



Part Number
1529455-02-E

Serial Number
PGT22125044755



Installation

L1 to N: 228.7V

L1 to Earth: 230.3V

N to Earth: 2.2V

Ground Connected

Alerts

None active

Wi-Fi



● Connected ✓

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OVERVIEW

As described in the [Wall Connector Installation Manual](#), the Gen 3 Wall Connector should be installed with a 40A circuit breaker for maximum power output. In the event that there is not enough capacity for a 40A breaker in the electrical panel, a smaller breaker can be installed with a lower amperage configuration as follows:

Table 1.

Circuit Breaker (Amps)	Maximum Output (Amps)	230V Single-phase power output (kW)	400 V Three-phase power output (kW)
40	32	7.4	22.1
32	25	5.8	17.3
25	20	4.6	13.8
20	16	3.7	11
16	13	3	9
16	10	2.3	6.9
10	8	1.8	5.5
10	6	1.4	4.1

The alternative to a smaller breaker is a costly panel upgrade.

Smart Current Limits are a new feature that enable Wall Connector to dynamically adjust EV charging power based on live readings of the overall load in the panel. An energy meter is installed to MONITOR live current in the panel; when panel loads are reduced, Wall Connector is able to increase charging current up to a limit set by the installer.



NOTE: This feature is not supported on three-phase delta (typically 230V L-L) or open wye grid connections. The most common grid connections are supported:

- 1-phase 230V L-N
- 3-phase 400V L-L (wye with neutral)



REQUIRED EQUIPMENT

The following equipment is required:

- Energy meter (Tesla P/N 1112484-04-A)



NOTE: The energy meter must be procured from Tesla as it ships with firmware required for this application

- Wago 3-, 4-, and 5-position position lever nuts for splicing communication harness and energy meter
- Energy meter RS-485 communication harness (Tesla P/N 1133339-00-A)



1	Energy meter
2	Current Transformers (CTs)
3	Voltage line harness
4	RS-485 communication harness



NOTE: The Wi-Fi antenna included in the energy meter kit is not used.



INSTALL THE ENERGY METER

 **CAUTION:** Never perform work on live circuits. De-energize the electrical panel before continuing.

1. Attach the energy meter's mounting plate to the inside of the electrical panel, and push the meter onto the plate.

 **NOTE:** The energy meter requires 203x203x102 mm of space inside the electrical panel. This clearance allows for the space required for routing wiring to the energy meter.

 **NOTE:** The maximum distance the energy meter can be from the Wall Connector (wired RS-485 connection) is 120 m.

2. Wire the meter voltage taps:

- a. Connect the voltage line harness leads to a dedicated circuit breaker (not exceeding 20A) of corresponding phase inside the distribution board:

Table 2.

Voltage Harness Port/Wire Color	Distribution Board Connection
A/Brown	L1 breaker terminal
B/Black	L2 breaker terminal
C/Gray	L3 breaker terminal
N/Blue	Neutral bus bar

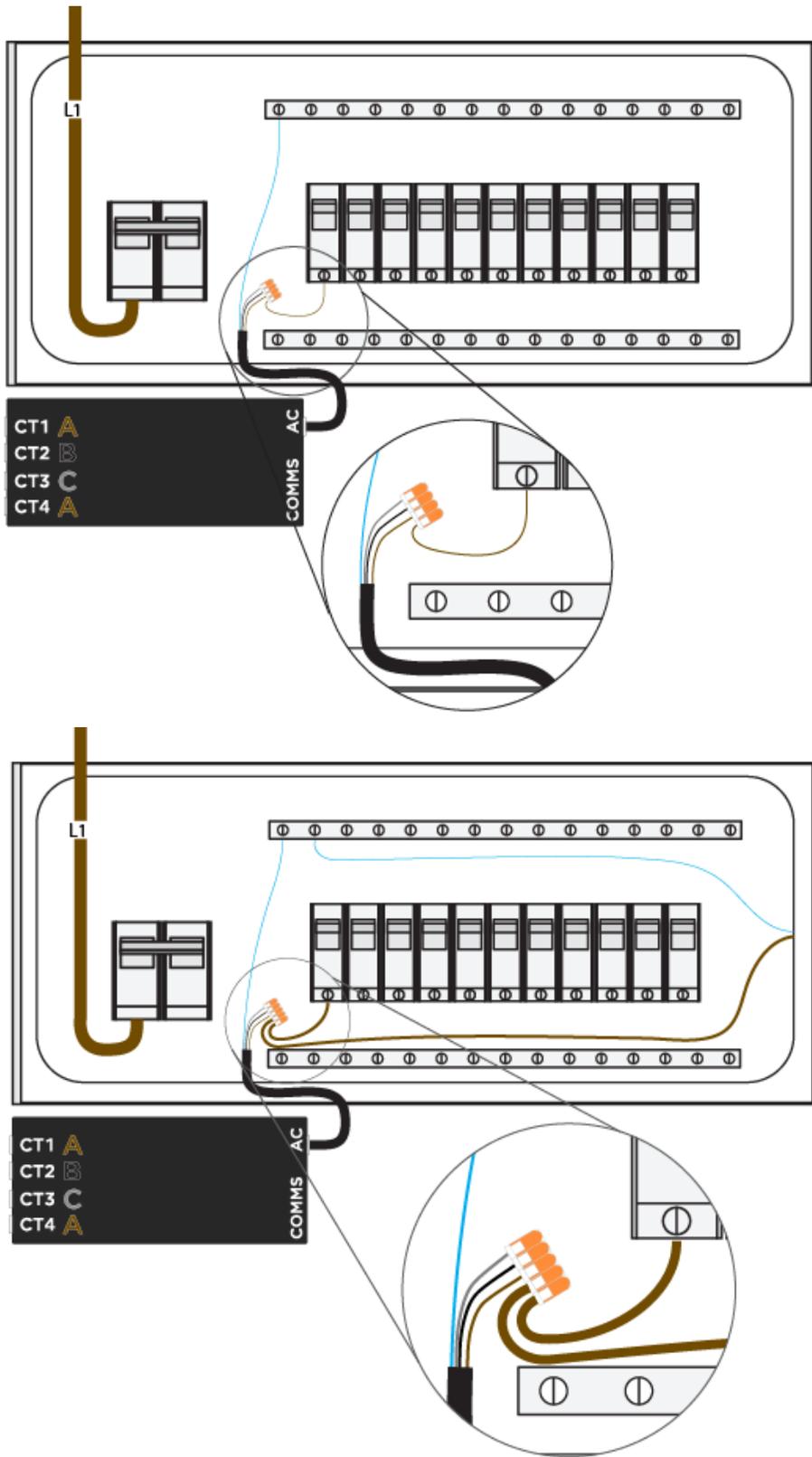
- b. Plug the voltage line harness into the meter.

 **NOTE:** If a dedicated breaker is not available, the voltage line harness can be spliced to existing breakers if allowed in your jurisdiction.



INSTALL THE ENERGY METER

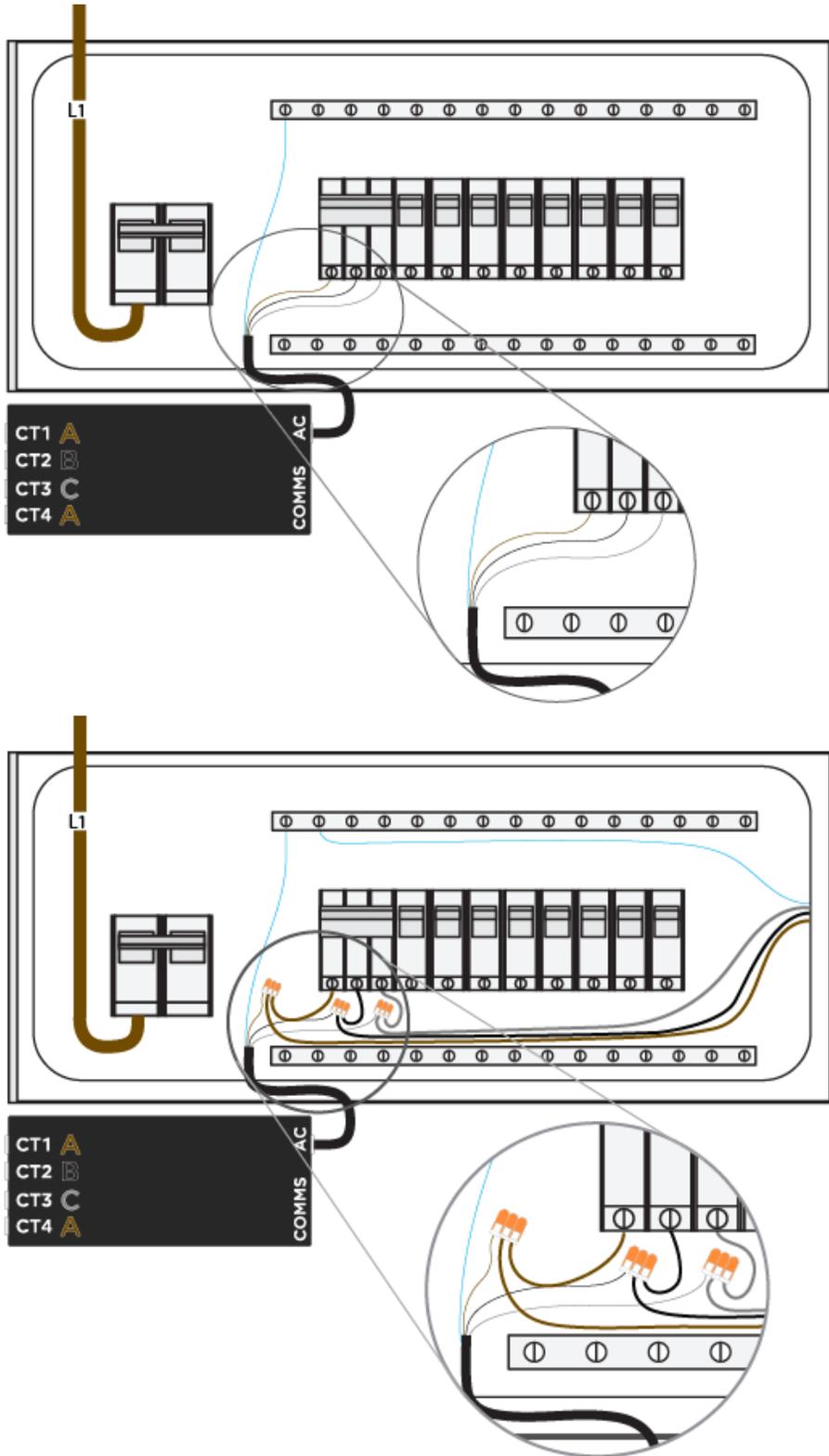
Figure 1. Voltage Line Harness Wired to Dedicated Breaker (Left) or Spliced to Existing Breaker (Right) (Single Phase)





INSTALL THE ENERGY METER

Figure 2. Voltage Line Harness Wired to Dedicated Breaker (Left) or Spliced to Existing Breaker (Right) (Three Phase)



3. Install the current transformers (CTs):

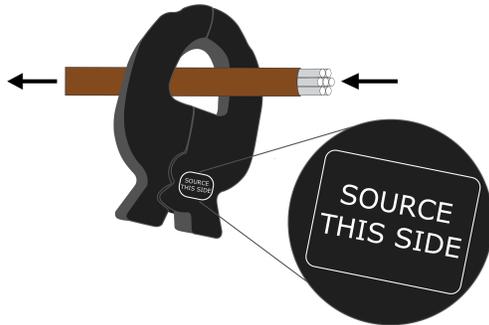
- a. Clip the CTs around Line 1, Line 2, and Line 3- the main conductors feeding the panel.



INSTALL THE ENERGY METER

 **NOTE:** Ensure the "Source this Side" label faces away from the breakers, and towards the grid.

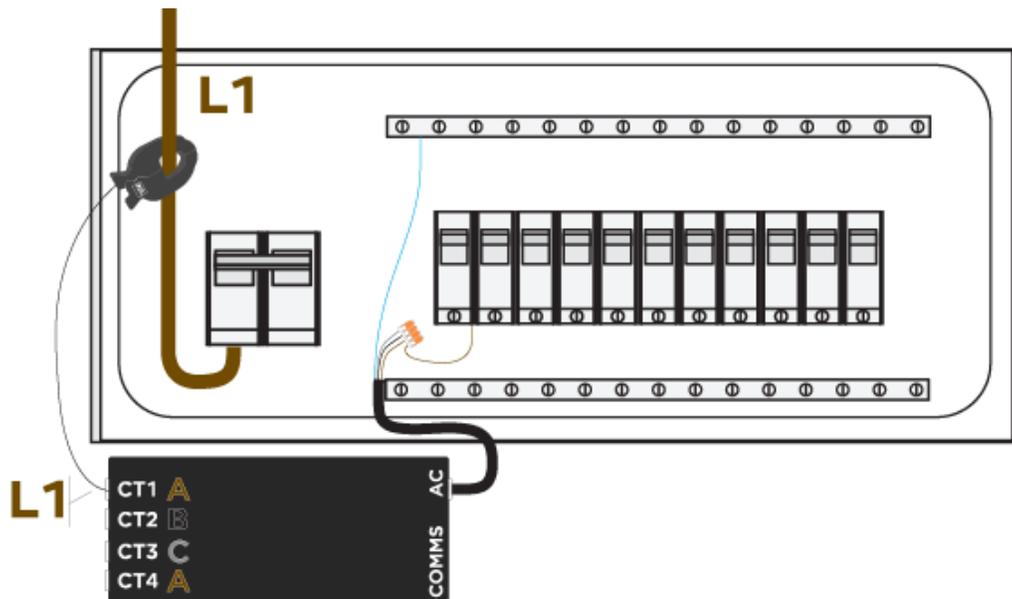
Figure 3. CT Orientation in Relation to Power Flow (Label to Face Power Source, in this Case Grid)



b. Plug the CTs into the meter:

- i. The CT measuring Line 1 can be plugged into either Port 1 or Port 4.
- ii. The CT measuring Line 3 must be plugged into Port 3.

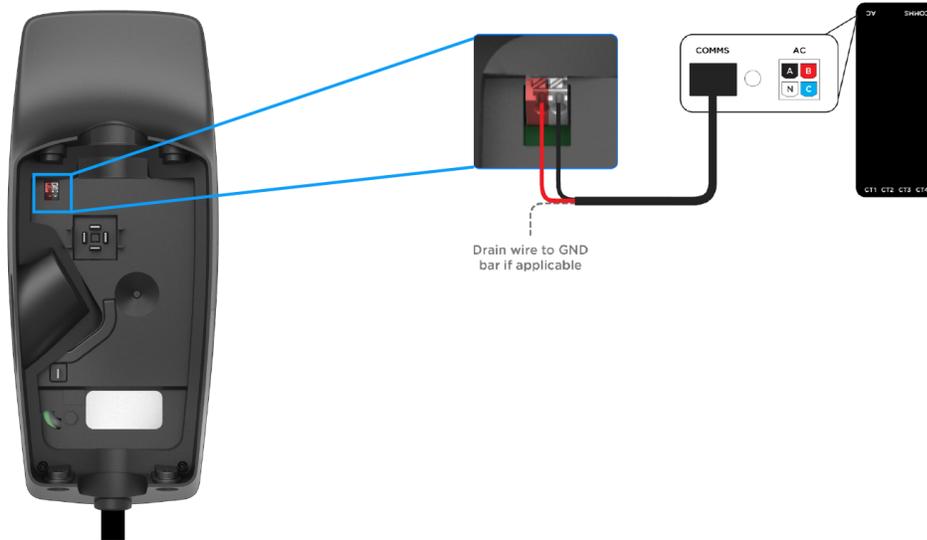
 **NOTE:** It is critical that each CT have the correct voltage reference. Ensure the CT is plugged into the correct port based on the phase it is measuring.





INSTALL THE ENERGY METER

4. Establish a hardwired RS-485 connection between the Energy Meter and Wall Connector using the included 2-conductor wire harness:
 - a. Plug the provided wire harness into the port.
 - b. Extend the harness leads by splicing 1.5 mm² shielded twisted pair cable to the harness.
 - c. If applicable, land the drain wire on the ground bar in the panel.
 - d. Locate the terminals on the backside of Wall Connector.
 - e. Land the wire corresponding to the red lead of the harness to the red port, and the black lead to the white port.



- f. Manage the communication wires so that they are not pinched when mounting the Wall Connector to the wire box.





COMMISSION THE SYSTEM

1. Turn off any solar inverter(s) prior to commissioning. Turning off solar production ensures CT function can be confirmed as all CT measurements should be positive when there is no solar.
2. Follow the standard procedure to commission Wall Connector.
3. Ensure Wall Connector has been updated to firmware version 23.8.1 or greater. If Wall Connector is not connected to Wi-Fi, follow the [offline firmware updates procedure](#).
4. Turn on the breaker feeding the Neuroio meter.
5. Once the meter is detected on the RS-485 port, the Metering option will appear. Select **Metering**.

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Alerts

None active

Wi-Fi

● Connected ✓

Software

Version: 23.8.2

Installation

Max output current: 32A

Ground Monitor Interrupter: Enabled

Max conductor current: 32A

Metering

Conductor CT1: 7,414W (31.7A)
import

Access Controls

Allowed vehicles for charging: Only
Tesla



COMMISSION THE SYSTEM

6. Select CT to set the location to **Conductor**.

✓ Remote meter connected

Current Transformers

A	B	①	②	③	④
N	C	A	B	B/C	A

CT1 Phase A (L1)
Location
Conductor
5,685.7W Flip

CT2 Phase B (L2)
Location
Conductor
5,691.4W Flip

CT3 Phase B/C (L2/L3)
Location
Conductor
0.0W Flip

CT4 Phase A (L1)
Location
None
0.0W Flip

7. Return to the main menu and select **Installation**.

8. Set the maximum output current for the Wall Connector (see the Overview for circuit breaker size options and the associated max output for each circuit breaker size).

9. Set the Max Conductor Current Ampacity. This value should be 80% of the electrical panel's rated limit.

- For example, the max conductor current ampacity for a 63A breaker would be 50A.

GROUND MONITOR INTERRUPTER

Enabled

Ground connection will be monitored and a high detected ground resistance will disable the Wall Connector. This is the preferred setting to provide protection, and should be selected where the ground connection is expected to be strong (as is the case on TN networks and most TT networks), and where required by code.

ENABLE MAX CONDUCTOR CURRENT

SET MAX CONDUCTOR CURRENT (A)

50

When enabled, Wall Connector will dynamically adjust its charging current to limit max current at the conductor CT.

< BACK

SAVE



COMMISSION THE SYSTEM

10. Test the system by turning on large loads in the panel and ensuring Wall Connector properly adjusts its charge rate. Alternatively, temporarily set the max conductor current lower than the actual limit of the electrical panel being measured. For example, if the conductor limit is 50A, temporarily set it to 32A. Confirm that this current limit is maintained by the Wall Connector by turning on some loads that would exceed the limit.

✓ Remote meter connected

Current Transformers

CT1 Phase A (L1)	▼
Location	
Conductor	▼
5,685.7W	<input type="checkbox"/> Flip
CT2 Phase B (L2)	▼
Location	
Conductor	▼
5,691.4W	<input type="checkbox"/> Flip
CT3 Phase B/C (L2/L3)	▼
Location	
Conductor	▼
0.0W	<input type="checkbox"/> Flip
CT4 Phase A (L1)	▼
Location	
None	▼
0.0W	<input type="checkbox"/> Flip



TROUBLESHOOTING

Energy Meter Chime Indication

Table 3.

Tone	Indication	Description
Short Beeps 	Voltage check	One beep for each voltage wire that is connected.
Short Chime 	Energy meter Wi-Fi network started	Energy meter has started hosting its own Wi-Fi network. You can join this network to configure the energy meter and connect it to your own Wi-Fi network.
Long beep 	Voltage warning (conditional)	Indicates that two wires are connected to the same phase.
Long Chimes 	Energy meter joined network successfully	Energy meter successfully joined your Wi-Fi network.
Failing tone 	Energy meter failed to join network	Energy meter was unable to join your Wi-Fi network. Energy meter will now start hosting its own Wi-Fi network again to allow you to re-connect to the energy meter and re-enter the Wi-Fi credentials.



Energy Meter LED Indication

Table 4. Energy Meter LED Indication

LED	Status	Behavior
Red	Solid	Powered
Blue	Solid	Wi-Fi Connected
Purple	Solid	Normal Operation
Blue	Slow Flashing (2s/2s)	Wi-Fi Network Lost
Blue	Fast Flashing (0.5s/0.5s)	Attempting to Join Wi-Fi Network
Green	Solid	Configuration Network Up
Purple	Blinking	Configuration Data Transfer
Yellow	Solid	Firmware Upgrade in Progress

Negative Site CT Value

The CT values in the Commissioning Wizard should be positive. If a CT value is negative:

1. Confirm **all** solar production has been turned off. Solar production greater than home consumption may result **in** negative readings
2. Confirm the CT is oriented correctly, with the "Source this Side" label facing toward the grid. If the CT is not oriented correctly, physically **flip it** or check the **Flip** box **in** the Commissioning Wizard.

