Z-Wave SM103 Door Window Detector User Manual

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User Manual

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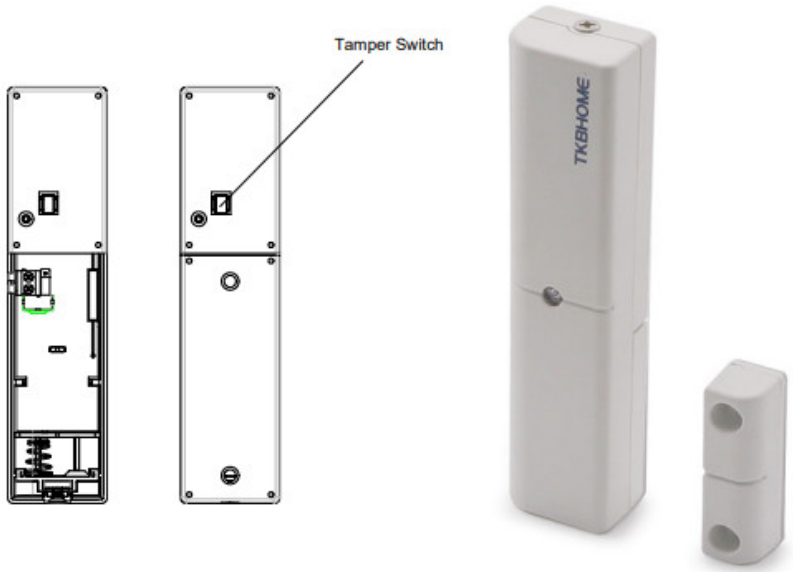
SM103 Door Window Detector

The Door/Window Detector 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. Inclusion of this Door/Window Detector on other manufacturer's Wireless Controller menu allows remote turn-on of connected modules and their connected lighting when the Detector is triggered.



Include to or Exclude from a Z-Wave™ Network

In the rear casing, there is a tamper switch which is used to carry out inclusion, exclusion or reset. When power is first applied, its LED flashes on and off alternately and repeatedly at 2-second intervals. It implies that it has not been assigned a node ID and cannot work with Z-Wave enabled devices. The Detector will stay “awake” for 10 minutes when power is first applied to allow time for configuration. Please get familiar with the terms below before starting the operations.

Function	Description
Inclusion	Add a Z-Wave enabled device (e.g. Detector) to Z-Wave network.
Exclusion	Delete a Z-Wave enabled device (e.g. Detector) from the network.
Association	After inclusion, you have to define the relationship between devices. Trough association, device can be assigned as master/slave, and specify which slave is going to be controlled by which master.
Reset	Restore Detector to factory default.

The table below lists an operation summary of basic Z-Wave functions. Please refer to the instructions for your Z-Wave™ Certificated Primary Controller to access the setup function, and to include/exclude/associate devices.

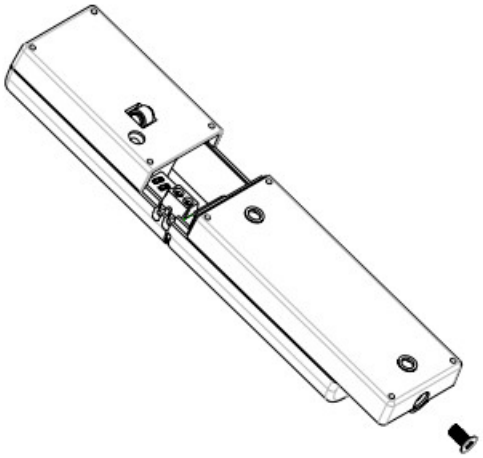
Function	Description	LED Indication
No node ID	The Z-Wave Controller does not allocate a node ID to the unit.	2-second on, 2-second off
Inclusion	1. Have Z-Wave Controller entered inclusion mode.	
	2. Pressing tamper switch three times within 1.5 second will enter inclusion mode.	
Exclusion	1. Have Z-Wave Controller entered exclusion mode.	LED lights up once whenever tamper switch is pressed once.
	2. Pressing tamper switch three times within 1.5 second will enter exclusion mode.	
Reset	1. Press tamper switch three times within 1.5 second.	
	2. Within 1 second, press and hold the tamper switch until LED is off.	LED keeps on before reset function has been completed.
	3. IDs are excluded and all of preset value will be reset to factory default.	2-second on, 2-second off
Association	1. Have Z-Wave Controller entered association mode.	
	2. When pressing tamper switch three times within 1.5 second, the unit will emit the NIF which implies that the unit has entered association mode.	
※Including a node ID allocated by Z-Wave Controller means inclusion. Excluding a node ID allocated by Z-Wave Controller means exclusion. ※Failed or success in including/excluding the node ID can be viewed from the Z-Wave Controller.		

Choosing A Mounting Location

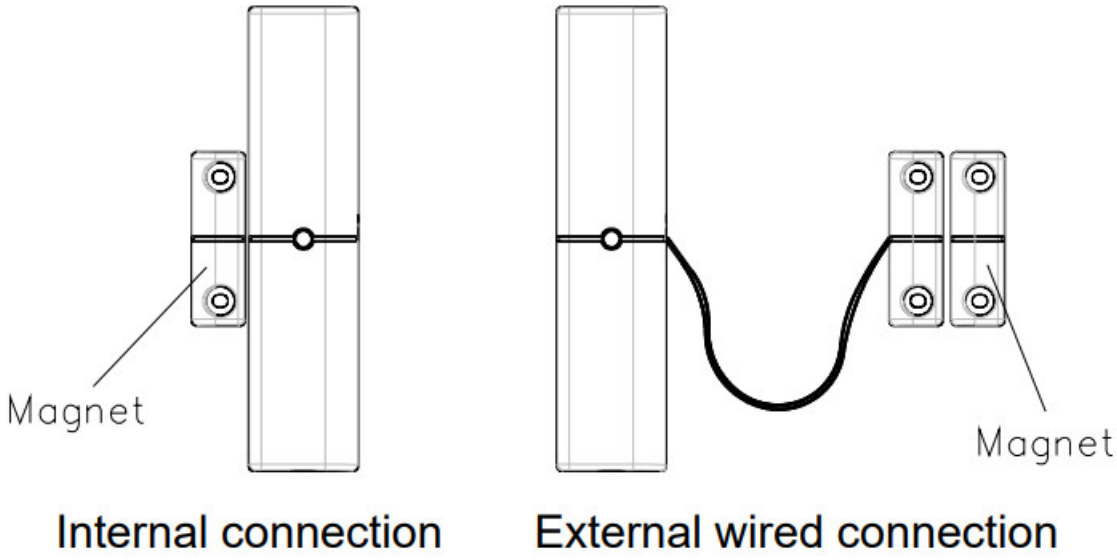
The Door/Window Detector is suitable for mounting in dry interior locations only.
Decide which doors/windows are to be protected by Door/Window Detectors, (usually the front and back doors as a minimum will have Door/Window Detectors fitted). Additional detectors may also be fitted where required to other vulnerable doors or windows, (e.g. garage, patio/conservatory doors etc).
Note: T ake care when fixing the Detector to a metal frame, or mounting within 1m of metalwork (i.e. radiators, water pipes, etc) as this could affect the radio range of the device. If required, it may be necessary to space the magnet and detector away from the metal surface using a plastic or wooden spacer to achieve the necessary radio range.

Installation

1. Undo and remove the fixing screw from the bottom edge of the Detector. Remove the rear cover.



2. Fit 3 1.5V AAA batteries supplied to the battery compartment.
   Note: The adoption of alkaline battery is highly recommended, as it would last for longer period.
3. By releasing the tamper switch without being pressed on the Detector, detach or close the magnet from the Detector, the LED on the Detector will illuminate.
4. Using the rear cover as a template, mark the positions of fixing holes on the fixed part of the frame along the opening edge opposite the hinges using screws provided.
5. Refit the Detector to the rear cover and secure with the fixing screw supplied.
   Do not over tighten the fixing screws as this may distort or damage the casing.
6. Fit the Magnet to the moving part of the door/window opposite the Detector using the adhesive tape or 19mm fixing screws.
   Ensure that the parallel gap between the Magnet and Detector is less than 10mm and that the matching line on the Magnet is pointing towards and aligned with the line on the Detector.
7. If several windows need to be protected, adopt the wire according to the specifications as mentioned below. This should be wired to the terminal block provided in the battery compartment in series connection. The wired contact should be connected using two core (24AWG) wire of maximum length 4m.
   A cable entry cut-out is available and adjacent to the terminal block.



Choose either the internal or external wired connection, both of which types cannot be in existence at the same time.
Note: After removing batteries, wait for 5 seconds to refit batteries.

Operation

1. The unit will stay “awake” for ten minutes when power is first supplied to allow time for configuration.
2. After the unit stays in sleep status, it can be woken up by pressing the tamper switch continuously until the LED lights up once. The unit will enter sleep status again after 10 seconds. If longer awake is desired, press tamper switch three times within 1.5 seconds will prolong its awake period to 10 minutes.
3. With the tamper switch not being pressed, the unit enters test mode, which allows the user to make a test. Detach the magnet from the Detector, the red indicator LED on the Detector will illuminate.
4. When the tamper switch is pressed, the unit enters normal mode and the red indicator LED on the Detector will not illuminate to conserve battery life when the detector is triggered, (unless the battery is low).

Programming

1.Z-Wave’s Group (Association Command Class Version 2)
The unit supports one association groups with five nodes. This has the effect that when the unit is triggered, all devices associated with the unit will receive the relevant reports.
1-1 T amper Event Report (Alarm Report)
Press and hold the tamper switch more than 10 seconds then release, the unit will send ALARM REPORT command to the nodes of Grouping 1 to inform them there is a tamper event.
ALARM_REPORT Command:
[Command Class Alarm, Alarm Report, Alarm Type = 0x01, Alarm Level = 0x11]
1-2 Control other Z-Wave Devices
When door/window is opened, the unit will send BASIC SET command which contains a value that is adjustable, to the nodes of Grouping 2. For instance, the brightness level of a lamp module can be fixed according to the set value.
However, the BASIC_SET command will be also sent to the nodes of Grouping 1. For instance, a lamp module will be turned off after receiving the BASIC_SET command.
Basic Set Command:
Event Present:
[Command Class Basic, Basic Set, Value = 255 (0xFF)]
Event Clear:
[Command Class Switch Binary, Switch Binary Report, Value = 0x00(0)]
2.Z-Wave’s Configuration
2-1 Basic Set Level
When Basic Set Command is sent where contains a value, the receiver will take it for consideration; for instance, if a lamp module is received the Basic Set command of which value is decisive as to how bright of dim level of lamp module shall be.
Example:
0 : O F F
1-99: ON (Binary Switch Device)
Dim Level (Multilevel Switch Device)

Function	Parameter Number	Size	Range	Default
Basic Set level	1	1	0~99	99

Configuration Command
2-2 Configuring the OFF Delay
The Configuration parameter that can be used to adjust the amount of delay before the OFF command is transmitted as Configuration Parameter #2. This parameter can be configured with the value of 1 through 127, where 1 means 1 second delay and 127 means 127 seconds of delay.

Function	Parameter Number	Size	Range	Default
Basic Set level	2	1	0~127	1s

Configuration Command

3.Advanced Programming

The following information is for someone that has some experience setting up a Z-Wave system or someone that has computer software running a Z-Wave controller.

3-1 Battery Check Command

The users can also enquire the battery status of the unit by sending BATTERY_GET command via Z-Wave Controller. Once the unit receives the command, it will return BATTERY_REPORT command. The unit will send Battery_Level = 255 (0xFF) command to the Z-Wave Controller to inform that the unit is in low battery status.

BATTERY REPORT Command:

[Command Class Battery, Battery Report, Battery Level = 20%-100%]

3-2 Wakeup Command Class

The unit stays in sleep status for the majority of time in order to conserve battery power. However, it can be woken up at specified intervals by setting WAKE_UP_INTERVAL_SET command by Z-Wave Controller. After the unit wakes up, it will send Wakeup Notification Command to the node ID that requires to be reported and stay awake for 5 seconds if no WAKE_UP_NO_MORE_INFORMATION command is received. The minimum and maximum wakeup interval is 60 seconds and 194 days respectively. Allowable interval among each wakeup interval is 1 second, such as 60, 61, 62 ….

Note: The default value is 1 hour, which implies that the detector awakes and sends the Wakeup Notification Command to the set node every hour.

4.Factory Default Setting

Command	Default setting
Basic Set level	99
Period of Wake Up Notification	1 hour

5.Command Classes

The Flood Detector supports Command Classes including…

- COMMAND_CLASS_SENSOR_BINARY
- COMMAND_CLASS_BASIC
- COMMAND_CLASS_CONFIGURATION
- COMMAND_CLASS_WAKE_UP_V2
- COMMAND_CLASS_MANUFACTURER_SPECIFIC
- COMMAND_CLASS_VERSION
- COMMAND_CLASS_ASSOCIATION_V2
- COMMAND_CLASS_BATTERY

Troubleshooting

Symptom	Possible Cause	Recommendation
Cannot carry out inclusion and association	Included a node ID allocated by other Z-Wave Controller.	Exclude a node ID then carry out inclusion and association with new Controller.
	Does not fit batteries or run out of battery power.	Check if batteries are fitted or replace a new battery.
LED not illuminating and not working	Does not fit batteries or run out of battery power.	Check if batteries are fitted or replace a new battery.
	Break down	Send it for repair and do not open up the unit.

Specifications

Battery	1.5V AAA size x 3
Range	Up to 100 feet line of sight
Frequency Range	908.42 MHz (US) / 868.42 MHz (EU)

*Specifications are subject to change without notice

A501110873R03

Documents / Resources

	Z-Wave SM103 Door Window Detector [pdf] User Manual SM103, TKBHOME SM103, SM103 Door Window Detector, Door Window Detector, Window Detector