SAS908XWHB-7-DF1 Waterline Master Control Controller

SAS908XWHB-7-DF1 waterline master controller can use as on off the thermo actuator for adjust the room temperature application.

SPECIFICATION

Power source ……2 AA size 1.5V alkaline battery

Wireless frequency band……868MHz（FSK）

Wireless transmitter range……..100m in the open air

Room temperature setting range ……5℃~50℃ or 41℉~123℉

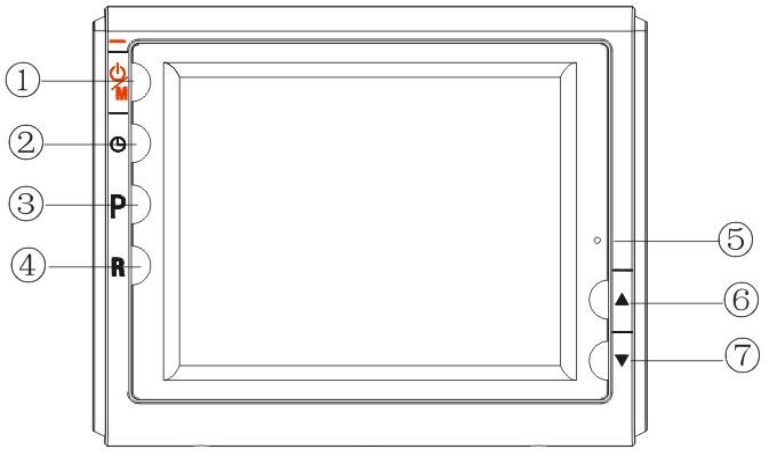
Accuracy……0.5℃ or 1℉

Ambient temperature-operation……0℃~+50℃（32℉~122℉）

Ambient temperature-transport…….-10℃~+60℃（14℉~140℉）

Dimensions……..115×90×32mm

KEYBOARD, DISPLAY AND SWITCH DESCRIOPTION



Button and Functional description:

① Power on/ anti-freezing /off button；

② Time setting button； At starting shortly press ② button enter setting the minute, press add and subtract key, adjust the minute，press ④ button to confirm and exit；then shortly press ② button enter setting the date， press add and subtract key, adjust the week， press ④ button to confirm and exit.

③ Program Setting button； at starting up and program running state(programming mode) shortly press button ③ enter the program and set the date，then press button ③ enter programming time，press button ③ enter programming temperature； at starting up and program running state long press button ③ more than 3 seconds enter keeping running mode forever； at shutdown state long press button ③ more than 3 seconds enter implied parameters setting the first item， then press button ③ enter implied parameters setting the next item.

④ Confirm/Exit button； At setting state shortly press button ④ is all setting confirmation and exit forever keeping mode, or at temporarily keeping mode shortly press button ④ to exit and return to program running state； at parameter setting（or program setting）,long press button ④ more than 3 seconds parameter setting(or program setting) , return to factory default setting；At power on（anti-freezing mode

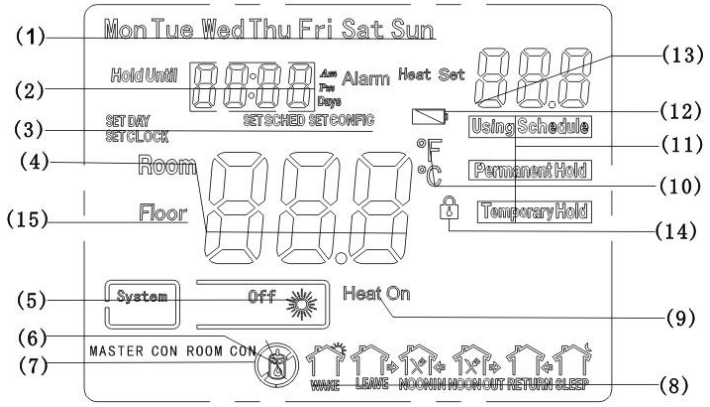
OFF） long press button ④ more than 3 seconds, launch coding program，when the receiver is under coding state, so code，or keep original code.

⑤ Reset button；the date return to Sunday 0 o'clock，program running mode，all setting is unaltered.

⑥ Add button

⑦ Shorten button

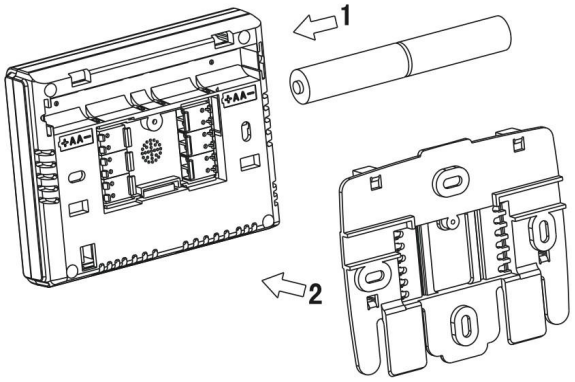
Display instruction：



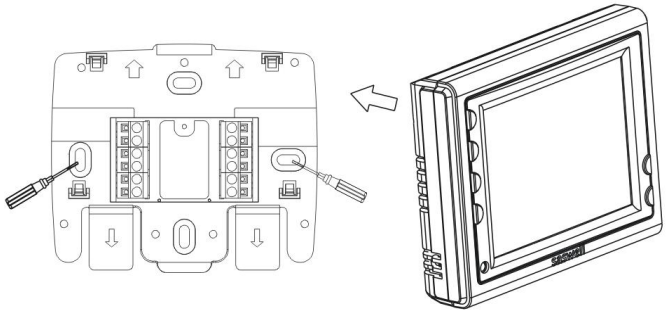
(1) week shows； (2)time shows； (3)setting shows；(4)room shows；(5) mode shows；(6) communication alarm shows；(7) control mode shows； (8)program time shows； (9)starting heating shows ； (10)temperature shows ； (11)operation mode shows；(12) Low battery indicator shows ； （13） Shows setting temperature；(14)locking key shows（15）floor temperature shows or alarm shows

INSTALL THE THERMOSTAT

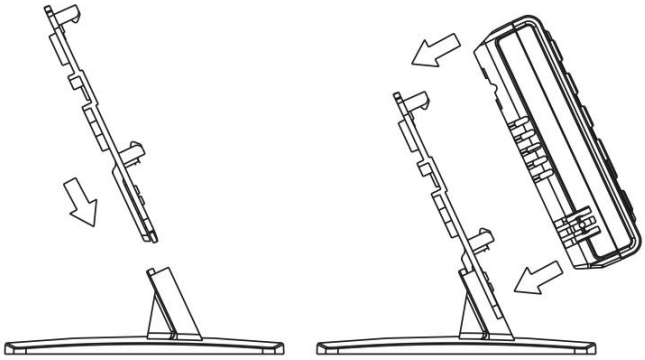
Install Battery



Wall installation：



Tabletop installation：



Error and Alarm function

1) “ ”warning flashes on the screen for approximately 30 days when your thermostat runs out of batteries. Replace the batteries when Low battery warning flashes

2) Room Temp (inside room Sensor) broken or short cut, the thermostat will have “room ERR” display

3) **Communication alarm:** When the thermostat stops or starts the output, the receiver do not start or not receive some signals that can not return to the thermostat, display will show Er2

OUTPUT REGULATION

Press M to shift standby or running mode

Standby mode (OFF mode): The system has no output or Temperature lower than the low limitation (LO) alarm,

Running mode (heating mode):

1. Room sensor circuit broken or short cut, heating output stop.

2. Setting Temp – Room Temp ≥1℃, heating output on (Fast heating or slow heating, see configuration menu 6 items)

3. Room Temp – Setting Temp ≥1℃, heating output off,

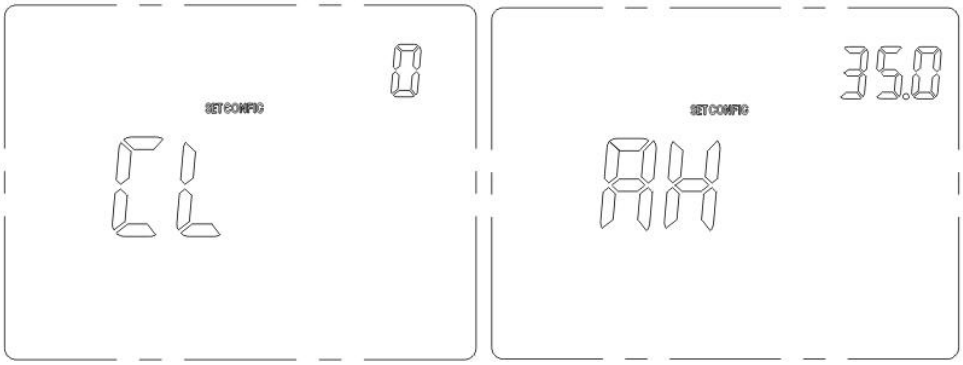
Configuration setting

In standby mode press ③ button under the above three seconds, Through the △ 、 ▽ button adjustment, After adjustment according to the ④ buttons preservation.

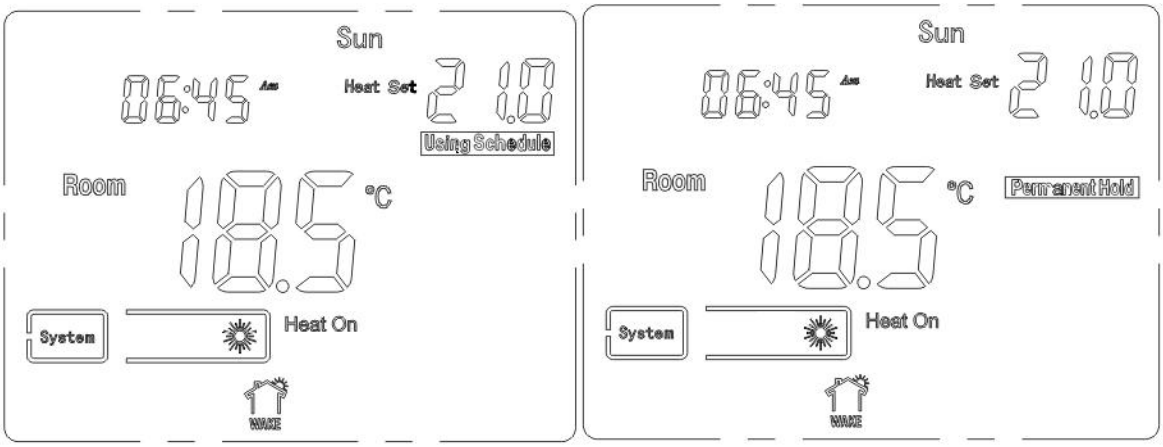
Step	Press buttons	Displayed (factory default)	Press▲、▼to select	Descriptions
1	Press P Button	CL(0)	-4 --- +4	Select temperature display adjustment higher or lower
2	Press P Button	AH（35.0）	20℃（68℉）—35℃（95℉）	Select maximum room temperature limitation
3	Press P Button	AL（5.0）	5℃(41℉)—20℃（68℉）	Select minimum room temperature limitation
4	Press P Button	FC（C）	C/F	Changes the display readout to Centigrade or Fahrenheit as required
5	Press P Button	bL（05）	00/05/15	Backlight mode 00：no backlight 05：backlight maintain 5 sec 15：backlight maintain 15 sec
6	Press P Button	db (0.5)	0.5~3.0	Start heating conditions: when setting temperature < room temperature from the heat, when setting temperature ≥ room temperature reduction db parameters start heating
7	Press P Button	PS1(7)	0/2/3/7	Program option 7： 7 days separately （Refer table 1 and table 2）； 3： 5+1+1（Refer to table 3 and table 4） 2： 5+2（Refer to table 5 and table 6） 0： Non programmable
8	Press P Button	PS2(6)	4/6	Programming period in one day option 6-6 time zones；4-4 time zones；
9	Press P Button	0C(24)	12/24	Time scale 24： 24hour system; 12： 12hour system
10	Press P Button	ES(OFF)	On/OFF	Intelligent Recovery Option OFF： Without intelligent function On:Active intelligent function
11	Press P Button	LA(En)	En/Ch	Language Chinese/English.Factory default: English.

2.display for implied parameters：

In standby mode, shortly press button M to start； Shortly hold ◷ enter modify the time；Long press ◷ more than 3seconds, enter implied parameters setting；the first item, setting the temperature coefficient：Press △ 、 ▽change set temperature, short press button P enter implied parameters, setting other parameters，when long press button R more than 3 seconds, show that DEF flash 3 times, all parameters setting return to factory default setting and return to implied parameters setting the first item，shortly press button R exit implied parameters setting and return to OFF mode； In standby mode implied parameters display：

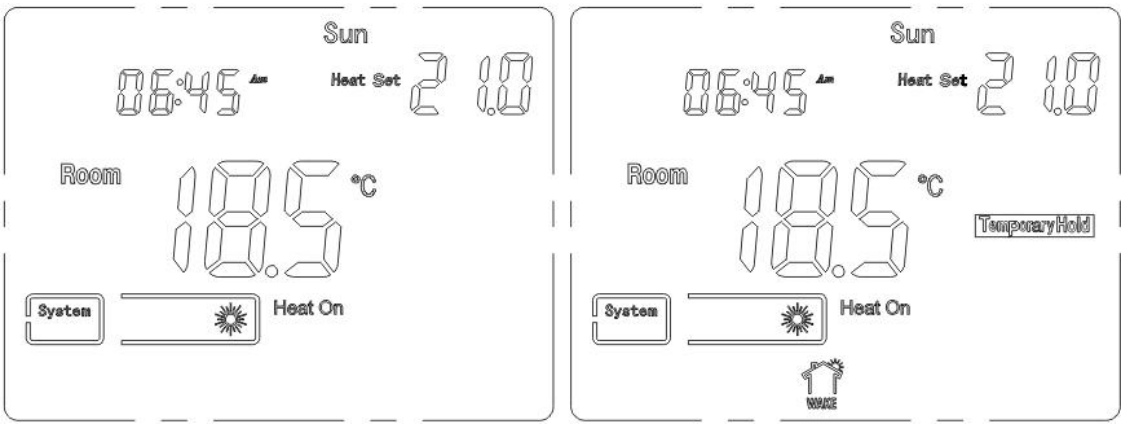


3.In boot mode display：



A）In program running mode, shortly press button M enter off mode；shortly press ◷ enter modify the time；shortly press button P enter programming state；Long press button P more than 3 seconds enter forever keeping mode；shortly press Δ 、 ∇ enter temporarily keeping mode

B）In forever keeping mode, shortly press M enter off mode and exit forever keeping mode；shortly press button◷ enter modify the time；shortly press button P enter programming state and exit forever keeping mode；shortly press button R exit forever keeping mode；shortly press Δ 、 ∇ modify the setting temperature



C）without programming mode running：shortly press M enter off mode；shortly press button ◷ enter modify the time；shortly press Δ 、 ∇ modify the setting temperature.

D)In temporarily keeping mode, shortly press M enter off mode and exit temporarily keeping mode；shortly

press button ◷ enter modify the time；shortly press button P enter programming state and exit temporarily keeping mode； shortly press button R exit temporarily keeping mode； long press button R enter forever keeping mode；shortly press button Δ 、 ∇ modify the setting temperature.

2. Programming Setting Instruction

In programming setting mode, look at the factory preprogrammed times and temperatures shown in the sample schedule. If this program will suit your needs, simply press the ③ button to begin running the factory preset program.

If you want to change the preprogrammed time and temperature, follow these steps. Determine the times period and temperature for your program. You can program six/four periods for each day/5+2/5+1+1(See configuration menu item 11).You can choose heating temperature and start time independently. (for example, you may select 5:00 AM and 21℃ as the weekday 1st period heating start time and temperature and also choose 7:00 AM and 16.5℃ and the weekday 1st period cooling start time and temperature)

Short press button ③ during the running status , enter the programming surface . you could shift from date setting , time setting ,Temp setting by press button ③ one by one, press ▲ or ▼to select setting you want. Press ④ quit. . In the programming surface , push ④ button in a same time for 3 seconds. Display will show “DEF” blinking 3 times and return to programming setting 1 indicates all the setting has reverted to factory default setting. Thermostat controls the heating system by presetting program.

Use the tables to plan your program time periods and the temperatures you want during each period. Fill in the complete table to have a record of your program.

Table One（7 days 4 Zones Program）

——could revised according to your request

Heating Mode	Morning Get up		Our for work		Came back		Sleep	
Monday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Tuesday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Wednesday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Thursday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Friday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Saturday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Sunday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								

Table Two（7 days 6 Zones Program）

——could revised according to your request

Heating Mode	Morning Get up 		Our for work 		Lunch 		Noon shift 		Came back 		Sleep 	
Monday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												
Tuesday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												
Wednesday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												
Thursday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												
Friday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												
Saturday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												
Sunday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												

Table Three（5+1+1 4 Zones program）

———could revised according to your request

Heating Mode	Morning Get up 		Our for work 		Came back 		Sleep 	
Monday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Tuesday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Wednesday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Thursday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								
Friday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								

————could revised according to your request

Heating Mode	Morning Get up 		Our for work 		Came back 		Sleep 	
Saturday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								

———could revised according to your request

Heating Mode	Morning Get up		Our for work		Came back		Sleep	
Sunday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Values								

Table Four（5+1+1 6 Zones programme）.

———could revised according to your request

Heating Mode	Morning Get up		Our for work		Lunch		Noon shift		Came back		Sleep	
Monday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Tuesday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Wednesday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Thursday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Friday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃

————————could revised according to your request

Heating Mode	Morning Get up		Our for work		Lunch		Noon shift		Came back		Sleep	
Saturday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												

————————could revised according to your request

Heating Mode	Morning Get up		Our for work		Lunch		Noon shift		Came back		Sleep	
Sunday	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Values												

Table Five（5+2 4 Zones program）.

———could revised according to your request

Heating Mode	Morning Get up		Our for work		Came back		Sleep	
Monday	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃

Values								
Tuesday Values	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Wednesday Values	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Thursday Values	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Friday Values	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃

———could revised according to your request

Heating Mode	Morning Get up		Our for work		Came back		Sleep	
Saturday Values	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃
Sunday Values	6:00	21℃	8:00	16.5℃	18：00	21℃	22：00	16.5℃

Table Six（5+2　6 Zones programme）

.———could revised according to your request

Heating Mode	Morning Get up		Our for work		Lunch		Noon shift		Came back		Sleep	
Monday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Tuesday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Wednesday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Thursday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃

——could revised according to your request

Heating Mode	Morning Get up		Our for work		Lunch		Noon shift		Came back		Sleep	
Saturday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃
Sunday Values	6:00	21℃	8:00	16.5℃	12:00	21℃	14:00	16.5℃	18：00	21℃	22：00	16.5℃

1. Temporary hold mode

In normal operation, press ▲ or ▼, **"temporary hold"** is flashing indicates thermostat is in temporary hold mode.　Press ▲or ▼ to change set temperature, the thermostat will override the current programming

setting and keep the room temperature at the selected temperature until the next program period begins. Then the thermostat will automatically revert to the program operation. Press ④ quit .If no keys are pressed within 20 seconds, the thermostat will revert to using schedule.

2. Permanent hold temperature setting

When thermostat is in program operation, press button ① over 3 seconds to enter the Permanent hold mode . Press ▲、▼ change set temperature. The thermostat will permanent hold the room temperature at the selected setting until you press ④ button to restart the program operation.

3. Code match and Wireless Control:

1) According to the system requirements SAS2010DE connected to the power source (L, N 100 ~ 240 vac), Check and energizing, Press the power button switch machine is normal or not electricity, light is lit. Otherwise, Please replace the product, Then press the last step action to execute.

2) Open SAS908XWHB-7-DF1 backplane Load two batteries (AA) ， Closed the backplane, And check the display and button functions, not normal replacement product, Press re-execute the previous step action.

(3) Energized normal SAS2010DE products in shutdown mode (indicator), press and hold the power button until the indicator A long bright yellow release, this time SAS2010DE in the code state.

(4) The thermostat SAS908XWHB -7- DF1 in standby mode, long according to the thermostat **R** button more than 3 seconds, Emission to code command.

(5) The success of the code receiving portion yellow flashing 01 blinks four times, Otherwise the code is unsuccessful, Return reflector of the original code value.

Note: When in the process for the debug on/off, the interval of time should more than 4 sec, otherwise the products have not time for react.

4. Reset operation

If the display is abnormal, press the Reset button by using a fine probe such as a straightened paper clip to gently push the Rest button. This will reset the thermostat.

5. **Battery note**: 1)The battery power low battery warning sign "  " flicker

2) Products when not in use for a long time, please take off, to prevent battery leakage damage product

CUSTOMER ASSISTANCE

After reading this guide, if you have any question about the operation of your thermostat, please contact your installer or service provider.

SAS2010DE Thermostat for Wireless Receiver

SAS2010DE is a wireless non-programmable thermostat designed for hot water radiant heating systems and electric heating cable system. It is a one to one receiver, independent circuit with adjustable temperature limiter function .

SPECIFICATION：

Power source ……..100-240VAC 50/60Hz

Wireless signal frequency……..868MHz（FSK）

Wireless signal effective range ……...100m

Accuracy…… …… …±1℃

Ambient temperature -Operation ……0℃~+50℃

Ambient temperature –transport ……..-10℃~60℃

The limit temperature value ……..30℃, 40℃, 55℃, Factory default: 40℃

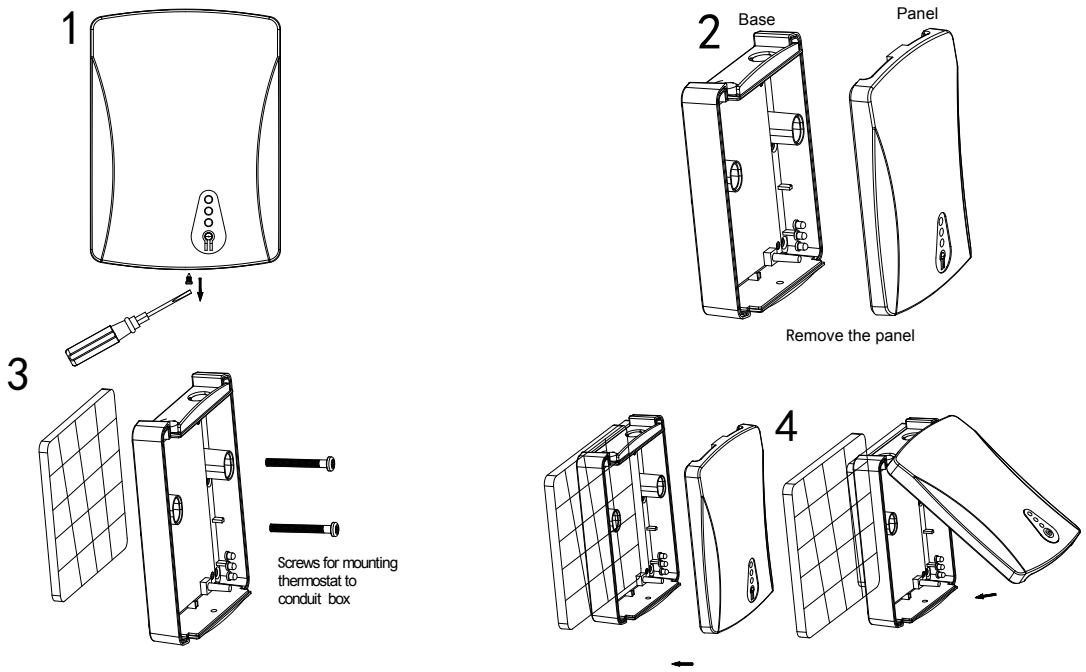
Dimension ……113×83×30mm

IMPORTANT SAFETY INFORMATION:

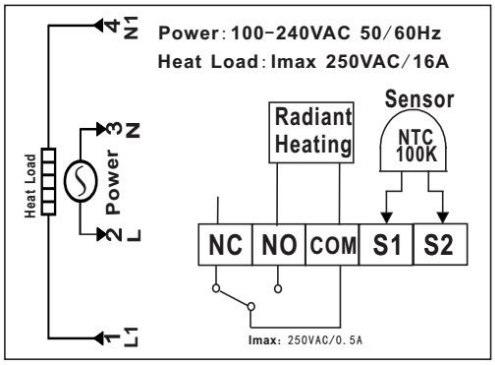
- Always turn off power at the main power source by unscrewing fuse or switching circuit breaker to the off position before installing, removing, cleaning, or servicing this thermostat.
- Read all of the information in this manual before installing this thermostat.
- Only a professional contractor should install this thermostat.
- All wiring must conform to local and national building and electrical codes and ordinances.
- This thermostat has a removable fuse to protect the system from damage. If system is not operating properly, check wiring and replace fuse if necessary.
- Use this thermostat only as described in this manual.

MOUNTING THE RECEIVER

1. Remove the screw from the bottom of thermostat. Gently pull the control panel straight off the base. Forcing or prying on the thermostat will cause damage to the unit.
2. Connect wires beneath terminal screws on power supply module using appropriate wiring schematic. See figure 5
3. Push power base into 86mmX86mm conduit box.
4. Using two mounting screws mount the power base to the wall. Place a level against bottom of base, adjust until level, and then tighten screws. (Leveling is for appearance only and will not affect thermostat operation.)
5. Replace control panel on the power base by snapping it in place



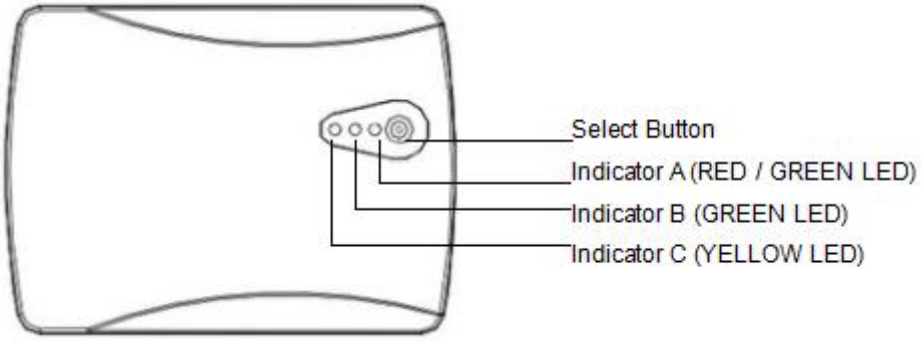
WIRING DIAGRAM



Power:100-240VAC 50/60Hz

Figure 5

SWITCH AND LED DESCRIPTION OF RECEIVER



CHECK THERMOSTAT OPERATION

1. **The description of thermostat working condition：**

Standby： when power input, all the lights no display

Power status： Shortly press the button ,indicator A(red) turn on as long as there is power to the unit.

Shutdown status ： On state, indicator A(red) is long bright. Shortly press the button, indicator A(red)turn off indicates it is in shutdown status mode, thermostat shut down all output.

Working state: Indicator B(green) turns on as long as the heating device is energized.

Power Failure Memory Function： In the operation, power after the phone call, automatic memory before the power switch machine state。

Forced output function： In the shutdown state，Long time 8 seconds press until a green light.Open all output，Don't accept emission control signal or launch control damage cases effective，The mandatory output state，According to lift off buttons short back to the state。

Communication signals: When indicator C(yellow) is flashing that indicates the thermostat is entered to receive communication signals. Yellow LED blink two times.

2. **Select the limit of temperature value**

Switch on the thermostat, indicator A(red) turn on .Long press the button over 3 second, indicator A(red) turn off, green one is blinking. Shows the thermostat enters to the temperature limit value selection mode. Press the button to select the temperature you want. When the limit value is 30℃,the LED A and B(both green) would be blinking. When the limit value is 40℃,the LED A(green) and C(yellow) would be blinking. When the limit value is 55℃,all of the indicators would be blinking. If only LED A(green) blinking that indicates the thermostat cancel limit value protection.
To exit the menu and return to the normal operation, press the button over 3 second. If no keys are pressed within 8 seconds the thermostat will exit the menu.

3. **Code match：**

When the Control Centre is in the code match mode, Switch off the thermostat, long press the button for 3 second to enter the code match mode and LED C (yellow) lit up. If the Control Centre and receiver code match successfully, LED C (yellow) flashes 6 times ,saves the current setting and exit automatically. Otherwise it means not done , the thermostat will exit the menu after 20 second and need to recode.

4. CHECK THERMOSTAT OPERATION

The unit will be controlled via air sensor in the Control Centre and the Control Centre will determine to activate/deactivate heating system by comparing set temperature with room temperature. Press ▲ to adjust Control Centre setting temperature is 1℃ higher than room temperature .The Control Centre will emit signals to the Receiver asking to turn on the heating device. LED C(yellow) on the Receiver flashes means Receiver has received the signals. LED B(green) turns on means heating device is energized. Press ▼ to adjust Control Centre setting below room temperature. The Control Centre will emit signals to the Receiver asking to turn off the heating device. LED C(yellow) on the Receiver flashes means Receiver has received the signals. LED B(green) turns off means heating device is deactivated.

ERR：1. LED B(green) flashing quickly that indicator sensor broken.

1. LED B(green) flashing slowly that indicator the thermostat is in the temperature limit value selection mode.