

Installing Enphase 200 A Production CTs

Use this instruction with the *Enphase Envoy S Metered Quick Install Guide* or *IQ Gateway Quick Install Guide* to install Enphase production monitoring current transformers (CTs). The Enphase Envoy S Metered or IQ Gateway uses this 200 A solid-core CT for monitoring solar production current. This ANSI C12.20 compliant CT performs revenue-grade metering with an accuracy class of 0.5%. Rated at Pollution Degree 3, you can use the CT inside electrical equipment in residential or harsh, industrial conditions. Read and follow all warnings and instructions in this guide and the Quick Install Guide included with your Gateway and available at: enphase.com/support.

NOTE: The IQ Combiner ships pre-installed with this CT. However, this SKU can be used for replacement in case of damage in field.

SAFETY

SAFETY AND ADVISORY SYMBOLS

	DANGER: This indicates a hazardous situation, which if not avoided, will result in death or serious injury.
	NOTE: This indicates information particularly important for optimal system operation. Follow instructions carefully.

SAFETY INSTRUCTIONS

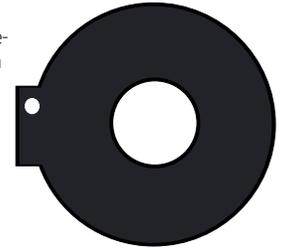
	DANGER: To reduce the risk of electric shock, always open or disconnect the circuit from the power-distribution system (or service) of the building before installing or servicing the current transformers.
	DANGER: Risk of electrocution! Do not install CTs when current is flowing in the sensed circuit. Always install CT wires in the terminal blocks before energizing the sensed circuit.
	DANGER: If equipment is used in a manner not specified by Enphase Energy, the protection provided by the equipment may be impaired.
	DANGER: Risk of electric shock. Be aware that installation of this equipment includes the risk of electric shock. If you wire the IQ Gateway or Envoy S at the subpanel, always de-energize the subpanel before beginning.
	DANGER: Risk of electric shock. Risk of fire. Only qualified personnel should troubleshoot, install, or replace the CTs.
	NOTE: Because of variances in switchboard design and main power feed, there may not always be enough space to install CTs.
	NOTE: Do not install the CTs in a switchboard where they exceed 75% of the wiring space of any cross-sectional area within the equipment.
	NOTE: Perform all electrical installations in accordance with all national and local electrical codes.
	NOTE: Restrict installation of current transformers in an area where they would block ventilation openings, or in the area of breaker arc venting.
	NOTE: Not suitable for Class 2 wiring methods and not intended for connection to Class 2 equipment.
	NOTE: Secure current transformer and route conductors so that they do not directly contact live terminals or bus.
	NOTE: When wiring the Envoy S Metered or the IQ Gateway for production and consumption metering, be sure to install the current transformers (CTs) exactly as described for your application.
	NOTE: When installing CTs, it is important to match CT and sense voltage phases. Be sure to consistently identify the two AC lines at three points: the main load center feed, the Gateway, and the solar production circuit breaker. Wire colors (typically black and red) may not always consistently identify L1 and L2. If in doubt, use a multimeter to check.
	NOTE: Only run active conductors through the CT. The CT can monitor multiple active conductors. You may run more than one wire through the CT if all wires are on the same phase and they fit the opening in the CT.

SPECIFICATIONS

SPECIFICATION	CT-200-SOLID
CT type	Solid core
CT accuracy (error rate)	<0.5%
Max primary supported current	200 A
Turns ratio	2,000
Pollution degree	3
Dimensions	1.93" diameter
Aperture	0.76" diameter
Primary voltage (range)	250 VAC
Frequency	60 Hz (45–66 Hz)
Operating temperature	–40°C to 65°C
Humidity	95%
Pollution degree	3
Compliance	RoHS, UL 2808, ANSI C12.20

INSTALLATION

For more information, refer to the Envoy S Metered or IQ Gateway Quick Install Guide which is included with your gateway or available at: enphase.com/support.



Preparation

- A) If not already done, turn off the power to the PV system.

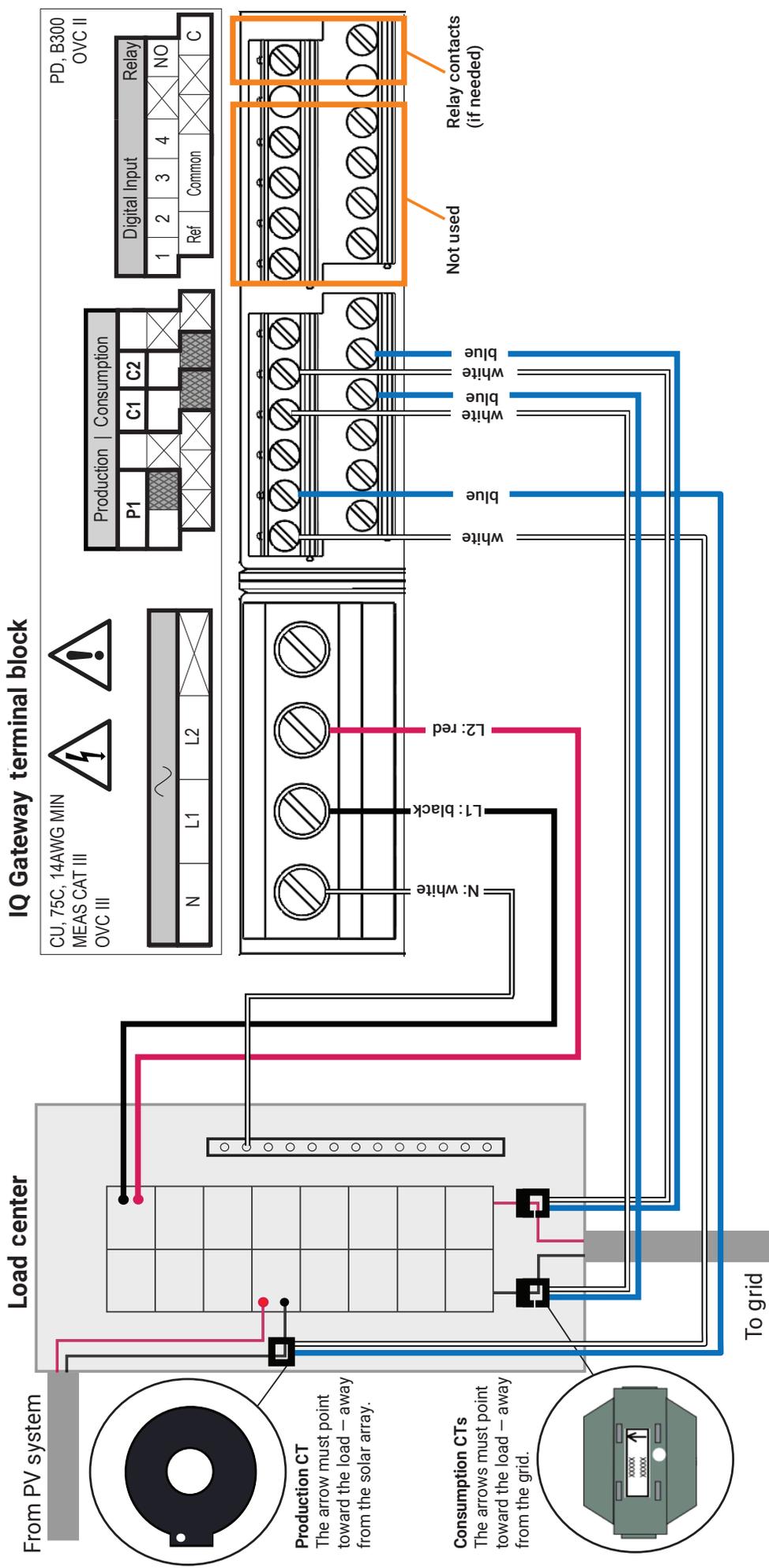
Remove any pre-installed Production CT

- A) Remove the line 1 conductor of the solar production circuit to which the CT is connected.
- B) Remove the existing CT.

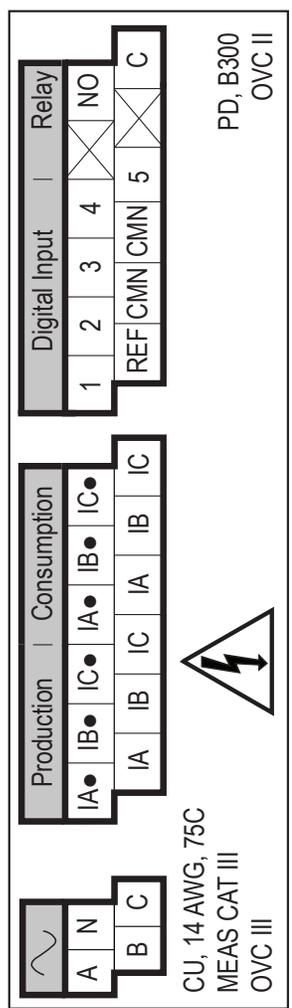
Install the Production CT

- A) Locate the arrow on the CT label.
 - B) Refer to the diagram on the reverse of this document for wiring.
- NOTE:** Do not pass conductors from AC battery branch circuits through the Production CT. This will distort production readings.
- C) Install the CT on Line 1 of the solar production circuit with the arrow pointing towards the load (away from the solar array).
 - For Envoy S Metered, Line 1 matches the "A" voltage terminal
 - For IQ Gateway, Line 1 matches the "L1" voltage terminal
 - D) For an Envoy S Metered, connect the white wire to the "IA*" terminal. For an IQ Gateway, connect the white wire to the left "P1" terminal.
 - E) For an Envoy S Metered, connect the blue wire to the "IB*" terminal. For an IQ Gateway, connect the blue wire to the right "P1" terminal.
 - F) Tighten the terminal block screws to 5 in-lbs.
 - G) Close and secure the terminal block door of the Gateway.
 - H) Turn on the PV system.

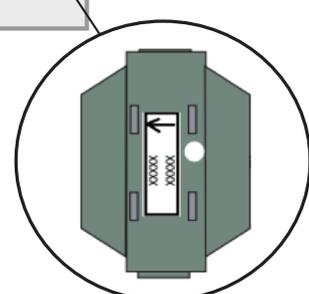
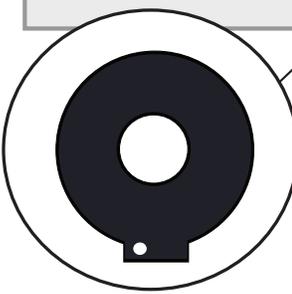
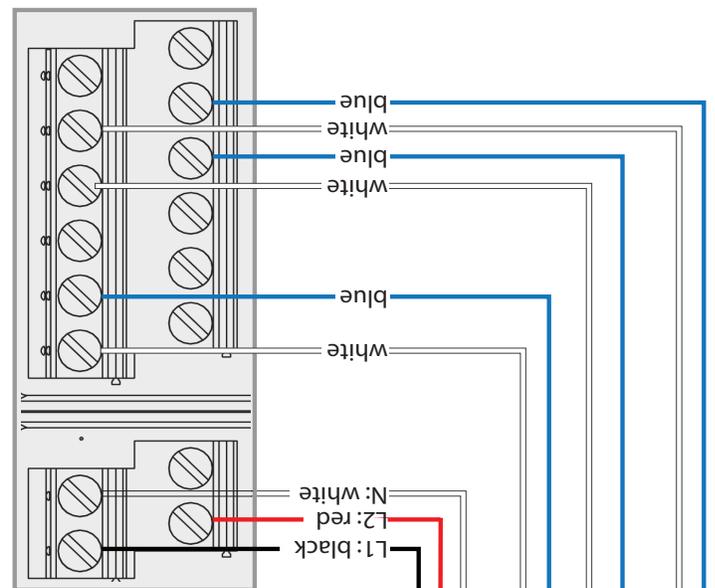
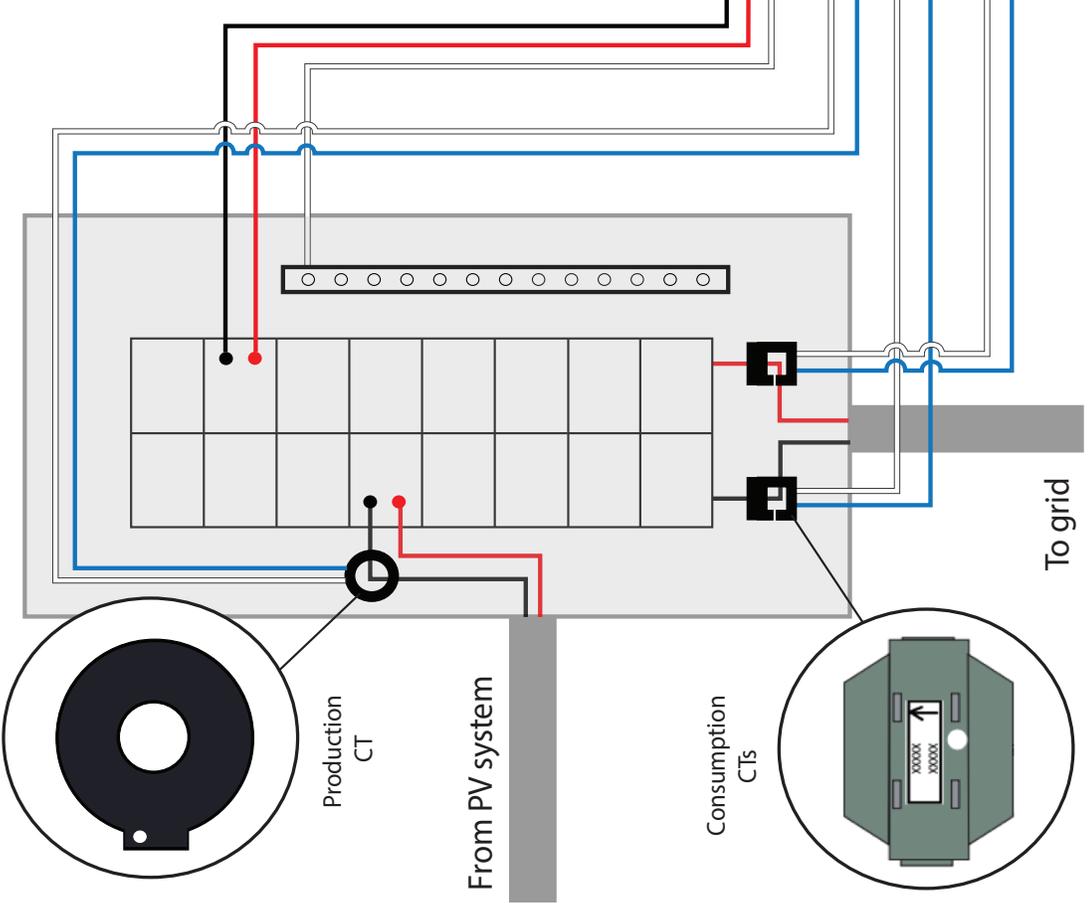




Envoy S Metered terminal block



Load center



Revision history

REVISION	DATE	DESCRIPTION
140-00182-02	June 2023	Updated the document for product names and editorial changes.
140-00182-01	March 2023	Initial release