



Application Note: Advanced Methods for Connecting an Out-of-Range Tesla Remote Meter to Powerwall 3

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OVERVIEW

For installations that require remote energy metering, a Tesla Remote Meter must be installed and paired with Powerwall 3. Generally, the Tesla Remote Meter is paired with the Powerwall 3 Wi-Fi network. However, in instances where the Wi-Fi network strength from Powerwall 3 is poor, and/or the meter is installed outside the range of the Wi-Fi network, other connection methods may be required. The following connection methods are ranked in order of easiest to most difficult; begin with the first method listed, only progressing to the next method if that one does not resolve the issue.

1. Option 1: Move the meter closer to the Leader Powerwall 3 to enable pairing.
2. [Option 2: Extend the Remote Energy Meter Antenna Outside the Enclosure on page 3](#)
3. [Option 3: Hard Wire the Meter via RS-485 on page 4](#)
4. [Option 4: Advanced Connection via TP-Link Wi-Fi Extender on page 5](#)



OPTION 2: EXTEND THE REMOTE ENERGY METER ANTENNA OUTSIDE THE ENCLOSURE

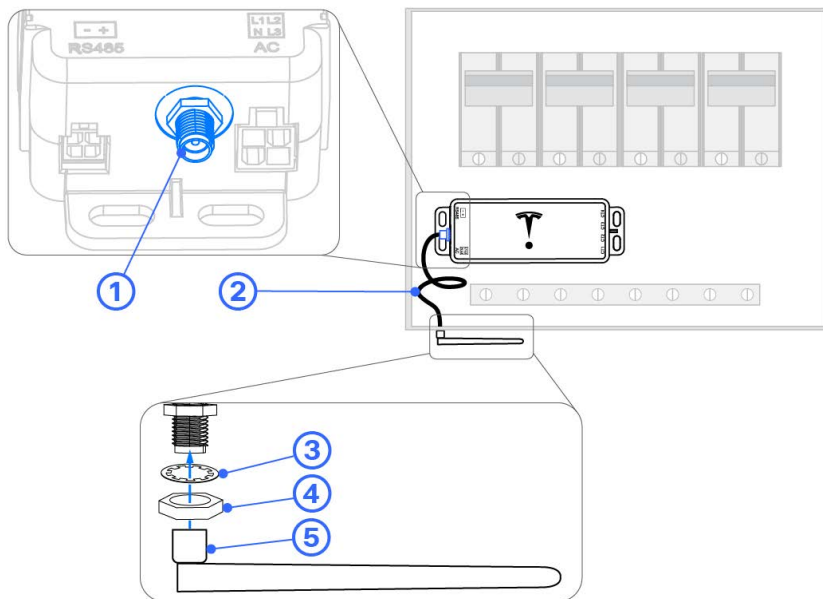
When using Wi-Fi as the connection method, remote meters placed inside of load centers can be subject to signal interference, especially when a panel cover is installed. For best performance, where possible, use the included external antenna and the antenna extension cable to extend the external antenna.

1. Drill a 6 mm hole in the bottom of the enclosure to prevent water intrusion.
2. Route the provided antenna extender through the enclosure hole as shown below.



CAUTION: Ensure that the antenna extension cable is routed such that it is not touching any high voltage (HV) components.

3. Thread the provided lock washer and nut onto the extender, then thread the antenna onto the end of the extender.
4. Secure the antenna against the bottom of the enclosure.



1	External antenna input
2	External antenna extender
3	Lock washer
4	Nut
5	External antenna



OPTION 3: HARD WIRE THE METER VIA RS-485

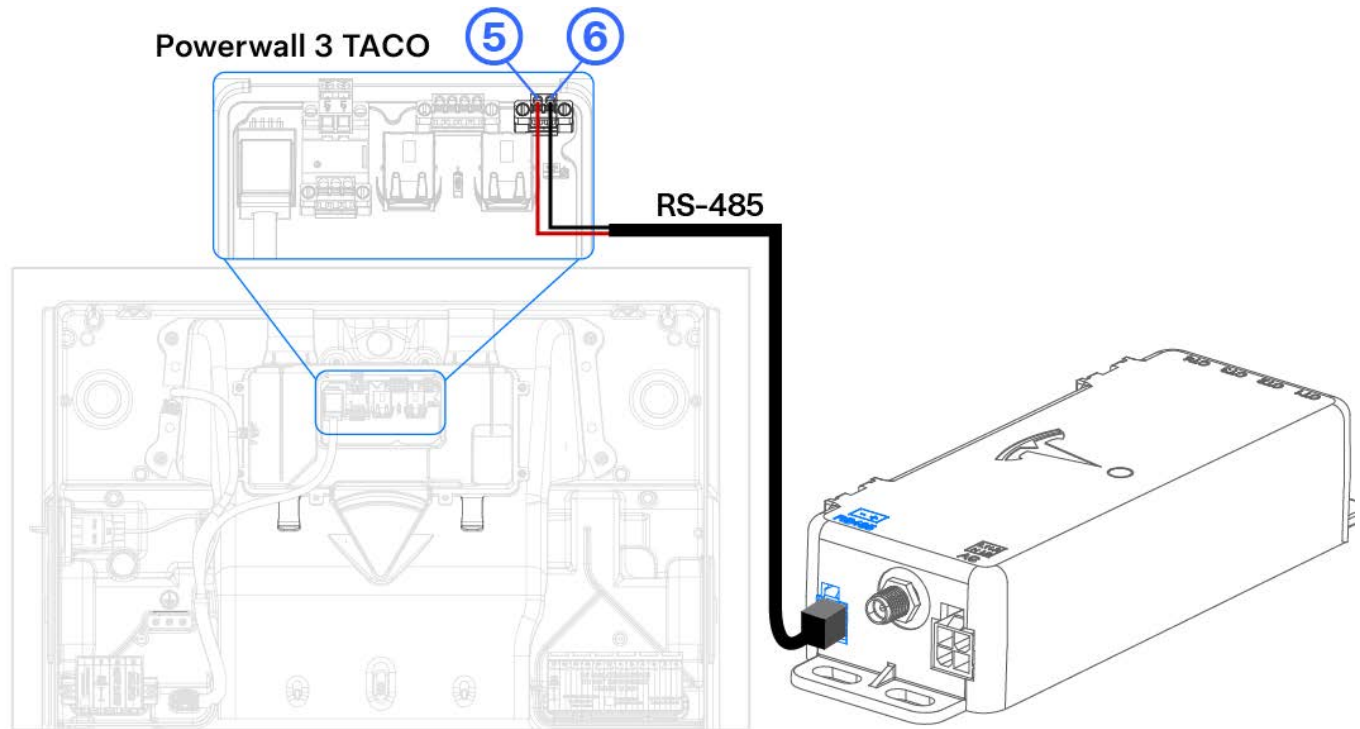
 **NOTE:** The RS-485 harness (Tesla P/N 2045794-xx-y) is an accessory that must be ordered separately from the meter kit.

Connect Tesla Remote Meter to Powerwall 3 via RS-485

Wire the Tesla Remote Meter to the Powerwall 3 Tesla Asset Controller (TACO) via RS-485 (RS485).

 **NOTE:** If required, extend the RS-485 harness up to 100 m using 0.2 - 1.5 mm² shielded twisted pair with drain wire.

1. Plug the 2-conductor RS-485 harness into the RS-485 terminal on the meter.
2. Connect the harness leads to the TACO by inserting them in the corresponding **Remote Energy Meter** connector.



TACO Remote Energy Metering Port Pin	Terminal Name	Wire Gauge
5	RS-485 +	0.2-1.5 mm ² or CAT5
6	RS-485 -	

Meter and CT(s) configuration must be performed during commissioning in the Tesla One app. See .

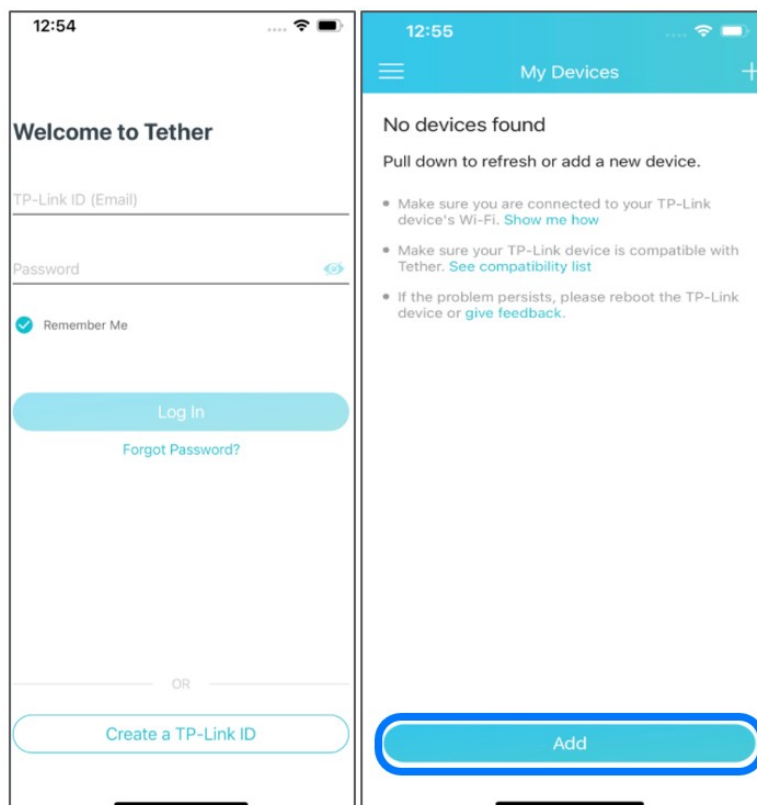
 **NOTE:** If extending the RS-485 harness with wiring that includes a metal shield or drain wire, cut the excess shield and/or drain and insulate it with electrical tape.



OPTION 4: ADVANCED CONNECTION VIA TP-LINK WI-FI EXTENDER

A TP-Link Wi-Fi extender can be used to rebroadcast the TeslaPW Wi-Fi network, increasing its range so that the Tesla Remote Meter can pair over the network. Tesla recommends the TP-Link AC1200 Wi-Fi Range Extender (<https://www.tp-link.com/us/home-networking/range-extender/re305/>). Other Wi-Fi extenders may work but have not been validated by Tesla for this application.

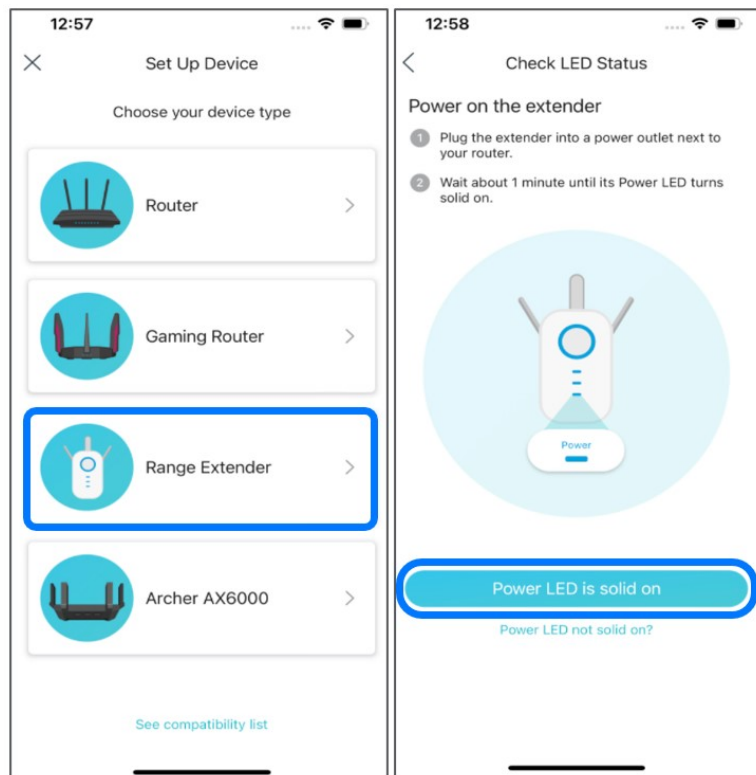
1. Plug the Wi-Fi extender into an outlet that is as close to Powerwall 3 as possible.
2. Download the TP-Link **Tether** app.
3. Sign in using your TP-Link account, or create a new account.
4. Once logged in, select **Add Device** at the bottom of the *My Devices* page.



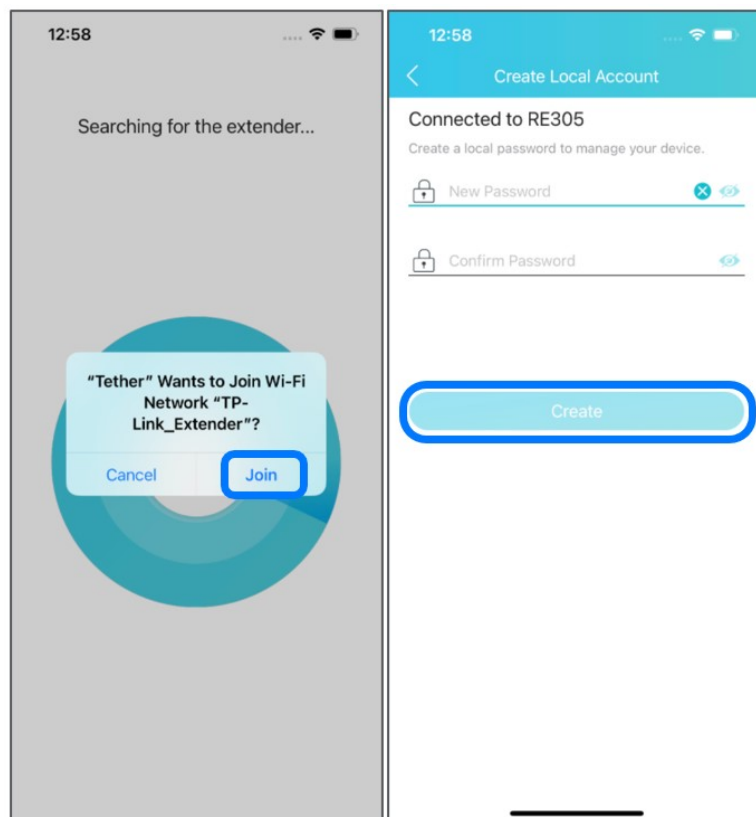
5. Select **Range Extender**.
6. Select **Power LED is solid on** once the Wi-Fi extender turns on.



OPTION 4: ADVANCED CONNECTION VIA TP-LINK WI-FI EXTENDER



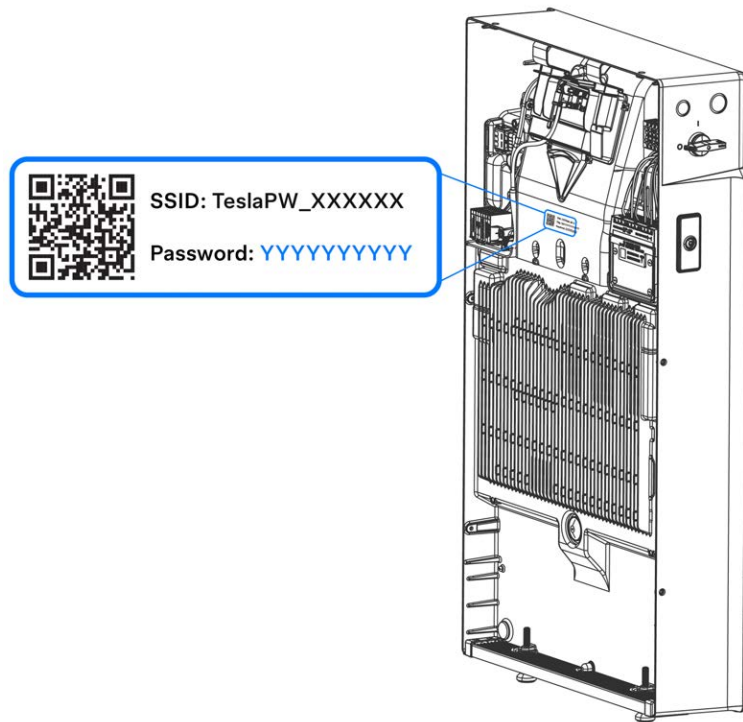
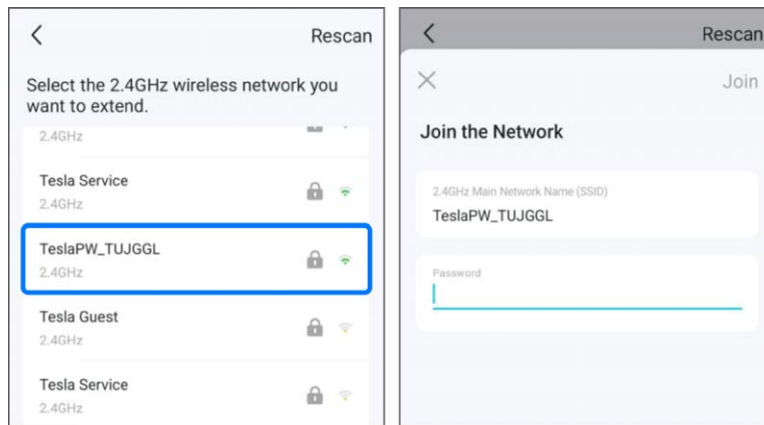
7. Connect your mobile device to the extender Wi-Fi network, selecting **Join** when prompted.
8. Enter a new password to manage the extender (the password can be anything) and select **Create**.



9. Select the TeslaPW from the list of available 2.4 GHz access points.
10. Enter the Powerwall 3 Wi-Fi password (found on label on Tesla Asset Controller (TACO)).



OPTION 4: ADVANCED CONNECTION VIA TP-LINK WI-FI EXTENDER



11. Select **Skip** on the 5 GHz network option page.
12. On the *Confirm the extender's settings* page, select the **Edit** icon next to the TeslaPW-xxx_2.4GEXT SSID (the 2.4 GHz option). Remove the "_2.4GEXT" text, leaving only "TeslaPW-xxx". Do not edit the 5GHz SSID so the meter does not join that network by accident.



OPTION 4: ADVANCED CONNECTION VIA TP-LINK WI-FI EXTENDER

The first screenshot shows the 'Select the 5GHz wireless network that you want to extend.' screen. It lists 'Likely Networks' including 'PohWire' and 'Giantsfan', and 'Other Networks' including 'Giantsfan-guest' and 'PohWire'. A blue box highlights the 'Skip' button in the top right corner.

The second screenshot shows the 'Confirm the extender's settings:' screen. It includes a note: 'Note: The extended wireless network passwords are the same as your main network passwords.' It displays the '2.4GHz Extended Network Name' as 'TeslaPW_TUJGGL_EXT' and the 'Password' as 'LDTZCUMCZA'. It also shows the '5GHz Extended Network Name' as 'TeslaPW_TUJGGL_5GEXT' and the 'Password' as 'SDC119164000001'. Blue boxes highlight the edit icons next to the network names.

The third screenshot shows the 'Extended Network' screen. It has a '2.4GHz' toggle switch turned on. The '2.4GHz Network' section shows the 'Network Name (SSID)' as 'TeslaPW_TUJGGL' and the 'Password' as 'LDTZCUMCZA'. The 'Security' is set to 'WPA/WPA2-Personal' and 'Hide SSID' is turned off. A blue box highlights the 'Save' button in the top right corner.

13. Select **Apply**.

The first screenshot shows the 'Confirm the extender's settings:' screen. It displays the '2.4GHz Extended Network Name' as 'TeslaPW_TUJGGL' and the 'Password' as 'LDTZCUMCZA'. It also shows the '5GHz Extended Network Name' as 'TeslaPW_TUJGGL_5GEXT' and the 'Password' as 'LDTZCUMCZA'. A blue box highlights the 'Apply' button at the bottom.

The second screenshot shows the 'Applying your settings...' screen. It displays a progress bar at 3% and a large circular icon of a Wi-Fi extender.

14. Wait for the app to apply the settings.
15. Click through the remaining pages to complete setup.
16. Complete the nominal Wi-Fi pairing instructions to pair Tesla Remote Meter with Powerwall 3 (see the [Device Setup Guide](#) for complete instructions).



REVISION HISTORY

Date	Revision	Changes
October 30, 2025	1.1	Added Option 2: Extend the Remote Energy Meter Antenna Outside the Enclosure on page 3
October 6, 2025	1.0	Initial publication