



APPLICATION GUIDE

FRONIUS GEN24, Verto, Tauro, SnapINverter QLD Dynamic Export Commissioning Setup

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Gender-specific wording refers equally to female and male form.

CHANGE LOG

DATE	VERSION	COMMENTS	AUTHOR
10/03/2024	1.0	First release	Fronius Australia

SCOPE

This document outlines the process of how to configure a Fronius inverter system to operate with an Energy QLD (Energex/Ergon) Dynamic Export connection agreement.

These instructions **ONLY** outline “additional” steps to the standard system commissioning process.

The following inverter series are relevant to this document:

- **Fronius Primo & Symo GEN24 and GEN24 Plus**
- **Fronius Verto**
- **Fronius Tauro & Tauro ECO**
- **Fronius SnapINverter Primo, Symo, ECO, Galvo**

GENERAL

The Energy QLD Dynamic Export program uses the IEEE 2030.5 based CSIP-AUS communication protocol to communicate from their Utility Server (SEP2 Server) to the Fronius Cloud Aggregator. The Utility Server publishes varying “export limits” which the Fronius Cloud Aggregator retrieves and forwards to the relevant Solarweb system & inverters (Client). For identification of the correct system/inverter, the protocol requires an LFDI (Long Form Device Identifier) to be created by Fronius which meets the Energy QLD requirements. Once created, if the relevant NMI has been whitelisted by Energy QLD the systems should start communicating with each other.

This document **ONLY** covers the Fronius processes (Inverter setup & Solarweb). It does **NOT** go into detail of the processes required by Energy QLD. For detailed information on the full Energy QLD process, please consult the relevant procedures on the Energy QLD website here:

<https://www.energex.com.au/our-services/connections/residential-and-commercial-connections/solar-connections-and-other-technologies/dynamic-connections-for-energy-exports/dynamic-connections-for-installers>

NOTE: The Energy QLD process should be completed BEFORE performing the Fronius onboarding

The Fronius “native / in-house” solution currently ONLY supports **Dynamic Export** connections. It does NOT support or comply with the **Dynamic Import** requirement.

In addition, the following system configuration is currently NOT supported by the Fronius “native /in-house” solution:

- **Multiple SnapINverter ONLY** sites where inverters are NOT in a SolarNet configuration and no GEN24/Verto or Tauro are present

For the above system types, customers will require an external controller for compliance. The following 3rd party external controllers can currently provide this function:

Catch Control, Zeco Marshall, Village Energy Controller.

1 System Components

The following component groups are **required** as part of the system:

Fronius inverter (any one of the following):

- Fronius Primo or Symo GEN24, GEN24 Plus
- Fronius Verto
- Fronius Tauro or Tauro ECO
- Fronius Primo, Symo, Eco SnapINverters

IMPORTANT: A minimum inverter firmware version is required for correct functioning of the system.

GEN24, Verto, Tauro = $\geq 1.34.x-x$

SnapINverter (Datamanager) = $\geq 3.31.1-7$


If the firmware version is below the mentioned versions, the firmware MUST be updated otherwise the system will not operate correctly.

Supported Fronius Smart Meters:

- Smart Meter 63A-1, 63A-3, 50kA-3
- Smart Meter WR, 480V UL, 240V UL
- Smart Meter IP

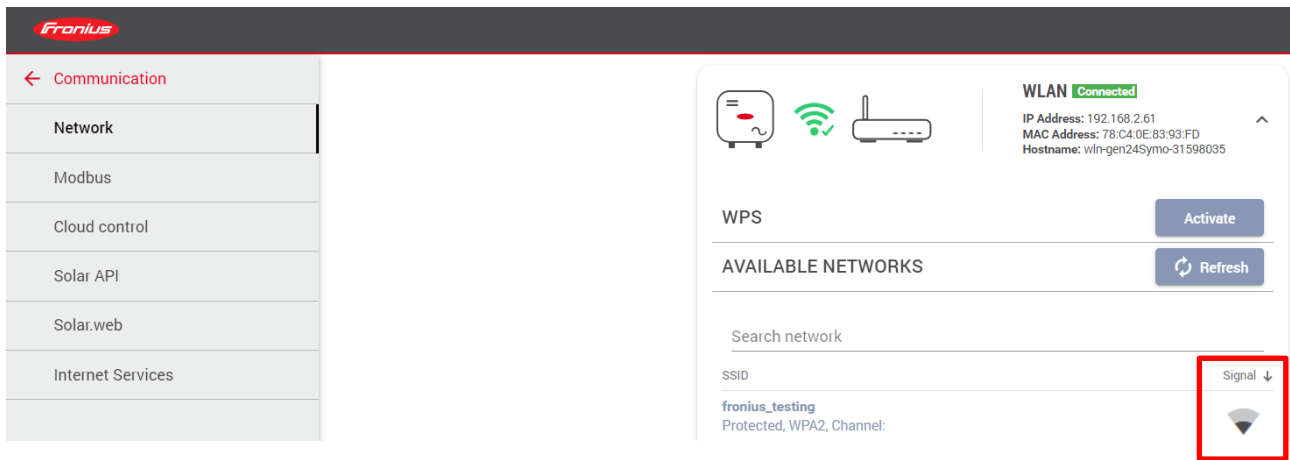
Router:

An ethernet router with internet connection is required so that all inverters can be controlled via the internet (IEEE 2030.5 – CSIP-AUS).

A hard wired ethernet connection to the inverters is recommended to ensure stable and reliable operation. Where a Wi-Fi connection is the only possible connection, the signal strength must be equal to or better than 

The signal strength can be checked in the “**Network**” tab under “**Available Networks**”.

- Click on “**Communication**” then “**Network**” to check the signal strength.



NOTE: If the connection to the router or internet is lost the inverter will go to the “**SEP2 Default Control**” value until the connection is restored. The current “**SEP2 Default Control**” for Energy QLD is usually **1.5kW**. (However this can differ from site to site) Once the internet is restored, the latest active DER Control Export value is re-enabled (e.g. 5 - 10kW)

2 General Configuration & Prerequisites

- Familiarise & complete the Energy QLD application & commissioning process
- You **MUST** have a valid EG application submitted to Energy QLD
- A Solarweb account is required
- A stable internet connection needs to be established

3 Inverter Configuration Setup (GEN24/Verto/Tauro)

There are 3 x functions that must be executed on the inverter:

- **Firmware Update**
- **Set “Local” Static Export Limit**
- **Enable Cloud Control**

3.1 Inverter Setup:

- Update inverter firmware to at least 1.34.x-x

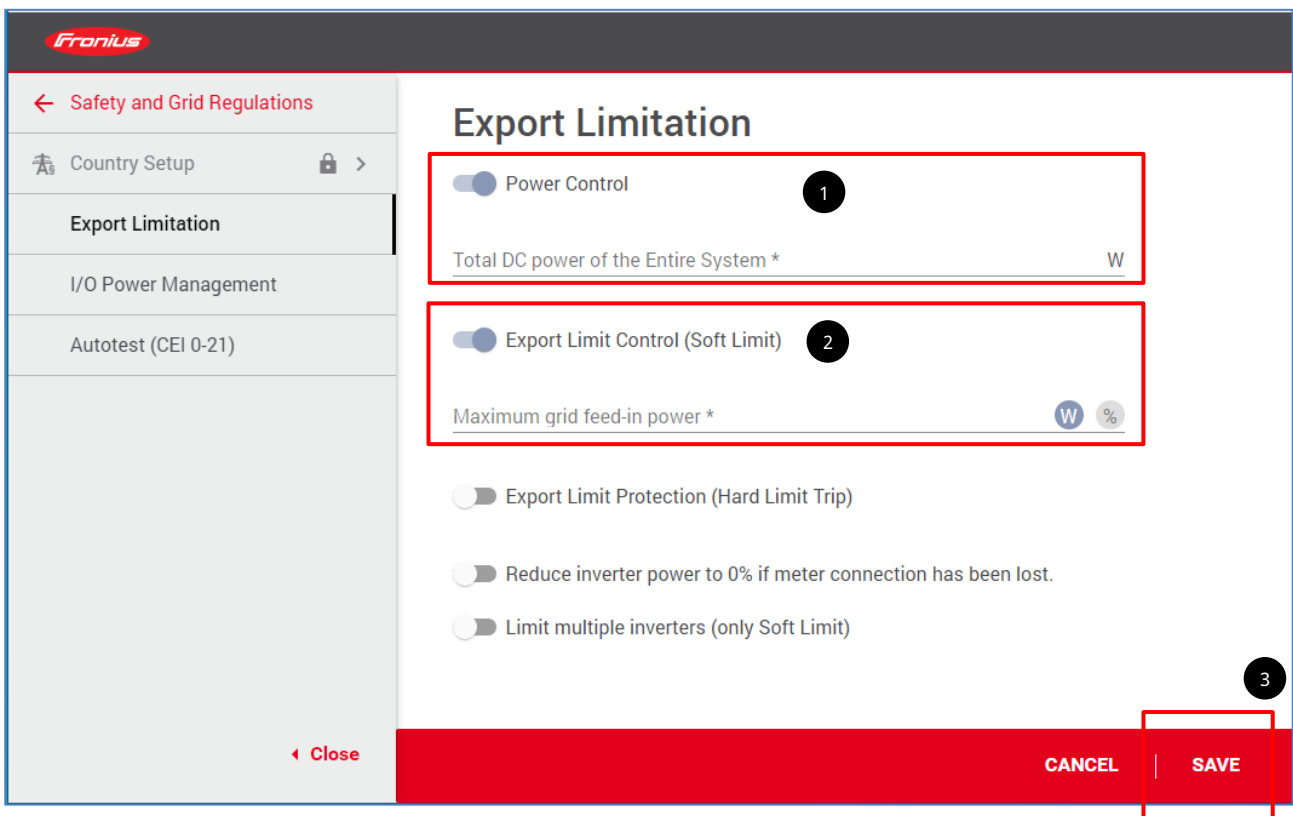
3.2 Set Local Static Export Limit

Connect to the user web interface and login using the “**Technician**” password.

If required, see our YouTube video: *How-To video: Connecting to the Fronius GEN24/Tauro/Verto user interface*

<https://www.youtube.com/watch?v=pcwCZo-8dqc>

- Click on “**Safety and Grid Requirements**” in the menu on the left and then select “**Export Limitation**”.



1. Activate **“Power Control”** and enter the **“Total DC power of the Entire System”** in Watts.
2. Activate **“Export Limit Control (Soft limit)”** and enter the **“Maximum grid feed-in power”** in **Watts***
3. Click on **“Save”**

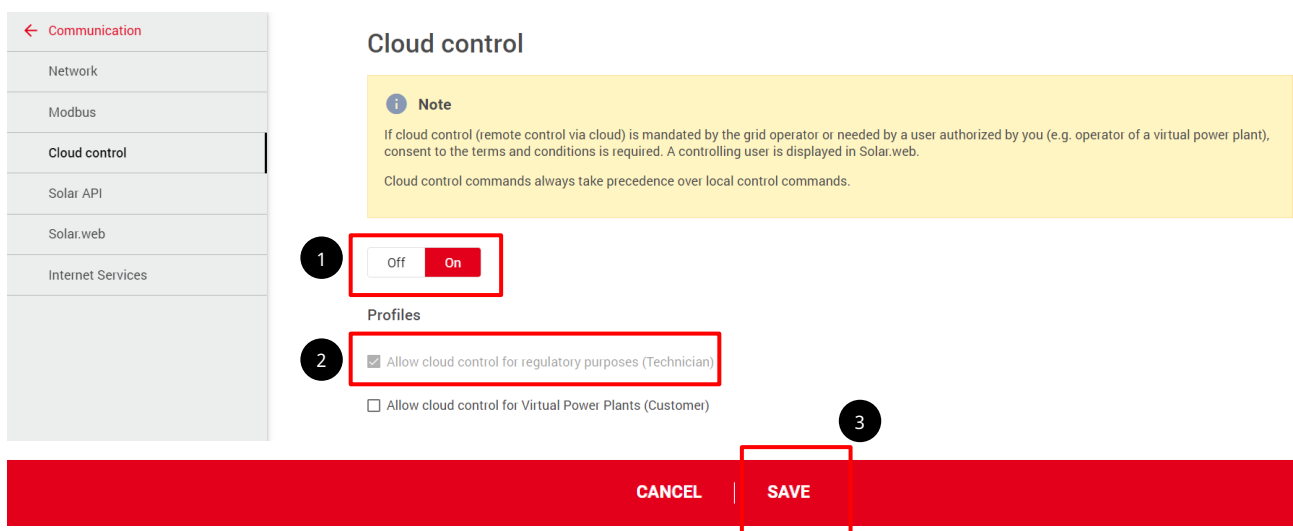
* The **“Local Static Export limit”** value is the Fixed Export Limit defined by Energy QLD for the particular site (*Typically 1500W*). This limit is designed to limit the system to a defined value in case the system is not properly registered with Utility Server (SEP2 Server).

NOTE: If the system has multiple inverters where at least one of the inverters is a GEN24, Verto, Tauro you will need to consult our ***Application Guide – Fronius Multi-Inverter Export Limit Setup (AUS)*** in order for Dynamic Export to work correctly.

<https://www.fronius.com/~/downloads/Solar%20Energy/Application%20Guides/SE-APG-Multi-Inverter-Export-Limit-Setup-EN-AU.pdf>

3.3 Enable Cloud Control

- Click on **“Communication”** in the menu on the left and then select **“Cloud Control”**.



1. Set **“Cloud Control”** to ON
2. Tick **“Allow cloud control for regulatory purposes (Technician)”**
3. Click on **“Save”**

4 Inverter Configuration Setup (SnapINverter)

There are 3 x functions that must be executed on the inverter:

- **Firmware Update**
- **Set “Local” Static Export Limit**
- **Enable Cloud Control**

4.1 Inverter Setup

- Update Datamanager firmware to at least **3.31.1-7**

4.2 Set Local Export Limit / Default Control

- Navigate to “**DNO editor**” and perform the 2 required settings

The screenshot shows the 'Settings' menu on the left with 'DNO EDITOR' highlighted in a red box. The main content area is titled 'DNO editor' and shows a table for 'IO control' configuration. The table has columns for 'unlocked', 'Input pattern', 'Active power', 'Power factor cosφ', 'DNO output', and 'excluded inverter(s)'. There are five rows of configuration, each with a checked 'unlocked' box and a 'DNO output' checkbox. The 'Active power' column shows values of 100%, 60%, 30%, and 0% for the first four rows, and a blank field for the fifth. The 'Power factor cosφ' column shows radio buttons for '1', 'ind', and 'cap', with 'cap' selected for all rows. The 'DNO output' column has a checked checkbox for all rows. The 'excluded inverter(s)' column has empty text boxes and a minus sign icon for all rows. A 'Pv system, on 7/31/2024, 1:54:52 PM' timestamp is visible in the top right of the configuration area.

unlocked	Input pattern	Active power	Power factor cosφ	DNO output	excluded inverter(s)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> 100 %	<input type="checkbox"/> 1 <input type="radio"/> ind <input checked="" type="radio"/> cap	<input checked="" type="checkbox"/>	<input type="text"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> 60 %	<input type="checkbox"/> 1 <input type="radio"/> ind <input checked="" type="radio"/> cap	<input checked="" type="checkbox"/>	<input type="text"/>
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- Set **“Limit entire system”** in the **“Dynamic power reduction”**
- Enter **“Total DC system power of the system”**
- Activate **“Export Limiting Control (Soft Limit)”** and enter the **“Maximum grid feed-in power”** in **“Watts”**
- Click on the **“Tick”** to save the settings.

Dynamic power reduction

Export Limitation No Limit **Limit Entire System** Limit per Phase (not for single-phase devices)

total DC power of the system

Export Limit Protection (Hard Limit Trip)

Export Limiting Control (Soft Limit)
Maximum Grid Feed-In Power

Reduce inverter power to 0% if meter connection has been lost.

* The **“Local Static Export limit”** value is the Fixed Export Limit defined by Energy QLD for the particular site (*Typically 1500W*). This limit is designed to limit the system to a defined value in case the system is not properly registered with Utility Server (SEP2 Server).

4.3 Enable Cloud Control

- Set **“Allow cloud control for grid/Utility purposes”** in the **“Cloud Control”**
- Click on the **“Tick”** to save the settings.

Cloud Control

Allow cloud control for grid/utility compliance purposes

Note: If cloud control is enabled, authorized operators (e.g. network operator/energy supplier) can change the output power of the inverter if required. Cloud control commands always take precedence over local control commands. Connection to internet is required.

5 Solarweb Portal Setup & LFDI Creation

- Navigate to the system on Solarweb and click on **“Settings”**.
- Under **“Profile”** then **“Grid Operator”** select either **“Energex”** or **“Ergon Energy”**
- Add the **“NMI”** of the site.
- Tick the **“INSTALLER USE ONLY...”** registration box and click on **“SAVE”**

The screenshot shows the 'Profile of PV system' page in the Solarweb portal. The 'GRID CONNECTION' section is highlighted with a red box. It contains the following fields and options:

- Grid operator:** Energex
- NMI - National Metering Identifier:** 3100000000
- INSTALLER USE ONLY:** Tick to register this system for remote DNSP Flexible Export/Dynamic Export or Emergency Backstop programs where ONLY Fronius is the controller via CSIP-AUS / IEEE 2030.5.
- Note:** DO NOT tick this option if are unfamiliar with these programs or if you are using 3rd party controller, as this may lead to incorrect operation of the system.
- LFDI:** C1C4 71AC 0868 B5A9 634E 7C18 2FA7 7C9D 0035 2956

After clicking **“SAVE”** an **LFDI** (Long Form Device Identifier) field will appear with the LFDI number.

Device Registration with LFDI:

The Energy QLD method of device registration (**Out-of-band registration**) should not require any further steps here if the correct forms and registration has previously been completed with Energy QLD. In case the LFDI is required to be copied and pasted anywhere, the COPY button next to the LFDI field can be used to do this.

Troubleshooting tip

The 2 x main causes of issues with Dynamic Export sites are due to *Firmware* not updated & *Cloud Control* not being activated on the inverter.

Energy QLD Information Links

For information on the Energy QLD processes and forms for installers please follow the below links:

- **Dynamic Connection Information:** <https://www.energex.com.au/our-services/connections/residential-and-commercial-connections/solar-connections-and-other-technologies/dynamic-connections-for-energy-exports/dynamic-connections-for-installers>
- **Dynamic EG Registration Form:** <https://www.energex.com.au/contact-us/forms/dynamic-embedded-generation-registration-form>

NOTE: The above links were valid at the time of publication. These may change over time, therefore Fronius is not responsible for the ongoing validity of these links.

END OF DOCUMENT

Fronius Australia Technical Support

Email: PV-Support-Australia@fronius.com

Phone: 03 8340 2910

For more detailed information see the operation manual available on the product specific page on [here](#).