

Jemena Rooftop Solar

Commissioning Troubleshooting User Guide

Device registration and capability test



Intended audience: Solar Installers, Manufacturers (OEMs).

Objective: This guide outlines the key steps for successfully registering and commissioning solar inverters on the Jemena network.

1. Device registration and verification

1.1 Solar systems with stable internet connection – Generation capacity between 0 to 200kVA

Jemena requires all newly installed or upgraded inverters to be registered in the Jemena Utility Server.

Installers can register the device using one of the following methods:

In-band registration

Note: Supports aggregated model only

Select the In-band registration process if the inverter has already been registered with Jemena via the manufacturer app, a previous commissioning application, or with support from Jemena.

Before you submit your application in [My Portal](#),

- Ensure the manufacturer supports in-band integration with Jemena
- Register the inverter with the manufacturer and confirm the registration is complete.
- Then submit your Commission My Inverter application in [My Portal](#) and select the in-band commissioning option (Yes, the device has been registered)

Out-of-band registration

(supports all device types)

Select the out-of-band registration process if the inverter manufacturer does not support direct registration to Jemena Utility Server via the manufacture's app (In-band).

Before you submit your application in [My Portal](#),

- Register the device with the inverter manufacturer using the out-of-band process and obtain the Long-Form Device Identifier (LFDI), which uniquely identifies the device.
- Then submit your Commission My Inverter application in [My Portal](#) and select the out-of-band commissioning option, where you will be required to enter the LFDI.





1.1.1 Preparing to register devices

Before registering your device, complete the checklist below to help ensure a smooth and successful registration.

Inverter registration checklist

The installer is required to:

- ☐ Submit an *Approve My Electricity or Battery Storage* application and accept the offer of connection for the correct NMI and supply address
- ☐ Install the solar and/or battery system
- ☐ Configure the inverters / solar systems with
 - ◇ Default low static limit of 0.5kW
 - ◇ AS/NZS 4777.2 Region **Australia A** settings
- ☐ Ensure the latest firmware is installed on the inverter
- ☐ The inverter must be connected to a reliable internet connection
- ☐ Register the device with the inverter manufacturer and confirm the registration is complete
- ☐ Ensure the correct NMI and LFDI match the supply address, devices installed and the information provided in the *Approve My Electricity or Battery Storage* application

1.1.2 Device registration

Jemena device registration consists of two key stages.

1. Verify the device is registered in Utility Server with the correct NMI and LFDI
2. Verify the device is sending the setting and capabilities data, and the data matches the pre-approval application for the connection.

If registration and verification fail, refer to *1.1.3 Troubleshooting Device Registration Issues* for troubleshooting guidelines.

IMPORTANT!

- Allow up to 15 minutes for registration to complete
- If the process does not complete, select “Check progress” to view status and troubleshoot

1.1.3 Troubleshooting device registration issues

#	Error	Possible steps to resolve	Who should assist?
1	The LFDI entered is incorrect.	• Ensure LFDI is unique 40-character value using only A–F and 0–9. • In addition, the first 9 characters must be unique across Jemena network.	Installer, Manufacturer
2	According to our records the LFDI already exists.	• Check the LFDI is correct. • If the LFDI is correct, select “Yes, the device has been registered” to verify whether the registration process has begun. • If the LFDI is not correct, update the LFDI.	Installer, Manufacturer
3	Registration has failed due to communication and/or connection issue with Utility Server.	• Check the inverter configuration settings including LFDI and NMI, internet connection and • Ensure the inverter is turned on, then try again	Installer, Manufacturer
4	Registration has failed. The configuration on the inverter did not match the information provided in the approval application for this connection.	• Check the LFDI, NMI and max set capacity (setMaxW) configured on the device matches pre-approved application.	Installer, Jemena
5	Device is not found in Jemena Utility Server	• For in-band registration, ensure no errors appear in the OEM app. • Confirm the NMI is correct on application, OEM app and/or inverter; If application has incorrect NMI, cancel and raise a new commission application for the correct NMI. If the inverter has the incorrect NMI, then please contact OEM to rectify the issue. • If the problem continues, contact Jemena on 1300 658 046.	Jemena

1.2 Solar system with no internet connectivity (0-30 kVA inverter)

#	Installer	Jemena
1	Check with customer if the reliable internet will be available. Inform the customer that their export will be limited to Low Static if there is no reliable internet	
2	Ensure to select no internet connectivity on the application form.	
3	Configure the inverter with a default Low Static Limit of 0.5kW.	CSIP-Aus capability test via portal is not required. However, Jemena will perform remote verification to ensure the low static limit is applied to the site in accordance with Emergency Backstop requirements. If this verification fails, Jemena will request the installer to rectify the issue before completing the application.

2. Device Capability Test

Jemena conducts a series of capability tests via My Portal to confirm that the installed or modified inverters can communicate with the Jemena Utility Server and respond correctly to export control and curtailment commands under grid emergency events.

IMPORTANT!

- Complete all preparation steps in 2.2 before starting the test to improve the likelihood of success
- It is recommended to run the test while onsite so any issues can be resolved and test rerun promptly.
- Allow 5 minutes between test attempts before rerunning
- Switch off any existing solar inverter or AC coupled battery not under CSIP-Aus control to avoid interference.

2.1 Scheduling capability tests

If the installation is complete but the site is not ready for capability testing (for example, due to no internet connection or unsuitable weather), you can schedule the test to run at a later time.

You can:

- Schedule the test up to 2 months in advance
- Set the test to run daily for up to 7 days, until a successful result is achieved

Note: A valid Certificate of Electrical Safety (CES) must be provided to Jemena before scheduling the test.

2.2 Preparing to test the inverter

Before testing your device, complete the checklist below to help ensure a smooth and successful test.

Inverter test checklist

- ☐ Confirm the inverter(s) is correctly installed, configured, and connected to the internet.
- ☐ Verify that the inverter's firmware is up to date.
- ☐ Ensure Current Transformer (CTs) are wired correctly so export and/or generation flows in the correct direction.
- ☐ Turn off any embedded generation systems which are not Emergency Backstop enabled (e.g. legacy solar, AC or DC coupled batteries systems and/or new AC coupled batteries) prior to testing to avoid interference while testing the new inverter.



2.3 Testing

2.3.1 Test 1 – Confirm connectivity and initial settings (~ 2 mins)

Test 1 performs an initial series of checks to confirm the device is communicating with Jemena Utility Server and publishing the required CSIP Aus data, including:

- MirrorMeterReadings (siteRealPower, derRealPower)
- Connection Status (genConnectStatus)
- Operational Status (operationalModeStatus)
- DER Capability and DER Settings

If test 1 fails, follow the recommended resolution steps below:

#	Error	Possible steps to resolve	Who should assist?
1.1	There was an error communicating with the Utility Server or intermittent issues	• Ensure the inverter is connected to a stable internet connection.	Manufacturer
1.2	The inverter does not update required telemetry data. • Timestamp • Ptm • No telemetry data provided	• Confirm the firmware is updated to the latest version.	Manufacturer
1.3	No telemetry data is provided. SiteRealPower and DERRealPower are required.	• Verify that the CT/meter has been properly installed. • Reset the inverter and rerun the capability test • Contact the OEM for further investigation regarding the telemetry data issue.	Manufacturer
1.4	Connection Status is off or There is an error with the Connection Status.	• Ensure the inverter is connected to a stable internet connection. • Contact the OEM for further investigation regarding the genConnectionStatus issue.	Manufacturer
1.5	The inverter is not set to Operational Mode or Operational Mode is not present.	• Check to ensure the inverter is turned on to Operational Mode • Contact the OEM for further investigation regarding the OperationalModeStatus issue.	Manufacturer
1.6	Nameplate rating data for the Inverter is inconsistent.	• Check the device capacity setting on OEMs' app.	Manufacturer
1.7	The device does not update DER capability & Settings.	• Check the device capacity setting on OEMs' app.	Manufacturer

*For all error types, try reset inverter and running the capability test. If error persists, contact Jemena on 1300 658 046.

2.3.2 Test 2 - Confirm default export limit (500W) (up to ~10mins)

Test 2 dispatches the default export limit of 500W and verifies the inverter

- has sufficient generation to complete the capability test (8% of the inverter's maximum rated capacity) and,
- complies with the dispatched default export limit setting of 500W.

If test 2 fails, follow the recommended resolution steps below:

#	Error	Possible steps to resolve	Who should assist?
2.1	Site does not comply to the default export limit.	• Ensure the latest version of the software is installed on both the device and the data logger. • Confirm the CT sensor is installed in the correct direction. • Verify that the CT wiring is correctly connected. • Ensure the AC coupled battery and all legacy PV systems are switched off	Installer, Manufacturer
2.2	Inverter generation is less than the pre-condition for capability testing.	• Ensure sufficient generation is available before re-initiating testing. • Conduct the test on a sunny day to ensure stable generation conditions • Verify that the CT wiring for the DER active power is correctly configured. • Ensure the AC coupled battery and all legacy PV systems are switched off.	Installer

*For all error types, try reset inverter and running the capability test. If error persists, contact Jemena on 1300 658 046.

2.3.3 Test 3 - Confirm adherence to active control limit (~ 7-15mins)

Test 3a and 3b validates that the inverter complies with either generation, export or both active control limits depending on the current state of the inverter.

Test 3a) - Confirm adherence to active export limit (-25% of the inverter's maximum rated capacity)

If the site has a low load, the inverter will be tested against an active export limit set at -25% of its maximum rated capacity. This test confirms that the inverter receives the control signal and that site exports remain within the specified limit.

If the site export is already below the applied limit, an additional test (*Test 3b – active generation*) will be triggered. This helps determine whether the result is due to insufficient solar generation (e.g. low irradiance) or a potential installation or configuration issue, reducing the need for repeat site visits.

Test 3b) - Confirm adherence to active generation limit (0 W)

If the site has a large load, the inverter will be subjected to the active generation control limit test of 0W. The test ensures the control is received, and the inverter generation curtails to zero.

If test 3a and/or 3b fails, follow the recommended resolution steps below:

#	Error	Possible steps to resolve	Who should assist?
3.1	Site does not comply to the active export limit.	- Ensure the latest version of the software is installed on both the device and the data logger. - Confirm the CT sensor is installed in the correct direction. - Verify that the CT wiring is correctly connected. - Ensure the AC coupled battery and all legacy PV systems are switched off.	Installer, Manufacturer
3.2	Site export is greater than the set point control sent and does not comply	- Ensure the inverter is connected to a stable internet connection. - The firmware is updated to the latest version - Confirm with the OEM that the control has been received by the inverter and/or OEM gateway	Installer, Manufacturer
3.3	Site does not comply to the active generation limit.	- Ensure the latest version of the software is installed on both the device and the data logger. - Confirm the CT sensor is installed in the correct direction. - Verify that the CT wiring is correctly connected. - Ensure the AC coupled battery and all legacy PV systems are switched off. - Contact the OEM for further investigation if the issue persists.	Installer, Manufacturer
3.4	Site load is too small to confirm compliance.	- Ensure the CT is installed at the main switchboard with the correct polarity. - Ensure any other legacy source of generation or BESS are disconnected. - Ensure that a minimum of 4% of rtgMax is connected.	Manufacturer
3.5	Inverter generation does not follow the set point control and does not comply.	- Ensure the inverter is connected to a stable internet connection. - The firmware is updated to the latest version - Confirm with the OEM that control has been received by the inverter and/or OEM gateway	Manufacturer

*For all error types, try reset inverter and running the capability test. If error persists, contact Jemena on 1300 658 046.



2.3.4 Test complete

Upon successful completion of the test, ensure that all required documentation is uploaded on My Portal. You and the nominated party will receive a notification once the Commission My Inverter application has been processed and completed.

