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	Coming Soon
Victron comm. ports	**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			
Non Victron-products	**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			
Communication	**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
IO	**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
Other	**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			?
Standards	**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 detials.
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 <u>not</u> 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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