

TF1 SMART THERMOSTAT

INSTRUCTION MANUAL



Contents

Introduction & Warnings	2
Installation	3
Wiring Instructions	4
Dimensions	5
Thermostat Symbols	6
Technical Specifications	7
Function and Operation	7
Troubleshooting	14

Introduction

The TF1 thermostat is a device suitable for controlling electrical heating systems. The maximum load current can reach 16A. It will keep home at comfortable temp whilst minimizing energy use.

Warnings:

Installation or replacement of this product should only be done by qualified personnel.

1. To avoid risk of electric shock, turn OFF the power source from the main service panel prior to installation of the thermostat.
2. Keep thermostat air vents clean and free from obstructions.
3. Electric floor heating cable/mat must be in accordance with the thermostat supply voltage.
4. All wiring must conform to local as well as national electrical codes and ordinances.
5. Thermostat terminals are designed to handle a cross-section of wire measuring 12-22AWG.

Installation



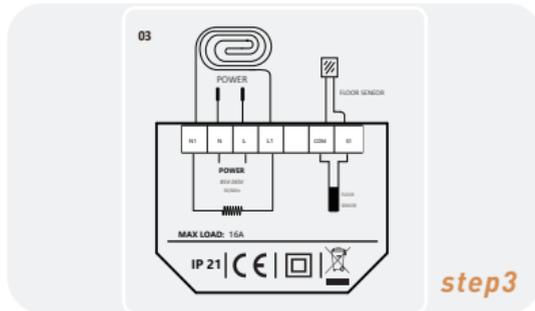
step1

Loosen the bottom screw by a Phillips screwdriver, then open the thermostat from the below



step2

Detach the thermostat from the bottom first.



step3

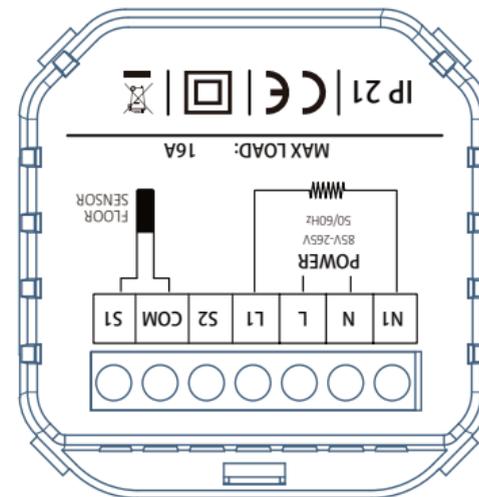
L/N (Line): Connect incoming power supply
L1/N1 (Load): Connect the heating load wires
S1/COM/ : Connect the floor sensor.



step4

Install the power base into the junction box and secure it using the supplied set screws. When installing the front panel, install the upper buckle and press the bottom buckle to install the bottom buckle smoothly.

Wiring Instructions

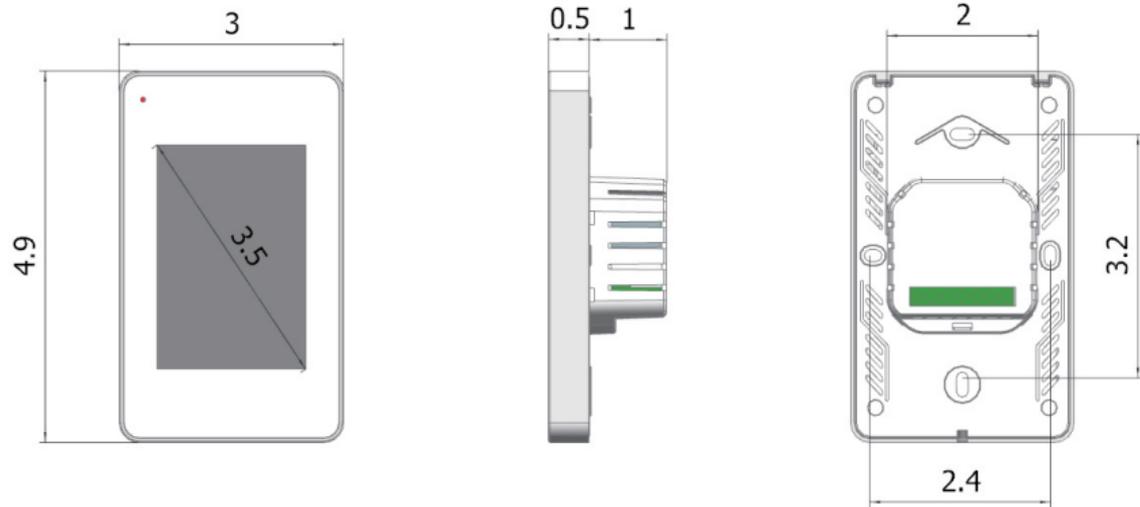


- * L/N Connect the AC 230V (50 Hz) phase wire of the mains power supply here
- * L1/N1 Connect the phase conductor of the electrical resistance based heating element here.
- * Com/S1 Connect the floor sensor.



*Please note the maximum load current marked on the product. Different versions of the product have different load power.

Dimensions (inches)



Thermostat Symbols



Technical specification:

Supply voltage: 85-265Vac 50/60Hz

Max load: 16A:3600W

Sensor: NTC 10kΩ 25°C B3950

Standby power: <1W

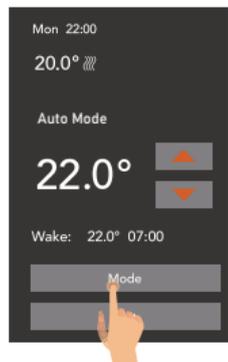
IP class: IP21

Cable specification: ≤2.5mm²

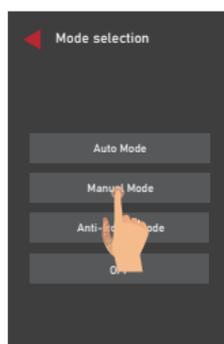
Function and Operation:

1 First power on

-For the first time, the thermostat runs automatic mode by default.



7 Click the mode button.



Choice model.



Press up/down to set the temperature

2 Modes of operation

-This thermostat provides three operating modes:

● Auto mode:

According to the weekly program, the thermostat automatically adjusts the set temperature operation. This mode generally runs by default. In this mode, you can press the up or down key to set a temporary temperature. The temporary override temp is only valid at the current event and it will not be saved. When running to the next event, the set temporary temperature will be invalidated.

● Manual mode:

The thermostat runs continuously according to the set temperature. In this mode, the ambient temperature is always constant.

● Anti-frozen mode:

This mode is used when you want to keep your room at a lower temperature when you are away for an extended period of time. This operating mode prevents damage to household/office equipment caused by sudden exposure to cold temperatures. The set-point temperature Range is set to maintain from 41°F to 59°F (5°C -15°C) in this mode.

● OFF

Manually turn off all functions of the thermostat. Note that after shutdown, it will be in the working state of 5° anti-freeze protection, and the temperature controller will control the floor heating to maintain 5° C. When the device needs to be started, Press and hold the on/off button in screen for 3s.

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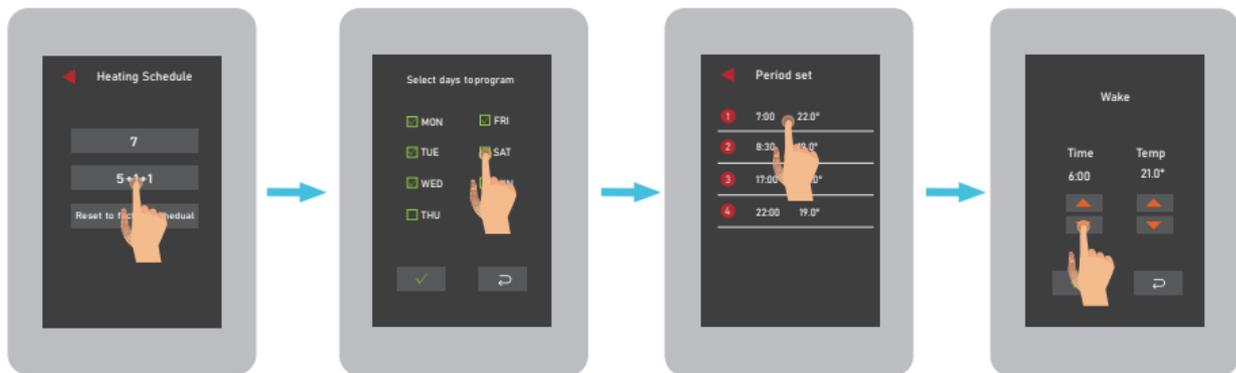
3 Edit selection

● Heating Schedule

Assign seven days a week to the following two schedules:

5+1+1: The Event parameter is the same from Monday to Friday, with separate Event parameters on Saturday and Sunday.

7: With separate Event parameters every day



Go to the heating schedule page and select 7 or 5+1+1. In 7-day mode. Multiple days can be selected and programmed at the same time.

Each day can be divided into four periods: wake, leave, return, and sleep. You need to set the start time for each time period and the temperature to be maintained during that time period.

The factory default weekly program is as follows:

Home

Period	Wake ①		Leave ②		Return ③		Sleep ④	
	Time	Temp.	Time	Temp.	Time	Temp.	Time	Temp.
1-5 (Mon.-Fri.)	07:00	22°C	08:30	19°C	17:00	22°C	22:00	19°C
Sat	08:00	22°C	08:30	22°C	17:00	22°C	22:00	19°C
Sun	08:00	22°C	08:30	22°C	17:00	22°C	22:00	19°C

Office

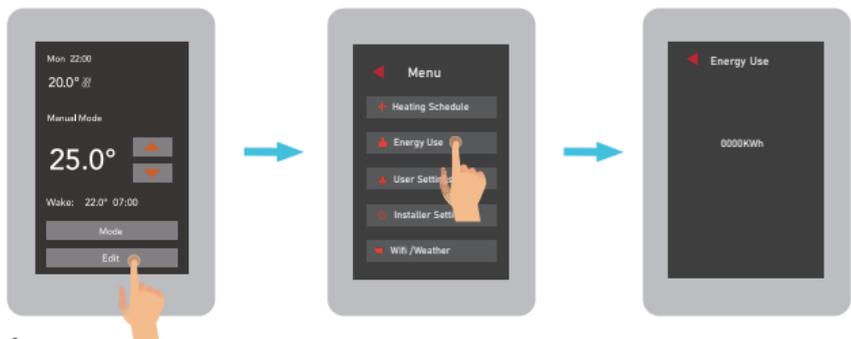
Period	Wake ①		Leave ②	
	Time	Temp.	Time	Temp.
1-5 (Mon.-Fri.)	07:00	20°C	18:00	15°C
Sat	07:00	15°C	18:00	15°C
Sun	07:00	15°C	18:00	15°C

Attention!

In the case of a heating system used on a daily basis it is recommended to set a difference of max. 3-4 °C between the temperature values of the heated periods (when the dwellers are at home) and the non-heated periods. In case of a larger temperature difference the rooms can cool down to such an extent that heating them up would be impossible or require a very long time. This can reduce the feeling of comfort considerably.

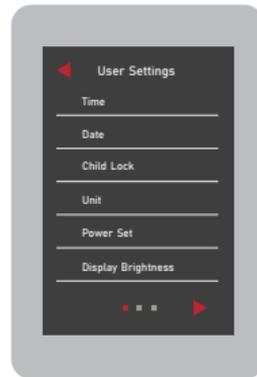
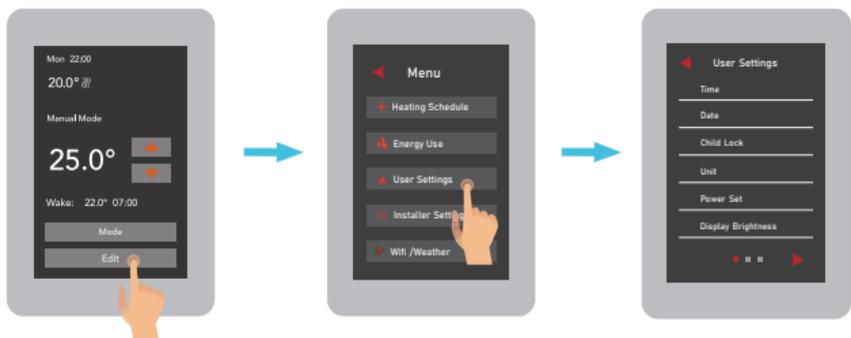
● Energy Use

This option is used to calculate data on energy usage. The user sets the power in the Power Set, or you can set it through the APP. The thermostat will automatically count the heating time and calculate the energy consumption.



● User Setting

Here you can set the time, child lock, temperature unit, power and other general Settings.



Time: Displays the current time in hh:mm format.

Date: Displays the current date in month day year format.

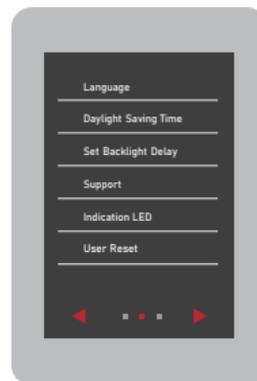
If the thermostat is online, the time will be updated automatically.

Child lock: Lock all keys to prevent the setting from being changed. (Hold the up button on the main interface for 3s to unlock) 

Unit: °F/°C.

Power Set: 0W-4500W. The power setting of the electric floor heating and the power setting of the towel rack are independent of each other.

Display Brightness: 1-9.



Language: English/Francais

Daylight Saving Time: When enabled, the thermostat will adjust automatically in daylight saving time.

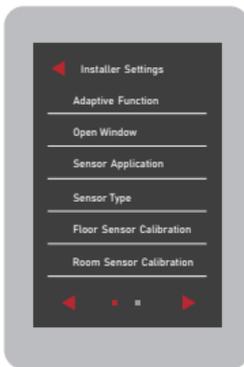
Set Backlight Delay: 5-60s

Support: Scan the QR code to view the electronic manual. For further support, please contact your installer.

Indication LED: If the heat indicator is interfering with your sleep, this option can turn the heat indicator off.

User Reset: This will reset the users settings to factory default.

● Installer Settings



Adaptive Function: When this feature is enabled, the room will have reached the target/set temperature when the event begins.

Open Window: When the thermostat is in the heating state, the temperature is suddenly detected to decrease sharply, the thermostat will suspend the heating, and then restart the heating after 15 minutes.

Sensor Application: 1.Room 2.Floor 3.Room and Floor Protection
When selecting the Room and Floor Protection option, the main screen displays the temperature as the air sensor temperature, and the floor sensor also monitors the temperature under the floor.

Sensor Type: B3950-10K/B3380-10K/B3700-10K/B3600-12K/15K

Floor /Room Sensor Calibration: Measure the temperature by adjusting the calibration. $\pm 5^{\circ}\text{C}$

Floor Protection: Floor protection is enabled only when the sensor type is selected for room and floor simultaneously. If the floor temperature exceeds the set protection value, the thermostat will display alarm information and stop working. Reference value: Laminate-max. 28°C (82.4°F)/Tile-max. 40°C (104°F)
The value ranges from 20°C (68°F) to 50°C (122°F).

Location: Home/Office. After switching scene, the weekly program function changes.

Difference: Example: Set the value to 1°C . The difference between switch on and off period during heating time. The thermostat starts when the room temperature is 1°C lower than set temperature and stops when the room temperature is 1°C higher than the set temperature.

Factory Reset: This will reset the thermostat to factory settings, Personal settings will be lost.

Troubleshooting:

- The thermostat's display is dark, it is not lit.**
 - Remove the thermostat and check that the power wiring is correct?
 - Ask the electrician to check whether the L/N power cable has voltage output.
 - Is there any visible abnormal change, such as sooting, or signs of injury or damage to certain components, on the thermostat's relay or front panel? If so, please contact after sales send back to the original factory for repair or replacement.
- The display is lit, but heating is not working.**
 - Is it the real room temperature that can be seen on the display?
If not, the thermostat needs calibration. Calibrate the device according to the description in the instructions manual.
 - When the thermostat is turned on press the button so that the set value exceeds the room temperature. Is the heating icon appearing on the display in a few seconds with a soft clicking sound?
 - Does the thermostat control a surface heating system?
YES - Check the controller's surface limit values as described in the instructions manual. If necessary, the setting limit value can be increased. If the surface temperature shows an unrealistic value, further examination is required. If there is a piece of furniture, a carpet or other heat insulating material over the floor sensor of the thermostat, remove it so that the affected surface can give off heat. If there is no such a reason, the sensor might be damaged.
NO - the thermostat needs to be further examined, So please, contact after sales send back to the original factory for repair or replacement.

3. **After switching on or increasing the temperature value the thermostat clicks, the heating icon is visible, but there is still no heating.**
- Whether the heating power exceeds the rated power requirement?
YES -the circuit in question is supplemented with a power switching relay. Please, ask your electrician to check the proper working of the power switching relay, or order our on-site troubleshooting service.
 - Are the heating power supply wires connected to the built-in relay of the thermostat?
NO -ask your electrician to connect it.
 - Can you measure voltage on the thermostat's switched output?
YES -the thermostat functions well.
NO -the thermostat need to be further examined, So please, contact after sales send back to the original factory for repair or replacement.

E1 Room Sensor Error

E2 Floor Sensor Error