thermo Sphere

CONTROL | TOUCH
SINGLE PROGRAMMABLE

Live well...

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Compatibility

Sensor probes

This thermostat is compatible with ThermoSphere NTC 10kΩ @ 25°C floor sensor probes.

Heating systems

This thermostat is compatible with all ThermoSphere electric underfloor heating systems

Replacing an existing thermostat?
Contact the manufacturer's technical department and ask for the rating of the floor sensor at 25°C.

What’s in the box?

Check you've got everything:

- Programmable thermostat
- Floor sensor probe (3m)
- Floor sensor conduit (2m)
- Fixing screws
- Installation guide and warranty information
- Portrait mounting plate

You will also need:

- Electrical screwdriver
- Deep electrical back box
- Electrical test meter

Before you start

Your thermostat should be:

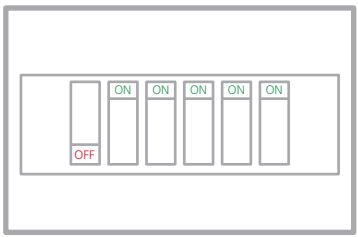
- Installed at least 1.2m from the floor
- On an internal wall
- Outside any wet zones (IP30)
- Installed on an RCD protected circuit
- Away from any hot or cold influences
- Installed so that the floor sensor probe can be laid in a heated area of the floor
- Installed by a professional, in line with current electrical regulations and relevant local standards

Installing your thermostat

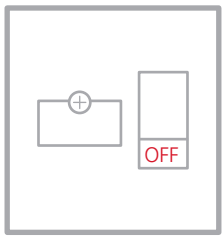
1. Switch off mains power

You will be installing your thermostat as part of a high voltage mains electrical circuit. To ensure your safety and to protect the thermostat, switch off the mains power and remove fuse from the spur before you start the installation.

CAUTION
High Voltage
Cables



Fuse Box



Fused Switch

Installing your thermostat

2. Installation location

At this stage it its likely that an RCD protected electric underfloor heating system has been installed and a back box is already in place.

The underfloor heating cold tail should be pulled up through the back box, and the sensor probe installed (in the conduit provided) within the wall cavity or pre chased channel in a solid wall.

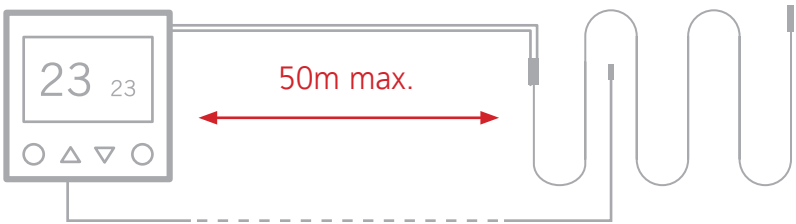
Installing your thermostat

3. Maximum distances

Your thermostat can be installed up to 50m away from the underfloor heating system it is controlling, provided that the floor sensor is used to control the temperature.

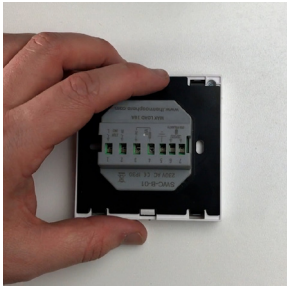
Underfloor heating cold tails and floor sensor probes can be extended up to 50m.

Connect multiple heaters in parallel.

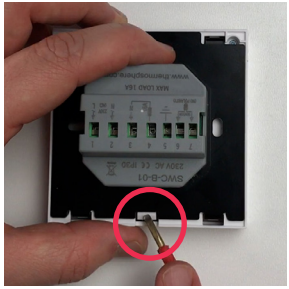


Installing your thermostat

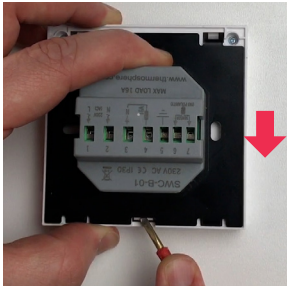
4. Un-clipping the mounting plate



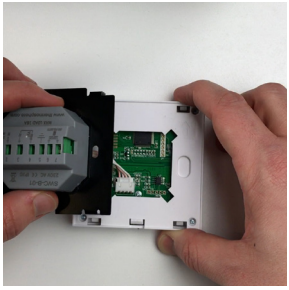
Lay thermostat screen side down on a flat surface



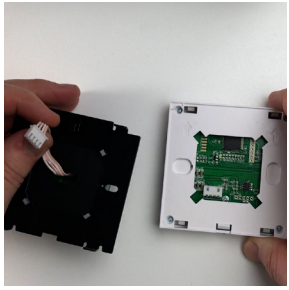
Press the white clip down with a flat screwdriver



Push the mounting plate towards you



Release the mounting plate form the clips



Carefully un-clip the white ribbon cable

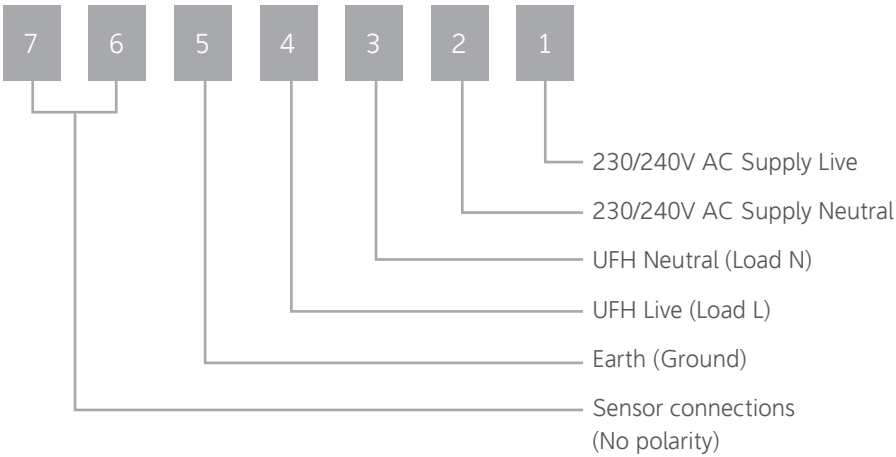
Use your phone camera to watch the video

Installing your thermostat

5. Wiring diagram

Connect the Thermostat to the underfloor heating (UFH) cold tail, power supply and floor temperature sensor.

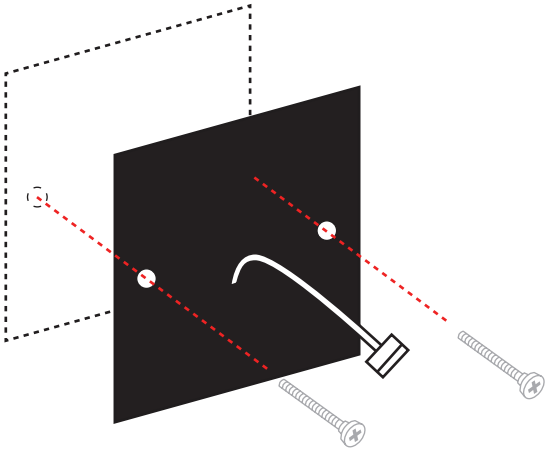
The floor temperature sensor is not polarity sensitive.



Installing your thermostat

6. Fix mounting plate in position

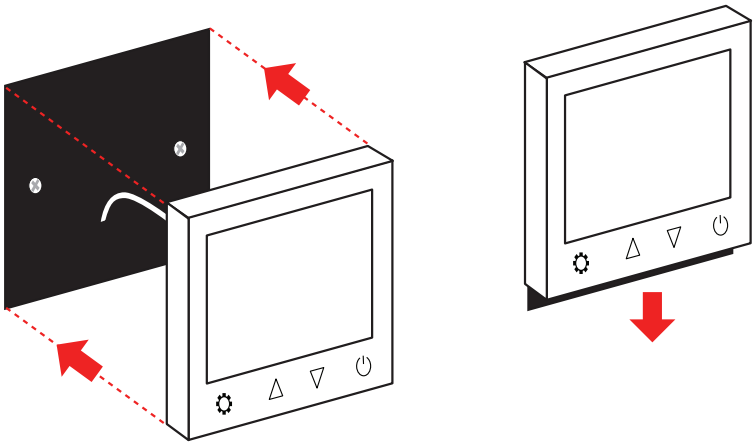
Use a cross-head screwdriver to fix the mounting plate to the back box in the wall. Now you can connect the white ribbon cable to the fascia.



Installing your thermostat

7. Fix thermostat fascia in place

Locate the thermostat onto the mounting plate and push down to clip in place.



Switching on for the first time

Do not switch your underfloor heating on unless the entire heating cable, cold tail joint and end termination are fully encased in tile adhesive.

Wait for 7 - 10 Days before you switch on

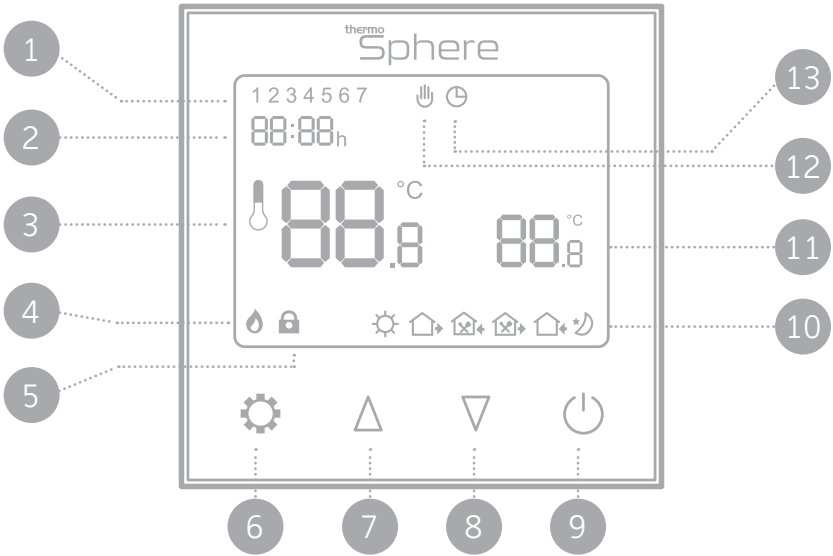
It is important that all adhesives and grouting are dry and fully cured before you switch on your underfloor heating.

Most adhesives take between 7 to 10 days to cure. Follow manufacturer guidelines.

The temperature of your underfloor heating should be increased gradually to avoid thermal shock in the floor. Start at 15°C and work up to your desired temperature 2-3°C per day.

Observe any maximum temperature guidelines from your floor manufacturer.

User interface



1. Day indicators
2. Time
3. Measured temperature
4. Heating on icon
5. Lock icon
6. Mode button
7. Up arrow
8. Down arrow
9. Power button
10. Event icons
11. Set temperature
12. Manual mode icon
13. Schedule mode icon

Heating modes

When your thermostat is on you can tap ⚙ to switch between Manual and Schedule heating modes.

Manual mode 

Your thermostat will simply maintain the temperature you set manually until you ask it to do something else!

Schedule mode 

Your thermostat will follow a heating schedule that you can set up.

Temperature override

Temperature override

When the thermostat is in Schedule mode, running your heating timer settings, it is possible to manually override the temperature without adjusting the schedule or switching to manual mode.

You can adjust the temperature with the △ and ▽ arrows.

If you override the temperature while the thermostat is running the heating schedule, the new override temperature will be maintained until the next scheduled temperature change.

The thermostat will then revert to the preset heating schedule.

Setup

Setting the day and time

Switch the unit off by pressing ⏻.

Press and hold ☼ for 7 seconds until the time begins to flash.

Use △ and ▽ to select the correct minute.

Press ☼ to switch to hours and use △ and ▽ to select the correct hour.

Press ☼ again to edit the day and use △ and ▽ to select the correct day. 1 = Monday & 7 = Sunday.

Press ⏻ to save your settings.

NOTE: The thermostat will switch off after 30 seconds of inactivity and any unsaved settings may be lost

Set up your heating schedule

1. Turn the thermostat on by pressing ⏻.
1. Press ☼ to switch to ◷ mode before you start.
2. Press ⏻ to switch the unit off.
3. Press and hold ☼ for 7 seconds to edit your schedule. If you have already set the clock press ☼ x3 to skip it.
4. Use △ and ▽ to adjust the start time for event 1 and press ☼ to save. Now use △ and ▽ to select the desired Comfort (or "On") temperature between 20 - 28°C depending on your floor finish*.

Event 1
Wake Up

5. Press ☼ to advance to event 2 and use △ and ▽ to select the desired time to switch to a lower temperature.
6. Press ☼ to save. Now use △ and ▽ to select the desired Eco (or "Off") temperature between 16 - 20°C.

Event 2
Out

7. Press ☼ to advance to event 3 and use △ and ▽ to select the desired time to switch to a higher temperature.

Event 3
Home

*Check with your floor finish manufacturer for recommended maximum temperatures

Set up your heating schedule

8. Press ☼ to save. Now use △ and ▽ to select the desired Comfort (or "On") temperature between 20 - 28°C.

9. Press ☼ to advance to event 4 and use △ and ▽ to select the desired time to switch to a lower temperature.

10. Press ☼ to save. Now use △ and ▽ to select the desired Eco (or "Off") temperature between 16 - 20°C.

Event 4
Out

11. Press ☼ to advance to event 5 and use △ and ▽ to select the desired time to switch to a higher temperature.

12. Press ☼ to save. Now use △ and ▽ to select the desired Comfort (or "On") temperature between 20 - 28°C.

Event 5
Home

13. Press ☼ to advance to event 6 and use △ and ▽ to select the desired time to switch to a lower temperature.

14. Press ☼ to save. Now use △ and ▽ to select the desired Eco (or "Off") temperature between 16 - 20°C.

Event 6
Sleep

15. Press ⏻ to activate your schedule and you,re done!

Don't want to use all of the available heating events? You can skip events by setting the same temperature as the previous event

Energy saving features

You can activate and adjust these features in the advanced settings menu. See page 21 - 23.

Adaptive Start

With the Adaptive Start feature enabled your thermostat will measure how long it takes for your individual floor to heat up and ensure the target temperature is achieved at the set time.

So if you set your heating schedule to 24°C at 07:00, the floor will be at 24°C at 07:00. No need to set the heating to come on early!

your thermostat starts learning from the first time you enable the heating schedule. It turns on an hour early to start with and gradually optimises the heat up time over 7 days.

Open Window Detector

When the Open Window Detection feature is enabled your thermostat can detect sudden drops in temperature and will switch off your heating to eliminate wasted energy.

Your thermostat will come back on after 30 minutes, provided the temperature has stabilised.

Advanced settings

Adjusting the advanced settings

To access the settings, switch the unit off by pressing ⏻.

Press and hold ☼ and ⏻ together for 7 seconds.

Press ☼ to cycle between settings.

Use △ and ▽ to adjust the settings.

Switch the unit on by pressing ⏻ to save your settings.

Advanced settings

MENU	DESCRIPTION	RANGE	DEFAULT
01	Temperature calibration	-8°C ~ 8°C	0°C
02	Maximum set point	5°C ~ 80°C	35°C
03	Minimum set point	5°C ~ 80°C	5°C
04	Sensor mode	IN (Ambient), OUT (Floor), ALL (Ambient with floor limit)	OUT
05	Frost protection	5°C ~ 15°C or Off	5°C
06	Floor temperature display	(ALL sensor mode only)	
07	Temperature limit	10°C ~ 80°C (For ALL mode only)	35°C
08	Heating schedule setting	1234567 Flashing (7 days programmed independently 1234567 (7 days the same) 123456 (6 days the same +1) 12345 (5 days the same + 2) No numbers - Program off	7 days programmed independently
09	Status after power failure	LA: On as before, OF: Off	LA

MENU	DESCRIPTION	RANGE	DEFAULT
10	Factory reset	Re (yes)	
11	Backlight timer	10secs - 300secs (5mins)	20s
12	Backlight brightness level	1 (min), 2, 3, 4 (max)	4
13	Adaptive Start	1 (On), 0 (Off)	Off
14	Open Window Detection (OWD)	1 (On), 0 (Off)	Off
15	OWD Off Time	2 - 30 minutes	15 mins
16	OWD Temperature Drop Limit	2, 3 or 4°C	2°C
17	OWD Heating on again after	10 - 60 minutes	30 mins
18	Software version		

Factory reset & key lock

Locking the keys

To lock the keys press and hold △ and ▽ together for 7 seconds.

The 🔒 icon will appear when the keys are locked. None of the keys will function.

To unlock the keys press and hold △ and ▽ together for 7 seconds.

Factory reset

Find menu item 10 in the advanced settings.

Press △ and then press ⏻.

The thermostat will switch off and reset to factory settings after 10 seconds. This will totally erase the time, date, heating program and any adjusted settings.

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Technical data

Supply voltage	230V/240V 50/60Hz
Maximum load	16A
Backup storage	EEPROM (approx. 1 year backup)
Temperature range	5 ~ 80°C (0.5°C increments)
Accuracy	±0.5°C
Sensor rating	NTC 10kΩ @ 25°C
Consumption	2W
Warranty	3 years
IP rating	IP30
Width	85mm
Height	85mm
Depth	46mm (31mm in wall)

Troubleshooting guide

Problem	Possible causes	Things to try
Very high temperature reading	Software issue	Factory reset (see p24)
	Incompatible sensor	Use a multimeter set to 20KΩ to test the resistance of the sensor probe. If the probe does not read between 8 to 12KΩ then it is likely to be a sensor probe from a different manufacturer and will need to be replaced with a ThermoSphere NTC10K sensor probe.
	More than one sensor installed	Sometimes more than one floor sensor is connected to the thermostat by mistake. This results in a high resistance and incorrect temperature readings that are much higher than normal. Check that there is only 1 sensor probe connected to your thermostat.
	High temperature influence	Check whether there are any high temperature influences around the thermostat or the floor sensor probe. For example if the thermostat is situated on a south facing sunny wall in a conservatory it may pick up a high temperature from the solar gain. If the floor sensor is in the floor and situated near a hot water pipe it will read a high temperature. If the floor sensor is in an area of the floor covered by a mat or dog bed this area of the floor would read much hotter than areas of the floor not covered by insulating objects**

*Electric underfloor heating systems should be controlled by a floor sensing thermostat wherever possible. While it is possible to use our thermostats on air sensing mode this should only be a temporary solution until a floor sensor probe can be fitted in accordance with our instructions

Need a hand? Call us on 0800 019 5899

Problem	Possible causes	Things to try
"Er" error message	No floor sensor installed	Isolate power and check that a compatible NTC10K sensor probe is connected to terminals 6 & 7. If no sensor is installed you will need to have one installed or run the system on air/ambient temperature only*
	Faulty floor sensor	If there is a sensor connected then it may be faulty. Disconnect the sensor from the terminals and test the resistance using a multimeter on the 20KΩ setting. The sensor is rated at 10KΩ at 25C and fluctuates with temperature differences. Depending on the temperature the resistance reading should be somewhere between 8 - 12KΩ. If the sensor is faulty it will need to be replaced
Flashing back-light or any fault with the display or button functions	Bad connection between display and power unit	Take the front plate off of the thermostat using a flat screwdriver. Unplug the white ribbon cable and check the cable and pins for any signs of damage. If no damage is found replace the cable, click the display back into position and turn on.

You should not attempt to troubleshoot the wiring of your thermostat unless you are confident with electrics and have switched off the supply. Call an electrician if you are not confident in doing this yourself.

**Electric floor heating systems should not be covered by insulating objects such as rugs, dog beds or furniture that prevents air flow over the floor. Covering a floor heating system in this way can cause overheating issues which can damage floor coverings and cause heating cable failure.

thermo Sphere

S-PROG-IG-02

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