SmartHome™
energy system

Wireless Home Energy Manager

POWERED BY
SIMPSON & PARTNERS

installation guide

Introduction

The Wireless Energy Manager is a clever little device that enables S&P chargers to home load balance and solar charge without using a wire connected current transformer.

The Wireless Energy Manager uses high performance LoRa wireless technology to deliver excellent signal penetration and range.

In normal operation the Wireless Energy Manager requires no power source. The energy harvested from the measurement CT is used to charge an internal long-life battery.

NOTE: When the Wireless Energy Manager is connected to a S&P charger it operates with a G100 compliant failsafe function.

Safety Disclaimer

This equipment should only be installed by a qualified electrician with an understanding of the electrical and building regulations.

The installer and/or designer is responsible for the installation in its entirety, any internal protection provided by the manufacturer must be confirmed through commissioning and testing of the equipment installed.

Particular environments and locations may have an effect on internal protection and the reliability of the equipment.

The installation instructions should be followed closely to ensure correct installation and commissioning, failure to follow these instructions could result in damage to the Wireless Energy Manager, existing installation or supplier's equipment.

Installation Location

The S&P Wireless Energy Manager is for the installation indoors only.

Safety Notice

This equipment should be installed, repaired and maintained only by a qualified person. S&P take no responsibility for any consequences arising out of the use of this documentation.

A qualified person is one who has skills and knowledge related to the construction, installation and operation of electrical equipment and who has received the appropriate safety training to recognize and avoid the hazards involved.

All applicable local, regional and national regulations must be followed when installing, repairing and maintaining this equipment. Read this guide carefully and examine the equipment to become familiar with its operation.

List of parts

- Wireless measurement and transmission module
- Wall mount bracket
- CT clamp x 1 (SINGLE-PHASE MANAGER)
- CT clamp x 3 (3-PHASE MANAGER)
- Live current direction antenna wire
- Installation guide

Compatibility

The Wireless Energy Manager – is compatible only with S&P chargers.

The unit has been pre-calibrated in the factory and does not require on site calibration.

Warning: Only use the provided CT which has no burden resistor. Use of a standard CT will damage the unit.

Range

The unit uses a high performance LoRa transmission technology.

Standard Mode:
The transmission range from the Home energy manager to the charger in standard mode is up to approximately 65m when penetrating some physical obstructions.

Long Range Mode (Available in 2023 models):
The transmission range from the Home energy manager to the charger in long range mode is up to approximately 120m when penetrating some physical obstructions.

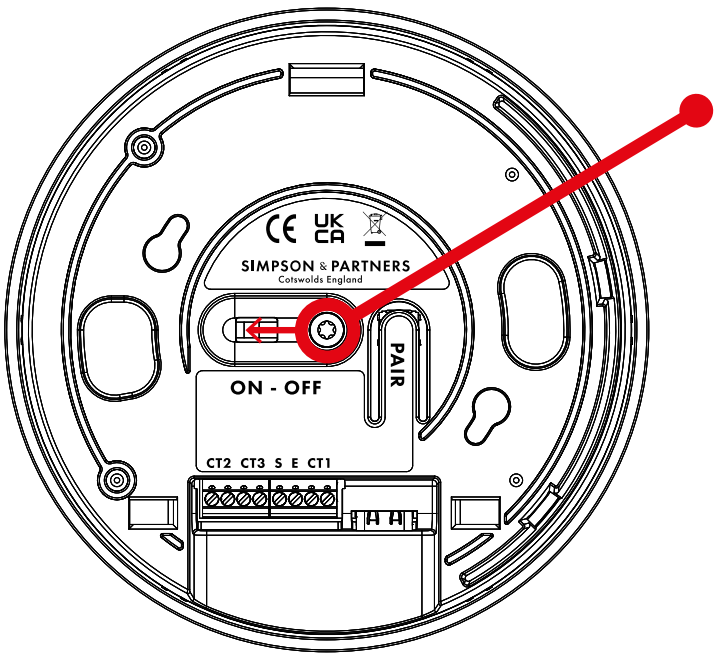
This mode is only supported when using a external USB-C power supply.

Getting Ready

Ensure the EV charger is installed in the desired location before attempting to pair.

Also check the latest firmware is installed on the charger before commencing with the pair process.

Now you are ready to pair it with Home Energy Manager.



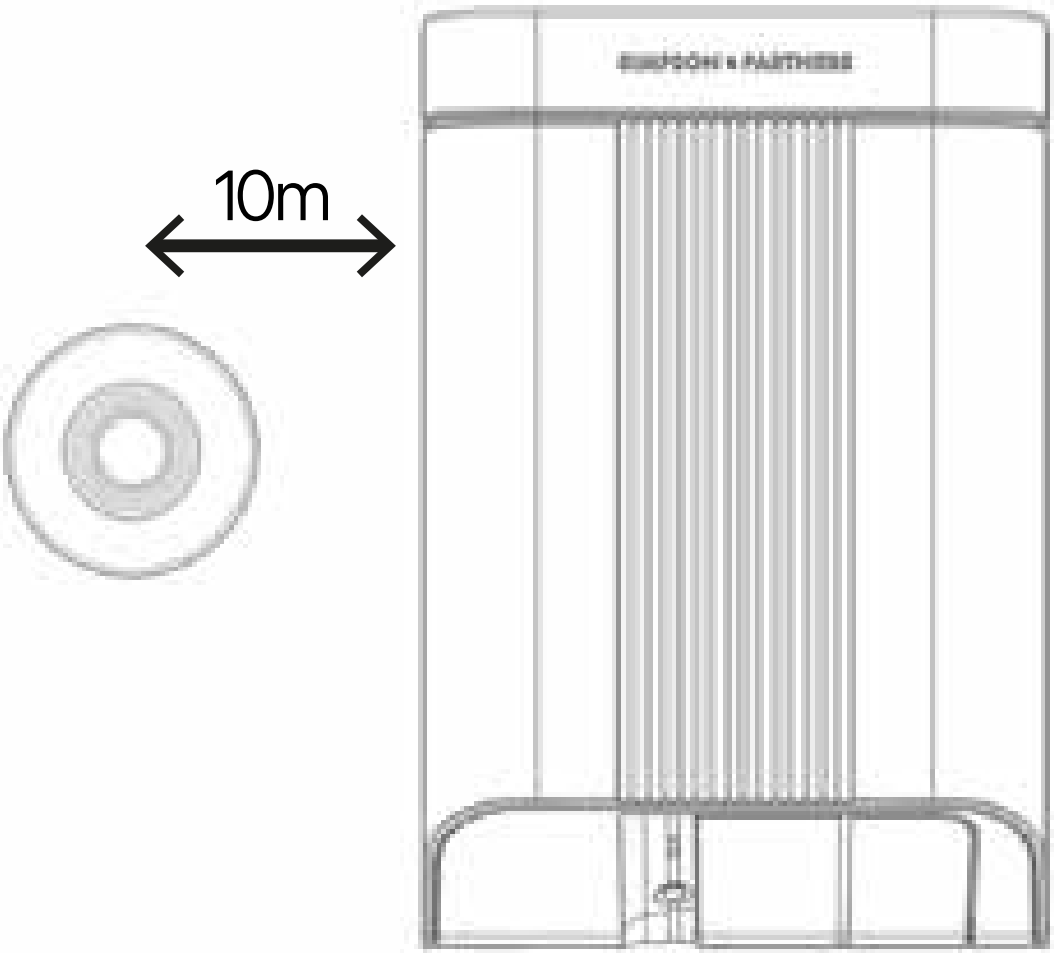
Step 1

Slide the button to the on position

Note: Be ready to pair the unit to the EV charger within the next 5 minutes. If the Home Energy Manager is powered on for an extended period without harvesting, the battery will run flat.

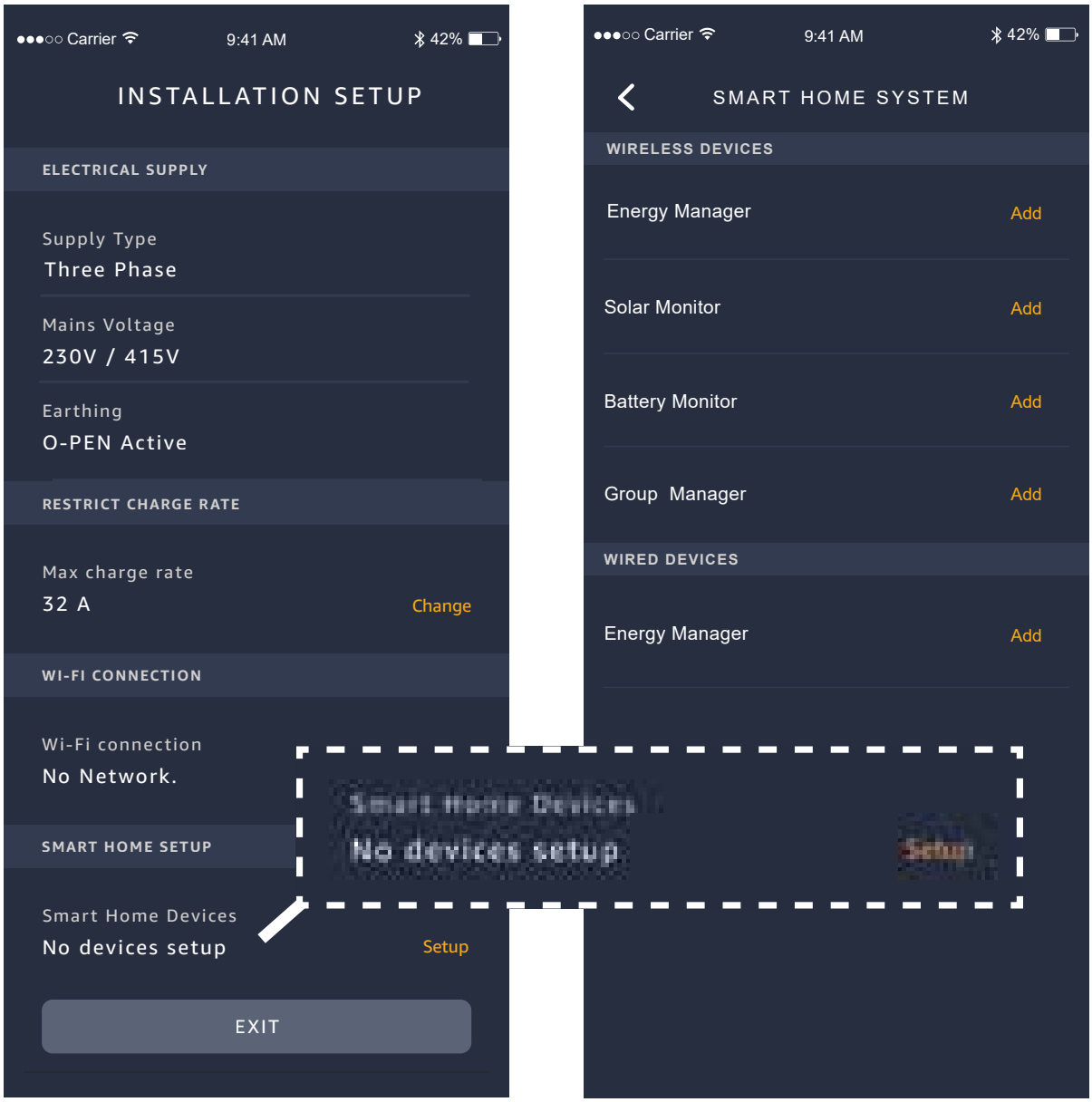
Step 2

Hold the Wireless Energy Manager within 10m of the charger you want to pair it to.

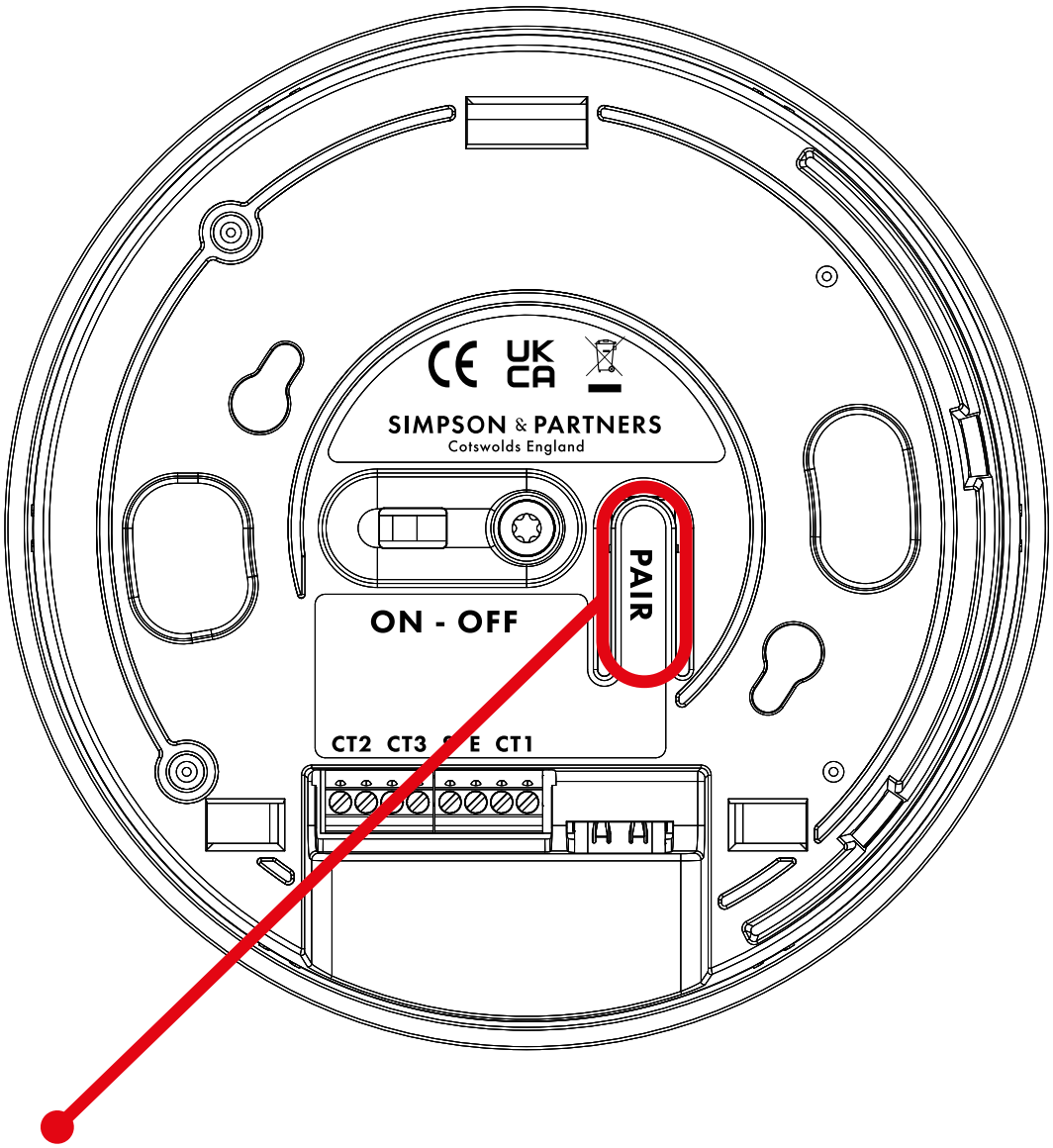


Step 3

Open the S&P app, select the charger you wish to pair with (should you have more than one), select Installation Menu then select Smart Home Devices.



Step 4



Press ‘pair’ button for 2 seconds.

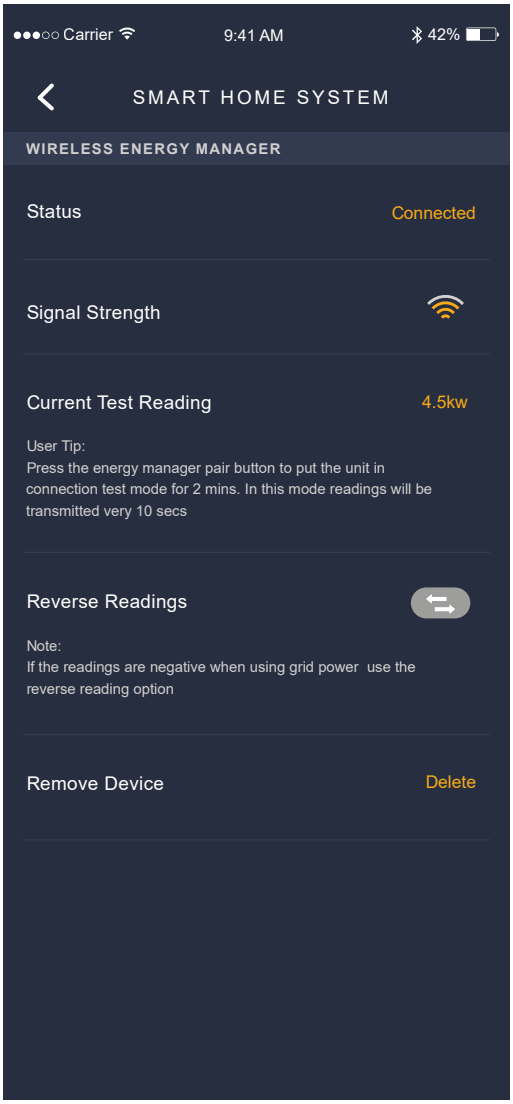
The unit will remain in pairing mode for 2 mins.

Step 5

Check screens for the pair process.

The Wireless Energy Manager will appear in the Wireless Devices menu.

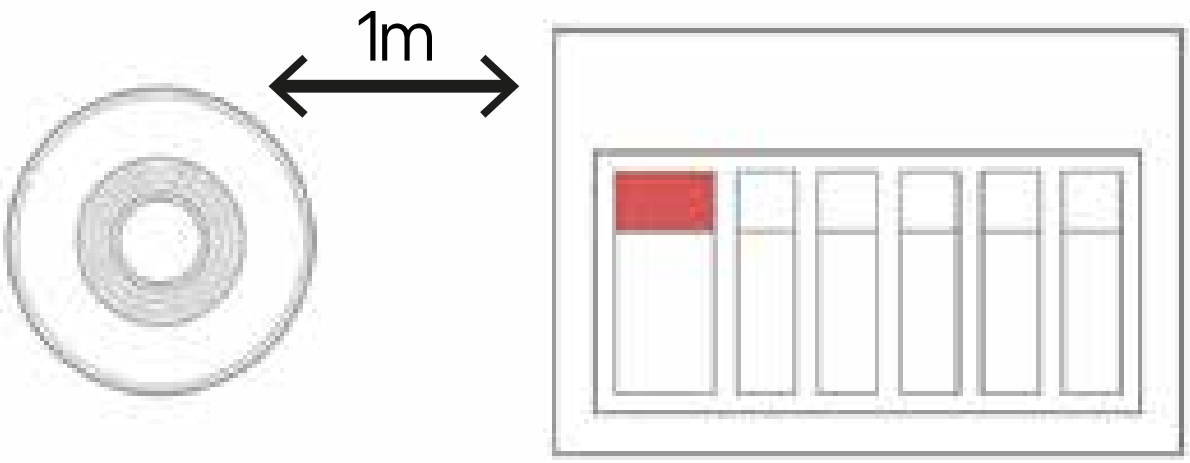
Select ‘Add’.



The Wireless Energy Manager will appear as ‘Connected’.

Step 6

Move the paired Wireless Energy Manager to within 1m of the consumer unit.



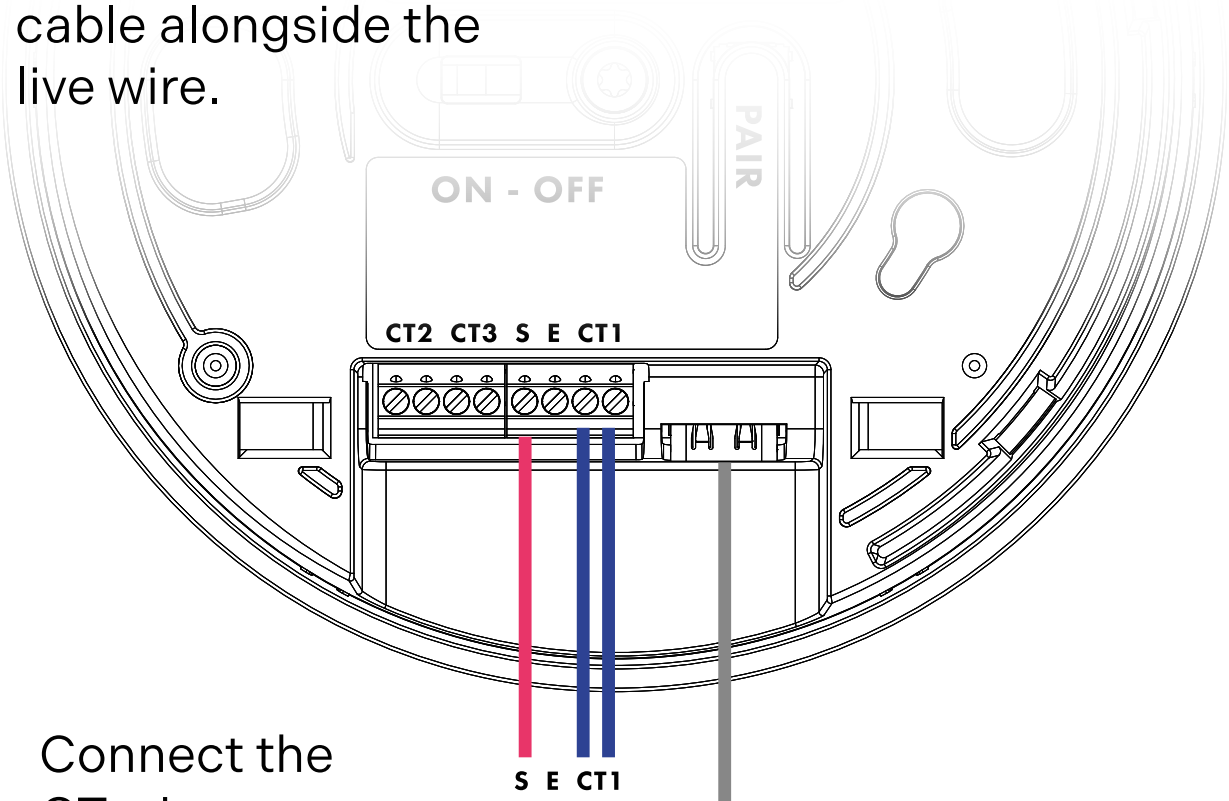
Step 7

Terminate Wires:
for Single-phase go to Step 7a
for 3-phase go to Step 9

Warning: Only use the provided CT which has no burden resistor. Use of a standard CT will damage the unit.

Step 7a

Attach the antenna cable alongside the live wire.



Connect the CT wires to the CT1 terminations.

USB-C
(long range mode only)

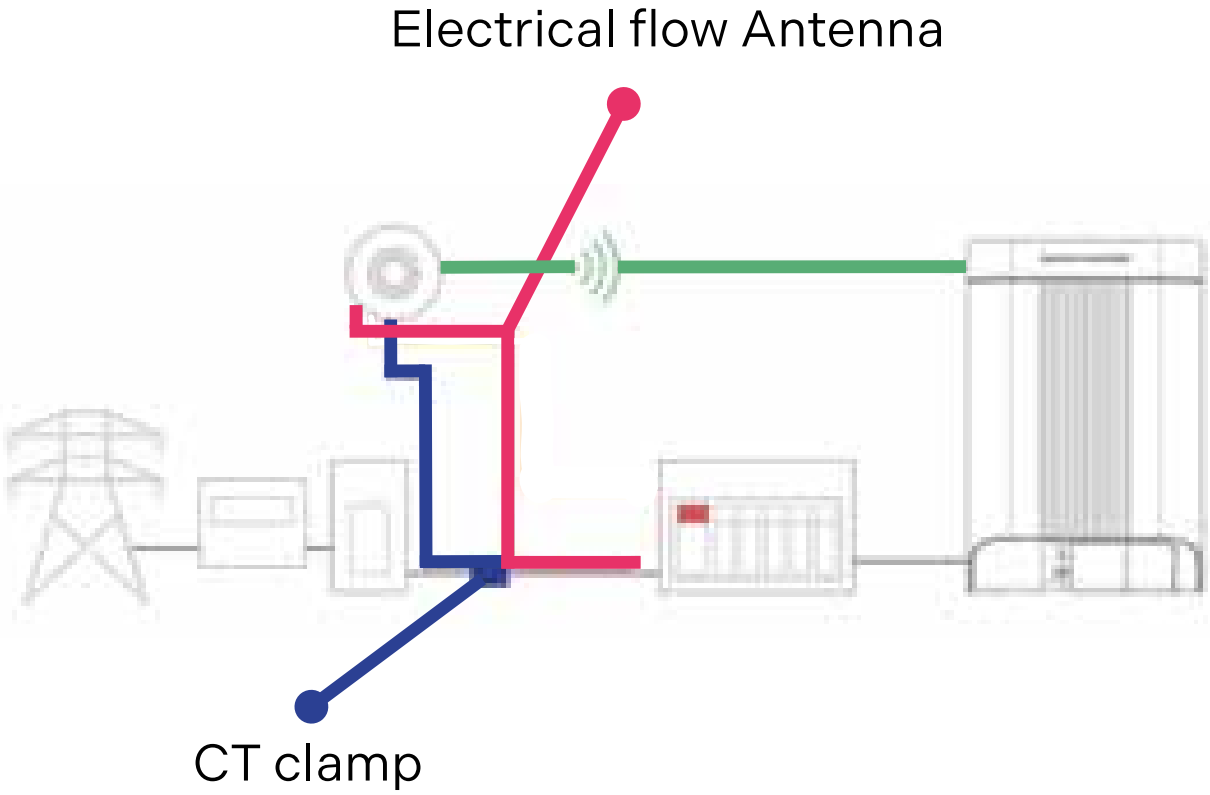
USB-C connection for **Long Range Mode only.** Connect USB cable to a 5V USB power supply.

Long Range Mode automatically activates as soon as the external USB-C power is detected.

Step 8

Fit the CT clamp around L1.

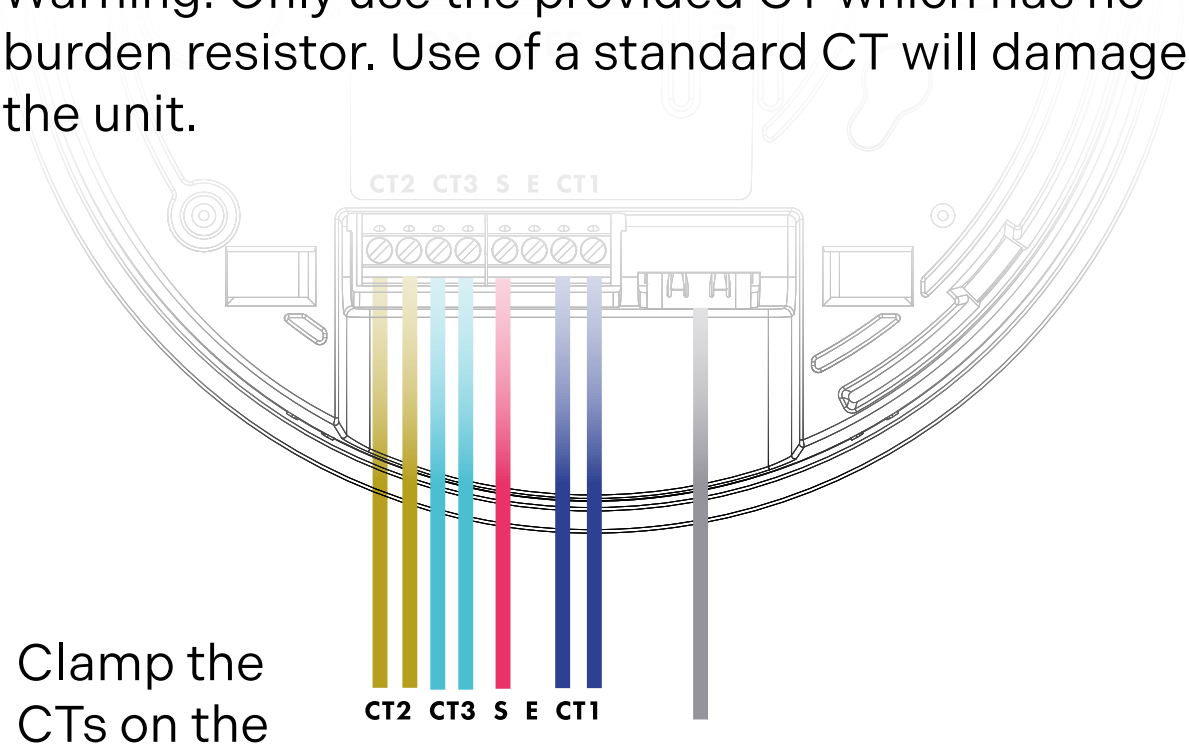
Wiring example (single-phase)



Step 9

3-phase termination

Warning: Only use the provided CT which has no burden resistor. Use of a standard CT will damage the unit.



Clamp the CTs on the Live cables.

USB-C
(long range mode only)

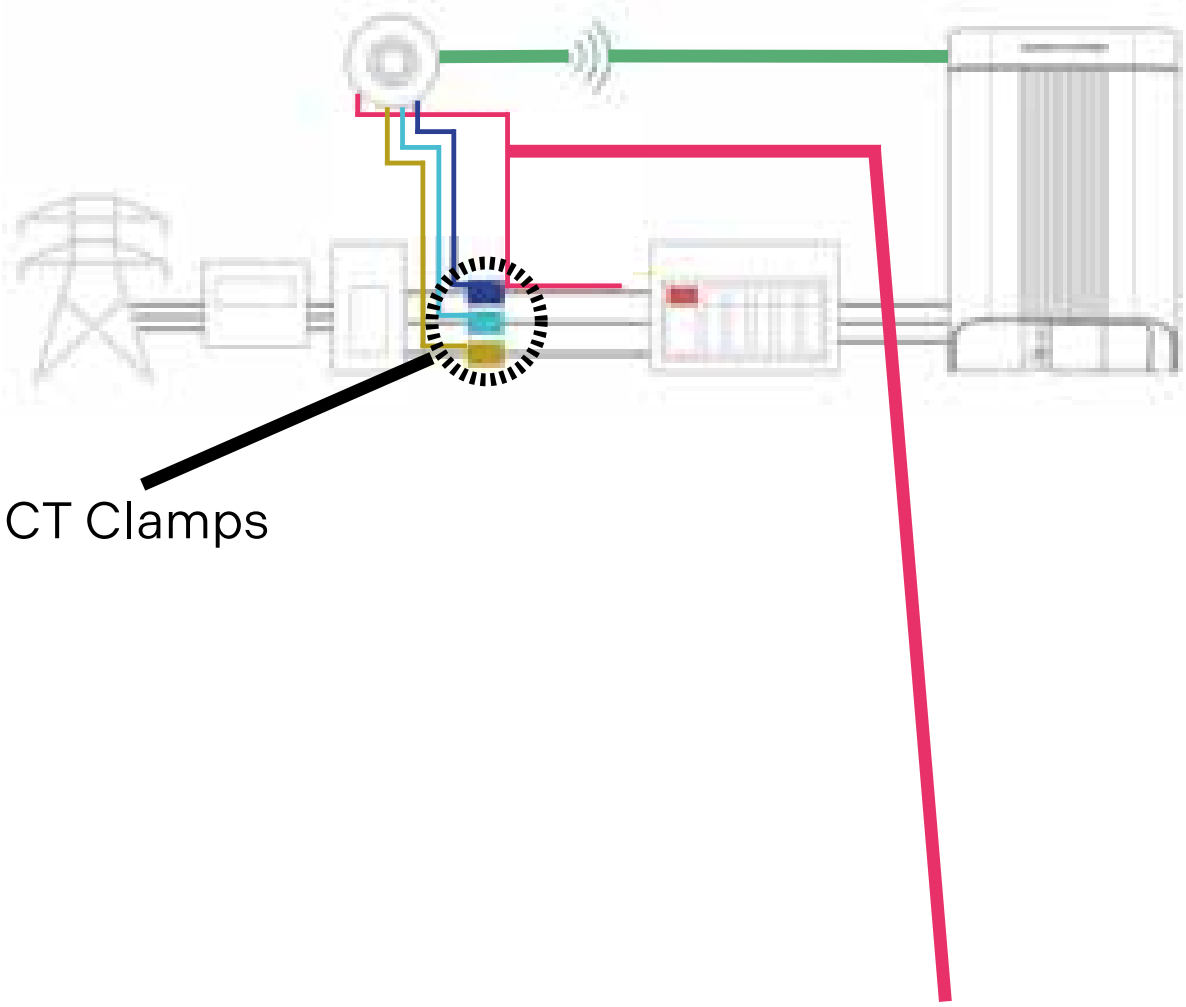
USB-C connection for **Long Range Mode only.** Connect USB cable to a 5V USB power supply.

Long Range Mode automatically activates as soon as the external USB-C power is detected.

Step 10

Fit the CT Clamps x 3 around L1, L2, L3

Wiring example (3-phase)



NOTE: There must be no electrical connection to the Live conductor.

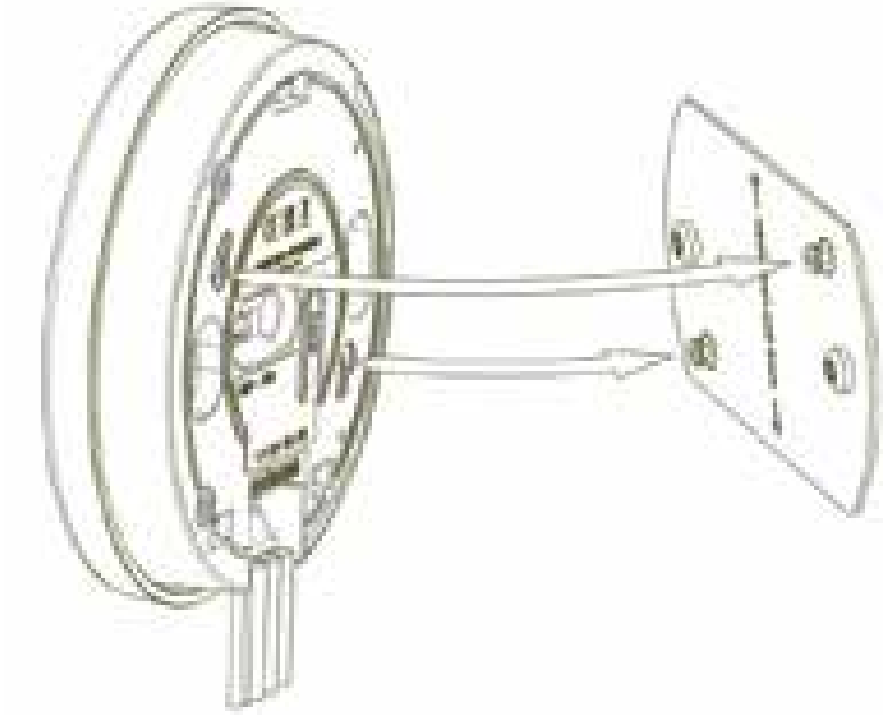
Maintain appropriate clearances from any connection to the live or neutral and check that the insulation is un-damaged.

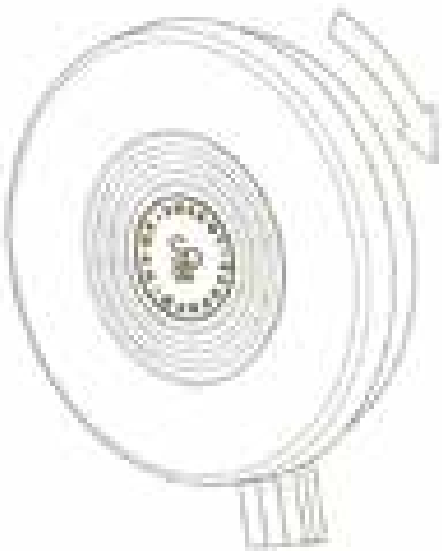
This is an example of a typical Energy Manager antenna installation.

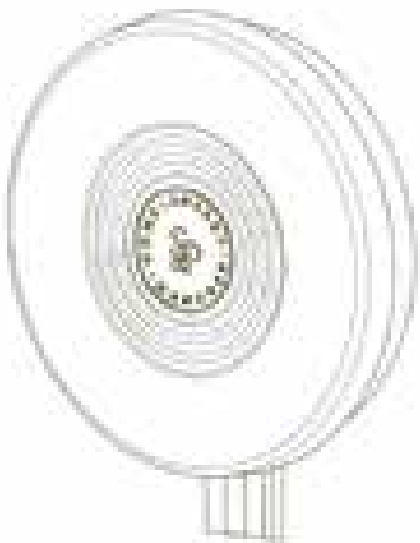
- The antenna wire must run alongside the live wire as shown. It can be held with Ty-wraps or tape.
- It can be on either the input side or the output side of the meter, whichever is more convenient.
- The length is not critical, but the longer the better. This example shows the minimum length.
- It must be attached to the Live wire, not the Neutral.
- Avoid running the remainder of the antenna wire alongside any other conductor, as this will weaken the signal.

Step 11

Wall mounting (optional)

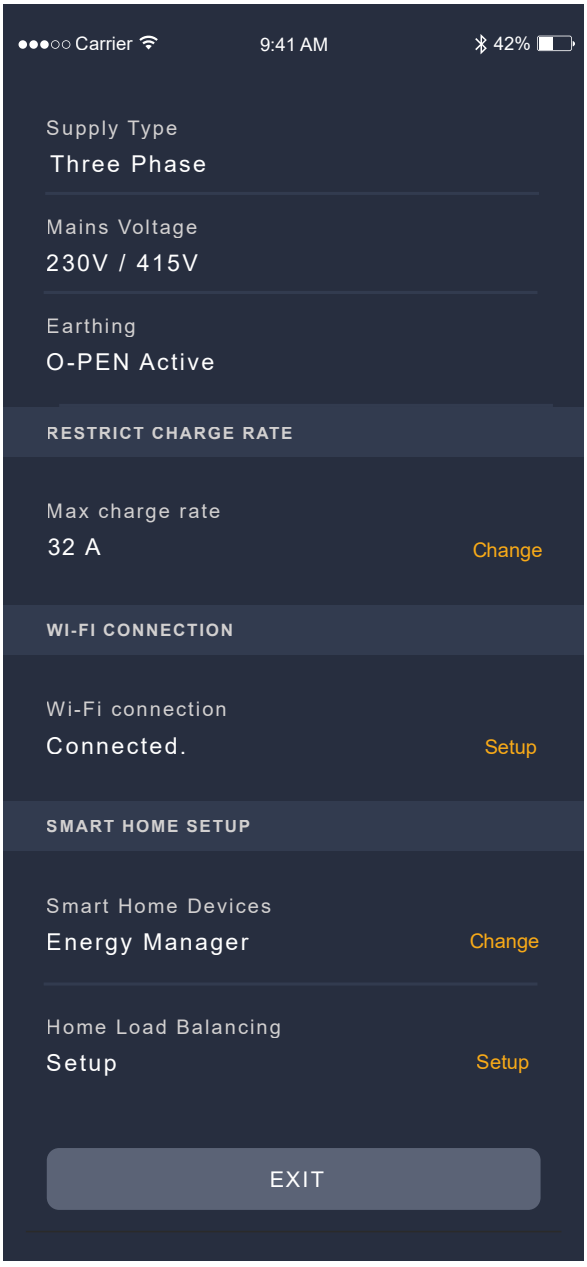


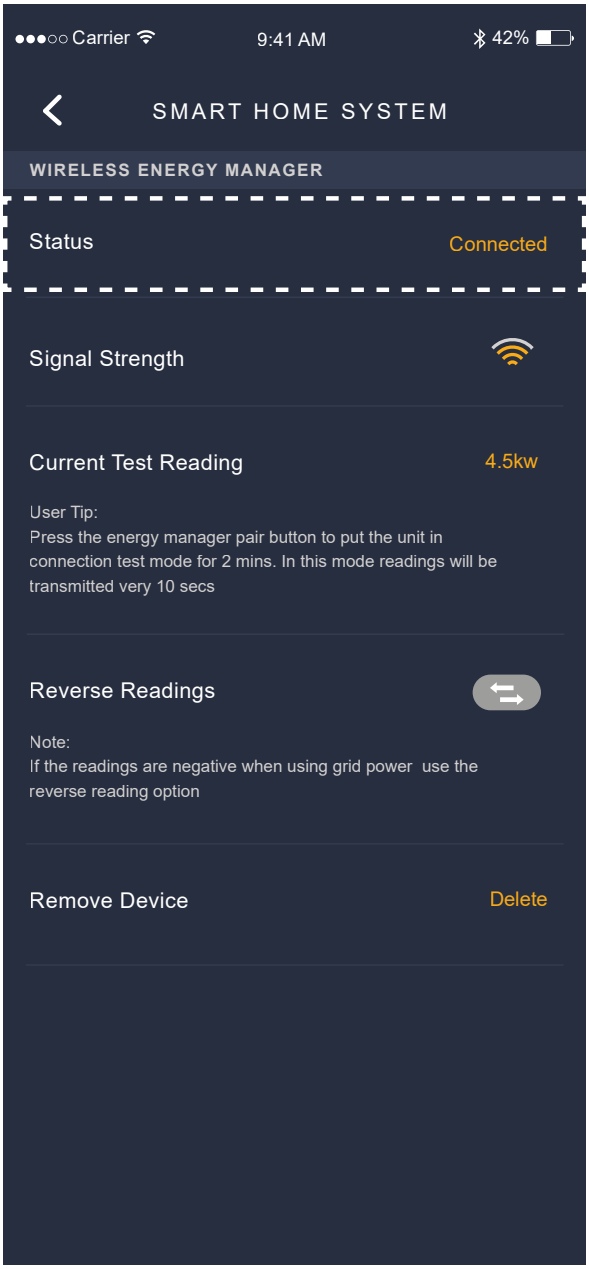




Step 12

Check connection

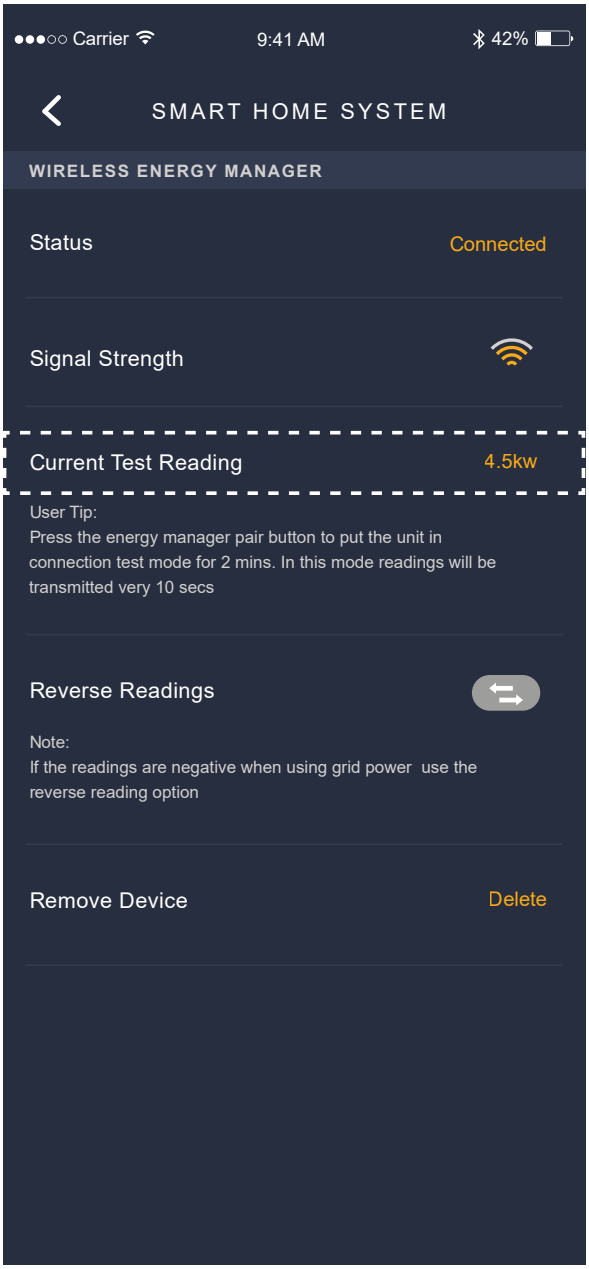




Check the Wireless Energy Manager is connected to the charger.
Status should be ‘Connected’.

Step 12

Check connection



Check the Wireless Energy Manager is reading the right direction.

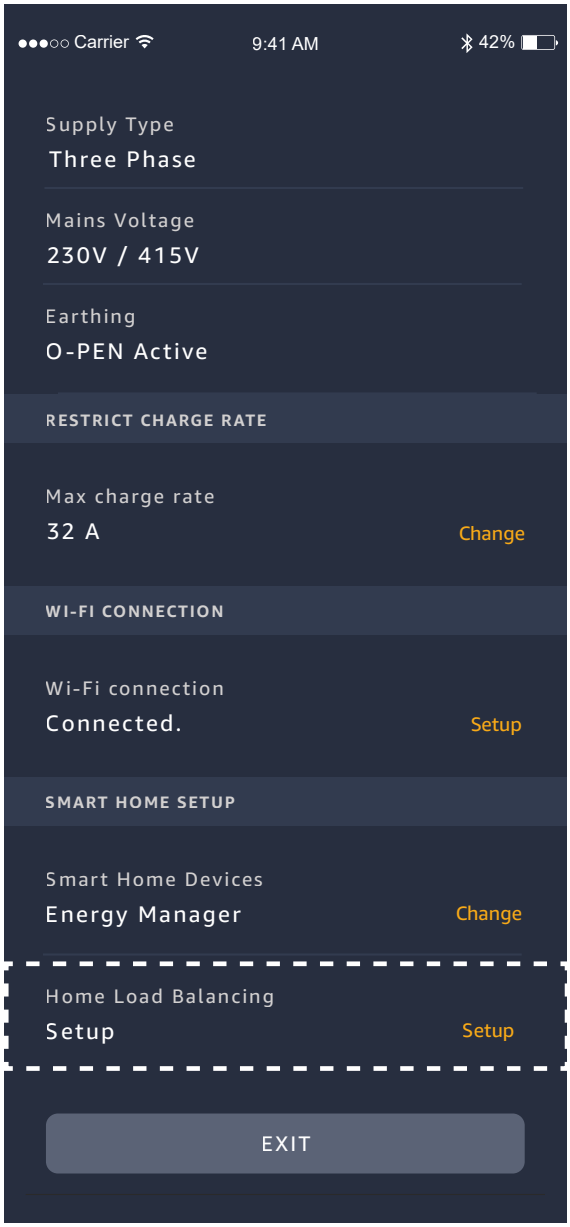
When the home is not exporting to the grid, you should see a positive Power Test reading.

When the home is exporting to the grid, you should see a negative Power Test Reading.

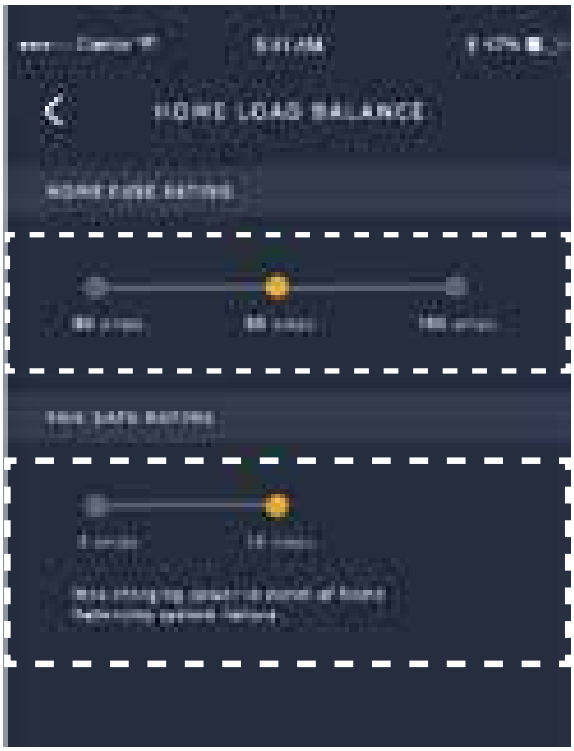
Handy Note: If the readings are incorrect, simply select the Reverse Reading button to flip the readings (no need to rewire the CT).

Optional steps

Setup Home Load Balancing



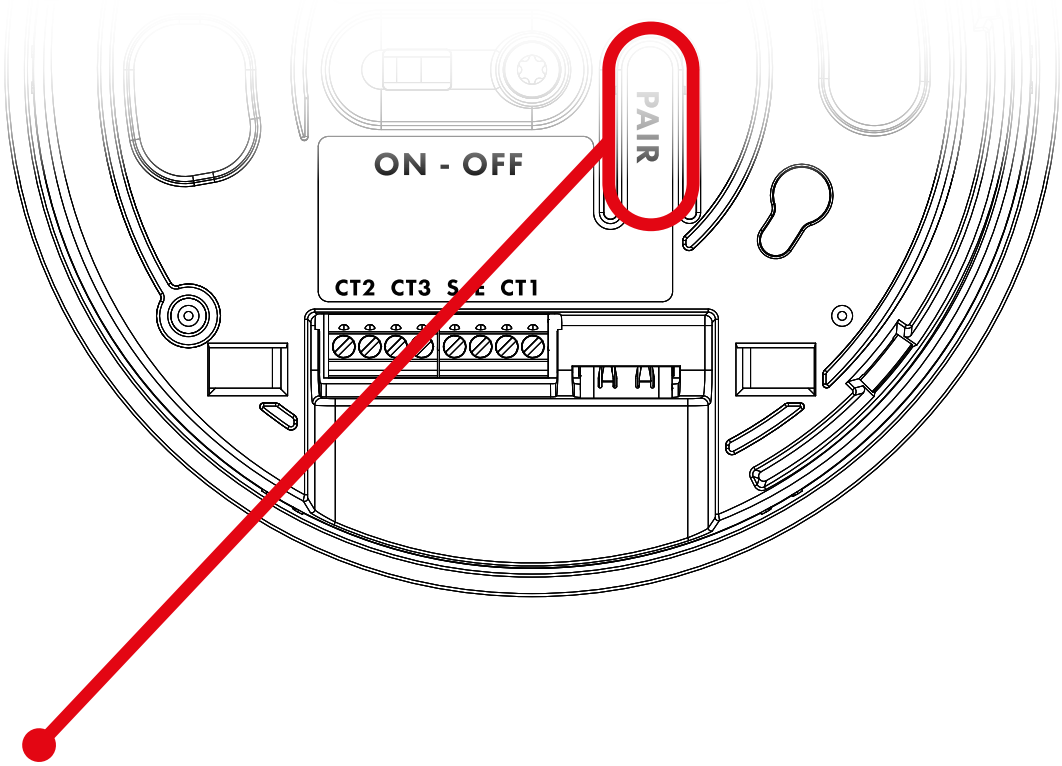
1. Select the Home Load Balancing setup option.



2. Set the home fuse rating.

3. Set the failsafe fuse rating.

How to get into Test Mode



To check the energy reading is correct, you may wish to put the Wireless Energy Manager into test mode.

Press the PAIR button for more than two seconds to put the already paired Wireless Energy Manager into test mode. In test mode it will transmit readings every 10 seconds. It will remain in test mode for 2 minutes.