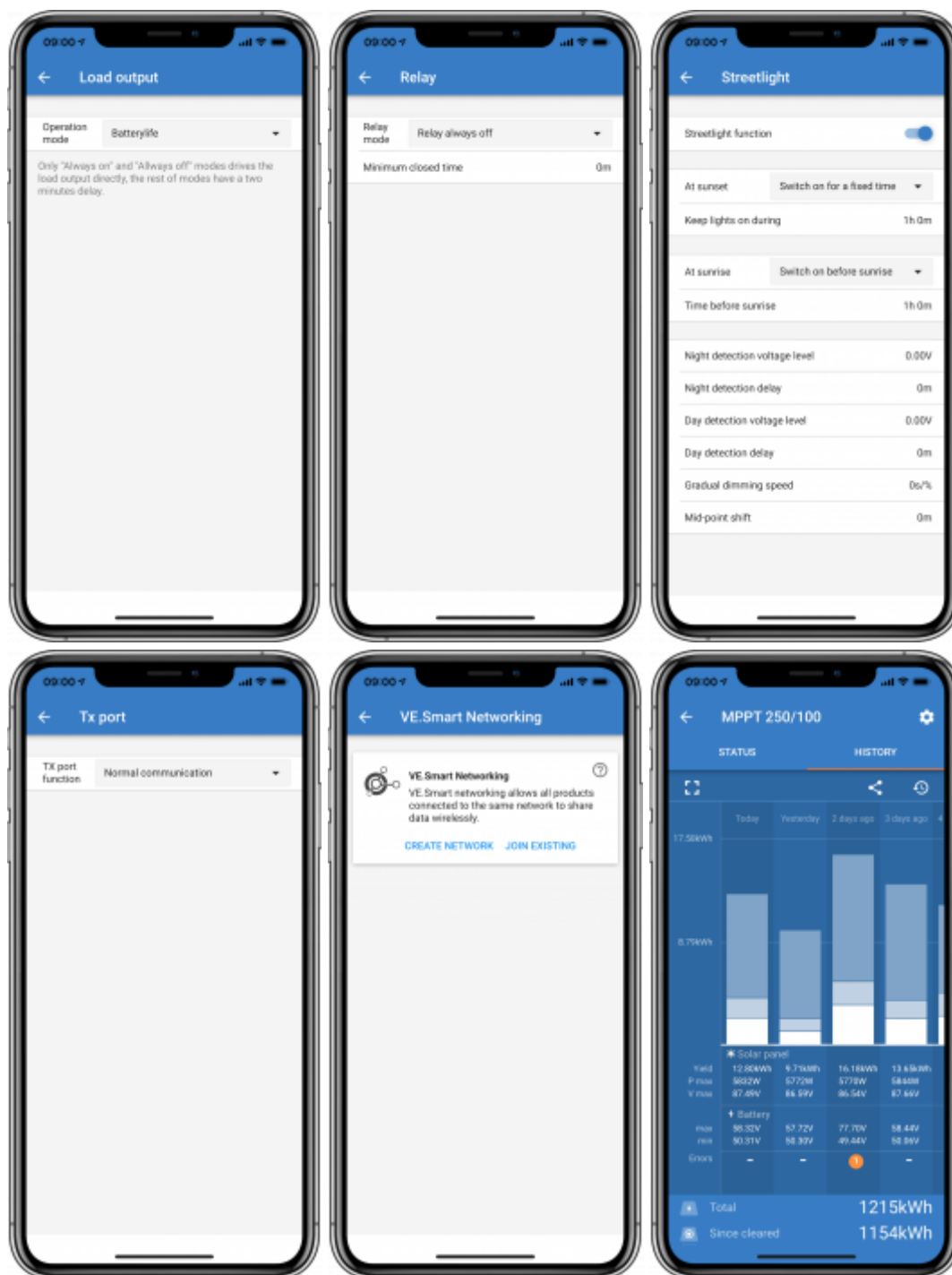
**Phoenix Inverter pages**

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 setting about which more information can be found here.
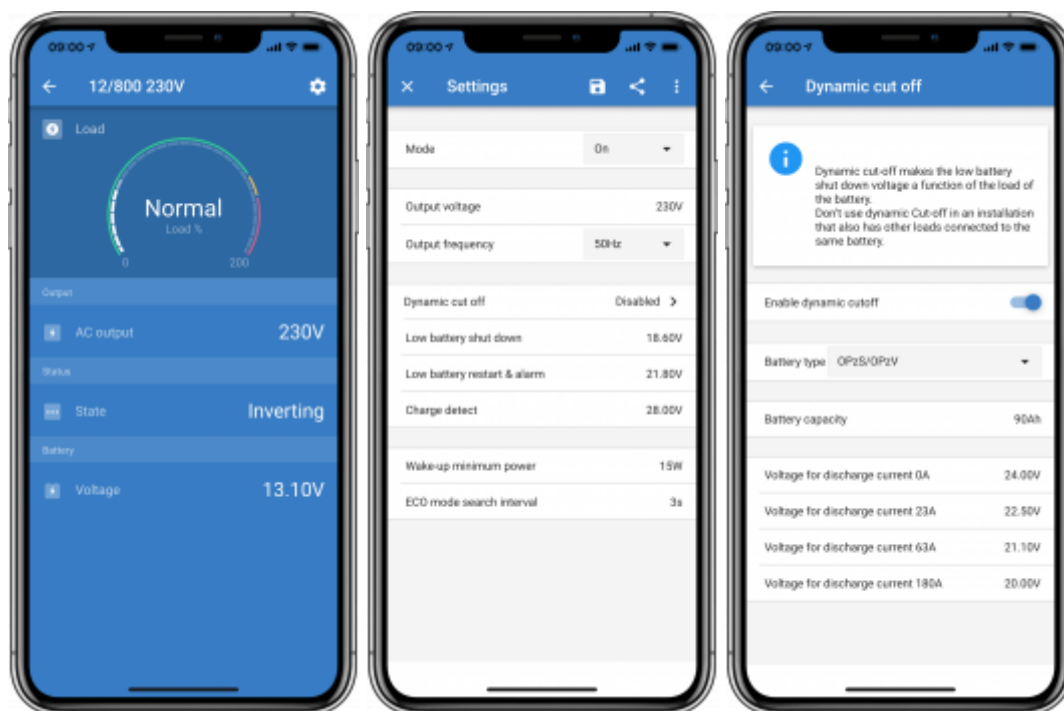
**Blue Smart IP65 charger pages**

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 device. (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.

From here you can choose a preset charge algorithm, you can select the charge current; and you can choose to employ the charge algorithm for a Li-ion battery when that is appropriate.
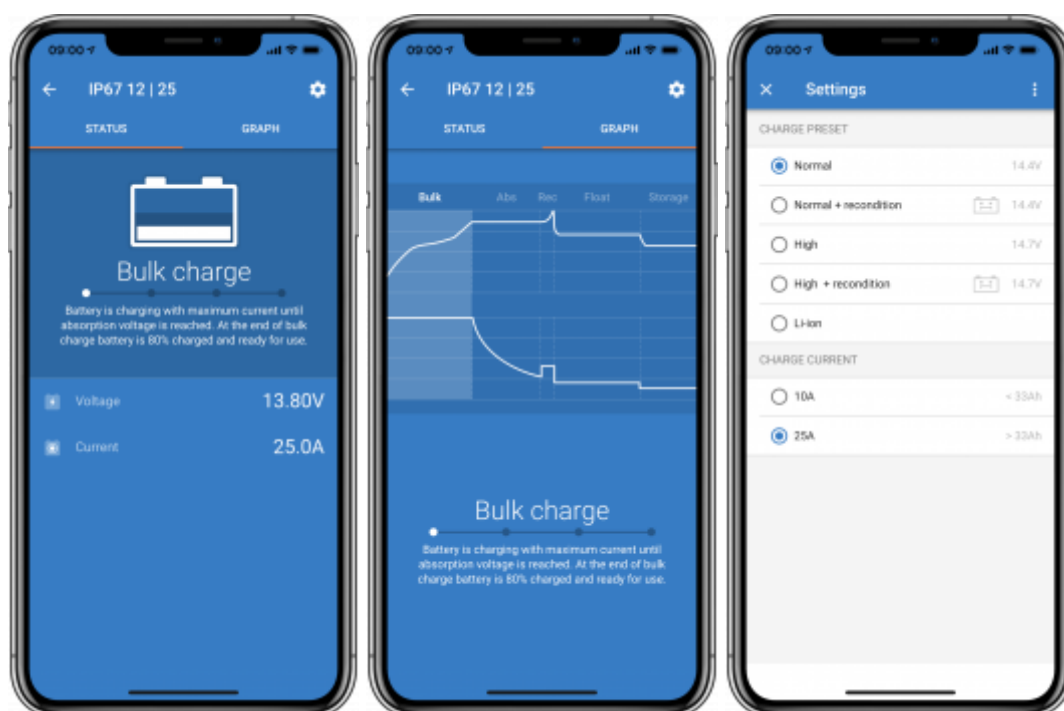
**Lithium Batteries Smart**

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.
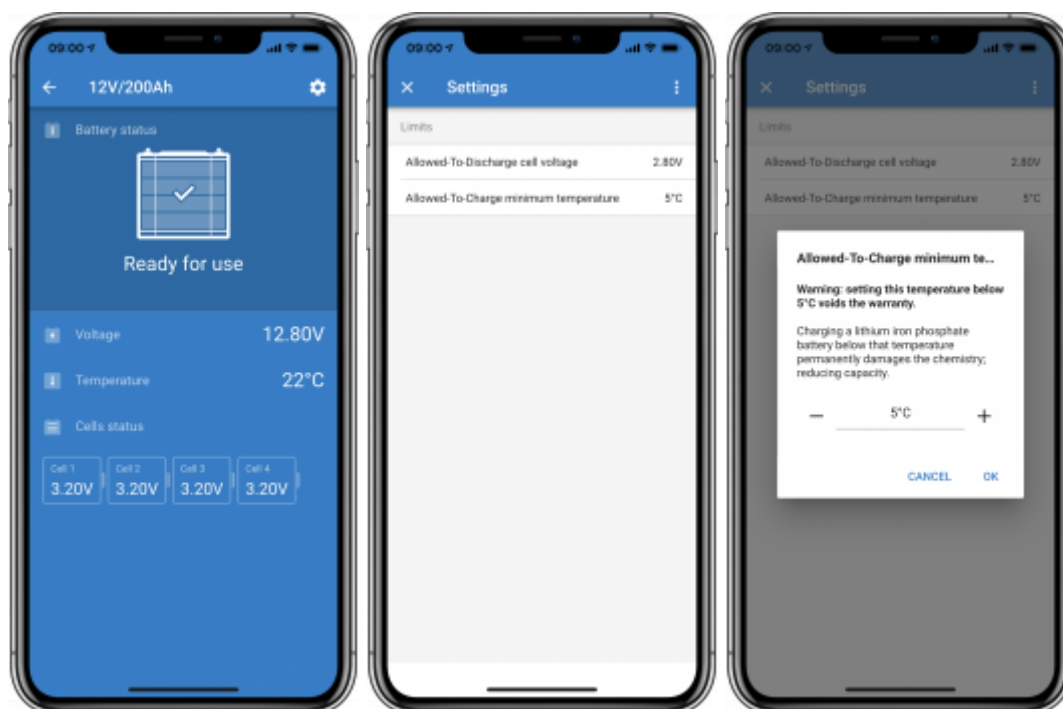


**Peak Power Pack**
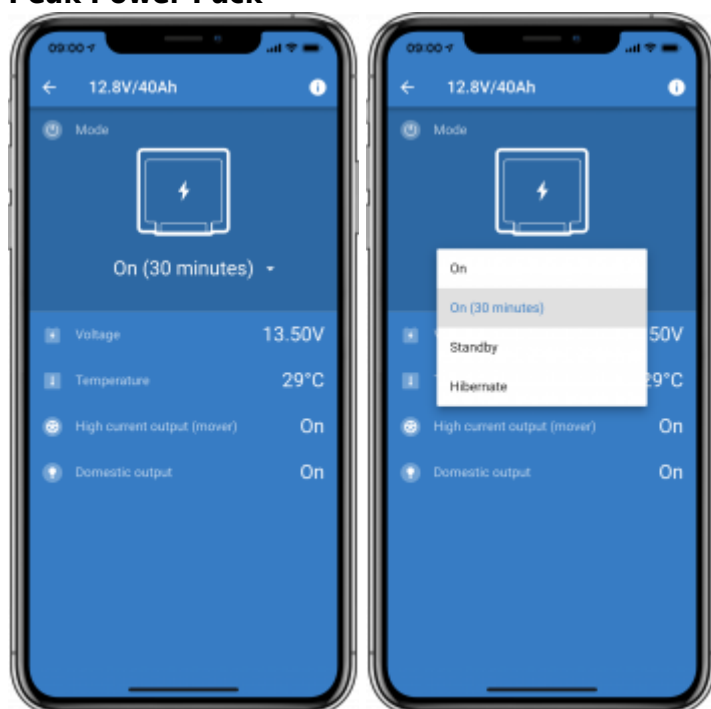


**Windows**

Here is a VictronConnect app screenshot from a device using a version of the Microsoft Windows

operating system showing information from an MPPT.
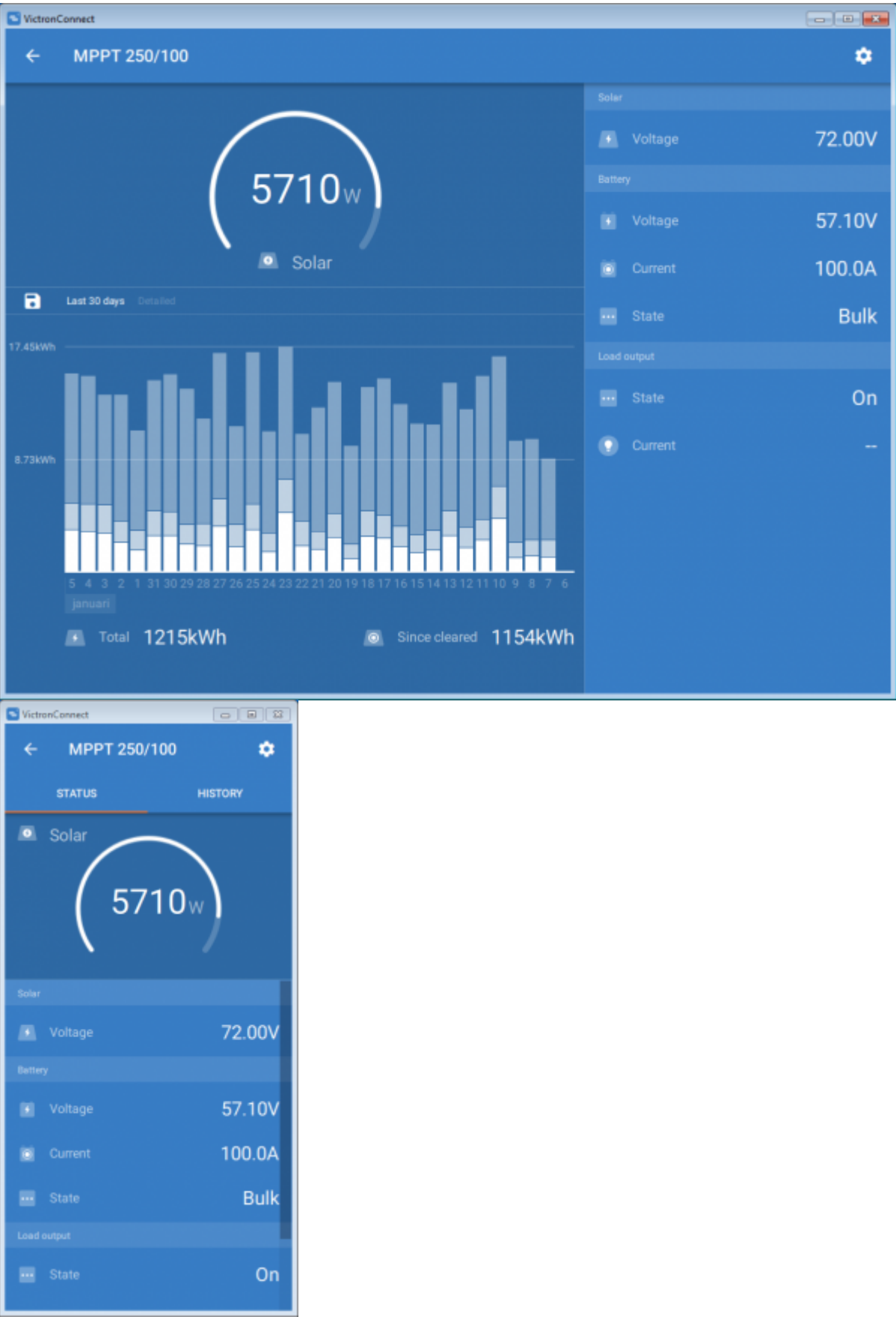




**macOS X**

Here is a VictronConnect app screenshot from a device 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 smart phone (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.



**BlueSolar MPPT**

This video will show you how to download the VictronConnect app onto a smart phone (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.



## 5.3 Renaming your devices

It is possible to change the name of your devices to make identification easier. This is especially useful if you have multiple devices, such as 3 MPPTs and 2 BMVs. It is not yet possible to change the name of Smart Lithium batteries. This will be available in the future.

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.
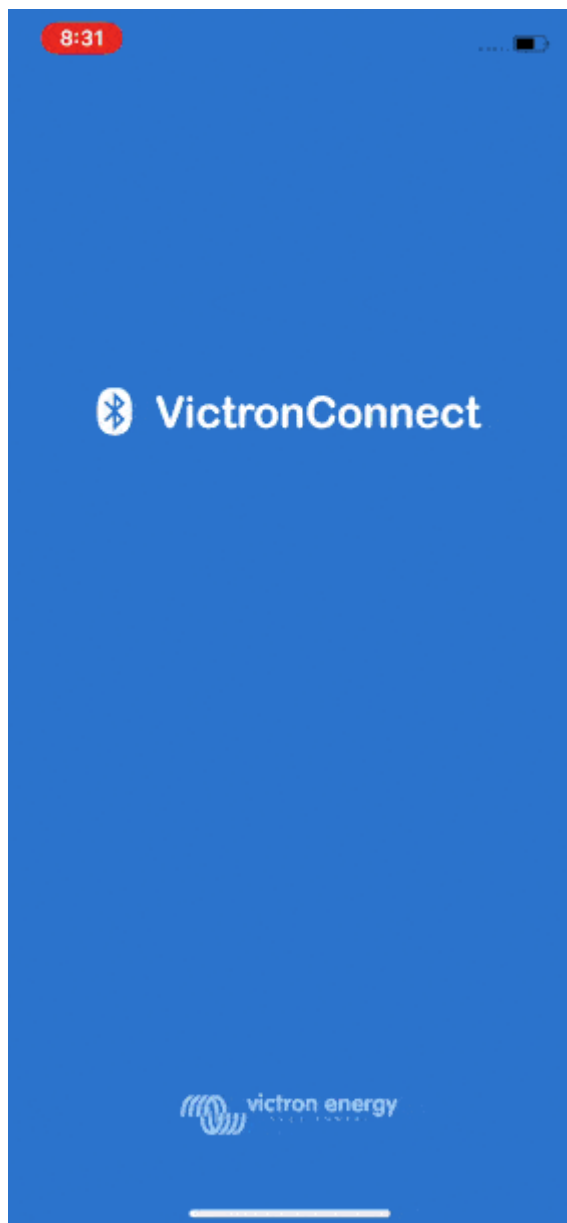


## 5.4 How to disable Bluetooth

All our products that have Bluetooth built-in, have a feature that allows disabling Bluetooth. Typically the reason for doing so is security, nothing more secure than disabling it. For example on unmanned roadside backup power stations; or other more large scale deployments.

In most cases, it's also possible to re-enable Bluetooth after disabling. For example by using a VE.Direct cable. The only exception is the Lithium Smart batteries: once Bluetooth is disabled on them, it is disabled forever.

Here is how to disable Bluetooth: 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.

If the product supports turning Bluetooth off, 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 **most** of our products, Bluetooth can be re-enabled (see below how to re-enabled it), but for our Lithium Smart batteries this change is **permanent** and you'll be asked to enter a confirmation code displayed in the dialogue; if you are sure that you want to permanently disable Bluetooth just enter the code displayed and choose "Ok".

**How to re-enable Bluetooth**

Warning: This section does not apply to the Lithium Smart batteries. Bluetooth cannot be re-enabled on the Lithium Smart batteries.

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:

**Via VE.Direct:** Connect the product with a VE.Direct to USB cable to your PC or Android device and use VictronConnect to re-enable Bluetooth in the **Product Info** page (see instructions above on how to reach the Product info page).

**Smart Chargers:** In all smart chargers, 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.

*Chargers with a MODE button:*

Press and hold the MODE button for 10s will reset Bluetooth:

1. Disconnect active device
2. Reset PIN code
3. Clear bonding information
4. Enable Bluetooth
5. This applies to:
    1. Phoenix Smart IP43
    2. Blue Smart IP22
    3. Blue Smart IP65

**Smart Battery Protect:** 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 BMV-712's on-board Bluetooth module can be turned on or off through the settings menu. Check the product manual for more details.

**Smart BMS:** 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.

## 5.5 Importing and converting a GX Product Family database File

VictronConnect for Mac OSX and Windows allows you to import and convert the database log file (that is created by the VenusOS on the GX Product Family of devices) 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.
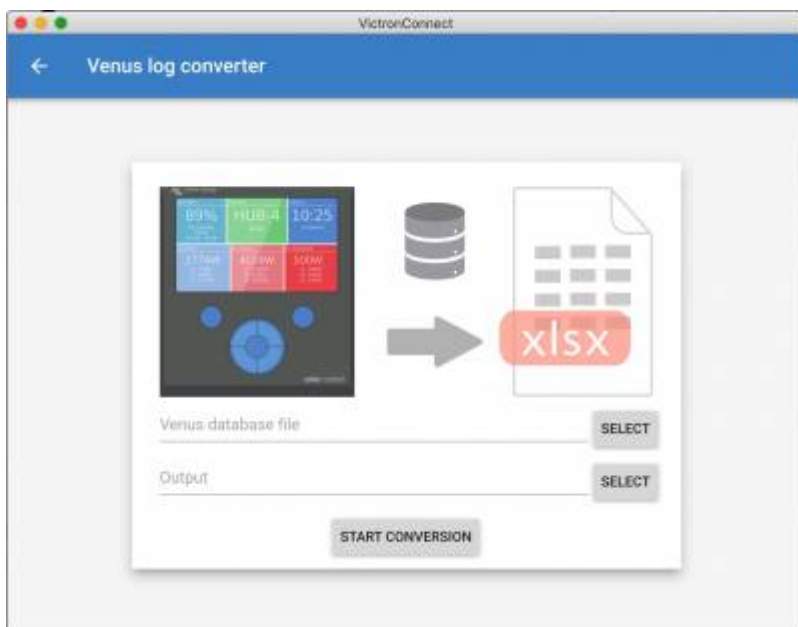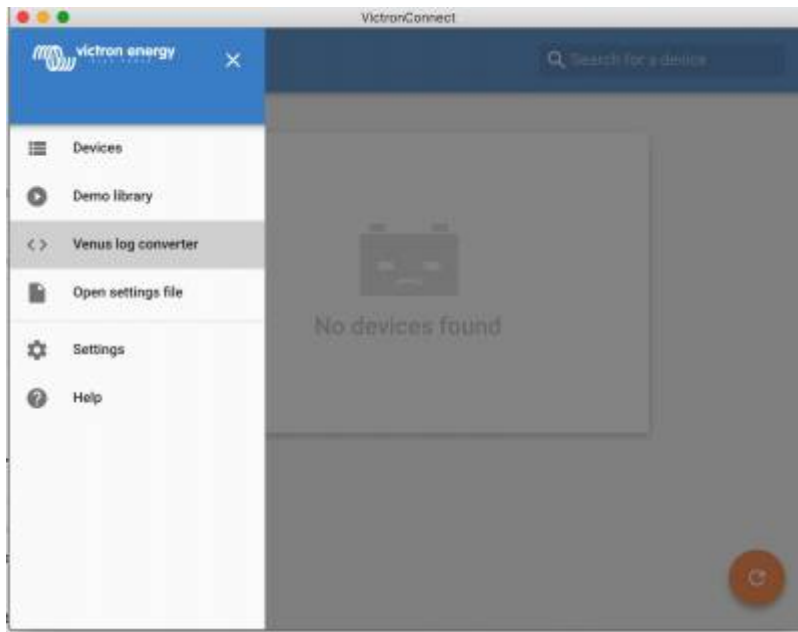




This feature is not available in the iOS and Android mobile versions of VictronConnect.

# 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.)
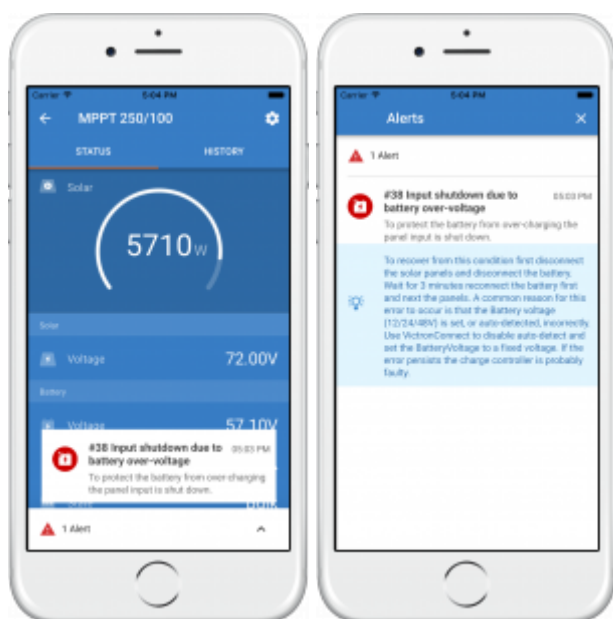
# 7. Settings files

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 device to the Victron product, go to the 'Settings' page and click on the floppy disc icon .
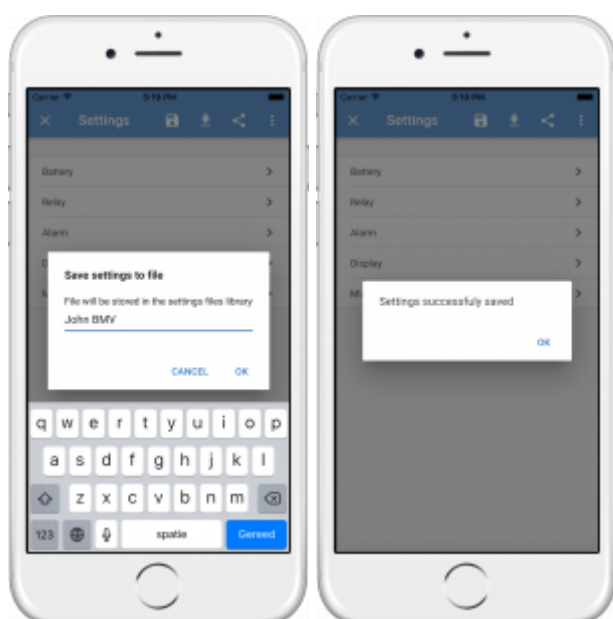
**Load settings**

Connect your device to the Victron product, go to the 'Settings' page and click load icon [↓], and then select a file from the list.

When the file is loaded the changes will not immediately be applied. In order that you may review the changes before applying them, 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 device. 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.

From here files can be opened, shared or removed.
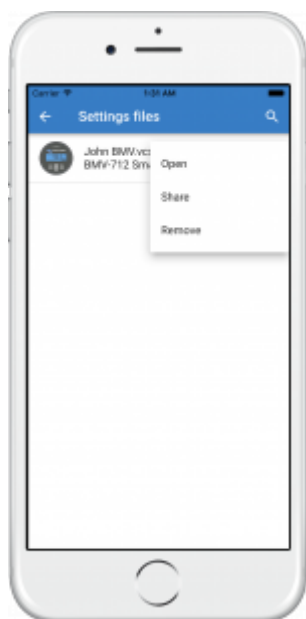


**Open settings file**

When opening a file from the settings file manager a snapshot of the product at the point the setting file was saved is shown.

There is a constraint for opening files in this mode: The settings file must have been created using the same VictronConnect version that the one running on your phone/computer. This means that if VictronConnect v5.0 is installed in your phone only settings files created with VictronConnect v5.0 can be opened.

This constraint only applies when opening files from the settings file manager for inspection. Loading files from a product settings page to restore it is always possible as long as VictronConnect version is equal or greater than the one used to create the settings file.

# 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 device, 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.
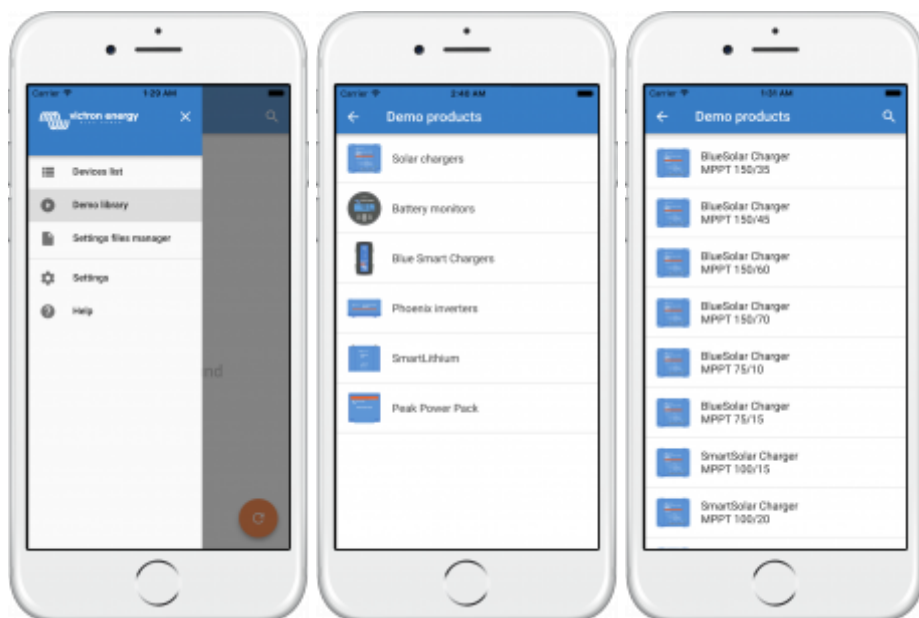
To load a saved settings file as a demo, go to the 'Settings file manager', click on the file menu button, and select "Open".
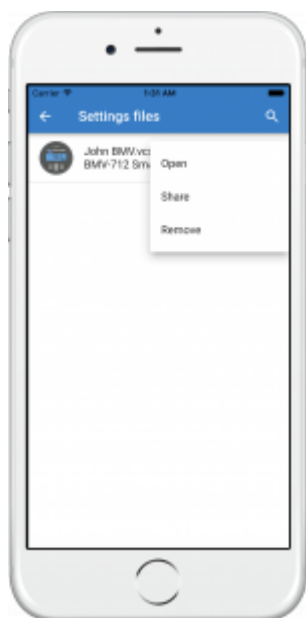


# 9. Firmware updates

## 9.1 Introduction & automatic updates

What about updating Firmware on VE.Bus devices 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?

Connect to the product: VictronConnect will prompt to update in case there is a new 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/tablet/laptop. 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 your product is running on the latest firmware version. If there is a newer version, you will be guided through the update procedure before doing anything else.

A firmware update - when available - will need to be completed in order to continue 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 recommended firmware version. Besides that, it is also possible to update a product with a file that you supply your-self.

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

- Update to a very recent version, thats already available on Victron Professional but not yet shipped with VictronConnect. Note that instead of going throught this effort, you can also wait a bit longer, for a new version of VictronConnect to be released.
- Update a product to a special version, such as the required to disable Bluetooth in the Lithium batteries. See the files in Victron Professional for more information about that.

**Instructions for Windows and MacOS computers**

With your device and Victron product paired via VictronConnect, go to the "Product info" page, click on "Update" and open the correct firmware file.
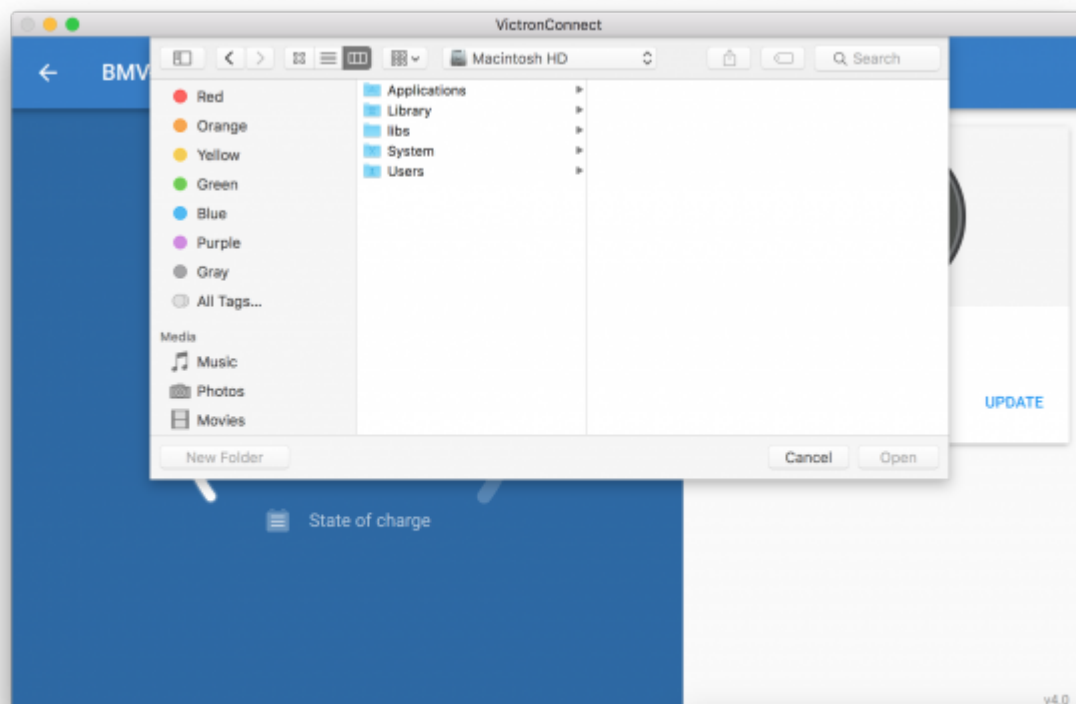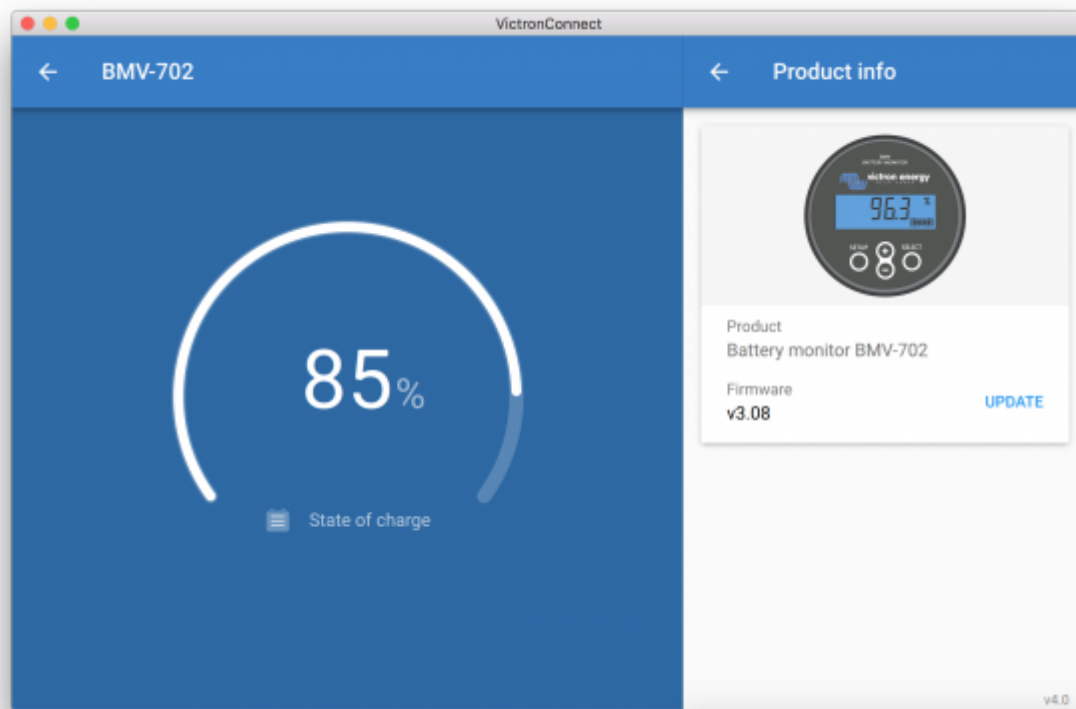
**Instructions for Android and iOS phones and tablets**

Due to limitations on a mobile device the process is slightly different from the Windows/MacOS routine.

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.

**Note for iOS**: The current version of Google Chrome for iOS fails to download ".dup" files from the Victron Professional website - so we recommended using Safari 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.

On both iOS and Android, go to the app that contains the firmware file, tap on it, and open it with VictronConnect.



VictronConnect will be opened and should read: "File added to the firmware library". If the message doesn't appear, repeat the previous step.

Go to the "Product info" page and tap on "Update firmware".

Select the desired file from the list.

The update mechanism will detect-and-reject firmware files which are not targeted for the current product - but we strongly recommend that you only attempt to load files with the "Show only compatible firmware" option enabled.
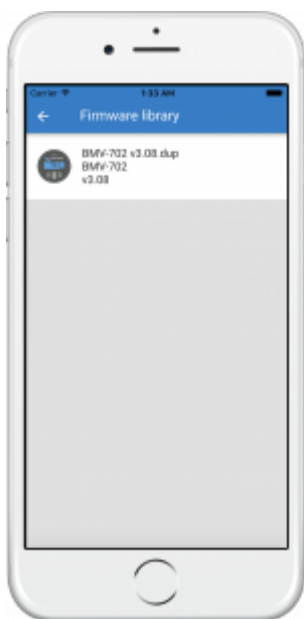


Once selected you will be guided through the update process.



## 9.3 Troubleshooting firmware updates

A troubleshooting guide relevant to firmware updates can be found in chapter 10.3

## 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/tablet/laptop. Sometimes you may need to remove the Bluetooth pairing information from your device in order to be able to reconnect with your product.

In the following list, you can check possible errors and descriptions.

Check chapter 10.3 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.<br>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. |
| 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<br>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<br>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, SmartLithium, and VE.Direct Bluetooth Smart dongle

| Error | Description |
|---|---|
| B1 | Error reading file. |

| Error | Description |
|---|---|
| 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. |
| 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. |

## VE.Bus Products

| Error | Description |
|---|---|
| V2 | No product detected. Please check all the cable connections and try again. |
| V3 | An unexpected timeout was triggered. Please check all the cable connections and try again. |
| V4 | Incomplete vff file. Nonce missing. Please make sure you selected a valid update file and try again. |
| V5 | Incomplete vff file. EEPROM lines missing. Please make sure you selected a valid update file and try again. |
| V6 | The vff file contains more eeprom data than supported. Please make sure you selected a valid update file and try again. |
| V7 | The calibration map in the file exceeds the device calibration map. Please make sure you selected a valid update file and try again. |
| V8 | Device calibration data size bigger than expected. Please make sure you selected a valid update file and try again. |
| V9 | Bootloader did not respond to bootloader setup. Please check all the cable connections and try again. |
| V10 | Bootloader response to version request failed. |
| V11 | Incompatible bootblock. Function version invalid. |
| V12 | Incompatible bootblock. Version invalid. |
| V13 | Bootloader did not start after bootblock update. |
| V14 | Incompatible bootblock type. |

| Error | Description |
|-------|-------------|
| V15 | No or unexpected response to target id query. |
| V16 | No or unexpected response to eeprom read action. |
| V17 | No or unexpected response to calibration map query. |
| V18 | The supplied firmware contains new unsupported calibration values.<br>The updater does not know how to handle them. |
| V19 | No response received to eeprom write command. Please check all the cable connections and try again. |
| V20 | Invalid response received to eeprom write command. Please check all the cable connections and try again. |
| V21 | No response received to code write command. Please check all the cable connections and try again. |
| V22 | Invalid response received to code write command. |
| V23 | The MK2/MK3 did not respond. Please check all the cable connections and try again. |
| V24 | The connected product does not match the specified model in the file.<br>Please make sure you selected a valid update file and try again. |
| V25 | The hardware revision specific eeprom defaults data is corrupt.<br>Please make sure you selected a valid update file and try again. |
| V26 | Updates can not be performed with a VEBUS BMS connected. |
| V27 | 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.<br>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.<br>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.<br>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.<br>Please make sure you selected a valid update file and try again. |
| V54 | Failed to start Update. File has an incompatible version number.<br>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.<br>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.<br>Please make sure you selected a valid update file and try again. |

## All other products (XUP update files)

| Error | Description |
|-------|-------------|
| X3 | Invalid updater state. Please try again. |
| X4 | Firmware not for Product (Id). Please make sure you selected a valid update file and try again. |
| X5 | Updater (version) too old. |
| X6 | Communication Error. No Callback handler connected. Please check the connection and try again. |
| X7 | Communication Error. Vreg ack-ed with an unexpected error. Please check the connection and try again. |
| X8 | Update (xup) file format not supported. Please make sure you selected a valid update file and try again. |
| X9 | File Error. No Instance Blob could be found in the update file. Please make sure you selected a valid update file and try again. |

| Error | Description |
|---|---|
| X10 | File Error. Invalid instance Blob attribute. Please make sure you selected a valid update file and try again. |
| X11 | File Error. Instance Blob defined more than once. Please make sure you selected a valid update file and try again. |
| X12 | File Error. No Firmware Version for instance found in the update file. Please make sure you selected a valid update file and try again. |
| X13 | Communication Error. Unexpected Vreg Ack received. Please check the connection and try again. |
| X14 | Communication Error. The instance could not be reached. Please check the connection and try again. |
| X15 | Fail on Minimum Firmware Version check. Please make sure you selected a valid update file and try again. |
| X16 | Failed to Begin Update. Please check the connection and try again. |
| X17 | 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. |
| X18 | Update Error. Invalid ack on non-final Update Data. Please check the connection and try again. |
| X19 | Update Error. Invalid sequence# in Update Data Ack. Please check the connection and try again. |
| X20 | Update Error. Invalid instance# in Update Data Ack. Please check the connection and try again. |
| X21 | Update Error. Invalid ack on final Update Data. Please check the connection and try again. |
| X22 | Verification Error. Invalid Firmware Version Ack. Please check the connection and try again. |
| X23 | Verification Error. Invalid UDF Version Ack. Please check the connection and try again. |
| X24 | Verification Error. Invalid instance field in Minimum Firmware Version Ack. Please check the connection and try again. |
| X25 | Verification Error. Invalid instance field in Firmware Version Ack. Please check the connection and try again. |
| X26 | Verification Error. Invalid instance field in UDF Version Ack.<br>Please check the connection and try again. |
| X27 | Failed to verify Minimum Firmware Version.<br>Please check the connection and try again. |
| X28 | Failed to verify Firmware Version. Please check the connection and try again. |
| X29 | Failed to verify UDF Version. Please check the connection and try again. |
| X30 | Failed on Minimum Firmware Version verification. Please check the connection and try again. |
| X31 | Failed on Firmware Version verification. Please check the connection and try again. |
| X32 | Still in Bootloader Mode after the update. Please try again. |
| X33 | File Error. No Product Id found in the update file. Please make sure you selected a valid update file and try again. |
| X34 | File Error. No VE.Direct baudrates found in the update file. Please make sure you selected a valid update file and try again. |
| X35 | File Error. No Xup Format Version found in the update file. Please make sure you selected a valid update file and try again. |
| X36 | File Error. No Minimum Updater Version found in the update file. Please make sure you selected a valid update file and try again. |
| X37 | File Error. No Firmware (product) Version found in the update file. Please make sure you selected a valid update file and try again. |
| X38 | File Error. The update file does not match XML standard. Please make sure you selected a valid update file and try again. |
| X39 | Communication Error. Vreg Ack timeout. Please check the connection and try again. |

| Error | Description |
|-------|-------------|
| X40 | Communication Error. No product found. Please check the connection and try again. |
| X41 | Communication Error. Comm port error. Please check the connection and try again. |
| X42 | Update Error. Failed to set baudrate. Please check the connection and try again. |
| X43 | Update Error. Update in progress on another interface. |
| X44 | Update Error. Invalid instance# in Ack. Please check the connection and try again. |
| X45 | Update Error. Vreg Ack error: Invalid instance. Please check the connection and try again. |
| X46 | Update Error. Vreg Ack error. Please check the connection and try again. |

# 10. Troubleshooting

## 10.1 Common Bluetooth problems and how to solve them

**I cannot find my device listed**

- Make sure that you have a "Smart" Victron product. It needs to have a Bluetooth symbol.
- Make sure your device is in range.
- If a firmware update failed, the device *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 9.3.
- Only one device can be connected to a product at the same time. Make sure that no other device: phone/tablet/laptop is already connected.
- Make sure you are attempting to connect from *within* VictronConnect - not from the system menu of your phone/tablet/laptop. If you have connected from the system menu: close VictronConnect, remove the pairing information from your device, and then open and connect to your product from *within* VictronConnect.

**I can see but not connect to my device**

1. Make sure you are trying to connect to the right device. See section 4.3 to learn how you can give your device a *Custom Name*.
2. Make sure your device is in range. It can be that you are close enough to see the device but not close enough to connect to it.
3. Make sure that Bluetooth is still enabled in your phone/tablet/laptop. If Bluetooth was disabled after scanning, you may be able to see your device listed but you won't be able to connect to it.
4. The Bluetooth bonding information may be outdated. This happens when the PIN code has been changed in the device, or if your Victron device has been connected to too many phones/tablets/Laptops. The device will only remember the last 10 phones/tablets/laptops connected to it. To solve this, remove the pairing completely from your phone/tablet/laptop system menu. Then open VictronConnect and re-pair the product and your device. Watch these instructional videos to learn how to remove the pairing on Android or iOS devices.
5. If you are using an Android phone/tablet, check section 9.2 below for issues particular to Android.

**Connection fails around 20%**

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

2. Remove the device from the paired devices list in the phones Bluetooth settings.

3. Then Reset the PIN code.

4. Force close the VictronConnect app, and then try reconnecting in VictronConnect using the default PIN 000000

5. Then change the PIN code.

## 10.2 Bluetooth connection issues on Android devices

### Step 1: Check that your device is supported

See section 3.3 Compatibility for Android devices

### 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 popup bug.
- 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 device location services to be able to scan nearby Bluetooth devices. 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.

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

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

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

### 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 it the case open it and enter the PIN code.

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 device, VictronConnect will automatically update the firmware in the Victron Bluetooth device. After the firmware has been updated you may find that you can use the Android device with which you were experiencing difficulties.

## 10.3 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 mobile device as close to the product as possible. If the update fails due to Bluetooth connectivity problems, and if your device is already paired to a product, try and remove the pairing completely from your phone/tablet/laptop system menu. Then open VictronConnect and re-pair the product and your device. Watch these instructional videos to learn how to remove the pairing on

Android

or

iOs

devices

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 device - they usually work without any issues. After the update, you may find 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 device 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.

## 10.4 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:

**Step 1. Open the terminal and run the following commands:**

```
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.

## 10.5 VictronConnect on Windows doesn't find VE.Direct USB connected devices

VE.Direct USB cable requires a driver to be installed.

The necessary drivers are available in the software section.

## 10.6 VictronConnect on Android doesn't show files opened from email or file manager apps

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.

## 10.7 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".

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.



## 10.8 VE.Bus firmware update fails at 5% on macOS

There is a known issue that makes VE.Bus firmware updates randomly fail on some macOS laptops. We are working on it; a new VictronConnect version fixing this issue is expected in the near future. Meanwhile this is the workaround for this:

Proceed to update as usual and quickly minimise the VictronConnect window when progress bar is shown because the update starts. After ~20 seconds you can maximise VictronConnect to see the update status. (1)

This issue was introduced in VictronConnect v5.9.

(1) For those with a technical background and wondering how, why and what minimising has to do with this: yes this really works, and relates to a power saving mode that has a side effect on serial communication.

# 11. Compatible Victron products

## 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.

## Blue Smart IP22 Chargers

|  | USB via VE.Direct port | Wireless Via Bluetooth |
|---|---|---|
| All Blue Smart IP22 Chargers | No | Yes - Built in |

## Blue Smart IP65 Chargers

|  | USB via VE.Direct port | Wireless Via Bluetooth |
|---|---|---|

| | USB via VE.Direct port | Wireless Via Bluetooth |
|---|---|---|
| All Blue Smart IP65 Chargers | No | Yes - Built in |

## Blue Smart IP67 Chargers

| | USB via VE.Direct port | Wireless Via Bluetooth |
|---|---|---|
| All Blue Smart IP67 Chargers | No | Yes - Built in |

## Orion-Tr Smart DC-DC Charger Isolated

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

## Phoenix Smart IP43 Charger

| | USB via VE.Direct port | Wireless Via Bluetooth |
|---|---|---|
| All Phoenix Smart IP43 Chargers | Yes | Yes - Built in |

## 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 |

## 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 |
| 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 |

|  | **USB via VE.Direct port** | **Wireless Via Bluetooth** |
|---|---|---|
| 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 |

## 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 |

## 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 |

| | USB via VE.Direct port | Wireless Via Bluetooth |
|---|---|---|
| Peak Power Pack 12.8 10Ah | VE.Direct to USB accessory required | VE.Direct to Bluetooth accessory required |

## 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 |

## Smart Battery Sense

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

## 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, EasySolar, EasySolar-II, MultiGrid and ECOMultis.

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

The minimal required version of the VE.Bus devices is 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 vebus-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 device installed, and running firmware version 415 or newer, switching between on/off/charger-only and setting the input current limit IS possible.

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