IPS Colorful LCD Screen Smart Thermostat

✓ Quick configuration of Wi-Fi connection via BLE Technology super convenient

✓ Programmable device, multiple periods allowed to set per day.

✓ 2.8 inches large colorful LCD screen, delicate visual effect.

✓ The device can be controlled by voice via Amazon Alexa and Google Assistant

Parameter

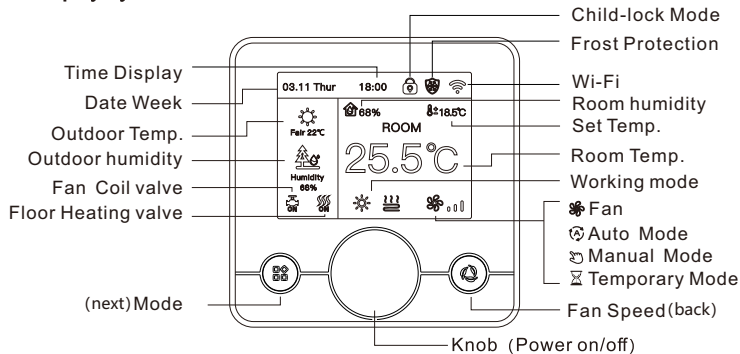|	
Supply voltage	AC100~240V；50/60Hz
Power consumption	Wi-Fi 3W Max
Temp. setting range	5~95℃（41~203℉）
Floor limited range	20~90℃（68~194℉）
On/off deviation	0.5~10℃（1~10℉），Factory setting 1℃
Ambient temperature	−5~50℃（68~122℉）
Protection level	IP20
Shell material	Anti-Flammable PC

Version:TCR7 1.3(12/2023)

Product Overview

This series of thermostat has Floor Heating, Fan Coil, and Integrated version, meeting the requirements under different scenarios.

Version	System mode	Model	Application
Floor heating	Floor heating	EP	Built-in & floor sensor, floor limit sensor + Weekly programming
		WP	A NC/NO dual-output + Weekly programming
		WPB	A NC/NO dual-output + Weekly programming+ Potential-free output
Fan Coil	Heating /Cooling / Ventilation	AC2	Timer task + 2-pipe system
		AC2-485	Timer task + 2-pipe system + Timer task + Potential-free output + 485Modbus (optional) + Room card (optional)
		AC4	Timer task + 4-pipe system + Timer task + Potential-free output + 485Modbus (optional) + Room card (optional)
Integrated	Fan-Coil with Floor-Heating air condition system	AWY	Floor heating & fan coil, weekly programming + Potential-free output + Timer task + 485Modbus (optional) + Room card (optional)

Display Symbols

Child-lock Mode
Frost Protection
Time Display
Date Week
Outdoor Temp.
Outdoor humidity
Fan Coil valve
Floor Heating valve
Wi-Fi
Room humidity
Set Temp.
Room Temp.
Working mode
❄ Fan
Ⓐ Auto Mode
Manual Mode
⧖ Temporary Mode
Fan Speed(back)
(next) Mode
Knob (Power on/off)

Temperature Control Mode(Floor Heating/Integrated)

Ⓐ Auto Mode

Weekly-circled programme, up to 6 heating events can be set per day. Heating events, workdays and temperature can be separately customized based on personal routines.

Manual Mode

Thermostat works based on manually-set temperature, disconnecting from auto mode.

⧖ Temporary Mode

Thermostat works based on manually-set temperature temporarily and then shifts back to auto mode till next event.

User Operation

Power on/off : Press " ◯ " for 3 seconds to turn on/off the thermostat.

Temp setting: Rotate handwheel " ◯ " to change setting temperature by 0.5℃.

System mode: Press " ⊞ " shortly to switch manual/auto mode. (Floor heating)
Press " ⊞ " shortly to switch cooling/heating/ventilation. (Fan Coil)
Press " ⊞ " shortly to switch cooling/heating/ventilation/floor heating/ floor heating + heating. (Integrated)

Enter menu: Press " ⊞ " for 3 seconds to enter the menu interface.

Temp control mode: Press " ◐ " shortly to switch manual/auto mode. (Integrated, floor heating)

Child-lock: Press " ⊞ " + " ◐ " for 3 seconds to activate child-lock.

Wi-Fi setting

Press " ⊞ " for 3 seconds to enter the menu page. Turn the knob" ◯ ", choose "Wi-Fi setting", and then choose " Bluetooth Mode ", press" ◯ "and confirm. The device enters the distribution network state.

Timer Task Setting (Fan Coil/Integrated)

Under power-on status, long press menu button " ⊞ " to enter the menu page, choose Auto Mode, then choose Schedule and set the parameters, press menu button " ⊞ " to return to the previous page. Finally, press wind speed button " ◐ " to activate the timer switch function.


Advanced Setting (Usually for Professional Technicians)

Under power-on status, long press menu button " ⊞ " to enter the menu page, choose Engineer Mode, enter the advanced setting page. After setting the parameters, press menu button " ⊞ " to save and exit.

function list	Handwheel " ◯ "	Default Value	Integrated	Fan Coil			Floor Heating		
			AWY	AC2-485	AC4	AC2	EP	WP	WPB
ModBus Address	Adjustment range 0~250	0	√	√	√	×	√	√	√
Sensor Calibration	-9.9~9.9℃(-9.9~9.9℉)	0℃	√	√	√	√	√	√	√
Temp. Dif.	0.5~10℃(1~10℉)	1℃	√	√	√	√	√	√	√
Max Setting Value	5~95℃ (41~203℉)	50℃	√	√	√	√	√	√	√
Min Setting Value	5~47℃ (41~117℉)	5℃	√	√	√	√	√	√	√
Anti-Freeze Protection	ON/OFF	OFF	√	√	√	√	√	√	√
Temperature Unit	℃/℉	℃	√	√	√	√	√	√	√
Sensor Mode	Built-in sensor Floor sensor Built-in Control & Floor Limitation	IN	√	×	×	×	√	√	√
Floor limited Value	20~90℃ (68~194℉)	35℃	√	×	×	×	√	√	√
Weekday Mode	Monday to Friday Monday to Satuiday Monday to Sunday	2–day	√	×	×	×	√	√	√
Fan control settings	00: Fan speed controllable 01: Fan speed uncontrollable	00	√	√	√	√	×	×	×
Linkage Time Delay	0~5min	0min	√	×	×	×	√	√	√
Child-lock Type	None Lock All All but power	None	√	√	√	√	√	√	√
Boot Type	Function Off Function On Function Saved	Last	√	√	√	√	√	√	√
Air–Condition Mode	All/Cold Only	All	√	√	√	√	×	×	×
Temp Control	Manual/Auto	Manual	√	×	×	×	×	×	×
Reset All Settings	Yes/No	/	√	√	√	√	√	√	√

Auto-mode Setting (Floor Heating/Integrated)

Under power-on status, long press menu button "▫◇" to enter the menu page, choose Auto Mode, then choose Weekly Programming and set the period parameters, press menu button "▫◇" to save and exit.

Events		Time		Temperature	
		Default value	Modify	Default value	Modify
Workdays	Sunrise	06:00	Rotate handwheel	20°C	Rotate handwheel
	Morning	08:00		15°C	
	Nooning	11:30		15°C	
	Afternoon	12:30		15°C	
	Evening	17:00		22°C	
	Night	22:00		15°C	
Weekends	Sunrise	08:00		20°C	
	Night	22:00		15°C	

Dimensions (Unit: mm)

Floor Heating
#EP
#WP
#WPB
Fan Coil
#AC2

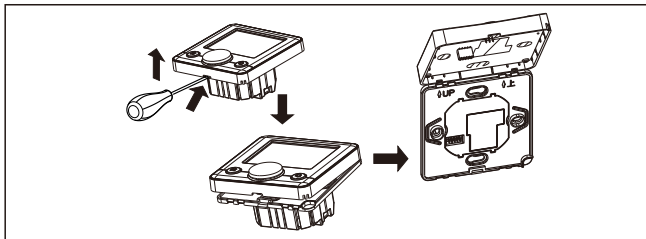11.2 32.6   51   51

Fan Coil
#AC2-485
#AC4
Integrated
#AWY

11.2 24   64   66
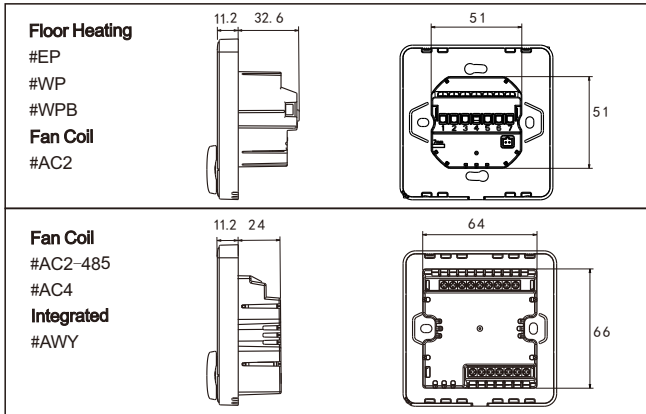
## Mounting Steps

The thermostat adopt pre-guide and limited snap-fit design. It is easy to mount.

1）Release front cover by inserting a head screw-driver into bottom crack.

2）Insert the wires and then fix these wires with screws. Suggested wire-stripping length is 7-9mm.

3）Mount backing plate into wall-cassette, put screws and then fix thermostat. Make sure that the thermostat is fixed without deformation. Suggested torque is 0.2~0.4N.m (2.0~4.1kgf.cm).
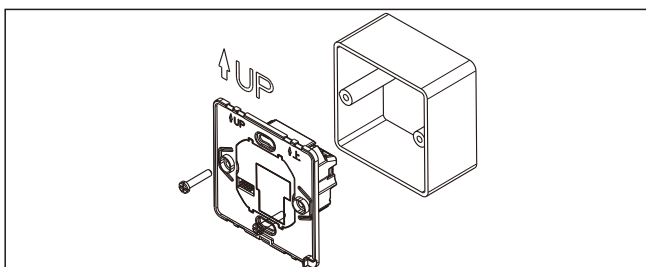
4）Re-mount the front cover via snap-fit connection.
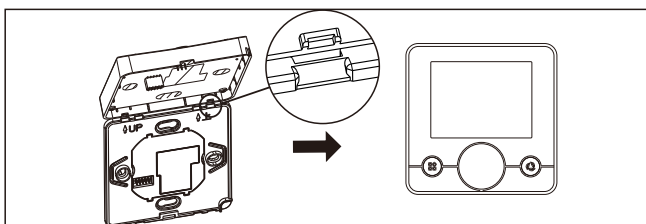
Sensor failure

Please select work mode of sensors correctly. When it shows **Er0/Er1** error, thermostat will stay power-off till the error is eliminated.**Er0:** built-in sensor is short-circuited or disconnected. **Er1:** floor sensor is short-circuited or disconnected.

Connecting Diagram

The thermostat operates in full capacity in areas with the altitude of less than 2500 above sea level. Power rating of external load should be less than or equal to 80% rated power of the thermostat in areas with altitude of 2500m to 4200m.

Floor Heating

#TCR7-WIF-EP
#TCR7-EP

L	N	N1	L1		NTC1	NTC2
1	2	3	4	5	6	7

AC100~240V   N1 L1 16A Max   NTC

#TCR7-WIFI-WP
#TCR7-WP
#TCR7-WIFI-WPB
#TCR7-WPB

①
L	N	N	OPEN	CLOSE	PC1	PC2
1	2	3	4	5	6	7

AC100~240V   Normally-closed electric actuator (3A Max)   Potential-free (Potential-free output, for model WPB only) (3A Max)
Dry contact signal to control boiler
Linkage control; delay time of linkage control is adjustable

②
L	N	N	OPEN	CLOSE	PC1	PC2
1	2	3	4	5	6	7

AC100~240V   Normally-open electric actuator (3A Max)   Potential-free (Potential-free output, for model WPB only) (3A Max)
Dry contact signal to control boiler
Linkage control; delay time of linkage control is adjustable

③
L	N	N	OPEN	CLOSE	PC1	PC2
1	2	3	4	5	6	7

AC100~240V   Three-wire electrical ball valve (3A Max)   Potential-free (Potential-free output, for model WPB only) (3A Max)
Dry contact signal to control boiler
Linkage control; delay time of linkage control is adjustable

Fan Coil

#TCR7-WIFI-AC2
#TCR7-AC2

L	N	HI	MED	LOW	OPEN	CLOSE
1	2	3	4	5	6	7

AC100~240V   N   Fan   Air conditioner valve (3A Max)

#TCR7-WIFI-AC2-485
#TCR7-AC2-485

N			CLOSE	OPEN	HI	MED	LOW	L
1	2	3	4	5	6	7	8	9

N   Air conditioner valve (3A Max)   Fan   AC100~240V N

Linkage control; delay time of linkage control is adjustable

16	15	14	13	12	11	10
PC1	PC2	CARD		RG	A	B

(3A Max)   Room card   485A 485B (optional)
Dry contact signal to control heat pump   room card linkage (optional)

#TCR7-WIFI-AC4
#TCR7-AC4

N	CLOSE	OPEN	CLOSE	OPEN	HI	MED	LOW	L
1	2	3	4	5	6	7	8	9

N   Heat valve (3A Max)   Cool valve (3A Max)   Fan   AC100~240V   N

16	15	14	13	12	11	10
PC1	PC2	CARD		RG	A	B

Linkage control; delay time of linkage control is adjustable

(3A Max)   Room card   485A 485B (optional)
Dry contact signal to control heat pump   room card linkage (optional)

Integrated

#TCR7-WIFI-AWY
#TCR7-AWY

N	CLOSE	OPEN	CLOSE	OPEN	HI	MED	LOW	L
1	2	3	4	5	6	7	8	9

N   Floor system valve (3A Max)   Air conditioner valve (3A Max)   Fan   AC100~240V   N

16	15	14	13	12	11	10
PC1	PC2	CARD	RS	RG	A	B

Linkage control; delay time of linkage control is adjustable

(3A Max)   NTC   Room card   485A 485B (optional)
Dry contact signal to control heat pump   room card linkage (optional)