



Installing Enphase 400 A Production CTs
















Use this Quick Install Guide with the IQ Gateway Commercial 2 Quick Install Guide to install Enphase production monitoring Current Transformers (CTs). The IQ Gateway Commercial 2 uses a set of three 400 A solid core CTs for monitoring solar production current. This CT performs metering with an accuracy class of 0.5%. Rated for pollution degree 3, you can use the CT inside electrical equipment in residential or in harsh, industrial conditions. Read and follow all warnings and instructions in the Quick Install Guide included with IQ Gateway Commercial 2 and available at: enphase.com/contact/support.

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 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 Commercial 2 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 (CTs) 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 (CTs) and route conductors so that they do not directly contact live terminals or buses.
	NOTE: When wiring the IQ Gateway Commercial 2 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 IQ Gateway Commercial 2, 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 in the same phase and they fit the opening in the CT.
	NOTE: For indoor use only.

SPECIFICATIONS

SPECIFICATION	CT-400-SOLID
Current transformer type	Solid core
Current transformer accuracy (error rate)	<0.5%
Maximum primary current	400 A
Turns ratio	2,000
Pollution degree	3
Dimensions (inches)	2.99" diameter * 0.712" thickness
Aperture (inches)	1.69" diameter
Supported cable size (maximum)	Up to 1000 KCMIL conductors
Primary voltage (maximum)	250 VAC
Frequency	50 Hz - 60 Hz
Operating temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	95%
Pollution degree	3
Compliance	UL2808, RoHS

INSTALLATION

Preparation

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



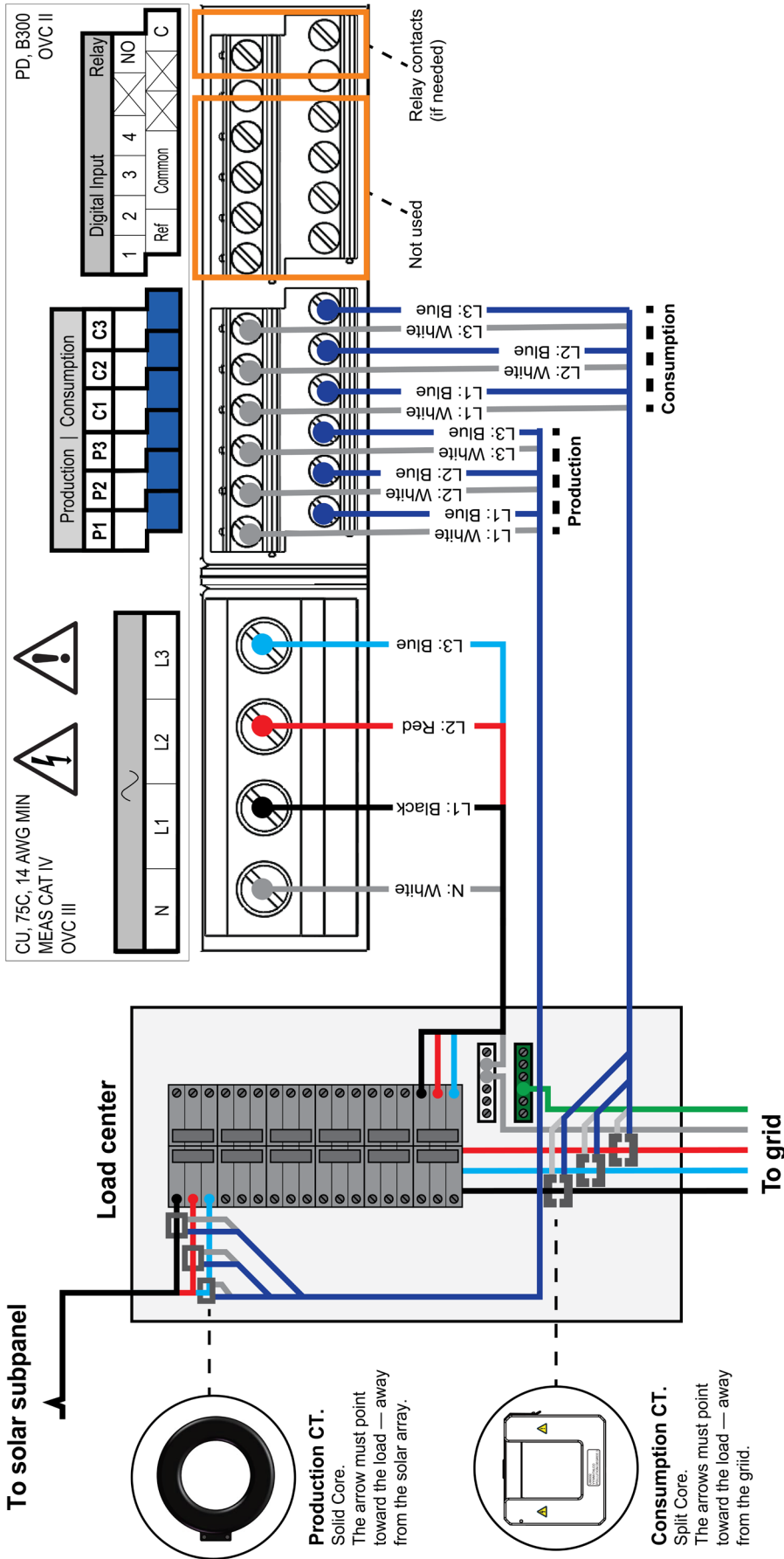
Remove any pre-installed Production CTs

- A) Remove the line 1, line 2, and line 3 conductors of the solar production circuits on which the CTs are connected.
B) Remove the existing CTs.

Install the Production CTs

- A) Before running the CT wires through the conduit, use colored tape to mark one of the CTs and the free end of its wires.
B) For each CT, locate the arrow on the CT label.
C) Refer to the diagram on the reverse of this document for wiring.
D) Install the Production CTs on active phases as required:
- Locate the arrow on the CT label.
 - To monitor production on Line 1:
 - Connect the white wire to the white "P1" terminal and the blue wire to the blue "P1" terminal.
 - Pass Line 1 of the solar production circuit through the CT with the arrow pointing toward the load (away from the solar array).
 - To monitor production on Line 2:
 - Connect the white wire to the white "P2" terminal and the blue wire to the blue "P2" terminal.
 - Pass Line 2 of the solar production circuit through the CT with the arrow pointing toward the load (away from the solar array).
 - To monitor production on Line 3:
 - Connect the white wire to the white "P3" terminal and the blue wire to the blue "P3" terminal.
 - Pass Line 3 of the solar production circuit through the CT with the arrow pointing toward the load (away from the solar array).
 - Tighten all connections to 5 in-lbs (0.6 N m).
- E) Close and secure the terminal block door of the IQ Gateway Commercial 2.
F) Turn on the PV system.

IQ Gateway Commercial 2 terminal block



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Revision history

REVISION	DATE	DESCRIPTION
140-00183-04	June 2023	Updated the document for product names and editorial changes
Previous releases		