

# WARM-ON

DE

FR

EN

## Warm-On Smart Thermostat TS500 Series

### User & Installation Manual

#### Models:

- Smart Thermostat TS500 WiFi
- Smart Thermostat TS500 WiFi + Radar



## Overview

The Warm-On Smart Thermostat TS500 series is a new-generation solution for precise and reliable control of underfloor heating systems. It combines advanced functionality, intuitive operation, and refined design to deliver consistent comfort and energy efficiency.

The thermostat supports both electric and water-based underfloor heating systems and can be controlled locally or remotely via mobile applications.

The thermostats are compatible with standard frames from leading electrical installation brands, including **Gira, ABB, Schneider, Jung, ELKO**, and **KEF**.

## Key Features

- WiFi smart control via mobile app
- Compatible with Tuya Smart, Smart Life, and Jiahong apps
- High load capacity up to 25A ( $\approx 5.7$  kW)
- Compatible with electric and water underfloor heating systems
- Magnetic mounting system for fast and clean installation
- Changeable frames compatible with leading brands (Gira, ABB, Schneider, Jung, ELKO, KEF)
- Touch LED display with intuitive interface
- Weekly scheduling and energy-saving modes
- Presence detection (Radar version only)
- OTA (over-the-air) software updates
- 5-year warranty

## Technical Specifications

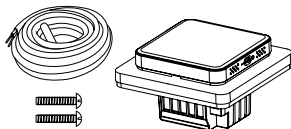
|                           |                           |
|---------------------------|---------------------------|
| Supply voltage            | 85–265 V AC, 50/60 Hz     |
| Standby power consumption | < 0.5 W                   |
| Maximum load              | 25 A (electric heating)   |
| IP rating                 | IP31                      |
| WiFi                      | 2.4 GHz                   |
| Cable specification       | up to 2.5 mm <sup>2</sup> |

### Floor Sensor

- Sensor type: NTC 10 k $\Omega$
- Resistance tolerance:  $\pm 1\%$
- Beta value (B): 3950K
- Thermal time constant:  $\leq 16$  s (in still air)
- Dissipation constant: 2.0 mW/ $^{\circ}\text{C}$  (in still air)
- Rated power: 10 mW
- Operating temperature range:  $-40^{\circ}\text{C}$  to  $+110^{\circ}\text{C}$
- Standard cable length: 3 m
- Compatible with standard 10 k $\Omega$  sensors

### Package Contents

- Thermostat unit
- Mounting frame and base
- Floor temperature sensor (3 m cable)
- Mounting screws
- User manual



## Installation



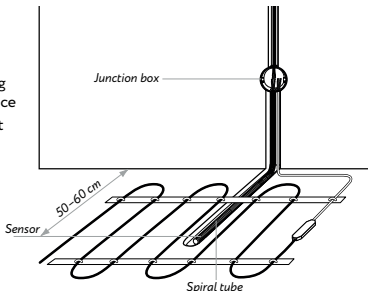
*Installation must be carried out by a qualified electrician in accordance with local regulations.*

### Important Guidelines:

- Disconnect power before installation
- Install in a standard 60–65 mm wall box
- Avoid direct sunlight and drafts
- Ensure proper positioning for accurate temperature sensing

### Floor Sensor Installation:

- Place the sensor in a protective conduit
- Position it between heating cable loops at equal distance
- Seal the end of the conduit for easy replacement

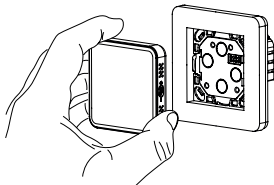
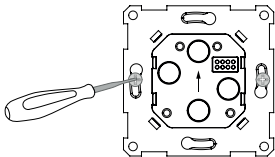
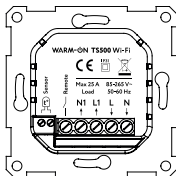
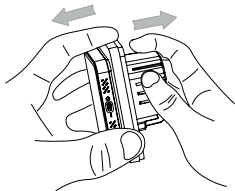


## Magnetic Mounting System

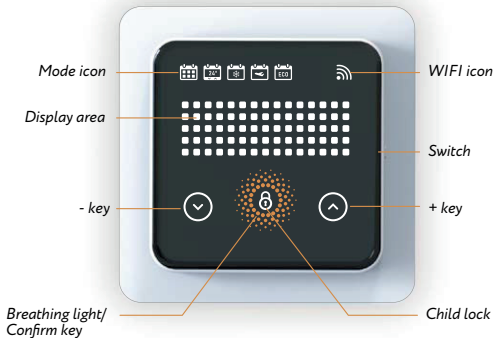
The thermostat features a magnetic front panel for quick installation:

1. Fix the base unit into the wall box
2. Complete wiring according to the diagram
3. Attach the front panel — it will automatically align and lock into place

This ensures clean installation and easy maintenance access.



## Thermostat Symbols



AUTO MODE



ANTI-FREEZING



ECO MODE



MANUAL MODE



HOLIDAY MODE

**Note:** The ECO mode is only applicable to the TSW-ir500201/TSW-ir500201 models



Flashing state: Wi-Fi connection lost. Waiting for reconnection.  
Constantly illuminated state: WiFi connection successful.



When the breathing light shows white, the thermostat is in a non-heating operation mode.



When the breathing light turns orange, the thermostat is heating up.

At the same time, it is also a confirmation button, used to confirm the setting options.

**Note:** When the button is touched, the buzzer will emit a slight feedback sound, indicating that the touch is valid.



Press the Up and Confirm keys simultaneously for 3s.

## WiFi & App Control

The thermostat can be controlled remotely via mobile applications.

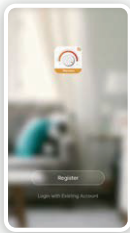
Supported Apps:

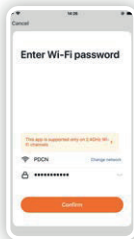
- Tuya Smart
- Smart Life
- Jiahong App



### Setup:

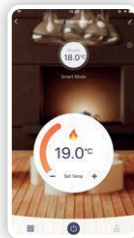
1. Reset Wi-Fi, press the up and down keys simultaneously for 3s
2. Download one of the supported apps
3. Register and log in
4. Add a new device





5. Connect to a 2.4 GHz WiFi network (confirm that the Wi-Fi of the thermostat is flashing)
6. Follow on-screen instructions

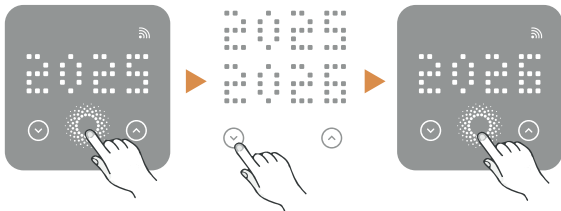
Once connected, you can control temperature, schedules, and modes remotely.



## Basic settings

During the first start or after the device reset a start-up wizard will be run to help you adjust basic settings:

- **TIME:** Year-Month-Day-Time-Summer time
- **UNIT:** °C/°F
- **BRIGHTNESS:** 01-10
- **SENSOR:** Room/**Floor**/R+F-10K/12K/15K



## Operating Modes

The thermostat supports multiple operating modes:



### **Auto Mode**

Follows the programmed weekly schedule



### **Manual Mode**

Maintains a constant set temperature



### **ECO Mode** (*Radar version*)

Adjusts heating based on presence detection



### **Holiday Mode**

Maintains reduced temperature for a set period



### **Anti-Freezing Mode**

Maintains minimum temperature (approx. 7°C)

## Presence Sensor (Radar Version)

The TS500 WiFi + Radar model includes a combined presence detection system.

### Functionality:

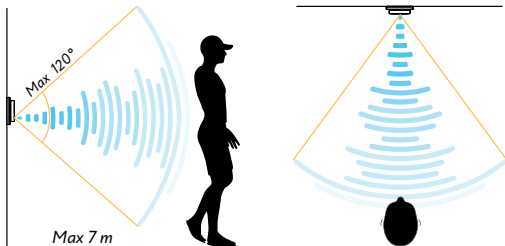
- Detects human presence in the room
- Automatically adjusts heating in ECO mode
- Reduces energy consumption when no activity is detected

### Customization:

- Delay before switching to energy-saving mode is adjustable
- Temperature during absence is user-defined

### Installation Note:

Install the thermostat in a position where it can effectively detect movement. Detection range and accuracy depend on distance and angle.



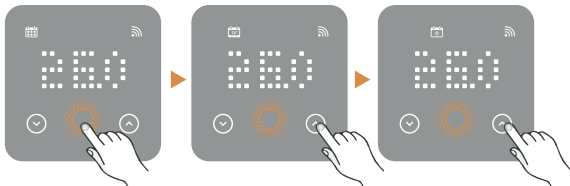
## Programming & Scheduling

The thermostat supports flexible weekly programming:

- 7-day individual scheduling
- 5+2 (weekday/weekend) mode
- 24-hour uniform schedule

Users can set multiple heating periods per day with different temperatures.

Tap the confirmation button to switch modes



## Settings

To enter settings press the confirmation button for 3 seconds.

The order of settings is:

- **TIME:** time settings
- **UNIT:** temperature unit
- **BRIGHTNESS:** display brightness
- **SENSOR:** the model of the temperature control sensor
- **ENERGY CONSUMPTION:** monthly energy consumption
- **SCHEDULE:** week heating plan
- **ADVANCED:** these settings should be handled with caution



Long press for 3 s



Click "Confirm" to enter this setting.



Press the - key to select the settings options.



When this symbol  appears on the screen, press «Confirm» to exit the settings.



## Programming

Default parameters:

| Day     | PERIOD 1           | PERIOD 2           |
|---------|--------------------|--------------------|
| Mon-Fri | 08:30-10:00 23.0°C | 17:00-22:00 23.0°C |
| Sat/Sun | 08:30-10:00 23.0°C | 17:00-22:00 23.0°C |

To edit the schedule select "weekly schedule"

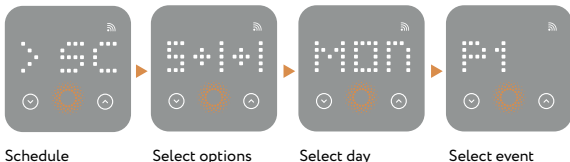
### Options:

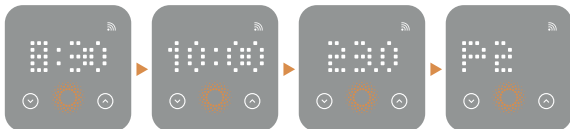
**7:** each day from Mon to Sun has individual settings.

**5+1+1:** 5 days from Mon to Fri are the same, Sat and Sun – individual settings.

**24H:** 7 days from Mon to Sun are the same.

Press the confirmation button for 3 s to enter the settings, select SCHEDULE





Set the start time and end time

Set temp.

Select next event

## Energy consumption

The device shows the monthly energy consumption only. The detailed information is available in the APP.

Press the confirmation button for 3 s to enter the settings and select ENERGY CONSUMPTION.



Energy  
consumption

Select year

Select month

Display kWh

## Advanced Settings

The thermostat includes advanced configuration options:

- Temperature calibration
- Switching differential
- Intelligent preheating
- Open window detection
- Temperature setback
- Floor temperature protection



*These settings should be adjusted carefully.*



1. **Temp.Compensation:** Calibrate the temp detected by temperature control sensor.
2. **Difference:** The deviation is 1°C. The thermostat start to work when the actual temp is 1°C lower than set temp and stop to work when the actual temp and stop to work when the actual temp.
3. **Intelligence:** After several days of installation and use, Intelligence function ensures that the required temp has already been reached when the next event begins.

4. **Open window:** Detection of rapid drop in temperature. Stops when temperature is stable. To save unnecessary energy consumption.
5. **Setback:** This parameter refers to the value on which the temperature will drop after the previous heating period.  
For example, set it to 5°C, 08:00-10:30 23°C, Then the temperature will be automatically maintained to 18° after 10:30.
6. **Floor protection:** When both floor and room sensors are used simultaneously, this temperature is employed to limit the maximum temperature of the floor, ensuring that high temperatures do not damage the floor.
7. **Factory Reset:** All parameters are restored to default values.

| No | Name               | Default | Ranges   |
|----|--------------------|---------|----------|
| 1  | Temp. Compensation | 0°C     | -5~5°C   |
| 2  | Difference         | 1°C     | 0.5~3°C  |
| 3  | Intelligence       | ON      | ON/OFF   |
| 4  | Open Window        | OFF     | ON/OFF   |
| 5  | Setback            | 5°C     | 2-8 °C   |
| 6  | Floor protection   | 30°C    | 20-50 °C |
| 7  | Factory Reset      | NO      | NO/YES   |

## Energy Monitoring

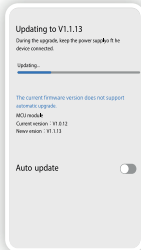
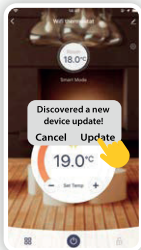
The thermostat allows monitoring of energy consumption:

- Monthly consumption data available on device
- Detailed statistics available in the mobile app

## Software Updates

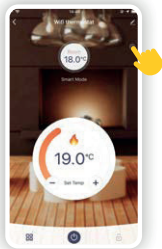
The thermostat supports OTA (over-the-air) updates:

- Updates are delivered via the mobile app
- Stable WiFi connection required
- Update process may take up to 10 minutes



Non-important software updates are not displayed. To check whether a new software update is available:

Click on the pencil icon in the upper-right corner of the app and scroll down to «Device update».



### FOCAL POINTS:

- Ensure a network connection during the software update.
- If the network is interrupted, the update may fail.
- After a major update is cancelled manually, APP controls will not be available.
- During the update process, the thermostat is not available.
- The whole process can take up to 10 minutes.
- After the update, some parameters originally set by the user may be reset.

## Safety & Maintenance

- Do not exceed maximum load (25 A)
- Ensure correct wiring
- Do not expose to moisture beyond IP rating
- Use only compatible sensors

## Troubleshooting

### **ERROR CODES:**

- E1 — Room sensor error
- E2 — Floor sensor error

### **COMMON ISSUES:**

#### **No display:**

- Check power supply
- Verify wiring

#### **Heating not working:**

- Check temperature settings
- Verify load and connections

#### **Incorrect temperature:**

- Calibrate sensor
- Check sensor placement

## Safety Information

1. To prevent display fluctuations, the thermostat software includes smoothing algorithms. Slight delays in temperature display are normal.
2. Install the thermostat approximately 1.5 m above floor level.
3. Do not install near corners, doors, windows, or unheated exterior walls. Avoid proximity to air ducts, radiators, flues, or heating pipes.
4. Ensure that all power cables are properly insulated during installation.
5. Do not open or modify the internal circuitry.
6. The thermostat is designed for installation in a standard 75×75×35 mm wall mounting box.
7. Always disconnect the power supply before installation. Ensure that system voltage does not exceed 250V AC.

## Warranty

The manufacturer guarantees that the product conforms to its design specifications and complies with the installation and operating instructions.

The Warm-On Smart Thermostat TS500 series is backed by a **5-year warranty from the date of purchase**, ensuring long-term reliability and peace of mind.

In the event of a defect caused by manufacturing faults within the warranty period, the customer is entitled to warranty service.

The warranty does not cover damage caused by:

- improper use
- third-party modifications
- incorrect installation
- failure to follow instructions
- consequential damages

Please retain your proof of purchase. Warranty claims are valid only upon presentation of this document.

## Conformity

The products:

**Warm-On Smart Thermostat TS500 WiFi**

**Warm-On Smart Thermostat TS500 WiFi + Radar**

comply with the essential requirements of the following directives:

- Radio equipment directive (RED) 2014/53/EU
- EU RoHS 2 Directive 2011/65/EU
- European Directive 2012/19/EU (WEEE)

Additional technical documentation is available at:

[https://warm-on.com/media/DoC\\_TS500.pdf](https://warm-on.com/media/DoC_TS500.pdf)

## Disposal

Disposal must be carried out in accordance with European Directive 2012/19/EU (WEEE).

Defective or non-functioning electrical devices must not be disposed of with household waste. Such devices must be collected and disposed of separately.

Please use designated collection points provided by your local authorities or municipal waste services. Proper disposal ensures environmentally responsible recycling and helps protect human health.



Packaging materials should be disposed of separately:

- cardboard and paper — paper recycling
- plastic films — plastic recycling



**WARNING**



The release of hazardous substances into the environment is strictly prohibited. Improper disposal (e.g. landfill or uncontrolled dumping) may result in environmental damage, contamination of groundwater, and potential health risks.

**WEEE Registration Number: DE14335428**

**IMPORTER:****Warm-On GmbH**

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Tel: +49 7231 4609161 (customer support)

<https://warm-on.com/>

<https://warm-on.fr/>

<https://www.bodenheizung-24.de/>

**MANUFACTURER:****Wuhu Jiahong New Materials Co., Ltd**

No.86 Guandoumen Road, Jiujiang Economic Development Zone,  
China (Anhui) Pilot Free Trade Zone

## MOBILE APP CONTROL

Download the app to control your thermostat remotely via WiFi.

Compatible with:

- iOS
- Android

Supported applications:

- Tuya Smart
- Smart Life
- Jiahong App

Scan the QR code below to download the application:

