

# Venus GX manual

Note: this manual corresponds to the latest firmware. When internet connected, the device will update to the latest version automatically. Check our blog posts for the latest firmware:

<https://www.victronenergy.com/blog/category/firmware-software/>

## 1. Comparison to the CCGX

In many ways, the Venus GX is exactly the same device as the Color Control GX. A lot of the hardware is the same. And it runs the same software, our Venus OS. Their software therefore shares the same version numbering, and new versions are released at the same time for both devices.

This section explains all the differences between the two devices, to get everyone that is familiar with the CCGX up to speed on the Venus GX as fast as possible.

<b>User interface</b>	<b>CCGX</b>	<b>Venus GX</b>
LCD Display & 7 buttons	yes	no
Remote Console	yes	yes
<b>Victron comm. ports</b>	<b>CCGX</b>	<b>Venus GX</b>
VE.Direct	2 dedicated ports - isolated <sup>1)</sup>	
VE.Can	2 paralleled RJ45 sockets - isolated	
VE.Bus	2 paralleled RJ45 sockets - isolated	
<b>Non Victron-products</b>	<b>CCGX</b>	<b>Venus GX</b>
Canbus-BMS batteries	Many battery brands. See <a href="#">here</a> for details	
Fronius PV Inverters	See <a href="#">here</a> for details	
<b>Communication</b>	<b>CCGX</b>	<b>Venus GX</b>
USB	2 USB Host ports - not isolated	
Ethernet	10/100 RJ45 socket - isolated except shield	
WiFi	optional <sup>2)</sup>	builtin, but see <sup>3)</sup>
Bluetooth Smart	no	future function <sup>4)</sup>
Micro SDcard slot	SDHC cards up to max. of 32GB. <sup>5)</sup>	
Second CAN-bus port	no	future function <sup>6)</sup>
<b>IO</b>	<b>CCGX</b>	<b>Venus GX</b>
Programmable relay <sup>7)</sup>	1x NO	1x NO / NC <sup>8)</sup>
Resistive tank level inputs	no	3 <sup>9)</sup>
Temperature measurements	no	2 <sup>10)</sup>
Digital IO	no	future function <sup>11)</sup>
<b>Other</b>	<b>CCGX</b>	<b>Venus GX</b>
Outer dimensions ( h x w x d )	130 x 120 x 28 mm	45 x 143 x 96 mm
Operating temperature	-20 to +50°C	
<b>Standards</b>	<b>CCGX</b>	<b>Venus GX</b>
Safety	EN 60950	

User interface	CCGX	Venus GX
EMC	EN 61000-6-3, EN 55014-1, EN 61000-6-2, EN 61000-6-1, EN 55014-2	
Automotive	E4-10R-053535	In progress

Notes:

1. The maximum number of VE.Direct devices on a CCGX is 5 (2 normal and 3 via USB. Max number of VE.Direct devices on a Venus GX is 6 (2 normal, and 4 via USB).
2. Though the CCGX has no built-in WiFi, it can easily be added by inserting a USB-WiFi dongle. See [CCGX Manual, section 1.4.2](#) for details.
3. The built-in WiFi in the Venus GX has (unfortunately) a very low signal strength. Making it good enough to connect to with a phone, tablet or laptop for setup and readout. But to connect the Venus GX to the internet, either use the built-in Ethernet port or add a USB-WiFi dongle. See [CCGX Manual, section 1.4.2](#) for details. And make sure to run v2.06 or later on the Venus GX, the first batch of Venus GX-es is shipped with v2.05.
4. The hardware of the Venus GX contains a Bluetooth Smart chipset, but there is no function for it in software yet.
5. Larger SD cards are SDXC, and these are not supported. The SD cards can be used for two purposes:
  1. Logging data, see [this section in the ccgx manual for details](#)
  2. Updating firmware, see [https://www.victronenergy.com/live/ccgx:firmware\\_updating](https://www.victronenergy.com/live/ccgx:firmware_updating)
6. The second CANbus port is accessible via the GND, CAN-H and CAN-L terminals on the left of the product. This is a future function: there is no functionality behind this yet.
7. The programmable relay can be set to act as an alarm relay, [automatic genset start stop](#), or just an on/off switch, controlled via the GUI and/or ModbusTCP.
8. In the Venus GX hardware there are two relays, but for now only one of them can be used.
9. The tank level inputs are resistive: connect them to a resistive tank sender. Such tank senders are not supplied by Victron. The tank level ports can each be configured to work with either European tank senders (0 - 180 Ohm), or US (240 - 30 Ohm).
10. The Venus GX has two temperature inputs. Which can be used to measure & monitor all kinds of temperatures. The temperature senders are not included. The required sensor is the same as used with Multis, Quattros and many other Victron products.
11. The Venus GX has five digital IO channels. The IO is not supported yet in software. The channels are accessible via the RJ-12 socket on the side. A customer/installer needs to self-wire this. The first implemented function will probably be to count pulses from (water)pumps. Hardware description: The IO inputs are non isolated. These digital inputs operate at 3V3 levels, and can withstand 5V input. Each input has an internal 10k pull-up resistor to 3V3, so it can be connected to a potential free relay or open collector/optocoupler output.

RJ12 pinout	Input
pin1	input1
pin2	input2
pin3	input3
pin4	input4
pin5	gnd
pin6	input5

## 2. Accessing the device

Because the Venus GX has no display nor any buttons, this works differently than with the CCGX.

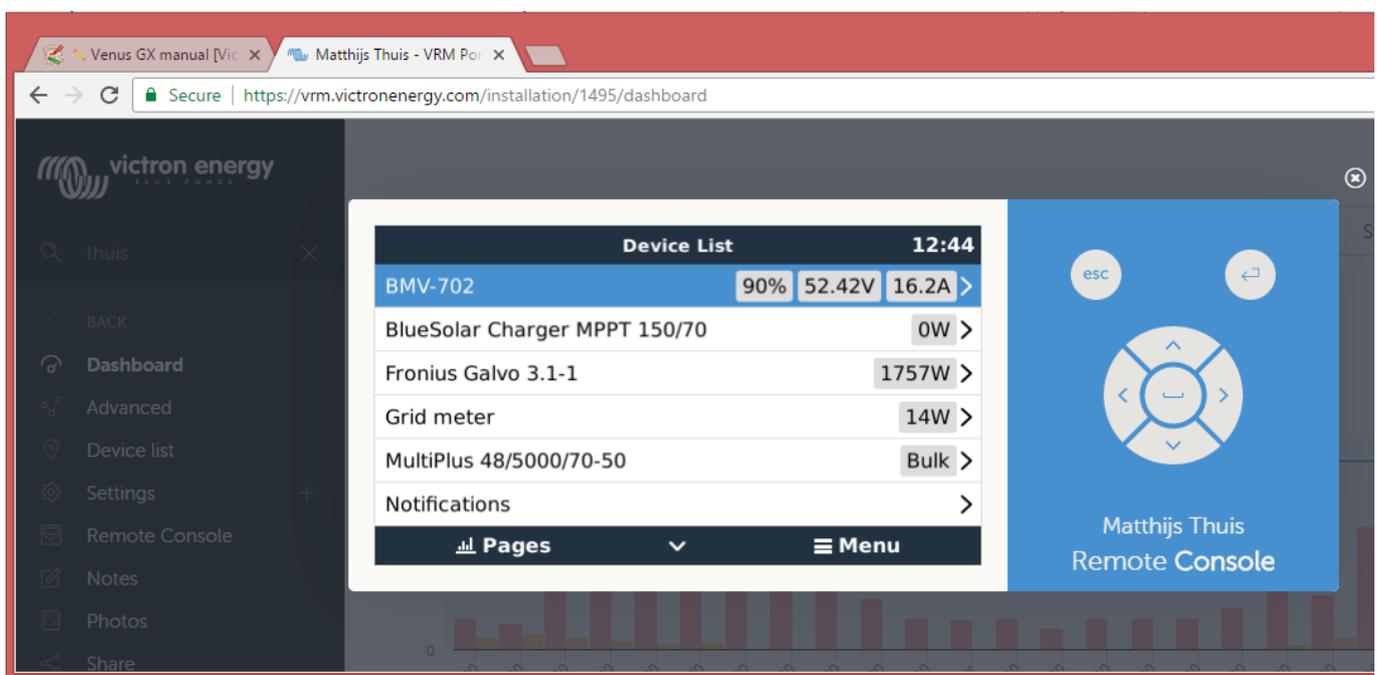
The way to access the device for setting up, as well as monitoring, is via Remote Console. Either via VRM, via the built-in WiFi Access Point, or on the local LAN/WiFi network.

## 2.1 Accessing Remote Console via VRM

Connect the Venus GX to the internet by plugging it into a working Ethernet network which has a DHCP server (most networks do). It will immediately connect to VRM.

Go to <https://vrm.victronenergy.com/>, follow the instructions to add the device. More information about this is in the [VRM Manual](#).

And once done, click the Remote Console link to open the window, like this:



More information about Remote Console on VRM is explained [here](#).

## 2.2 Accessing Remote Console via the built-in WiFi Access Point

Steps:

1. Make sure to be close to the Venus GX (a few meters maximum)
2. Go to the WiFi settings on your phone / tablet / laptop.
3. After searching, it will show up in the list:
4. Connect to the WiFi, using the WiFi key which is printed on a label on the side of the box. The same label with that key and identifiers is also found in the plastic bag; store that somewhere safe.
5. Once connected, navigate to 172.24.24.1

Note that, for security, it is possible to disable the WiFi Access Point. See Settings → Wi-Fi → Create access point.

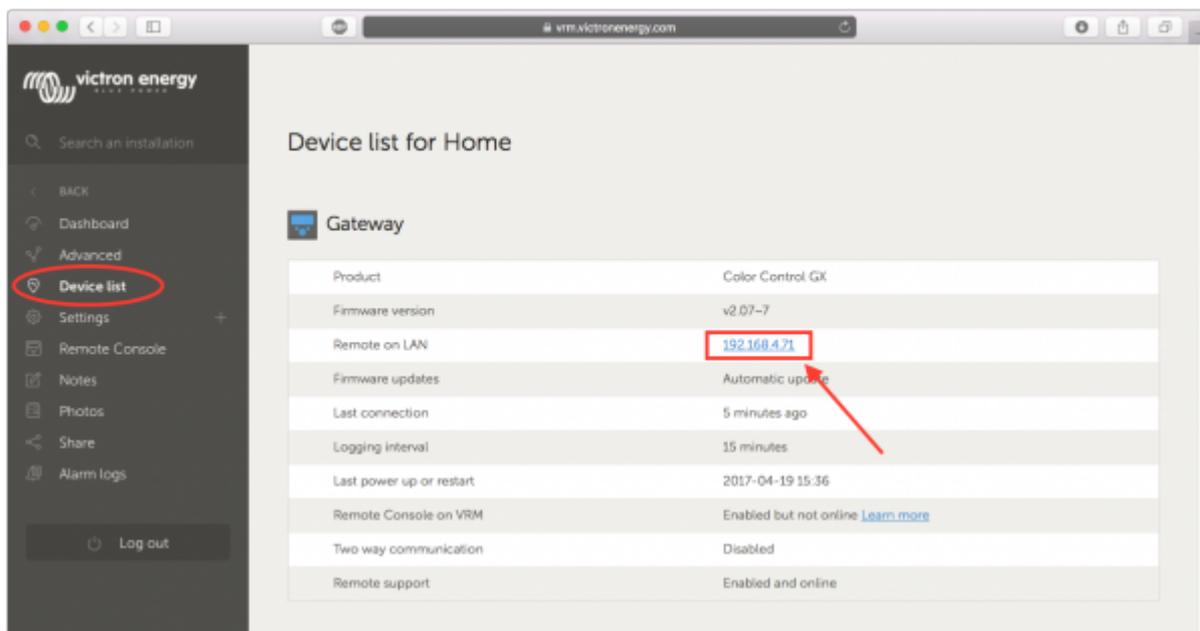
Be careful: once disabled, the only way to get it back enables is by using Remote Console on VRM (requires a working internet connection) or via Remote Console on LAN (requires a working network connection, but not internet).

## 2.3 Finding the IP address

In case you've accidentally disabled Remote Console on VRM, the only way to re-enable that is via Remote Console on LAN. And to do that you need to find the IP address of the Venus GX. There are several ways to find that:

### IP Address on VRM

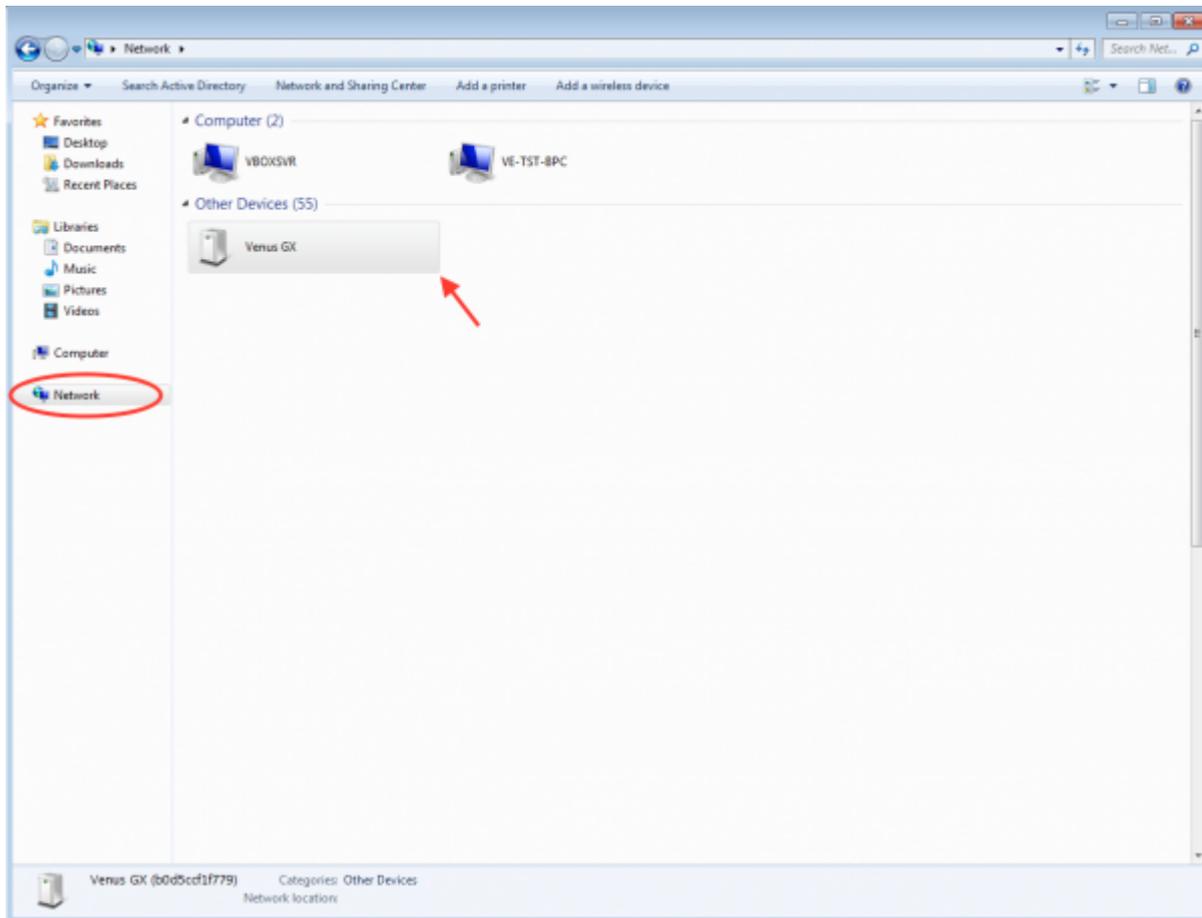
On VRM, you'll find the IP address on the Device List page of the installation. Note that this does require the Venus GX to be connected to the internet.



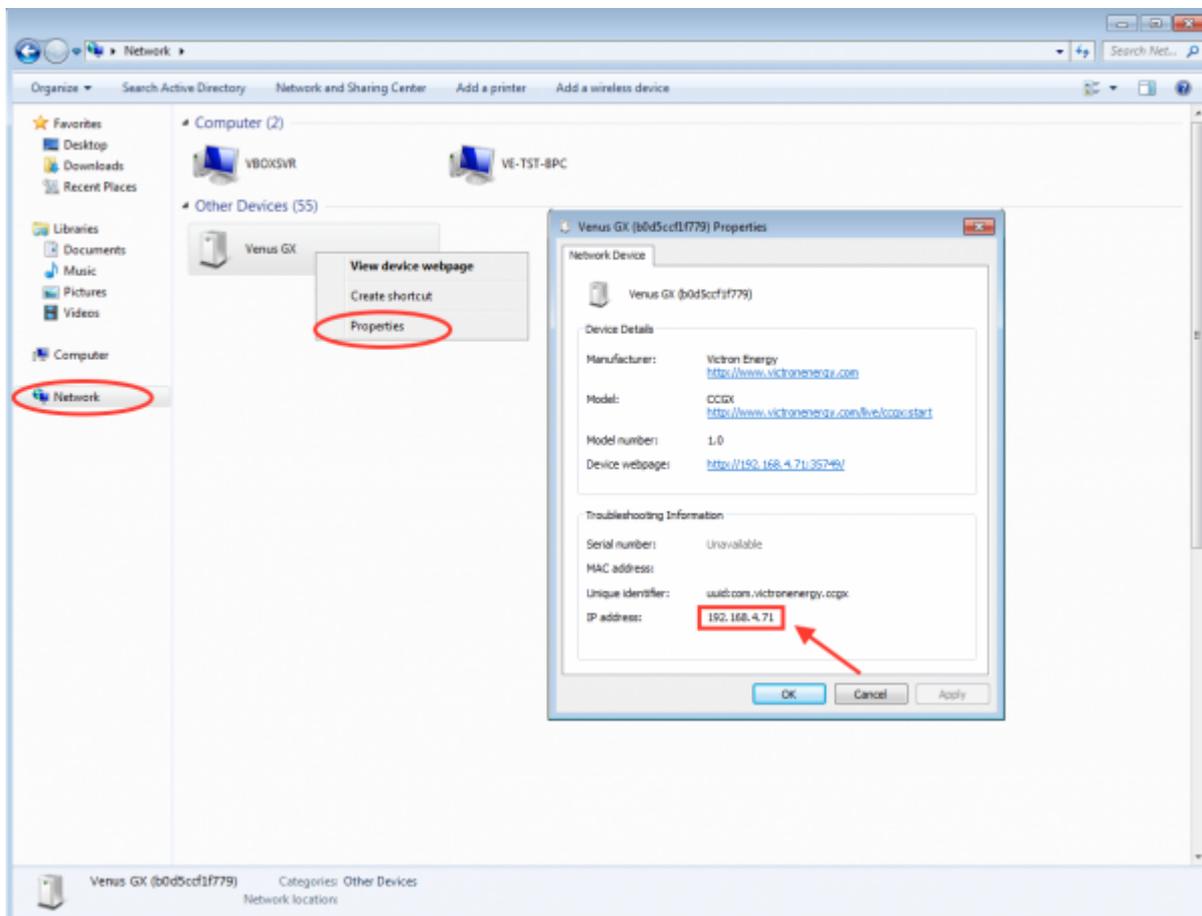
### Network (on Windows)

In a local network, for example in a home, you can also find the Venus GX in the Windows Network overview:

Double clicking the icon will open up Remote Console on LAN.



Open the properties window to see the IP address.



This uses upnp broadcast technology.

## 3. LED and Push button

### 3.1 LED

On the side of the Venus GX, there is a LED. during power-up it has different states [TBD insert states]. After a good power-up, it will always blink green.

During a forced factory re-install, a very uncommon operation, the LED has these meanings:

- off, no image found
- red blinking, busy
- green on, done
- red on, error

### 3.2 Small push button on the right of the long green connector

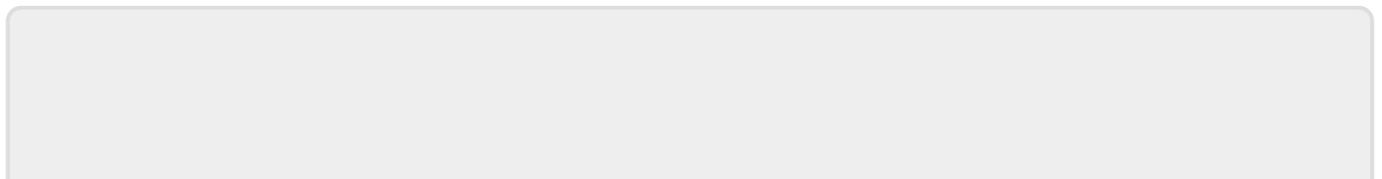
No function yet.

## 4. More information

- [Color Control GX manual](#)
- [Generator auto start/stop on CCGX and Venus GX](#)
- [CCGX Frequently asked questions](#)
- [Updating firmware for CCGX and Venus GX](#)
- [CCGX Remote VEConfigure and remote firmware updates](#)
- [VRM Portal](#)
- [VRM Portal - trouble shooting Remote Console](#)
- [Open source](#)

## DISQUS Comments

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