

HAN02 IN-WALL SWITCH MODULE

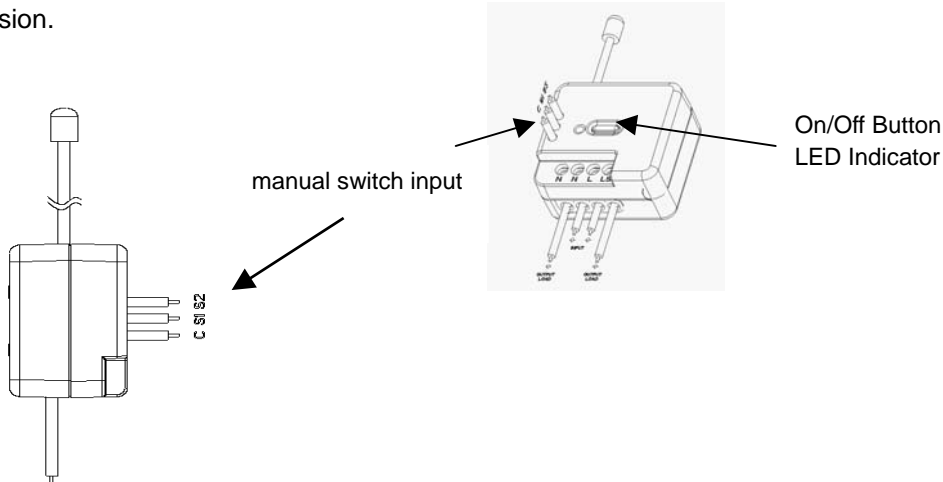
This in-wall switch module is a transceiver which is a Z-Wave™ enabled device and is fully compatible with any Z-Wave™ enabled network. Z-Wave™ enabled devices displaying the Z-Wave™ logo can also be used with it regardless of the manufacturer, and ours can also be used in other manufacturer's Z-Wave™ enabled networks. Remote On/Off control of the connected load is possible with other manufacturer's Wireless Controller.

This in-wall switch module is able to detect overload wattage of connected non-dimmable lights or appliances. When detecting overload state, the module will be disabled and its On/Off button will be lockout of which LED will flash quickly. However, disconnect and re-connect the wiring of the module will reset its overload condition to normal status.

Adding to Z-Wave™ Network



In the front casing, there is an On/Off button with LED indicator which is used to carry out inclusion, exclusion, reset or association. Toggle On/Off button between On and Off. When first power is applied, its LED flashes on and off alternately at 2-second intervals. It implies that it has not been assigned a node ID and cannot work with Z-Wave enabled devices. Put a Z-Wave™ Controller into inclusion/exclusion/association mode, the module executes the function of auto inclusion.



Auto Inclusion

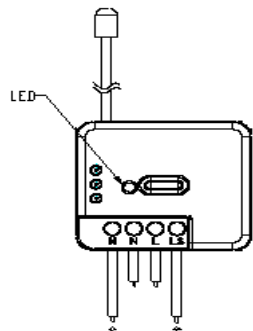
The function of auto inclusion will be executed as long as the module does not have node ID when the first power is applied.

After node ID has been linked, auto inclusion will run automatically after the execution of exclusion/reset is successful.

Note: Auto inclusion lasts for 4 minute or until the execution of inclusion is completed during which the node information of explorer frame will be emitted once every 5 seconds. Unlike "inclusion" function as shown in the table below, the execution of auto inclusion is free from pressing the On/Off button on the module.

Function	Description	LED Indication
No node ID	After power is applied, if the module does not record a node ID provided by controller.	2-second on, 2-second off
Inclusion	1. Have Z-Wave Controller entered inclusion mode.	
	2. Pressing On/Off button three times within 1.5 seconds will enter inclusion mode or 3. Close and open manual switch input of S1 or S2 between C three times within 1.5 seconds at the first 3 minute when the first power is applied will enter inclusion mode	
Exclusion	1. Have Z-Wave Controller entered exclusion mode.	
	2. Pressing On/Off button three times within 1.5 seconds will enter exclusion mode or 3. close and open manual switch input of S1 or S2 between C three times within 1.5 seconds at the first 3 minute when the first power is applied will enter exclusion mode	
	Node ID has been excluded successfully.	2-second on, 2-second off

Reset	1. Pressing On/Off button three times within 1.5 seconds will enter inclusion mode, within 1 second, press On/Off button again until LED is off or	
	2. Close and open manual switch input of S1 or S2 between C three times within 1.5 seconds at the first 3 minute when the first power is applied will enter inclusion mode, within 1 second, Close manual switch input of S1 or S2 to C again until LED is off.	
	3. Home ID and node ID will be cleared and reset to factory default.	2-second on, 2-second off
Association	1. Have Z-Wave Controller entered association mode first.	
	2. Pressing On/Off button three times within 1.5 seconds will enter association mode or	
	3. close and open manual switch input of S1 or S2 between C three times within 1.5 seconds at the first 3 minute when the first power is applied will enter association mode	
<p>※Including a node ID allocated by Z-Wave Controller means inclusion. Excluding a node ID allocated by Z-Wave Controller means exclusion.</p> <p>※Failed or success in including/excluding the node ID can be viewed from the Z-Wave Controller.</p>		



LED Indication

To distinguish what mode the module is in, view from the LED for identification.

State Type	LED Indication
Normal	Under normal operation, toggle On/Off button between On and Off. When pressing On, LED lights up, whereas Off, LED is off. And when manual switch input from open (NO) to short (NC) or from short (NC) to open (NO) will also trigger the toggle function.
No node ID	Under normal operation, when the module has not been allocated a node ID, the LED flashes on and off alternately at 2-second intervals. By pressing On/Off button, it will stop flashing temporarily. However, after disconnecting and reconnecting the wiring of the module, the LED will flash on and off alternately at 2-second intervals.
Overload	When overload state occurs while the module is on, the module will be converted to off right away of which LED flashes on and off at 0.5-second intervals and on/off button will be lockout. Overload state can be cleared by disconnecting and reconnecting the wiring to the terminal block.

Choosing a Suitable Location

1. Do not locate the module facing direct sunlight, humid or dusty place.
2. The suitable ambient temperature for the module is 0°C~40°C.
3. Do not locate the module where exists combustible substances or any source of heat, e.g. fires, radiators, boiler etc.
4. After putting it into use, the body of module will become a little bit hot of which phenomenon is normal.

Installation

Note: Please note that it is a must to call for a licensed electrician for installation.

1. Install this module into a wall box of which wiring connection is shown hereunder:
2. After wiring connection is completed, execute inclusion and association process between the module and remote controller.
3. There are different way to manually turn ON or OFF the module, first way is using On/Off button, and the function behavior as below

Initial state	action	final state
ON	press and release the On/Off button	OFF
OFF	press and release the On/Off button	ON

Second way is for manual switch input S1,S2, C which connect to external binary switch and the module had been set to “binary switch mode” , the function behavior as below

Initial state	action	final state
ON	when S1 is open to C, Close S1 to C	OFF
OFF	when S1 is close to C, open S1 from C	ON
ON	when S2 is open to C, Close S2 to C	OFF
OFF	when S2 is close to C, open S2 from C	ON

for manual switch input S1,S2, C which connect to external toggle switch and the module had been set to “toggle switch mode” , the function behavior as below

Initial state	action	final state
ON	Close S1 to C and release S1 to C	OFF
OFF	Close S1 to C and release S1 to C	ON
ON	Close S2 to C and release S2 to C	OFF
OFF	Close S2 to C and release S2 to C	ON

Change manual switch input mode

Press On/Off Button over 5 second and no longer than 8 second, if success the led will flash 3 times and the manual switch input mode will change from “binary switch mode” to “toggle switch mode” or from “toggle switch mode” to “binary switch mode”.

Programming

1. Basic Command Class / Binary Switch Command Class

1-1 BASIC_GET / BINARY_SWITCH_GET

Upon receipt of the following commands from a Z-Wave device, the module will send Basic Report Command / Binary Switch Report Command, reporting its On/Off state to the Controller.

Basic Get Command: [Command Class Basic, Basic Get]
Basic Report Command: Report OFF: [Command Class Basic, Basic Report, Value = 0x00(0)] Report ON: [Command Class Basic, Basic Report, Value = 0xFF(255)]

Binary Switch Get Command: [Command Class Switch Binary, Switch Binary Get]
Basic Report Command: Report OFF: [Command Class Switch Binary, Basic Report, Value = 0x00(0)] Report ON: [Command Class Switch Binary, Basic Report, Value = 0xFF(255)]

1-2 BASIC_SET / SWITCH_BINARY_SET

Upon receipt of the following commands from a Z-Wave device, the load connected to the module and module’s LED will turn on or off.

[Command Class Basic, Basic Set, Value = 0xFF(255)] : the load attached to the module turns on and LED on.
[Command Class Basic, Basic Set, Value = 0x00(0)] : the load attached to the module turns off and LED off.

[Command Class Switch Binary, Switch Binary Set, Value = 0xFF(255)] : the load attached to the module turns on and LED on.
[Command Class Switch Binary, Switch Binary Set, Value = 0x00(0)] : the load attached to the module turns off and LED off.

Command Classes

The module supports Command Classes including as follow:

- * COMMAND_CLASS_SWITCH_BINARY
- * COMMAND_CLASS_BASIC
- * COMMAND_CLASS_MANUFACTURER_SPECIFIC
- * COMMAND_CLASS_VERSION
- * COMMAND_CLASS_SWITCH_ALL

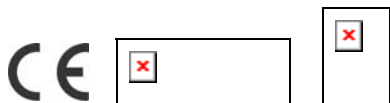
Troubleshooting

Symptom	Cause of Failure	Recommendation
The module not working and LED off	1. Improper wiring connection 2. The module break down	1. Check power connections 2. Don't open up the module and send it for repair.
The module LED illuminating, but cannot control the ON/OFF Switch of the load attached	Check if the load connected to the module has its own ON/OFF switch	Set the ON/OFF switch of the load connected to ON
The module LED illuminating, but the Detector cannot control the module	1. Not carry out association 2. Same frequency interference	1. Carry out association 2. Wait for a while to re-try

Specification

Operating Voltage	100~120Vac/60Hz(US) / 220~240Vac/50Hz (EU)
Maximum Load	1000W for incandescent or 320W for fluorescent @230V/50Hz
Range	Minimum 70 m line of sight
Operating Temperature	0°C ~ 40°C
Frequency Range	908.42 MHz (US) / 868.42 MHz (EU)/921.42MHz(AU)

** Specifications are subject to change and improvement without notice.



FCC ID: ZGXHAN02

Federal Communication Commission Interference Statement

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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

WARNING:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new once, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.