

NE-SSEN User manual

1 Description

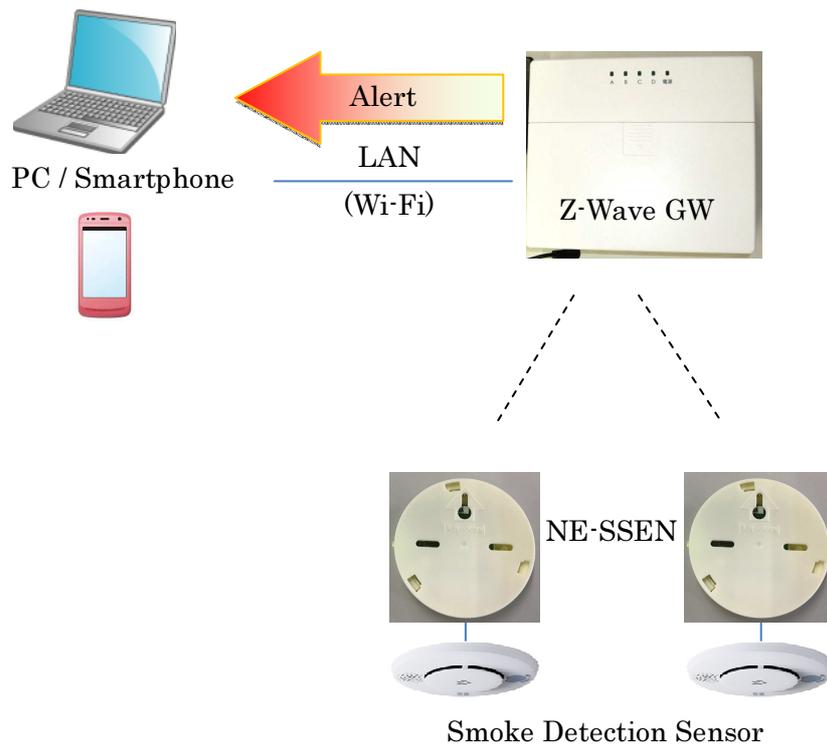
This equipment extends the Smoke Detection Sensor to Z-Wave correspondence.

There are the following functions.

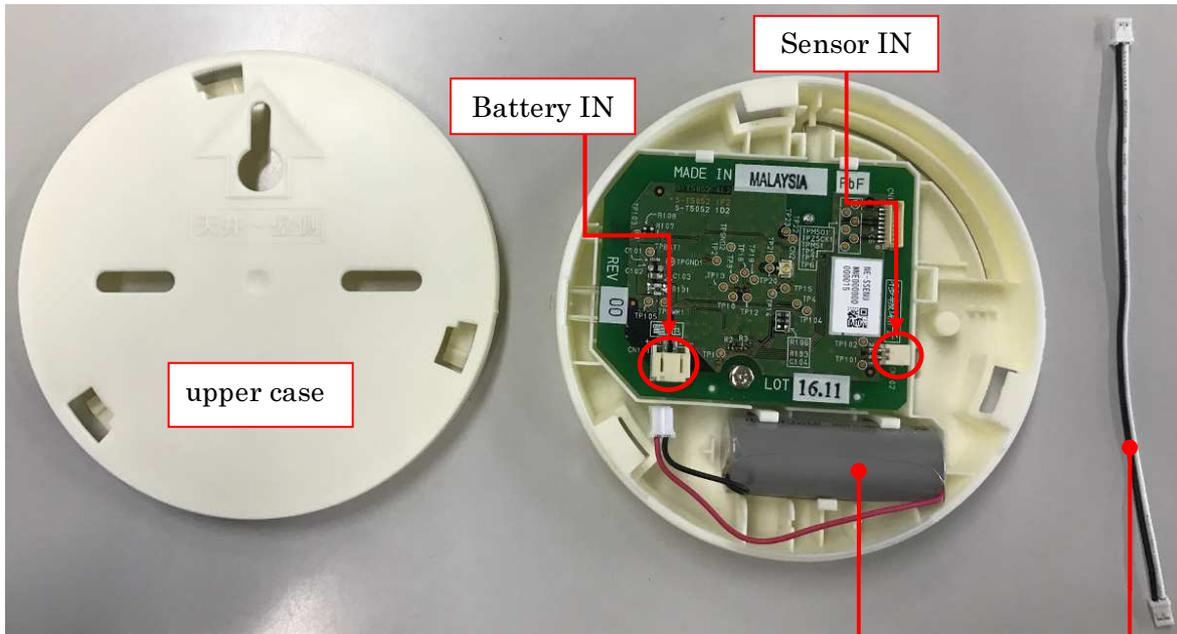
- Add(Inclusion)/Remove(Exclusion) to Z-Wave Controller
- When sensor status is changed, "Notification Report" is sent (Unsolicited Report)
- When battery voltage is reduced, "Battery Report" is sent (Unsolicited Report)
- The connection with the Smoke Detection Sensor is a dry contact(no-voltage contact)
 - When the contact is open, the sensor state is inactive.
 - When the contact is closed, the sensor state is active.

This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

It is an example constructed by one controller and NE-SSEN.

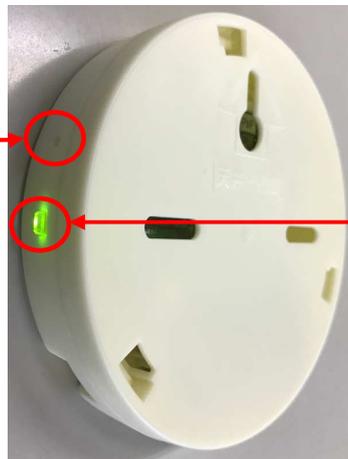


2 Name of each part



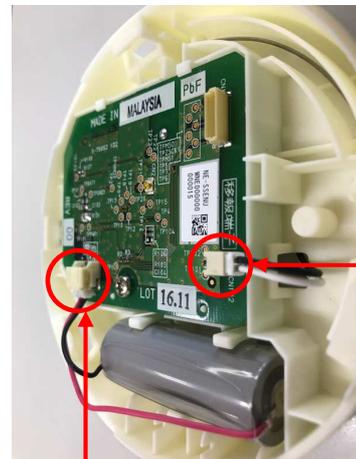
Battery : CR17450

Cable for connecting NE-SSEN and Smoke Detection Sensor



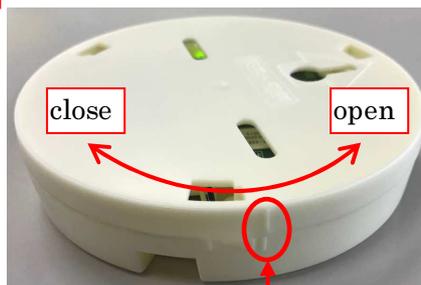
Add/Remove Button
(push by paper clip)

Status LED



Battery Connect

Sensor Connect



Mark

3 LED display

LED display of this equipment is shown in the list shown below.

#	Pattern Data ※ 24, 23, ... 1, 0bit	Summery	Usage
0	111111111111111111111111	Always ON	Z-Wave Communication OK
1	000000000000000000000000	Always OFF	Power OFF / Sleep Mode
2	000000000000011111111111	60Int	Unregistered to Z-Wave Controller
3	11111000000111110000000	120Int	Reboot
4	1110001110001110001110000	240Int	Registering to Z-Wave Controller
			Unregistering to Z-Wave Controller
5	111111111111111111111101	40ms off in 1 sec.	Z-Wave During Communication
6	0000000000111000111000111	3 times on in 1 sec.	Z-Wave Communication Error

※1-seconds cycle,40ms duration 1:Lighting 0:Lights-out

4 Add/Remove operation

This equipment can be Added and Removed by Controller.

[Configuration procedure]

- (1) Please make Add/Remove operation of the Controller side
- (2) Please push "Add/Remove Button" of this equipment for a short time.
- (3) During Add/Remove, "Status LED" blinks.
- (4) When Add/Remove succeeds, display of "Status LED" changes.
 - Add success ⇒ "Status LED" turns on
 - Remove success ⇒ "Status LED" flash the light

5 Auto Add

If this equipment is NOT Added to any network, it is enable to Add automatically when the battery is connected.

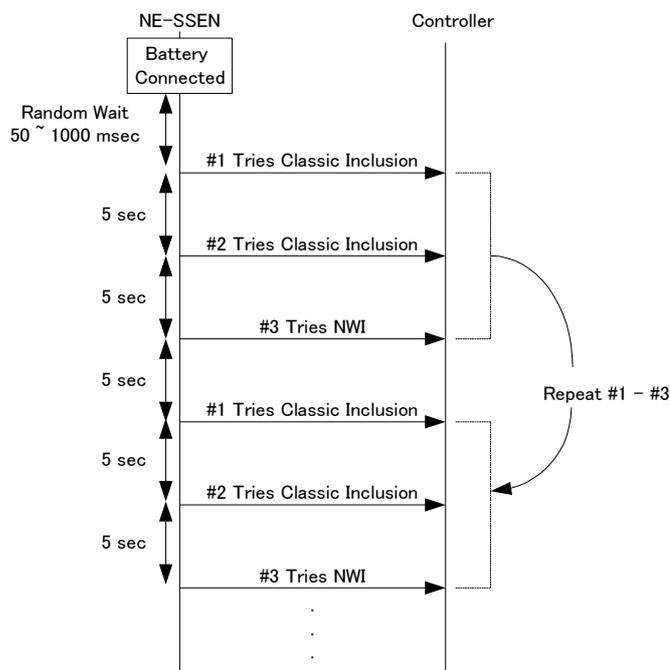
[Configuration procedure]

- (1) Please make Add operation of the Controller side.
- (2) Please connect the battery to the equipment.
- (3) During Add, "Status LED" blinks.
- (4) When Add succeeds, display of "Status LED" changes.
 - Add success ⇒ "Status LED" turns on

After random wait, this equipment repeats trying Classic Inclusion -> Classic Inclusion -> Network Wide Inclusion(NWI) in 5 second intervals. Random wait is calculated by the following formula.

$$[\text{Random wait}] = ((\text{HomeID}\%20)+1)*50 \text{ [msec]}$$

This "Auto Add" process is indicated below.



6 Factory Reset

This equipment can be returned in a factory shipments state.

Please use this procedure only when the network primary controller is missing or otherwise inoperable.

[Configuration procedure]

- (1) Push and hold "Add/Remove Button" for a few seconds more than 5 seconds.
- (2) It is initialized.

7 About Z-Wave

7-1 Manufacturer Specific Report Command

This equipment returns the value of the list shown below to Manufacturer Specific Get Command.

Manufacturer ID	0x0123
Product Type ID	0x0A01
Product ID	0x0001

7-2 Association Set Command

This equipment sends some unsolicited reports; there are Notification Report / Battery Report / Device Reset Locally Notification.

Destination of these reports is set by Association Set Command.

Figure below is packet format of Association Set Command.

7	6	5	4	3	2	1	0
Command Class = COMMAND_CLASS_ASSOCIATION (0x85)							
Command = ASSOCIATION_SET (0x01)							
Grouping identifier							
Node ID1							
...							
Node IDn							

This equipment saves received Node ID to NVM when it received Association Set Command.

This equipment uses this Node ID as destination Node ID to send unsolicited reports.

Command Name of unsolicited report	Trigger
Notification Report	Power ON / Status Change
Battery Report	Power ON / Status Change
Device Reset Locally Notification	Factory Reset

Only 1 Group is supported by this equipment, so please set “**Grouping identifier**” 1.

Only 1 Node per 1 Group is supported by this equipment, so only “**Node ID1**” is available.

7-3 Basic Report Command

This equipment returns the value of the list shown below to Basic Get Command.

(This equipment maps the Binary Sensor Command Class.)

Value	0x00 ... sensor is inactive.
	0xFF ... sensor is active.

7-4 WakeUp Inteval Set Command

This equipment is a battery device, and the following WakeUp Interval can be set.

Minimum Wake Up Interval in Seconds	10 ^(*1)
Maximum Wake Up Interval in Seconds	7200
Default Wake Up Interval in Seconds	1800
Wake Up Interval Step in Seconds	1

(*1) value 0(disable the timer-based transmission of Wake Up Notification Commands) is not supported

7-5 WakeUp Notification Manual Transmission

This equipment can transmit manually Wake Up Notification, in addition to timer-based transmission.

This equipment can transmit Wake Up Notification by Triple Press the "Add / Remove Button"

7-6 Supported Notification Type & Event

This equipment supports the following Notification Type and Event

Notification Type	0x01	Smoke Alarm
Event	0x00	Event inactive
	0x02	Smoke detected, Unknown Location