

# Touch Panel Switch

510 Series

## Introduction

Touch Panel Switch is a wall panel built-in with Z-Wave Plus module. With its stylish design and stable performance, the panel can be used to control house-hold electrical appliances like lamp, motor, coffee machine, TV set etc. It supports basic command class, multi channel command class and multi channel association command class, also works as a repeater in a 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: 85~260VAC, 50/60Hz
- Z-Wave frequency: 908.42MHz (US), 921.4MHz (AU) or other frequency customized

Item	Models	Max Load
510 series	MH-S511	1*5A
	MH-S512	2*5A
	MH-S513	3*5A
	MH-S511H	1*10A

Note: If an inductive load wired, please choose model MH-S511H. (LED load: <10A, inrush current<165A/ 20ms)

## 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.

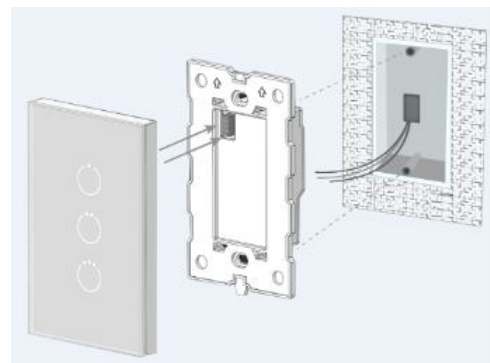
### Step1 Preparing

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

### Step2 Installation

**Step 1:** Separate the device into two parts: the touch panel and the bottom.

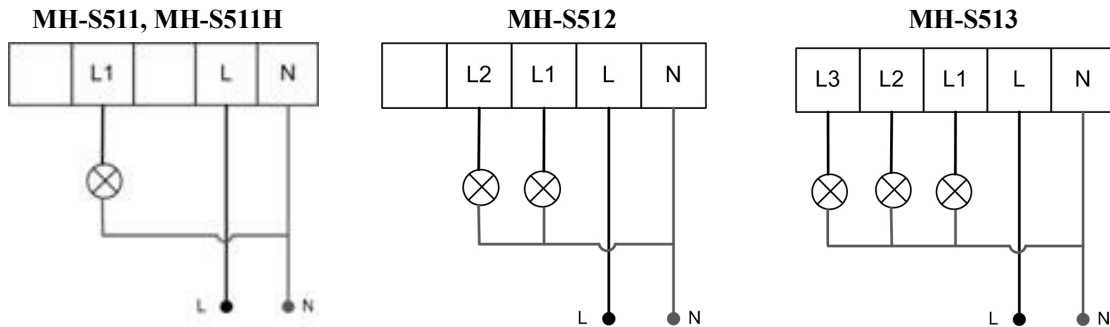
**Step 2:** Insert all wires into the right terminals by following the wiring diagrams as below, and tighten screws.



**Step 3:** Secure the bottom part onto a junction box with screws, and then mount the touch panel back.

**Step 4:** Confirm the device is well mounted, power on and it is ready to operate.

**Wiring** (standard strip length: 6-8mm)



## Operation

### INCLUDING the device into Z-Wave network:

1. Set controller into INCLUSION mode. Follow instructions provided by controller manufacturer.
2. Press and hold any key on the panel for 8 seconds or 3 clicks in quick succession.

Note: If inclusion is successful, all INDICATION LEDs on the panel will flash 4 times.

### EXCLUDING the device from Z-Wave network:

1. Set controller into EXCLUSION mode. Follow instructions provided by controller manufacturer.
2. Press and hold any key on the panel for 8 seconds or 3 clicks in quick succession.

Note: If the exclusion is successful, all INDICATION LEDs on the panel will flash 4 times. The exclusion will delete all association data.

### Turning on/off the device:

The device can be controlled by:

- Pressing any key.
- Sending commands through controller or gateway. (the command classes which support this function are Basic Command Class, Binary Command Class, Switch All Command Class, and Multi Channel Command Class.)

### Multi Channel Control:

The switch can be controlled by command “MULTI\_CHANNEL\_ENCAP” in the command class “COMMAND\_CLASS\_MULTI\_CHANNEL”.

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

Byte	Name
1	COMMAND_CLASS_MULTI_CHANNEL
2	MULTI_CHANNEL_CMD_ENCAP
3	Source End Point
4	Destination End Point
5	COMMAND_CLASS_SWITCH_BASIC or COMMAND_CLASS_SWITCH_BINARY
6	BASIC_SET/BASIC_GET or BINARY_SET/BINARY_GET
7	Value ( 0xFF -- ON 0x0 -- OFF )

### Multi Channel Association:

To set association groups by the command “COMMAND\_CLASS\_MULTI\_CHANNEL\_ASSOCIATION”.

The device supports several (key numbers +1) association groups (AG). The 1<sup>st</sup> AG is used for reporting devices’ state to the controller if any changes happen. This group supports one Node, which suggested to be controller Node. The rest AGs are used for switching associated devices, and they can support up to 5 nodes each.

AG NO.	Function	Explanation
0x01	Associate with gateway	Send unsolicited reports to the gateway
0x02	Associate with Key 1	send Basic Set Command to associated devices
0x05	Associate with Key 2 if any	
0x08	Associate with Key 3 if any	

### Multi-panels (up to 5 ) controlling one load:

For example: Five MH-S511s and their Node IDs are: A-012, B-013, C-014, D-015, E-016

1. Wire the load to any of the panel.
2. Put all the other 4 panels NIDs: 013,014,015,016 into **A**’s AG 0X02
3. Put all the other 4 panels NIDs: 012,014,015,016 into **B**’s AG 0X02
4. Put all the other 4 panels NIDs: 012,013,015,016 into **C**’s AG 0X02
5. Put all the other 4 panels NIDs: 012,013,014,016 into **D**’s AG 0X02
6. Put all the other 4 panels NIDs: 012,013,014,015 into **E**’s AG 0X02

### Scene Function:

1. Scene Response Device

As a Scene Response 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 0x10, users can configure which external switch button will respond the scene CC.

2. Scene Activate Device

As a Scene Activate device, when pressing the switch button, it will send “Scene Activation” to Association Group 1 (normally associated to the gateway) to activate corresponding scenes, and the scene ID is set by configuration parameter. This function is disabled by default, to activate it, please refer to the configuration parameter table item 0x11-0x19.

3. Central Scene Activate Device

As a Central Scene Activate device, it supports “Central Scene CC”. When pressing the switch button, it will send “Central Scene Notification” to Association Group 1 (normally associated to gateway). This function is always being activated and cannot be disabled.

### Parameters Setting:

Add	Function	Byte	Options	Default	Remark
0x01	Reserve				.

0x02	Switch state saved or not when power failure	1	<b>0x00</b> not saved, switch will be off when powered again <b>0x01</b> saved, switch will keep the same state when powered again	0x01	
0x03	ALL ON/ALL OFF	1	<b>0x00</b> forbid ALL ON, forbid ALL OFF <b>0x01</b> forbid ALL ON, allow ALL OFF <b>0x02</b> allow ALL ON, forbid ALL OFF <b>0xFF</b> allow ALL ON, allow ALL OFF	0xFF	
0x04	LED Backlit brightness level	1	<b>0x00</b> LED disabled <b>0x01~0x0A</b> Min level-Max level <b>&gt;0x0A</b> same level as 0x0A	0x0A	
0x05	Key Mode	1	<b>0x00</b> single click to switch on/off status <b>0x01</b> Key default as off state. When it is turned on, then it will be turned off automatically after a time period, which can be set in item 0x06 <b>0x02</b> Key default as on state. When it is turned off, then it will be turned on automatically after a time period, which can be set in item 0x06 <b>0x03</b> hold >3s then key is on, and off once released <b>0x04</b> single click to switch on/off status + hold >3s then key is on, and off once released	0x00	This function works for corridor or stairwell situation.
0x06	Key On duration	2	<b>0x00</b> infinite <b>1~65535</b> unit "sec"	0x00	

0x08	Basic CC integration setting	1	<p><b>0x00</b> "Basic Set" received, key 1 responds; "Basic Get" received, key 1 sends "Basic Report"; key 1 <b>will not</b> send unsolicited "Basic Report" (No Endpoint) to LifeLine Association</p> <p><b>0x01</b> "Basic Set" received, key 1 responds; "Basic Get" received, key 1 sends "Basic Report"; key 1 will send unsolicited "Basic Report" (No Endpoint) to LifeLine Association</p> <p><b>0x02</b> "Basic Set" received, all keys respond; "Basic Get" received, not reply "Basic Report"; All keys <b>will not</b> send unsolicited "Basic Report" (No Endpoint) to LifeLine Association</p> <p><b>0x03</b> "Basic Set" received, all keys respond; "Basic Get" received, key 1 sends "Basic Report"; All keys will not send unsolicited "Basic Report" (No Endpoint) to LifeLine Association</p>	0x00	This parameter works for integration with different gateways/systems. If do not know how to use, pls keep as default.
0x10	Scene respond	1	<p><b>0x00:</b> Scene respond disabled</p> <p><b>Bit0:</b> =1 Key1 respond scene =0 Key1 not respond scene</p> <p><b>Bit1:</b> =1 Key2 respond scene =0 Key2 not respond scene</p> <p><b>Bit2:</b> =1 Key3 respond scene =0 Key3 not respond scene</p> <p><b>Bit7:4</b> Rev</p>	0x00	
0x11	Key1 Scene Activate Mode Setting	1	<p><b>0x00</b> Scene activate function disabled</p> <p><b>0x01</b> One click key1 always activate scene ID1 no matter what the status of key1 is.</p> <p><b>0x02</b> One click key1, only activate scene ID1 when key1's relay output is open</p> <p><b>0x03</b> One click key1, only activate scene ID1 when key1's relay output is close</p>	0x00	
0x12	Key1 Activate Scene ID	1	<p><b>0x00</b> Scene ID is invalid and will not send scene activate command.</p> <p><b>1~255</b> Scene ID</p>	0x00	

0x13	Key1 Activate Scene Duration	1	<b>0x00</b> Instantly 0x01~0x7F: Dimming durations from 1 second (0x01) to 127 seconds (0x7F) in 1-second resolution 0x80~0xFE: Specify dimming durations from 1 minute (0x80) to 127 minutes (0xFE) in 1-minute resolution.	0x00	
0x14	Key2 Scene Activate Mode Setting	1	<b>0x00</b> Scene activate function disabled <b>0x01</b> One click key2 always activate scene ID1 no matter what the status of key2 is. <b>0x02</b> One click key2,only activate scene ID1 when key2's relay output is open <b>0x03</b> One click key2,only activate scene ID1 when key2's relay output is close	0x00	
0x15	Key2 Activate Scene ID	1	<b>0x00</b> Scene ID is invalid and will not send scene activate command. <b>1~255</b> Scene ID	0x00	
0x16	Key2 Activate Scene Duration	1	<b>0x00</b> Instantly 0x01~0x7F: Dimming durations from 1 second (0x01) to 127 seconds (0x7F) in 1-second resolution 0x80~0xFE: Specify dimming durations from 1 minute (0x80) to 127 minutes (0xFE) in 1-minute resolution.	0x00	
0x17	Key3 Scene Activate Mode Setting	1	<b>0x00</b> Scene activate function disabled <b>0x01</b> One click key3 always activate scene ID1 no matter what the status of key3 is. <b>0x02</b> One click key3,only activate scene ID1 when key3's relay output is open <b>0x03</b> One click key3,only activate scene ID1 when key3's relay output is close	0x00	
0x18	Key3 Activate Scene ID	1	<b>0x00</b> Scene ID is invalid and will not send scene activate command. <b>1~255</b> Scene ID	0x00	
0x19	Key3 Activate Scene Duration	1	<b>0x00</b> Instantly 0x01~0x7F: Dimming durations from 1 second (0x01) to 127 seconds (0x7F) in 1-second resolution 0x80~0xFE: Specify dimming durations from 1 minute (0x80) to 127 minutes (0xFE) in 1-minute resolution.	0x00	

0x20	Scene respond ID 1-50	1	<b>0x00:</b> Scene respond disabled <b>Bit0:</b> =1 Key1 respond scene =0 Key1 not respond scene <b>Bit1:</b> =1 Key2 respond scene =0 Key2 not respond scene <b>Bit2:</b> =1 Key3 respond scene =0 Key3 not respond scene <b>Bit7:4</b> Rev	0x00	Valid only when the default is 0X00 for parameter 0X10
0x21	Scene respond ID 51-100	1		0x00	
0x22	Scene respond ID 101-150	1		0x00	
0x23	Scene respond ID 151-200	1		0x00	
0x24	Scene respond ID 201-250	1		0x00	
FF	Factory setting	1	<b>0x55</b> restore factory setting		write only

### Restoring Factory Settings

Press 10 times of any button or exclude the device from Z-Wave network, the factory setting will be restored.

### SAFETY NOTICE

1. Flush-mount only into a UL/ETL/CE certified plastic junction box and switch panel cover. The minimum size should be 90\*60\*50mm, minimum Volume is 270cm<sup>3</sup>.
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.

#### FCC Warning (Part 15.21) (USA only)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### FCC Interference Statement (Part 15.105 (b)) (USA only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### 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.