

**PCT512-Z**

**ZigBee Touchsreen Thermostat (EU)**

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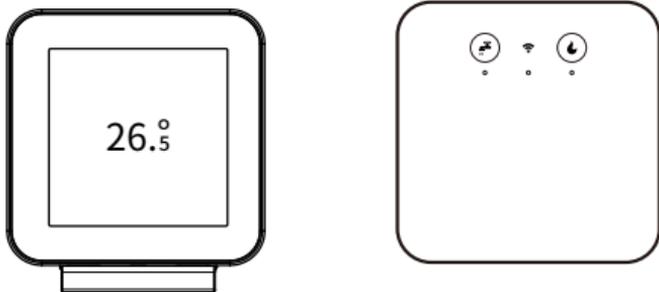
Quick Start Guide

# Safety Handling

**WARNING:** Failure to follow these safety notices could result in fire, electric shock, other injuries, or damage to the Thermostat and other property. Read all the safety notices below before using the Thermostat.

- Avoid high humidity or extreme temperatures.
- Avoid long exposure to direct sunlight or strong ultraviolet light.
- Do not drop or expose the unit to intense vibration.
- Do not disassemble or try to repair the unit on your own.
- Do not expose the unit or its accessories to flammable liquids, gases or other explosives.
- Do not use harsh chemicals or strong detergents to clean it.
- Do not place it where infants and young children can touch, children should use under parental supervision.
- Do not touch it when powering on to ensure your safety.
- Indoor use only.

# 1 Welcome



The ZigBee Touchscreen Thermostat (EU) makes it easier and smarter to control your household temperature and hot water status. You can replace wired thermostat or connect wirelessly to the boiler through receiver. It will maintain the right temperature and hot water status to save energy when you at home or away.

This guide will provide you an overview of the product and will help you to use it.

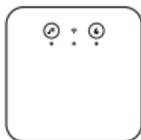
## Compatibility:

- 230V Combi boiler
- Dry contact Combi boiler
- System and heat-only boilers
- Domestic hot water tanks

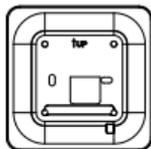
## 2 In the box



**PCT512-Z  
Thermostat**



**Receiver**



**Trim plate**



**Thermostat Stand**



**Pin Header**



**4\*Screws**



**4\*Drywall plugs**



**Power adapter**



**USB Cable**



**User guide**

## 3 Installation Guide

### Warning!

- High voltage! The PCT512 thermostat must be installed and serviced only by a qualified electrical personnel.
- Do not touch the terminals of the device during testing.
- Make sure that the power supply is off before connecting or disconnecting it.
- Always use a phase or voltage tester to confirm power is off.

**Failure to follow these instructions will result in death or serious injury.**



Before you get started, please confirm you have turn off the heating system. Note! You are working with mains voltage, so protect yourself. Please double check whether the system is off by adjusting the temperature through your old thermostat.

**OFF**



Breaker box

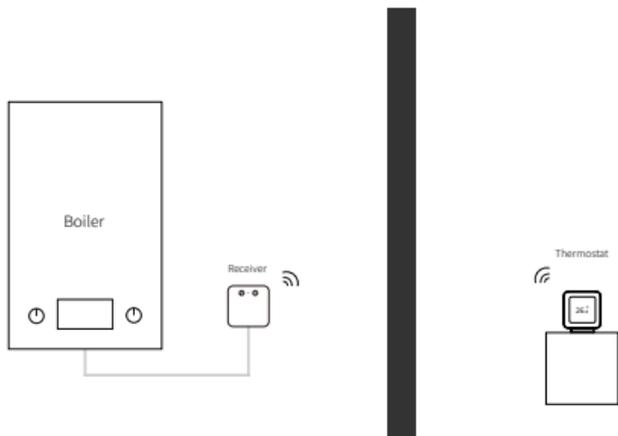
or



Switch

# Wireless Installation

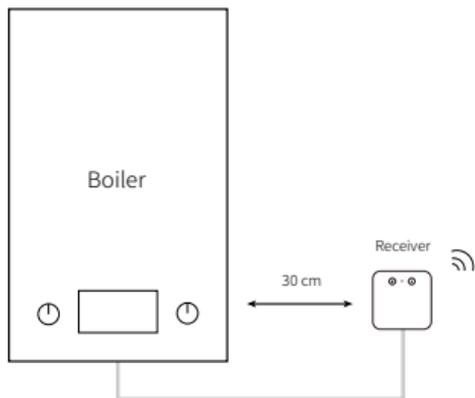
If there are no existing boiler wires through the wall in your home, or you have never installed a thermostat before. It is recommended that you install the thermostat wirelessly. Otherwise, please refer to the '**Wired installation**' chapter to install.



In this installation option, the thermostat is powered by the adapter and controls your boiler wirelessly.

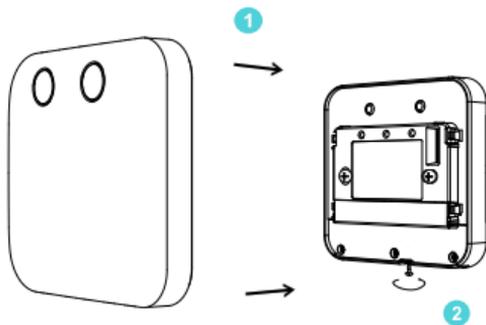
## Step 1. Installing receiver

The receiver need to be mounted near your boiler and should be placed at least 30cm distance from any metal objects (wiring, pipes, electrical grid, wallboxes and boiler...). Please find a suitable position to install.



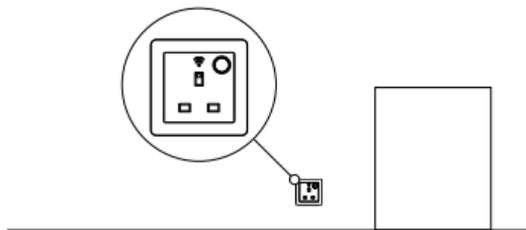
## Step 2. Wiring

Refer to Chapter '**Receiver Wiring**' (Page 14) to complete the wiring. After that, close the Receiver cover back and tighten the screw to secure the Receiver.

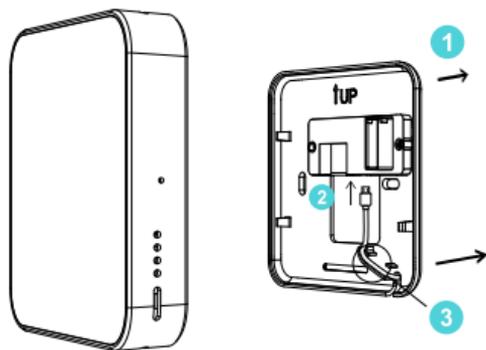


### Step 3. Installing thermostat

The thermostat is powered by the adapter, so please find a suitable position with a socket to mount. You can mount the thermostat on the wall or using the stand included.

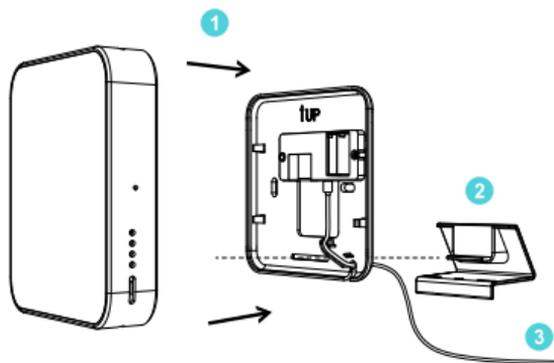


Once the best position has been identified, remove the backplate from the Thermostat. Insert the USB connector and clip the cable into the groove on the backplate to hold it in place.



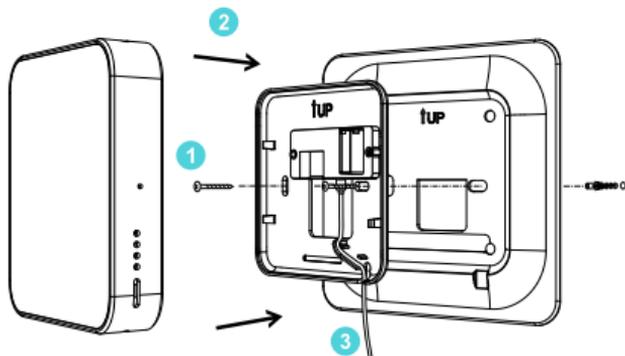
- Stand

Press the backplate back to the thermostat, then fix the stand to it. After that, you can place the thermostat on desk, shelf or other flat surface and insert the USB cable to socket with adapter.



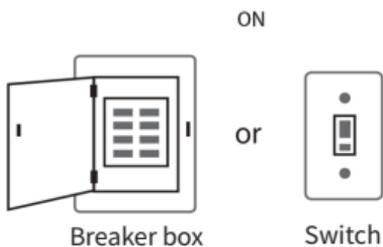
- Wall mount

Mount the backplate to the wall using screws and plugs provided (Use the Trim Plate behind it hide hole if needed). After that, gently press back the thermostat to its backplate and insert the USB cable to socket with adapter.



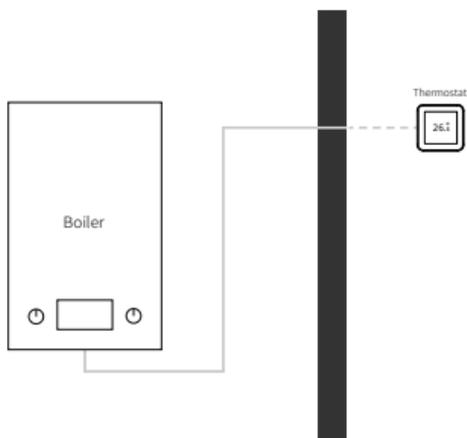
## Step 4. Power on your system

Congratulation! The installation is finished. Please power on your system.



# Wired Installation

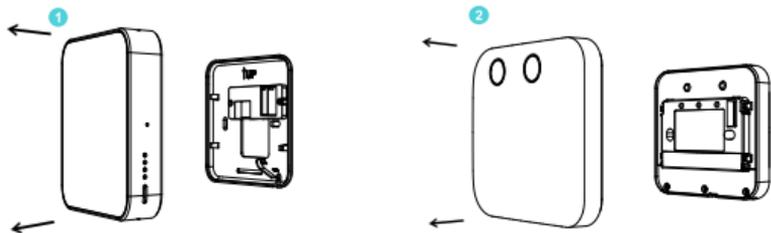
If you want to replace a wired thermostat, or there have existing wall-wires. It is recommended that you install the thermostat by wire. The following is one of wired installation ways, you can also refer to FAQ to install in other way.



In this installation option, the Thermostat is powered and controls your boiler directly by using the existing wall-wires.

## Step 1. Disassembly

Remove the cover of the receiver and the backplate of the Thermostat. In this installation, you won't need them. Keep them aside.

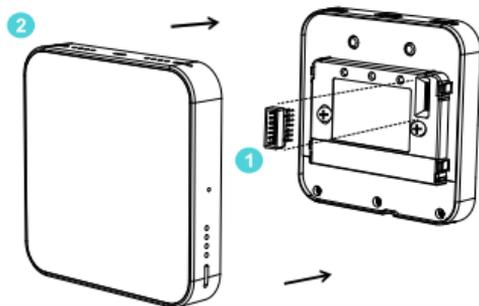


## Step 2. Wiring

Refer to Chapter 'Receiver Wiring' (Page 14) to complete the wiring.

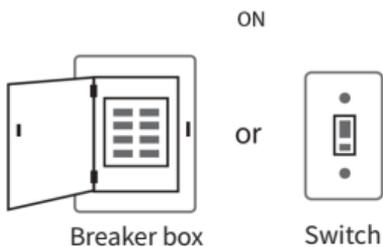
## Step 3. Installing thermostat - Combination

After the wiring is completed, fix the front panel of thermostat to the backplate of Receiver through Pin Header included.



## Step 4. Power on your system

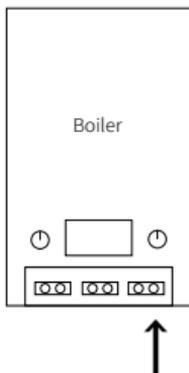
Congratulation! The installation is finished. Please power on your system.



# Receiver Wiring

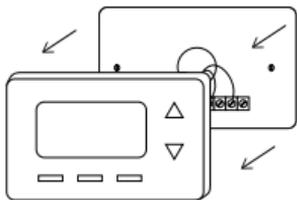
## Step 1. Identify cables

If you are installing your first thermostat, please open the boiler door and refer to your boiler manual to identify wiring terminals.

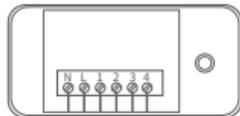


If you have existing thermostat or receiver wiring from your boiler directly, removing the cover of them and taking a picture of cable connections. The same terminal name may represent different functions in different brands, please refer to their manual to identify the cables of the corresponding terminals. After that, disconnect the wiring and remove your old thermostat/receiver.

1

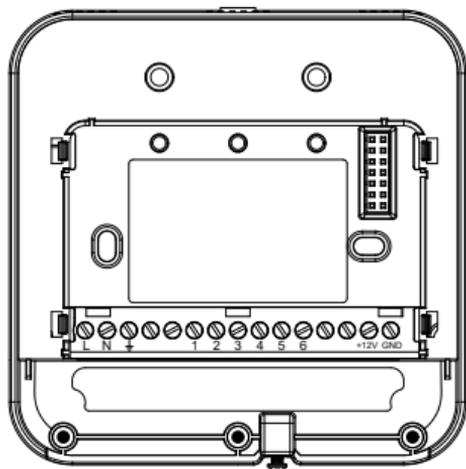


2



## Step 2. Remove the cover

Loosen the screw at the bottom of Receiver, then remove the cover. Open the terminal block flap to access the Receiver terminal.

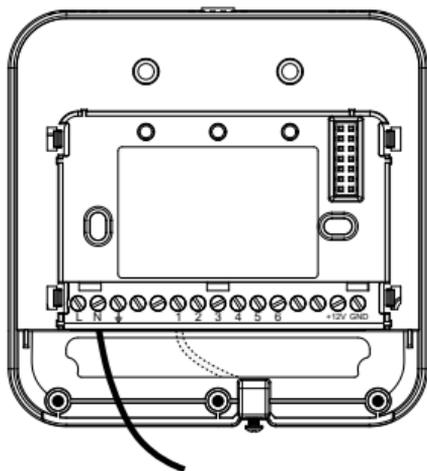


### Receiver terminal designation:

Terminals	What it means
L	Live wire
N	Neutral wire
⏚	Earth wire
1	Hot water relay normally open
2	Hot water relay common
3	Hot water relay normally closed
4	Heating relay normally open
5	Heating relay common
6	Heating relay normally closed
+12V	12V DC power output to Thermostat
GND	Ground on 12V DC

### Step 3. Mount the receiver

Pass the cables through the Receiver from the bottom or rear and mount the backplate to the wall using screws and plugs provided(Use the Trim Plate behind it to hide hole if needed).



### Step 4. Connect the wires

Connect the power cables L (or P) / N on the boiler or junction box to the L (live) and N (neutral) terminals on Receiver to power the Receiver.

Connect the heating control circuit to Receiver 4, 5, 6 as needed.

If your system has a hot water control circuit, connect it to 1, 2, 3 as needed.

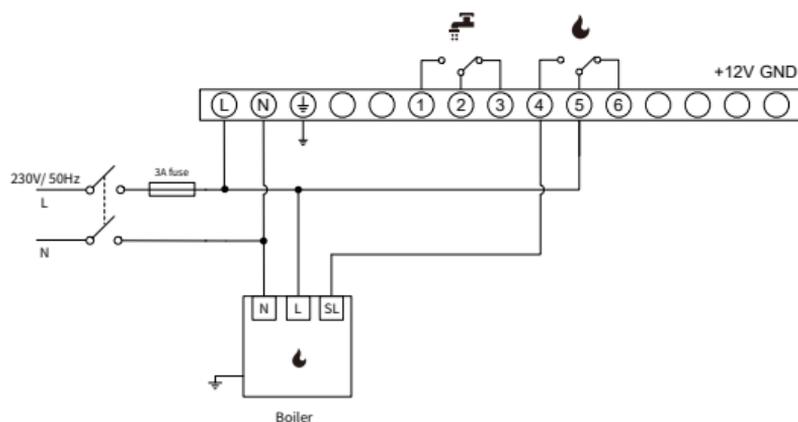
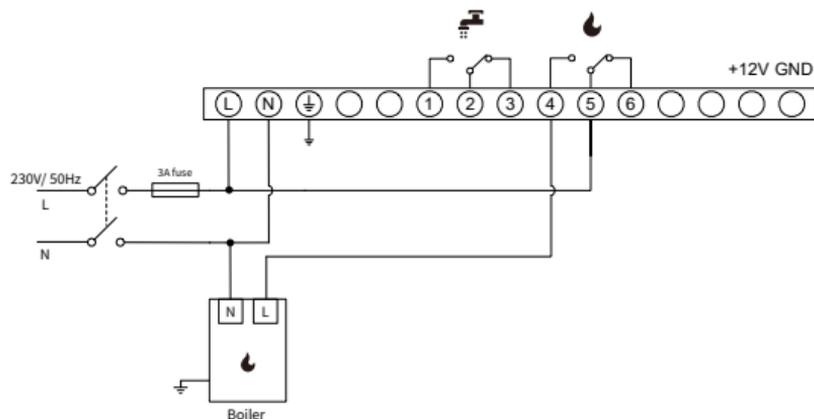
### Step 5. Installing thermostat

After the wiring is completed, close the terminal block flap back to Receiver and return to the previous installation chapter to continue the installation of the thermostat.

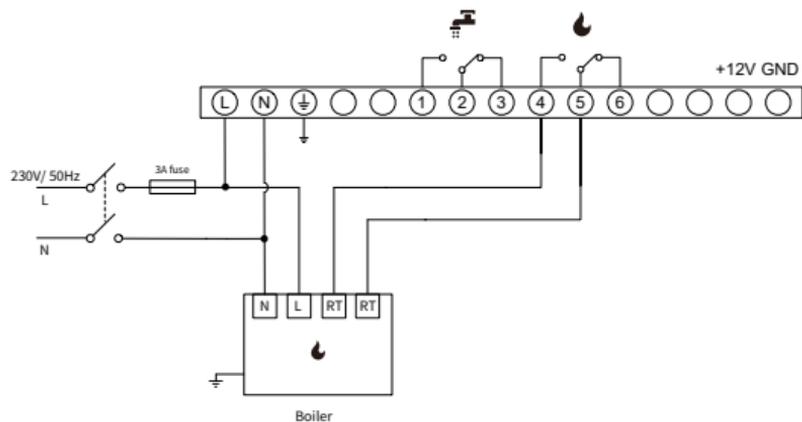
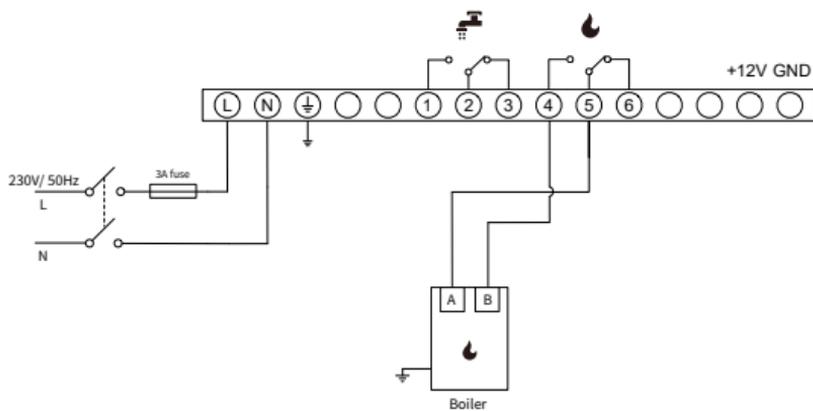
# Wiring diagrams

The following is the wiring diagrams for different systems.

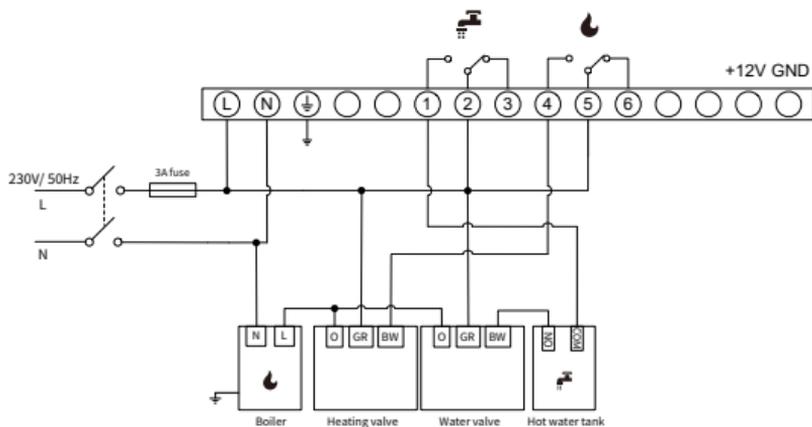
## 230V combi boiler



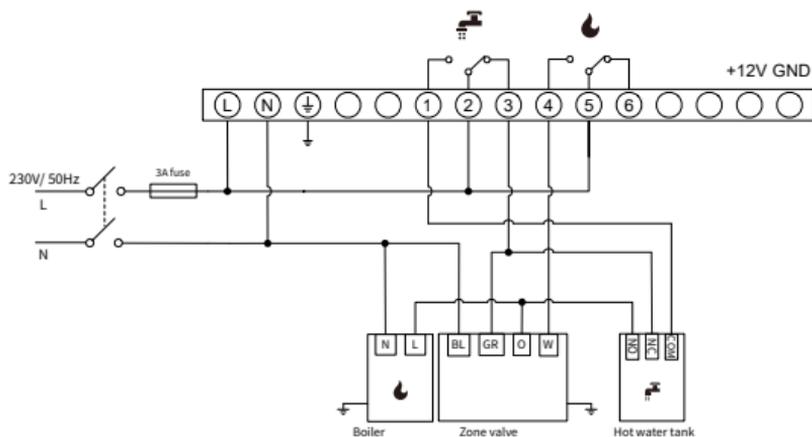
## Dry contact combi boiler



## S-plan

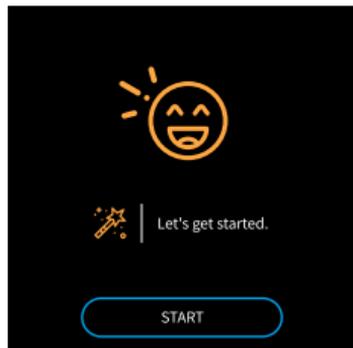


## Y-plan



## 4 Configure Network

Follow the wizard first to complete the thermostat setup based on your Heating system.



### Connect to gateway

The Thermostat will search gateway constantly when it is disconnected with gateway. So just simply set your gateway to permit joining (see your gateway's manual) and make sure the Thermostat is in the range of gateway's network, it will join the gateway automatically.

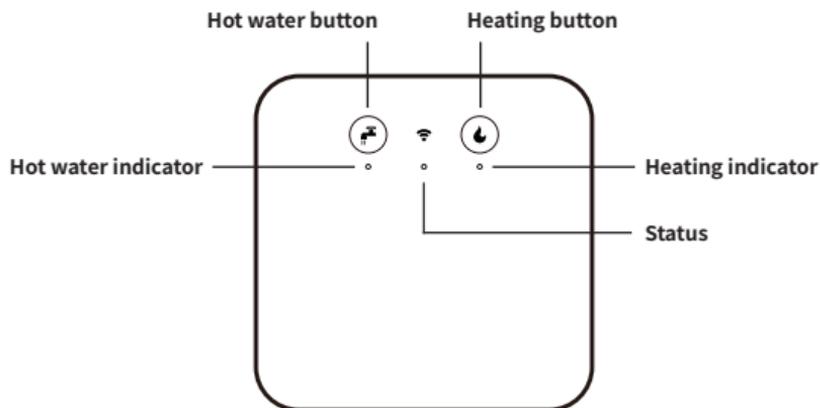
### Quick reference to gateway connection icon

 Searching gateway

 Gateway connected

## 5 Device Overview

### Receiver:



### Heating button

- When receiver connected with Thermostat:  
Press once to set heating to 22° for 1 hour manually or cancel the boost to follow schedule.
- When receiver disconnected with Thermostat:  
Press once to turn on heating manually until you press again to cancel it.

### Hot water button

- When receiver connected with Thermostat:  
Press once to turn on hot water for 1 hour manually or cancel the boost to follow schedule.
- When receiver disconnected with Thermostat:  
Press once to turn on hot water manually until you press again to cancel it.

## LED indicator

The LED indicator gives the following information:

Heating / Hot water indicator	What it means
Steady green light	Heating/Hot water is ON
Flashing in green	1 minute time delay for boiler protection if you switch on/off heating or hot water very quickly.
OFF	Heating/Hot water is OFF
Hot water indicator flashes red once	Hot water has been disabled
Receiver status	What it means
Flashing in green	Searching Thermostat for 2 minutes
Steady green light	Connected with Thermostat
Flashing in red	No Thermostat is found, stop searching
Steady red light	Disconnected with Thermostat

### Reset:

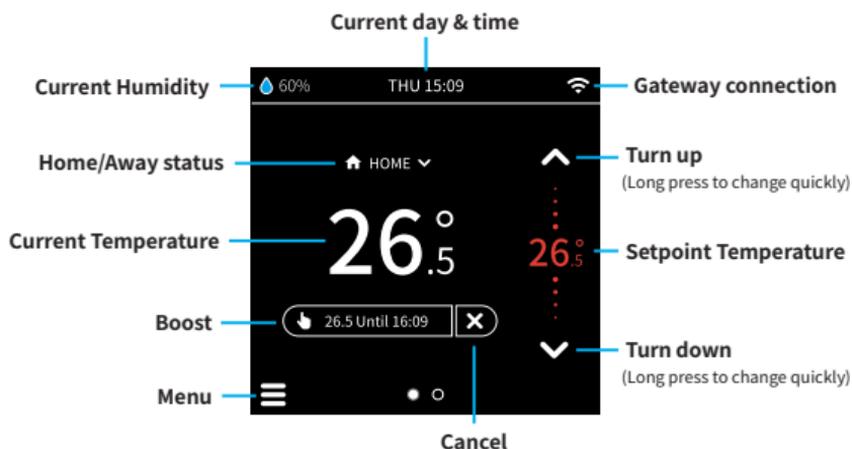
Hold heating button for 10 seconds until receiver's status light flashes red. After reset, the receiver will search Thermostat automatically.

### Activate pairing:

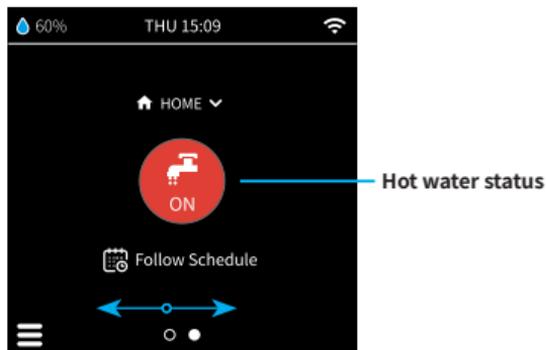
Hold heating button for 5 seconds until receiver's status light flashes green to start searching Thermostat.

**Note:** When you close the thermostat and receiver together, they will automatically bind to each other, even if they are separated.

## Thermostat:



When the background turns red, it means heating.



Swipe left and right on the main screen to switch the display of heating and hot water. You can tap the Hot water status to switch hot water ON/OFF.

## Reference to icons



**Home:** Follow schedule setting to heating or switch hot water status. You can tap this icon to switch Home/Away status.



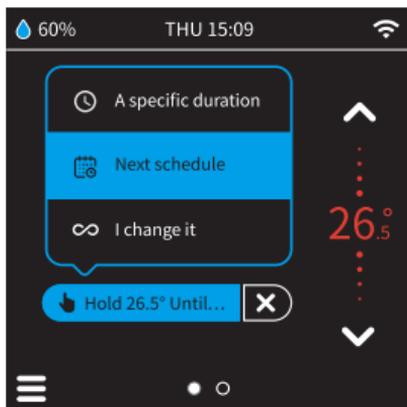
**Away:** Follow away setting to heating or switch hot water status.



**Follow schedule:** Automatically run heating and hot water according to the schedule setting.



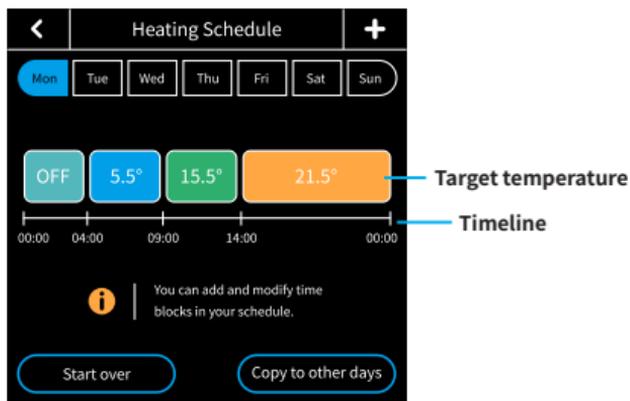
**Boost:** Adjust temperature manually when follow schedule or away setting. It will hold the setpoint temperature until next schedule by default. You can also tap it to change duration. When you select "I change it", it will hold the setpoint temperature permanently.



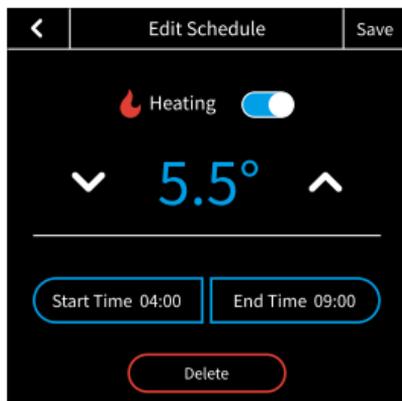
**Note:** Boost will override schedule and away setting. You can click the cancel icon to get back to schedule or away setting.

## Schedule

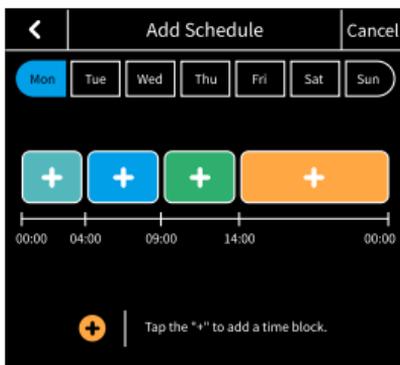
Schedule is a very important feature, you can go to 'Menu' -> 'Heating/ Hot water schedule' to create your own schedule.



The daily schedule shows the target temperature for each time period. You can tap the corresponding target temperature block to edit it.



The minimum length of the schedule for each time period is 15 minutes, so when you set the start/end time, the system will automatically correct your setting to avoid errors.

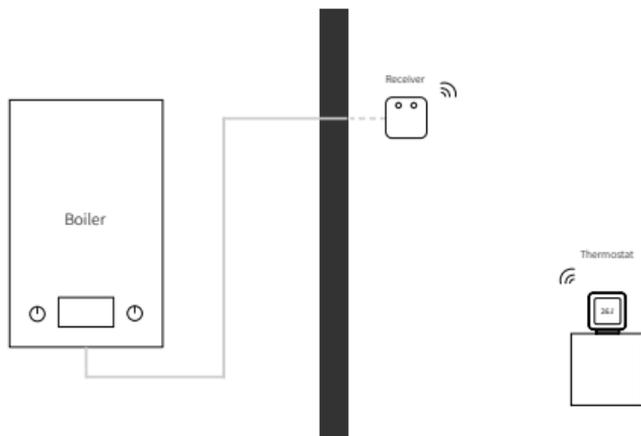


If you want to subdivide your schedule, you can tap the icon '+' in the upper right corner of the daily schedule to add a new schedule. Select the time period you want to add a new schedule, and tap the corresponding target temperature block. The system will automatically divide the time period in half, and then you can edit the new schedule.

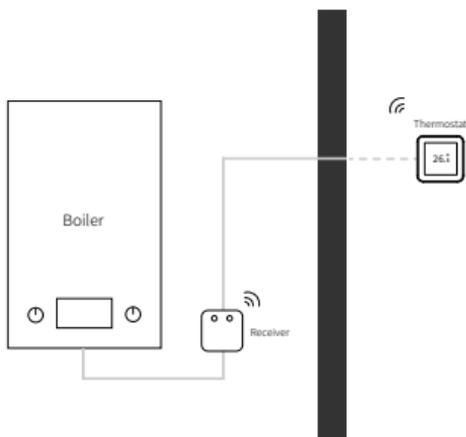


## 6 FAQ

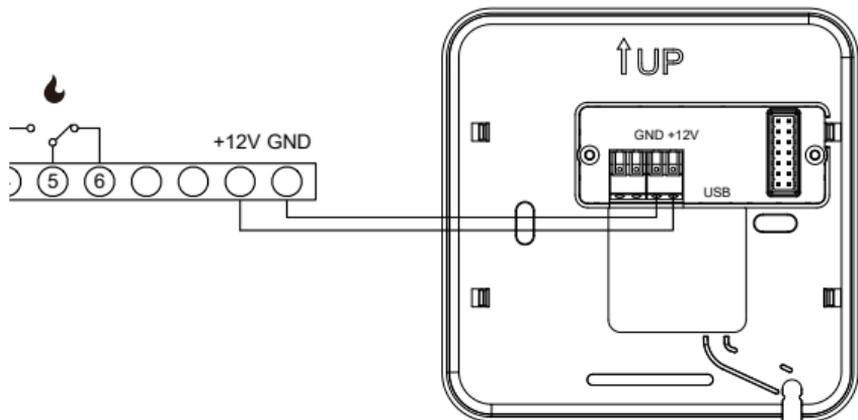
The following are two other wired installation ways.



The first installation is basically the same as the wireless installation, the difference is that the location of the receiver is moved from near the boiler to the outside wall.



The second installation is also basically the same as the wireless installation, the difference is that the thermostat is powered by the receiver through the existing wall-wires. So you don't need to find an socket to power thermostat.



You can refer to the wireless installation. After the wiring between your receiver and the boiler is completed, you need to wire the 12V and GND terminal to the Thermostat accordingly.

# Technical specifications

## Thermostat:

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### Wireless Connectivity

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ZigBee	<ul style="list-style-type: none"><li>• 2.4GHz IEEE 802.15.4</li></ul>
ZigBee Profile	<ul style="list-style-type: none"><li>• ZigBee 3.0</li></ul>
RF Characteristics	<ul style="list-style-type: none"><li>• Operating frequency: 2.4GHz</li><li>• Internal PCB Antenna</li><li>• Range outdoor/indoor: 100m / 30m (Open area)</li></ul>
Radio	<ul style="list-style-type: none"><li>• 868Mhz</li></ul>

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### Physical Specifications

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Display	<ul style="list-style-type: none"><li>• 4-inch Full-color touch screen (480x480)</li></ul>
Operating Voltage	<ul style="list-style-type: none"><li>• DC 5V</li><li>• DC 12V</li></ul>
Operating Environment	<ul style="list-style-type: none"><li>• Temperature: -20° C ~ +50° C</li><li>• Humidity: up to 90% non- condensing</li></ul>
Dimensions	<ul style="list-style-type: none"><li>• 104 (L) × 104 (W) × 21 (H) mm</li></ul>
Mounting Type	<ul style="list-style-type: none"><li>• Wall mounting/Stand</li></ul>

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## Receiver:

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Operating Voltage	• 100~240VAC
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Output	• 12V 1A
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Relay	• 10A
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Radio	• 868Mhz
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LED	• 2-color LED (Red, Green)
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Dimension	• 109 (L) × 109 (W) × 28 (H) mm
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Mounting Type	• Wall mounting
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