User Manual

Wireless Programmable
Room Thermostat

Model No.: PTC10 / PTR10

Scan for App

Power to control your heating
Anytime, Anywhere

Contents

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1. Overview

- This wireless programmable room thermostat kit can be used to control gas or oil boiler, a variety of valves and actuators.

- It contains a wireless programmable room thermostat PTC10 and a wireless receiver PTR10, the two units are linked by Radio Frequency.（If your kit is Wi-Fi thermostat, there is a gateway PTG10 accessing your thermostat to internet）

- This thermostat is a programmable room thermostat 5+2 Days / 7 Days/1 day product. 5+2 days allows you to set a program for weekdays and a program for the weekend. 7 days allows you to set a same program for every day of the week. 1 day functionality allows you to set a different program for every day of the week. Each program type allows you to set 7 time and temperature events.

Controls and Display Layout

A	Days
B	Temperature
C	Program setting time
D	ECO
E	+ or - buttons for setting adjustment
F	Confirm
G	Return
H	Auto, Manual, Holiday mode
I	RF
J	Time
K	Humidity
🖉 Copy	🕐 Clock set
🔒 Child lock	
PROG Program set	
❄ Forst protection	
🔥 Heating	
⌷ Low bettery warning	
▥ Open window	
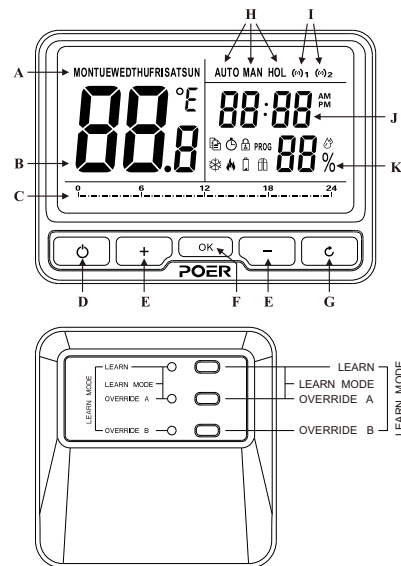
## 2.1 Install and Wiring Receiver

2.1.1 Install Receiver

Follow the installation diagrams to install and connect the receiver PTR10 correctly.

Note: 1 The installation and wiring should be operated by trained personel.

Note: 2 The Receiver should be mounted in a suitable location that is both accessible for the connection of mains and control wiring, and allows good reception of the RF signal. The Receiver needs a 100~240V AC mains supply to operate, and this should be fused appropriately (5A max.).
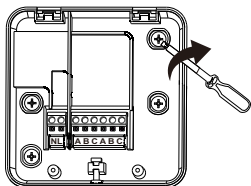
Note: 3 The Receiver should be mounted in a location where it will not come into contact with water, moisture or condensation.
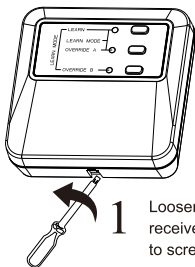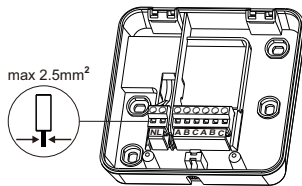
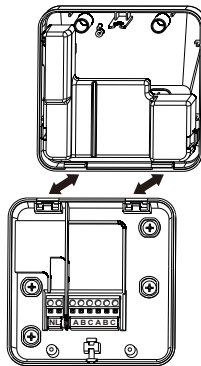1 Loosen the screw on the receiver's bottom.（No need to screw out completely)
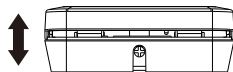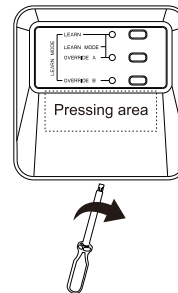
2 Open the upper cover.

3 Fasten the terminal base on wall with 4 screws.

max 2.5mm^2

4 Loosen the screws on terminals, wiring the terminal correctly, then fasten the screws.

5 Close the upper cover

Pressing area

6 Press the area as below picture mentioned, fasten the screw after make sure no gap between upper and lower covers, as well as all the terminals well connected.

2.1.2 Wiring Receiver

Note: 1 Install in accordance with local wiring regulations.

Note: 2 The wiring should be operated by trained personnel.

Note: 3 Observe ambient temperature and current limits(see product specification).
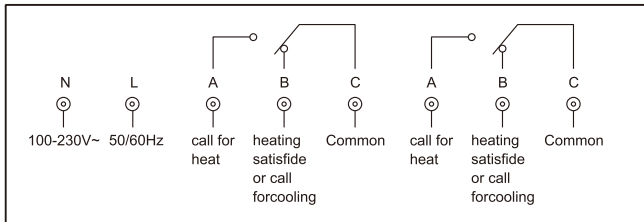
Note: 4 These diagrams must be read in conjunction with any boiler or cylinder manufactures instructions.

Note: 5 Poer accepts no liability for any loss or damage arising from any errors or omissions that may be inadvertently contained within these diagrams. They are proposal diagrams only, not certified wiring diagrams.
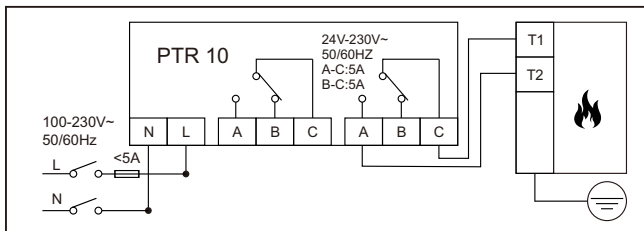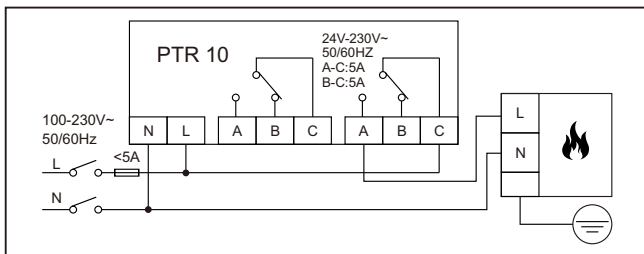
Volt free contacts

N	L	A	B	C	A	B	C
100-230V~	50/60Hz	call for heat	heating satisfide or call forcooling	Common	call for heat	heating satisfide or call forcooling	Common

Combi boiler

Burner(direct control)

Electric heater
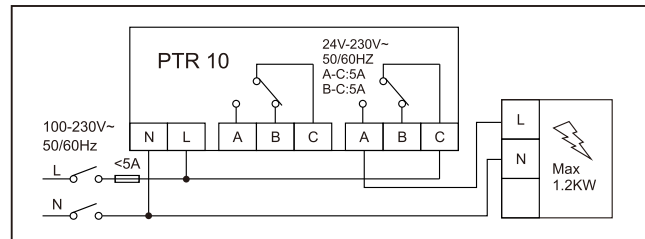
Zone valve
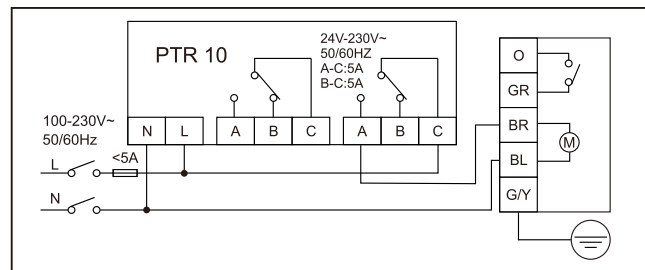
Thermal actuator
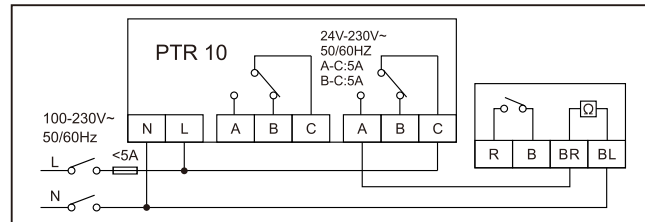
2.2 Activate Batteries and Install Thermostat

2.2.1 Activate Batteries

| Remove the battery cover | Insert batteries, ensure correct orientation | Close the battery cover |
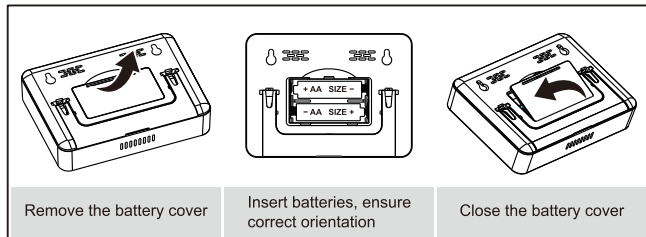
2.2.2 Install Thermostat

This thermostat could be desk-stand if open the back support, you just need to place it on any flat surface allows to receive RF signal.
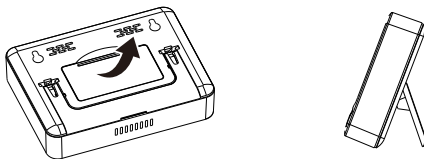
If you want to hang it on the wall, use the template provided.

Drill two holes in the wall and tighten the screws, ensuring two holes' distance is 81.5mm; then, fix the thermostat's back cover by putting it over the screw head.


81.5mm

81.5mm

4mm
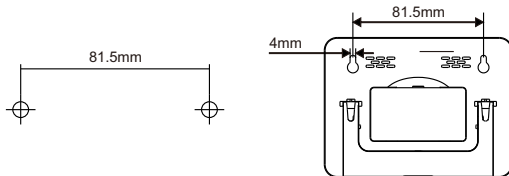
2.3 System Check

2.3.1 RF Signal Pairing

> **i** **The room thermostat has already been pre-bound with receiver's OVERRIDE Ⅰ in kit PTC10/PTR10 when delivery.** You may directly move to RF communication test, please refer to 2.3.2.

A. RF signal pairing between room thermostat and receiver

❶ Preparation: thermostat and receiver should be powered/wired correctly, make sure the visible distance between thermostat and receiver is not more than 5 meters.

❷ Start receiver's RF paring mode by hold-pressing the LEARN button until its light flashing.

❸ Press OVERRIDE Ⅰ or Ⅱ (you must choose according to your real wiring work on receiver) to pair with thermostat; when light of OVERRIDE Ⅰ or Ⅱ is flashing, it means OVERRIDE Ⅰ or Ⅱ is ready to pair with thermostat next.

❹ Thermostat send pairing command with receiver:

（4-1）Long press ⌶OK⌶ to enter Menu Selection, select by pressing ⌶ + ⌶ or ⌶ − ⌶ when 📶1 📶2 are flashing, press ⌶OK⌶ to enter RF pairing interface.
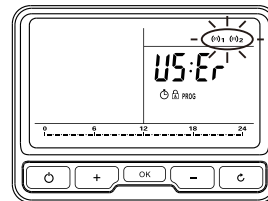
（4-2）When rF_1 is flashing on the screen's left side, press [OK] to send the pairing command with receiver;

Pairing success if $0\ 00$ flashing on screen's right side, pairing failed if E01 or E02 is flashing on screen's right side, in this case, you need to send the paring command with receiver by pressing [OK] once again until pairing success.

← succeed

← failed
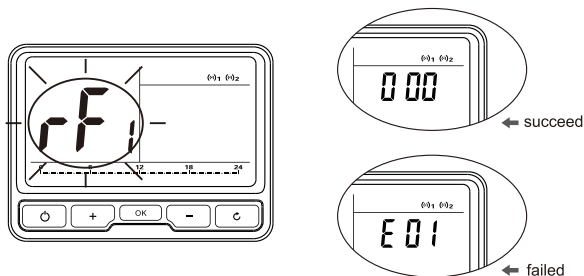
5 Exit pairing mode: Exit pairing mode by pressing LEARN button; thermostat's HOME page can be returned by keep pressing [↻] .

6 Once thermostat and receiver was paired successfully, their RF communication started normally, $((\cdot))_1$ will show up on the top right corner of thermostat's screen.
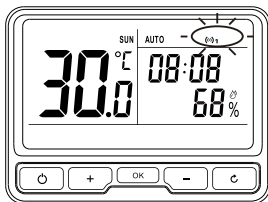
B. **RF signal pairing between room thermostat and gateway (this is only for Wi-Fi thermostat)**

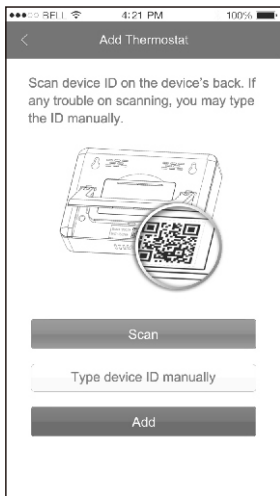**1** **Automatically pairing thermostat with gateway by App.on mobile phone**

（1-1）Open the App. which already connected with gateway(how to add a gateway on App. please refer to gateway's manual for details), choose Add Thermostat from the interface;
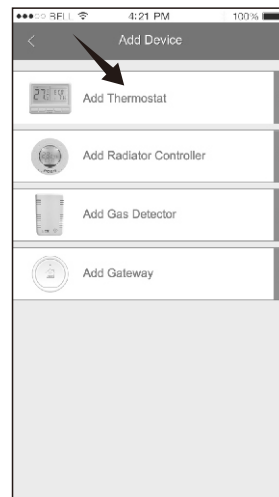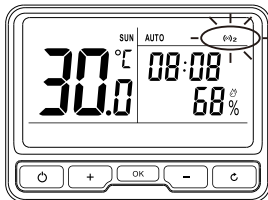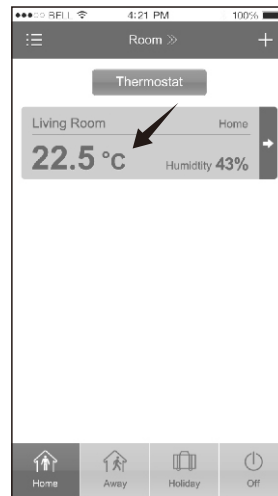
〔1-2〕Add thermostat by scanning it's QR code or typing MAC ID manually.

（1-3）Pairing process between thermostat and gateway might take about 1 minute. Once thermostat is paired with gateway successfully, $(\cdot)_2$ will show up on the top right corner of thermostat's screen; App. interface also show up the added thermostat's

❷ **Manually paring thermostat with gateway**

（2-1）Preparation: Powered gateway correctly by plug-in socket, the LED on gateway will be blinking rapidly (LED blinking rapidly means no connection between gateway and server).
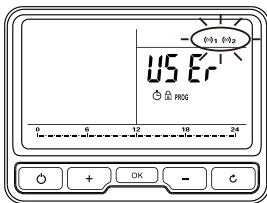
（2-2）Start gateway's pairing mode by hold pressing 🏠 until its LED is blinking slowly.

（2-3）Thermostat send pairing command with gateway.

（2-3-1）Long press [OK] to enter Menu Selection, when $((•))_1$ $((•))_2$ are flashing, press [OK] to enter RF pairing interface.

（2-3-2）On RF pairing interface, select by pressing on [+] or [−] until flashing rF_2 show up on screen's left side, press [OK] to send thermostat's paring commend to gateway; pairing success if $0\ 00$ flashing on screen's right side, pairing failed if E01 or E02 is flashing on screen's right side, in this case, you need to send the paring command with gateway by pressing [OK] once again until pairing success.


← succeed

← failed
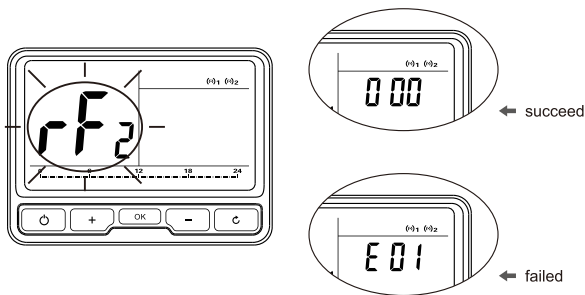
（2-4）Gateway is still under paring mode even one thermostat's paring succeed, if you had more thermostats need to be paired, you may continue to pair them with gateway manually. (1 gateway could RF communicate with 10 thermostats at one time).

（2-5）Exit pairing mode by hold-pressing [PROG] until the LED recover to its status before pairing.

（2-6）Once thermostat and gateway was paired successfully, their RF communication started normally, $((•))_2$ will show up on the top right corner of thermostat's screen; App. interface also show up the added thermostat's information.
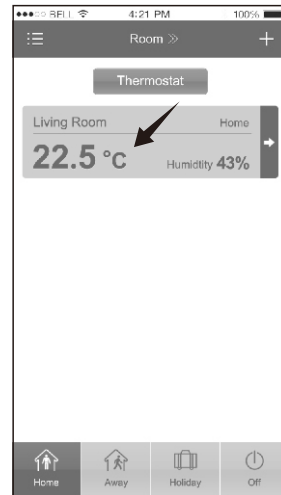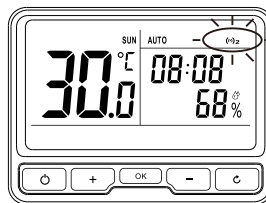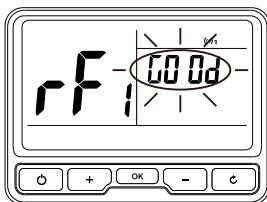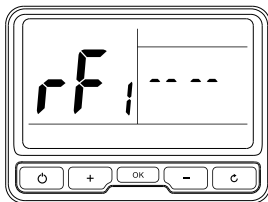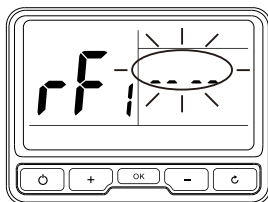
2.3.2 RF communication test

To make sure RF communication between thermostat and receiver, thermostat and gateway before using them regularly, you should take a RF communication test.

❶ RF communication test between thermostat and receiver

Enter RF Communication Test by long pressing [↻] , when r F 1 show up on screen's left side, presse [OK] to test RF communication between thermostat and receiver; test result is good if GO Od show up on screen's right side, otherwise, ▬▬ ▬▬ will show up on screen's right side, in this case, you need relocate the thermostat and do the test once again.

⬆ good

⬆ bad

❷ RF communication test between thermostat and gateway

Enter RF Communication Test by long pressing [↻] , when r F 2 show up on screen's left side, press [OK] to test RF communication between thermostat and gateway; test result is good if GO Od show up on screen's right side, otherwise, ▬▬ ▬▬ will show up on screen's right side, in this case, you need relocate the thermostat and do the test once again.


⬅ good

⬅ bad
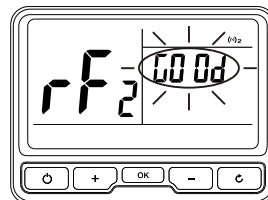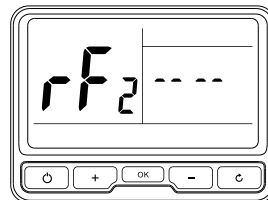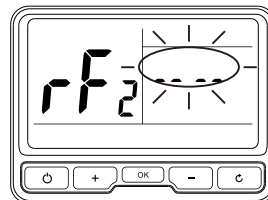
3.1 Clock Setting

Clock setting should be done if thermostat was used for the first time or after batteries changed; automatically clocking setting will be done if thermostat was connected with Internet via Gateway.

❶ Enter Menu Selection by long pressing [OK] , select by [+] [–] until there is a flashing 🕐 , then enter Clock Setting by pressing [OK] .

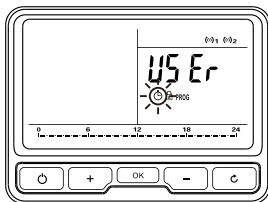**❷** Firstly set Year after entered Clock Setting, when 𝖸𝗋 appeared on Temperat-ure Area, press [+] [–] to select current year and press [OK] to set.
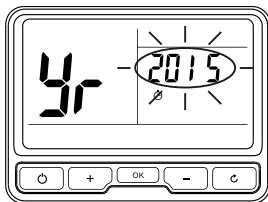
❸ When 𝗠𝗧 appeared on Temperature Area, press [+] [–] to select current month and press [OK] to set.
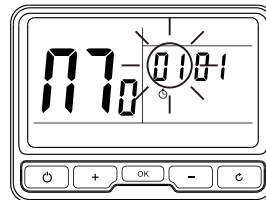
❹ When 𝖽𝖸 appeared on Temperature Area, press [+] [–] to select current date and press [OK] to set.
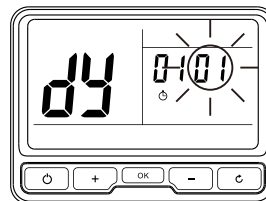
❺ When clock setting is flashing on Time Area, press [+] [–] to select current time and press [OK] to confirm.

Hour Second

❻ Back to the last setting menu by pressing [↻] .

3.2 Program Setting

3.2.1 Pre-set Program

This thermostat comes with the following default settings pre-programed for your convenience:

Working days' pre-set program

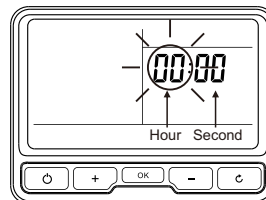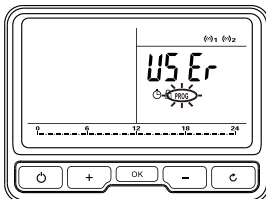| Event	1	2	3	4	5	6	7
Time	00:00	6:30	8:30	12:00	14:00	16:30	22:30
Temperature	7	20	16	16	16	21	7

Weekend's pre-set program (Sat., Sun.)

Event	1	2	3	4	5	6	7
Time	00:00	7:00	9:00	12:00	14:00	16:30	23:00
Temperature	7	20	18	21	18	21	7

3.2.2 To adjust the pre-set program

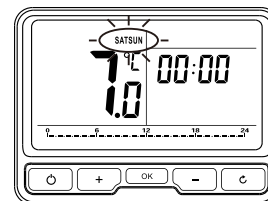**1** Enter Program Setting by Pressing [OK] when **PROG** is flashing.
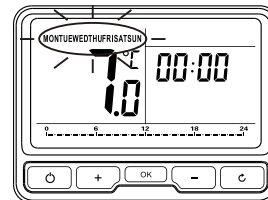
Program Setting menu ▼
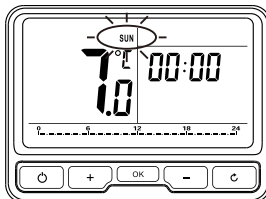
2 Enter 5+2 days/7 days/1 day program when Days flashing, select by [+] [−] ; press [OK] to confirm.
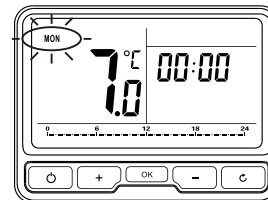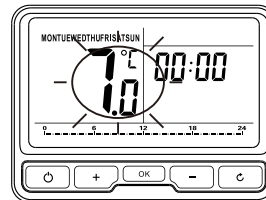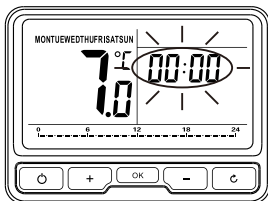
5+2 Days Program ▼
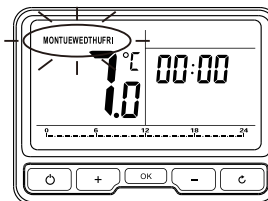
7 Days Program ▼

1 Day Program ▼

3 Temperature flashing in Temperature Area, press [+] [−] to adjust required temperature, press [OK] to confirm.

4 Time flashing in Time Area, press [+] [–] to adjust the 1st time as required, press [OK] to confirm.

5 Once the temperature and 1st time has been set, temperature flashing in Temperature Area again, then you repeat to set the next temperature and time periods, as above steps showing (checking from Step 3).

6 To cancel the program by pressing [↻] , go back to Menu Selection by keeping pressing.

7 Long press [OK] can copy current flashing day's program setting to other day; select target day by pressing [+] [–] , press [OK] to confirm and paste.
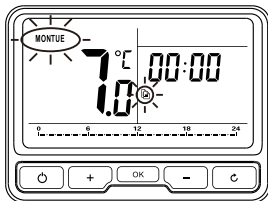
3.3 Override Mode-to change temperature for a short period under AUTO mode

1 Under AUTO mode, enter Override mode by pressing [+] or [–] , **AUTO MAN** appeared on upper right.

2 Adjust required temperature by pressing [+] or [–] , confirm the override temperature after flashing for 7 sec. or pressing [OK] , then continue to show current temp-erature.
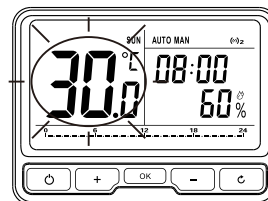
3 Exit Override Mode until next change in the preset program.

3.4 Manual Mode-to set a constant room temperature manually

1 Switch between AUTO and Manual Mode by pressing (OK) .

2 Under Manual mode, **MAN** appeared on upper right and temperature flashing. Figure as following.
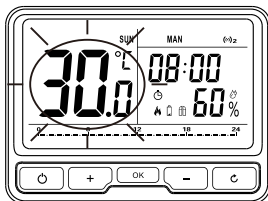
3 Adjust required temperature by pressing (+) or (–) , confirm after flashing for 7 sec. or pressing (OK) , then continue to show current temperature.
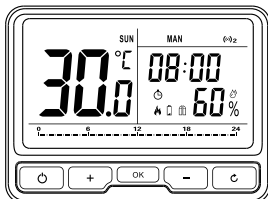
3.5 Holiday Mode

Make a holiday plan, it will keep your room at the pre-set temperature until your return time is coming. The default temperature for Holiday Mode is 7℃, you also can change this default value in User Options.

1 Enter Holiday Mode by keep pressing (OK) until **HOL** showing on upper right.
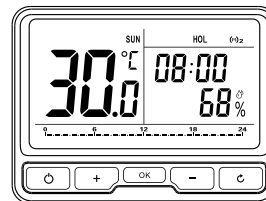
2 Pre-set date and time for holiday start and return.

★ Holiday start date: adjust by pressing (+) (–) as following figure, confirm by pressing (OK) .

Month   Date
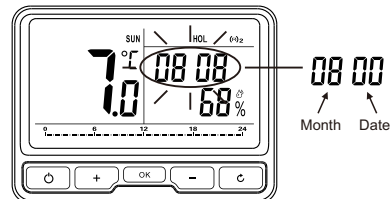
★ Holiday start time: adjust by pressing [+] as following figure, confirm by pressing [OK] .

08:00

Hour Second
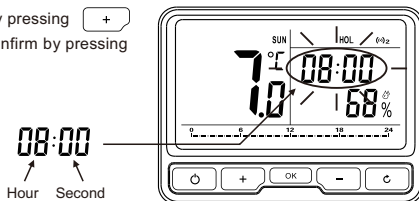
★ Return date and time's pre-set: once Holiday Start's date and time has been set, start to set return date and time in the same way.

❸ Holiday Mode will start automatically when holiday start time is coming, otherwise, it continue AUTO Mode.

❹ To cancel Holiday Mode's setting by keep pressing.

3.6 ECO Mode

It is an quick access to energy saving but also maintain comfort. Under ECO Mode, the room will be always kept at a pre-set temperature unless you exit this mode. The default temperature is 9℃, you can change this default value in User Options.

❶ Enter ECO mode by pressing [⏻] , following is the figure:
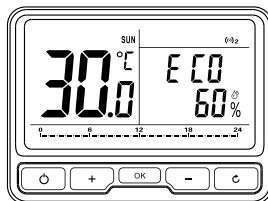
❷ Exit ECO mode by pressing [⏻] .

3.7 OFF Mode (Frost Protection)

Under OFF Mode, your room's Frost Protection will be automatically turned on unless you exit the mode; The default temperature is 7℃, you can change this default value in User Options.

❶ Enter OFF Mode by long pressing [⏻] , following is the figure:
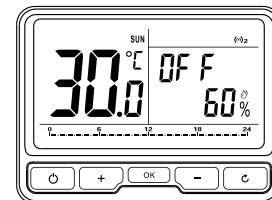
❷ Exit OFF Mode by pressing [⏻] .

3.8 Child Lock

To avoid wrong operation by child, this thermostat has Child Lock function; once started this function, there will be no reaction if short press on any button.

❶ Long press [OK] to enter Menu Selection, select by [+] [–] , confirm by pressing [OK] to open Child Lock function when 🔒 is flashing.
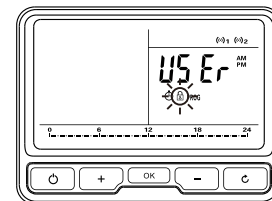
❷ Cancel Child Mode by long pres [OK] .

4. User Option

1. You may change user operation after entered User Operation by Pressing [OK] when **U5 Er** is flashing under Menu Selection.
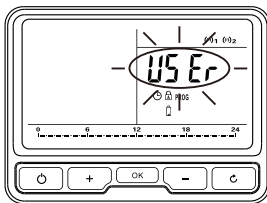
2. Under User Option, the option ID is showing on Temperature Area(screen left side), the Option Content is shown on Time Area(screen right side).
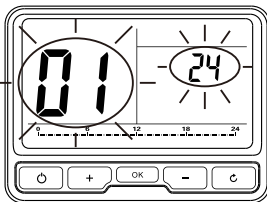
3. Option ID is flashing under User Option(details to see User Options Table below), press [+] [–] to scroll through selectable options, select the target Option ID by pressing [OK] ; then, adjust the User Option by pressing [+] [–] and set it down by pressing [OK] .

4. To cancel User Operation's setting, press [↻] when Option Content flashing.

5. To exit User Operation's setting, press [↻] when Option ID flashing

5. User Options Table

| ID	Option Content	Min.	Max.	Default
1	Change 12h or 24h clock	12	24	24
2	Change to another pre-set program	1	3	1
3	Switch on/off summer/winter time	OFF	ON	ON
4	Change temperature offset°C (0.5°C / step)	-10	10	0
5	Restore the factory Settings	OFF	ON	OFF
6	To disable Off function	OFF	ON	OFF
7	Frost Protection	OFF	ON	ON
8	Pre-set the lowest temperature	0	5	5
9	Pre-set the highest temperature	32	60	32
10	Pre-set the ECO temperature	5	32	9
11	Valve Protection(unit: min., if the valve has not been opened for 24hours, it will be automatically opened every 10:00am; "0" means no Valve Protection	0	5	0
12	Activate Smart Remote Control (App remote control)	OFF	ON	OFF (ON for Wi-Fi thermosta)
13	Change degrees Celsius or Fahrenheit	C	F	C
14	Change humidity	-30	30	0
15	PID control function	OFF	ON	OFF

16	PID control hysteresis adjustment	0.1	1.0	0.3 (+/-0.3°C)
17	Temperature control hysteresis adjustment	0.1	1.0	0.3 (+/-0.3°C)
18	Window opening function	OFF	ON	OFF
19	Window opening stop heating time	0	60	60 (minute)
20	OFF mode target temperature range setting	Id8	Id9	5°C

Warning: User option 19, 20 substantial reduction in sensitivity may lead to frequent on and off heating, especially when using automatic PID control, in the worst case it may damage the heat source.

Wireless Programmable Thermostat

Operating Temperature	0 to 50°C
Control mode	Heating system
Display	LCD with backlight
Transmitting frequency	868 MHz(433 MHz-PTC10-433), 2 way
Communication Range (open space)	100 meters
Power supply	2 x AA alkaline batteries
Battery life	Typically 2 years
Temperature setting range	5°C to 32°C (0.5°C step)
Temperature control accuracy	+/-0.5°C/adjustable from 0.1 to 1.0°C
Measurement interval	every minute
Frost protection temperature	5°C
Humidity range	10 to 90%RH

Humidity accuracy	+/-5%RH
Time display	12 hour/24 hour
Dimensions(HxWxD)	117.2 x 87.2 x 26.6mm
IP class	IP30
Standard	CE
Weight	211g with battery

Wireless Receiver

Operating Temperature	0 to 50°C
Transmitting frequency	868 MHz(433 MHz-PTR10-433), Bidirectional
Communication Range (open space)	100 meters
Power	<2W
Power supply	100VAC~240VAC, 50Hz
Switch rating	240VAC 50Hz, 24A resistive, 16A inductive
Switch Type	SPST relay
Dimensions (HxWxD)	100x 85 x 32mm
IP class	IP30
Standard	CE
Weight	150g