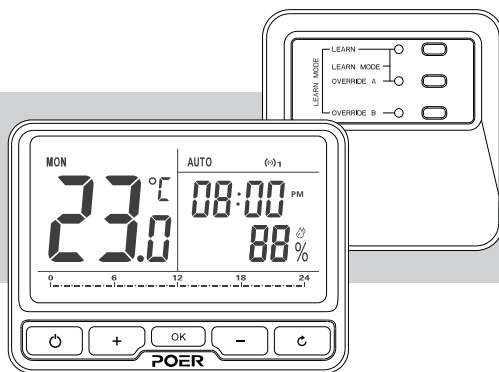




User Manual

**Wireless Programmable
Room Thermostat**

Model No. : PTC10/PTR16

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Scan for App

Power to control your heating
Anytime, Anywhere

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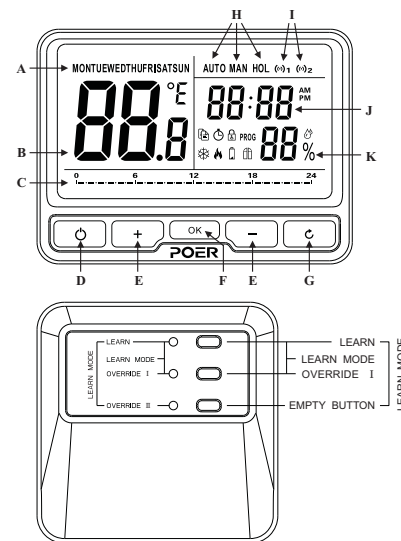
1. Overview

01

- This wireless programmable room thermostat kit can be used to control high-power heating equipment on electric heating or infrared heating; but also be applied to low power AC(Alternating Current) devices like electric actuators.
- It contains a wireless programmable room thermostat PTC10 and a wireless receiver PTR16, 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 battery warning
	Open window



2. System Installation

02

2.1 Install and Wiring Receiver

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

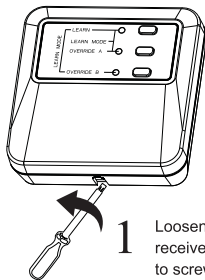
Note: 2 The Receiver should be mounted in a suitable location that is both accessible for the connection of mains and control wiring, and allows good reception of the RF signal. The Receiver needs a 100~240V AC mains supply to operate, and this should be fused appropriately (16A max.).

Note: 3 The Receiver should be mounted in a location where it will not come into contact with water, moisture or condensation.

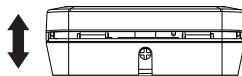
Note: 4 Before wiring the terminals, please check the wiring drawings carefully.

2.1.1 Install Receiver

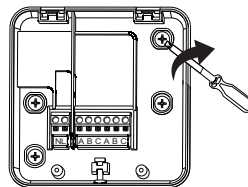
Follow the installation diagrams to install and connect the receiver PTR16 correctly.



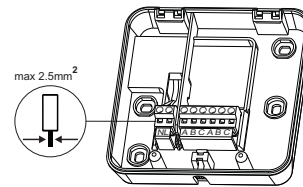
1 Loosen the screw on the receiver's bottom. (No need to screw out completely)



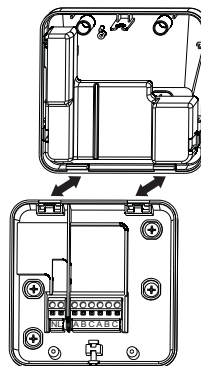
2 Open the upper cover.



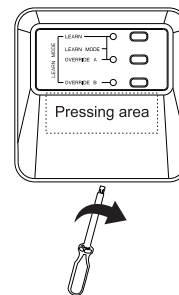
3 Fasten the terminal base on wall with 4 screws.



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



5 Close the upper cover



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. System Installation

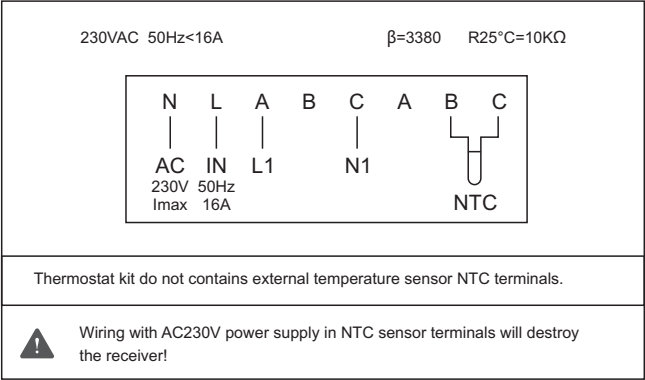
03

2. System Installation

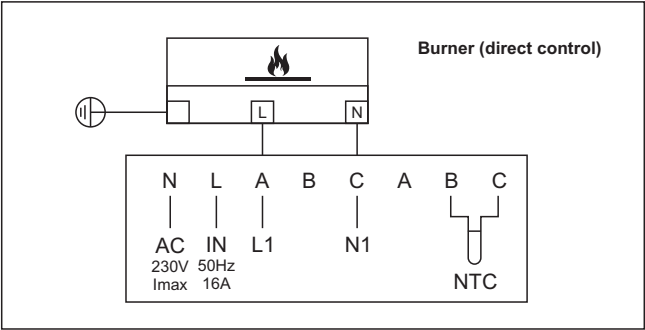
04

2.1.2 Receiver's wiring

Contacts:

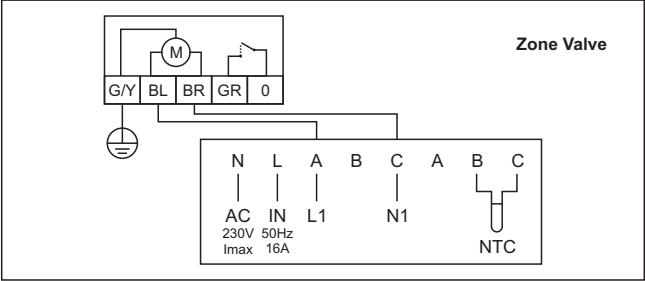
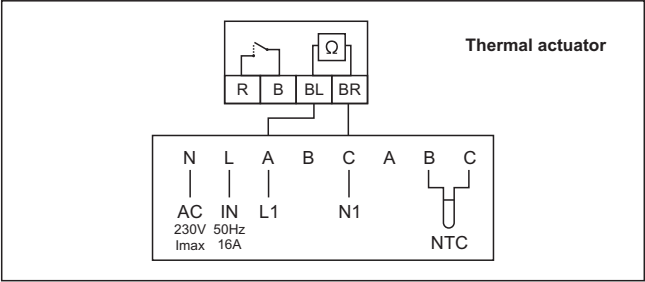
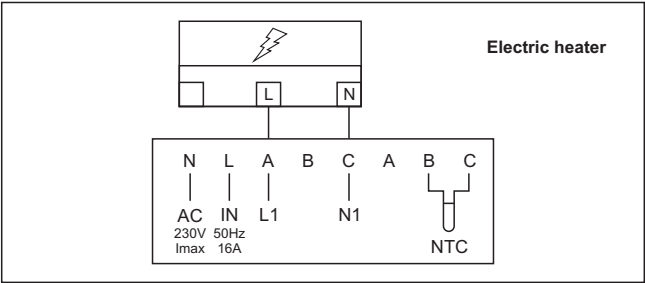


Wiring Figure:



2. System Installation

05

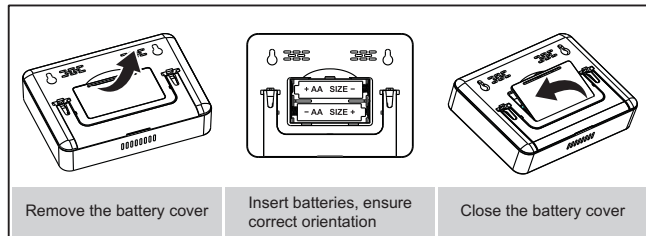


2. System Installation

06

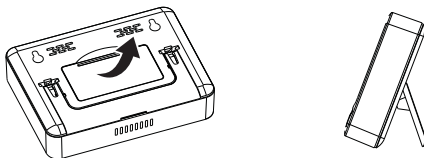
2.2 Activate Batteries and Install Thermostat

2.2.1 Activate Batteries



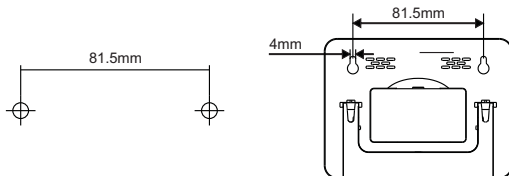
2.2.2 Install Thermostat

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.



2. System Installation

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2.3 System Check

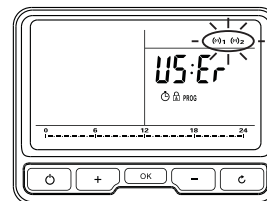
2.3.1 RF Signal Pairing

i The room thermostat has already been pre-bound with receiver in kit PTC10/PTR16 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

- 1 Preparation: thermostat and receiver should be powered/wired correctly, make sure the visible distance between thermostat and receiver is not more than 5 meters.
- 2 Start receiver's RF pairing mode by hold-pressing the LEARN button until its light flashing.
- 3 Press OVERRIDE 1 to pair with thermostat; when light of OVERRIDE 1 is flashing, it means OVERRIDE 1 is ready to pair with thermostat next.
- 4 Thermostat send pairing command with receiver:

(3-1) Long press to enter Menu Selection, select by pressing or when (1) (2) are flashing, press to enter RF pairing interface.

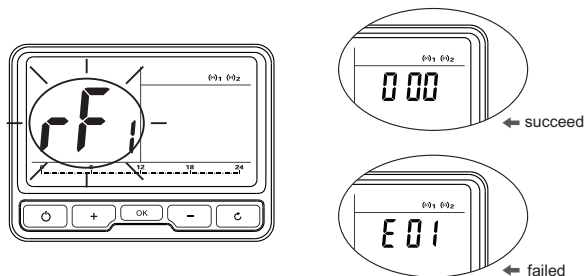


2. System Installation

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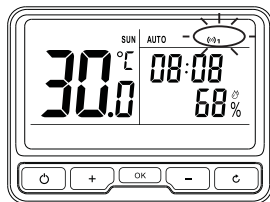
(3-2) When **rf** is flashing on the screen's left side, press **OK** to send the pairing command with receiver;

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 pairing command with receiver by pressing **OK** once again until pairing success.



④ Exit pairing mode: Exit pairing mode by pressing **LEARN** button; thermostat's HOME page can be returned by keep pressing **⏻**.

⑤ Once thermostat and receiver was paired successfully, their RF communication started normally, **(📶) 1** will show up on the top right corner of thermostat's screen.



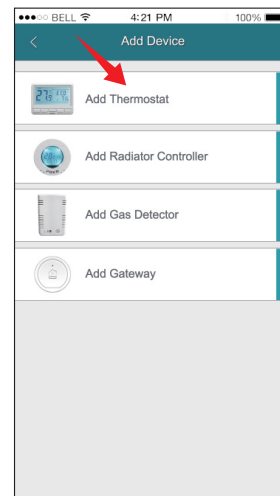
2. System Installation

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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

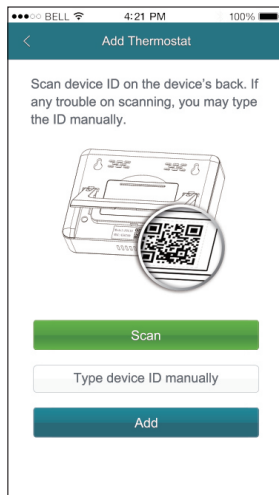
(1-1) Open the App. which already connected with gateway(how to add a gateway on App. please refer to gateway's manual for details), choose Add Thermostat from the interface;



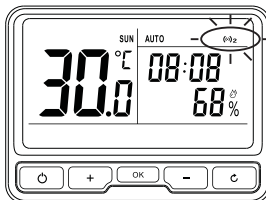
2. System Installation

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(1-2) Add thermostat by scanning its QR code or typing MAC ID manually.

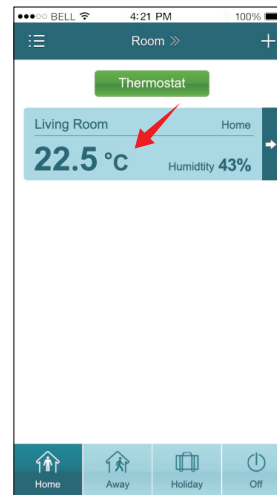


(1-3) Pairing process between thermostat and gateway might take about 1 minute. Once thermostat is paired with gateway successfully,  will show up on the top right corner of thermostat's screen; App. interface also show up the added thermostat's information.



2. System Installation

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2 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).

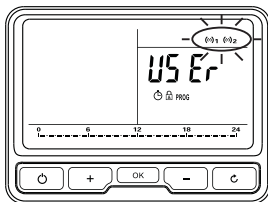
(2-2) Start gateway's pairing mode by hold pressing  until its LED is blinking slowly.

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

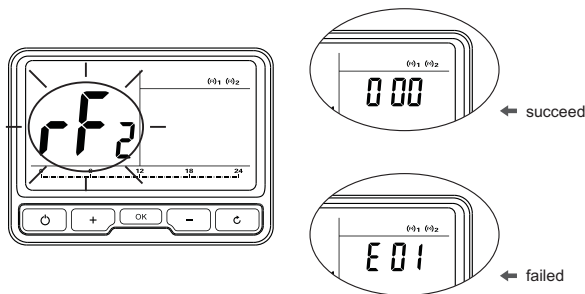
2. System Installation

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(2-3-1) Long press  to enter Menu Selection, when  are flashing, press  to enter RF pairing interface.



(2-3-2) On RF pairing interface, select by pressing on  or  until flashing  show up on screen's left side, press  to send thermostat's pairing command to gateway; pairing success if  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 pairing command with gateway by pressing  once again until pairing success. 868MHz is E11 error and 433MHz is E01 error.



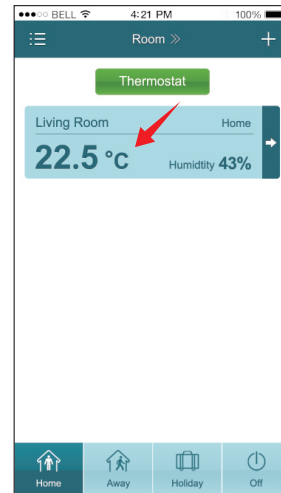
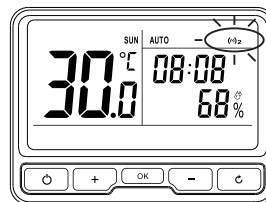
2. System Installation

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(2-4) Gateway is still under pairing mode even one thermostat's pairing 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  until the LED recover to its status before pairing.

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



2. System Installation

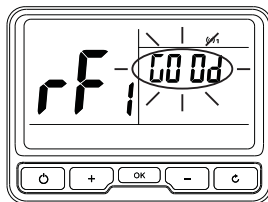
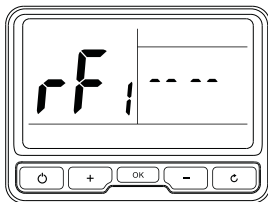
14

2.3.2 RF communication test

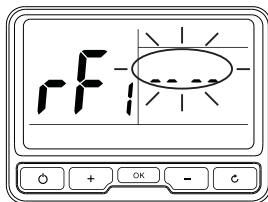
To make sure RF communication between thermostat and receiver, thermostat and gateway before using them regularly, you should take a RF communication test.

① RF communication test between thermostat and receiver

Enter RF Communication Test by long pressing , when rF_1 show up on screen's left side, presse  to test RF communication between thermostat and receiver; test result is good if $000d$ 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



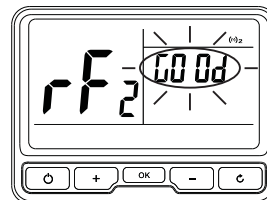
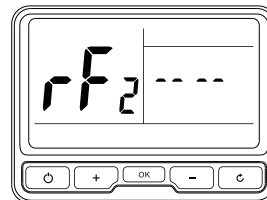
↑ bad

2. System Installation

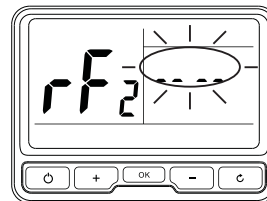
15

② RF communication test between thermostat and gateway

Enter RF Communication Test by long pressing , when rF_2 show up on screen's left side, press  to test RF communication between thermostat and gateway; test result is good if $000d$ 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

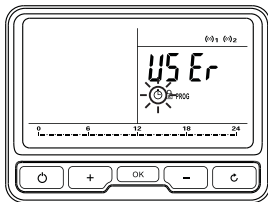
3. Operation Thermostat

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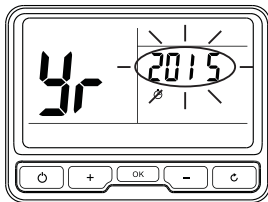
3.1 Clock Setting

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 , select by until there is a flashing ⌚ , then enter Clock Setting by pressing .



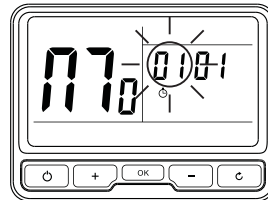
- ❷ Firstly set Year after entered Clock Setting, when 'Yr' appeared on Temperature Area, press to select current year and press to set.



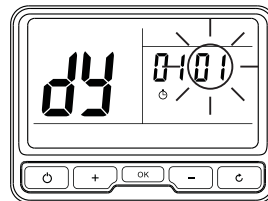
3. Operation Thermostat

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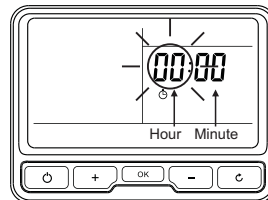
- ❸ When 'M' appeared on Temperature Area, press to select current month and press to set.



- ❹ When 'dY' appeared on Temperature Area, press to select current date and press to set.



- ❺ When clock setting is flashing on Time Area, press to select current time and press to confirm.



- ❻ Back to the last setting menu by pressing .

3. Operation Thermostat

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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

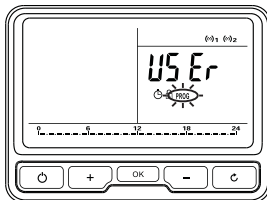
Event	1	2	3	4	5	6	7
Time	00:00	6:30	8:30	12:00	14:00	16:30	22:30
Temperature	7	20	16	16	16	21	7

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

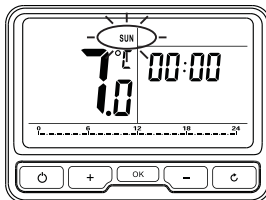
Event	1	2	3	4	5	6	7
Time	00:00	7:00	9:00	12:00	14:00	16:30	23:00
Temperature	7	20	18	21	18	21	7

3.2.2 To adjust the pre-set program

- ❶ Enter Program Setting by Pressing when **PROG** is flashing.



Program Setting menu ▼

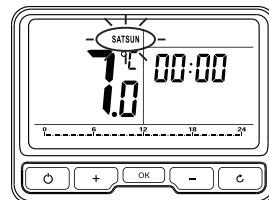
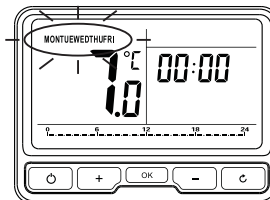


3. Operation Thermostat

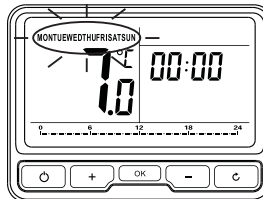
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- ❷ Enter 5+2 days/7 days/1 day program when Days flashing, select by ; press to confirm.

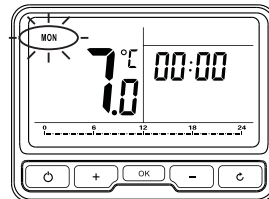
5+2 Days Program ▼



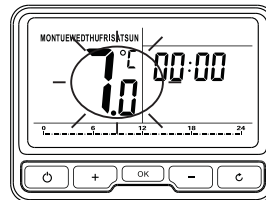
7 Days Program ▼



1 Day Program ▼



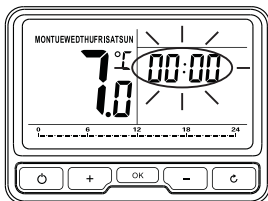
- ❸ Temperature flashing in Temperature Area, press to adjust required temperature, press to confirm.



3. Operation Thermostat

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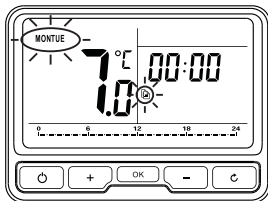
- 4 Time flashing in Time Area, press  or  to adjust the 1st time as required, press  to confirm.



- 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  can copy current flashing day's program setting to other day; select target day by pressing  or , long press  to confirm and paste.



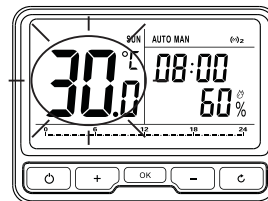
3. Operation Thermostat

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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 , then continue to show current temperature.



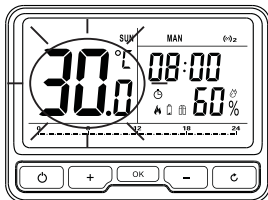
- 3 Exit Override Mode until next change in the preset program.

3. Operation Thermostat

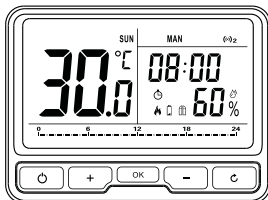
22

3.4 Manual Mode-to set a constant room temperature manually

- 1 Switch between AUTO and Manual Mode by pressing  .
- 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  , then continue to show current temperature.



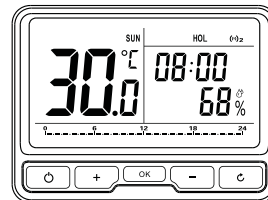
3. Operation Thermostat

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3.5 Holiday Mode

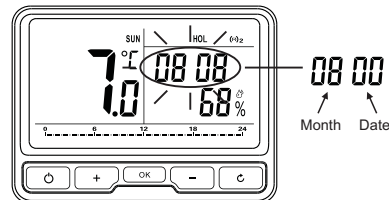
Make a holiday plan, it will keep your room at the pre-set temperature until your return time is coming. The default temperature for Holiday Mode is 7°C, you also can change this default value in User Options.

- 1 Enter Holiday Mode by keep pressing  until **HOL** showing on upper right.



- 2 Pre-set date and time for holiday start and return.

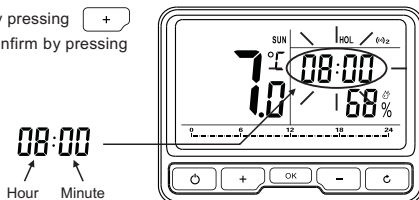
★ Holiday start date: adjust by pressing   as following figure, confirm by pressing  .



3. Operation Thermostat

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- ★ Holiday start time: adjust by pressing  as following figure, confirm by pressing .



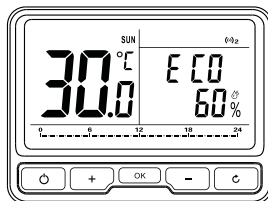
- ★ Return date and time's pre-set: once Holiday Start's date and time has been set, start to set return date and time in the same way.

- 3 Holiday Mode will start automatically when holiday start time is coming, otherwise, it continue AUTO Mode.
- 4 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°C, you can change this default value in User Options.

- 1 Enter ECO mode by pressing , following is the figure:



- 2 Exit ECO mode by pressing .

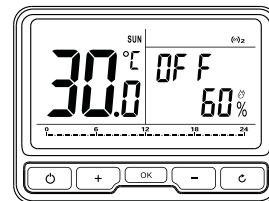
3. Operation Thermostat

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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°C, you can change this default value in User Options.

- 1 Enter OFF Mode by long pressing , following is the figure:

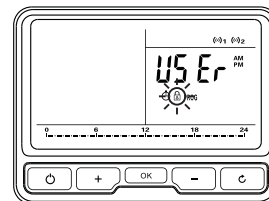


- 2 Exit OFF Mode by pressing .

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.

- 1 Long press  to enter Menu Selection, select by  , confirm by pressing  to open Child Lock function when  is flashing.

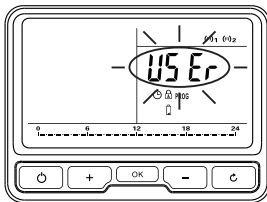


- 2 Cancel Child Mode by long pres .

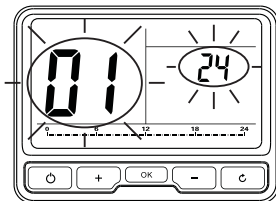
4. User Option

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1. You may change user operation after entered User Operation by Pressing  when **U5Er** 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  ; then, adjust the User Option by pressing   and set it down by pressing  .

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

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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	5	32	5
9	Pre-set the highest temperature	5	32	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

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16	PID control hysteresis adjustment	1	10	3 (+/-0.3°C)
17	Temperature control hysteresis adjustment	1	10	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	+/-0.3°C
Measurement interval	every minute
Frost protection temperature	5°C
Humidity range	10 to 90%RH

6. Product Specification

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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-PTR16-433), Bidirectional
Communication Range (open space)	100 meters
Power	<2W
Power supply	100VAC~240VAC, 50Hz
Switch rating	240VAC 50Hz, Max.16A
Dimensions (HxWxD)	100x 85 x 32mm
IP class	IP30
Standard	CE
Weight	150g