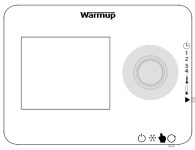
Digital Programmable Thermostat

tempo™

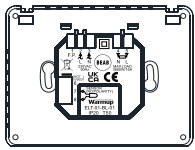
User Guide

Warmup

Pack Contents



x1



x1

x2

x1

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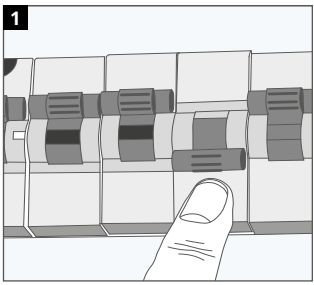
Safety Information

- ❑ The thermostat must be installed by a qualified electrician. It requires a permanent 230 V AC supply from a 30mA RCD or RCBO protected circuit in accordance with the current edition of the BS7671 Wiring Regulations.
- ❑ The supply to the thermostat must come from a ≤16A MCB, RCBO, or Fuse to protect it and the heater from overloading.
- ❑ Isolate the thermostat from the mains supply throughout the installation process. Ensure that wires are fully inserted into the terminals and secured, free strands should be trimmed, as they could cause a short-circuit.
- ❑ Install the thermostat in an area with good ventilation. It should not be beside a window/door, in direct sunlight or above another heat generating device (e.g. radiator or TV).
- ❑ For bathroom installations the thermostat MUST be mounted outside of Zones 0, 1 and 2. If this is not possible then it must be installed in an adjacent room, controlling the rooms using the floor sensor only.
- ❑ The thermostat and its packaging are not toys; do not allow children to play with them. Small components and packaging present a risk of choking or suffocation.
- ❑ The thermostat is suitable for indoor use only. It must not be exposed to moisture, vibrations, mechanical loads or temperatures outside of its rated values.
- ❑ For safety and licensing reasons (CE/UKCA), unauthorised change and/or modification of the thermostat is not permitted.

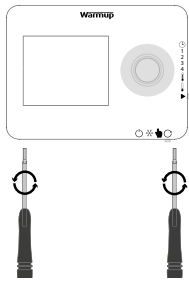
Step 1 - Installation

1



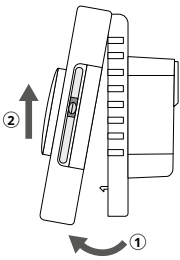
Isolate the thermostat supply from the mains supply.

2



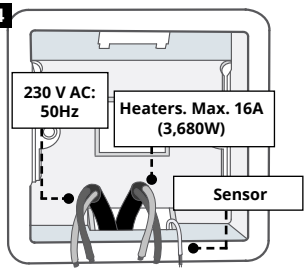
Unclip the front housing from the power module.

3



Release the front housing as shown.

4

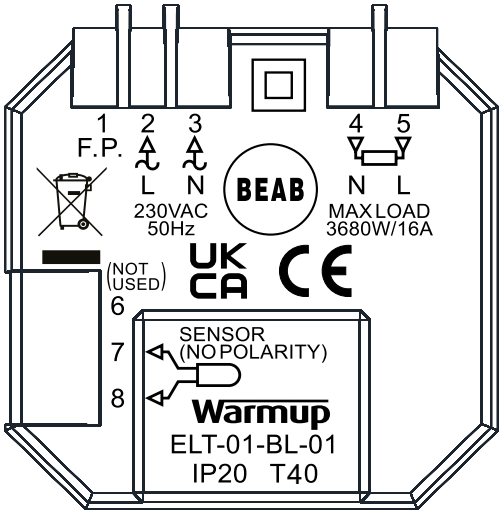


Install a minimum 35 mm deep electrical back box in your preferred thermostat location. Pull wires (heater, supply and floor sensor) through back box and complete terminal wiring.

Step 2 - Wiring Connections

WARNING!
The thermostat must be installed by a qualified electrician in accordance with the current edition of the BS7671 Wiring Regulations.

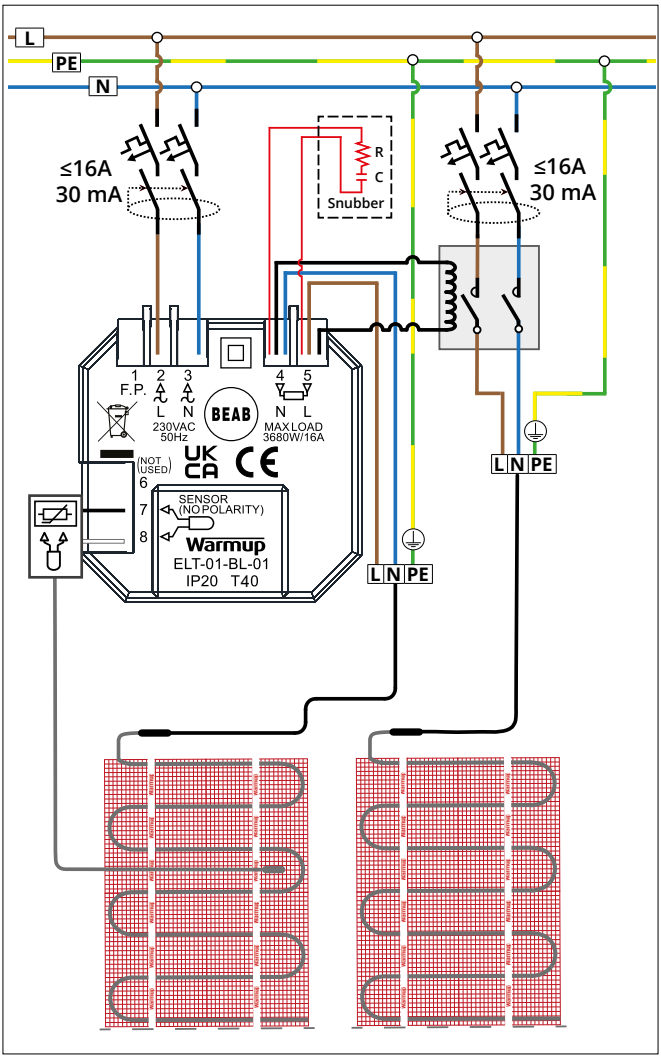
NOTE: For loads above 10 A, the conductor wire gauge should be at least 2.5mm²



Electric Underfloor Heating	
2 3 L N	Supply Live and Neutral
4 5 N L	Floor heating Neutral and Live Max. 16A (3680W)
Hydronic Underfloor Heating	
2 3 L N	Supply Live and Neutral
4 5 N L	**Terminal 4 -** Not Used
	Terminal 5 - Switched Live to Wiring Centre
Central Heating	
2 3 L N	Supply Live and Neutral
4 5 N L	**Terminal 4 -** Not Used
	Terminal 5 - Switched Live to zone valve / boiler
For extra low voltage or volt-free systems a contactor must be used. Connecting the tempo directly to extra low voltage or volt-free boilers may cause damage to the boiler circuit.	
Sensor Connection	
7 & 8	Floor Sensor (No Polarity)
Fil Pilote	
1 F.P	Connect to Fil Pilote (F.P.) France Only

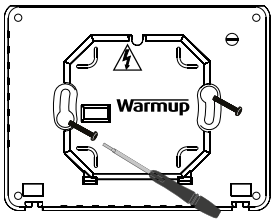
Step 2 - Wiring Connections - Loads over 16 amps

Warmup thermostats are rated for a maximum of 16 amps (3680 W). A contactor must be used to switch loads exceeding 16 amps. Please see wiring diagram below.



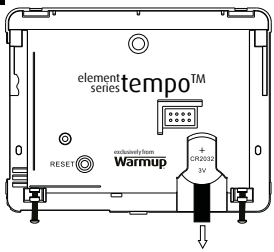
Step 3 - Thermostat Mounting

1



Insert fixing screws through mounting holes of the power module and tighten.

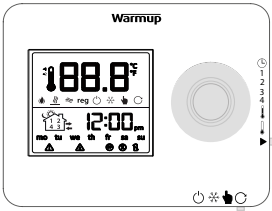
2



Locate your CR2032 3-Volt lithium battery on the reverse of the front housing. Remove the plastic strip from under the battery. The battery should always be installed with positive side "+" facing outwards.

Disconnect the power supply before replacing the battery. Only use the same type of battery as listed in this manual.

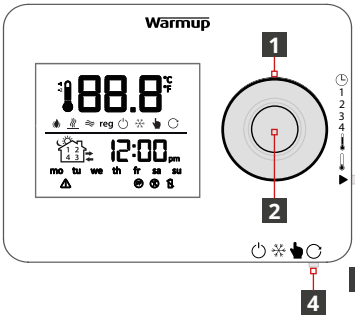
3



Re-attach the front housing. You can now power up the thermostat.

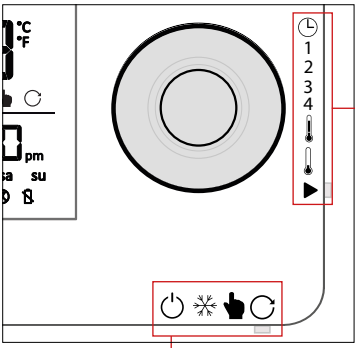
Welcome to the tempo thermostat

The **Tempo** has been designed with simplicity in mind and is highly intuitive in its programming. The sliders and simple rotary control make the setting of the thermostat quick and easy.



1. Rotary control
   Rotate left/right to change increment
2. Rotary button
3. Program slider
4. Mode slider
5. Reset button
   On reverse of the front housing

Icons on tempo



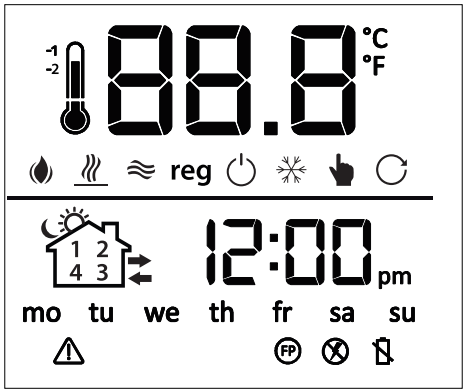
	Set time / day
1 2	Period 1 - Heating ON Period 2 - Setback*
3 4	Period 3 - Heating ON Period 4 - Setback*
	Comfort temperature
	Setback temperature
	Run

	Standby *The thermostat is in standby mode and will not target any temperature. It is still connected to mains electricity and your heating system is not isolated. Always isolate from the mains before undertaking any maintenance.*
	Frost protect *The thermostat will not let the temperature fall below 5°C (41°F)*
	Manual mode *The thermostat will hold a fixed temperature. Just turn the rotary control to change the target temperature.*
	Program mode *In this position your thermostat will run the program you have set.* *If you would like to temporarily adjust the temperature, just turn the rotary control. This will set a temporary override and will hold a fixed temperature until the next scheduled program period.*

* *Periods 2 & 4 are the start times of the "Setback" temperature. The "Setback" temperature is a lower energy efficient temperature when outside of a heating period. If you do not require the heating on then set the setback temperature to 5°C.*

Tempo
How to
Change Mode

Display icons



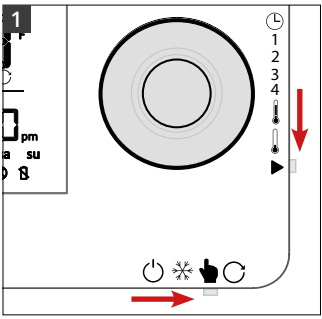
88.8	Current floor/Air temperature *Will also temporarily show set temperature*	12:00 pm	Clock
°C °F	Celsius/Fahrenheit	1	Period 1 - Heating ON
	Program mode	2	Period 2 - Setback
	Manual mode	3	Period 3 - Heating ON
	Frost protect	4	Period 4 - Setback
	Standby	mo - su	Day of the week
reg	Regulator mode		Floor sensor error
	Air mode		Displays when overheat limit is reached
	Floor mode	FP	Fil Pilote
	Heating indicator		No mains electricity available
-1/-2	Displays when COMFORT -1/ -2 is target temperature *When fil pilote is activated*		Battery needs to be replaced

When the thermostat displays both the manual and program icon the thermostat is in a manual override and will hold a fixed temperature until the next scheduled program period.

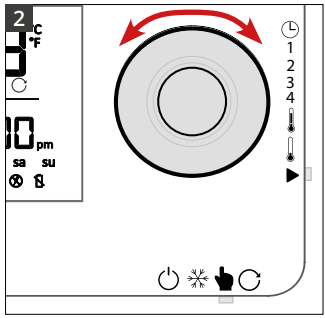
In both manual and program modes, when setting a target temperature or a temporary override, if the rotary control is not moved for 3 seconds the temperature will flash once and revert to displaying current air/floor temperature

How to set into Manual Mode

Setting into manual mode allows you to set a fixed target temperature for the thermostat to achieve. The thermostat will continue to maintain this temperature until another operating mode or temperature is selected.



- Move the mode slider to the **manual mode** icon " ".
- Ensure the program slider is in the **run** position " ▶ ".



- Turn the rotary control clockwise/ anti-clockwise to increase or decrease the target temperature

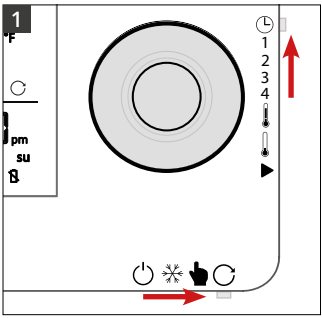
---

How to set a program

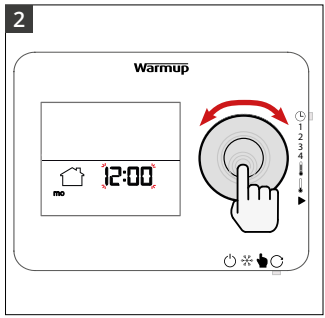
Setting a program allows you to set comfort temperatures at set times throughout the day. The tempo allows for 2 heating schedules to be set.

Days can programmed individually (7-day), all days the same (1-Day) or weekdays as a block and weekends as a block (5-2), the choice is yours.

The tempo is defaulted to (5-2). This setting can be changed when the program slider is on set time / day icon " " and then pressing and holding the rotary button for 5 seconds.



- Move the mode slider to the **program mode** icon " ".
- Move the program mode slider to the **set time / day** icon " ".

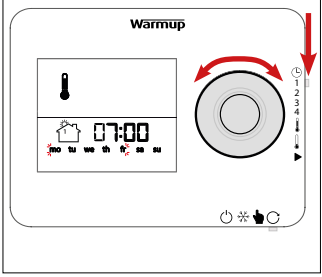


- To set the current time, turn the rotary control clockwise / anti-clockwise.
- To set the current day of the week, press the rotary button and then turn the rotary control.

Moving the program slider to the next position saves the values you have entered.

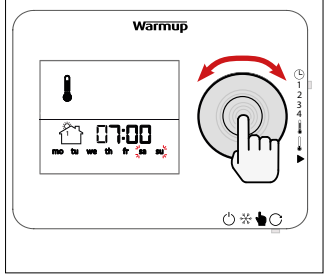
How to set a program

3



- Move the program slider to “**1**”.
- Turn the rotary control to set the start time for “Period 1 - Heating ON” for Mon-Fri.

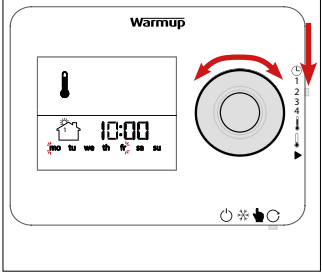
4



- Press the rotary button to program “Period 1 - Heating ON” for Sat-Sun.
- Turn the rotary control to set the start time for “Period 1 - Heating ON for Sat-Sun”.

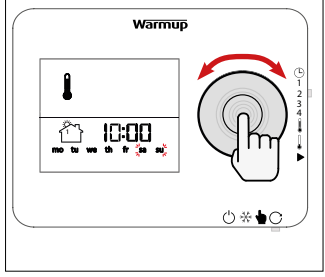
If you press and hold the rotary button for 3 seconds it will copy the start time to the next day.

5



- Move the program slider to “**2**”.
- Turn the rotary control to set the start time for “Period 2 - Setback” for Mon-Fri.

6



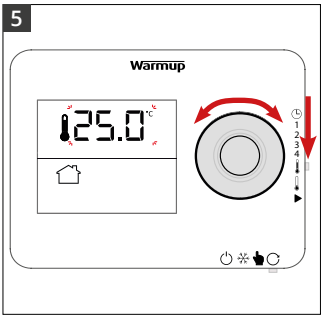
- Press the rotary button to program “Period 2 - Setback” for Sat-Sun.
- Turn the rotary control to set the start time for “Period 2 - Setback” for Sat-Sun.

Move the slider to “**3**” and then “**4**”, repeating steps 3 - 6 above for periods 3 & 4.

If you require one heating schedule then set the start times of periods 2 and 3 the same. Periods 1 and 4 will then be your Heating ON and Setback times.

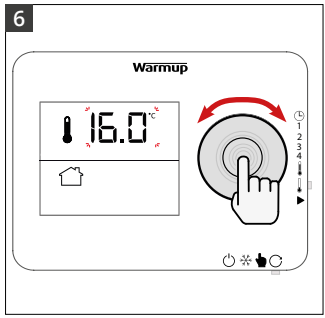
How to set a program

5



- Move the program slider to the comfort temperature icon " 🌡 ".
- Turn the rotary control to set the desired comfort temperature.

6

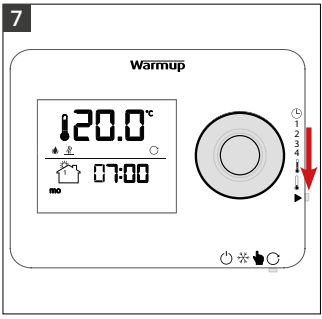


- Move the program slider to the setback temperature icon " 🌡 ".
- Turn the rotary control to set the desired setback temperature.

Comfort temperatures will run on Periods 1 and 3 - Heating ON
Setback temperatures will run on Periods 2 and 4 - Setback

The "Setback" temperature is a lower energy efficient temperature when outside of a heating period.

7



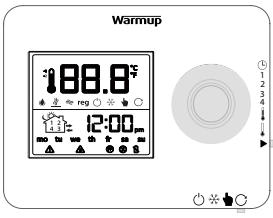
- Move the program slider to the **run** icon " ▶ ".
- The thermostat will now run your programmed heating schedule.

Installer settings

Installer settings should be set by the installer of the thermostat and are unlikely to need changing during the product's life. If it is necessary to enter installer settings, follow the steps below.

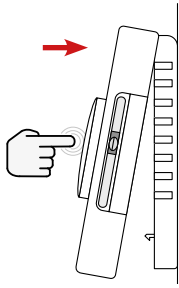
Tempo
Access installer settings

1



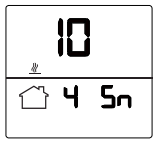
- Ensure there is power going to the thermostat.
- Remove the front housing from the power module.

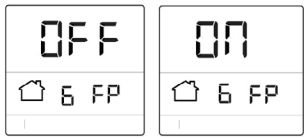
2

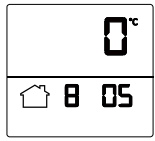
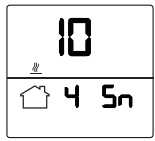


- Press and Hold the rotary button whilst re-attaching the front housing to the power module.

Once you have entered the installer settings, turn the rotary control to change your selection and press the rotary button to accept and proceed to the next step. Once you have completed all the steps you will automatically exit the installer setting mode.

#	Setting configured	Default	Display
1	Change clock format (12hr / 24hr)	24H	
2	Change unit of temperature measurement (°C / °F)	°C	
3	Temperature target Floor/ Air/ Regulator *In regulator mode the thermostat will run for a set number of minutes in a 10 minute cycle.*	Floor	
4	Set Floor Sensor Type (*NTC10K / NTC12K*) *Current Warmup thermostats use NTC10K sensor probes. Some older Warmup thermostats used NTC12K sensor probes.*	10K	
5	Adaptive Learning (ON/OFF) *Adaptive learning calculates the optimum heating start time in order to reach the comfort temperature at the start of the comfort period. Program mode only.*	On	

<table>
<tr><th>#</th><th>Setting configured</th><th>Default</th><th>Display</th></tr>
<tr><td>6</td><td>Fil Pilote (France only)
The thermostat can obey the 6 standard commands of fil pilote (pilot wire)</td><td>Off</td><td> 
</td></tr>
<tr><td>7</td><td>Set an overheat limit to protect your floor
Overheat temperature is measured by Floor Sensor and can be set between 25 - 40°C. If “Overheat” temperature is reached then heating is suspended for 5 minutes</td><td>30°C</td><td> 

<table>
<tr><th colspan="2">Suggested probe settings*</th></tr>
<tr><td>Vinyl</td><td>27°C / 80°F</td></tr>
<tr><td>Tiles</td><td>29°C / 84°F</td></tr>
<tr><td>Stone</td><td>29°C / 84°F</td></tr>
<tr><td>Wood/Laminate</td><td>35°C / 95°F</td></tr>
<tr><td>Carpet</td><td>40°C / 104°F</td></tr>
<tr><td colspan="2">* Refer to the UFH/system manual and floor finish documentation for full guidance</td></tr>
</table></td></tr>
<tr><td>8</td><td>Set an offset value (-9 /+9°C)
Calibrate the temperature reading of your thermostat sensors</td><td>0°C</td><td> 
</td></tr>
<tr><td>9</td><td>Set the maximum duty cycle length between 2-10 minutes per 10 minute cycle.
NOTE: Option only available if Installer Step 3 is switched to Regulator (REG) Mode.</td><td>10</td><td> 
</td></tr>
</table>

Troubleshooting

Display is blank	**(Electrician Required)** Electrician required to verify power is going to the thermostat and that it is correctly wired.
The thermostat is not controlling the temperature	Ensure that the program slider is in the run position " ▶ " (lowest point) and that the mode slider control (bottom) is in the manual " ☝ " or program " ↻ "positions.
Heating is coming on earlier than programmed times	Adaptive learning calculates the optimum heating start time in order to reach the comfort temperature at the start of the comfort period. It will only work in Program Mode. See installer setting #5.
Floor sensor error " ⚠ " / " --- "	**(Electrician Required)** Electrician required to verify that the floor sensor has been wired correctly. If it is correctly wired the electrician will need to check the resistance of the floor sensor using a multi-meter. For temperatures between 20°C - 30°C the resistance of the floor sensor should measure between 8K ohms and 12K ohms. If the electrician finds a fault, and the thermostat is in the room to be heated then it can be set into "Air Mode". To set into "Air Mode" or "Regulator Mode", see installer setting #3. If "---" still remains when set into air mode the thermostat will have to be replaced.
Overheat " ⚠ "	If you see the overheat icon this means that your floor has become too hot and the heating has been suspended. See installer setting #7.
Low battery " 🔋 "	The low battery icon will display when the coil-cell CR2032 3-volt lithium battery needs to be replaced. The thermostat must be connected to the mains electricity supply in order to work, it is not designed to be used with an intermittent power supply. If the battery is not installed then your thermostat will not be able to maintain the clock time if power is lost.
Incorrect calibration	Your thermostat should not need any calibration, however if you would like to apply an offset to the temperature settings see the installer setting #8.
No mains electricity „⊗"	**(Electrician Required)** The thermostat is not receiving power. Check the thermostat power module is properly installed and that there is 230V mains electricity supply connected.
Regulator mode (Reg) is displayed	In this mode your thermostat will come on for a set number of minutes in a 10 minute cycle. The thermostat will not use the temperature for control.
Fil Pilote (FP) is displayed	The thermostat can obey the 6 standard commands of fil pilote (pilote wire), (France only).
HI or LO is displayed	The thermostat will display "HI" if the ambient temperature exceeds 40°C (104°F) and "LO" when the ambient temperature falls below 0°C (32°F).

Technical Specifications

Model	ELT-01-XX-01
Operating Voltage	100-240V +/- 15%; 50/60Hz
Protection Class	Class II
Max. Load	16 A (3680 W)
Rated impulse voltage	4000 V
Battery	Replaceable Coin Cell CR2032
Automatic action	100,000 cycles
Disconnection means	Type 1B
Pollution degree	2
Programmable temperature	0 - 40 °C
Max. Ambient temperature	0 - 40 °C
Relative humidity	80 %
IP Rating	IP20
Dimensions	90 x 113 x 23 mm
Screen size	45 x 50 mm
Sensors	Air & Floor (Ambient)
Sensor Type	NTC10k 3m Long (Can Be Extended To 50 m)
Installation Depth	Recommended: 50 mm Back Box Minimum: 35 mm Back Box
Compatibility	Electric, Hydronic Underfloor Heating. Max. 16A (3680W) Central Heating Systems (Combi & system boilers with switch live, 230V AC input)
Er-P Class	IV
Warranty	12 years
Approvals	BEAB

Instructions for Disposal
Do not dispose of the device with regular domestic waste! Electronic equipment must be disposed of at local collection points for waste electronic equipment in compliance with the Waste Electrical and Electronic Equipment Directive.

Waste batteries must be removed from the device and disposed of separately in line with local environmental regulations. Always disconnect the thermostat from the mains supply before removing the battery.

If there is leakage from the battery, wear butyl rubber gloves and carefully collect the battery and place in a plastic container for disposal. Remove any spilled liquid with an absorbent material and contain for disposal.

EcoDesign compliance information card

This control has the following control functions and exceeds the EcoDesign requirements for electric underfloor local space heaters and towel rails as set out in Commission Regulation (EU) 2024/1103: **TW (f4/f8)**

The Tempo includes these control function codes and power consumptions:

Thermostat model					
ELT-01					
Control function code					
TW (f4/f8)					
Power consumption					
Off mode	**Standby mode**			**Idle mode**	
P_o ≤ 0.5W	**P_{sm} ≤ 0.5W**	**P_{dsm} ≤ 1.0W**	**P_{nsm} ≤ 2.0W**	**P_{idle} ≤ 1.0W**	**P_{nidle} ≤ 3.0W**
☑				☑	

Type of heat output/room temperature control		
TD	Electronic room temperature control plus day timer	☐
TW	Electronic room temperature control plus week timer	☑
Other control options		
f2	Open window detection	☐
f3	Distance control option	☐
f4	Adaptive start control	☑
f7	Self-learning functionality	☐
f8	Control accuracy	☑

Room temperature control power consumption

The control must include an off mode and/or a standby mode, in addition to an idle mode. The power consumption must comply with requirements for each mode where applicable.

In off mode	P_o ≤ 0.5W	☑
In standby mode	P_{sm} ≤ 0.5W	☐
	P_{dsm} ≤ 1.0W (if control has an active display in standby mode)	☐
	P_{nsm} ≤ 2.0W (if control has a network connection in standby mode)	☐
In idle mode	P_{idle} ≤ 1.0W	☑
	P_{nidle} ≤ 3.0W (if control has a network connection)	☐

Control function codes (Required to be in manual as part Regulation (EU) 2024/1103)

		Code of temperature control (TC)	Control functions							
			f1	f2	f3	f4	f5	f6	f7	f8
Type of temperature control	Single stage, no temperature control	NC								
	Two or more manual stages, no temperature control	TX								
	Mechanic thermostat room temperature control	TM								
	Electronic room temperature control	TE								
	Electronic room temperature control plus day timer	TD								
	Electronic room temperature control plus week timer	TW								
Control functions	Presence detection		1							
	Open window detection			2						
	Distance control option				3					
	Adaptive start control					4				
	Working time limitation						5			
	Black bulb sensor							6		
	Self-learning functionality								7	
	Control accuracy with CA < 2 Kelvin and CSD < 2 Kelvin									8

Warmup plc T: 0345 345 2288 **F:** 0345 345 2299 www.warmup.co.uk
704 Tudor Estate ■ Abbey Road ■ London ■ NW10 7UW ■ UK
Warmup GmbH ■ Ottostraße 3 ■ 27793 Wildeshausen ■ DE

Warranty

Warmup plc warrants this product, to be free from defects in the workmanship or materials, under normal use and service, for a period of twelve (12) years from the date of purchase by the consumer when installed with a Warmup heater.

If at any time during the warranty period the product is determined to be defective, Warmup shall repair or replace it, at Warmup's option. If the product is defective, please either;

Return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it,
or

Contact Warmup. Warmup will determine whether the product should be returned or replaced.

The twelve (12) year warranty only applies if the product is registered with Warmup within 30 days after purchase. Registration can be completed online at www.warmup.co.uk

This warranty does not cover removal or re-installation costs and shall not apply if it is shown by Warmup that the defect or malfunction was caused by failure to follow the instruction manuals, incorrect installation or damage which occurred while the product was in the possession of a consumer. Warmup's sole responsibility shall be to repair or replace the product within the terms stated above. If the product is installed with a non-Warmup heater a three (3) year warranty will apply. This warranty does not extend to any associated software such as apps or portals.

WARMUP SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. THIS WARRANTY IS THE ONLY EXPRESS WARRANTY WARMUP MAKES ON THIS PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS HEREBY LIMITED TO THE TWELVE-YEAR DURATION OF THIS WARRANTY.

This warranty does not affect your statutory rights.

Warmup plc

www.warmup.co.uk
uk@warmup.com
T: 0345 345 2288
F: 0345 345 2299

Warmup plc ▪ 704 Tudor Estate ▪ Abbey Road ▪ London ▪ NW10 7UW ▪ UK
Warmup GmbH ▪ Ottostraße 3 ▪ 27793 Wildeshausen ▪ DE

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