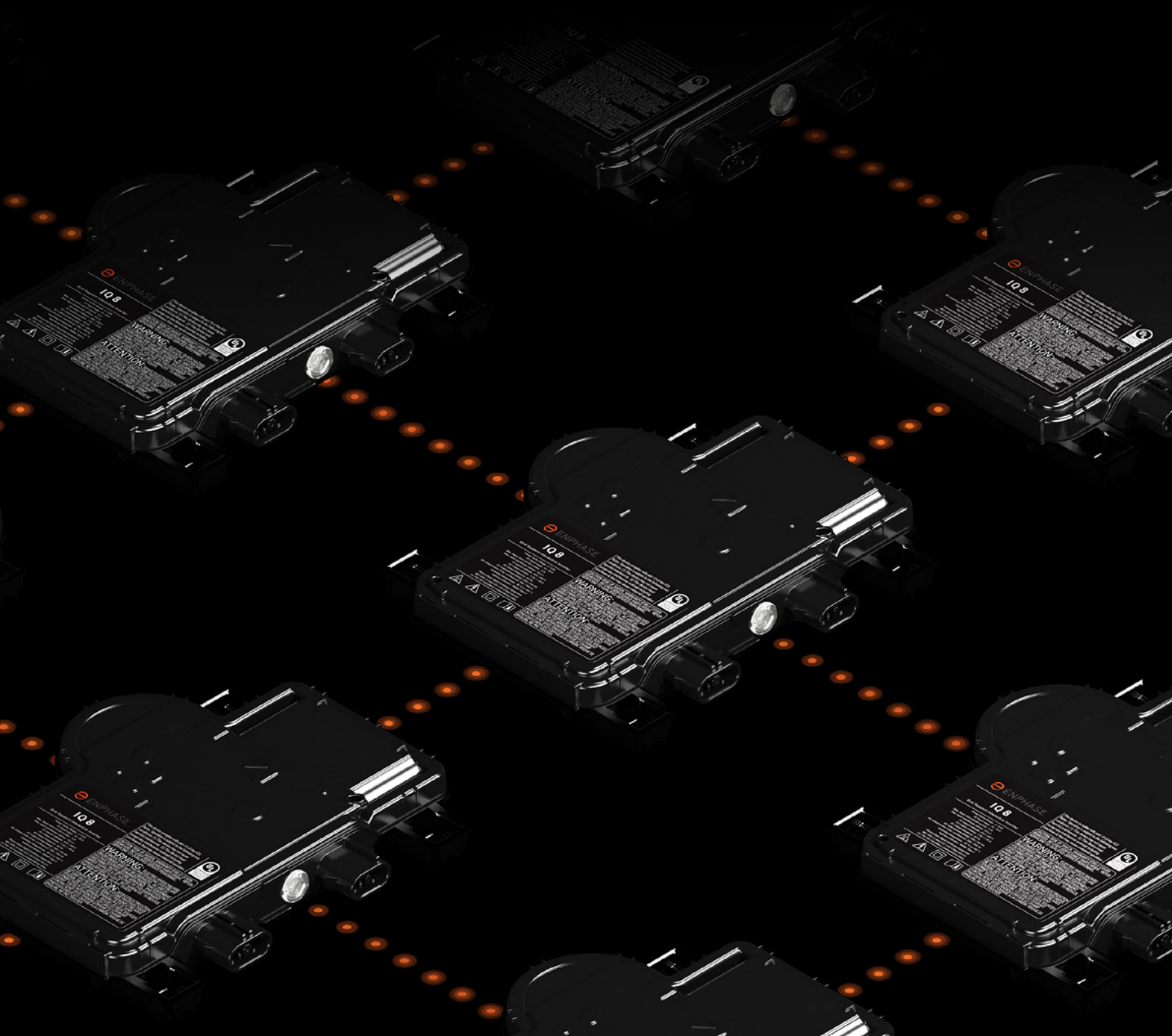




Welcome to Enphase Solar and Storage.

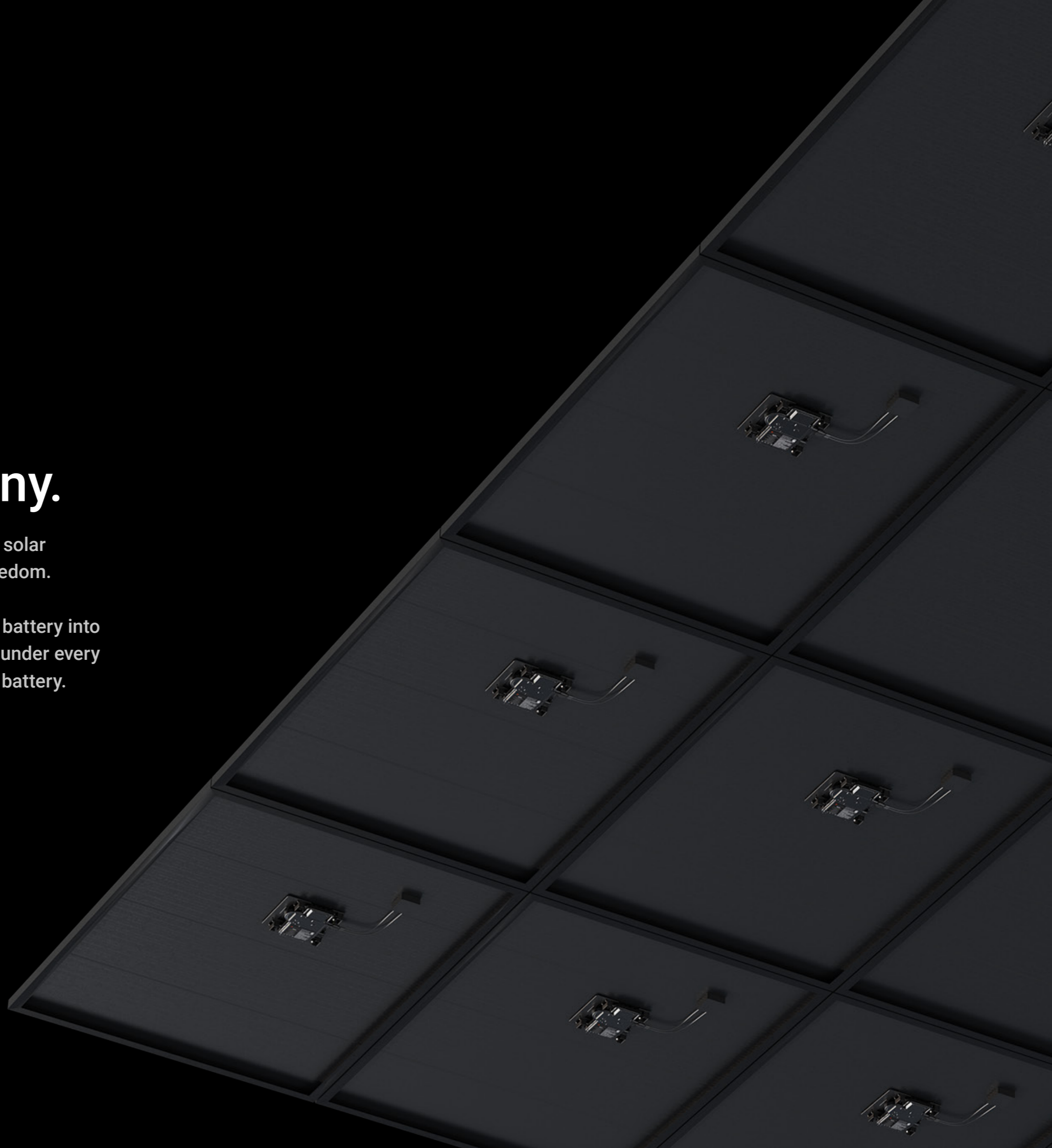
Microinverters technology multiplying the power of state
of the art building blocks for each system.
So your power is always on.



The power of many.

Only Enphase uses microinverters to deliver solar and storage solutions that ensure energy freedom.

Enphase microinverters turn every solar panel and battery into a dedicated powerplant by placing a microinverter under every panel and multiple microinverters inside every battery.



This creates a distributed architecture that keeps the power flowing, and the lights on, even if a microinverter fails.

Enphase is the leading company in the world to do this.



Enphase solar & storage

- Operate independently, so no single point of failure.
- Can withstand extreme weather, so they're always working.
- Have a 99.95% reliability rate, so you know they're reliable.
- Are modular, so upgrades work every time without any hassle.
- Have lowest EMC emissions, don't risk interference with appliances in the home.
- Don't require installation of bulky power electronics in the home.



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- Don't use risky high-voltage DC, so safety is never a question.
- Enable a flexible, scalable architecture.
- Managed by an all-in-one app solar and storage.
- Enable the smallest modular system size.
- Ensure real rapid shutdown, ensuring safety should a fault occur.
- Update automatically over-the-air. Bugs are fixed, security is maintained.
- Start earlier and stop later, maximize solar yield with patented Burst Mode™ feature.



Burst Mode™ ON

How we help our installers...



Increase revenue, efficiency, innovation
and support for our installers.

Benefit from best-in-class service and support.

- Enphase Installer Network provides lead generation, communication materials and capture of installer feedback.
- Enphase University for online solar and storage training and development of employees.
- Design support and expanding installer services.
- 24/7 Customer service hotline with remote diagnostics capabilities.
- Demand creation (Homeowner webinars and hotline).

Increase revenue and optimize gross margins.

- Offering High Quality and performance to allow premium pricing.
- Optimal use of roof space through flexible and small building blocks (micros).
- Easy expansion and upgrading of existing solar or storage systems.
- Future business opportunities through offering a cloud based platform.
- Offer a complete portfolio of solar and storage from a single supplier.
- Easier service for solar and storage through a single point of contact.
- Extreme quality providing a better ROI over lifetime (lowest LCOE).
- Offer solutions from a single panel to large scale systems thanks to few components as building blocks.

Save money, increasing operational efficiency.

- Extreme low field failure rate and maintenance free.
- Ultra-efficient logistics and supply management with standardized product portfolio for all applications.
- Rapid commissioning using app-based or remote configuration and commissioning tools.
- Easy management of customer fleet and installation teams through cloud platform.

Enphase Microinverters

Enphase IQ 7, IQ 7+, IQ 7X and IQ 7A Microinverters



The high-powered smart grid-ready Enphase IQ 7™, Enphase IQ 7+™, Enphase IQ 7X™ and Enphase IQ 7A™ microinverters achieve the highest system efficiency.

Part of the Enphase IQ system, the IQ 7, IQ 7+, IQ7X and IQ7A integrate perfectly with the Envoy-S™ and the Enphase Enlighten™ monitoring and analysis software.

The IQ 7, IQ 7+, IQ7X and IQ7A micros extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty.

Easy to install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling

Productive and reliable

- Optimised for all high-powered modules
- More than one million hours of testing
- Class II double-insulated enclosure

Smart-Grid ready

- Complies with advanced grid support, voltage and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles

Technical data



Enphase IQ 7, IQ 7+, IQ7X and IQ 7A Microinverters



INPUT DATA (DC)	IQ7-60-2-INT	IQ7PLUS-72-2-INT	IQ7X-96-2-INT	Q7A-72-2-INT
Commonly used module pairings ¹	235 W to 350 W + ¹	235 W to 440 W + ¹	320 W to 460 W +	295 W to 460 W +
Module compatibility (see online calculator) ²	60 cells only	60 & 72 cells	96-cell	60-cell
Maximum input DC voltage	48 V	60 V	79.5 V	58 V
Operating range	16 V to 48 V	16 V to 60 V	25 V to 79.5 V	18 V to 58 V
Min/Mas start voltage	22 V / 48 V	22 V / 60 V	33 V / 79.5 V	33 V / 58 V
Max DC short-circuit current (module I _{sc})	15 A	15 A	10 A	15 A
Overvoltage class DC port	II	II	II	II
DC port backfeed under single fault	0 A	0 A	0 A	0 A
PV array configuration	AC side protection requires max. 20 A per branch circuit.			

OUTPUT DATA (AC)	IQ 7	IQ 7+	IQ7X	IQ 7A
Peak output power	250 VA	295 VA	320 VA	366 VA
Maximum continuous output power	240 VA	290 VA	315 VA	349 VA
Nominal (L-N) voltage range ²	230 V / 184-276 V	230 V / 184-276 V	230 V / 184-276 V	230 V / 219-264 V
Maximum continuous output current	1.04 A	1.26 A	1.37 A	1.52 A
Nominal frequency	50 Hz	50 Hz	50 Hz	50 Hz
Frequency range	45 to 55 Hz	45 to 55 Hz	45 - 55 Hz	45 to 55 Hz
Maximum units per 20 A branch circuit ³	15 (Ph + N) 45 (3Ph + N)	12 (Ph + N) 36 (3Ph+N)	11 (Ph + N) 33 (3Ph + N)	11 (Ph + N)
Maximum units per cable	15 (Ph+N), 24 (3Ph+N)	12 (Ph+N), 21 (3Ph+N)	11 (Ph + N), 21 (3Ph + N)	11 (Ph + N), 21 (3Ph + N)
Overvoltage class AC port	III	III	III	III
AC port backfeed current	0 A	0 A	0 A	18 mA
Power factor setting	1.0	1.0	1.0	1.0
Power factor (adjustable)	0.7 lagging ... 0.7 leading	0.7 lagging ... 0.7 leading	0.7 lagging ... 0.7 leading	0.8 lagging ... 0.8 leading

INPUT DATA (DC)	@230 V	@230 V	@230 V	@230 V
EN 50530 (EU) weighted efficiency	96.5%	96.5%	96.5%	96.5%

MECHANICAL DATA	IQ 7	IQ 7+	IQ7X	IQ 7A
Ambient operating temperature range	-40 °C to +65 °C	-40 °C to +65 °C	-40 °C to +60 °C	-40 °C to +60 °C
Relative humidity range	4% to 100% (condensing)			
DC connector type	MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter)			
Dimensions (W×H×D)	212 mm × 175 mm × 30.2 mm (without bracket)			
Weight	1.08 kg			
Cooling	Natural convection – No fans			
Approved for wet locations	Yes			
Pollution degree	PD3			
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure			
IP rating	Outdoor – IP67			

FEATURES	
Communication with Envoy-S	PLC (power-line communication)
Monitoring	Enlighten Manager and MyEnlighten compatible with Enphase Envoy-S monitoring options
Compliance	AS 4777.2, RCM, IEC/EN 61000-6-3, IEC/EN 62109-1, IEC/EN 62109-2, VDE 4105, C10/11, G98/G99/G100, TOR Type A, VFR 2019, CEI 0-21

WARRANTY	
Warranty	25 years

1. No enforced DC/AC ratio. See the compatibility calculator at enphase.com/en-us/support-client/module-compatibility.
2. Nominal voltage range can be extended beyond nominal if required by the utility.
3. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Enlighten mobile app

The Enlighten mobile app has a clean and intuitive interface to enhance your customers' experience.



Homeowners can see system status at a glance

We have enhanced the mobile app design to allow system owners to easily navigate the menu and view key metrics via a single screen. We have added a battery status display for system owners with storage installed.

It shows the percentage of charge stored in their batteries and their status, whether charging or discharging.



Energy and power

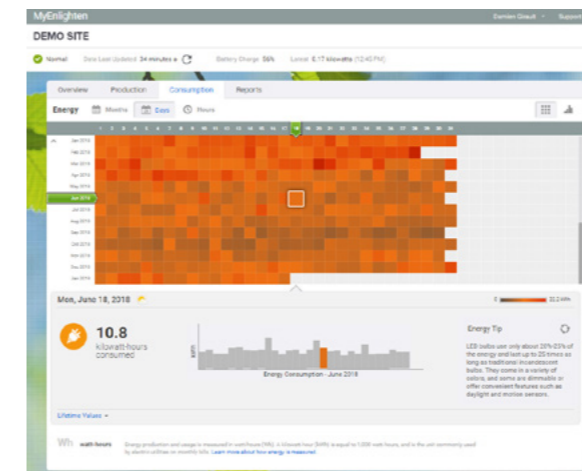
We've also added energy and power to a single screen. System owners can tap into the Energy screen and see energy totals for the period they select or drag their finger across the graph to see a snapshot of power for the same period.

The system owner can also run energy production reports and energy usage from the app in daily, weekly, monthly or the custom period of his/her choice.



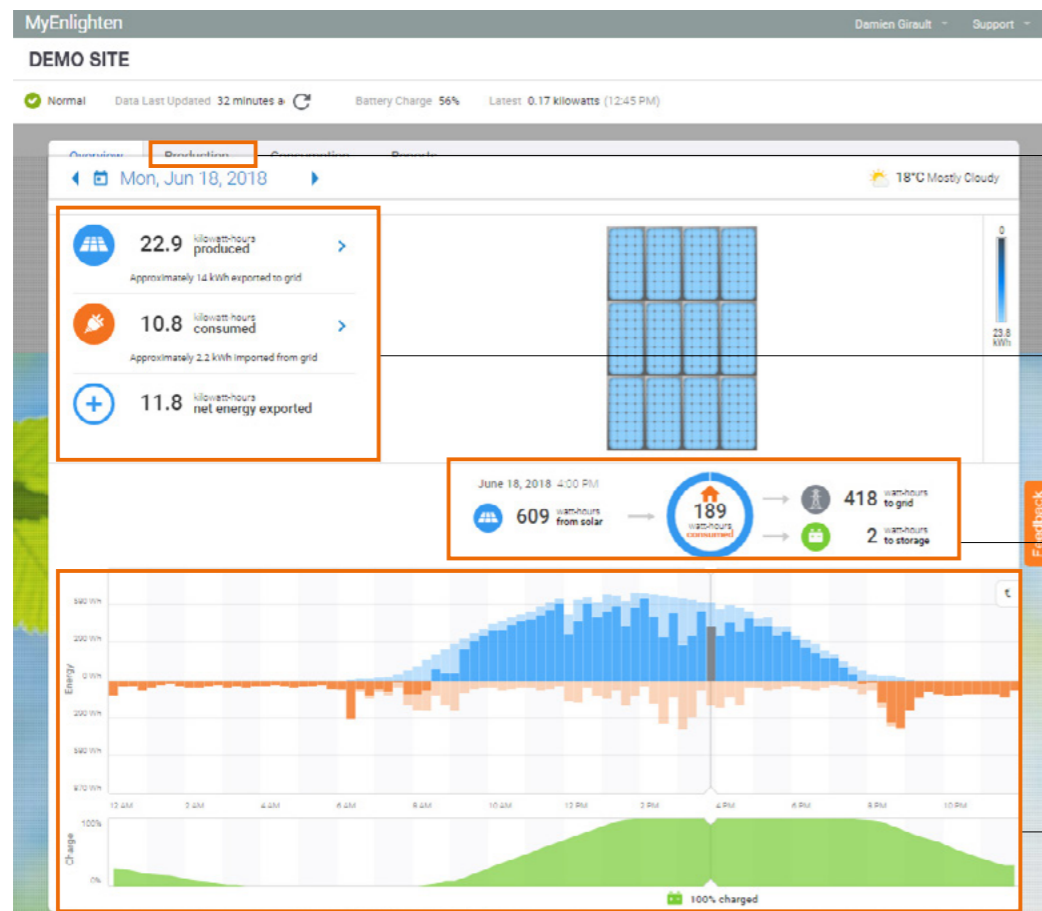
Production and consumption metrics in a single screen

The Enlighten mobile app has a clean and intuitive interface to enhance your customers' experience.



Monitor electricity usage
Collect energy-usage data once a month, once a week, once a day or every 15 minutes.

Consumption monitoring and net-energy reports are accessible with the new Envoy-S Metered™ communications gateway.



Monitor the production of your Enphase system more closely and look up historical weather data to understand efficiency fluctuations.

MyEnlighten enables you to view electricity production and consumption data in at a glance and provides customers with a summary view of their electricity usage.

Your customers can view reports on their energy production and consumption levels at any time.

Easily display energy production and consumption trends.
Blue = production
Orange = consumption

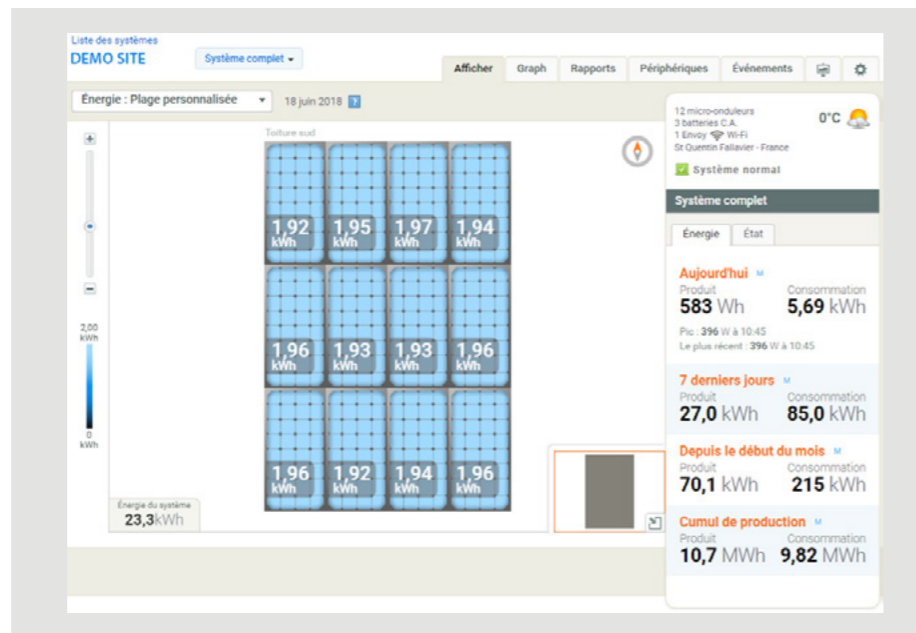
enphase.com/en-uk/products-and-services/enlighten-and-apps

Enphase Enlighten Manager*

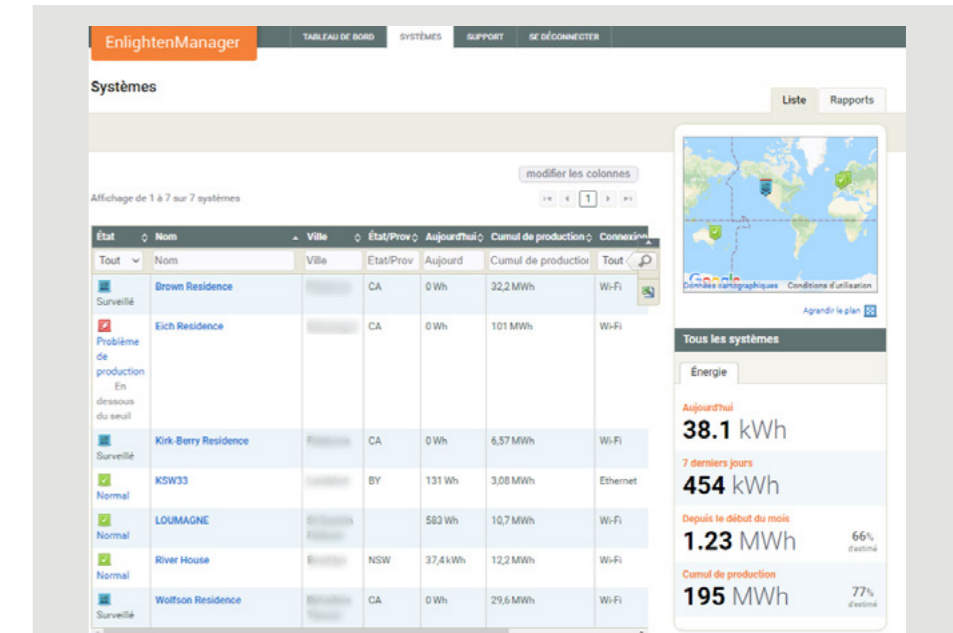
All the data you need for smarter, simpler management.

* Enlighten Manager is free and dedicated to installers to private individuals who acquire a fee-based licence.

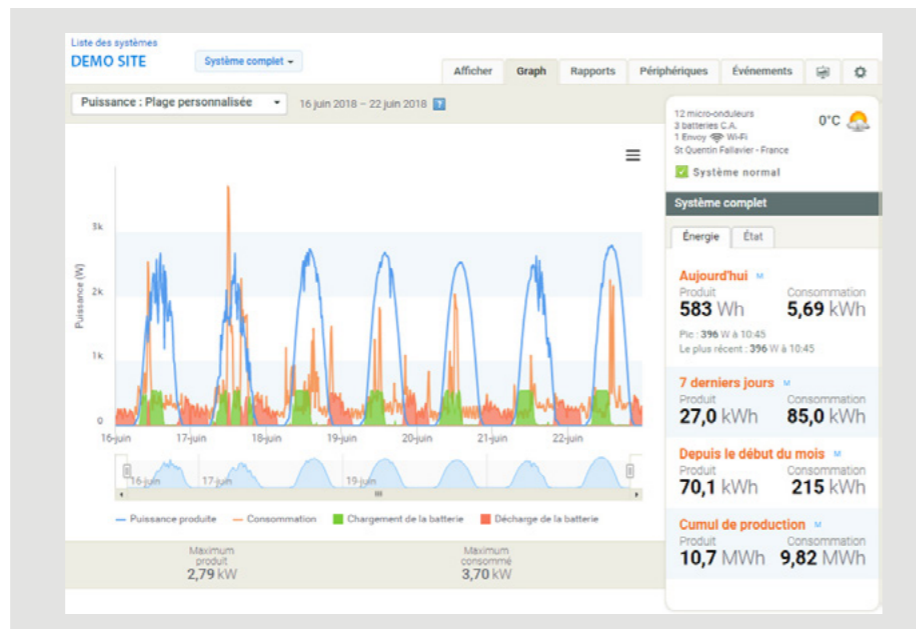
Detailed view of system data



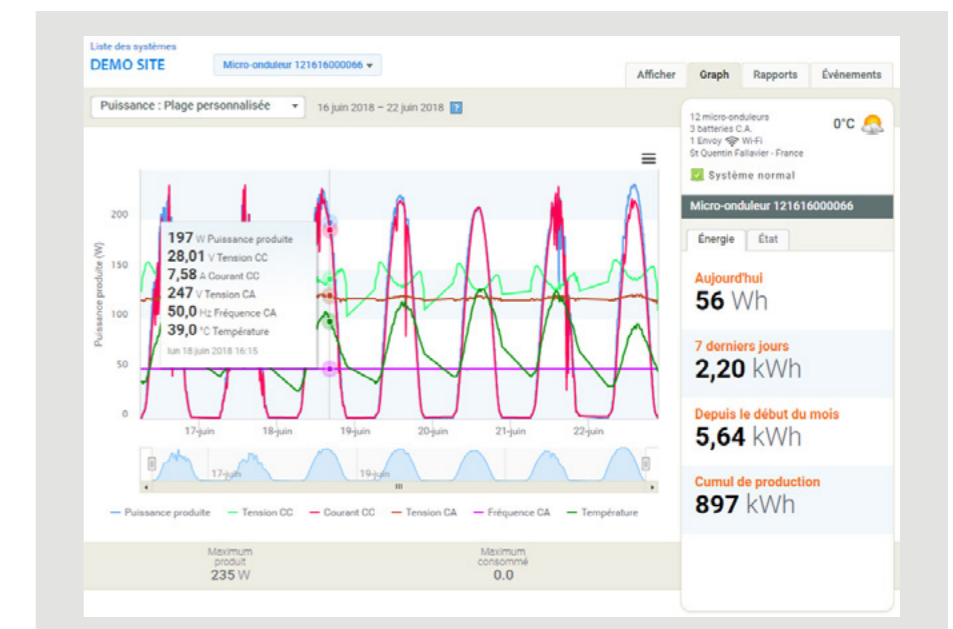
Overview of your systems



View of potential yield per panel

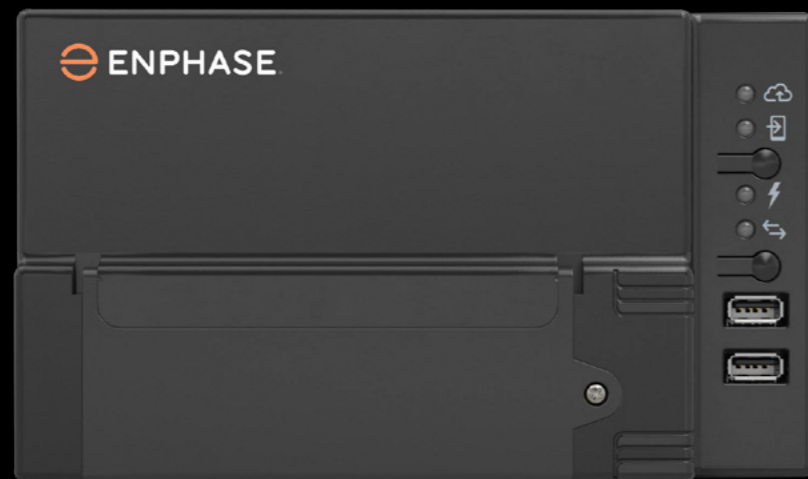


Detailed view of microinverter data



Enphase communications gateway

Enphase Envoy-S Metered™



The Enphase Envoy-S Metered™ communications gateway delivers solar production and energy consumption data to Enphase Enlighten™ monitoring and analysis software for comprehensive, remote maintenance and management of the Enphase System.

With production metering and consumption monitoring options, Envoy-S is the platform for total energy management and integrates with the Enphase AC Battery™.

Smart

- Enables web-based monitoring and control
- Bi-directional communications for remote upgrade

Simple

- Easy system configuration using Enphase Installer Toolkit™ mobile app
- Flexible networking with Wi-Fi, Ethernet, or mobile

Reliable

- Designed for installation indoors or in an outdoor enclosure



Technical data



Enphase Envoy-S Metered™



MODEL NUMBER

Envoy-S Metered	Enphase Envoy-S communications gateway with integrated single-phase PV
ENV-WM-230 multiphase	and consumption metering

ACCESSORIES (order separately)

Enphase Mobile Connect™	Plug and play industrial-grade modem with five-year data plan for systems up to 60 microinverters.
CELLMODEM	(Available where there is adequate mobile service in the installation area)

POWER REQUIREMENTS

Hard	230 VAC or 400Y/230 VAC, 50 Hz. Max 20 A over-current protection required
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CAPACITY

Number of microinverters polled	Up to 600
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MECHANICAL DATA

Dimensions (W × H × D)	213 × 126 × 45 mm
Weight	0.5 kg
Ambient temperature range	-40 to +65°C / -40 to +46°C if installed in an enclosure
Environmental rating	P30. For installation indoors or in an IP54-rated (or better) enclosure.
Altitude	To 2000 metres.
USB ports	Two USB 2.0 ports, auto-sensing, auto-negotiation

INTERNET CONNECTION OPTIONS

Integrated Wi-Fi	802.11b/g/n (2.4 GHz, 5 GHz)
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
Mobile	Optional, CELLMODEM (not included)

COMPLIANCE

Compliance	IEC/EN 61010-1:2010, EN 50065-1, EN 61000-4-5, EN 61000-6-1, EN 61000-6-2
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WARRANTY

Warranty	5 years
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Enphase storage system

Enphase Encharge™



The Enphase Encharge™ is simple to install, safe, very reliable and provides the lowest lifetime energy cost for both new solar customers and retrofit customers. As an installer, you can design the right system size to meet the needs of the homeowner.

Reliable

- Proven high reliability IQ Series Microinverters
- Ten-year limited warranty
- Three independent Encharge storage base units
- Twelve embedded IQ8X-BAT Microinverters
- Passive cooling (no moving parts/fans)

Smart

- Remote software and firmware upgrade
- Mobile app-based monitoring and control
- Support for self consumption
- Utility time of use (TOU) optimization

Simple

- Fully integrated AC battery system
- Quick and easy plug-and-play installation
- Interconnects with standard household AC wiring

Safe

- Cells safety tested
- Lithium iron phosphate (LFP) chemistry for maximum safety and longevity

Technical data



Enphase Encharge 3T™ and 10T™



MODEL NUMBER	
ENCHARGE-3T-1P-INT	<p>Encharge 3T battery storage system with integrated Enphase IQ Series microinverters and battery management unit (BMU). Includes:</p> <ul style="list-style-type: none"> - Three Encharge 3T™ base units (B03-T01-INT00-1-2) - One Encharge 10T™ cover kit with cover, wall mounting bracket, and interconnect cable for wiring between batteries (B10T-C-1290-0)
ENCHARGE-10T-1P-INT	<p>Encharge 10T™ battery storage system with integrated Enphase IQ Series microinverters and battery management unit (BMU). Includes:</p> <ul style="list-style-type: none"> - Three Encharge 3T™ base units (B03-T01-INT00-1-2) - One Encharge 10T™ cover kit with cover, wall mounting bracket, and interconnect cable for wiring between batteries (B10T-C-1290-0)

OUTPUT (AC)	ENCHARGE-3T-1P-IN	ENCHARGE-10T-1P-INT
Rated (continuous) output power	1.28 kVA	3.84 kVA
Nominal voltage / range	230/184-276 VAC	230/184-276 VAC
Nominal frequency / range	50/47–52 Hz	50/47–52 Hz
Rated output current	5.6 A	16.7 A
Power factor (adjustable)	0.85 leading ... 0.85 lagging	0.85 leading ... 0.85 lagging
Interconnection	Single-phase	Single-phase
Maximum AC short circuit fault current over 3 cycles	23.2 Arms	69.6 Arms
Round trip efficiency ¹	89%	89%

BATTERY	ENCHARGE-3T-1P-IN	ENCHARGE-10T-1P-INT
Total capacity	3.5 kWh	10.5 kWh
Usable capacity	3.5 kWh	10.5 kWh
Round trip efficiency	96%	96%
Nominal DC voltage	67.2 V	67.2 V
Maximum DC voltage	75.6 V	75.6 V
Ambient operating temperature range	-15° C to 55° C (5° F to 131° F) non-condensing	
Optimum operating temperature range	0° C to 30° C (32° F to 86° F)	
Chemistry	Lithium iron phosphate (LFP)	

MECHANICAL DATA	ENCHARGE-3T-1P-IN	ENCHARGE-10T-1P-INT
Dimensions (WxHxD)	430 x 775 x 188 mm	1283 x 775 x 188 mm
Weight	48.8 kg	143.6 kg
Enclosure	Outdoor – IP55	
Cooling	Natural convection – No fans	
Altitude	Up to 2500 meters	
Mounting	Wall mount	

FEATURES	
Compatibility	Compatible with grid-tied PV systems. Compatible with Enphase M215/M250 and IQ Series Micros and Enphase Envoy-S.
Communication	Wireless 2.4 GHz
Services	Maximizing self-consumption of solar power, time-of-use bill management, power export limiting 3.
Monitoring	Self-consumption, TOU, NEM Integrity
Compliance	UN 38.3, EN 62040.1, VDE AR-N 4105:2018 EMI: CE, EFT, ESD, Surge, dips and interruptions, CRF Cell Module: IEC 62619:2017, UN 38.3, UL1973, UL9540A Inverters: EN 62109-1, EN 62109-2, EN 62909-1:2017, EN 50549-1:2019

WARRANTY	
Limited warranty ²	>80% capacity, up to 10 years or 3600 cycles

1. AC to Battery to AC at 70% power rating for all countries in Europe and 80% for Germany.

2. Whichever occurs first. Restrictions apply.

Enphase IQ 7, IQ 7+, IQ 7X and IQ 7A

Enphase Microinverters



IQ7-60-2-INT

Enphase IQ 7 Micro™

+350 Wc input power, 250 VA Max output power.

IQ7PLUS-72-2-INT

Enphase IQ 7+ Micro™

+440 Wc input power, 295 VA Max output power.

IQ7X-96-2-INT

Enphase IQ 7X Micro™

+460 Wc input power, 320 VA Max output power.

IQ7A-72-2-INT

Enphase IQ 7A Micro™

+450 Wc input power, 366 VA Max output power.

Enphase Monitoring



ENVOY-S-WM-230

Enphase Envoy-S Metered™

Communications gateway with integrated single-phase PV and consumption metering Compatible with M215, M250 and IQ 7-Series microinverters.



CT-100-SPLIT

Enphase current transformer (CT). ± 2.5% accuracy. Production and consumption monitoring. Accessory for Envoy-S Metered.

Enphase AC battery and Accessories



ENCHARGE-3T-1P-INT

Enphase Storage System

The Enphase Encharge 3™ all-in-one AC-coupled storage system is reliable, smart, simple, and safe. It has a total usable energy capacity of 3.5 kWh and includes four embedded grid-forming microinverters with 1.28 kW power rating.



ENCHARGE-10T-1P-INT

Enphase Storage System

The Enphase Encharge 10™ all-in-one AC-coupled storage system is reliable, smart, simple, and safe. It is comprised of three base Encharge 3TTM storage units, has a total usable energy capacity of 10.5 kWh and twelve embedded microinverters with 3.84 kW power rating.

Enphase Q Relay



Q-RELAY-1P-INT

External relay acts as a grid monitoring and disconnection device. Automatically reconnects when valid grid conditions resume.
Single-phase



Q-RELAY-3P-INT

External relay acts as a grid monitoring and disconnection device. Automatically reconnects when valid grid conditions resume.
Three-phase

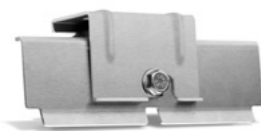
Enphase Q Cable and Accessories



Q-25-10-240
Enphase Q Cable™
 2.5 mm², single-phase,
 1.3-m connector spacing.
 240 connectors per box &
 1 male and female connector.

Q-25-17-240
Enphase Q Cable™
 2.5 mm², single-phase,
 2-m connector spacing.
 240 connectors per box &
 1 male and female connector.

Q-25-20-200
Enphase Q Cable™
 2.5 mm², single-phase,
 2.3-m connector spacing.
 200 connectors per box &
 1 male and female connector.



EFM-35MM / EFM-40M
Enphase Frame Mount for mounting Enphase M and IQ-Series
 microinverters to 35 mm or 40 mm module frames.



Q-SEAL-10
Enphase Q Sealing Cap (female)
 One cap per unused Q Cable connector.



Q-25-RAW-300
Enphase Q Cable™
 2.5 mm², single-phase,
 300-metre cable with
 no connectors.

Q-25-10-3P-200
Enphase Q Cable™
 2.5 mm², three-phase,
 1.3-m connector
 spacing. 200 connectors
 per box.

Q-25-17-3P-160
Enphase Q Cable™
 2.5 mm², three-phase,
 2-m connector spacing.
 160 connectors per box.

Q-25-20-3P-160
Enphase Q Cable™
 2.5 mm², three-phase,
 2.3-m connector spacing.
 160 connectors per box.

Q-25-RAW-3P-300
Enphase Q Cable™
 2.5 mm², three-phase,
 300-metre cable with
 no connectors.



Q-DCC-2-INT
Enphase IQ Replacement DC Adapter (MC4).
 DC Adapter to MC4 (100 VDC max.).



Q-TERM-R-10
Enphase Q Cable Terminator
 For single-phase
 installation.

Q-TERM-3P-10
Enphase Q Cable Terminator
 For three-phase
 installation.



Q-DISC-10
Enphase Q Cable Disconnect Tool
 For single-phase
 installation.

Q-DISC-3P-10
Enphase Q Cable Disconnect Tool
 For three-phase
 installation.



Q-CONN-R-10M
 Enphase Single-Phase Field-Wireable Connector
 (male)



Q-CONN-R-10F
 Enphase Single-Phase Field-Wireable Connector
 (female)



Q-CONN-3P-10M
 Enphase Three-phase Field-Wireable Connector
 (male)



Q-CONN-3P-10F
 Enphase Three-phase Field-Wireable Connector
 (female)



Enphase® IQ7/ IQ7+ / IQ7X / IQ7A Microinverters™

Enphase 7th generation microinverters convert direct current to alternating current. The heart of your system, they deliver optimum efficiency and maximum safety.



Enphase® Envoy-S™

The Envoy-S communications gateway is the brain of your system, collecting PV production and site consumption data.



Enphase® Monitoring MyEnlighten

Enlighten Manager and Enlighten Mobile Enlighten lets you track your energy production and usage.



Enphase® Encharge 3T™ - 10T™

Enphase AC Batteries store a maximum of energy that you can use when you need it.



To learn more about Enphase products, go to
enphase.com/en-uk