Micro Switch

MH-S220-EU

Introduction

MCOHome Micro Switch MH-S220-EU is a Z-Wave enabled module that can be set in existing in-wall switches. It supports basic command class, and also can act as a repeater in Z-Wave network. This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers.

Specifications

Power supply: 220V 50Hz

Max output: 10A (Zero-crossing switch)

Dimension：44 *38 *17mm (L *W *H)
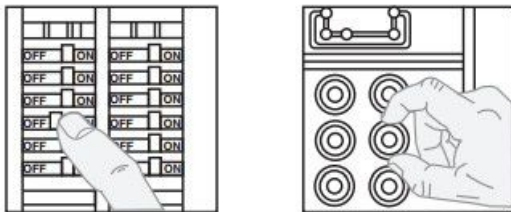
Load Type: Incandescent

Installation Instructions

IMPORTANT:
- A qualified electrician with the understanding of wiring diagrams and knowledge of electrical safety should complete the installation inside the main circuit box (normally outside your house)
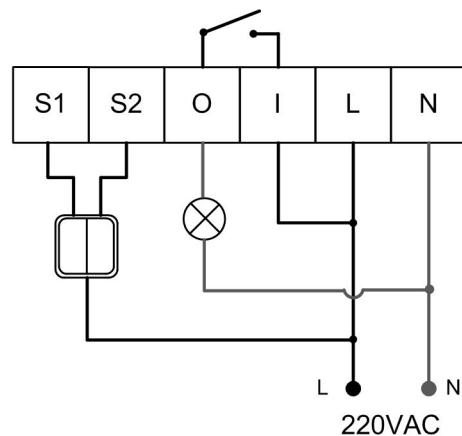- Read all instructions and documentation and save for future reference

Step1 Preparing

CAUTION: Cut off power supply at circuit breaker or fuse before installation to avoid fire, shock or death!

1. Remove the wall switch cover plate.
2. Disconnect both wires from the wall switch.

Step2 Wiring (standard strip length: 6-7mm)

1. Connect Hot Line to "L".
2. Connect Neutral Line to "N".
3. Connect "I" with "L".
4. Connect "O" with load and then with "N".
5. Connect "S1", "S2" with external switch separately, and then with "L" .

Step3 Mounting In-Wall Box

Mount wall switch and cover plate back to the in-wall box.

Step4 Restoring Power

Restore power at circuit breaker or fuse. Installation is complete.

Operation

INCLUDING the Micro Switch into your network:
1. Set the controller into INCLUSION mode. Follow the instructions provided by the controller manufacturer.
2. Press the ON/OFF/PROGRAM button on the Micro Switch.

Note: If the inclusion is successful, the Micro Switch INDICATION LED will be solid on or off depending on switch's state. If not, INDICATION LED will blink slowly.

EXCLUDING the Micro Switch from your network:
1. Set the controller into EXCLUSION mode. Follow the instructions provided by the controller manufacturer.
2. Press the ON/OFF/PROGRAM button on the Micro Switch.

Note: If the exclusion is successful, the Micro Switch INDICATION LED will blink slowly. If not, INDICATION LED will be solid on or off depending on switch's state.

Turning on/off the Micro Switch

The Micro Switch can be controlled by:
● Toggling/pressing external switch/Button.
● Sending commands through controller or gateway.（the command classes which support this function are Basic Command Class, Binary Switch Command Class, and Scene Activation Command Class）

Multi-channel control

The module can be controlled by command "MULTI_CHANNEL_ENCAP" in the command class "COMMAND_ CLASS_MULTI_CHANNEL".

Byte	Content
1	Command Class = COMMAND_CLASS_MULTI_CHANNEL
2	Command = MULTI_CHANNEL_CMD_ENCAP
3	Source End Point
4	Destination End Point
5	Command Class = COMMAND_CLASS_SWITCH_BASIC or COMMAND_CLASS_SWITCH_BINARY
6	Command = BASIC_SET or BASIC_GET or BINERY_SET or BINERY_GET
7	Value(0xFF -- ON 0x0 -- OFF)

Refer to "Z-Wave Command Class Specification" for detail information, or consult the information provided by controller/ gateway manufacturer.

Multi Channel Association

To set association groups by the command "COMMAND_CLASS_MULTI_CHANNEL_ ASSOCIATION".

The module supports 3 association groups. The first two groups are used for switching associated devices（switch N controlling group N），and each group can support up to 5 nodes or terminals. The 3rd association group is used for reporting devices' state to the controller if any changes happen. This group supports one node, which defaults to controller node.

For the first two groups, the touch panel switch will send basic set command to related association groups when setting switch state by gateway or key-pressing. Then the switch states of associated devices and their related key will be synchronic. For the 3rd group, a report will be sent to associated controller by it when any state changes happen in other groups.

Switch parameters setting

Add	Config function	Byte	Options	Default	Remark
1	Switch state saved or not when power down	1	**0x00** not saved，switch will be off when powered again **0x01** saved，switch will keep the same state when powered again	0x01	Parameters of External switches
2	External switch type	1	**0x00** Button (Momentary buttons) **0x01** Toggle (2-state switches)	0x01	
3	2-state switches	1	**0x00** for the toggle switch without specified on/off position **0x01** for the toggle switch with specified on/off position	0x01	
4	Report from Switch 1 to Association Group 1	1	**0x00** report ON/ OFF operation of Switch 1 to AG 1 **0x01** only report ON operation of Switch 1 to AG 1 **0x02** only report OFF operation of Switch 1 to AG 1	0x00	Parameters of Switch 1
5	OFF timer	1	**0x00** forbid manually operation **0x01** allow manually operation	0x01	
6	Timing function	2	**0x0000** Off **0x0001~0xFFFF** 0.1s~6553.5s (100ms unit)	0x0000	
7	Operation mode of Switch 1	1	**0x00** switching immediately **0x01** Zero-crossing switch	0x00	

8	Operation report from Switch 2 to Association Group 2	1	**0x00** report ON/ OFF operation of Switch 2 to AG 2 **0x01** only report ON operation of Switch 2 to AG 2 **0x02** only report OFF operation of Switch 2 to AG 2	0x00	Parameters of Switch 2
FF	Factory setting	1	**0x55** restore factory setting	0x00	

Restoring Factory Settings

The default configuration can be restored by:

● Sending commands through controller or gateway (the command classes which support this function is Configuration Command Class). The parameter are as follows:

Parameter Number	0xFF
Size	1 BYTE
Default value	N/A
Configuration value	0x55

Set 0xFF as 0x55 will restore Factory Settings.

● Pressing and Holding the ON/OFF/PROGRAM button for 15s.

Note：If the Factory Settings is restored successfully, INDICATION LED will blink quickly and then become slower.

SAFETY NOTICE

1. Flush-mount only into a UL/ETL/CE certified plastic junction box and switch panel cover. The minimum size should be 65*65*42mm, minimum Volume is 180cm^3.

2. Use Copper Conductors Only.

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

4. WARNING-This device shall not be used in combination with a wall switch controlling a receptacle.

1-year Limited Warranty

MCOHome warrants this product to be free from defects in material and workmanship under normal and proper use for one year from purchase date of the original purchaser. MCOHome 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 OR ENVIRONMENTAL 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.