# SD-100Z | Z-Wave Door/Window Sensor

The SD-100Z is a Z-Wave^{TM} enabled device and is fully compatible with any Z-Wave^{TM} enabled network. It is designed to work with Z-Wave^{TM} enabled devices from any manufacturer. Inclusion of the SD-100Z with STC-100/300 Scenario Hub allows remote turn-on of appliance when the SD-100Z is triggered.

Adding to Z-Wave^{TM} Network

In the rear casing, there is a tamper switch which is used to carry out inclusion, exclusion or association. Turn the Scenario Hub or Z-Wave Controller into inclusion / exclusion mode, press the tamper switch on the SD-100Z to complete the inclusion/exclusion process. The SD-100Z supports one association group with five nodes. This has the effect that when the SD-100Z is trigger, all devices associated with it will be operated.

The SD-100Z will stay "awake" for ten minutes when changing the status of tamper switch from being pressed to be released or from being released to be pressed to allow time for configuration.
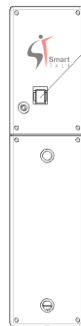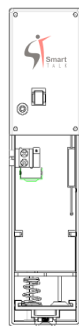
Tamper Switch

Choosing A Mounting Location

The SD-100Z is suitable for mounting in dry interior locations only.

Decide which doors/windows are to be protected by the SD-100Z (usually the front and back doors as a minimum). Additional sensors may also be required for other doors or windows, (e.g. garage, patio/conservatory doors etc).

Note: Take care when fixing the SD-100Z to a metal frame, or mounting within 1m of metalwork (i.e. radiators, water pipes, etc) as this could affect the wireless transmission range of the device. It is suggested to place the magnet and the sensor away from the metal surface using a plastic or wooden spacer to achieve the required transmission coverage.

Installation

1. Remove the fixing screw from the bottom edge of the Sensor. Open the rear cover.
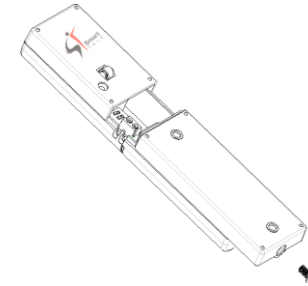

2. Insert three 1.5V AAA batteries to the battery compartment.
   Note: The adoption of alkaline battery is highly recommended, as it would last for longer period.
3. **By releasing the tamper switch of the Sensor, detach or close the magnet from the Sensor, the LED on the Sensor will illuminate.**
4. 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 Sensor 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 Sensor using the adhesive tape or 19mm fixing screws.

   Ensure that the parallel gap between the Magnet and Sensor is less than 10mm and that the matching line on the Magnet is pointing towards and aligned with the line on the Sensor.

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.

Internal connection   External wired connection
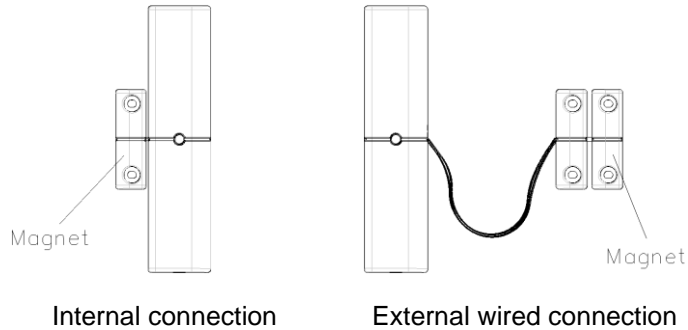
Choose either the internal or external wired connection, both of which types cannot be in existence at the same time.

Note: After removing batteries, wait for 5 seconds to refit batteries.

Operation

1. 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 Sensor, the red indicator LED on the Sensor will illuminate and the load or the lamp plugged into the On/Off Module HSS-A10, Lamp Module HSS-A20 will turn ON. It implies that the unit is working properly.

    Close the door/window by replacing the magnet to the Sensor will turn OFF the load or the lamp plugged into the On/Off Module HSS-A10, Lamp Module HSS-A20 and the red indicator LED on the connected load or lamp will be off too.

2. When the tamper switch is pressed, the unit enters normal mode. Open the door/window to detach the magnet from the Sensor will turn ON the load or the lamp plugged into the On/Off Module HSS-A10, Lamp Module HSS-A20.

    Close the door/window by replacing the magnet to the Sensor will turn OFF the load or the lamp plugged into the On/Off Module HSS-A10, Lamp Module HSS-A20.

    In normal mode with the tamper switch being pressed, the red indicator LED on the Sensor will not illuminate to conserve battery life when the sensor is triggered, (unless the battery is low).

3. By pressing the tamper switch for more than 5 seconds, and then release it. The Sensor will send an alarm command **(ALARM_REPORT, Alarm Type == 0x01, Alarm Level == 0x11)** to the module, of which load or the lamp plugged into the On/Off Module HSS-A10 or Lamp Module HSS-A20 will flash for 10 seconds.

Advanced Operation

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.

Enabling/Disabling Power Saving Function (for testing)

When the magnet is parted or closed from the Sensor for 10 seconds, the SD-100Z will enter the power saving mode. It can be disabled or enabled power saving function by setting Configuration Parameter # 3.

This parameter can be configured with the value of 0 through 127, where 0 means power saving being enabled and others mean power saving being disabled.

PS: As long as the batteries have been refitted, the Sensor will enable the power saving function automatically.

Configuring the OFF Delay

The Configuration parameter that can be used to adjust the amount of delay before the OFF command is transmitted is 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.

Configuring the Phase Level of ON Command

The Configuration parameter that can be used to adjust the phase level of ON command is transmitted is Configuration Parameter # 1. This parameter can be configured with the value of 0 through 127.

Value 0: Set Device OFF (0x00)

Value 1-99: Set Device On (1-99)

Value 100-127: Set Device On to the last phase (0xFF)

Note: 0xFF means the device will be on to the last phase that the device was turned off.

Wakeup Command Class

The SD-100Z will send a Wakeup Notification Command if it has been included into a Z-Wave network. The prerequisite is the connected Z-Wave controller needs to emit a node ID and wakeup time interval to the Sensor.

The SD-100Z will wake up periodically as desired depending on time interval you set from wake up command class and resend the Wakeup Notification Command unless configured for another time interval. The SD-100Z will stay awake for 10 seconds and then go back to sleep to conserve battery life.

The time interval between Wakeup Notification Commands can be adjusted if you have a device in which that is supported. Refer to that device's instructions.

Troubleshooting

Symptom	Possible Cause	Recommendation
Cannot carry out inclusion and association	1. Run out of battery power or does not fit batteries. 2. Check if reverse battery polarity	1. Replace a new battery 2. Refit the battery with correct polarity
LED illuminating, but cannot control the	Not carry out inclusion and association	Carry out inclusion and association

connected modules	Frequency interference	Wait for a second to retry

Specifications

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

Specifications are subject to change without notice

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.