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***Enabling Common Smart Inverter Profile (CSIP) process***

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## Applicable countries

- Australia

## Overview

This document describes the process to be followed by the installer to enable an Australia Common Smart Inverter Profile (CSIP-AUS) for sites under South Australia Power Networks (SAPN). This document applies to the new Enphase Energy Systems commissioned under the jurisdiction of SAPN.

## Introduction

The solar energy systems commissioned in South Australia are mandated to comply with CSIP-AUS. The Enphase components required are as follows:

- IQ Gateway and IQ System Controller:
  - IQ Gateway Metered (ENV-S-WM-230)
  - IQ System Controller INT (SC100G-M230ROW)
- IQ8 Series Microinverters:
  - IQ8AC-72-M-INT
  - IQ8HC-72-M-INT
  - IQ8MC-72-M-ACM-INT
  - IQ8MC-72-M-ACM-INT-RMA
  - IQ8MC-72-M-ACM-INT-NM

## AUS-CSIP compatible software

The CSIP-AUS functionality is available in IQ Gateway software version 8.2.5x and above. If the software version is incompatible, Enphase Cloud upgrades the IQ Gateway software to 8.2.5x within 24 hrs of completion of commissioning.

## References

Refer to the article [How do I read the LEDs on the Envoy-S or the IQ Gateway](#)

Refer to the article [Installer Information for Smart SA Installer web portal](#)

Refer to the article [Commissioning of grid-tied PV-only Enphase Energy System](#)

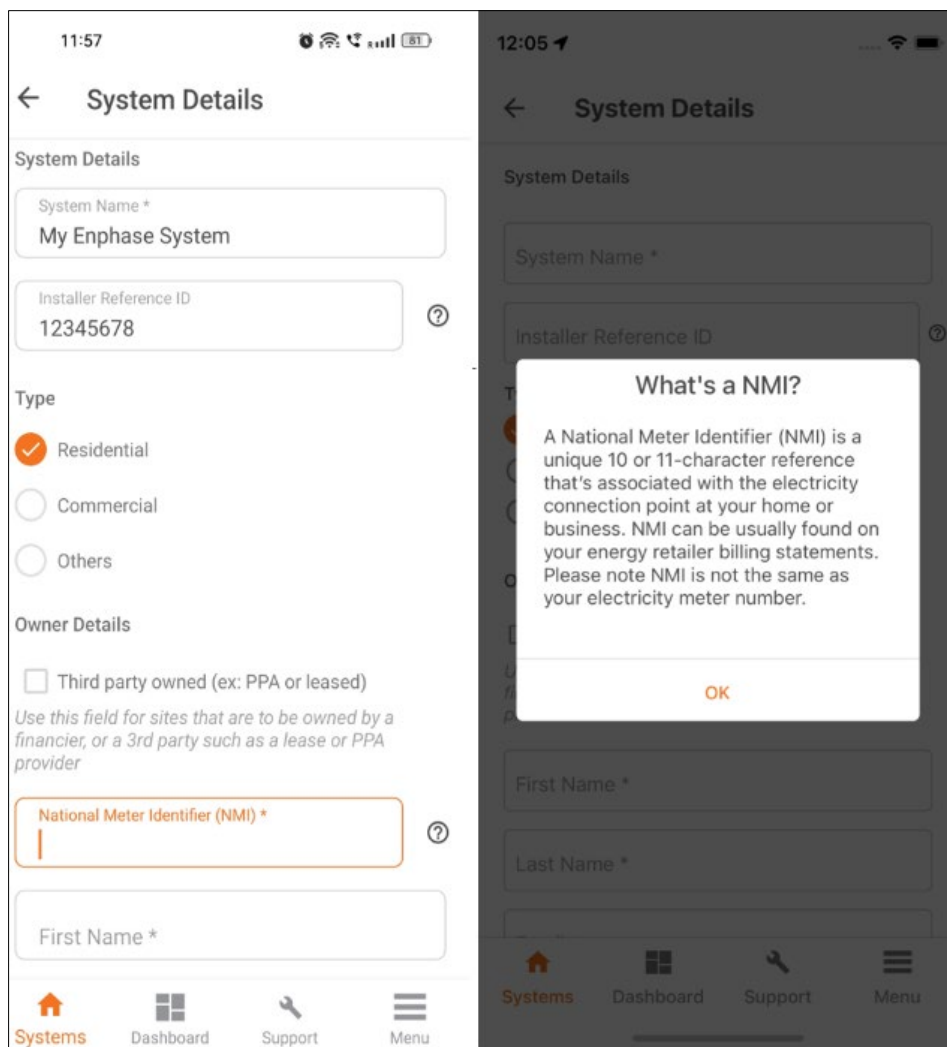
## Enabling CSIP for a new Enphase Energy System

Follow the process to enable a CSIP-AUS for a new Enphase Energy System.



**NOTE:** The installer arrives at the site with IQ Gateway and IQ8 Series Microinverters.

1. Enter the correct “National Meter Identifier (NMI)” code in Enphase Installer App as shown in the following screen:



The image displays two screenshots of the Enphase Installer App. The left screenshot shows the 'System Details' screen with the following fields: System Name (My Enphase System), Installer Reference ID (12345678), Type (Residential selected), Owner Details (Third party owned checkbox), and National Meter Identifier (NMI) (empty field). The right screenshot shows the same screen with a modal dialog titled 'What's a NMI?' explaining that it is a unique 10 or 11-character reference associated with the electricity connection point.

2. Ensure the IQ Gateway is connected to the internet and reports to Enphase Cloud as part of step 4 in the commissioning process. Refer to the [Commissioning of grid-tied PV-only Enphase Energy System](#).
3. Verify that the NMI code entered in Enphase Installer App is displayed in the “Activations” tab in Enphase Installer Portal. Update it if the NMI code is not correct.

System

System Active

\*Name

BLR52-20JULY-ANDRC

Installer Reference

1346

\*Type

Residential

☐ Third Party Owned (ex: PPA or Leased)

PV Installer

Enphase AU

Owner

Mayank Vipul (mvipul@enphaseenergy.com)

+1 6172531008

Edit Details | [Change Owner](#)

User has logged in and cannot be edited.

Owner has access to **Enlighten Manager** for system performance monitoring.

Send system access to owner

Location

\*Street Address

Sydney Road

Street Address 2

\*City

Campbellfield

\*State/Province

Victoria

\*Zip/Postal Code

3061

\*Country

Australia

Latitude

-37.6666935

Longitude

144.9547224

\*National Meter Identifier (NMI)

12345678910

What's a NMI?

A National Meter Identifier (NMI) is a unique 10 or 11 character reference that's associated with the electricity connection point at your home or business. NMI can be usually found on your energy retailer billing statements. Please note NMI is not the same as your electricity meter number. For more details [click here](#).

- After 24 hrs, the page under Devices > IQ Gateway > Enlighten Manager in the Enphase Installer Portal is updated. The IQ Gateway is connected to the SAPN server. If the “Client Connectivity Check” is not checked, the installer should call the Enphase Support team at (1800) 006-374.

Enlighten Manager

Dashboard Systems Account Services Data & Privacy Support Admin

SFDC Case System Dashboard Admin View Activation MyEnphase View Enlighten Mobile Maintained by Cam Phase

Systems List

Chris Brooks PV System [View](#) [Events](#)

Click here to initiate Self Service Warranty Claim



Envoy-S-Metered-EU

Software Version 8.2.55

IEEE 2030.5 Client Status

Client Certificate Check

IEEE 2030.5 client certificate ready

Client Connectivity Check

IEEE 2030.5 client is connected to the grid utility server at Thu Jul 13, 2023 12:14 AM AEST

Web Communication

Connected to Enlighten

Last Report: Thu Jul 13, 2023 03:48 AM AEST

Report Setting

Standard

Typically reports data to Enlighten at least every 15 minutes during daylight hours.

Low Bandwidth

Reports data to Enlighten four times per day.

Save Report Setting

Power Line Communication

Good signal strength

Last Check: Wed Jul 12, 2023 01:52 PM AEST

28 Microinverters Detected

28 Communicating

28 Producing power

5. Confirm the IQ Gateway connection with the SAPN server is established.
6. Open the Smart SA Installer web portal and execute the capability tests remotely using the SAPN portal (refer to the article [Installer information](#) for more details).
7. If any CSIP-AUS capability test fails, the installer should call the Enphase Support team at (1800) 006-374.

## Features supported in AUS-CSIP implementation

The Enphase Energy System meets SAPN interoperability requirements of AUS-CSIP with IEEE 2030.5 communication. This brings the visibility (static and near-real-time) of DER and active management through the provision of dynamic (real power) import and export limits.

All DERs and related communications will support the autonomous and advanced control functionality. The advanced control functions are executed in response to commands from the utility server. The following lists the essential features related to AUS-CSIP requirements:

- IQ Gateway client with the IEEE 2030.5 interface to control and measure the power export to the grid at the point of common coupling (PCC). It is based on the utility server commands and scheduled exports.
- DER controls can be scheduled based on the commands from the utility server.
- The DER follows the AS/NZS 4777.2 regulations during connection or reconnection to the grid. Also, upon reconnection or startup of the IQ Gateway client, the default DER settings will be applied before communication establishment with the utility server and receipt of an active DER control event.
- DER readings are reported to the utility server at 5 minutes intervals, and the interval can be adjusted via the utility server.
- DER settings are updated at 5 minutes intervals, and the interval can be adjusted through the utility server.
- The operation and connection status values report to the server,
  - Whenever there is a change in the status
  - At the DER readings report interval.
- IQ Gateway client stores the default DER settings between communication and electrical network interruptions.
- The default DER settings will be in effect until it is changed or a DER control event occurs. The utility server will utilize the default DER settings to control the desired fail-safe behavior of the IQ Gateway client.

## Glossary

**AS/NZS 4777.2:2020** Specifies device specifications, functionality, testing, and compliance requirements for electrical safety and performance for inverters designed to facilitate connectivity between energy sources and/or energy storage systems and the grid, connected at low voltage.

**CSIP:** Common Smart Inverter Profile is a standard that further refines IEEE 2030.5 for application to smart inverters. It was developed to support California rule 21, which requires that distributed energy resources within investor-owned utilities (IOU) must utilize the IEEE 2030.5-2018 networking standard in a commonly agreed-upon manner for any grid-connected inverter. The standard is developed and maintained by the SunSpec Alliance, which also specifies test and certification procedures for devices that implement the standard.

**CSIP-AUS:** This is a companion document to the CSIP designed to outline minimal changes to support Australian use cases.

**DER:** An electricity resource behind a meter on customer premises or connected to a utility distribution system. This includes battery energy storage, renewable energy, distributed generation, demand response, energy efficiency, thermal storage, and electric vehicles and their supply equipment.

**NMI:** National Meter Identifier is a unique number assigned to each premise and links your electricity meter with your premise. All energy retailers must include the NMI on their electricity bills.

**PCC:** Point of common coupling point is where the generating facility's local electric power system connects to the utility's electric system, such as the electric power revenue meter or at the location of the equipment designated to interrupt, separate, or disconnect the connection between the generating facility and utility.

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## Revision history

| Revision      | Date      | Description     |
|---------------|-----------|-----------------|
| TEB-00039-1.0 | July 2023 | Initial release |

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