MH3901-Z Thermostat

User Manual

Introduction

MH3901-Z is a smart boiler thermostat, it can automatically detect the indoor temperature and display the relevant temperature value for boiler 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.

Technical Parameters

- **Power Supply:** AC/DC 9-24V
- **Capacitive:** 0.5A
- **Display:** White LED array
- **Temp. Setting Range**: 5-37℃
- **Accuracy:** 0.1℃
- **Outcase**: Tempered glass + PC alloy
- **Dimension**: 104*104*20mm
- **Installation**: 60.3mm hole pitch
- **Active Element:** Relay switch μ
- **Maximum Transmitting Power:** +3dBm
- **Z-Wave Frequency:** Operating frequency range, defined by the regulatory bodies (for Z-wave in Europe: 868.0 - 868.6MHz, 869.7 - 870.0 MHz)

- **Declaration of Conformity**

Hereby, MCOHome declares that the device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

- **WEEE Directive Compliance**

The device marked with this symbol should not be disposed of with household waste. It is the user's responsibility to deliver the used appliance to a designated recycling point.

- **Z-Wave Compliance**

MCOHome thermostat is a fully compatible Z-Wave Plus device.

Important Safety Information

Read the instructions before starting up the unit!

This product is not a toy. Keep out of reach of children and animals!

Do not expose the device to moisture, water or other liquids. Do not place liquids near or on the device!

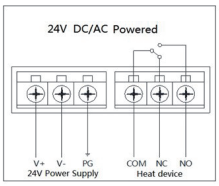
Do not attempt to disassemble, repair or modify the device yourself!

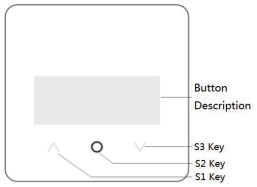
This product is for indoor use only. Do not use outdoors!

CAUTIONS!

Risk of Electric Shock - More than one disconnect switch may be required to de-energize the equipment before servicing.

Wiring Diagram & Display Functions





Functions

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℃.

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.

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

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 Setting

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

Room temperature≤Setting temperature+ 1℃，Output ON;
Room temperature≥Setting temperature - 1℃，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.**

Z-Wave Operation

Including & Excluding of 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.

Command Class supported by the device:

COMMAND_CLASS_ZWAVEPLUS_INFO, COMMAND_CLASS_MANUFACTURER_SPECIFIC,

COMMAND_CLASS_SENSOR_MULTILEVEL_V5, COMMAND_CLASS_POWERLEVEL, COMMAND_CLASS_THERMOSTAT_SETPOINT, COMMAND_CLASS_DEVICE_RESET_LOCALLY, COMMAND_CLASS_THERMOSTAT_MODE, COMMAND_CLASS_SECURITY_2, COMMAND_CLASS_CONFIGURATION, COMMAND_CLASS_SUPERVISION COMMAND_CLASS_ASSOCIATION, COMMAND_CLASS_BASIC, COMMAND_CLASS_ASSOCIATION_GRP_INFO, COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2 COMMAND_CLASS_TRANSPORT_SERVICE_V2, COMMAND_CLASS_THERMOSTAT_OPERATING_STATE, COMMAND_CLASS_VERSION,

Association Group

Group NO.	Max NO.	Command	Triggering Conditions
1	1	COMMAND_CLASS_DEVICE_RESET_LOCALLY, DEVICE_RESET_LOCALLY_NOTIFICATION	255 parameter setting value 39030
		COMMAND_CLASS_SENSOR_MULTILEVEL_V5, SENSOR_MULTILEVEL_REPORT_V5	When parameter set to 1, the amount of temperature change is greater than the parameter setting value of No. 2. When parameter set to 2, the time interval is greater than the setting value of parameter No. 3. When parameter set to 3, the temperature change amount is greater than the parameter setting value of No. 2, or the time interval is greater than the setting value of parameter No. 3.
		COMMAND_CLASS_THERMOSTAT_MODE_V2, THERMOSTAT_MODE_REPORT	Device mode changes
		COMMAND_CLASS_THERMOSTAT_OPERATING_STATE, THERMOSTAT_OPERATING_STATE_REPORT	Device status changes
		COMMAND_CLASS_THERMOSTAT_SETPOINT_V2, THERMOSTAT_SETPOINT_REPORT_V2	
2	5	COMMAND_CLASS_BASIC,BASIC_SET	Device status changes

Z-Wave Parameter Setting

Number	Function	Size	Description	Default	Possible Values
1	Automatic Temperature Value Reporting	1	**0:** OFF **1:** Only report the difference, the current temperature and the last temperature of a certain value to trigger the reporting **2:** Regular reporting only **3:** Difference reporting + Interval reporting	1	0-3
2	Temperature Difference Setting	2	Base on 0.1℃unit: n *0.1℃=0.5℃,	5	3-995
3	Timed Report Intervals	2	Base on 1s unit, it suggest to be set above 30s	60	10-32767
4	Humidity Difference Reporting	1	**0x00:** Disabled **1-99:** A humidity difference value greater than this will be automatically reported to the gateway.	3	0-99
5	Association 2 SET Command Retransmission Times	1	**0:**Not resend **1-127:**Resend times	3	0-127
7	Secret Menu P07	1	**Heating period setting unit:** min, range:10-120, **default:**20, step value:1	20	10-120
8	Secret Menu P08	1	Heating time should be less than P07 value.(unit: min, range:10-120, default:20, step value:1)	3	10-120
255	Factory Reset	2	**17185:** Restore default complex parameters **39030:** Restore factory settings	0	17185,39030

1-Year Limited Warranty

We warrant this device to be free from defects in material and workmanship under normal and proper use for one year from purchase date of the original purchaser. We will, at its option, either repair or replace any part of its products that prove defective by reason of improper workmanship or materials. THIS LIMITED WARRANTY DOES NOT COVER ANY DAMAGE TO THIS PRODUCT THAT RESULTS FROM IMPROPER INSTALLATION, ACCIDENT, ABUSE, MISUSE, NATURAL DISASTER, INSUFFICIENT OR EXCESSIVE ELECTRICAL SUPPLY, ABNORMAL MECHANICAL ORENVIRONMENTAL CONDITIONS, OR ANY UNAUTHORIZED DISASSEMBLY, REPAIR OR MODIFICATION. This limited warranty shall not apply if: (i) the product was not used in accordance with any accompanying instructions, or (ii) the product was not used for its intended function. This limited warranty also does not apply to any product on which the original identification information has been altered, obliterated or removed, that has not been handled or packaged correctly, that has been sold as second-hand or that has been resold contrary to Country and other applicable export regulations.