

MARSHALL



2023

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Device Config (Fronius)

1.0 Device Configuration

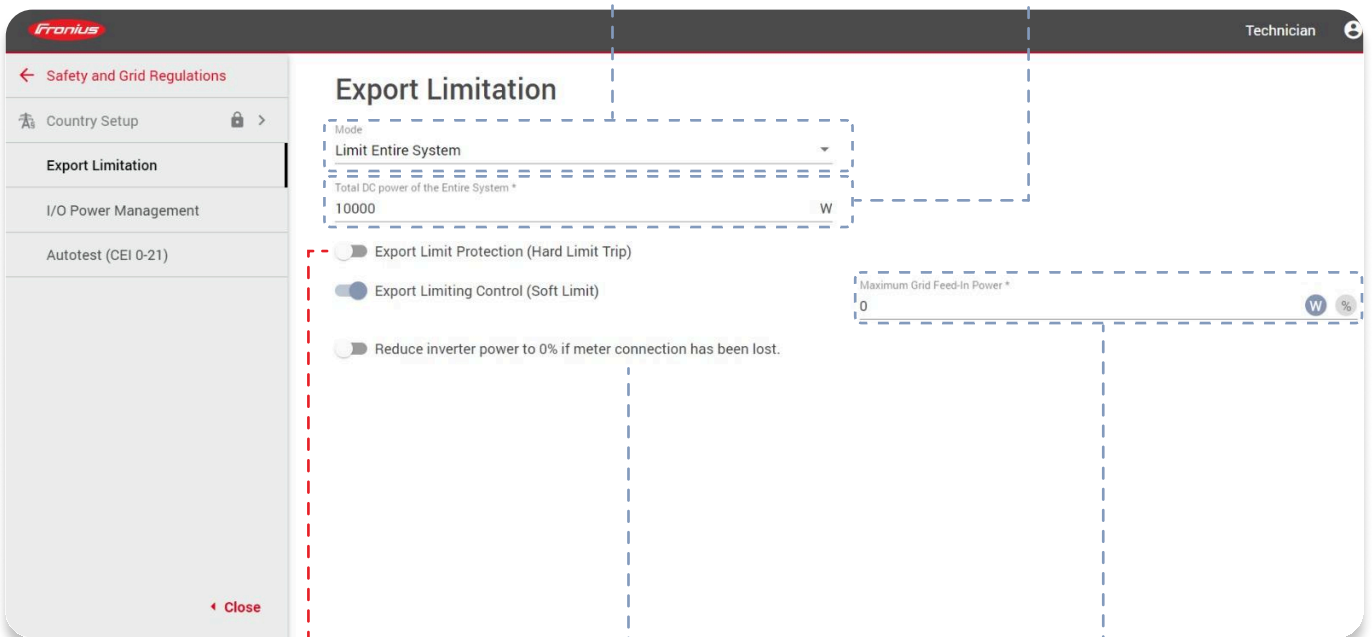
Part A

Fronius GEN24 Device Configuration

Before interfacing the inverter with the Marshall gateway device, change the inverter configuration to the following. Failure to change the inverter configuration may result in loss of communication between the Marshall device and the inverter.

a. Inverter Export Limits

1. Set the "Mode" using the drop down.
2. Select the "Total DC power" of the Entire System.



3. Make sure to disable the "Export Hard Limit"

4. Specify the "Maximum Grid Feed-in Power".

5. Disable precautions for Meter Connection lost.

b. Inverter Controlling Priorities

The screenshot displays the 'I/O Power Management' configuration screen. On the left is a sidebar menu with options: 'Safety and Grid Regulations', 'Country Setup', 'Export Limitation', 'I/O Power Management' (selected), and 'Autotest (CEI 0-21)'. The main area is titled 'I/O Power Management' and includes a pin selection grid, a 'DNO Feedback Pin' dropdown set to 'Pin 0', a 'Rules' section with four toggleable rules, and 'Import' and 'Export' buttons. A 'Controlling Priorities' dialog box is overlaid at the bottom, listing three priorities: 1. Modbus Control, 2. Export Limitation, and 3. IO Powerlimit. A dashed line connects the 'IO Powerlimit' priority in the dialog to the 'IO control feedback' table on the right side of the main interface.

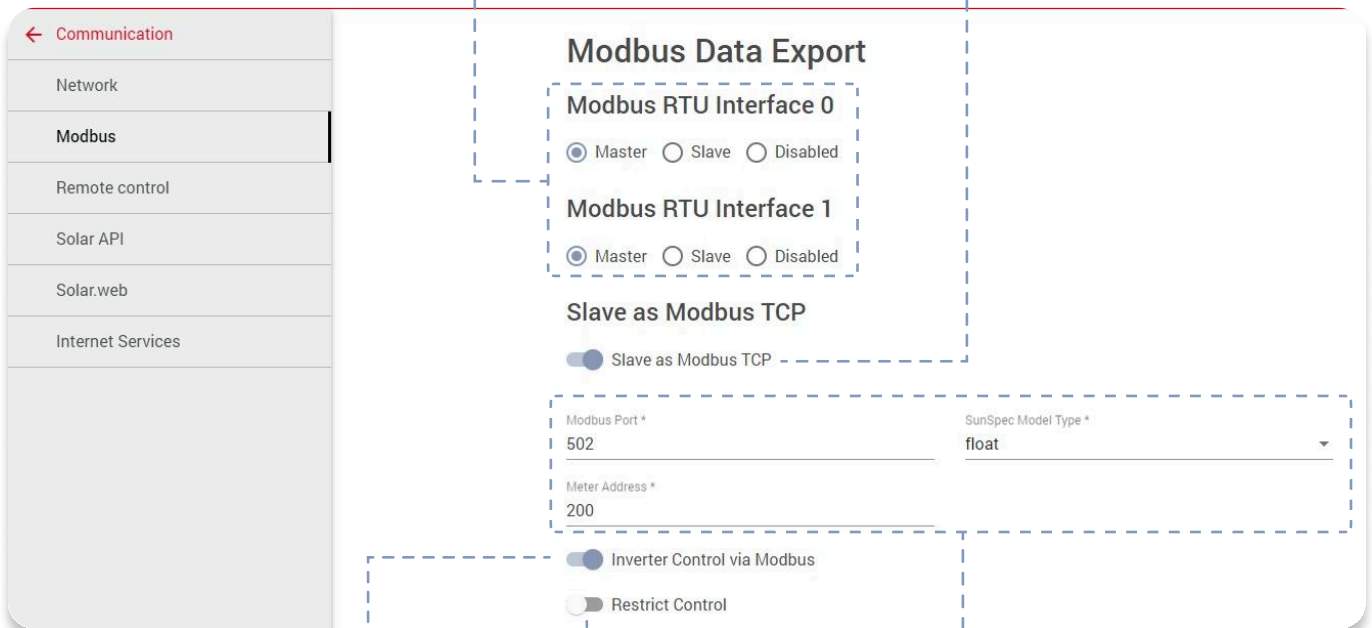
IO control feedback	Value
0	IO control feedback
1	None
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None
11	None

1. Change priorities to each controlling attribute.

c. Inverter Modbus Settings

1. Select whether the Modbus RTU Interface 0 and 1 acts as a "Master" or "Slave". It can also be disabled.

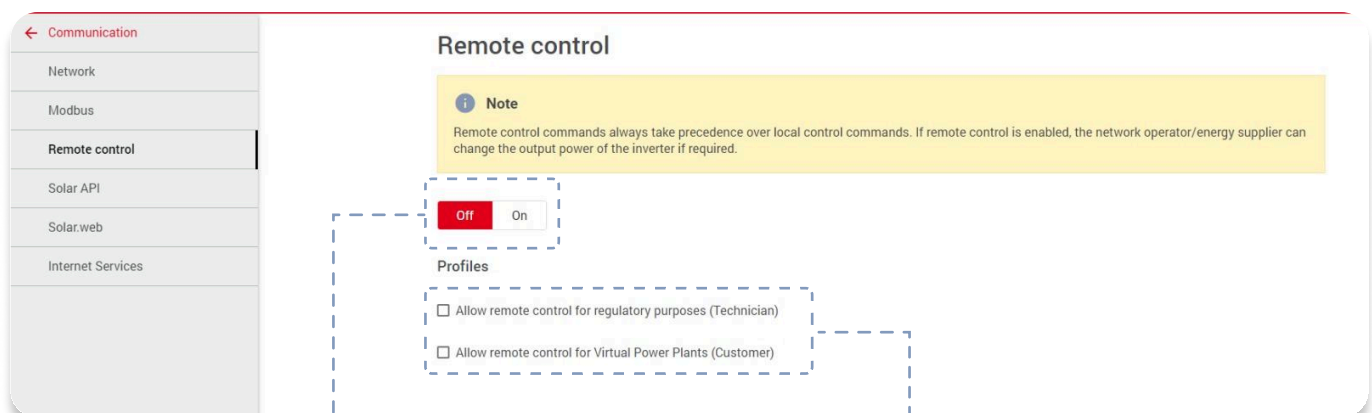
2. Enable to use Modbus TCP as a Slave.



4. Enable Inverter Control via Modbus.

5. Keep Restrict Control disabled.

3. Specify the "Port", "SunSpec Model Type", and "Meter Address".



6. Disable Remote Control.

7. Extend remote control accessibility to Technicians and Customers.

2.0 Device Configuration

Part B

Fronius SNAP Device Configuration

Before interfacing the inverter with the Marshall gateway device, change the inverter configuration to the following. Failure to change the inverter configuration may result in loss of communication between the Marshall device and the inverter.

a. Inverter Modbus Settings

1. Follow the process as below to set up Inverter Modbus.

Settings

- GENERAL
- PASSWORDS
- NETWORK
- FRONIUS SOLAR.WEB
- IO MAPPING
- LOAD MANAGEMENT
- PUSH SERVICE
- MODBUS**
- INVERTERS
- FRONIUS SENSOR CARDS
- METER
- DNO EDITOR

Modbus

off tcp rtu
 Modbus port:
 String control address offset:
 Sunspec Model Type: float int + SF
 Demo mode:
 Inverter control via Modbus:
 Restrict the control:

Controlling priorities

1. Controlling via Modbus
2. Dynamic power reduction
3. IO control

Legend:
 1 ... highest priority
 2 ... medium priority
 3 ... lowest priority

Note: a change of control priorities is possible only in the DNO editor with the service password.

b. General Configuration Settings - 3.16.6-1 and Future Firmware

1. Follow the process as below to set up General Configuration.

PASSWORDS

NETWORK

FRONIUS SOLAR.WEB

IO MAPPING

LOAD MANAGEMENT

PUSH SERVICE

MODBUS

INVERTERS

FRONIUS SENSOR CARDS

METER

DNO EDITOR

✓ ✕

IO control

unlocked	Input pattern	Active power	Power factor cosφ	DNO output	excluded inverter(s)	
	1 2 3 4 5 6 7 8					
<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 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 type="button" value="⊖"/>
<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 checked="" type="checkbox"/> 60 %	<input type="checkbox"/> 1 <input type="radio"/> ind <input checked="" type="radio"/> cap	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="button" value="⊖"/>
<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/> 30 %	<input type="checkbox"/> 1 <input type="radio"/> ind <input checked="" type="radio"/> cap	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="button" value="⊖"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> 0 %	<input type="checkbox"/> 1 <input type="radio"/> ind <input checked="" type="radio"/> cap	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="button" value="⊖"/>
<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 type="checkbox"/>	<input type="checkbox"/> %	<input type="checkbox"/> <input type="radio"/> ind <input type="radio"/> cap	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="⊕"/>

... not applicable
 ... not considered
 ... pin open
 ... pin closed

✓ ✕

AUS - Demand Response Modes (DRM)

Reactive power output (Qrel) for DRM 3 %

Reactive power consumption (-Qrel) for DRM 7 %

✓ ✕

Dynamic power reduction

Power limit: No limit limit for entire system

total DC power of the system: Wp

Maximum grid feed-in power W

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

✓ ✕

Controlling priorities

1. Controlling via Modbus

2. Dynamic power reduction

3. IO control

Legend:

1 ... highest priority

2 ... medium priority

3 ... lowest priority

C. General Configuration Settings - Older than 3.16.6 - 1 Firmware

1. Follow the process as below to set up General Configuration.

... not applicable
 ... not considered
 ... pin open
 ... pin closed

← Import

Export →

✓

✕

AUS - Demand Response Modes (DRM)

Reactive power output (Qrel) for DRM 3 %

Reactive power consumption (-Qrel) for DRM 7 %

✓

✕

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)
Maximum Grid Feed-In Power W ▼

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

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

✓

✕

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.

✓

✕

Controlling priorities

▼

▲

▼

▲

1. Controlling via Modbus

2. Dynamic power reduction

3. IO control

Legend:

1 ... highest priority

2 ... medium priority

3 ... lowest priority

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