thermOSphere

# CRYSTAL & TITAN

## Digital Panel Heater

With WiFi, Bluetooth and adjustable power output

**Installation and user manual**



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# 2. Introduction

This guide is for the ThermoSphere TITAN and CRYSTAL Digital Panel Heater models.

To work the heater, set the desired ambient room temperature using the buttons on the top of your heater.

When the measured ambient temperature is lower than the temperature you have selected, the heater will switch on and generate heat. Once the air in the room reaches the temperature you have selected, the heater will switch off. The heater will continue to monitor the ambient temperature and cycle on and off to maintain the temperature that you have set.

The heater can be controlled using the display and buttons built onto the top of the heater. Everything other than the heating schedule can be controlled on the heater itself.

The heater can also be controlled with the T-MO app on iOS and Android devices. The app gives you access to all of the settings as well as scheduling your heater's on and off times.

You can also link multiple heaters together or link them to compatible T-MO thermostats.

For advanced users there is a Local API that allows you to integrate your heaters into your smart home. Email support@thermosphere.com for API documentation.

# Download the T-MO app

**iOS App**

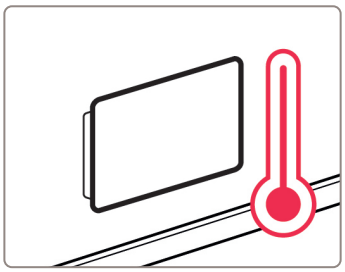
**Android App**

# Installer? Join the circle

The Circle is built for installers and members benefit from:

- Accredited training
- Rewards and merch
- Job referrals

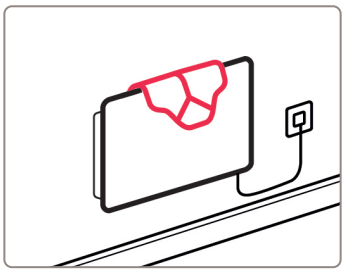
# 3. Warnings and important information



## Hot surface

Some parts of this product can become hot during use and can cause burns.

Do not touch the outer surfaces while the appliance is switched on.



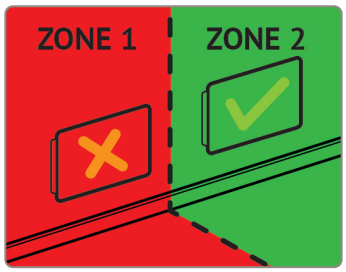
## Do not cover

This heater must not be covered under any circumstances.

Covering the heater restricts air flow and risks overheating and potentially fire.

Objects that restrict air flow and volatile substances must be at least 250mm from the heater.

Curtains, fabrics and potentially flammable materials must be at least 1m from the heaters.



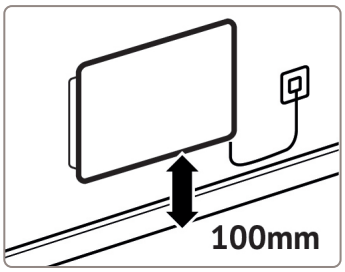

## Install in zone 2

This heater can be installed in Zone 2 of bathrooms.

It must be installed in an area where the radiator, switches and control panel cannot be reached from within a wet area.

**Never operate the device with wet hands.**

Do not place containers with water on or near the heater.




## 100mm clearance

This heater is designed to be wall hung indoors only.

To prevent overheating, the **minimum clearance distance of 100mm must be respected on all sides of the heater.**

This ensures adequate air flow and reduces the risk over issues arising due to overheating.

In the United Kingdom, the heater must be installed by a competent and qualified person in accordance with BS 7671. The heater must be connected to 230V/50Hz main supply with a suitably rated double-pole fused spur.

If the power cable is damaged, it must be replaced by the manufacturer, a service agent or similarly qualified person in order to avoid a hazard.

In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility company.

Do not install the heater above or below fixed socket outlets, under shelves, in contact with power cables or outside.

When drilling holes, always check to ensure there is no wiring or pipework in the area to be drilled.

Before plugging in the unit, make sure the radiator is securely attached to the wall.

Children of less than 8 years must be kept away from the appliance unless continuously supervised.

This appliance may be used by children of age 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, only if it has been installed in its intended normal operating position by a competent and qualified person, and they are supervised or have been given clear instruction concerning the use of the appliance in a safe way, and understand the hazards involved.

Children must not play with the appliance or carry out any cleaning or maintenance.

# 4. Warranty

Thermogroup Ltd guarantees the product is free from design or manufacturing defects at the time of purchase. This heater is covered by the following warranties:

- 10 years for the heater body.
- 5 years for the electronic components.

The warranty applies from the date of purchase, so long as the product is unmodified, has not been subjected to accidental damage and has been installed in full accordance with these instructions.

**The Circle members**

Installers that are members of The Circle can register their products and installations in The Circle app.

This logs your installation and makes you eligible for rewards and benefits as a Circle member.

# 5. Technical support

If you suspect that your product is faulty, or for any technical enquiries before, during or after installation, you can contact ThermoSphere support in the following ways:

- Call us on 01622 689 440
- Message us on Whatsapp: 07344 307 608
- Email us on support@thermosphere.com

To help us diagnose and solve your issue as quickly as possible, please make sure you have the following available to send us:

- Product code
- Proof of purchase
- Description of the issue
- Photos or a video

We may need to ask for more information or more photos and videos to help diagnose and resolve your issue.

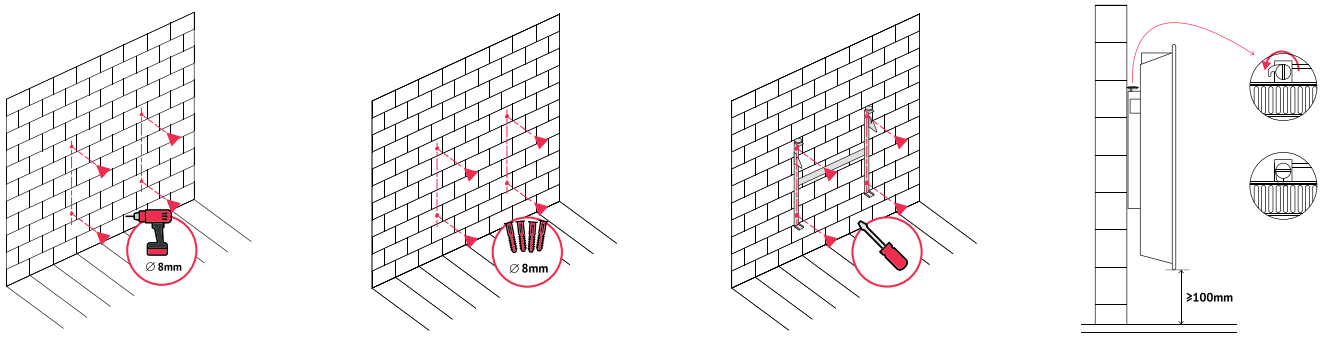
**Remote support**

If you need help with any settings or scheduling, we can help with that remotely. To grant support access for 7 days, connect your heater to WiFi, go to Settings, press Support, press the Grant support access check box.

Then press Contact us to send an email including the name of the property that you have set up in the app, and details of what you would like help with. If you send us the times and temperatures you would like your heater to be on and off, we will set that all up for you!

# 6. Installation guidance

1. Open the packaging and ensure you have the heater, the mounting bracket, screws, wall plugs and the bracket template.
2. Choose a suitable area on the wall to install the heater. Ensure there is a fused spur at least 100mm away, but within reach of the 1.3m power cable on the right hand side of the heater. There must be a minimum of 100mm clearance on all sides of the heater. Curtains and fabrics must be 1m away.
3. Use the template provided to mark the fixing holes. Use the floor as the reference, not the skirting board.
4. Take the template away and drill Ø8mm holes in each of the 4 marked positions. NOTE: If you are using different fixings, make sure the holes are a suitable size and ensure that the wall can take the weight of the heater.
5. Ensure the bracket is positioned correctly and level. Fix it in place using the screws and plugs provided.
6. Locate the bottom of the heater into position on the bracket, and then push the top of the heater back so that it locates and hooks onto the bracket.
7. Turn the locking 90° to secure the heater to the bracket.




# 7. Wiring guidance

In the United Kingdom, the heater must be installed by a competent and qualified electrical professional in accordance with BS 7671.

The heater must be connected to 230V/50Hz main supply with a suitably rated double-pole fused spur.

The supply circuit must have capacity for the maximum electrical load of the heater, and the supply cables must be correctly specified and installed by a competent and qualified electrical professional.

1. The fused spur must be at least 100mm away from the heater, within easy reach of the 1.3m power cable on the right hand side of the thermostat.
2. Ensure the electrical circuit has been safely isolated and there is no risk of electric shock.
3. Connect the Live and Neutral wires to the corresponding output terminals in the back of the fused spur.
4. Connect the Earth to the supply Earth, either in the Earth terminal on the fused spur, or by connecting the 2 earth cables with a connection block in the back box. You must ensure earth continuity for safety.
5. Check all of the connections and fix the fused spur in position over the back box.
6. Check the fuse is suitably rated for the heater that has been installed.
7. Switch on the power supply and turn the fused spur on.
8. Turn the heater on using the switch on the right hand side.
9. If the heater does not come on, check and troubleshoot the supply circuit.

## 8. Display and controls




**Standby screen**
By default, the temperature displayed on the standby screen is the set temperature. This can be changed in the settings. If the standby brightness is set to 0, the standby screen will be off.




When you press a button, the screen is active and shows 2 temperatures.
The larger temperature on the left hand side is the measured temperature of the air in the room, sometimes referred to as the ambient temperature




The smaller temperature on the right hand side of the display is the set temperature, sometimes referred to the set point. This is the temperature that the heater will maintain.

## 9. Set the temperature




Press + to increase the set temperature and press − to decrease it.
When you set a temperature that is higher than the current measured temperature, the heater will switch on the heat the room to that temperature.

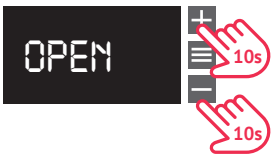



When the heater is heating, you will see the heating icon in the top right corner of the screen.

## 10. Keypad lock




Lock the keypad to prevent tampering by pressing and holding + and − for 10 seconds.
When the keypad is locked, it will show LOCK on the display.




To unlock the keypad press and hold + and − for 10 seconds.
When the keypad is unlocked, it will show OPEN on the display.

## 11. How to access Settings




**To access the settings**
Access the settings menu by pressing and holding ≡ for 5 seconds.
When off, press and hold ≡ to turn it back on again.




When you can see OFF and SET you are in the settings menu.
Scroll through the settings menu with the + and − buttons.
Press ≡ to enter each of the settings.

# 12. What the different settings do




**Turn off and on**
Navigate to OFF and turn the heater off by pressing and holding ☰.
When the heater is off, press and hold ☰ to turn it back on again.




**Connect to the app**
Press ☰, press and hold ☰ to activate connection mode. The screen segments will rotate.
Follow the connection process in the T-MO app.
INCL = successful connection. EXCL = disconnected (it was already connected). ERR = Error.




**Direct link**
Link multiple heaters to work together. You can send the on/off state to another heater, send the mode and set point to another heater and receive information from other devices.




**Heating mode**
Selecting HEAT will maintain the warmer comfort temperature.
Selecting ECO will maintain the lower eco temperature.
To set either mode temperature, put the heater in that mode and adjust the temperature.

**Press and hold ☰ to change the temperature displayed on the main screen.**
SETT Set point / Desired temperature. This is the default.
RELT Measured temperature (Real Time Temperature).




**Minimum temperature limit**
Set the minimum temperature that you can set the heater to.
Default 5°C. Range: 5 to 40°C.




**Maximum temperature limit**
Set the maximum temperature that you can set the heater to.
Default 40°C. Range: 5 to 40°C.



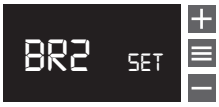

**Calibrate displayed temperature**
Adjust the temperature that is displayed on the heater to match a thermometer. Useful if you know the temperature is different to the displayed temperature for any reason.
Default 0°C. Range: -6 to 6°C.




**Display brightness**
Adjust the brightness of the display when it is active (BR1) and in standby (BR2).
Set the BR2 brightness to 0 if the heater is installed in a bedroom.




BR1: Active brightness.
Default 100. Range: 10 to 100%.




BR2: Standby brightness.
Default 50. Range: 0 to 100%.




**Open window detection**
When this is on, the heater will stop heating and show OWD if a sharp temperature drop is detected. The heating will turn on again when the temperature stabilises.




**Load tuning**
Adjust the maximum power of the heater in 100W increments.
Default: Maximum. Range: 100W to Maximum.




**Energy consumption**
Shows the total energy consumption since the last reset. More detail is available in the app.
To reset, press and hold ☰.




**Factory reset**
Press ☰ until you see "----" flashing. Press and hold ☰ until you see RES. The heater will reset after 5 seconds.




**Exit settings**
Press ☰ to exit the settings menu and go back to the main screen.

**Press and hold ☰ until you see "STOR" to save your settings.**

## 13. Common issues and fixes

| Issue | Advice |
|---|---|
| Display does not come on | • Check the power switch on the side is switched on.<br>• Check the wiring and fuse in the Spur.<br>• Check the supply voltage to the Spur.<br>• Check the standby brightness settings in the app. |
| No heat (with display working) | • Increase the set temperature to maximum and wait 20 minutes.<br>• Check the maximum temperature limit setting.<br>• Check the heater is in the correct mode. |
| Switches off on it's own | • Check the standby brightness settings.<br>• Check if a schedule is active.<br>• Check the supply circuit. |
| Noisy | • Check the heater is level and the bracket is secure.<br>• Noise can occur from expansion and contraction during heating and this is normal. |
| Undesirable smell | • Check that the heater surface is clean and remove any dust build up from the inside of the heater. Isolate power to do this. |
| Room does not reach set temperature | • This can be caused by drafts and heat loss from the room.<br>• Check the heater output is set to maximum and minimise drafts. |
| Cannot connect to the app | • Check that the WiFi network is set to 2.4GHz.<br>• Ensure the app is up to date and Bluetooth is activated. |

## 14. Error codes




**App connection failed**
Factory reset and try adding to the app again. Check WiFi details are correct. Check Bluetooth is active on your phone and the app is up to date. Check WiFi is 2.4GHz.




**Internal error**
Switch power off and on again at the fused spur. Contact support if the issue persists.




**Network error**
Switch power off and on again at the fused spur. Contact support if the issue persists.




**Internal sensor error**
Switch power off and on again at the fused spur. Perform a factory reset.
Contact support if the issue persists.




**Overheat detected**
This is a safety feature. Your heater is equipped with internal overheat detection. Switch power off and allow the heater to cool. Switch on again at the fused spur. Perform a factory reset and contact support if the issue persists.



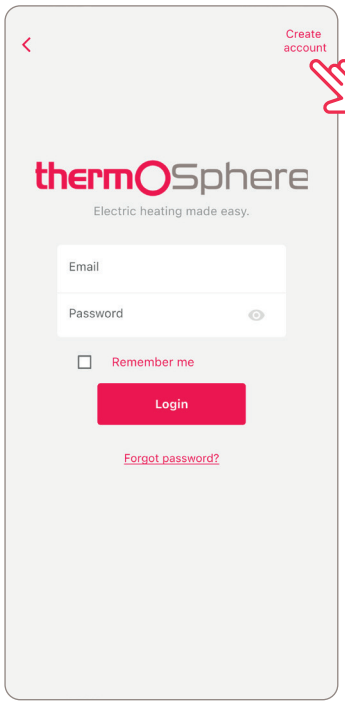

**Overload detected**
This is a safety feature. Your heater is equipped with an electricity overload sensor. Switch power off and allow the heater to cool. Switch on again at the fused spur. Perform a factory reset and contact support if the issue persists.

## 15. Pair with the T-MO app

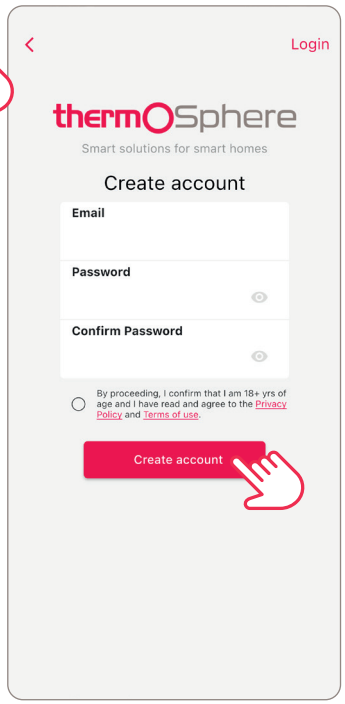
When you turn the power on, the heater will go into pairing mode for 60 minutes. During this time the heater can be paired with the app without having to initiate pairing mode.

1. Download the T-MO app on an Android or iOS device and make sure Bluetooth is switched on.
2. Open the app and follow the process to create your account and create your property.
3. Put your heater into pairing mode. (SKIP THIS STEP IF YOU ARE WITHIN 60 MINUTES OF TURNING THE POWER ON). Press ☰ for 5 seconds, press − once to see CON, press ☰ once to see APP flashing, press and hold ☰ to see rotating icon. Press "Add Device" and choose WiFi or Bluetooth. (WiFi is required to control the heater away from home).
4. Select your device from the list or scan the QR code on the side of the heater.
5. When connected you will see your heater in the app and see INCL and the WiFi icon on the heater display.
6. If the connection fails, perform a factory reset and try again. Check the heater is not already connected to the app. Check your WiFi details, make sure the WiFi network is 2.4GHz and try again.

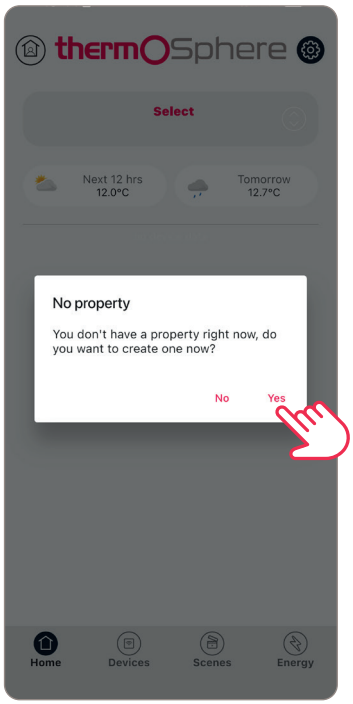
# 16. Create a new account on the T-MO app



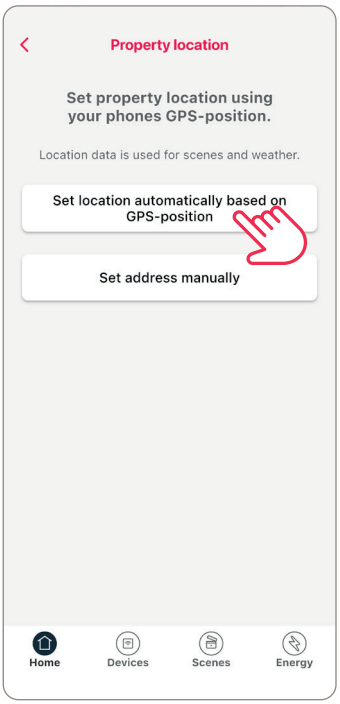

Press 'create account'.




Fill in your email address, set a password, read and agree to the terms and conditions.

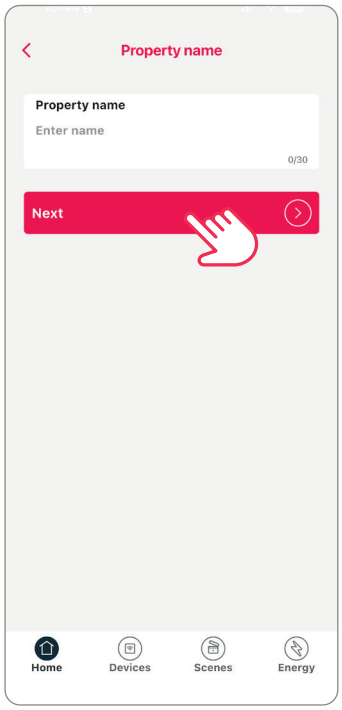



We recommend you set up your property in the app.

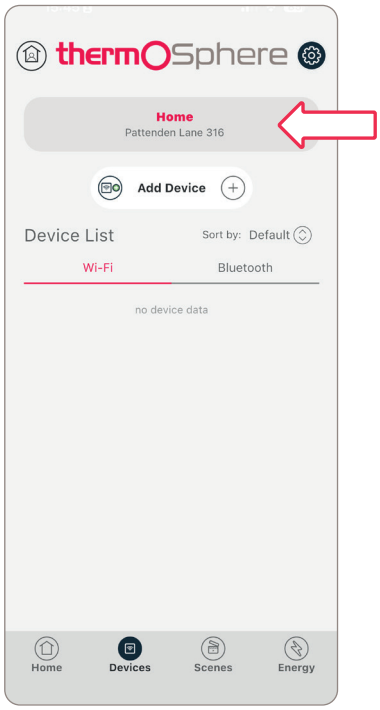



Enter your address or allow the GPS to locate you.

Please note T-MO does not use geolocation for heating purposes.



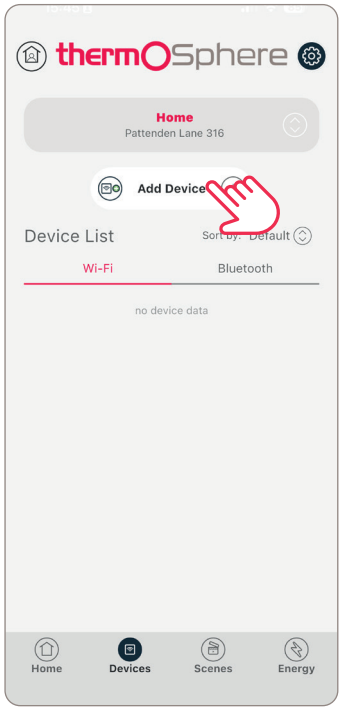

Name your property and press next.



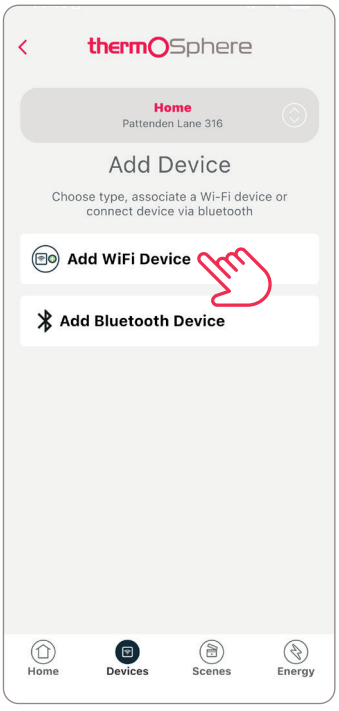

That's it, property created.

# 17. Connect your heater with the T-MO app

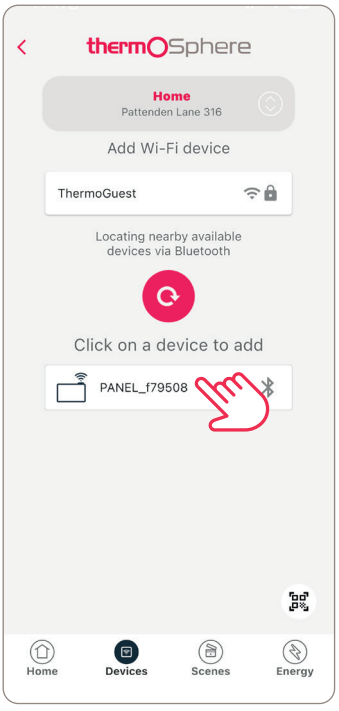
Please note: When you first switch your heater on it will be in pairing mode for 60 minutes. If you need to put your heating into pairing mode, press and hold for ☰ 5 seconds until you see OFF, press −, and you will CON press ☰ and you will see APP blinking, press and hold ☰ until you see the rotating pairing icon. Your heater is now in pairing mode.



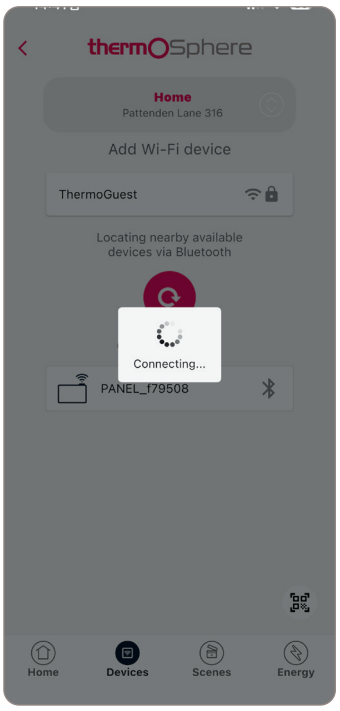

Go to the Devices page and press Add Device.



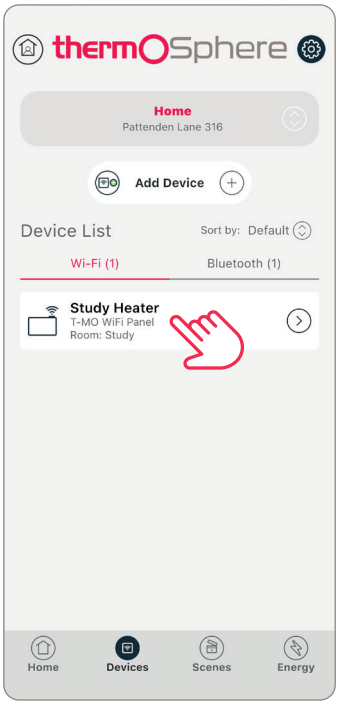

Press Add WiFi Device. You may need to enter your WiFi password.



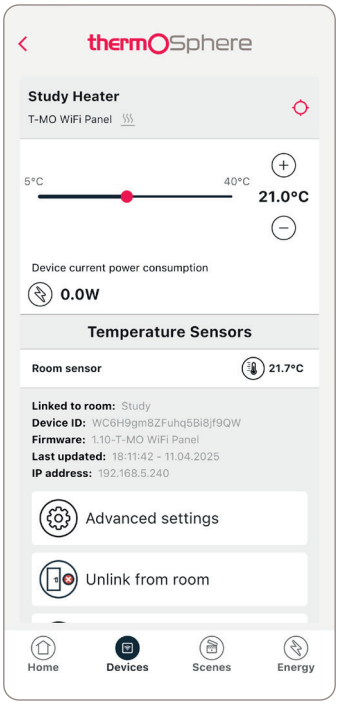

Your heater should show up like this. Press it.




Wait for it to connect.

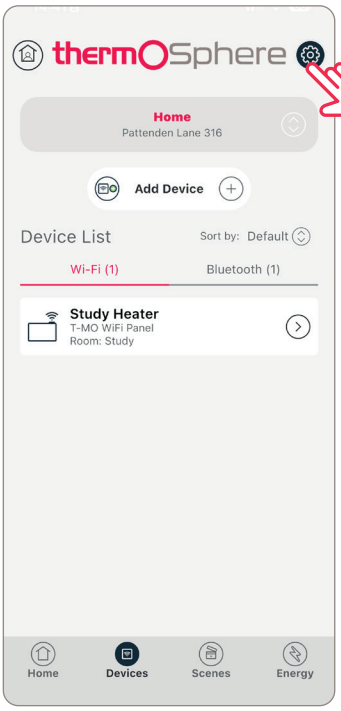



You will see your heater in the device list. You can rename it.

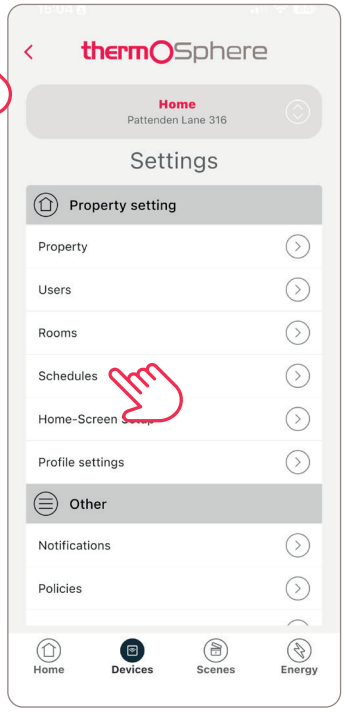



Press the heater name to access the settings.

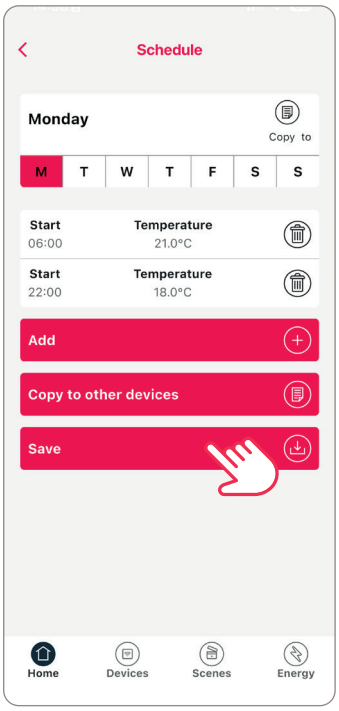
# 18. Create a heating schedule on the T-MO app




Press the cog icon in the top right corner of the device page to access all of the property settings in the app.




Press “Schedules”.




Set the schedule for Monday, or any other day.

Delete heating events by pressing the bin icon.

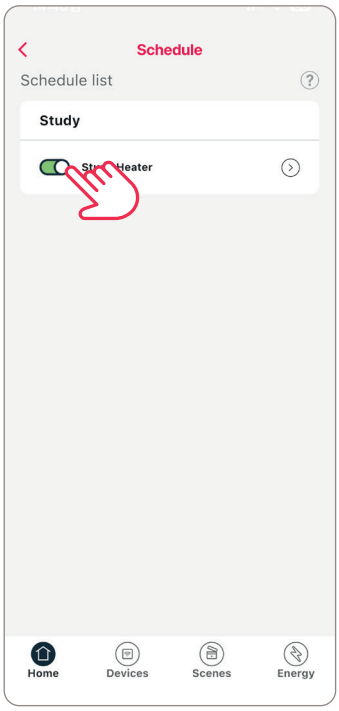
Add heating events by pressing the Add icon.

For ‘on’ times set a warm temperature such as 21°C.

For ‘off’ times set a cooler temperature such at 18°C.

Copy the schedule to other days and other devices.

Don’t forget to press save!

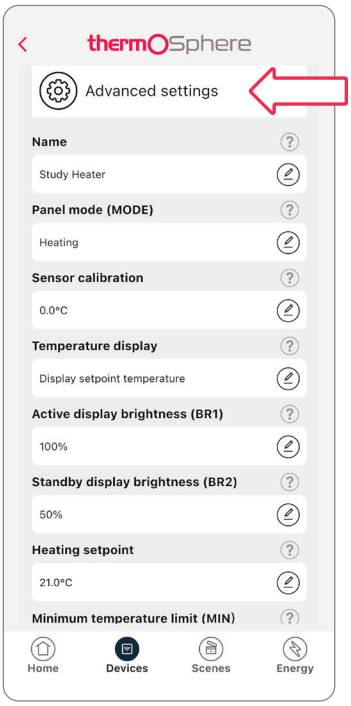



Check that the ‘switch’ icon next to your schedule is green.

If it is red, the schedule is not active and your heater will ignore the schedule.

Tap the switch to turn the schedule on and off.

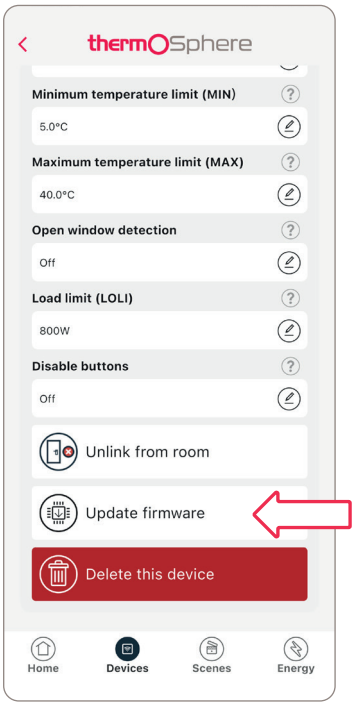
# 19. Advanced settings




### Advanced settings

Press the cog icon on the device page to access all of the advanced settings in the app.

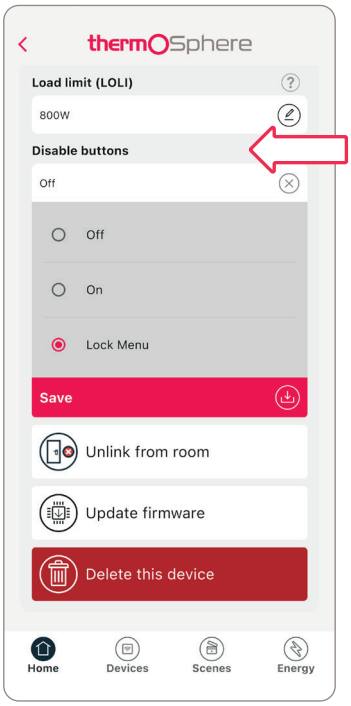
You can set temperature limits, brightness, name, Open window setting and more.




### Firmware updates

You will find the firmware update button under the settings.

Press this to check for updates. We recommend installing updates if they are available.




### Disable buttons

Useful for landlords and holiday lets. Lock the buttons completely or just prevent access to the settings.

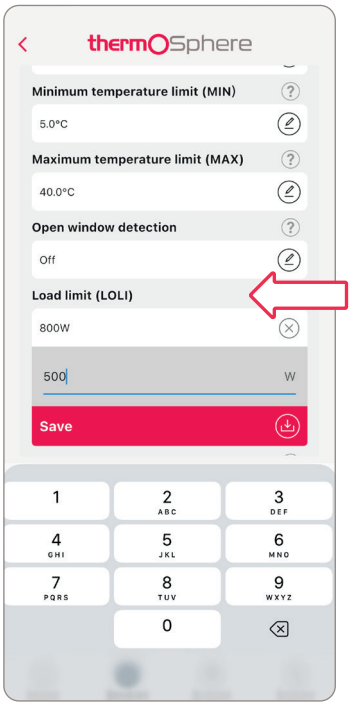
**Landlord mode:**

Set the power output to the minimum required to heat the room.

Set maximum and minimum temperature limits.

Lock menu to prevent tampering.

Users can only adjust the temperature between the permitted values.




### Load tuning

Find the Load limit setting. This is where you can adjust the maximum power of the heater in 100W increments from 100W to maximum.

This is useful if you know the heat loss of your room and want to reduce the output to limit load or reduce energy waste.

Tap the setting, enter a power output and press save.

## 20. Dimensions

| Max output | CRYSTAL Glass (H x W x D) | TITAN Steel (H x W x D) |
|---|---|---|
| 400W | 350 x 60 x 460 mm | 350 x 65 x 440 mm |
| 600W | 425 x 60 x 520 mm | 430 x 65 x 500 mm |
| 800W | 425 x 60 x 650 mm | 430 x 65 x 630 mm |
| 1000W | 425 x 60 x 820 mm | 430 x 65 x 800 mm |
| 1500W | 425 x 60 x 1020 mm | 430 x 65 x 1000 mm |
| 2000W | N/A | 430 x 65 x 1000 mm |

**Mounted depth from wall to front face: CRYSTAL 75mm. TITAN 80mm.**

**The power cable is 1.3m and is on the right hand side of the heater.**

**Heaters must be mounted at least 100mm above the floor.**

## 21. Cleaning and maintenance

Switch off and unplug from the power supply before cleaning. Using a soft, moist cloth, with or without a mild soap solution, carefully clean the exterior surface of the product.

**CAUTION: Allow the product to completely cool before handling or cleaning it.**

Do not allow water or other liquids to run into the interior of the product, as this could create a fire and/or electrical hazard.

We recommend lightly running a vacuum cleaner nozzle over the guards periodically to remove any dust or dirt that may have accumulated inside or on the unit.

**CAUTION: Do not use harsh detergents, chemical cleaners or solvents as they may damage the surface finishes.**

## 22. Certification

Thermogroup Ltd declares that this device complies with the essential requirements and other relevant provisions of Directive 2014/53/EU.

We have designed this product in accordance with our strict quality requirements (ISO 9001) and environmental requirements (ISO 14001). All electrical installations must be carried out by an authorized electrical installer. The product must be installed in accordance with our installers manual and national building codes. Any wrongful installation, misuse or damage to the product is not covered under warranty.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources.

To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

Thermogroup Ltd can not be held liable for any type of errors or omittances in our product information. Product specifications may change without further notice.

# Notes

## Installer? Join the circle

The Circle is built for installers and members benefit from:

- Accredited training
- Rewards and merch
- Job referrals

| Technical data | |
|---|---|
| Connectivity | WiFi (2.4GHz)/BLE |
| Rated voltage | 230VAC 50Hz |
| Regulation temperature | 5°C to 40°C |
| Storage temperature | -30°C to 70°C |
| Power cable | 1.3m black/white |
| IP Code | IP24 |
| Approvals | CE, ROHS, REACH, Lot 20. |
| Electronics warranty | 5 years |
| Chassis warranty | 10 years |

thermOSphere

**ThermoSphere**
Bridge House
Pattenden Lane
Marden
Kent
TN12 9QJ
UNITED KINGDOM

www.thermosphere.com
support@thermosphere.com
01622 689 440

**Find us on LinkedIn**
Search “ThermoSphere”

**Check out our Youtube channel**
Search “ThermoSphere underfloor heating”

**Find us on Instagram**
Search “ThermoSphere”

MADE IN BRITAIN®

ThermoSphere manufactures underfloor heating products in Marden, Kent. However, some accessory products are imported from trusted sources. To make it easy to tell where a product is from you'll find the country of origin stated on all product data sheets. Please visit our website for more information.

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