

Warm-on TS50 Thermostat

1. General

The TS50 series thermostat features an LCD display and weekly programmable functionality. It allows up to 6 periods to be set per day, with customizable times and temperatures. The thermostat can operate in manual or automatic (weekly program) mode. This thermostat is ideal for controlling electric heating devices or on/off valve actuators in water-based radiant underfloor heating systems. It is designed to maintain a consistent and comfortable temperature throughout your space.

2. Specifications

Voltage: 230VAC, 50/60Hz
Current: Max 16A
Power Consumption: < 1W
Sensor Type: NTC (10kΩ)
Switching Differential: 1°C
Temperature Setting Range: 5°C–45°C (adjustable up to 95°C)
External Limit Range: 5°C–60°C (with external sensor)
Accuracy: ±1°C
Ambient Operating Conditions: -5°C to 40°C
Protection Class: IP20
Overall dimensions: 85×85×40mm

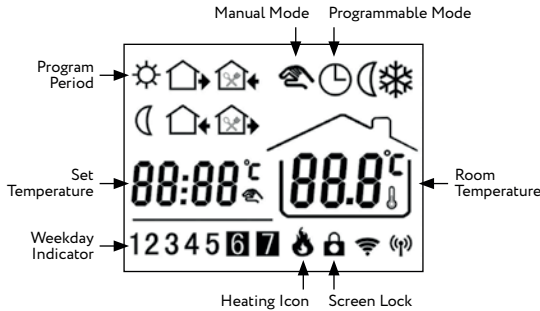
Important Information

1. Read these instructions carefully. Ignoring the advices can damage the product or cause hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Employ only qualified workers for installation and set to operation.
4. After installation is complete, check out product operation as provided in these instructions.

Caution:

Electrical Shock or Equipment Damage Hazard.
Can shock individuals or reduce equipment lifetime.
Disconnect power supply before manipulation.

3. LCD Display Icons



- **Screen Lock (🔒):** Hold ^ and v to turn the Screen Lock on and off
- **Heating Icon (🔥):** The heating is on
- **Manual Mode (🏠):** The thermostat maintains the temperature set manually
- **Programmable Mode (🕒):** In this mode, the thermostat automatically maintains the set temperature according to 6 time periods per day, with independent settings for weekdays and weekends according to the scheme 5+1+1.
If it is necessary to temporarily change the set temperature during this period, press buttons ^ or v, and the icons of manual (🏠) and programmable (🕒) modes will be displayed simultaneously on the screen.

At the beginning of the next time period, the thermostat will automatically return to the programmable mode.

- ☀️ : Waking up (morning), Period 1
- 🏠➡️ : Leaving the house (morning), Period 2
- 🏠⚡ : Returning home for lunch, Period 3
- 🏠⚡➡️ : Leaving the house (lunch), Period 4
- 🏠⚡ : Returning home (evening), Period 5
- 🌙 : Sleeping (night), Period 6
- **Anti-Freezing Icon (❄️):** Appears when antifreeze function is active

4. Key Functions

- 🔌 **Power Button:** Turn device ON or OFF
- 🔲 **Mode Button:** Toggle between manual and programmable modes
- 🕒 **Clock Button:** Press briefly to set the clock
 - **Sequence:** Minutes → Hours → Weekday
 - Use ^ and v to adjust values
 - Automatic saving of the value after 10 seconds or when switching to the next parameter
- ^ **Up Button:** It is used to increase the selected parameter or select the operating mode.
- v **Down Button:** It is used to reduce the selected parameter or select the operating mode.

Weekly Programming Setup:

With power ON, press and hold the **Clock** (🕒) and **Power** (🔌) buttons together for 5 seconds to enter programming mode.

- Sequence:
 - Set time and temperature for 6 periods (Weekdays)
 - Set time and temperature for 6 periods (Weekends)
- Use ^ and v to change values, as well as the 🔲 key to confirm and proceed to the next step.
- Each step lasts 1 minute before auto-exit; changes are saved after 10 seconds of inactivity.

Programming Example:

Options	Period	Symbol	Time	Edit	Temp.	Edit
🔌🕒	Weekday	1 ☀️	06:30	^ v Modify the setting time	21°C	^ v Modify the setting temperature
		2 🏠➡️	08:00		18°C	
		3 🏠⚡	11:30		21°C	
		4 🏠⚡➡️	12:30		18°C	
		5 🏠⚡	18:00		21°C	
		6 🌙	22:30		16°C	
	Weekend	1 ☀️	06:30	^ v Modify the setting time	21°C	^ v Modify the setting temperature
		2 🏠➡️	08:00		18°C	
		3 🏠⚡	11:30		21°C	
		4 🏠⚡➡️	12:30		18°C	
		5 🏠⚡	18:00		21°C	
		6 🌙	22:30		16°C	

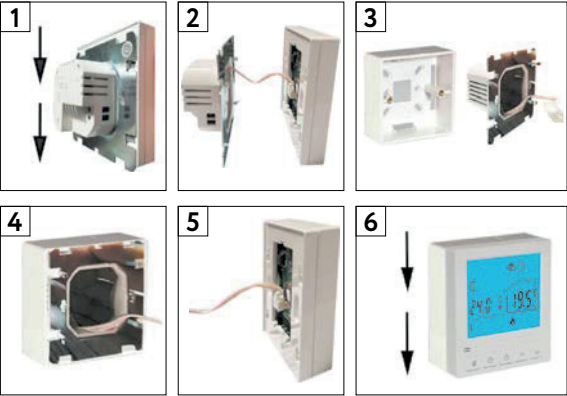
5. Advanced Options

With power OFF, press and hold the **Clock** (🕒) and **Power** (🔌) buttons for 5 seconds to enter advanced settings.

Use ^ and v to adjust the values and the (🔑) key to switch to the next option. Hold **Clock** (🕒) for 10 seconds to save settings.

Code	Description	Default	Range/Options
1Adj	Internal sensor temperature calibration	-2	-9°C to +9°C
2Sen	Sensor selection	In	In: Internal, OUT: External, ALL: Combo
3Lit	High temperature protection limit	50	5°C to 60°C
4dif	Switching differential	1	0.5°C to 5°C
5Ltp	Anti-freezing function	Off	On/Off
6PRG	Max temperature limit	45.0	45°C to 95°C
7OEN	Open window detection	OFF	ON/OFF
8OTI	Detection time for open window	15	2 to 30 minutes
9OTP	Minimum temperature drop to enable the open window function	2	2°C to 4°C
OPdT	The delay time for resuming normal operation after the open window function is activated	30	10 to 60 minutes
AFRC	Restore factory settings	—	When the “—” symbol is displayed, hold down the (🔑) key for 5 seconds.

6. Installation Guide



- 1. Slide down the back cover to separate it from the front panel
- 2. Disconnect both parts
- 3. Connect wires according to the wiring diagram
- 4. Fix the back plate to the wall using screws
- 5. Attach the front panel to the back plate and connect it to power
- 6. Slide the panel downward to lock it into place

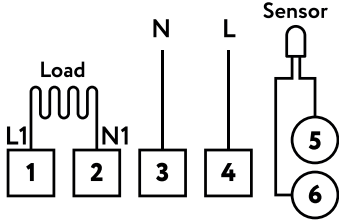
7. Sensor Error Display

Please ensure the correct sensor is selected and installed.

- **ER0**: Internal sensor error
- **ER1**: External sensor error

When an error is detected, the thermostat will stop functioning until the issue is resolved.

8. Wiring Diagram



Model: Warm-on TS50 Thermostat

Warning:

Installation must be carried out by qualified personnel. Always disconnect power before installation. Avoid getting water, mud, or other contaminants into the unit, as this can cause damage.

9. Conformity

The thermostat model “TS50 Thermostat” complies with the following directives:

- Low Voltage Directive (LVD) 2014/35/EU
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- EU RoHS 2 Directive 2011/65/EU

https://warm-on.com/media/DoC_ts50.pdf

10. Disposal

In accordance with European Directive 2012/19/EU:



Do not dispose of defective electrical devices in household waste.



WARNING

Use designated recycling centers. Contact your local municipality or district authority for proper disposal options.



Proper disposal ensures environmental protection and avoids the release of hazardous substances.

Important:

Never release toxic liquids or gases into the atmosphere.

11. Warranty

The manufacturer guarantees conformity with the product design description and adherence to the installation and operation manual.

Warranty Period: 2 years from the purchase date.

In case of defects due to manufacturing faults during the warranty period, the customer is entitled to free rectification.

Exclusions:

- Improper handling or installation
- Tampering by third parties
- Failure to follow the instructions
- Consequential damages

Please retain your proof of purchase. Warranty claims require this document.

Installation should be carried out by a qualified specialist. Electrical connection and wiring must be performed by a certified electrician.

The installation manual and wiring diagram do not replace professional training.

Damage from incorrect use or mechanical impact is not covered.

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