v2.60~37 beta version - condensed change log - release date to be determined

Note that v2.60 is still in beta.

Details here: https://www.victronenergy.com/live/ccgx:beta-testing

This document contains all differences compared to the last official version (v2.57). Compared to the regular updates on Community, this takes away all intermediate changes and fixes.

Change log:

#### Product support:

- Add Inverter RS (possibly there are some limitations, monitoring when connected through VE.Direct works. Remote firmware updating & connecting through VE.Can is still being looked into.
- Phoenix Inverters VE Direct
  - Fix how systems these inverters are visualised in the GUI on the overview, as well as on the
    detailed menus.
  - Use the best available power reading: first generation Phoenix VE.Direct inverters. Newer models have a better current & power measurement – which now also the GX device shows when available.
- VE.Bus Inverters:
  - o Hide non-relevant items from the detailed menus
- Phoenix Smart Charger IP43: Fix voltage and current not properly shown for output 1. This bug was introduced in v2.30
- Inverter/chargers:
  - Add option to name the inverter/charger (see the Device submenu, its at the bottom of the inverter/charger menu)
  - Fix kWh reading errors on all Multi Compacts as well as the newer MultiPlus 500/800/1200/1600 when on firmware version 467 or newer. Issues with kWh readings are most noticeably visible on the VRM Portal graphs.
- For all products that didn't have the option yet, make it possible to set a custom name. This includes tanks as well as Solar Chargers connected in a VE.Can network, and more.
- Add support for the new <u>GX LTE 4G</u>.

# Marine MFD integration via App:

- Various layout improvements, including using pagination rather than hiding metrics when there is too
  much to show for the used screen size.
- Add Generator on/off control (for generators controlled with start/stop wired to the relay on the GX device)
- Fix the Victron App icon blinking on Navico displays.
- Add support for Fischer Panda Generators. They are now shown on the page, including details (XYZ) as well the option for the user to switch between Off, On and Auto.
- Stability improvements such as automatically reconnect to MQTT in case the connection was lost due, for example, a power cycle of the GX device or loss of network.

#### NMEA2000-out feature:

- Add Solar Chargers: now, solar charger data, including PV Array Voltage & Current, is available as standard N2K PGNs.
- Add Tank levels, including automatically numbered default data instances. Those defaults are the same as the NMEA2000 Device Instance, instance 0 is assigned to the first tank, instance 1 is assigned to the second tank, and so forth.
- Add a page to configure the VE.Can & N2K Device instance. Its available under the Settings -> Services -> VE.Can menus.
- Add reading of GPS location from a NMEA2000 connected GPS. This changes Venus OS from handling
  only one GPS to (potentially) reading data from multiple GPS-es. All available (USB & NMEA2000)
  GPS-es are visible in the "Settings -> GPS" menu. And for the location as sent to VRM, as well as the
  icons in the GUI, it picks one with a valid position fix.
- Improve the menus by changing wording and making the more intuitive to use.

#### ESS:

- Add installer configurable Feed-in limit setting (Power / Watts). It works both for AC-Coupled PV (Fronius & ABB) and DC-Coupled PV as well as a combination of both. For limiting feed-in of DC-Coupled PV, VE.Bus firmware 469 is required.
- Add a new Energy Meter, the Carlo Gavazzi EM24 three-phase ethernet model. Also stocked by us, part number REL200200100. Carlo Gavazzi part number EM24-DIN.AV2.3.X.E1.X. Compared to the existing energy meters, which are connected over RS485, this meter offers the advantage that by using the Ethernet (or WiFi when adding bridges) network can be used no need to pull RS485 wiring between the distribution board and the battery system. More information in the manual (TODO ADD MANUAL & LINK & ADD OR UPDATE PRODUCT PAGE ON WEBSITE)
- Fix issue in scheduled charging, that made it impossible to set it above 23:00 hours on a few time zones.
- Change how the "Grid meter installed yes/no" setting works. Now there is a setting called "Grid metering"; with two options: External meter and Inverter/charger.
- Clean up the ESS configuration menus. Menu entries are better worded, and they are now better organised.
- Improve the PV-limiting (aka zero feed-in) feature for large installations; sometimes they limited too much.
- Better handle a DCL=0 limit from managed batteries by completely stopping discharge by the
  inverter/charger. Previously the system would try to still use power available from PV. Better to first
  use that to charge the battery, which will automatically make the managed battery to lift the DCL=0
  restraint once sufficiently charged.

### PV Inverter monitoring:

- Improve how the scanning mechanism works. For all types, and especially for Fronius PV Inverters
- Fix a bug in relation to Fronius PV Inverters was fixed that caused the system to read 0W output now and then, while the actual power was higher. This issue caused downward spikes in graphs on VRM, but could also affect the Fronius Zero feed-in functionality: all works better now.
- Add option to remove previously detected IP Addresses.
- Significantly reduce the scan time. It was accidentally increased a lot when adding the Ethernet link-local addressing in v2.30.
- Various other stability & performance improvements.

# Tank level monitoring (applies to analog inputs on Venus GX & Cerbo GX)

- Add option to name tanks
- Add option to configure a custom minimum and maximum resistance level
- Add option to configure a custom shape: up to ten points can be configured, and the tank level is linearly interpolated between the points.
- Fix bug that the read-out value didn't always immediately read the correct level; at some tank levels it could take a long time for the right value to come through the filtering at start-up. Not any-more.
- Add "Sensor resistance" to the menu. This is a read-out of raw & unfiltered resistance measurement, to aide in troubleshooting.

# Other changes:

- Generator start/stop: improve how it gets the battery monitor data; details here.
- Increase the speed of Remote VEConfigure by a factor 2 or 3
- Move the VRM Two-way communication menu to the VRM Portal menu
- Remote Console on LAN: fix mIncrease the sharpness of Remote Console on LAN
- Improve resolution of several icons on higher resolution devices, such as the Cerbo GX by using better SVGs
- Change the name of the CAN-bus services in the Settings -> Services menu. Now the used naming matches the labelling on the physical products.
- Hide the Battery Details menu for battery (monitor) types that do no support that data.
- Fix Error #48 showing in demo mode
- Show the link-local IP Address in the Ethernet menu. To help when diagnosing Ethernet network issues as well as make it less hidden that the GX devices have a link-local address.
- Improve WiFi stability: in some rare cases it would not retry to connect after losing a connection. Now it will always reconnect, instead of timing out, or limiting attempts, or giving up on other errors.
- Disallow accidentally booting into an incompletely installed firmware update (this was -sometimes-possible by using the backup firmware menu. Not any more)
- Send ARP replies the from correct network interface. This will not affect any normal installations; but was still wrong. Details here: https://community.victronenergy.com/questions/49662/ccgx-ethernet-mac-address-changing-link-local.html. Thank you Kenrick for highlighting this.
- In all Device submenus, rename Device instance to VRM instance. To make it cleared that its not the same as the VE.Can instance / NMEA2000 device instance.
- GX GSM: Increase the max length of APN that can be entered
- Grid failure alarm: fix issue where it could generate alarm in case left disabled while not having any
  inputs configured as Grid or Shore. In which case the setting itself is hidden, making the alarms rather
  mysterious aka unexpected. Not anymore: it will not generator alarms when there are no AC Inputs
  configured to be Grid or Shore.

#### DVCC & Managed batteries:

- Freedomwon batteries: force enable DVCC, and SVS & STS off, similar to other managed batteries.
- Freedomwon batteries: show Freedwon logo on the GUI overview page
- Pylontech: increase the charged battery voltage from 52 to 52.4. This fixes the issue that some batteries would always linger 98 or 99% rather than their SOC showing 100%.
- Fix issue in which the GX Device applied current control to solar chargers configured to a VE.Can Device instance of 1 and higher; while as per documentation it should only control them when configured with their VE.Can Device instance set to 0 (which is the default). The feature to have an option to not control all solar chargers is for systems with multiple battery banks, such as a yacht. This is similar to synchronised parallel charging on VE.Can: also that works by VE.Can Device Instance
- Fix temperature source selection. The names were so long that it was impossible to see which one you were selecting.

# ModbusTCP

- Add various new registers, such as one for the new Grid feed-in limiter setting.
- Change the grid failure alarm register. This was at register 830, unit id 0 & 100, and is now at register 64 on the vebus unit id. See the Unit ID mapping tab in the ModbusTCP spreadsheet. This is a breaking change that requires customers that use this register to update their ModbusTCP configuration, we know that is not good, and don't like it ourselves but saw no sensible other solution.