

Dimmer Switch

MH-DT411

Introduction

Dimmer 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 the light level. 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
- Output: 1* 20-200W
- Z-Wave frequency: 868.42MHz(EU), 908.42MHz(US), 921.4MHz(AU) or other frequency customized

Installation Instructions

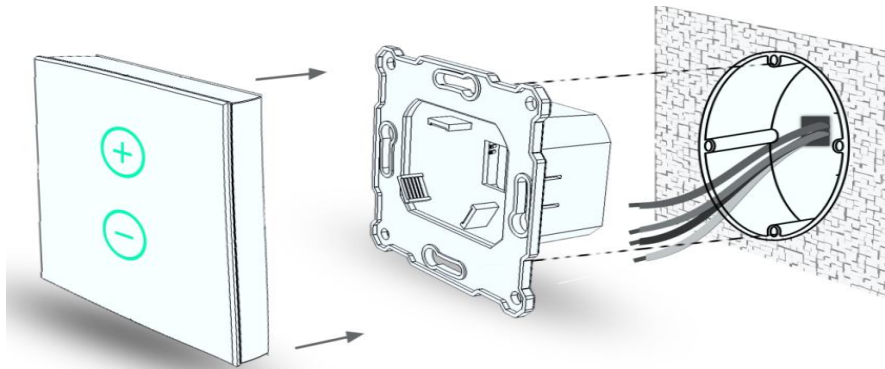
IMPORTANT:

- 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.

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

Installation

Wiring (standard strip length: 6-8mm)



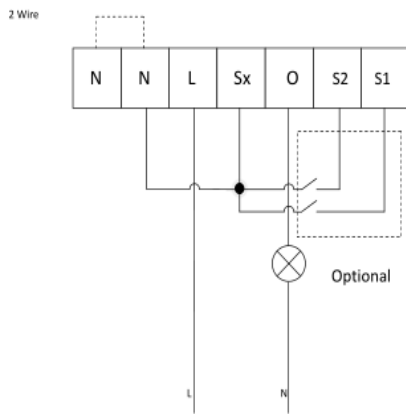
Step 1: Separate the device into two parts: the touch panel and the bottom.

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

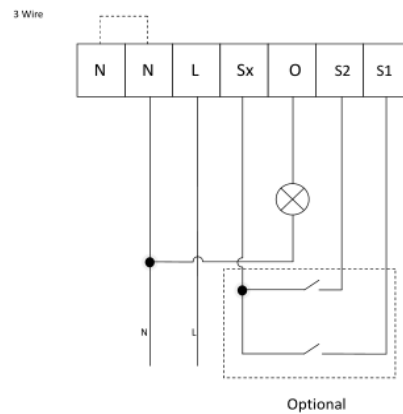
Step 3: Secure the bottom part onto a junction box with screws, and then mount the touch panel back.

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

Note: S1, S2, Sx are optional terminals for an external dimmer panel input.



2-wire



3-wire

Operation

Adding / Removing:

1. Set controller into Add/Remove mode, and press 3 clicks on "+" or "-" button to add/remove. If succeed, green LED flicks 4 times.
2. If an external switch panel wired, press/toggle the button on that panel 3 times also can add /remove the network (To make the external panel work, set the parameter 0X0E with value 1, 2, 3 or 4).

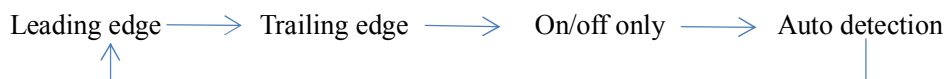
Dimming Mode Setting:

The panel can be manually configured or automatically detect different light source by following the steps as below:

1. Touch "+" 4 times and its green LED flashes, then touch "-" 4 times and 2 green LEDs flash for 3 sec. The panel enters Dimming mode setting.
2. During setting, the "+" LED color will inform the current dimming mode:

| | | | |
|----------------------------------|---|---|--|
| Leading edge for inductive loads | Trailing edge for capacitive or resistive loads | On/off only | Automatically detection |
| Orange LED flashing | Green LED flashing | Orange and Green LEDs flashing together | Orange and Green LEDs flashing alternately |

3. Touch "-" will switch among the four modes :



4. Touch "+" to confirm the mode you chose, the mode's LED color will flash 3 sec to finish the setting. If Auto detection chosen, pls wait the panel to detect the light source and confirm leading edge or trailing edge dimming itself.

Manual Operation:

1. When powered on, hold "+/-" button will dimming the light level up or down.(Not valid when the dimming mode is “on/off only”)
2. Double click of “+” will turn on the light to the brightness level, and double click of “-” will turn off the light.

Energy Consumption Monitoring:

When requested by controller, the panel will report voltage, current and power consumption (the command class which support this function is Meter Command Class).

The dimming percentage when single touch of button “+” or “-”

1. Parameter 0x0B is used to set the value.
For instance: The current light level is 0, and the set value is 0x10. When first single touch “+”, the light level will reach 0x10, and the second single touch of “+” will make the level reach 0x20, single touch “-” will make it back to 0x10 again.
2. Hold the “+” or “-” and release, the changed light level percentage during the holding will be saved and performed in the next single touch dimming.

Notification:

1. Parameter 0x20 and 0x21 are used to set the notification threshold.
2. When enabled, device will send unsolicited notification frame to gateway.

Association Group:

To set association groups by the command “COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION”.

The device supports 4 association groups (AG). The 1st 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 each can support up to 5 nodes.

| AG NO. | Function | Explanation |
|--------|--------------------------|---|
| 0x01 | Associate with gateway | Send unsolicited reports to the gateway |
| 0x02 | Associate with the panel | Send Switch_Multilevel CC to associated devices |
| 0x05 | Associate with Key “+” | Send Basic Set CC to associated devices |
| 0x08 | Associate with Key “-” | |

Parameters Setting:

| Add | Function | Byte | Options | Default | Remark |
|------|---|------|---|---------|--------|
| 0x01 | Dimmer state saved or not when power down | 1 | 0x00 not saved, Dimmer will be off when powered again 0x01 saved, Dimmer will keep the same state when powered again | 0x00 | |
| 0x02 | Dimming mode | 1 | 0x00 leading edge 0x01 trailing edge 0x02 On/off only | 0x01 | |

| | | | | | |
|------|---|---|--|----------------|---|
| 0x03 | Auto detection of dimming mode when powered on | 1 | 0x00 Auto detection disabled 0x01 Auto detection enabled | 0x01 | |
| 0x04 | LED Backlit brightness level | 1 | 0x00 LED disabled 0x01~0x0A Min level-Max level | 0x0a | |
| 0x05 | Minimum brightness level | 1 | 1~98 percentage brightness level | 0x01 | The max level should always higher than min level |
| 0x06 | Maximum brightness level | 1 | 2~99 percentage brightness level | 0x63 | |
| 0x07 | Single dimming step time(Manual) | 2 | Max 2.55s, in 10ms steps | 0x03 (30ms) | |
| 0x08 | Single dimming step size(Manual) | 1 | 1~99 percentage value (modification isn't recommended) | 0x01 | |
| 0x09 | Single dimming step time (Auto) | 2 | Max 2.55s, in 10ms steps | 0x03 (30ms) | |
| 0x0A | Single dimming step size (Auto) | 1 | 1~99 percentage value (modification isn't recommended) | 0x01 | |
| 0x0B | The dimming percentage when single touch of button "+" or "-" | 1 | 0x00 the percentage get by the last button-holding touch 1~99 percentage value | 0x00 | With this parameter you can set the light level the lamp will reach when you turn on the lamp of single touch "+" |
| 0x0C | Reporting interval for dimming level | 1 | 0 : No report during dimming send report in 1-255*10ms interval | 0x0A | |
| 0x0D | External switch type | 1 | 0x00 Button (Momentary buttons) 0x01 Toggle (2-state Switches) | 0x00 | |
| 0x0E | External switch input | 1 | 0x00 function disabled 0x01 wire 1 ex.switch key to S1 only 0x02 wire 1 ex.switch key to S2 only 0x03 wire 2 ex.switch keys to S1 and S2,each key can control both dimming directions 0x04 wire 2 ex.switch keys to S1 and S2, each key control one dimming direction | 0x00 | |
| 0x0F | Energy meter reporting | 1 | Watt (bit 0): 0: disabled 1: enabled KWH (bit 1): 0: disabled 1: enabled Ampere (bit 2): 0: disabled 1: enabled Voltage (bit 3): 0: disabled 1: enabled | 0x00 | |
| 0x10 | Energy meter reporting interval | 1 | n*1sec | 0x10 | |

| | | | | | |
|------|-------------------------|---|--|------|------------|
| 0x11 | Beep | 1 | 0x00 beep disabled 0x01 beep enabled | 0x01 | |
| 0x20 | Ampere alarm threshold | 2 | 0: alarm disabled 1-5000*0.01 A alarm enabled | 0x00 | |
| 0x21 | Voltage alarm threshold | 2 | 0: alarm disabled 1-10000*0.1 V alarm enabled | 0x00 | |
| FF | Factory setting | 1 | 0x55 restore factory setting | | write only |

Restore Factory setting

Press 10 times of any button or exclude the device from Z-Wave network, then cut off the main power. 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 65*65*45mm, minimum Volume is 190cm³.
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.

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.