GX GSM manual

(/live/_detail/venus-os:gx_gsm_web.png?id=venus-os%3Agx-gsm)

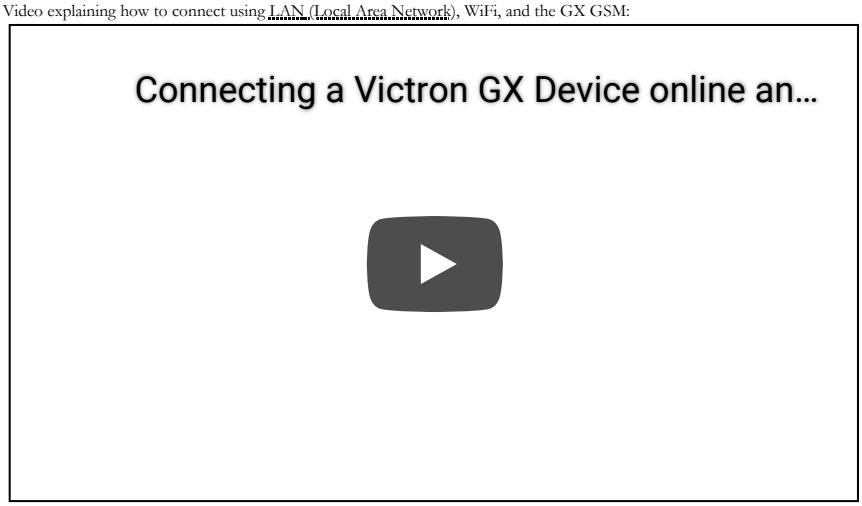
1. Introduction

The GX GSM is an accessory for GX-devices (/live/venus-os:start). It is a cellular modem; providing a mobile internet for the system and connection to Victron Remote Management (VRM).

It requires a SIM card of the Mini-SIM format [https://socialcompare.com/en/comparison/sim-card-format-and-size-comparison]; and connects to the GX-device (/live/venus-os:start) with a (supplied) 1m USB cable.

See also the GX GSM Product Page [https://www.victronenergy.com/accessories/gx-gsm].

Video explaining how to connect using LAN (Local Area Network), WiFi, and the GX GSM:



Antennas and accessories

GSM: A small indoor GSM antenna is included. As an option we also sell an outdoor GSM antenna:

- GSM900100100 - Outdoor 2G and 3G GSM Antenna for GX GSM

GPS: The unit has a built-in GPS receiver. An antenna is not included; to use the GPS received; purchase the GPS Antenna.

- GSM900200100 - Active GPS Antenna for GX GSM

See bottom of this manual for photos and specs of both optional antennas.

Compatibility

The GX GSM can be used with any of the GX Devices (/live/venus-os:start), including:

- Color Control GX
- Venus GX
- Octo GX

The GX GSM requires Venus OS (Operating System) v2.22 or newer to be installed on the GX Device.

When to use a mobile router instead

The GX GSM only provides an internet connection for the GX-device (/live/venus-os:start): there is no option to share the internet to laptops, phones, or other devices.

For installations where more devices need internet, such as a yacht or RV, consider installing a mobile router instead. More information here. [https://www.victronenergy.com/live/ccgx:start#internet_connectivity]

2. Installation

Mount the device and connect the antenna. Consider using the outdoor antenna when installing the GX GSM in a closed metal enclosure.

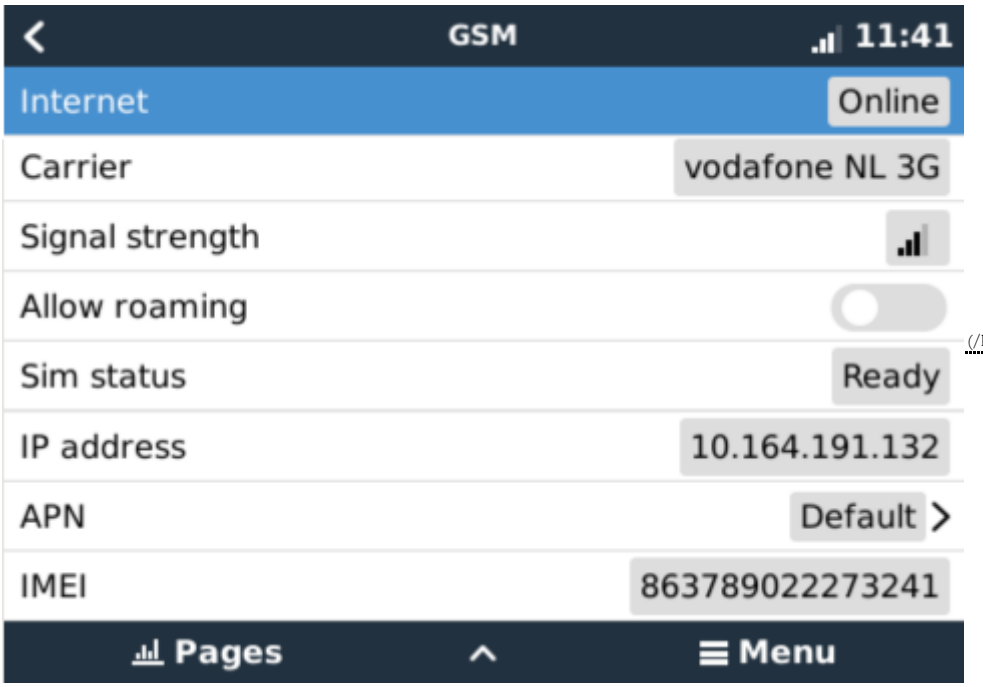
Insert the SIM card. You will need to eject the SIM card tray with a pen or other pointy object. Be aware that the SIM card try sits slightly recessed inside the unit. Be sure to push it all the way in.

Connect the GX GSM to the Venus device with the supplied USB cable. Use a USB hub if all USB sockets are already in use.

Connect DC power supply (8 to 70 VDC). A 1.4M wire is included, with M10 lugs and an inline fuse.

After power-up, the blue LED will be solid blue. Next, once it has registered on a network, it will start blinking slowly. Finally, when it has established the internet connection, it will be blinking fast.

3. Configuration

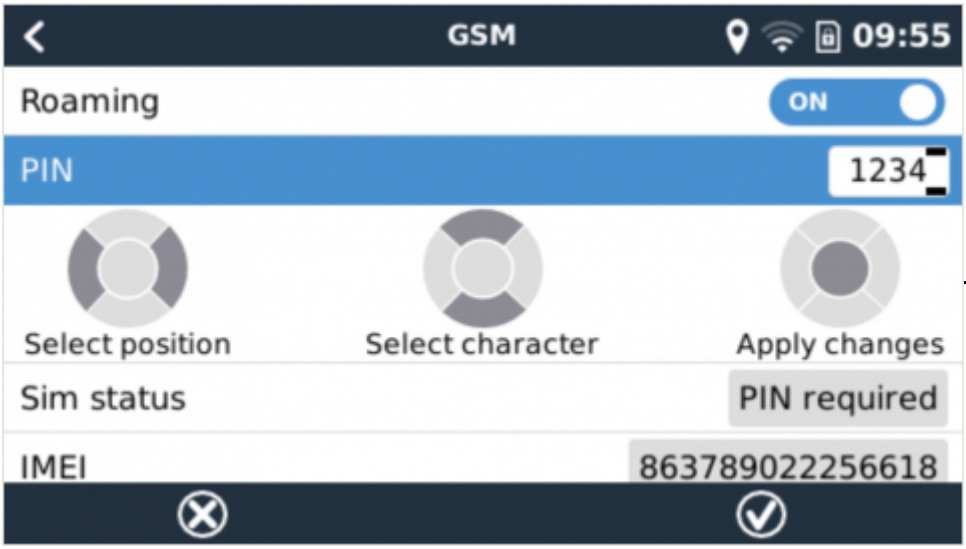


(/live/_media/venus-os:gsm-settings-full.png)

When using a SIM card with its SIM-pin security disabled, the system will work without further configuration. Verify operation by .. ? (Check VRM Last log data?)

Setting a SIM pin helps reducing the risk of the SIM card being stolen and used. Use a mobile phone to set the SIM pin, and there after configure it on the Venus device.

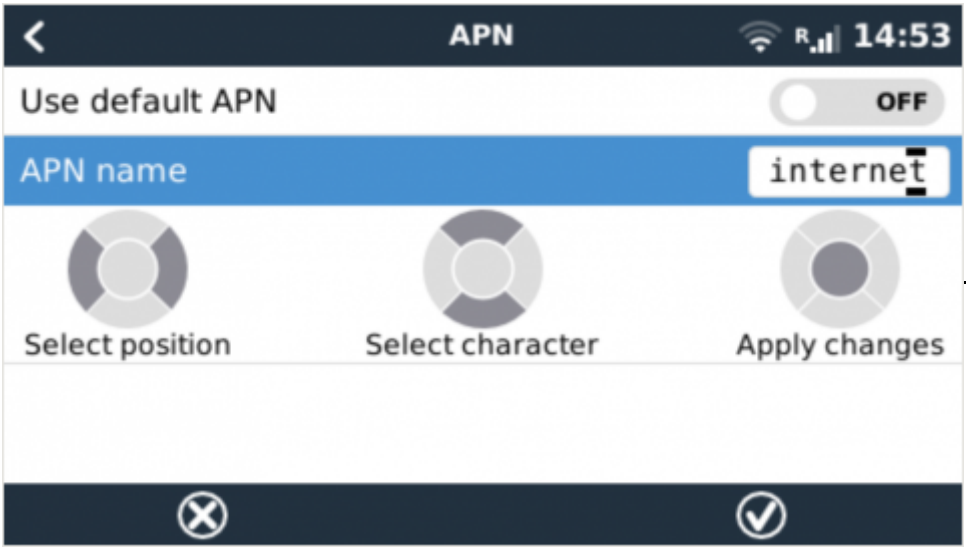
Settings → GSM modem → PIN code



(/live/_media/venus-os:gsm-enter-pincode.png)

Some mobile networks require manual configuration of an APN specially when roaming. Contact your operator.

APN name can be configured in Settings → GSM Modem → APN.



(/live/_media/venus-os:gsm-apn-config.png)

4. Status

GSM modem status can be checked at a glance by looking at the status bar.

Icon	Details
	GSM modem is connected to network, but not to the internet (no data connection). Either on purpose, because an ethernet or WiFi connection is available.
	GSM modem is properly configured, the 3G/E/etc icon reflects that the GSM modem internet connection is in use.
	WiFi is available and its internet connection is in use. WiFi has priority over GSM.
	SIM PIN code is required.
	Roaming, only informative. To use internet connection while roaming it needs to be enabled in Settings → GSM modem → Allow roaming.

6. GPS

When the optional antenna is added; the position will be visible like this:

(/live/_media/venus-os:gps-settings-full.png)

Also the position is sent to the VRM Portal [https://professional.victronenergy.com].

5. Trouble shooting

	Step	Details
1	Power	Check that the blue LED is either lit continuous or blinking
2	USB	The modem must be connected to USB, and visible in the Settings → GSM modem menu
3	Simcard	If enabled, PIN code must be configured in Settings → GSM modem → PIN
4	Signal strength	1 bar for VRM logging, 2/3 bars for remote console
5	Network	Check that a network name is visible. If it is not, contact your simcard provider and/or insert the simcard in a phone to double check its operation.

You also need to remember that an outdoor antenna typically increases received signal by 15 dB to 25 dB. (verify)

6. Supported Frequencies (2G/3G)

- 2G (GSM/GPRS/EDGE): 850/900/1800/1900 MHz (Megahertz) (Quad-Band)
- 3G (UMTS/HSPA+): 900/2100 MHz (Megahertz) (Dual-Band)

Please notice: In Northern America 1900 MHz (Megahertz) is the most common frequency for 3G, which is unsupported for the current version of GX GSM.

In case of uncertainty please double-check: GSM World Coverage Map [https://www.worldtimezone.com/gsm.html]

7. Technical Data

Outer dimensions (LxWxH)	106×42.5×22 mm (Drawing [https://www.victronenergy.de/upload/documents/GX-GSM-Dimensions.pdf])
Voltage range	8..70 VDC
Power draw	2.5 W while 2G/3G data transfer <1.0 W in idle mode +0.4 W if GPS is enabled
Recommended fuse size	500 mA @ 12 V 250 mA @ 24 V 100 mA @ 48 V

Wire gauge (power cable)	0.5..1.5mm² / AWG 28..16
Antenna connector	Type SMA Female
SIM card	Regular Mini SIM

8. Accessory / Antennas

Outdoor 2G and 3G GSM Antenna

Part number	GSM900100100
Mounting option	Screw Mount
Cable Type	Rg-316
Cable Length	0.25 m
Connector	SMA Male Straight
Frequencies	800/900/1800/1900/2100 MHz (Megahertz)
Signal Gain	3 dbi

Active GPS Antenna

Part number	GSM900200100
Mounting option	Magnet
Cable Type	Rg-174
Cable Length	3.0 m
Connector	SMA Male Straight
Frequency	1575.42 MHz (Megahertz)
Impedance	50 Ω