

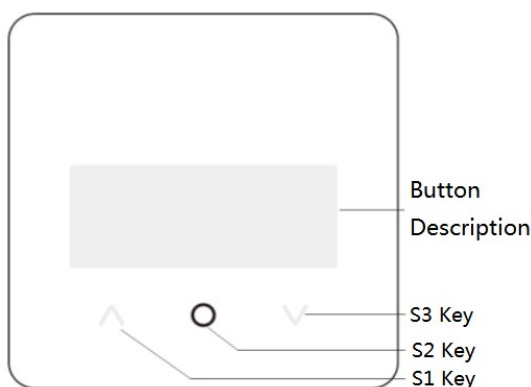
MH3900 User Manual

1. Description



MH3900 is our new released smart heating thermostat, it can automatically detect the indoor temperature and display the relevant temperature value for heating control. It also can automatically turn on/off the heating system according to the temperature difference. The device can be remotely controlled by Z-Wave network.

2. Display interface and button description



3. Function Settings

➤ Power on/off



Power ON: Under OFF interface, long press S2 key to power it up, thermostat enter in normal working interface.

Power OFF: Under normal working interface, long press S2 button to power it off, all output force OFF.





Temperature Setting

Under normal working interface, press S1 or S3 to modify the setting temperature, then press S2 as confirm or after 5sec without any operation, it will back to the normal working interface. The temperature setting range is 5-37°C.

➤ S2 Key function

- 1) **Z-wave network state:** Under normal working interface, press S2 key to enter in Z-wave network state interface, if shows  means the device is included in the network, if shows  means the device is not included in the network. Press S2 to switch to the next item or press S1/S3 to back to the normal working interface.

Note: If the device is not with Z-wave function, then the above interface will not display.


- 2) **Output state:** Under normal working interface, press S2 twice to enter in the output state interface, if shows  means output state is ON, if shows  means output state is OFF, press S2 to switch to the next item or press S1/S3 to back to the normal working interface.
- 3) **Mode selection:** Under normal working interface, press S2 three times to enter into Mode Selection interface, press S1 or S3 to select mode. Interface shows  means it is in Manual Mode, shows  means Energy Saving mode. After setting, press S2 to switch to the next item or after 5sec without any operation, it will back to the normal working interface.
- 4) **LED Standby brightness setting:** Under normal working interface, press S2 four times to enter into LEDstandby brightness setting interface, press S1 or S3 to modify the brightness, there are 3 brightness level can be set (All dark: Semi-bright: Full bright:) After setting, press S2 to switch to the next item or after 5sec without any operation, it will back to the normal working interface.

➤ Mode settings

Manual mode: The device control the room temperature by manual.

Room temperature ≤ Setting temperature + 1°C, Output ON;

Room temperature ≥ Setting temperature - 1°C, Output OFF

Energy-Saving mode: Normal working interface display  and indoor temperature. Press S1/S3 can set the device opening time, 20min for a period, set range: 1-20min.

Note: This mode will not follow the setting temperature and the difference of indoor temperature to turn ON/OFF the device.

4. Z-Wave Operation

Include or Exclude from Z-wave network

Under normal working interface, long press S1+S3 to enter in Z-wave Inclusion/Exclusion interface, interface shows the current Node ID (If shows "- - -" then means the device is not included in the network). Short press S2, the device enter into learning mode, after learning mode is completed, the device shows Node ID. **(Note: According to Node ID display state, we can learn whether the device is included into Z-Wave network or not)**

- During Z-wave network learning period, long press S1+S3, it will force to quit Z-Wave learning state, then back to the normal working interface.
- Under Z-wave setting interface, if the device is not entering in learning state, z-wave Node ID will not blink, press S1 or S3 back to the normal working interface.

Z-Wave commands supported:

COMMAND_CLASS_ZWAVEPLUS_INFO,
 COMMAND_CLASS_SENSOR_MULTILEVEL_V5,
 COMMAND_CLASS_THERMOSTAT_SETPOINT,
 COMMAND_CLASS_THERMOSTAT_MODE,
 COMMAND_CLASS_CONFIGURATION,
 COMMAND_CLASS_ASSOCIATION,

COMMAND_CLASS_ASSOCIATION_GRP_INFO,
 COMMAND_CLASS_TRANSPORT_SERVICE_V2,
 COMMAND_CLASS_VERSION,
 COMMAND_CLASS_MANUFACTURER_SPECIFIC,
 COMMAND_CLASS_POWERLEVEL,
 COMMAND_CLASS_DEVICE_RESET_LOCALLY,

COMMAND_CLASS_SECURITY_2,
 COMMAND_CLASS_SUPERVISION
 COMMAND_CLASS_BASIC,
 COMMAND_CLASS_THERMOSTAT_OPERATING_STATE,

COMMAND_CLASS_WAKE_UP,
 COMMAND_CLASS_BATTERY,
 COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2

5. Technical Parameters

Power supply	AC/DC24V or 1.5V AAA battery*3 dry battery	Dimention	104*104*20mm	Accuracy	0.1°C
Material	Tempered glass+PC alloy	Temperature setting range	5-37°C	Wiring connection	Wiring terminals
Capacitive	1A	Display	White LED array display		

6. Z-Wave Parameters Settings:

Add	Function	Byte	Options	Default	Remark
1	Upload temperature automatically	1	0x00 OFF 0x01 Upload the difference value only 0x02 Timer upload mode only 0x03 Upload the difference+timer upload mode	0x01	
2	Upload temperature difference	2	Base on 0.1°C unit, 0x0005 by default, 5*0.1°C=0.5°C, 0x0003~0x03E8	0x0005	0.5°C
3	Upload time interval regularly	2	Base on 1s unit, it suggest to be set above 30s 0x000A~0xFFFF	0x003c	30S
7	Heating period setting(Energy Saving Mode)	1	unit:min, range:10-120, default:20, step value:1	20	
8	Heating Time	1	Heating time should be less than P07 value. (unit:min, range:10-120, default:20, step value:1)	3	

7. Wiring Diagram

