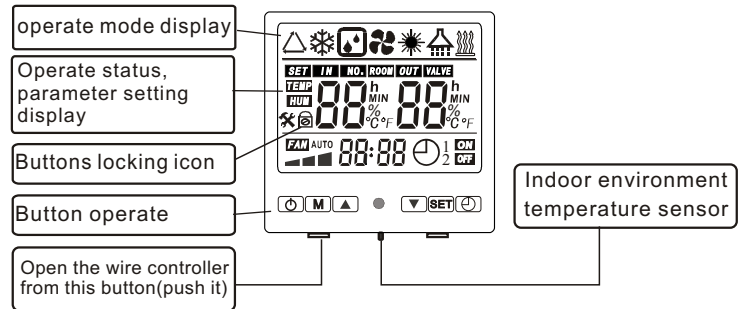


III. Use

1. Function Diagram of the Wired Controller.

The wired controller is designed and installed in standard electrical box dimensions (86*86, fixed hole distance 60mm). The electrical box and three wire can be supplied in the wall before drywall, which makes the interior finish clean.

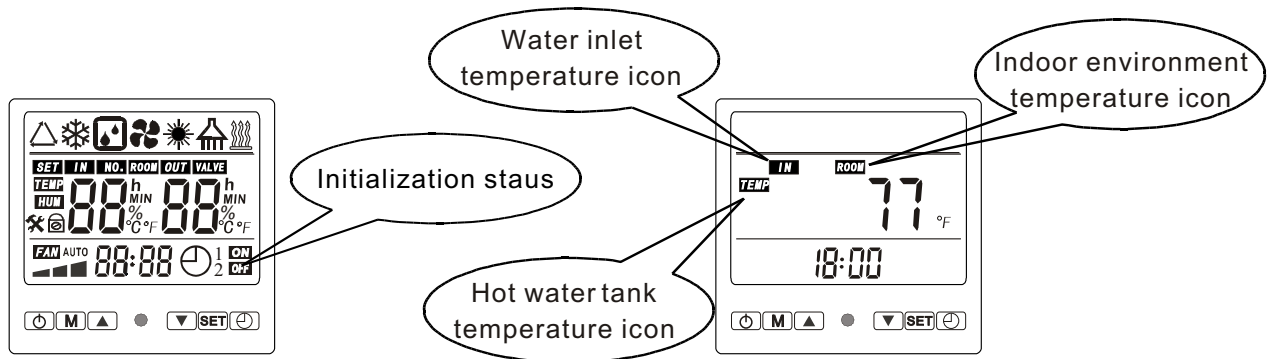
The user interface and function shows as below:



2. Use of Wired Remote Controller for AC Models

2.1 Initial power on and stand by status: Power on after check and confirm the unit is normal.

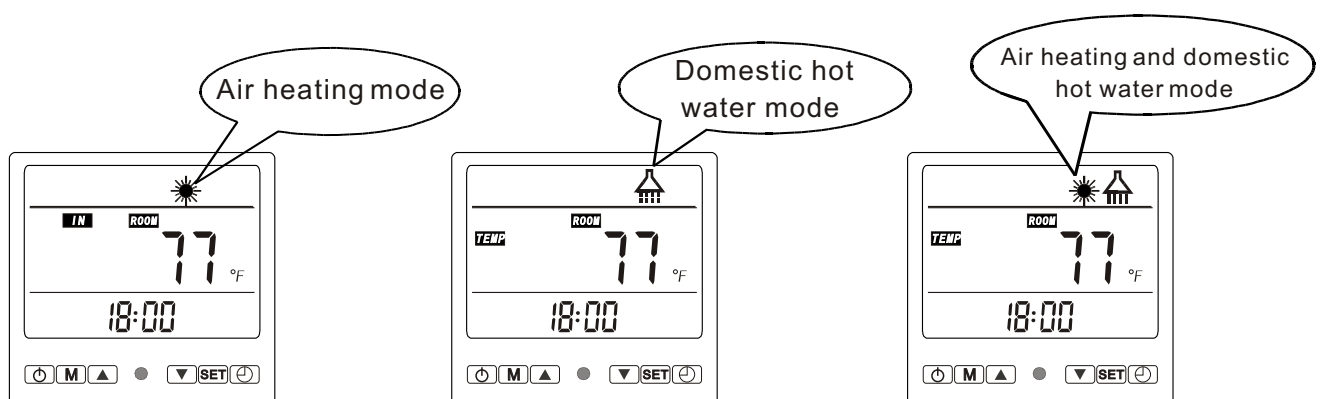
The remote controller will be full-screen display. The main unit will be on stand by status 10 seconds later. Distance will display the standby.



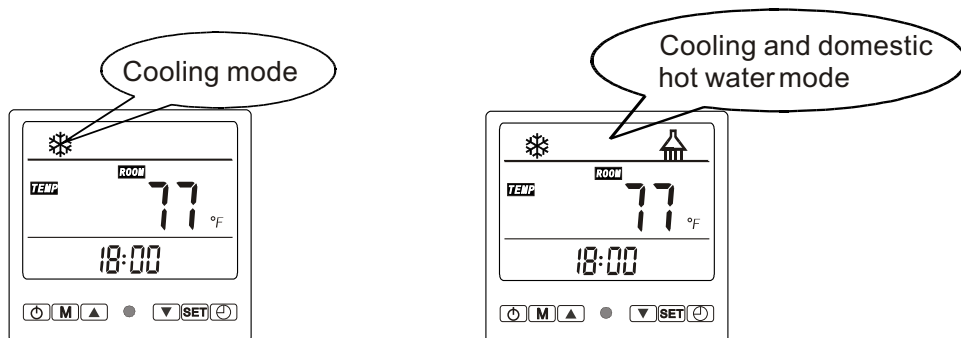
IF Your SunPump AC Controller does not look like the image, ask for the DC version.

2.2 Under boot-up status ,press < M >button to switch the running mode ,when the parameter 22 is set be < 0 > to switch off the cooling function, so the unit will has 3 modes at that time :

1. air heating mode
2. domestic hot water mode
3. Air heating and domestic hot water mode



2.3 When the parameter 22 is set to < 1 > (that means switch on the cooling function), there will be more the following 2 modes, and you also can press < M > to switch the modes.

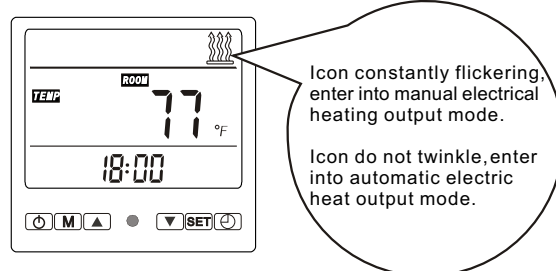


2.5 Clock setting. Press button **SET**, the place of hour keeps flicking, press **▲** **▼** to adjust the setting of hour. Then press button **SET** and the place of minute will keep flicking. Press the button **▲** **▼** to adjust the setting of minute. Press button **SET** again to complete and exit the time setting mode.

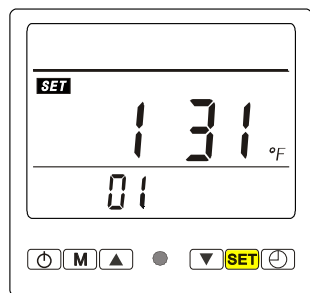
2.6 Timed ON/OFF setting. Press **⌚** button, and the place of hour and < 1 > Timing ON symbol keep flicking. Press **▲** **▼** to adjust the setting of the hour. Press **⌚** button again, and the bit minute flicks. Press **▲** **▼** buttons to adjust the setting of minute; Press **⌚** button again and the place of hour and timing OFF symbol flicks. Press **▲** **▼** to adjust the setting of hour. Press **⌚** button again, and the bit minute flickers. Press **▲** **▼** buttons to adjust the setting of minute. Press **⌚** button, and the place of hour and < 2 > Timing ON symbol keep flicking. Press **▲** **▼** to adjust the setting of the hour. Press **⌚** button again, and the bit minute flicks. Press **▲** **▼** buttons to adjust the setting of minute; Press **⌚** button again and the place of hour and timing OFF symbol flicks. Press **▲** **▼** to adjust the setting of hour. Press **⌚** button again, and the bit minute flickers. Press **▲** **▼** buttons to adjust the setting of minute. Press **⌚** button again to complete and exit the timed ON/OFF setting mode. Cancel timing setting operation. Press **⌚** button and press **SET** button to cancel the timing.

Note:

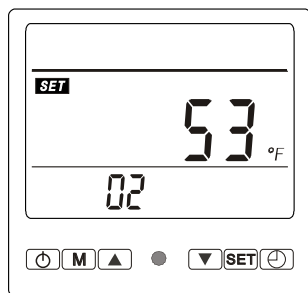
- A:** The Timing function only can be used under the parameter 26 is set to < 1 >, otherwise, there's no the timing function.
- B: Keyboard locking / unlocking operation**
In non-parameter setting mode, press and hold down **▲** and **▼** buttons for 10 seconds, and the system will lock the keyboard automatically and the wire controller will display **🔒** icon. Press and hold down **▲** and **▼** buttons for 10 seconds again, the keyboard will be unlocked, and the icon of **🔒** will disappear.
- C:** In the working state, press the **▲** **▼** buttons can set up the user common use setting parameters, press the **SET** buttons to switch to modified parameters, press **▲** **▼** button to modify the parameters, press the **⏻** buttons, exit the setting interface.
- D:** press the **🌡** button for 5 seconds to switch the display between centigrade degree and fahrenheit.
- E:** When working state and on standby, press **M** button for 5 seconds for the manual operation electric heater heating output, press the **M** button for 5 seconds again, shutdown the manual operation electric heater heating output.



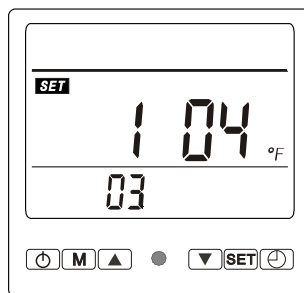
2.7 These settings are for Engineers only, please call if you require to change any of the Optional Parameters. Under the standby status, **press SET button for 10 seconds to enter Operation Parameter setting interface.** Press **▲** or **▼** to view (01-37) parameter, press **SET** button again to set data you need. Parameter setting as below:



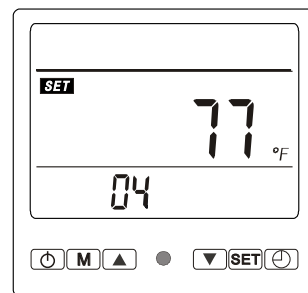
Parameter 01
Domestic hot watertank temperature setting
Alternative range: 50°F to 158°F.
Default: 131°F



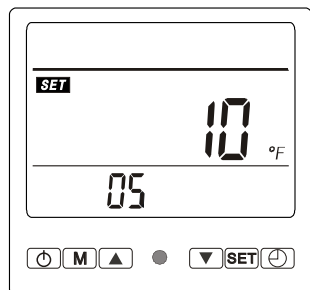
Parameter 02
cooling inlet water temperature setting
Alternative range: 46°F to 82°F.
Default: 53°F



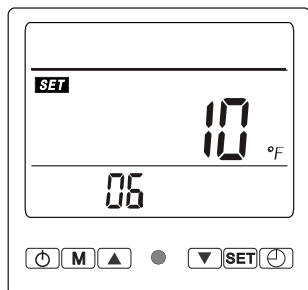
Parameter 03
heating inlet water temperature setting
Alternative range: 59°F to 140°F.
Default: 104°F



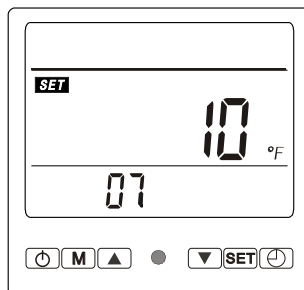
Parameter 04
Room temperature setting
Alternative range: 50°F to 113°F.
Default: 77°F



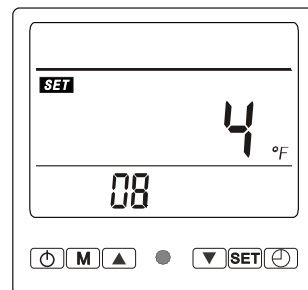
Parameter 05
Domestic hot water temp. difference between the unit stop heating and restart heating
Alternative range: 2°F to 30°F.
Default: 10°F



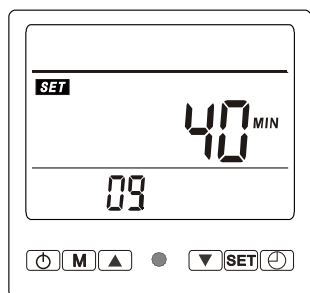
Parameter 06
Cooling inlet water temp. difference between the unit stop heating and restart heating.
Alternative range: 2°F to 30°F.
Default: 10°F



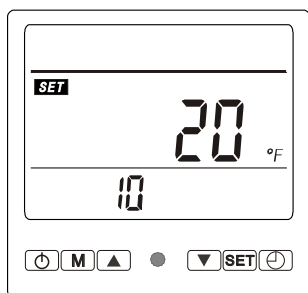
Parameter 07
Heating inlet water temp. difference between the unit stop heating and restart heating.
Alternative range: 2°F to 30°F.
Default: 10°F



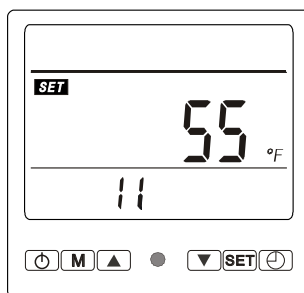
Parameter 08
Room temp. difference between the unit stop heating and restart heating.
Alternative range: 2°F to 30°F.
Default: 4°F



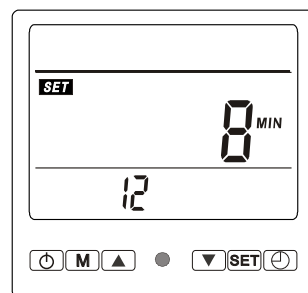
Parameter 09
Heating defrost cycle
Alternative range: 30minutes to 90minutes.
Default: 40minutes



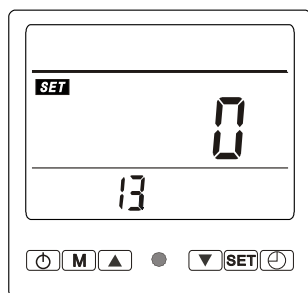
Parameter 10
Into defrost temperature
Alternative range: -22°F to 32°F
Default: 20°F



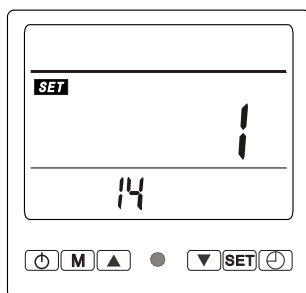
Parameter 11
Exit defrost temperature.
Alternative range: 36°F to 86°F.
Default: 55°F



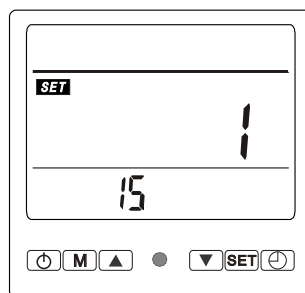
Parameter 12
Exit defrost time condition
Alternative range: 1 minutes to 12 minutes.
Default: 8 minutes



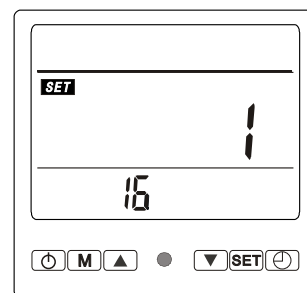
Parameter 13
Whether turn on the economy model
0: turn off,
1: turn on
Default: 0



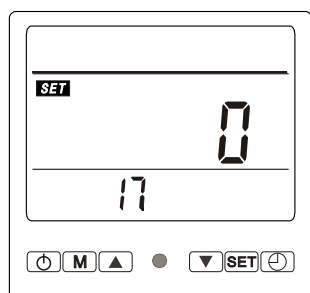
Parameter 14
Whether power-down memory
0: without memory function
1: with memory function
Default: 1



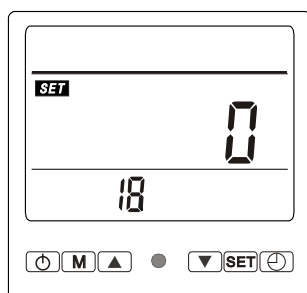
Parameter 15
wire control sensor or the "multi-room switch" Selection.
1: wire control sensor
0: multi-room switch
Default: 1



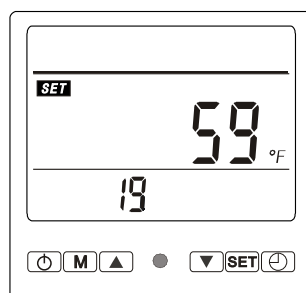
Parameter 16
The working methods of manual electric heater
0: heating
1: hot water + heating
Default: 1



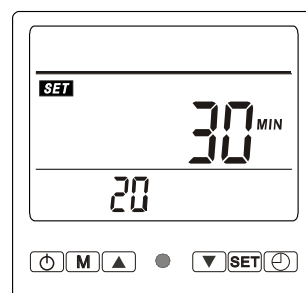
Parameter 17
Domestic hot water priority, or heating and cooling priority
0: Domestic hot water priority
1: Air heating and air cooling priority
Default: 0



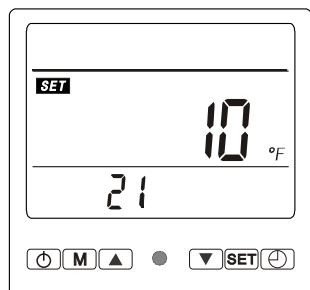
Parameter 18
Hot water pump working way
1: long time working for hot water pump,
0: hot water pump turns off after the compressor power off for 30s
Default: 0



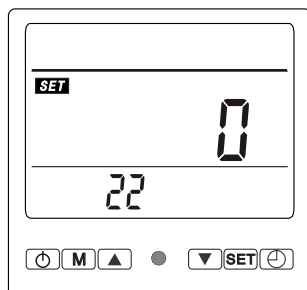
Parameter 19
Aux. electric heater start ambient temp.
Alternative range: -22°F to 86°F
Default: 59°F



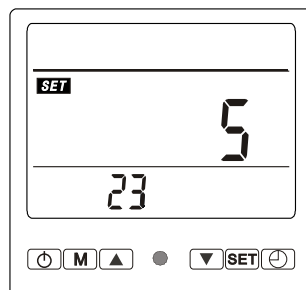
Parameter 20
Aux. electric heater start delay time
Alternative range: 0~90Min.
Default: 30Min.



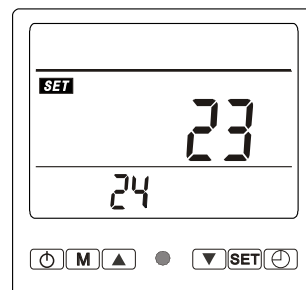
Parameter 21
The room temp. difference setting between non-sleeping status mode and sleeping status mode
Alternative range: -30°F to 30°F.
Default: 10°F



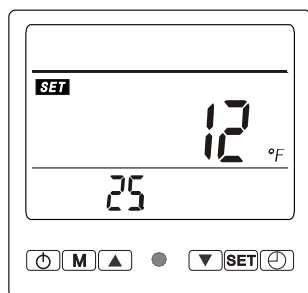
Parameter 22
Whether turn on air cooling function model
0: turn off
1: turn on
Default: 0



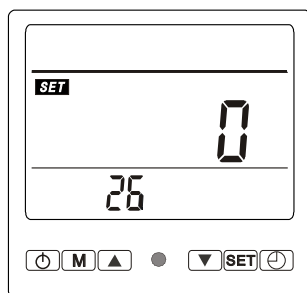
Parameter 23
The start time of non-sleeping status mode.
Default: 05:00



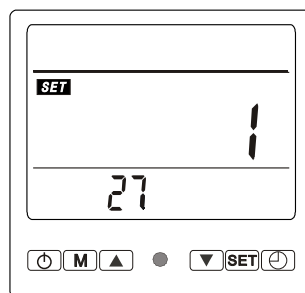
Parameter 24
The end time of non-sleeping status mode.
Default: 23:00



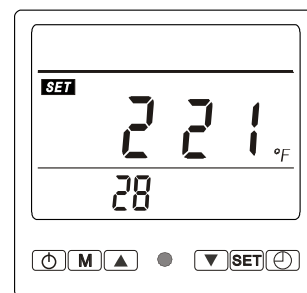
Parameter 25
The temp. difference setting between solar temp. and water tank temp. for turn on the water pump
Alternative range: 2°F to 40°F
Default: 12°F



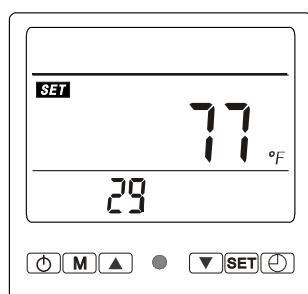
Parameter 26
whether turn on the timing function
0: Turn off
1: Turn on
Default: 0



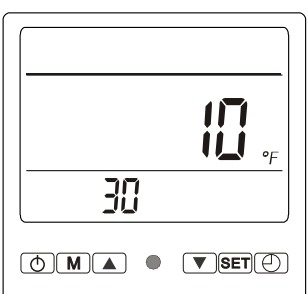
Parameter 27
When the unit turn on the aux. Electric heater the hot water cycle pump working way.
0: turn off 1: turn on
Default: 1



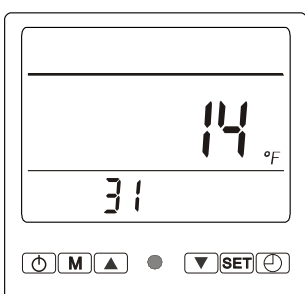
Parameter 28
Compressor discharge temp. Too high protection setting
Alternative range: 86°F to 257°F
Default: 221°F



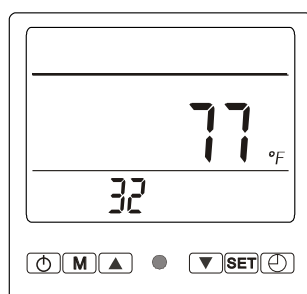
Parameter 28
EVI valve turn on setting (effective for EVI unit)
Alternative range: -13°F to 86°F
Default: 77°F



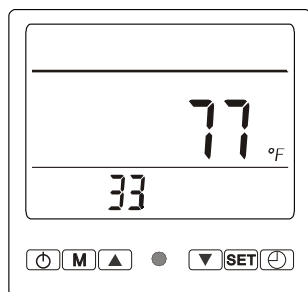
Parameter 30
Auxiliary electric heating. difference between the unit stop heating and restart heating
Alternative range: 2°F to 30°F.
Default: 10°F



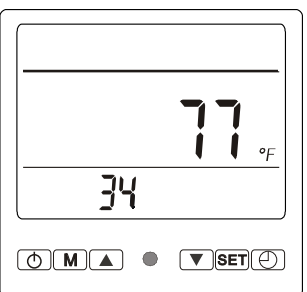
Parameter 31
Ambient temperature too low protection setting
Alternative range: -22°F to 50°F
Default: 14°F



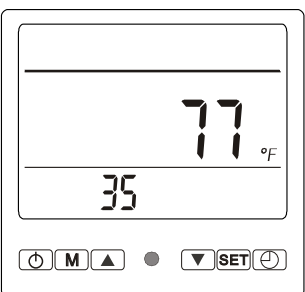
Parameter 32
Domestic hot water tank temp. Actual testing value: Hot water tank temperature



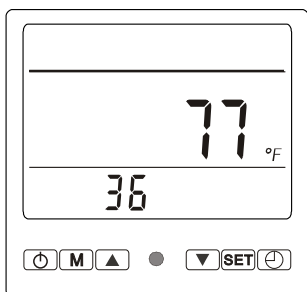
Parameter 33
Water inlet temp. Actual testing value: Unit inlet water temperature



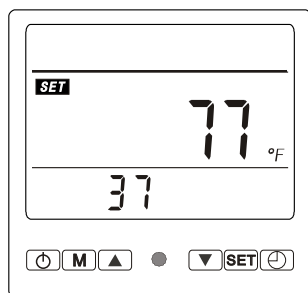
Parameter 34
water outlet temp. Actual testing value: Unit outlet water temperature



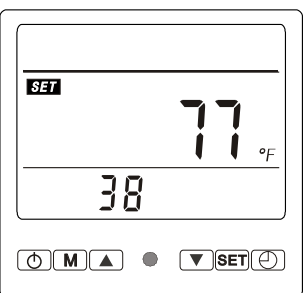
Parameter 35
Indoor environment temp. Actual testing value: Indoor environment temperature



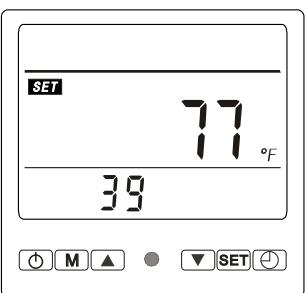
Parameter 36
Out door environment temp. Actual testing value: Outdoor environment temperature



Parameter 37
Coil temp. Actual testing value: pipe temperature



Parameter 38
discharge temp. Actual testing value: discharge temperature



Parameter 39
Solar collector temp. Actual testing value:

3. Operation Parameters and Data Setting

The unit's operation data can be set on the wire controller.
Please set according to the table below.

Parameter	Setting data explanation or working state	Parameter setting range	Default	Remarks
01	Domestic hot water tank temperature setting	50°F ~ 158°F	131°F	Adjustable
02	Cooling inlet water temperature setting	46°F ~ 82°F	53°F	Adjustable
03	Heating inlet water temperature setting	59°F ~ 140°F	104°F	Adjustable
04	Room temperature setting	50°F ~ 113°F	77°F	Adjustable
05	Domestic hot water temp. difference between the unit stop heating and restart heating	2°F ~ 30°F	10°F	Adjustable
06	Cooling inlet water temp. Difference between the unit stop cooling and restart cooling	2°F ~ 30°F	10°F	Adjustable
07	Heating inlet water temp. difference between the unit stop heating and restart heating .	2°F ~ 30°F	10°F	Adjustable
08	Room temp. difference between the unit stop heating/cooling and restart heating/cooling .	2°F ~ 30°F	4°F	Adjustable
09	Heating defrost cycle	30min ~ 90min	40min	Adjustable
10	Into defrost coil temperature setting	-22°F ~ 32°F	20°F	Adjustable
11	Exit defrost coil temperature setting	36°F ~ 86°F	55°F	Adjustable
12	Exit defrost time condition setting	1min ~ 12min	8min	Adjustable
13	Whether turn on the economy model	0:turn off 1:turn on	0	Adjustable
14	Whether power-down memory	0:without 1:with	1	Adjustable
15	Wire controller sensor or the" multi-room switch" Selection.	0:multi-room switch 1:wire control sensor	1	Adjustable
16	The working methods of manual electric heater	0:heating 1:hot water &heating	1	Adjustable
17	Domestic hot water priority, or heating and cooling priority	0:hot water 1:cooling &heating	0	Adjustable
18	Hot water pump working way 1:long time working for hot water pump 0:hot water pump turns off after the compressor power off for 30s	0/1	0	Adjustable
19	Auxiliary electric heater start ambient temp.	-22°F ~ 86°F	59°F	Adjustable
20	Auxiliary electric heater start delay time (after press the on/off button)	0min ~ 90min	30min	Adjustable
21	The room temp. difference setting between non-sleeping status mode and sleeping status mode	-30°F ~ 30°F	10°F	Adjustable
22	Whether turn on air cooling function model	0:turn off 1:turn on	0	Adjustable
23	The start time of non-sleeping status mode.	00 ~ 24	05	Adjustable
24	The end time of non-sleeping status mode.	00 ~ 24	23	Adjustable
25	The temp. difference setting between solar temp. and water tank temp. for turn on the water pump	2°F ~ 40°F	12°F	Adjustable

Continued - not all options are on your model

26	Whether turn on the timing function	0:turn off 1:turn on	0	Adjustable
27	When the unit turn on the auxiliary electric heater the hot water cycle pump working way.	0:turn off 1:turn on	1	Adjustable
28	Compressor discharge temp. Too high protection setting	86°F ~ 257°F	221°F	Adjustable
29	EVI valve turn on setting(effective for EVI unit)	-13°F ~ 86°F	77°F	Adjustable
30	Auxiliary electric heating. difference between the auxiliary electric stop heating and restart heating	2°F ~ 30°F	10°F	Adjustable
31	Ambient temperature too low protection setting	-22°F ~ 50°F	14°F	Adjustable
32	Domestic hot water tank temp. Actual testing value			Adjustable
33	Water inlet temp. Actual testing value			Actual testing value
34	Water outlet temp. Actual testing value			Actual testing value
35	Indoor environment temp. Actual testing value			Actual testing value
36	Outdoor environment temp. Actual testing value			Actual testing value
37	System coil temp. Actual testing value			Actual testing value
38	System discharge temp. Actual testing value			Actual testing value
39	Solar collector temp. Actual testing value			Actual testing value

This Instruction applies to SunPump for 2014-15 AC Single-Speed 7, 14, or 21 kW Model SP2.2

For Service Support questions - please add your Values to the table right edge and post to your Ticket opened at: <https://sunpump.freshdesk.com/support/login>