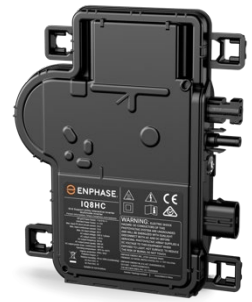


Enphase IQ Microinverter Cheat Sheet

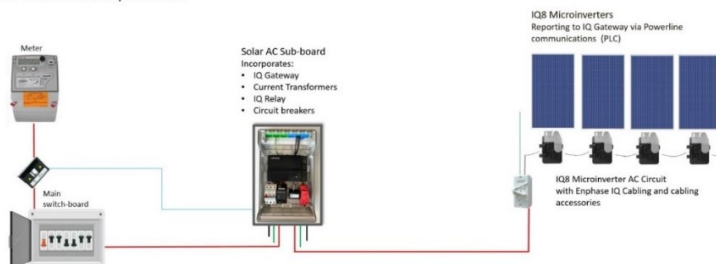
What is an Enphase IQ Microinverter? an inverter and optimiser in one. One microinverter is added to every panel in a solar system. With microinverters, STCs are based on the number of panels, compared to the string inverter calculation (e.g. 1.33) based on the inverter.



Benefits of Enphase IQ Microinverters

1. Ideal solution for homes with limited roof space, complex roofs, multiple dwellings, and where customers want to maximise roof utility.
2. Mid- to high-end solution that complements the quality-oriented Solahart consumer offering.
3. 0.05% failure rate. That's only 500 failures for every 1,000,000 units installed.
4. Up to 25-year warranty, standard 15-year warranty.
5. Scalability and flexibility. You can easily add more panels any time post the initial installation.
Note: A string system uses a calculation like 1.33x the size of the inverter to work out the number of STCs that can be claimed. With a microinverter-based system, its simply the number of panels x the size of the panels. The more panels (as microinverter are added to each panel) the more STCs.
6. Microinverters allow you to add additional panels to an existing system, even if the existing panels are from some time ago and much smaller output. This represents a great opportunity for adding capacity to current customer systems.
7. Reduced maintenance. No single point of failure and remote diagnostics mean less call outs.
Note: A string inverter is like an old telephone landline, if it fails no one in the household can make a call. In comparison, microinverters are like mobile phones, every panel operates independently to maximise system reliability in all conditions. The result is that if one or more microinverters fail the rest of the customer's system keeps working and you can replace the failed unit/s during your next scheduled visit to the customer's area. Save money and win referrals with happier customers and more efficient installer/maintenance management.
8. Plug and play. There are only three main components to an Enphase solar system – select the cable, select the PV distribution box, and add the microinverter.
9. Enphase IQ Microinverters can be installed near salt water without the fear of corrosion.
10. Enphase IQ Microinverters have a very low start up current and boost mode, meaning they work efficiently in conditions many other solar systems would struggle in.
11. Microinverters are connected in parallel within solar AC circuits. Even large microinverter arrays may only require one solar AC circuit on the roof. This means simple design, neat wiring, and reduced installation times.
12. The Tesla Powerwall and Enphase IQ Battery are perfect AC-coupled storage solutions that work with Enphase IQ Microinverters.
13. Enphase IQ Microinverters use AC current (just like your home) versus DC current. AC architecture means greatly enhanced electrical safety and adds an element of flexibility during design.
14. The Enphase company is a world leader in innovation, operating in over 150 countries with a significant market share.

Enphase IQ system
Grid - connected PV-only installation



Three main comments when ordering: Select the cable | PV distribution board | microinverter.

How to select the correct Enphase components

All the below information aligns with the sales app:

1. Select single phase or three phase system (chart one or chart two below)
 2. On the right, determine if the system is PV only | PV and Tesla | PV and Enphase IQ Battery
 3. Determine if the system is portrait layout or landscape.
- Note: Confirm the width of the solar panel, is it wider than 1100mm then landscape Enphase IQ Cabling is recommended (in other words, longer spacing between connectors) is recommended.
4. Simply work down row by row following the green boxes. Select the cable, microinverter, and distribution board.

Single Phase Selection Chart			Single Phase PV					
			Single Phase PV		Single phase with Tesla Battery		Single phase with IQ8 Battery	
			Portrait	Landscape	Portrait	Landscape	Portrait	Landscape
Q-25-17-1	Enp 2.5mm (34C) Landsc	1phase Enp 2.5mm cable(34Connectors) Landscape						
Q-25-10-1	Enp 2.5mm (30C) Port	1phase Enp 2.5mm cable (30Connectors) Portrait						
IQ8AC-72-M-INT-1	Enphase IQ8AC Micro 366VA	Microinverters sold as singles						
EN-DistB-1PDR	Enp Dist board 1P Dual Relay	Enp Dist board 1Phase up to 22 panels	up to 22 panels	up to 22 panels				
EN-DistB-1PTR	Enp Dist board 1P Triple Relay	Enp Dist board 1Phase up to 33 panels	up to 33 panels	up to 33 panels				
EN-DistB-1PQR	Enp Dist board 1P Quad Relay	Enp Dist board 1Phase up to 44 panels	Up to 44 panels	Up to 44 panels				
EN-DistB-1PTES	Enp Dist board 1P Tesla	Enp Dist board 1Phase for Tesla battery up to 39 panels			Up to 39 Panels	Up to 39 Panels		
EN-Gateway-1P	ENP 1P Gateway	ENP 1Phase Gateway for Enphase battery up to 50 panels					Up to 50 Panels	Up to 50 Panels

Three Phase Selection Chart			Three Phase PV		Three phase with Tesla Battery		Three phase with IQ8 Battery	
			Portrait	Landscape	Portrait	Landscape	Portrait	Landscape
			Portrait	Landscape	Portrait	Landscape	Portrait	Landscape
Q-25-17-3P-1	3P 2.5mm (32C) Landsc	3phase 2.5mm cable (32Connectors) Landscape						
Q-25-10-3P-1	Enp 3P cable (33C) Port	3Phase Enp cable (33Connectors) Portrait						
IQ8AC-72-M-INT-1	Enphase IQ8AC Micro 366VA	Microinverters sold as singles						
EN-DistB-3PSR	Enp Dist board 3P Single Relay	Enp Dist board 3phase up to 39 panels	Up to 39 panels	Up to 39 panels				
EN-DistB-3PDR	Enp Dist board 3P Dual Relay	Enp Dist board 3Phase up to 78 panels	Up to 78 Panels	Up to 78 Panels				
EN-DistB-3PTES	Enp Dist board 3P Tesla	Enp Dist board 3phase for Tesla battery up to 39 panels			Up to 39 panels	Up to 39 panels		
EN-DistB-3PTESB	Enp Dist board 3P Tesla B	Enp Dist board 3phase for Tesla battery up to 78 panels			Up to 78 Panels	Up to 78 Panels		
EN-Gateway-3P	Enp 3P Gateway	Enp 3phase Gateway for Enphase battery up to 117 panels					Up to 117 Panels	Up to 117 Panels

Spare Parts				
Q-TERM-R-1	Enp Terminator 1P cap	Included in PV distribution board: spare part only (1phase)	sold as 1 pack of 10	
ENV-S-WM-230-1	Enphase Envoy-S, Metered	ONLY order if site requires second unit e.g. PV on out building, otherwise included with the PV distribution board	sold as singles	
Q-RELAY-1P-INT	Enphase 1P Relay controller	Included in PV distribution board: spare part only (1phase)	sold as single	
Q-TERM-3P-1	Enp Terminator 3p cap	Included in PV distribution board: spare part only (3phase)	sold as 1 pack of 10	
Q-SEAL-1	Enp F Sealing cap	Included in PV distribution board: spare part only	sold as 1 pack of 10	
CT-200-SPLIT-1	Enphase CT 200	ONLY ordered if site requires additional CT` s e.g PV out building. Otherwise included with the PV distribution board.	sold as single	
Q-RELAY-3P-INT	Enphase 3P Relay controller	Included in PV distribution board: spare part only (3phase)	sold as single	

String system vs Microinverter

Independent operation means that microinverter-based solar systems are less affected by shade, poor weather, temperature, panel mismatch, etc. The result is that microinverter-based systems can generate more energy (kWh/units) than other solar system types, delivering greater solar savings for customers.

In addition, microinverter-based systems start-up earlier, and generate solar power later into the evening, every single day, as compared to string inverter installations. For each day, over time, this translates as an energy benefit and greater savings for the customer. Microinverters are the true definition of a solar investment.

Support information

Consumer

If the consumer has Wi-Fi or other similar issues, please call 1800 006 374.

Solahart support

Call 1800 006 374 or email support_au@enphaseenergy.com.

Design

If you require Enphase system design support, or want to check the design you have created in the sales app, email: drs_au@enphaseenergy.com

Installation support

Please call 1800 006 374 to assist you with on-site installation support. It is recommended you call this number ahead of your installation so Enphase can assist you on site.

Sales and training support

Below is a list of Enphase State Managers, please reach out to them for training and any sales support you need:

- NSW: Boris Cicero | bcicero@enphaseenergy.com |
- QLD: Scott Allen | sallen@enphaseenergy.com |
- VIC/TAS: Sam Patel | gpatel@enphaseenergy.com |
- SA/WA: Jayden Lombardi | jlombardi@enphaseenergy.com |

Warranty

Click [here](#) for the RMA process then any claim is processed via Solahart warranty process.

Training materials

1. **Demo site for showing customers during the sales process**
 - Enphase App / Enlighten Login:
 - User: enphase.demo.au@gmail.com
 - Pass: Enphase2024@
2. **Enphase training channel on YouTube:** The official destination for Australian and New Zealand installers to learn Enphase system, design, installation, and commissioning best practices. Visit https://www.youtube.com/@enphase_anz
3. **Enphase documentation centre:** Download data sheets, tech briefs, installation guides and more. Visit <https://enphase.com/en-au/installers/resources/documentation>
4. **Enphase University:** Become an Enphase expert and earn CPD points. Visit <https://university.enphase.com/>

String System vs Microinverter

A 6.6kW solar system typically generates about 26kWh of usable energy per day. However, due to factors like weather, shading, and temperature, solar panels and inverters rarely operate at their peak capacity. To compensate, inverters are often oversized. For instance, a 5kW inverter may be paired with 6.6kW of panels (an oversizing factor of 1.33) to maximize energy production and claim Small-scale Technology Certificates (STCs).

For Enphase systems, each panel has its own microinverter, allowing for more STCs as more panels are added. Comparing traditional string inverters to microinverters involves considering normal panel conditions versus microinverter output. For example, a 440W Solahart panel performs at 330W under normal conditions, while an IQ8AC microinverter is rated at 360W, showing a slight oversizing.

Microinverters typically outperform string inverters over a year because they operate more efficiently in less-than-ideal conditions, even though string inverters might briefly perform better in perfect conditions.

Typical String 133% oversizing:

15 x 440W (6600W total) Panels are paired with 5000W (converted AC power for home) inverter.

Enphase microinverter 122% oversizing:

15 x 440W (6600W total) Panels are paired with 5400W (converted AC power for home) of microinverters.

Microinverters are a modular solution, so you can fill the roof, and not be limited by the inverter design.

In this example the homeowner has 8% more available power from the same number of panels. Microinverters maximise the opportunity for each panel in all conditions.