



Enphase IQ Relay (single-phase and three-phase)

In Enphase IQ installations, the IQ Relay acts as a grid monitoring and disconnection device and includes a built-in phase coupler to distribute power line communications (PLC) signals across phases. An external phase coupler is not needed for a three-phase system when the IQ Relay is installed.

The IQ Relay physically isolates the IQ Series Microinverters from the grid when it senses voltage or frequency abnormalities, loss of mains from the grid, or as required by grid regulations, improving the system reliability. The IQ Relay automatically reconnects when valid grid conditions resume.

The 4-pole IQ Relay isolates all phase and neutral lines and works together with the Enphase IQ Gateway Metered.



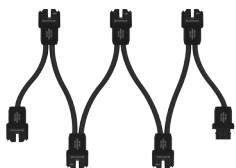
IQ7+ and IQ7A Microinverters

The high-powered smart grid-ready IQ7+ and IQ7A Microinverters dramatically simplify the installation process while achieving the highest system performance.



IQ Gateway

The IQ Gateway is the platform for energy management and integrates with the IQ Microinverters and IQ Batteries to provide complete control and insights into the Enphase Energy System.



IQ Cables

The IQ Cables allow quick and safe connection of the microinverters.



Easy to install

- Lightweight and simple
- DIN rail mount for quick installation

Reliable

- Dependable control
- Automatically resets when normal voltage resumes

Smart

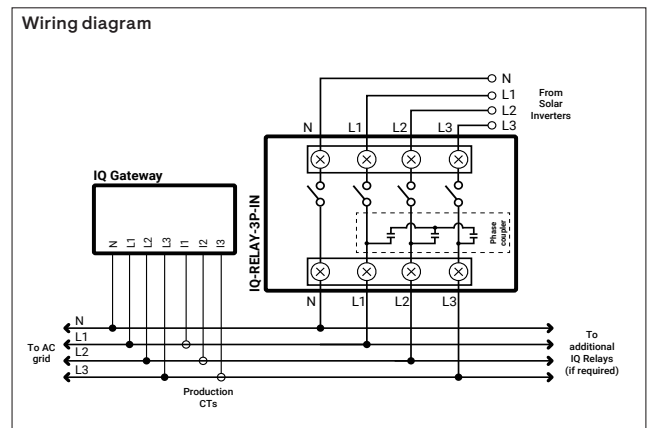
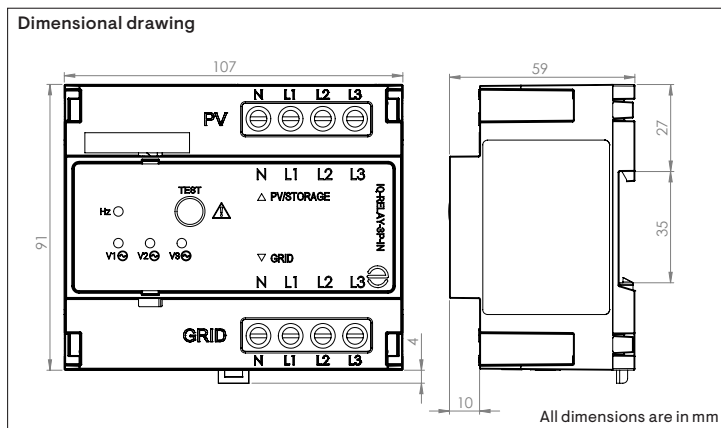
- Can be configured to monitor one, two, or three phases
- Remote upgrade capability
- Easy-to-read status LEDs
- Built-in power line communication (PLC) phase coupler

NOTE: It is recommended to install IQ Relay for both single-phase and three-phase systems to protect microinverters against grid excursion events.

Enphase IQ Relay

SPECIFICATIONS	UNITS	SINGLE-PHASE/THREE-PHASE IQ RELAY (50 HZ)
Overvoltage category (IEC 61010-1:2010)		III
CAT III		GRID terminal is rated for measurement category III
Pollution degree (IEC 61010-1:2010)		2
Operating AC voltage range for power supply	Vrms ¹	85–276
Nominal input voltage (Vnom)	Vrms	230/240
Nominal input frequency	Hz	50
Voltage and frequency acquisition time on valid input during normal operation	ms	100 (5-line cycles @ 50 Hz)
Relay trip time	ms	100
Number of phases		Single-phase or three-phase modes
Output rating (typical)		230/240 Vrms, 25 A
Output		4-pole normally open (NO) relay (L1, L2, L3, and N)
IQ Relay contactor	A	25 A built-in contactor
Number of Enphase IQ Microinverters supported for single-phase/three-phase systems		Single-phase: Up to 12 IQ7+ Microinverters or 10 IQ7A Microinverters with 20 A breaker ^{2,3} Three-phase: Up to 36 IQ7+ Microinverters or 30 IQ7A Microinverters with 20 A 4-pole breaker ^{2,3}
Conductor size for IQ Relay connections	mm ²	2.5–6
Built-in phase coupler		Suitable for three-phase systems with line-to-line voltages
Power consumption	VA	18 (active power 4 W)
LEDs		Four red/green LEDs: Three for under/overvoltage trip and one for under/overfrequency
Mounting	mm	35 DIN rail (standard)
Weight	g	335
Dimensions (W × H × T)	mm	107 × 90 × 59
Ambient temperature range	°C	–40 to 50
Altitude	m	< 2000
IP rating		IP20 (in an IP54-rated or better enclosure)
Relative humidity	%	0–95 (non-condensing)
Compliance		IEC 61010-1:2010
Conducted and radiated EMI		CISPR 11 (Edition 6.0) 2015/AMD1:2016, IEC 61000-4-2 (Edition 2.0):2008, IEC 61000-4-3 (Edition 4.0):2020, IEC 61000-4-4 (Edition 3.0):2012, IEC 61000-4-5:(Edition 3.1):2017, IEC 61000-4-6 (Edition 4.0):2013, IEC 61000-4-8 (2nd Edition):2009, IEC 61000-4-34:2005 AMD1:2009

- Nominal voltage range can be extended beyond nominal if required by the utility.
- IQ Cable in the IQ7 system is rated for 20 A and should be used with a 20 A breaker for the branch circuit.
- Multiple branch circuits can be combined in single IQ Relay up to a maximum combined current of 25 A.



Assembled in China.

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Revision history

REVISION	DATE	DESCRIPTION
DSH-00006-1.0	June 2023	Initial release