

Micro Combo Switch

MH-S222

VI.1



Declaration of Conformity



Hereby, we declare 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



The micro combo switch is a fully compatible Z-Wave Plus device.

Important Safety Instruction



Read the instructions before starting up the unit!



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



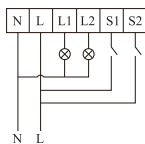
Do not expose the device to moisture, water or other liquids. Do not place liquids near or on the device!

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Wiring (standard strip length: 6-7mm)

1. Connect Live Line to “L”.
2. Connect Neutral Line to “N”.
3. Connect Load wires to “L1, L2”.
4. External switch connection:

Connect two switches with two terminals of “S1,S2”



Mounting In-Wall Box

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

Restoring Power

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

Operation

INCLUSION/EXCLUSION From Z-Wave Network:

1. Set controller into Add/Remove mode. Follow the instructions provided by the controller/gateway manufacturer.
2. Press the momentary button on the device, or the connected external button S1 3 times in quick succession.
Note: If the INCLUSION/EXCLUSION is successful, the INDICATION LED will be solid on or off depending on switch's state. If not, INDICATION LED will blink slowly.

Turn On/Off The Device:

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Introduction

Micro Combo Switch is a smart wall switch module that can control light source via Z-Wave network, you can install it with traditional switch for both local and remote control. It supports basic command classes, and can act as a repeater in the 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:** AC85~260V, 50/60Hz
- **Z-Wave Frequency:** Operating frequency range, defined by the regulatory bodies (for Z-wave in Europe: 868.0 - 868.6 MHz, 869.7 - 870.0 MHz)
- **Maximum Transmitting Power:** +3dBm
- **Dimension:** 44 *38 *17mm (L *W *H)
- **Zero-cross detection**
- **Support S2 security**

Supported Load Type		Output
	Resistive loads Conventional incandescent And halogen light sources	Max 2*5A
	Resistive-capacitive loads Fluorescent tube lamp (compact/with electronicballast), electronic transformer, LED	Max 2*1.5A
	Resistive-inductive loads Ferromagnetic transformers	Max 2*1.5A

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



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



CAUTIONS!

Flush-mount only into a UL/ETL/CE certified plastic junction box. The minimum size should be 65*65*42mm, minimum Volume is 180cm³. Use Copper Conductors Only.



CAUTIONS!

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

Installation

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.

Preparing

CAUTION:

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

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The device 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 Multi_Channel_Command_Class)

Multi Channel Control:

The module can be controlled by command “MULTI_CHANNEL_ENCAP” in the command class “COMMAND_CLASS_MULTI_CHANNEL”.(This device supports two End Point.)

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 BINARY_SET or BINARY_GET
7	Value(0xFF -- ON 0x0 -- OFF)

Multi Channel Association:

To set association groups by “COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION”. Refer to “Z-Wave Command Class Specification” for detail information, or consult the information provided by controller/gateway manufacturer.

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AG Identifier (Root)	Max Node	Mapped Endpoint Group	Command Class	Trigger Situation
1	1(EPs Max node is 0)	all endpoints	COMMAND_CLASS_DEVICE_RESET_LOCALLY,DEVICE_RESET_LOCALLY_NOTIFICATION	Internal button quickly and continuously taps 10 times or configuration parameter No. 255 setting value 85
		all endpoints	COMMAND_CLASS_SWITCH_BINARY , SWITCH_BINARY_REPORT	Tap any touch button and configure parameter number 07 to be 0
		all endpoints	COMMAND_CLASS_BASIC , BASIC_REPORT	Tap any touch button and configure parameter number 07 to be 1
2	5	EP1 group 2	COMMAND_CLASS_BASIC,BASIC_SET	The first relay status changes
3	5	EP2 group 2	COMMAND_CLASS_BASIC,BASIC_SET	The second relay status changes

Root device:

- The gateway controls the root device to open, all end points will open
- The gateway controls the root device to close, all end points will close
- When End Point 1 opened, it will report opening status to root device.
- When End Point 1 closed, it will report closing status to root device.

Association:

The device supports 3 association groups (AG):

AG Identifier	Max Node ID	Command Class	Trigger Situation
1	1	COMMAND_CLASS_DEVICE_RESET_LOCALLY, DEVICE_RESET_LOCALLY_NOTIFICATION	Internal button quickly and continuously taps 10 times or configuration parameter No. 255 setting value 85
		COMMAND_CLASS_SWITCH_BINARY , SWITCH_BINARY_REPORT	Tap any touch button and configure parameter number 07 to be 0
		COMMAND_CLASS_BASIC , BASIC_REPORT	Tap any touch button and configure parameter number 07 to be 1
2	5	COMMAND_CLASS_BASIC,BASIC_SET	The first relay status changes
3	5	COMMAND_CLASS_BASIC,BASIC_SET	The second relay status changes

Scene Function:

As a Scene device, it supports “Scene Activation CC” and “Scene Actuator Conf CC” ,which make the device can be added into any scene , and supports 255 Scene ID. In parameter item 14, users can configure which external switch (S1 or S2) will respond the scene CC. Meanwhile, it can work as a scene controller to activate Scenes. By configuring the parameters of S2, 3 different scenarios can be realized. The “Scene Activation CC” can be sent to 255(broadcast) by “one click”, “double click” or “hold” external button S2. Please refer to the following table items 11, 12&13 for more details in configuration.

Parameters Setting:

Number	Function	Size	Description	Default	Possible Values
1	Switch State Saved Or Not When Power Failure	1	0:Not saved, switch will be off when powered again 1:Saved, switch will keep the same state when powered again	1	0-1
2	External Switch Type	1	0:Button (Momentary buttons) 1:Toggle (2-state switches) 2: S1 for momentary switch, S2 for toggle switch 3: S1 for toggle switch, S2 for momentary switch	0	0-3
3	2-State Switch	1	0:For the toggle switch without specified on/off position 1:For the toggle switch with specified on/off position	1	0-1
4	Timer(Auto-Off)	1	0:Forbid manual operation when timer activated 1:Allow manual operation	1	0-1
5	Timer Function (Auto-Off)	2	0: Disabled 1~32767: n*0.1S automatic turn off the load	0	0-32767
7	Active Reporting Command Selection	1	0: SWITCH_BINARY_REPORT 1: BASIC_REPORT	0	0-1
8	Operation Report From Switch1 To Association Group2	1	0: Report ON/OFF state of S1 to AG2 1: Only report ON state of S1 to AG2 2: Only report OFF state of S1 to AG2 255: No report to AG 2	0	0-2, 255
9	Switch2 Function	1	1: Enable Scene Activation & send Basic ON/OFF to associated devices 2: Scene Activation only 3: Send Basic ON/OFF only 255: Disable S2 Function	1	1-3, 255
10	Operation Report From Switch2 To Association Group3	1	0: Send Basic ON or Basic OFF to AG3 when turn on/off S2 1: Only send Basic ON when turn on S2 2: Only send Basic OFF when turn off S2 255: No report to AG 3	0	0-2, 255
11	Scene ID Sent To AG1 When One Click Of S2	1	0: Scene Activation disabled 1~255: Send Activation CC to AG1 with specified Scene ID	0	0-255
12	Scene ID Sent To AG1 When Double Click Of S2	1	0: Scene Activation disabled 1~255: Send Activation CC to AG1 with specified Scene ID	0	0-255
13	Scene ID Sent To AG1 When Hold S2	1	0: Scene Activation disabled 1~255: Send Activation CC to AG1 with specified Scene ID	0	0-255
14	Scene Respond	1	0:S1 and S2 both respond Scene CC 1:Only S1 respond 2:Only S2 respond	0	0-2
255	Factory Setting	1	85:Restore factory setting	0	0, 85

Restoring Factory Settings:

The default configuration can be restored by:

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

Parameter Number	255
Size	1 BYTE
Default value	N/A
Configuration value	85

Set 255 as 85 will restore Factory Settings.

- Quickly and continuously touch the internal button 10 times

Note: If the Factory Settings is restored successfully, INDICATION LED will blink slowly.

1-year Limited Warranty

We warrant 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. 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 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.