CCGX & Fronius PV Inverters

By connecting a Fronius PV Inverter and Color Control GX (CCGX) together you be able to:

1. See Fronius information on the CCGX.
2. Monitor the Fronius on the VRM Portal.
3. Allow the Victron system to control the Fronius output power, Zero feed-in. See the ESS manual, chapter 2.1.3 Fronius Zero feed-in for details.

This document describes how to setup the monitoring functions. For more information on using Fronius PV Inverters in a Victron system, see: AC-coupled PV with Fronius PV Inverters.

1. Requirements

Model	Required accessory
Fronius Symo Light	Purchase and install the datamanager 2.0
Fronius Symo	No accessory needed, datamanager card installed from factory
Fronius Galvo	No accessory needed, datamanager card installed from factory
Fronius Primo	No accessory needed, datamanager card installed from factory
Fronius IG Plus (*)	Purchase and install the datamanager 2.0
Fronius Agilo	Purchase and install the datamanager box

(*) The Fronius Zero feed-in feature - which is part of an Energy Storage System ESS - will work on all the above models except the *IG Plus*.

All recent Fronius inverters - for example the Fronius Primo - will arrive fitted with a *datamanager 2.0*, as standard.

Both the Fronius and the CCGX need to be connected on the same LAN - either via Wi-Fi or Ethernet.

Note that the Datalogger Web is not supported. Contact your Fronius dealer to find out about the upgrading options.

2. Configuring

2.1 Setup Local Area Network (LAN) Configuration

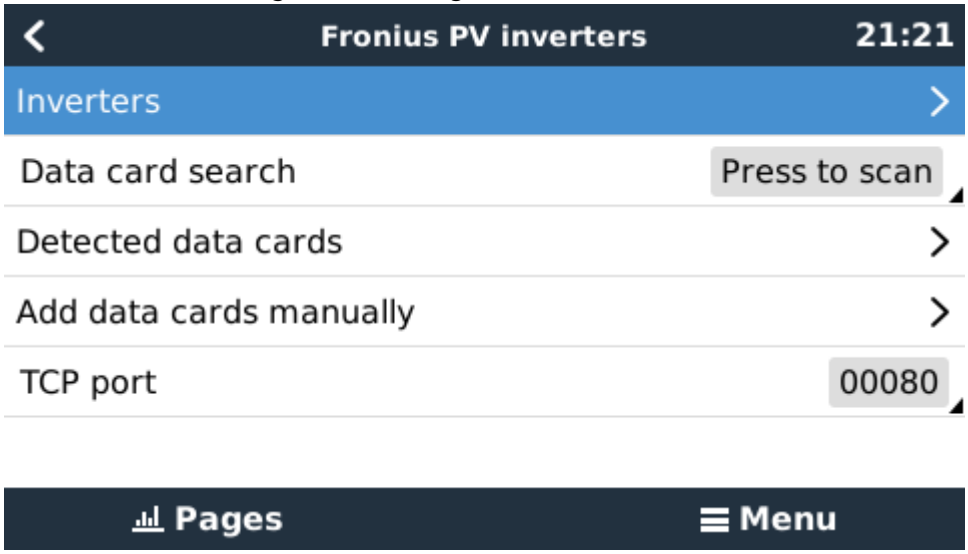
2.1.1 Setup using Manual Addressing or DHCP

1. Connect both, the Fronius and the CCGX, on the same LAN and configure the IP address of the Fronius to be in the same subnet as the CCGX, if no DHCP server is available on that LAN. To do this, first have a look at the IP configuration your CCGX is using on that network. The IP configuration can be reviewed in Settings –> Ethernet. IP address and Subnet Mask, the CCGX is actually using, are the settings of importance. As an example, the IP address on the CCGX could look like: 192.168.10.1 and

the Subnet Mask: 255.255.255.0. Configuring the Fronius to the same Subnet means setting a manual IP address to: 192.168.10.2 and the same Subnet Mask of 255.255.255.0 on the Fronius. It is important to say, that every device on your LAN has to have a unique (different) address and so the last segment (.1/.2) in this example has to differ on every device on the same LAN. The highest value, that can be set for this segment is 254. The Subnet is described by the first 3 segments in this case and so they have to be the same. Configuring multiple devices with exactly the same IP addresses (same last segment) will lead to network errors and should be avoided at all events.

2. Configure the Fronius Datamanager, referring to its operating manual, for using an IP address on the same subnet, as described above. If you have the possibility to access the internet from within your LAN and you want the Fronius to be able to use it, you have to set Gateway and DNS IP addresses on the Fronius too. They should be exactly the same as in the Settings –> Ethernet of the CCGX. On networks with DHCP server, no configuration of the datamanager is required, as the DHCP service takes care of the IP address configurations on that network and configures every network interface that listens to a DHCP server (mostly the default setting) with reasonable network addresses, all by itself.

3. In the CCGX, navigate to *Settings* and then the *Fronius PV Inverters* section. You will see this menu:

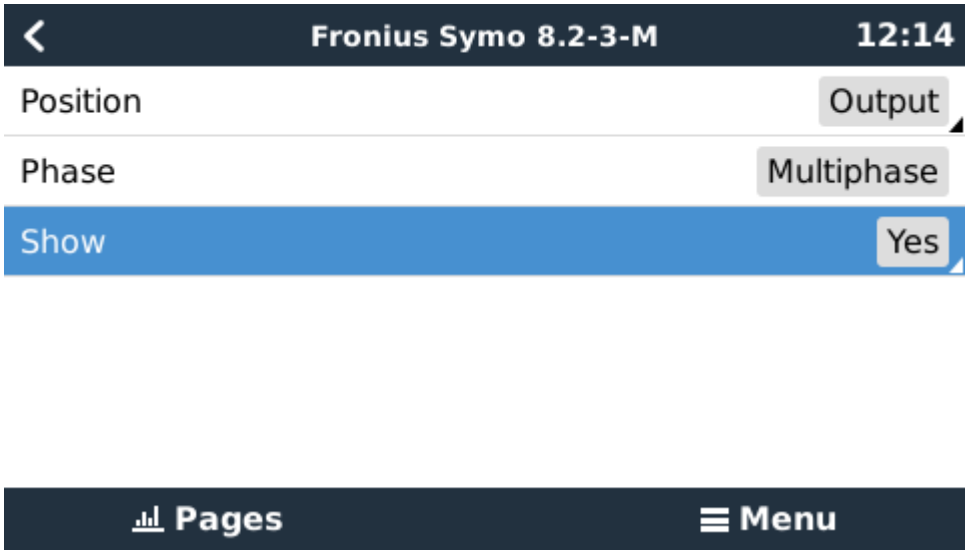


4. Select *Scan* in the CCGX menu, and after completion go into the Inverters submenu to see the results. If scanning does not find the inverter, manually add the IP address of the Fronius Datamanager ~~from its card, or box.~~

5. Once located, you will see the Inverters listed in the menu. The name used will be the serial number of the inverter - which you will also find on the inverter itself:



6. Configure the *position* relative to the Multi or Quattro (is it: AC Input / AC Output); and the *phase* for each inverter in the list:



- Position: = the position relative to the Multi or Quattro [AC Input 1 / AC Input 2 / AC Output]
- Phase: = the phase on which the PV Inverter installed. Disabled and set to Multi-phase for split- and three-phase PV Inverters
- Show: = show this device in the system or not. Use this feature when there are multiple, separate, energy systems on the same LAN.

7. Done!

2.1.2 Setup using Link-local addressing

If you don't use a router or have some other DHCP Server service available on your LAN to configure your IP addresses and don't want, or have the possibility to manually configure IP addresses, Link-local addressing can be used to establish data communication between the CCGX and the Fronius. This could be the case, when you use a WiFi Network for the CCGX to access the Internet and have a Fronius connected directly to the wired LAN Interface of that CCGX. Note, that no access to the internet will be possible for the Fronius in that configuration and therefore only communication to the

CCGX is possible. This method can only be used to configure one single Fronius unit in a LAN. Multiple Fronius devices in the same LAN must be configured using manual or DHCP addressing method.

1. Make sure the “IP Switch” on the Fronius Datamanager is on position “A”



2. Connect both, the Fronius and the CCGX, on the same LAN network
3. The Fronius is now accessible and having a “Link-local” capable IP address configured: 169.254.0.180; proceed with steps 3 to 7 as in manual or DHCP addressing method.

2.2 Device scan details

As mentioned above the CCGX should find all Fronius inverters automatically. It will scan all IP-addresses in the local network (that is, all IP-addresses within the netmask assigned to the CCGX) to check whether or not they are *Fronius datamanager* cards. This scan will be performed during CCGX startup; whenever the CCGX loses connection to a data card; and a scan can also be initiated manually by selecting 'Press to scan'.

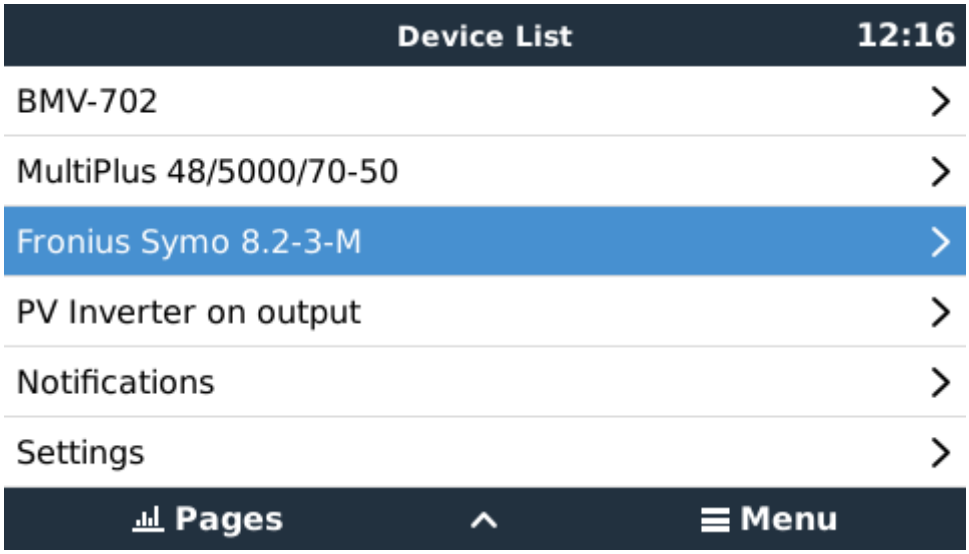
Usually a scan is completed within a minute - though if you have a large subnet it may take much more time. If you don't want to wait for completion, enter an IP-address manually.

All data cards found will be entered in the 'Detected data cards' list. The CCGX will regularly (once every minute) scan the IP-addresses in this list in order to find new data cards, or reconnect to data cards whenever the connection was lost.

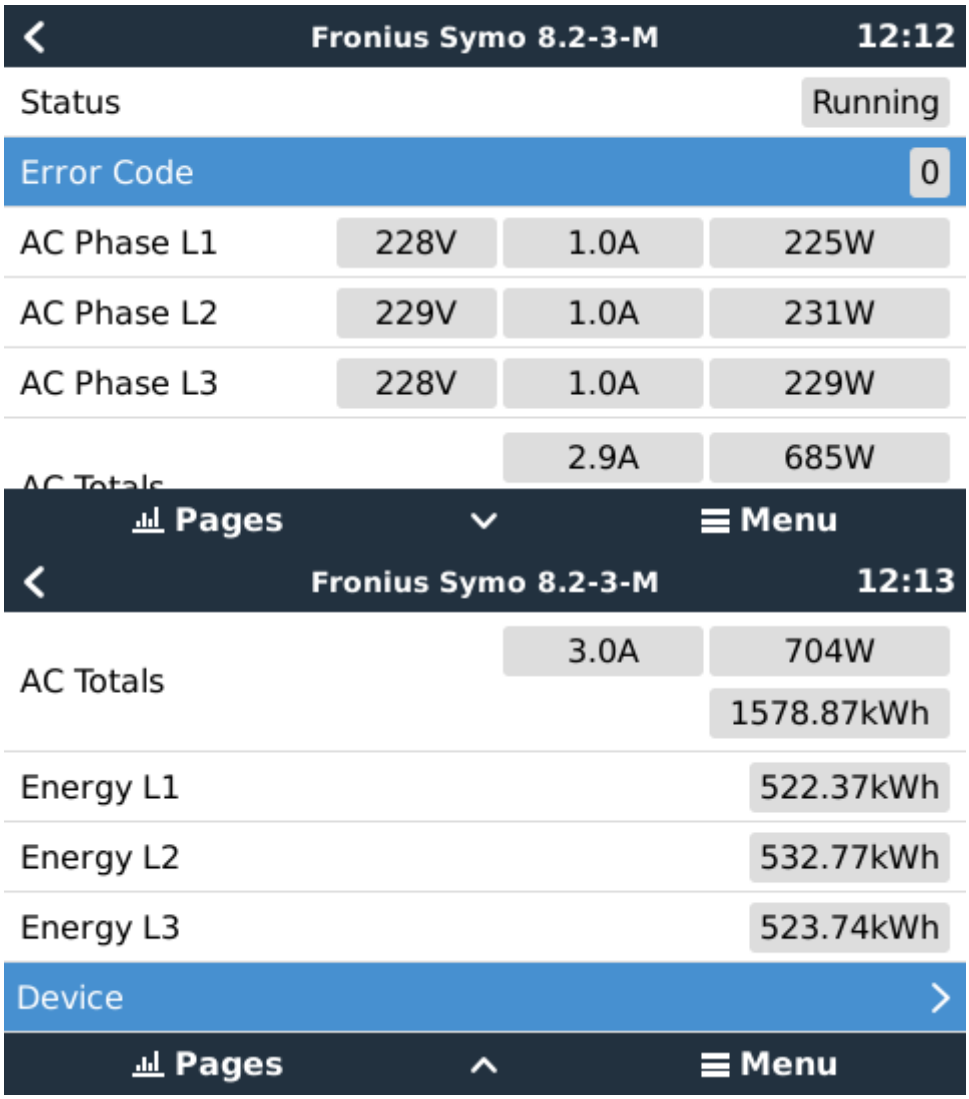
If you changed to *TCP* port number on the data manager, you should change this setting on the CCGX, too (TCP port) - otherwise leave the setting at its default (80).

3. Monitoring CCGX

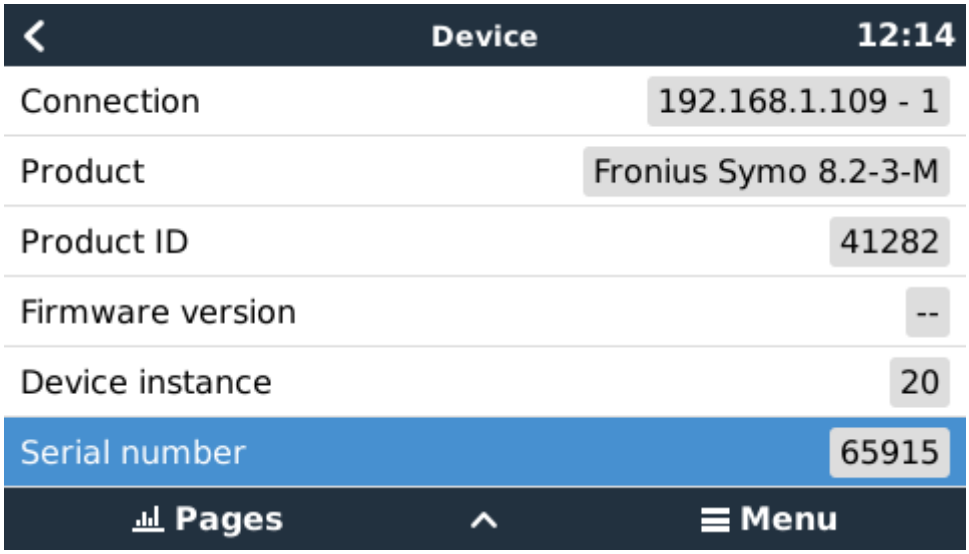
When the Fronius is detected and configured on the CCGX all PV inverters will be visible in the devicelist.



To see the device details, navigate to the menu. Here you can see the current state, current power generated, total power generated.

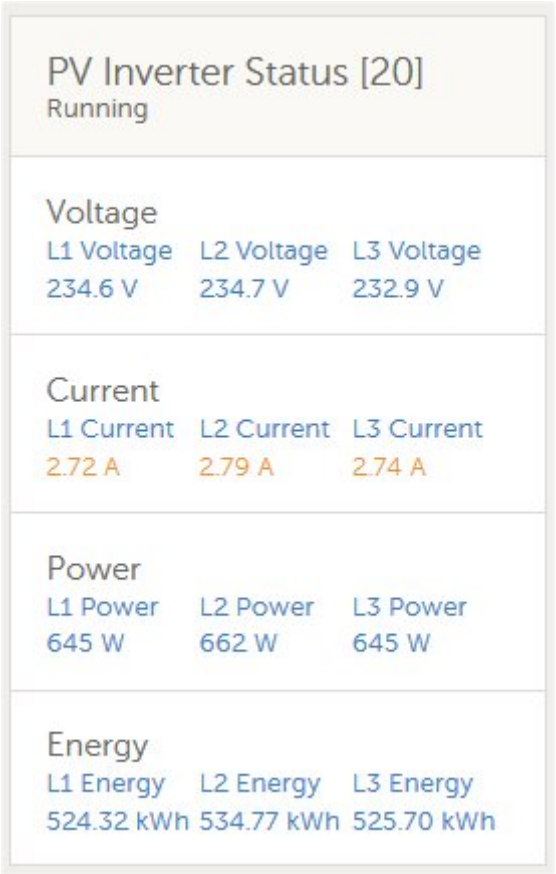


For more details on each device navigate to the Device menu. Here you will find: IP address, Product name, product ID, and Serial number, etc.



4. Monitoring on the VRM Portal

To see the yield on the VRM site (in the *Advanced* tab), don't forget to enable the PV Inverter yield widget(s) in Settings → Advanced tab setup.



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