



X-IQ-AM1-240-4  
 X2-IQ-AM1-240-4  
 (IEEE 1547:2018)  
 X-IQ-AM1-240-4C  
 X2-IQ-AM1-240-4C  
 (IEEE 1547:2018)

# IQ Combiner 4/4C

The Enphase IQ Combiner 4/4C with IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ Microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and an Eaton BR series busbar assembly.



## IQ Series Microinverters

The high-powered smart grid-ready IQ Series Microinverters (IQ6, IQ7, and IQ8 Series) dramatically simplify the installation process.



## IQ System Controller 2

Provides microgrid interconnection device (MID) functionality by automatically detecting grid failures and seamlessly transitioning the home energy system from grid power to backup power.



## IQ Battery

All-in-one AC coupled storage system that is reliable, smart, simple, and safe. It provides backup capability, and installers can quickly design the right system size to meet the needs of both new and retrofit solar customers.



## IQ Load Controller

Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life.

### Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

### Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80 A total PV or storage branch circuits

### Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two-years labor reimbursement program coverage included for both the IQ Combiner SKU's\*
- UL Listed
- X2-IQ-AM1-240-4 and X2-IQ-AM1-240-4C comply with IEEE 1547:2018 (UL 1741-SB, 3rd Ed.)



\*Refer to the <https://enphase.com/installers/resources/warranty> page for country specific warranty information.

# IQ Combiner 4/4C

MODEL NUMBER	UNITS	DESCRIPTION
IQ Combiner 4 (X-IQ-AM1-240-4, X2-IQ-AM1-240-4)	–	IQ Combiner 4 with an IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 +- 0.5%) and consumption monitoring (+- 2.5%). Includes a silver solar shield to match the IQ Battery and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C, X2-IQ-AM1-240-4C)	–	IQ Combiner 4C with an IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 +- 0.5%) and consumption monitoring (+- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area). Includes a silver solar shield to match the IQ Battery and IQ System Controller 2 and to deflect heat.
WHAT'S IN THE BOX	UNITS	
IQ Gateway printed circuit board	–	IQ Gateway is the platform for total energy management for comprehensive, remote maintenance, and management of the Enphase Energy System
Busbar	–	80 A busbar with support for 1 x IQ Gateway breaker and 4 x 20 A breaker for installing IQ Series Microinverters and IQ Battery
IQ Gateway breaker	A	Circuit breaker, 2-pole, 10/15
Production CT	–	Pre-wired revenue-grade solid-core CT, accurate up to +-0.5%
Consumption CT	–	Two consumption metering split core or clamp-type CTs, shipped with the box, accurate up to +-2.5%
Enphase Mobile Connect (only with IQ Combiner 4C)	–	4G-based LTE-M1 cellular modem (CELLMODEM-M1-06-SP-05) with a 5 year T-Mobile data plan
MICROINVERTERS, ACCESSORIES AND REPLACEMENT PARTS [not included; order separately]	UNITS	
Supported microinverters	–	IQ6, IQ7, and IQ8. Do not mix IQ6/IQ7 Microinverters with IQ8
Enphase Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	–	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with a 5-year Sprint data plan for Enphase sites - 4G based LTE-M1 cellular modem with a 5-year Sprint data plan - 4G based LTE-M1 cellular modem with a 5-year AT&T data plan
Circuit breakers (off-the-shelf)	–	Supports Eaton BR2xx, Siemens Q2xx and GE/ABB THQL21xx Series breakers (xx may be 10, 15, 20, 30, 40, 50 or 60). Supports Eaton BR220B, BR230B and BR240B circuit breakers compatible with hold-down kit.
Circuit breakers (provided by Enphase)	–	BRK-10A-2-240V, BRK-15A-2-240V, BRK-20A-2P-240V, BRK-15A-2P-240V-B, and BRK-20A-2P-240V-B
XA-SOLARSHIELD-ES	–	Replacement solar shield for IQ Combiner 4/4C
XA-ENV2-PCBA-4	–	IQ Gateway replacement printed circuit board (PCB) for IQ Combiner 4/4C
XA-PLUG-120-3	–	Accessory receptacle for power line carrier in IQ Combiner 4/4C (required for EPLC-01)
X-IQ-NA-HD-125A	–	Hold-down kit for Eaton circuit breaker with screws
ELECTRICAL SPECIFICATIONS	UNITS	
Rating	A	80
System voltage and frequency	–	120/240 VAC, 60 Hz
Busbar rating	A	125
Fault current rating	kAIC	10
Maximum continuous current rating (input from PV/storage)	A	64
Maximum fuse/Circuit rating (output)	A	90
Branch circuits (solar and storage)	–	Up to four 2-pole Eaton BR, Siemens Q, or GE/ABB THQL Series distributed generation (DG) breakers only (not included)
Maximum total branch circuit breaker rating (input)	A	80 A of distributed generation/95 A with IQ Gateway breaker included
IQ Gateway breaker	A	10 A or 15 A rating GE/Siemens/Eaton included
Production metering CT	A	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT/CT-200-CLAMP)	A	A pair of 200 A split core or clamp-type current transformers

MECHANICAL DATA		UNITS	DESCRIPTION
Dimensions (W × H × D)	cm (in)		37.5 × 49.5 × 16.8 (14.75 × 19.5 × 6.63). Height is 53.5 (21.06) with mounting brackets
Weight	kg (lb)		7.5 (16.5)
Ambient temperature range	°C (°F)		-40 to 46 (-40 to 115)
Cooling	–		Natural convection plus a heat shield
Enclosure environmental rating	–		Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	–		<ul style="list-style-type: none"> <li>• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors</li> <li>• 60 A breaker branch input: 4 to 1/0 AWG copper conductors</li> <li>• Main lug combined output: 10 to 2/0 AWG copper conductors <ul style="list-style-type: none"> <li>• Neutral and ground: 14 to 1/0 copper conductors</li> </ul> </li> </ul> Always follow local code requirements for conductor sizing
Altitude	m (ft)		Up to 2,600 (8,530)
COMMUNICATION INTERFACES		UNITS	
Integrated Wi-Fi	–		802.11b/g/n (dual band 2.4 GHz/5 GHz), for connecting the Enphase Cloud through the Internet
Wi-Fi range (recommended)	m (ft)		10 (32.8)
Ethernet	–		Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included) for connecting to the Enphase Cloud through the Internet
Digital I/O	–		Digital input/output for grid operator control
USB 2.0	–		For Mobile Connect, Communications Kit 01 for IQ Battery 3/3T/10/10T, Communication Kit 02 for IQ Battery 5P
Access point (AP) mode	–		For connection between the IQ Gateway and a mobile device running the Enphase Installer App
Metering ports	–		Up to two Consumption CTs, one IQ Battery CT, and one Production CT
Power line communication	kHz		90–110
Web API	–		See <a href="https://developer-v4.enphase.com">https://developer-v4.enphase.com</a>
Local API	–		See <a href="#">guide for local API</a>
Cellular/Mobile Connect	–		CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all installations with Enphase IQ Batteries and/or IQ System Controllers
COMPLIANCE			
IQ Combiner with IQ Gateway			CA Rule 21 (UL 1741-SA) IEEE 1547:2018 - UL 1741-SB, 3rd Ed. (X2-IQ-AM1-240-4 and X2-IQ-AM1-240-4C) CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003, NOM-208-SCFI-2016 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) , UL 60601-1/CANCSA 22.2 No. 61010-1, IEEE 2030.5/CSIP Compliant
COMPATIBILITY			
PV	Microinverters		IQ6, IQ7, and IQ8 Series Microinverters
COMMS-KIT-01	IQ System Controller		EP200G101-M240US00
	IQ System Controller 2		EP200G101-M240US01
	IQ Battery		ENCHARGE-3-1P-NA, ENCHARGE-10-1P-NA, ENCHARGE-3T-1P-NA, ENCHARGE-10T-1P-NA
COMMS-KIT-02 <sup>1</sup>	IQ System Controller 3		SC200D111C240US01, SC200G111C240US01
	IQ Battery		IQBATTERY-5P-1P-NA

<sup>1</sup> For information about IQ Combiner 4/4C compatibility with the 3<sup>rd</sup>-generation batteries, refer to the [compatibility matrix](#).

# Revision history

REVISION	DATE	DESCRIPTION
DSH-00217-1.0	March 2024	Initial release.
Previous releases		