

Q.TRON/Q.PEAK DUO AC Consumption Current Transformer Guide

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Purpose

This troubleshooting guide outlines step by step procedures for diagnosing common Consumption Current Transformer (CT) problems such as:

- 1. Grid Power (Direct CT data delivered to the Combiner)**
 - a. No Grid Power Readings – 0W on Energy Statistics graph
 - b. Negative Grid Power Readings when PV is turned off
- 2. Load Power in Energy Statistics graph**
 - a. Mirroring the PV production curve
 - i. Home load should not increase when PV production increases
 - b. No Home Load Power – 0W (when PV is ON or OFF)
- 3. Incorrect Readings – too high / too low**

To resolve most common problems, perform the steps in the following pages.

For additional assistance call or email Customer Service

Qcells Customer Support:

Website: <http://www.qpartnerus.com/>

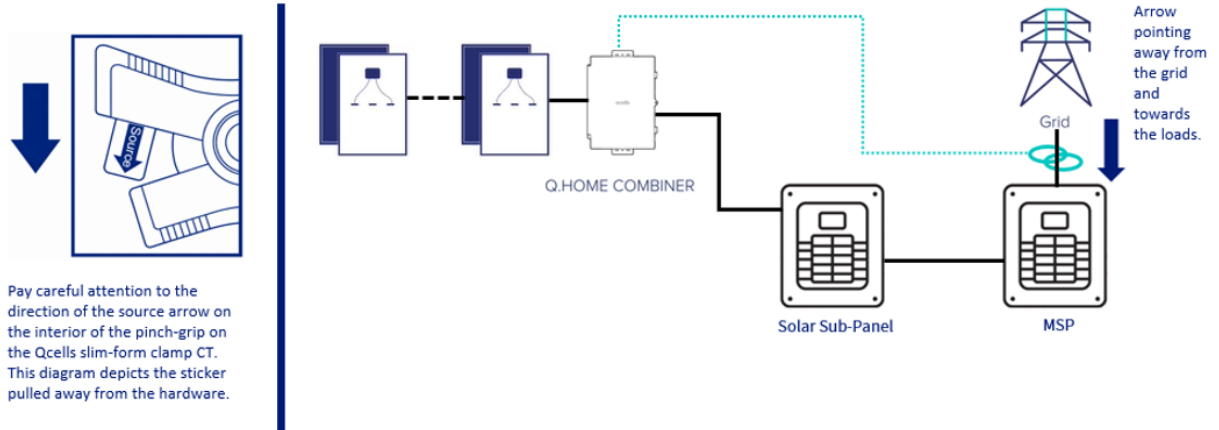
Phone: (888) 249-7750

Email: na.support@qcells.com

Solar Only Configuration – Basic Example

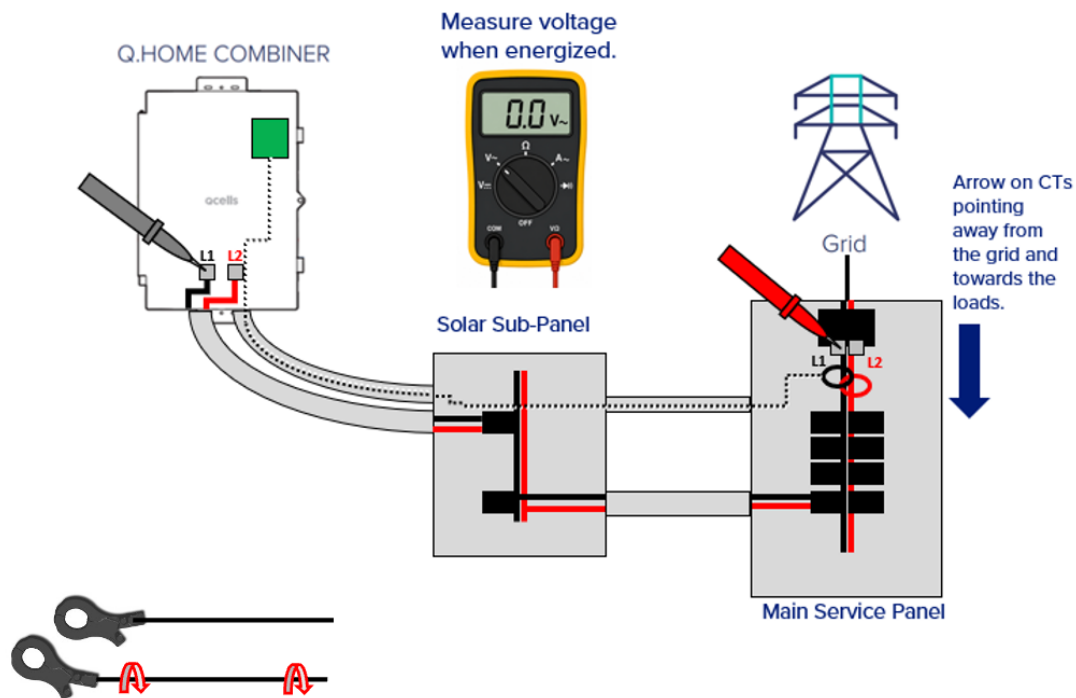
Note that grid power = data from the CTs

CTs must be placed at the MSP (Main Service Panel) On the grid side of all loads



1. Phase Check

- After Installation, use a multimeter to confirm that CTL1 is mounted on the L1 supply conductor
- Which phase in the MSP is L1?
 - L1/L2 phases are defined in the AC Combiner.
 - Which ever phase is feeding the L1 lug in the Combiner is defined as L1
- Phase check while System is Energized:
 - Measure the voltage between the L1 lug in the combiner and the supply conductors in the main service panel
 - The supply conductor measuring 0VAC is L1
 - The supply conductor measuring 240VAC is L2
 - Measuring line to line voltage



Note: Label one CTL1 with electrical tape on both ends to differentiate between CTL1 and CTL2.

2. Correct splices. Black/white wires not reversed when using the extension wire.

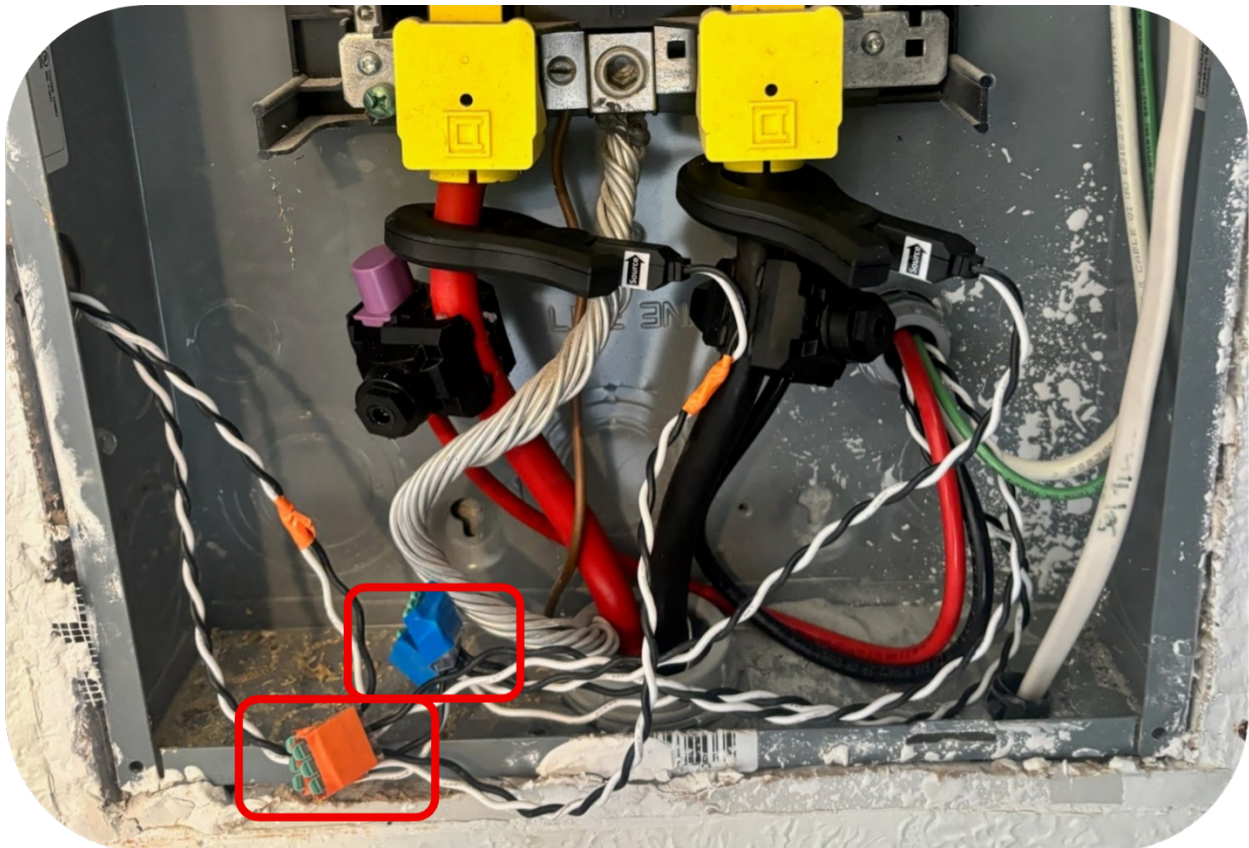
- If the CT wires have been extended, check the splices
- CTs must be extended with 18-20awg shield or twisted pair cable.
- Wago Lever Nuts can be used to splice CTs
 - Four Lever Nuts are required to extend two CTs



CT-JS-CLAMP-200A-5.2m

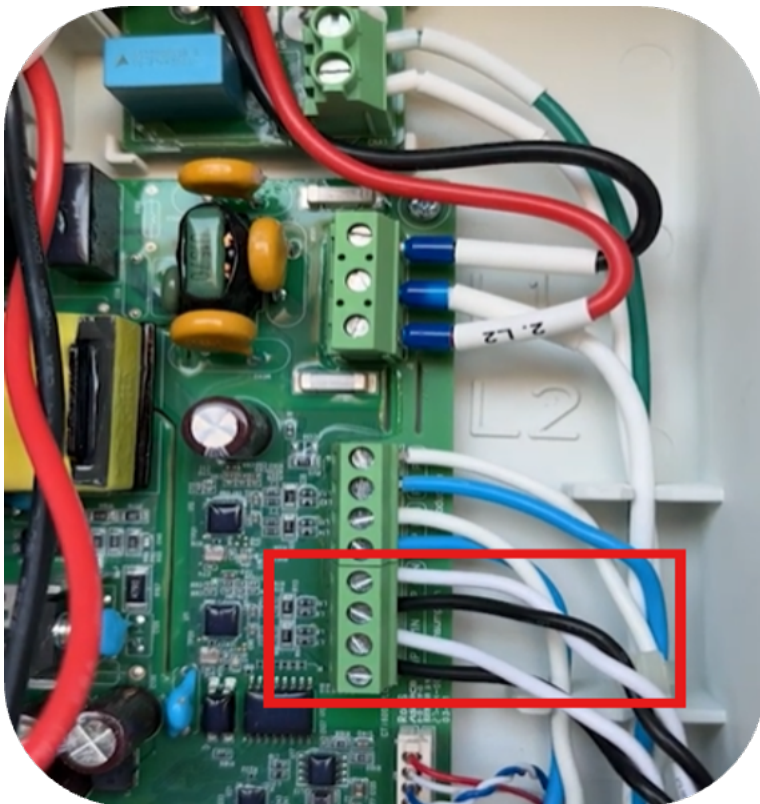
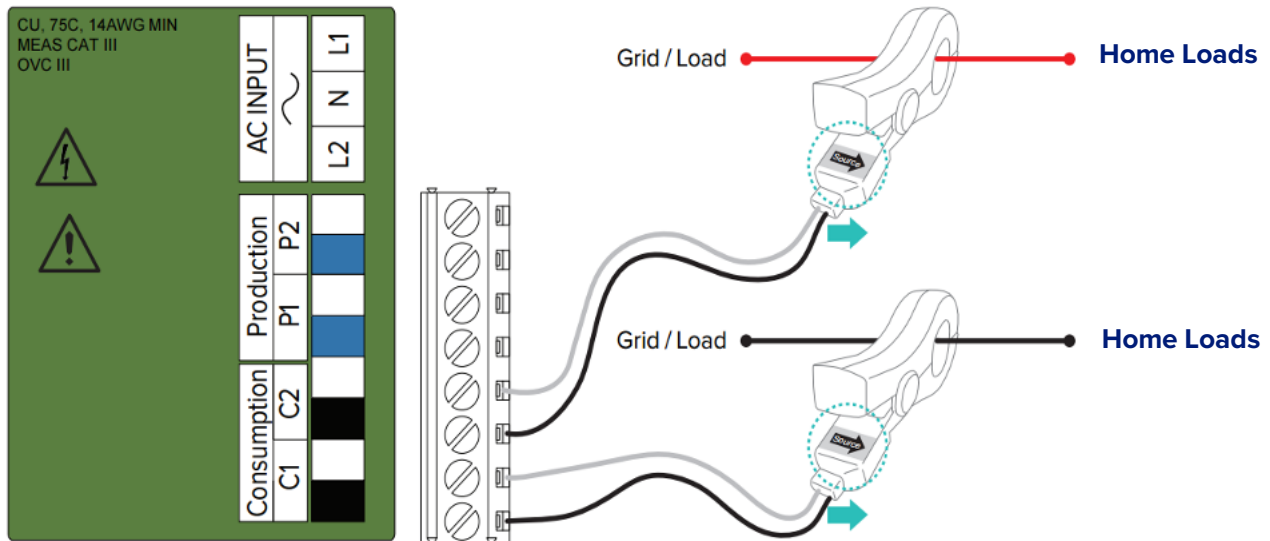
UL2808(XOBA) E498920

A slim clamp type consumption CT with $\pm 0.5\%$ accuracy (5.2 m, 20 AWG)



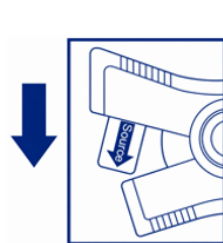
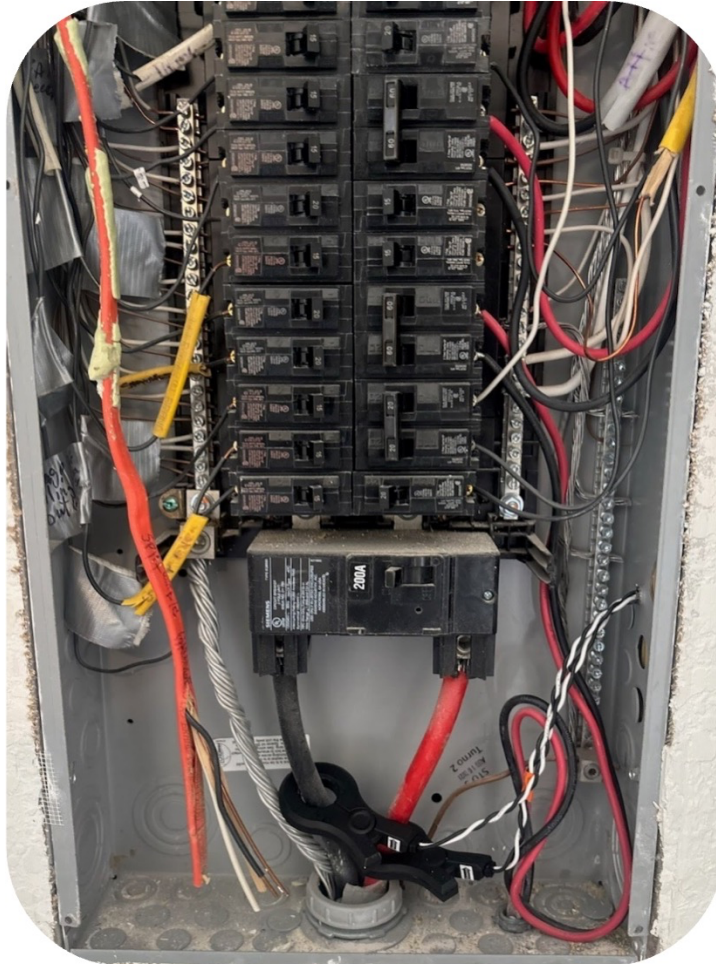
3. Black/white conductors landed correctly in the combiner
4. CT Arrows facing the home loads

Consumption CT wiring on GEM Board (Gateway)

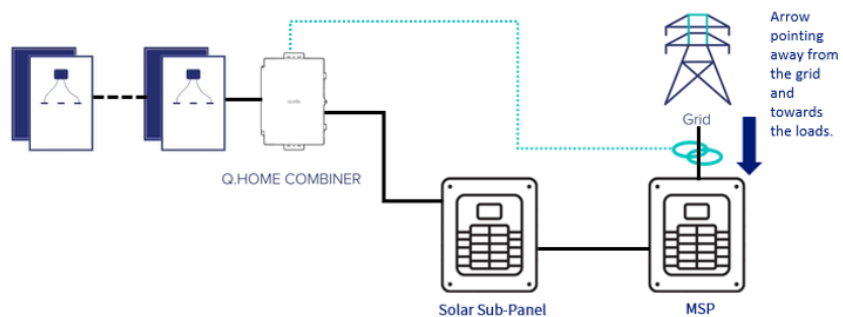


5. CTs mounted on the supply conductors feeding the main service panel

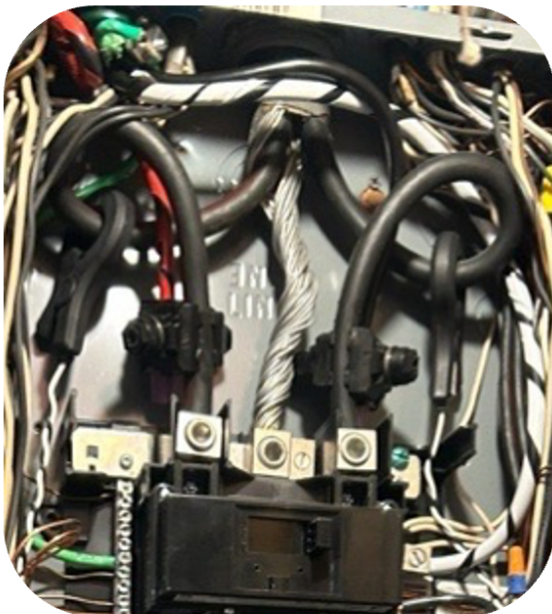
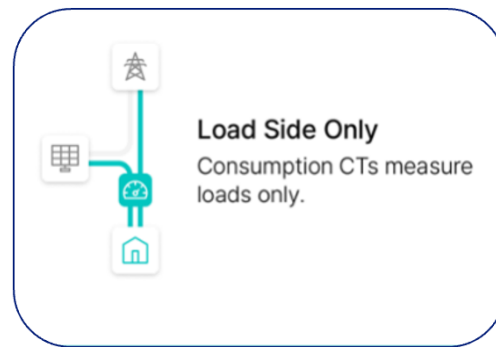
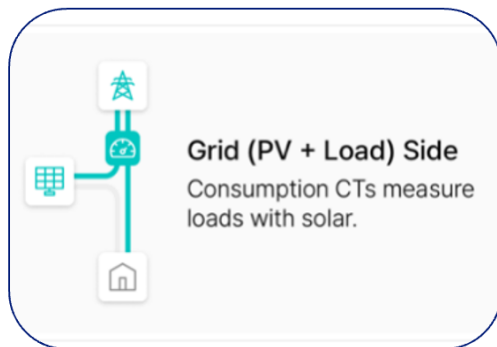
- CTs must be installed on the grid side of all home loads



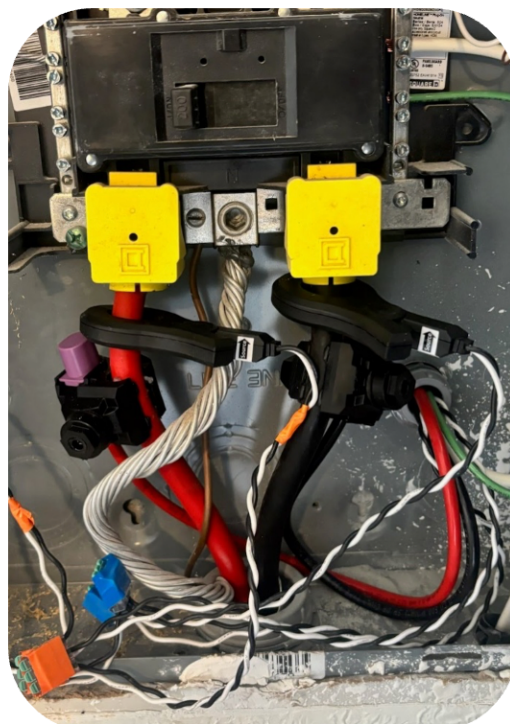
Pay careful attention to the direction of the source arrow on the interior of the pinch-grip on the Qcells slim-form clamp CT. This diagram depicts the sticker pulled away from the hardware.



6. Correct CT setting correct (Grid vs load side) in app.



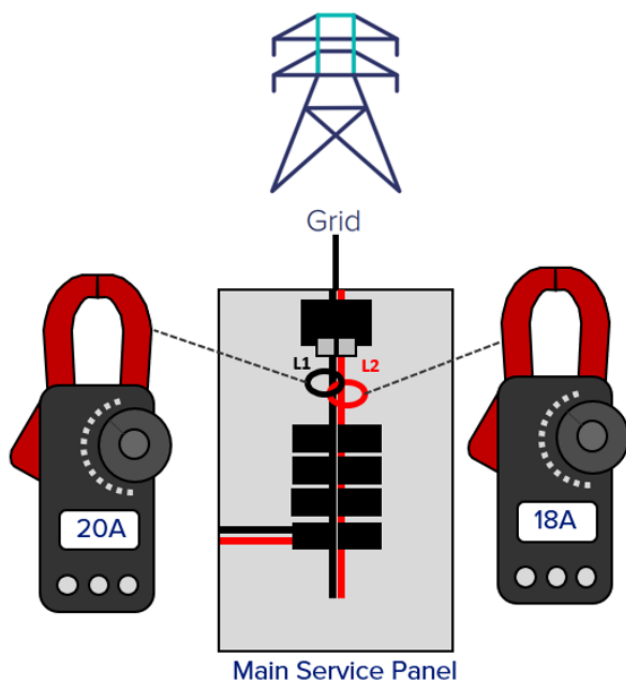
Example of “Grid Side Only” CTs Installation. Line side tap feeding the AC Combiner. Utility entrance from top of MSP.



Example of “Load Side Only” CTs Installation. Line side tap feeding the AC Combiner. Utility entrance from bottom of MSP.

7. Check the portal data to confirm Home Load is Correct.

1. Turn off PV and make sure that home load = grid power and that they are both positive
 - a. Directly measure the home loads using a clamp multimeter on the supply conductors feeding the MSP
 - b. Calculate the Home load using the direct current measurements
 - a. Direct Measurement of home load = (L1 amps + L2 amps) * 120
2. Compare to Home Load Power on the portal (Q.ommand Pro App/Fleet Manager Browser portal)
 - a. **These two values should approximately match**



Measure Home Load Directly

$$= (L1 \text{ amps} + L2 \text{ amps}) * 120$$

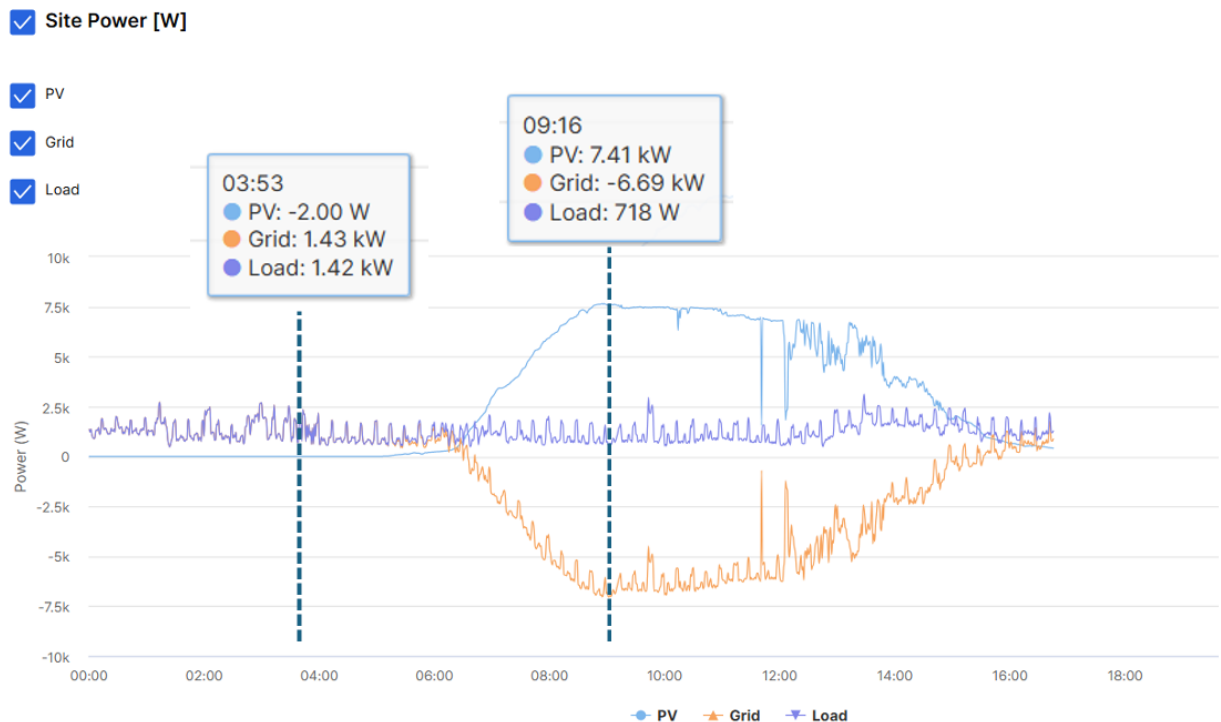
$$= (20A + 18A) * 120$$

$$= 4,560 \text{ W or } 4.56 \text{ kW}$$

3. While PV is OFF, confirm that the portal shows:
 - a. Home Load = Grid Power (both positive values)
 - b. When PV is OFF, the grid is supplying all power to the home load
4. Turn on PV and make sure that the home load is not mirroring/tracking with the PV production curve.
 - a. In reality, Home load should not be increasing, the more PV we produce.

If all these checks are correct, then the CTs are correctly installed

Correct Graphs / Readings



Incorrect Graphs / Readings

- example of Load mirroring/tracking with PV production
- example of PV = 0W: Home Load = 0W and Grid Power is negative

