

IQ EV Charger 2 installation configurations

Applicable regions: Australia, New Zealand

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1. About this document

This technical brief provides installers with the information needed to install the Enphase IQ EV Charger 2 at new or retrofit residential sites.

2. IQ EV Charger 2

The IQ EV Charger 2 combines innovative, cutting-edge software with safety-certified, rugged hardware to deliver reliable EV charging to every home. The system is designed to function based on individual home needs and optimize charging patterns while saving money and minimizing carbon footprint. The charger can be set up to offer intelligent features such as real-time solar charging, time-of-use-based charging, remote start/stop, and access control, among others, all through the Enphase App.



Figure 1: IQ EV Charger 2

2.1 IQ EV Charger 2 SKU

Model	Type	SKU	Description
IQ EV Charger 2	Tethered 3P	IQ-EVSE-EU-3032-0105-1300	Three-phase, integrated with the Enphase Energy System, 7.5 m Type-2 charging cable

3. Supported system configurations

Type	Microinverters	IQ Gateway or IQ Combiner	Production & Consumption CT	IQ Battery
Standalone	NA	NA	NA	NA
Solar Only - IQ7/IQ8	IQ7/IQ8/M/S Series	IQ Gateway Metered	Yes	NA
Solar - IQ7/IQ8 & battery	IQ7/IQ8/M/S Series	IQ Gateway Metered (with Communications Kit 2)	Yes	IQ Battery
Solar - IQ7/IQ8 & battery	IQ7/IQ8/M/S Series	IQ System Controller 3 INT	Yes	IQ Battery
Third-party PV and battery	String inverter	IQ Gateway Metered	Yes	Third-party battery



NOTE: Self-Consumption and Savings modes are supported by upgrading to IQ Gateway Metered.

4. Site requirements

4.1 Safety and electrical requirements

The following are the essential safety and electrical site requirements:

- Ensure the electrical panel has a dedicated circuit with a circuit breaker and conductors adequate to support the EV charger load. Ensure the circuit breaker and Type A 30 mA RCD are installed according to the local regulations. The circuit breaker rating must correspond to the maximum current limit set on the IQ EV Charger 2.
- While installing the power supply to the IQ EV Charger, phase conductors must be installed according to the phase allocation of the IQ Gateway Metered. If phase rotation is used, it must be configured during commissioning.
- Follow the local installation standards and best practices, and ensure the electrical work is performed by a competent electrician.
- Follow all safety and installation instructions according to the product documentation.

4.2 Commissioning requirements

The following are the essential site commissioning requirements:

- IQ EV Charger commissioning is available through either the Enphase App or the Enphase Installer App.
- IQ EV Charger integration at the Enphase Energy System sites must be performed by Enphase-certified installers.

- When installing an IQ EV Charger with Solar Only/Solar Plus Battery at a new site, use the Enphase Installer App for site creation. After the site is commissioned, the IQ EV Charger can be commissioned with the help of either the Enphase Installer App or Enphase App.
- For effective EV charging using excess solar production, the site must be installed with Production and Consumption CTs across all phases. For single-phase sites, the CTs shall be on L1 only, but for three-phase sites, CTs must be placed on *all three phases* even if the PV/Battery systems are installed only on one or two of the phases.
- IQ EV Charger 2 supports all earthing configurations of TN/TT/IT grids. Follow the relevant earthing guidelines according to the local regulations.



NOTE: The IQ EV Charger is not fully integrated into the IQ System Controller for off-grid scenarios. For such scenarios, it is recommended to connect the IQ EV Charger as a part of the non-backed-up load.

5. Configurations

5.1 Standalone configuration

In this configuration, the EV Charger is connected to the electrical supply as shown in the following figure. This site configuration can use scheduled and off-peak charging. Green charging and dynamic load balancing are only available when integrated with Enphase Energy Systems.

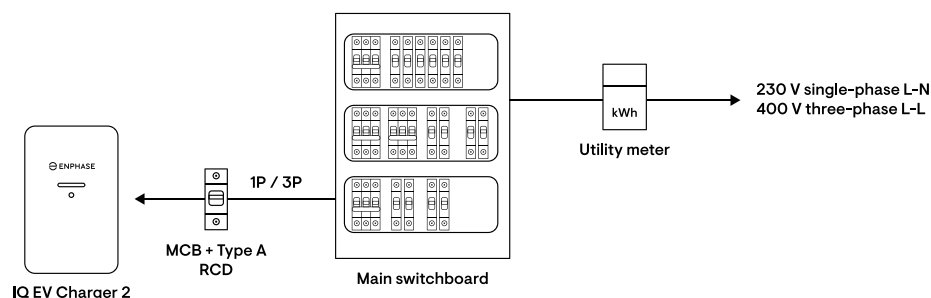


Figure 2: Standalone configuration



NOTE: The MCB/RCD may be located inside the electrical panel.

5.2 Solar with S/IQ7/IQ8 Series Microinverters and IQ Gateway Metered

IQ EV Charger 2 is connected to the electrical supply as shown in the following figure.

- S/IQ7/IQ8 Series Microinverters with IQ Gateway Metered are supported.
- Production and Consumption CTs must be installed.

- This site configuration can use schedule, green charging, off-peak charging, and dynamic load balancing.

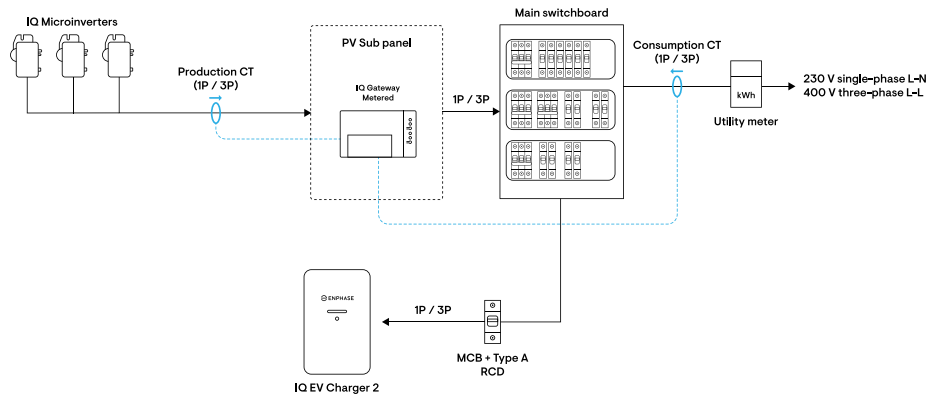


Figure 3: Solar with S/IQ7/IQ8 Series Microinverters with IQ Gateway Metered

5.3 Solar with S/IQ7/IQ8 Series Microinverters, IQ System Controller 3 INT, and IQ Battery 5P

IQ EV Charger 2 is connected to the electrical supply as shown in the following figure.

- Sites with S/IQ7/IQ8 Series Microinverters, IQ System Controller 3 INT, and IQ Battery 5P are supported.
- Production and Consumption CTs must be installed.
- This site configuration can use scheduled charging, green charging, off-peak charging, and dynamic load balancing.
- When Storm Guard is activated, this site can ensure the EV is fully charged first from solar and then from the grid.
- When Full Backup mode is enabled, this site can ensure the EV is fully charged from solar.

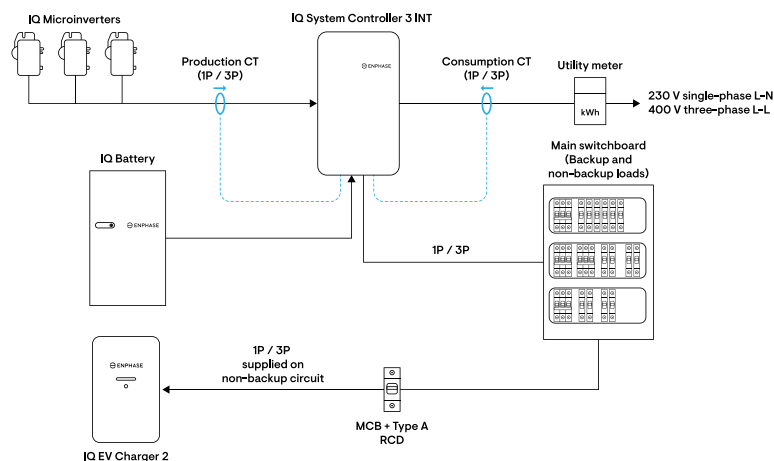


Figure 4: Solar with S/IQ7/IQ8 Series Microinverters, IQ System Controller 3 INT, and IQ Battery 5P

✓ **NOTE:** The MCB/RCD may be located inside the electrical panel.

5.4 Solar with S/IQ7/IQ8 Series Microinverters, IQ Gateway Metered, Communications Kit 2, and IQ Battery 5P

IQ EV Charger 2 is connected to the electrical supply as shown in the following figure.

- Sites with S/IQ7/IQ8 Series Microinverters, IQ Gateway Metered, Communications Kit 2, and IQ Battery 5P are supported.
- Production and Consumption CTs must be installed.
- This site configuration can use scheduled charging, green charging, off-peak charging, and dynamic load balancing.

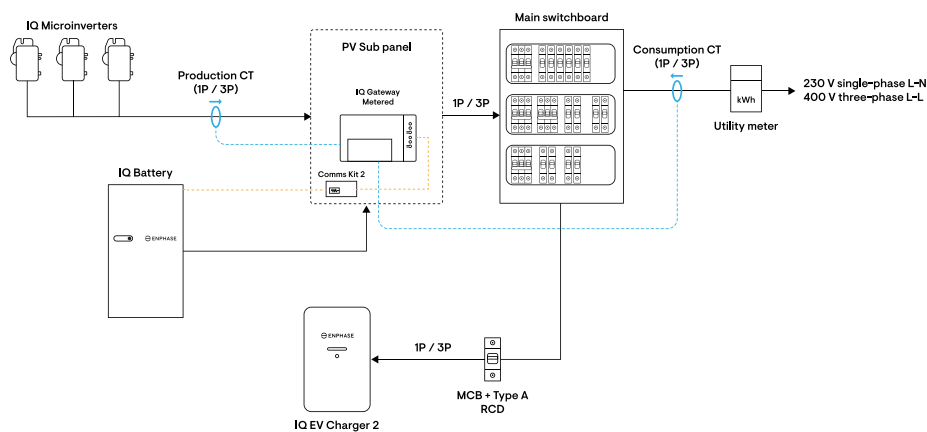


Figure 5: Solar with S/IQ7/IQ8 Microinverters, IQ Gateway Metered, Communications Kit 2, and IQ Battery 5P

✓ **NOTE:** The MCB/RCD may be located inside the electrical panel.

5.5 Solar with a string inverter, IQ Gateway Metered, and a third-party battery

IQ EV Charger 2 is connected to the electrical supply as shown in the following figure.

- Sites with solar with a string inverter, IQ Gateway Metered, and a third-party battery are supported.
- Production and Consumption CTs must be installed.
- This site configuration can use scheduled charging, green charging, off-peak charging, and dynamic load balancing.

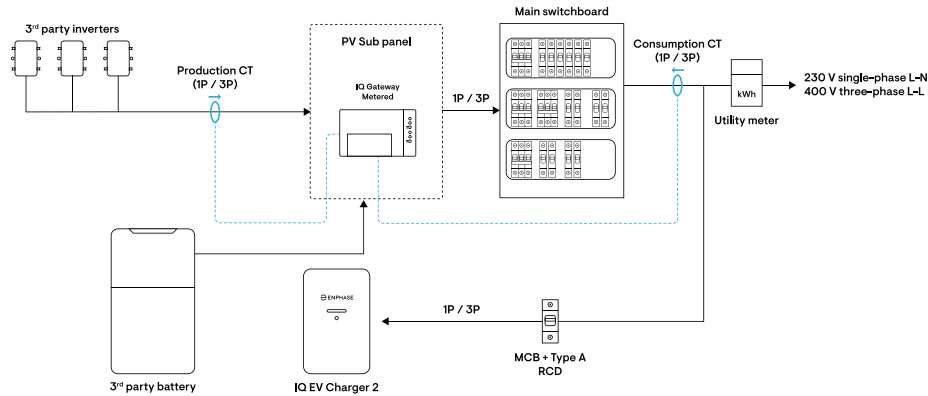


Figure 6: Solar with S/IQ7/IQ8 Microinverters, IQ Gateway Metered, Communications Kit 2, and IQ Battery 5P

✓ **NOTE:** The MCB/RCD may be located inside the electrical panel.

6. IQ EV Charger 2 wiring configurations

Site configuration		IQ EV Charger 2 single-phase	IQ EV Charger 2 three-phase
Standalone	–	Yes	Yes
Solar Only	Single-phase	Yes ¹	Yes ¹
	Three-phase	Yes ¹	Yes ¹
Batteries Only	Single-phase	Yes	Yes
	Three-phase	Yes	Yes
Solar + Batteries	Single-phase	Yes ¹	Yes ¹
	Three-phase	Yes ¹	Yes ¹

The IQ EV Charger 2 can be installed in the following configurations, but true green charging is possible in the marked modes.

The green charging limits are decided based on the aggregate solar production and export. The IQ EV Charger supports dynamic switching between three-phase and single-phase operation for optimized green charging (Self-consumption profile).

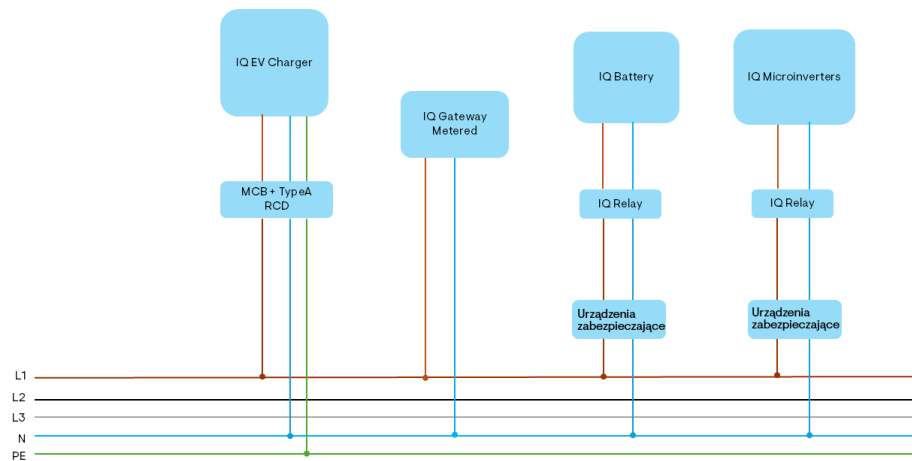
The minimum power for three-phase charging is 4.2 kW (6 A @three-phase) while for single-phase charging it's 1.4 kW (6 A @ single-phase). The dynamic phase switching feature enables the IQ EV Charger 2 to dynamically switch between three-phase charging (>4.2 kW) and single-phase charging (<4.2 kW & >1.38 kW) based on the available excess solar production.

This maximizes the utilization of excess solar production, enabling the charging at as low as 1.38 kW.

¹ Green charging is possible.

7. Wiring and operations

7.1 Solar/Battery single-phase and IQ EV Charger 2 single-phase

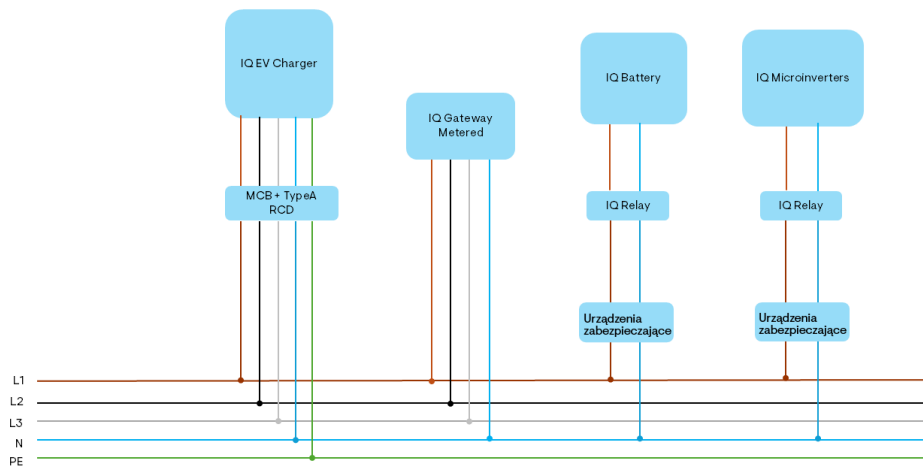


NOTE: The wiring shown is for a three-phase grid connection. For single-phase connections, the wiring must be adjusted accordingly.

To perform optimised Green charging, the IQ EV Charger 2 must be connected to the same phase as the solar/battery. This setup enables charging using the excess solar energy, controlled by the IQ Gateway Metered/IQ EV Charger cloud, with reduced phase imbalance. Additionally, Savings Mode can be used to charge using the excess solar/battery energy.

NOTE: Ensure that consumption on all three phases is monitored by the IQ Gateway Metered to meet loss of phase (LOP) and phase imbalance (PIM) requirements where applicable.

7.2 Solar/Battery single-phase and IQ EV Charger 2 three-phase

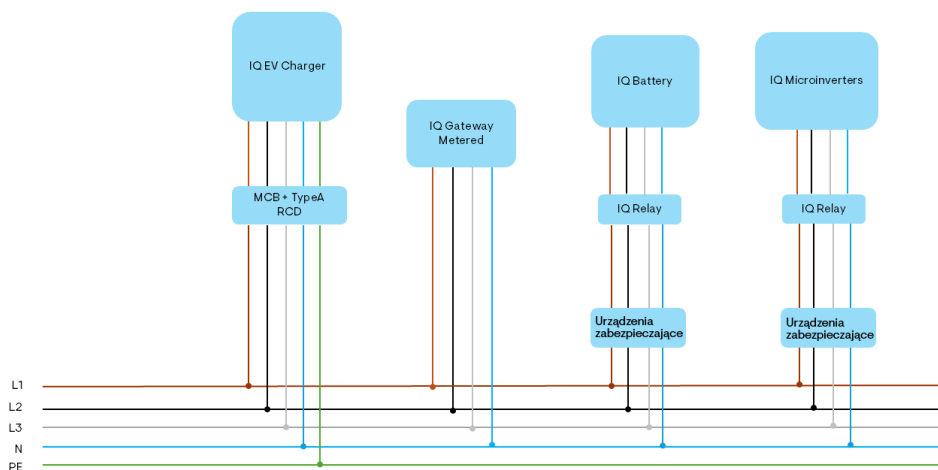


Green charging can be done using the aggregate excess solar energy. To perform optimised Green charging, the IQ EV Charger 2 must be connected to the same phase as the solar/battery. This setup enables charging using the excess solar energy, controlled by the IQ Gateway Metered/IQ EV Charger cloud, with reduced phase imbalance. When using all three phases, you can operate in Savings Mode to use the excess solar/battery energy (only L1) for charging.



NOTE: Ensure that consumption on all three phases is monitored by the IQ Gateway Metered to meet loss of phase (LOP) and phase imbalance (PIM) requirements where applicable.

7.3 Solar/Battery three-phase and IQ EV Charger 2 three-phase

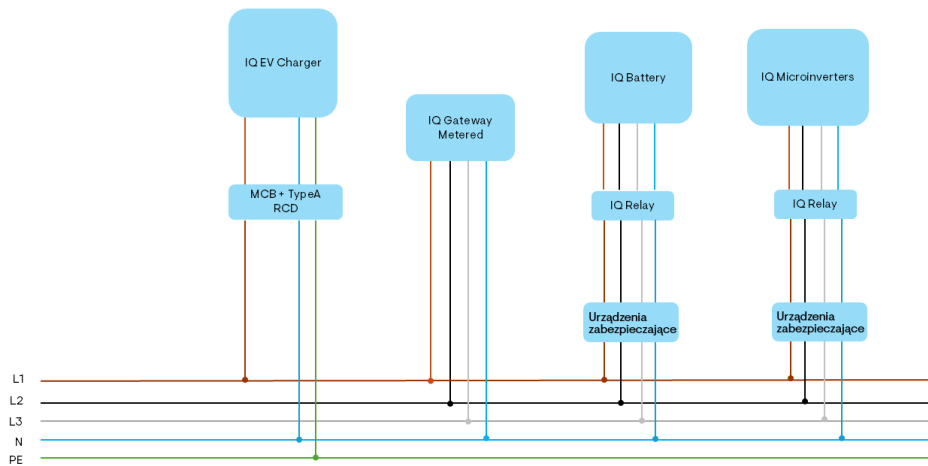


As both the solar/battery and the IQ EV Charger 2 are three-phase, Green charging can be performed using the excess solar energy on all three phases. Based on the available excess solar

energy, the IQ EV Charger automatically switches between single-phase and three-phase charging. Additionally, Savings Mode can be used to charge using the excess solar/battery energy.

✓ **NOTE:** Ensure that consumption on all three phases is monitored by the IQ Gateway Metered to meet loss of phase (LOP) and phase imbalance (PIM) requirements where applicable.

7.4 Solar/Battery three-phase and IQ EV Charger 2 single-phase

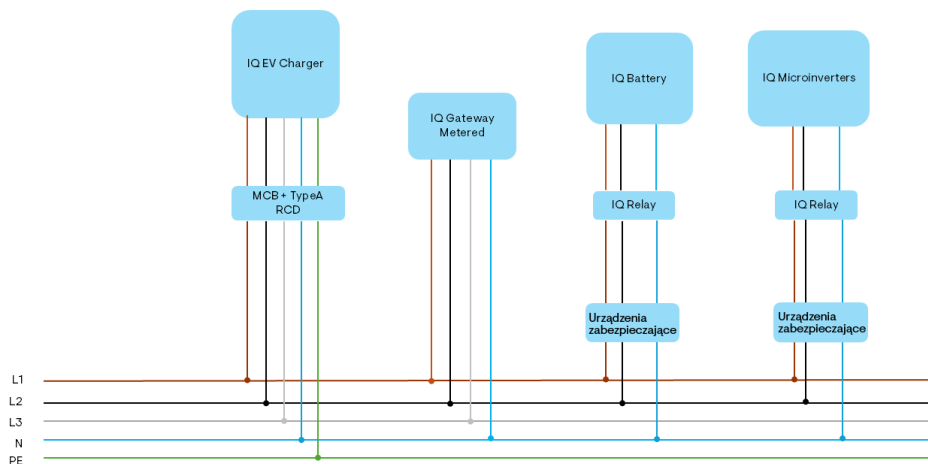


Green charging can be performed based on the aggregate excess solar energy. Additionally, Savings Mode can be used to charge using the excess solar/battery energy.

✓ **NOTE:** Ensure that consumption on all three phases is monitored by the IQ Gateway Metered to meet loss of phase (LOP) and phase imbalance (PIM) requirements where applicable.

⚠ **WARNING:** This is not a preferred mode because such an installation can cause phase imbalance issues.

7.5 Solar/Battery single or two-phase and IQ EV Charger 2 three-phase



As both the solar/battery and the IQ EV Charger 2 are not three-phase systems, Green charging can be performed using the aggregate excess solar energy. Additionally, Savings Mode can be used to charge on all phases using the excess solar/battery energy.

👉 **NOTE:** Ensure that consumption on all three phases is monitored by the IQ Gateway Metered to meet loss of phase (LOP) and phase imbalance (PIM) requirements where applicable.

8. Revision history

Revision	Date	Description
TEB-00281-2.0	March 2026	Editorial updates.
TEB-00281-1.0	April 2025	Initial release.