

# Venus GX manual

In many ways the **Venus GX** and the **Color Control GX** are the same device. They share a lot of hardware, and they run on identical software - our 'Venus OS' - therefore firmware numbering is the same; and new version releases always apply to both devices at the same time.

## Venus GX/CCGX comparison table

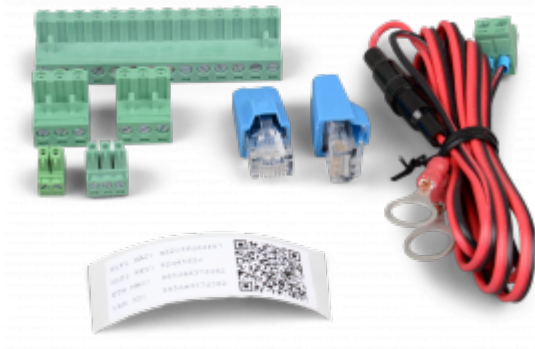
Use the Venus GX / CCGX comparison table in [Paragraph 4. below](#) below to see the similarities and differences between the two devices at-a-glance.

(This manual refers to the latest firmware version. A device connected to the internet will perform new-version updates automatically. Check the latest firmware version [here](#).)

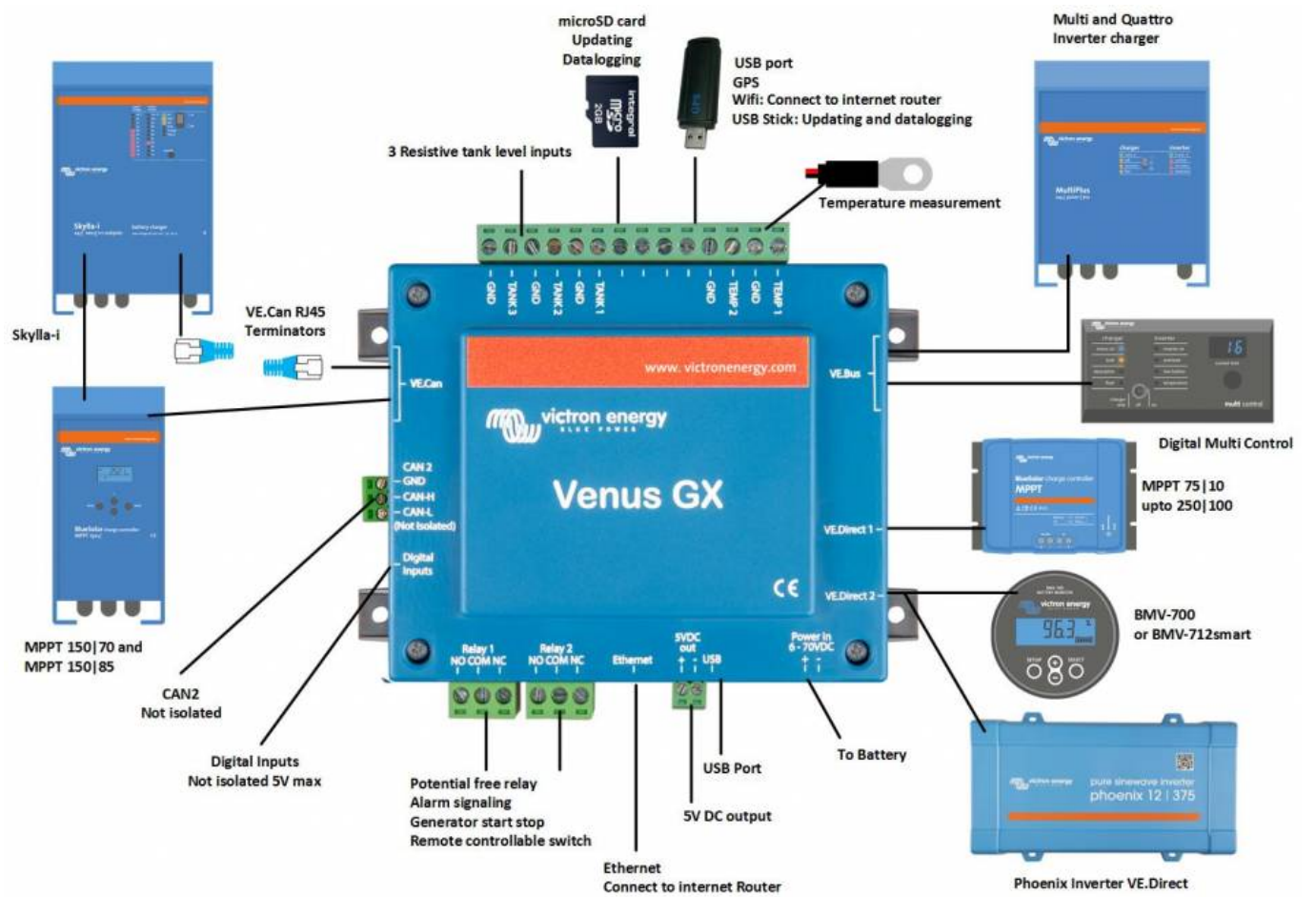
## 1. What's in the Box?

- Venus GX
- VE.Can terminator (2 pcs).
- Power cable with inline fuse and M8 terminal eyes for battery- or DC busbar-attachment.
- Terminal Blocks for all the connectors on each side.
- Label showing wifi key and product details.





## 1.1 Overview of connections



## 2. Accessing the device

Because the Venus GX has no visual display or buttons, it is accessed for setting-up and monitoring by using the 'Remote Console' feature. You can do this through VRM, using the built-in WiFi Access Point, or by using the local LAN/WiFi network.

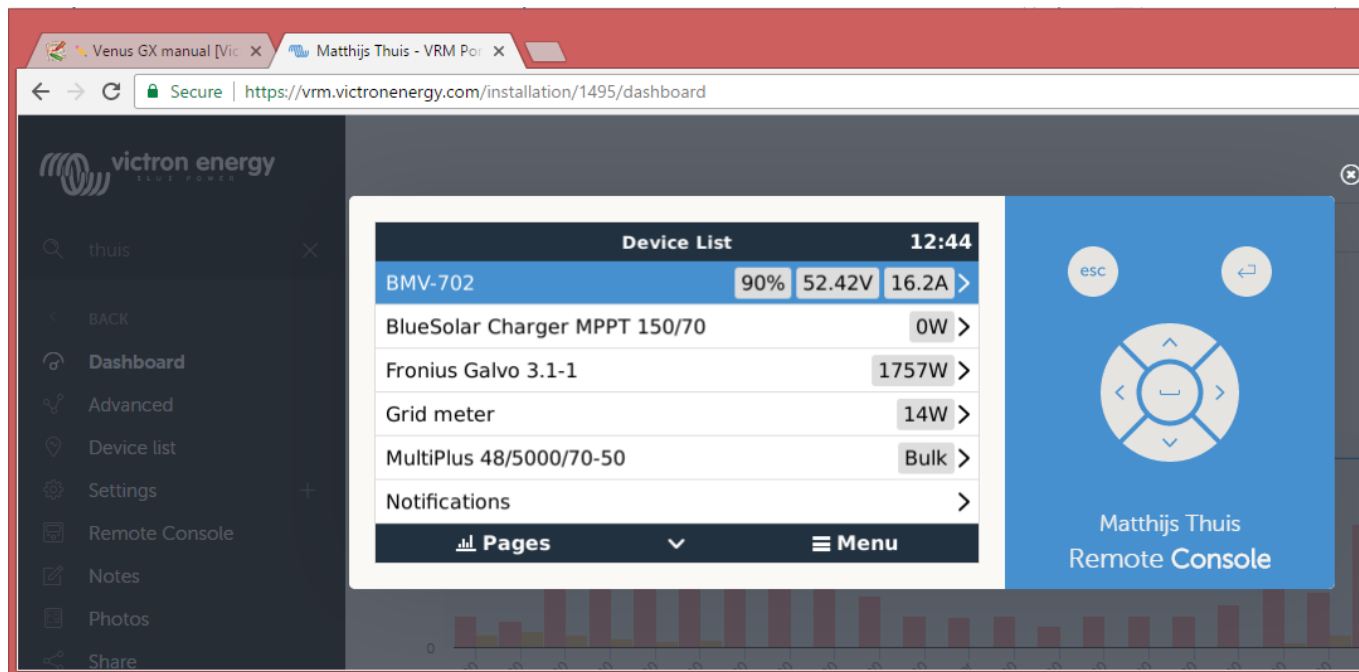
### 2.1 Accessing 'Remote Console' via VRM

Connect the Venus GX to the internet by plugging it into a working Ethernet network which as a DHCP

server (most networks do). It will immediately connect to VRM.

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

When you've done that, 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 you are no further than a few metres away from the Venus GX
2. Go to the WiFi settings on your phone / tablet / laptop.
3. After searching, it will show up in the list:
4. Connect to WiFi using the 'WiFi key' which you will find printed on the side of the box ...and also on a card in the plastic bag - which you should keep in a safe place.
5. Once connected, navigate to 172.24.24.1

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

**Caution:** Once WiFi Access is disabled the only way to get it back is by using 'Remote Console' on VRM -which requires a working internet connection; or via 'Remote Console' on LAN which requires a working network connection (but no internet).

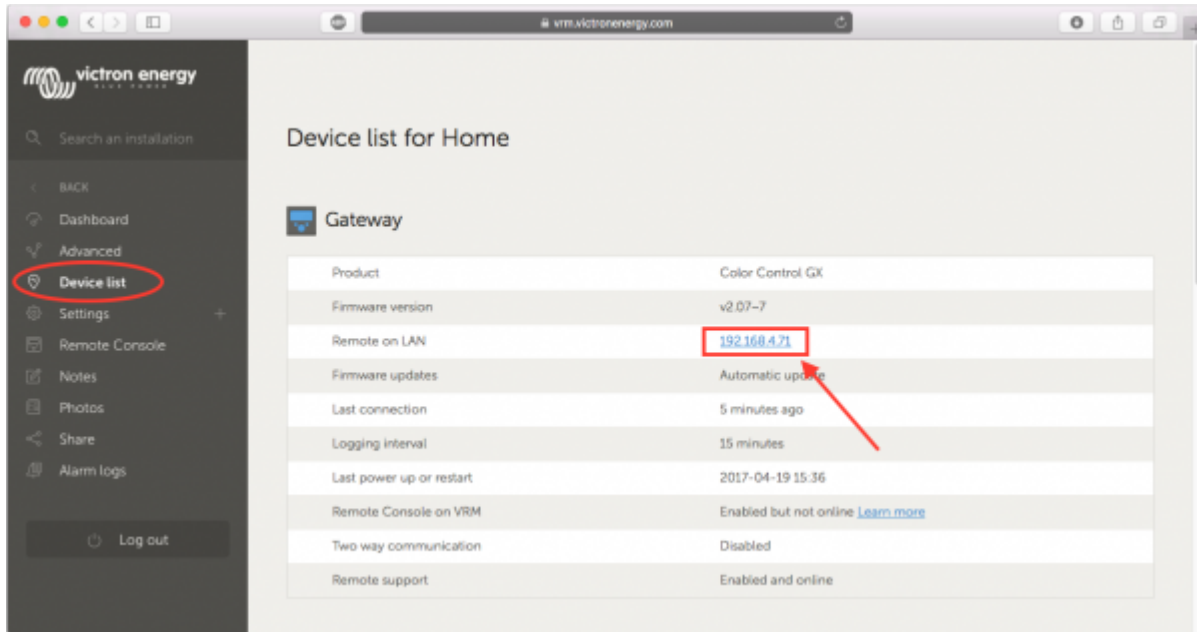
## 2.3 Finding the IP address

If you've accidentally disabled Remote Console on VRM, the only way to re-enable it is via Remote

Console on LAN. And to do that you'll need to find the IP address of the Venus GX. There are several ways of finding it:

### IP Address on VRM

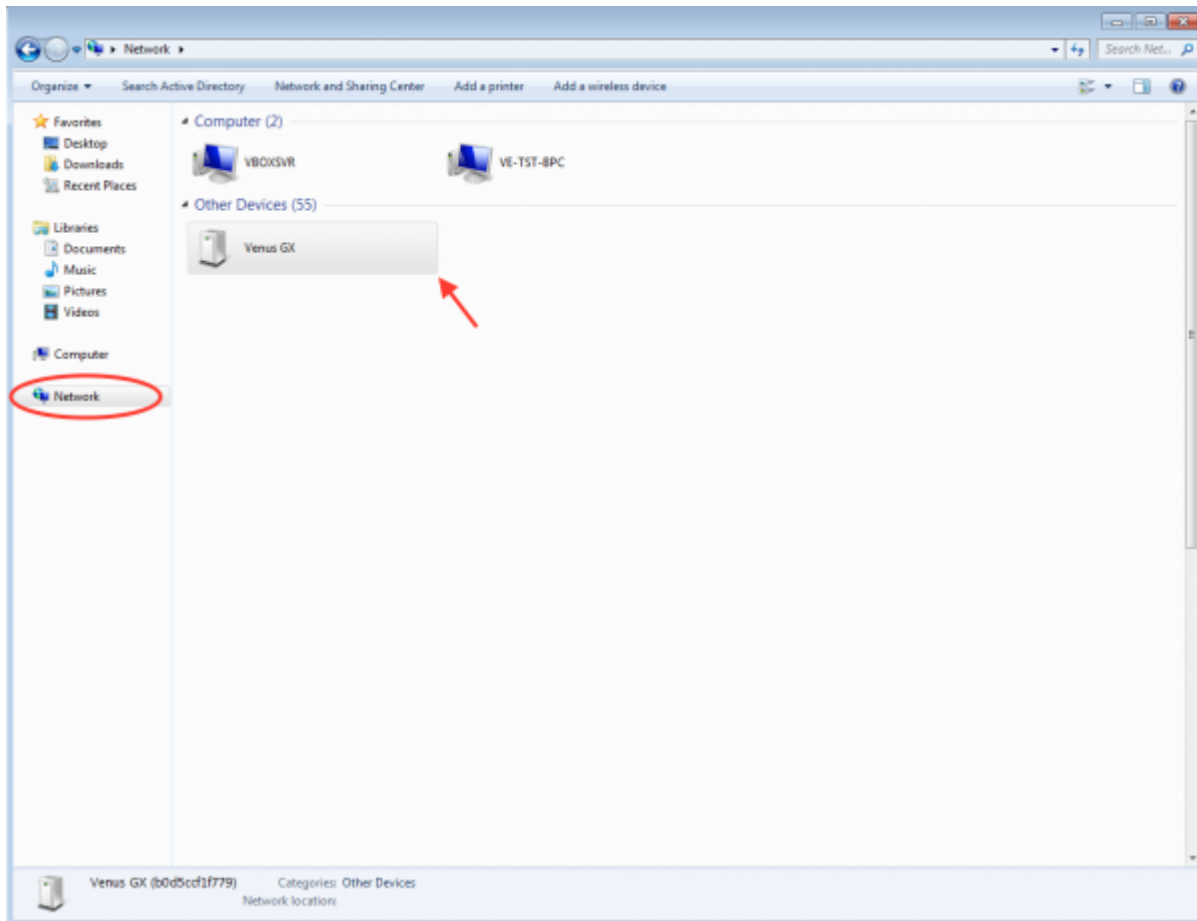
On VRM, you'll find the IP address on the Device List page of the installation. Note that this does require the Venus GX to be connected to the internet.



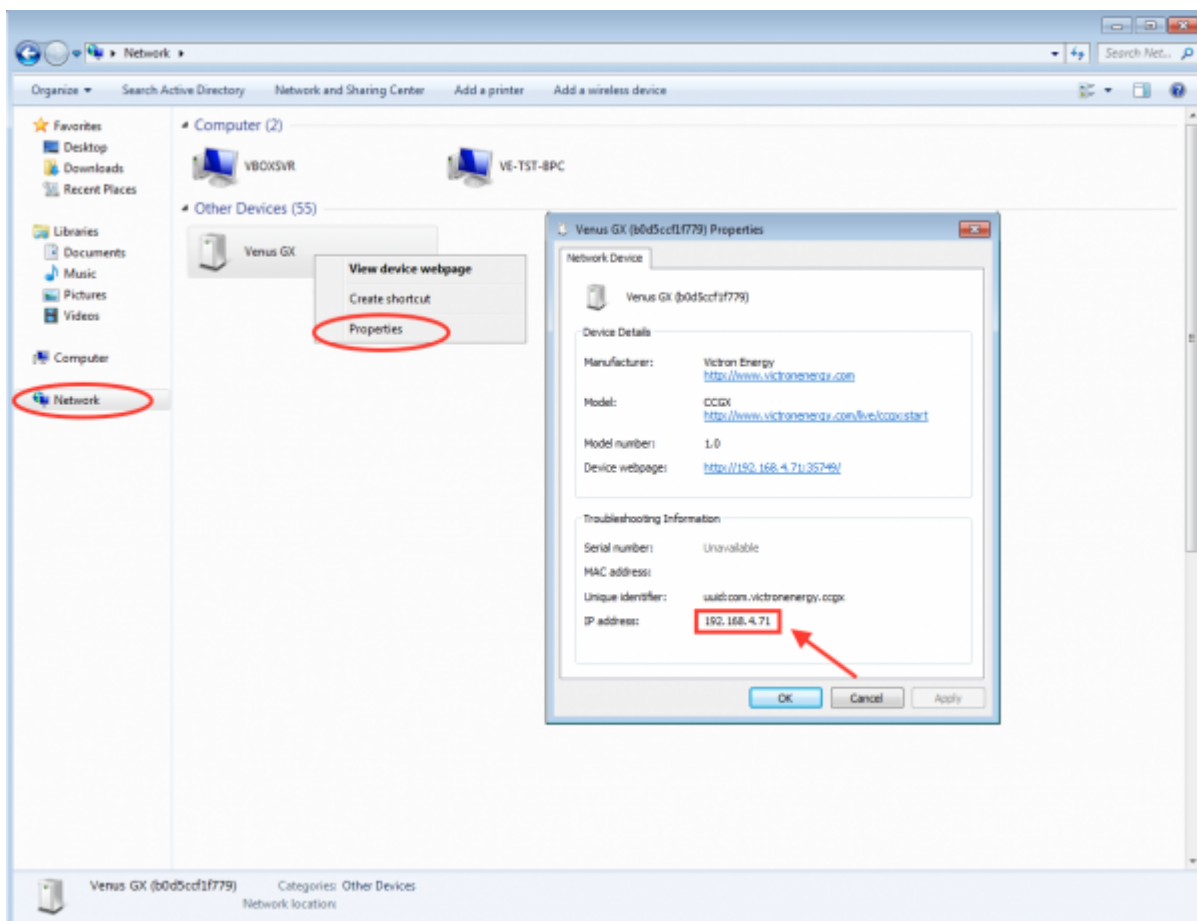
### Network (on Microsoft Windows)

In a local network, for example at 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 Universal plug-and-play broadcast technology.

## 3. LEDs and Push-button - explanation

### 3.1 LEDs

#### Boot-up

On the side of the Venus GX, there is an LED. During power-up it goes through these states:

- Stage 1: Both green and red illuminate briefly and faintly (it's hard to see the green) for approximately 1 second.
- Stage 2: Red illuminates for approximately 1 second.
- Stage 3: Green illuminates for approximately 0.5 seconds.
- Stage 4: Both green and red illuminate briefly and faintly (it's hard to see the green) for approximately 1 second.

After that the LED will be blinking green continually.

#### Factory re-install

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

- Off: No action is being taken.
- Red blinking: Re-install in progress.
- Green illuminated: Re-install complete.
- Red illuminated: Error.

### 3.2 Small button located to the right of the green 14-Terminal Connector Block

This button has no function allocated at present.

## 4. Digital Inputs

The Venus GX has five digital inputs. The channels are accessible via the RJ-12 socket on the side. This is available for self-wiring by the user/installer.

Limitations Note that in the event of an alarm, it does not show on the Notifications page yet. Also the status, and also pulse counter data, is not visible on the VRM Portal yet.

## 4.1. Wiring details

The inputs are non-isolated. They operate at 3V3 levels, and can withstand up to 5V input. Each input has an internal 10k pull-up resistor to 3V3. We recommend wiring it to a potential free relay or otherwise open collector/optocoupler output.

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

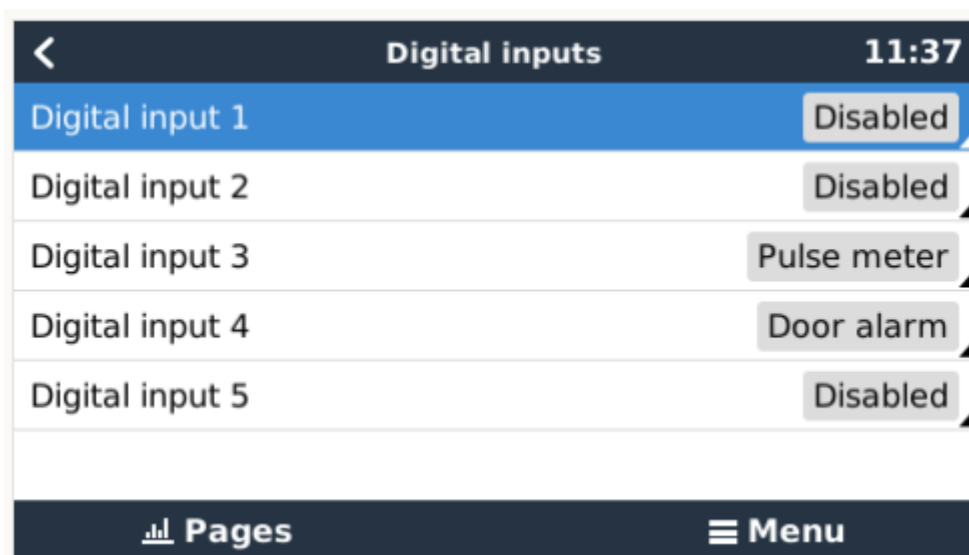
## 4.2. Configuration

Each of the digital inputs can be configured as a pulse meter, or as one of a number of predefined sensors that can also be configured as alarms.

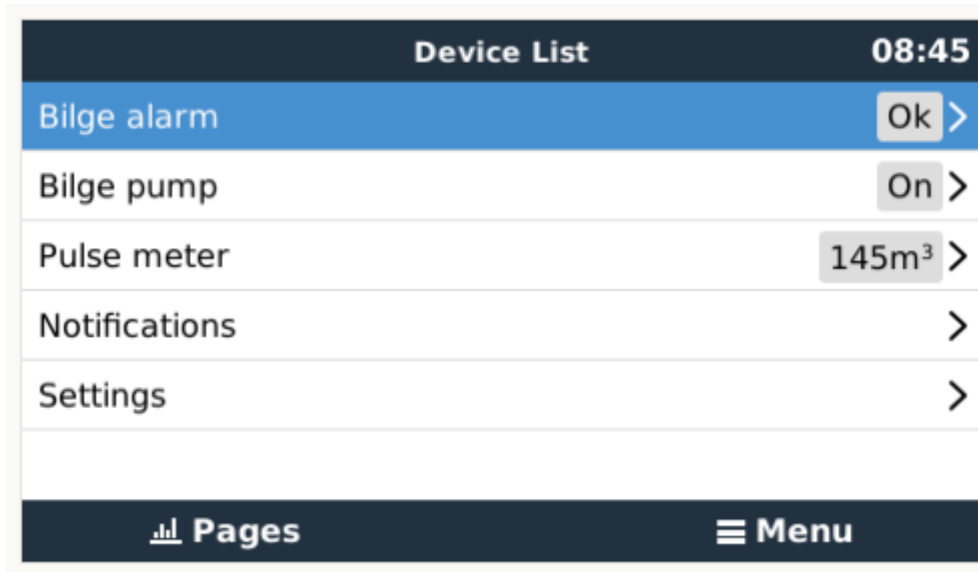
The possible configurable functions are:

Function	States
Pulse meter	N/A
Door alarm	Open/Closed
Bilge pump	On/Off
Bilge alarm	Ok/Alarm
Burglar alarm	Ok/Alarm
Smoke alarm	Ok/Alarm
Fire alarm	Ok/Alarm
CO2 alarm	Ok/Alarm
Generator	Running/Stopped

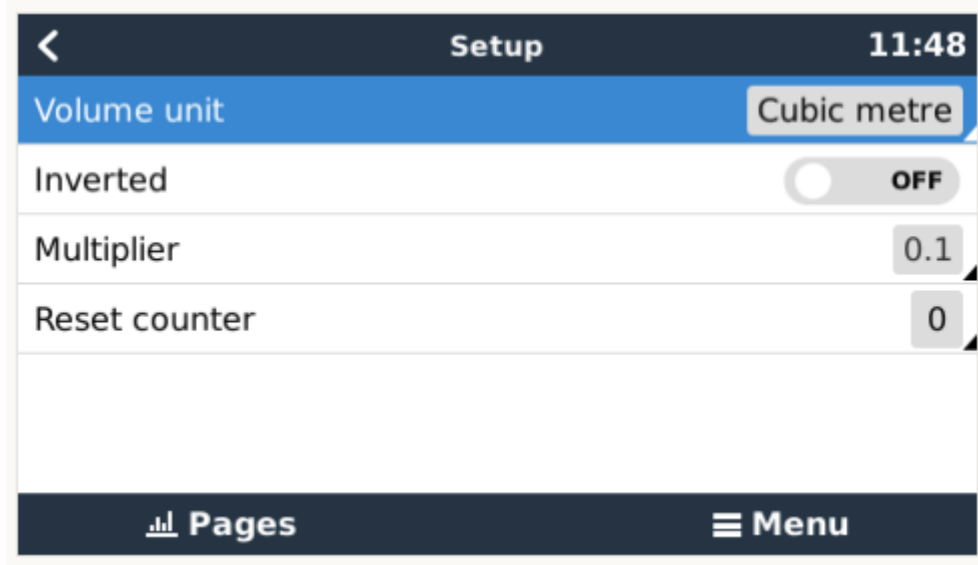
The function of each input can be configured in the GUI under Settings → I/O → Digital Inputs.



Once the input is configured for its intended purpose, it will show up with other devices.

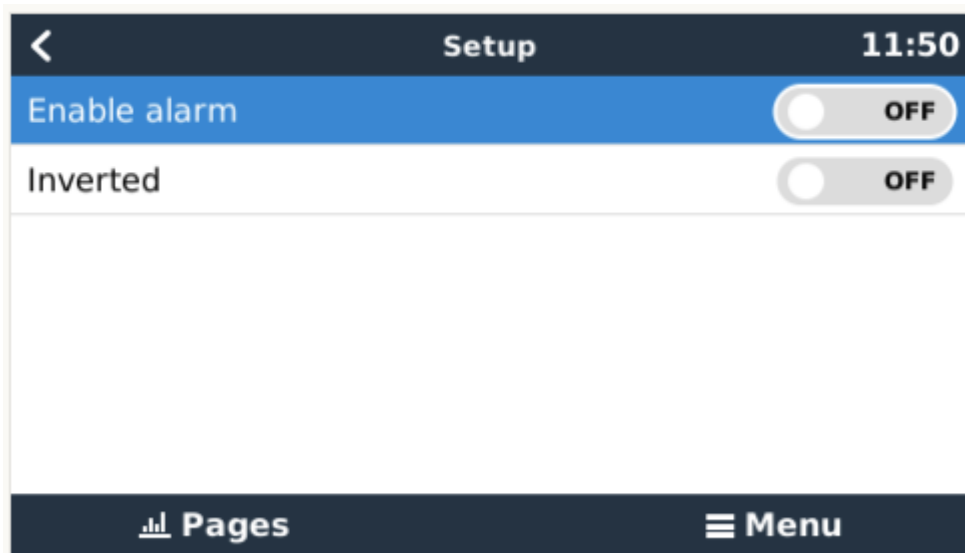


Other parameters related to that function can be configured by entering the device menu and selecting Setup. For pulse meters, you can configure the unit, the multiplier (the volume represented by each pulse) and reset the counter.



For other sensors and alarms, you can decide whether the input should be treated as an alarm condition, and whether the sense should be inverted. If a logical low input (0V on the input) represents a positive condition, you should configure the input as inverted.





### 4.3. ModbusTCP

The values/states of the digital inputs are available on ModbusTCP. For more details about this, please download a copy of the document “Modbus-TCP register list” from our website.

## 5. How does the VenusGX compare with the CCGX?

This section explains all the differences between the two devices.

If you are familiar with the CCGX you will see at a glance how it compares to the Venus GX.

<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>	built-in, 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>

<b>User interface</b>	<b>CCGX</b>	<b>Venus GX</b>
Resistive tank level inputs	no	3 <sup>(9)</sup>
Temperature measurements	no	2 <sup>(10)</sup>
Digital Inputs	no	5
<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	
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). The maximum 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 attaching a USB-WiFi dongle. See [CCGX Manual, section 1.4.2](#) for details.
3. The built-in WiFi in the Venus GX has a very low signal strength - unfortunately. The strength is sufficient for connecting to a phone, tablet or laptop in order to access setup and monitoring. 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. Make sure the Venus GX is running v2.06 or later - the first shipment of Venus GX units ran 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 memory cards (SDXC) are not supported. SD cards can be used for two purposes:
  1. Logging data, see [this section in the ccgx manual for details](#).
  2. Updating firmware, see [this section in the ccgx manual for details](#).
6. The second CANbus port is accessible via the GND, CAN-H and CAN-L terminals on the left of the product. This port is available for future developments and has no functionality at present.
7. The programmable relay can be set to act as an alarm relay, [automatic genset start stop](#), or an on/off switch, and is controlled via the GUI and/or ModbusTCP.
8. In the Venus GX hardware there are two relays - at present only one of them is available for use.
9. The tank level inputs are resistive and should be connected to a resistive tank sender. Victron does not supply tank senders. The tank level ports can each be configured to work with either European (0 - 180 Ohm); or US tank senders (240 - 30 Ohm).
10. The Venus GX has two temperature terminals which can be used to measure & monitor all kinds of temperature-inputs. Temperature senders are not included. The required sensor is ASS000001000 - Temperature Sensor QUA/PMP/Venus GX. (Note that this is not the same as the BMV temperature accessory.)

## 6. 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](#)

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