

GX product family of Venus-devices

Introduction

GX products are Victron's state-of-the-art monitoring solution. The family consists of a number of 'Venus' devices each especially suited to a particular type of installation. Accessories are available for these devices which extend their functionality even further.

The Venus-device lies at the heart of the system - providing monitoring, and operating as the communication-centre of your installation. All the other system-components - such as inverter/chargers, solar chargers, and batteries - are connected to it. The Venus-device ensures that they all work in harmony. Monitoring can be carried out locally ...or remotely - via our free-to-use Victron Remote Management portal ([VRM](#)). The Venus device also provides [Remote firmware updates](#) and even allows the settings to be [Changed Remotely](#).





The Venus devices are:

- [Color Control GX](#)
- [Venus GX](#)
- [Octo GX](#) - The Octo GX is particularly suited to installations which have many MPPT Solar Chargers, as it has 10 VE.Direct ports
- [CANvu GX](#) - The CANvu GX is best for harsh environments - when its IP67 rating is a must.

Available accessories

- [GX GSM](#) - A cellular modem. It connects to Venus-device via USB, and takes a simcard
- [WiFi USB sticks](#)
- [Energy Meters](#) - Measures PV Inverter Output where PV Inverters cannot be read-out directly. Also used as a grid meter in an [Energy Storage System \(ESS\)](#).
- [VE.Can resistive tank sender adapter](#) Allows a standard resistive tank-level sender to be connected to the Venus-device.

Comparison table

| User interface | CCGX | Venus GX | Octo GX | CANvu GX |
|----------------------|---|---|---|---|
| Appearance |  |  |  |  |
| Display | LCD Display & 7 buttons | no display | no display | 4.3" touch-screen |
| Remote Console | yes | | | |
| Buzzer | yes | yes | no | no |
| Documentation | CCGX | Venus GX | Octo GX | CANvu GX |

| User interface | CCGX | Venus GX | Octo GX | CANvu GX |
|------------------------------------|--|----------------------------------|--|-------------------------------|
| Manual | CCGX manual | VGX manual | OGX manual | CANvu manual |
| Product detail page | CCGX product | VGX product | OGX product | CANvu product |
| <u>Victron comm. ports</u> | CCGX | Venus GX | Octo GX | CANvu GX |
| VE.Direct ports | 2 ⁽¹⁾ | | 10 ⁽¹⁾ | 3 ⁽¹⁾ |
| VE.Can | 2 paralleled RJ45 sockets - isolated | | | |
| VE.Bus | 2 paralleled RJ45 sockets - isolated | | | |
| <u>Non Victron-products</u> | CCGX | Venus GX | Octo GX | CANvu GX |
| Canbus-BMS batteries | Many battery brands. See here for details | | | |
| Fronius PV Inverters | See here for details | | | |
| SMA PV Inverters | See here for details | | | |
| <u>Communication</u> | CCGX | Venus GX | Octo GX | CANvu GX |
| USB | 2 USB Host ports - not isolated | | 1 USB Host port - not isolated | |
| Ethernet | 10/100 RJ45 socket - isolated except shield | | | 1 port. isolation? |
| WiFi | optional ⁽²⁾ | built-in, but see ⁽³⁾ | built-in, external antenna ⁽¹¹⁾ | optional ⁽²⁾ |
| Bluetooth Smart | no | | | |
| Micro SDcard slot | SDHC cards up to max. of 32GB. ⁽⁵⁾ | | | no |
| Second CAN-bus port | no | yes - non-isolated | yes - non-isolated | yes - non-isolated |
| RS485 | no | no | yes - non-isolated | no |
| <u>IO</u> | CCGX | Venus GX | Octo GX | CANvu GX |
| Programmable relay ⁽⁷⁾ | 1x NO | 1x NO / NC ⁽⁸⁾ | 1x NO / NC | |
| Resistive tank level inputs | no | 3 ⁽⁹⁾ | no | |
| Temperature measurements | no | 2 ⁽¹⁰⁾ | no | |
| Digital Inputs | no | 5 | 3 | 1 |
| <u>Other</u> | CCGX | Venus GX | Octo GX | CANvu GX |
| Mounting | Panel Integration | Wall mounting | DIN Rail (35mm) | Panel |
| Outer dimensions (h x w x d) | 130 x 120 x 28 mm | 45 x 143 x 96 mm | 61 x 108 x 90 mm | ? |
| Operating temperature | -20 to +50°C | | | ? |
| <u>Standards</u> | CCGX | Venus GX | Octo GX | CANvu GX |
| 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 which can be attached to a CCGX is 5 (2 direct, and 3 via USB); on a Venus GX the number is 6 (2 direct and 4 via USB); on an Octo GX it is 10 (all attached directly). VE.Direct ports on a Venus-device are isolated.
2. Though the CCGX has no built-in WiFi that functionality 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. It is strong enough to connect 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 - early shipments of Venus GX units ran v2.05.

4. The hardware of the Venus GX and Octo GX includes a built-in Bluetooth Smart chipset which hasn't proved satisfactory. Bluetooth Smart for Venus-devices is coming soon but will not use built-in chipsets.
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. Note that the port is not Isolated. See Settings → Services for configuring that port.
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.)
11. Octo GX comes with a small Wifi antenna. You may remove and replace it with any other Wifi antenna having an RP-SMA connector.

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