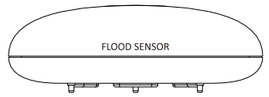


OPERATING MANUAL

FLOOD SENSOR

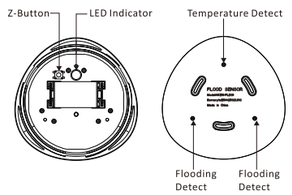
HKZW-FLD01

The Flood Sensor is capable of both detecting leaks and floods and when the level of water gets too low in a pool or a tank, Flood Sensor can work with your Z-Wave network to prevent emergencies such as burst water boiler to leaking air conditioners.

Features list:
(1)Latest Z-Wave protocol (500 serials).
(2)Security 0 and security 2 framework implemented with AES-128 encryption.
(3)Two installation ways optional.
(4)Temperature sensor.
(5)Vibration sensor.
(6)Up to 1 year battery life.
(7)Low battery alert.
(8)Firmware OTA upgrade supported.

Ⅰ. GENERAL INFORMATION ABOUT FLOOD SENSOR

1. Product layout

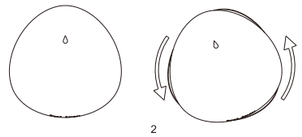


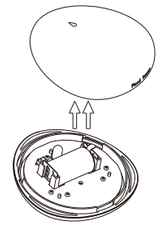
2. Specifications

Power supply:	ER14250 3.6V Battery
Storage environment:	-10˚C-50˚C 0%-90%
Operational temperature:	0~40˚C
Radio protocol:	Z-Wave plus
Radio frequency:	868.42MHz (EU) 908.42MHz (US) 921.42MHz(ANZ)
Range:	More than 100m outdoors About 30m indoors (depending on building materials)
Dimensions:	Main body: 68 mm(Φ)*22mm(H) Extension probe: 50 mm(Φ)*5mm(H) Wire: 1000mm(L)
Working current:	About 60mA
Standby current:	About 30uA

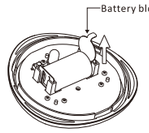
Ⅱ. ACTIVATION

1.Turn the cover counter-clockwise and open it.



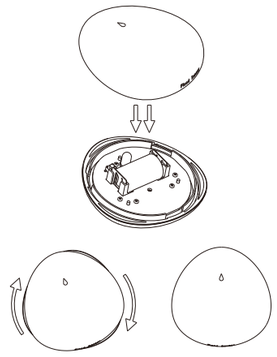


2.Remove the battery blocker.



NOTE:
When powered, the device will indicate Z-Wave status with LED:
1.**Blink slowly:** the device is not added to any Z-Wave network.
2.**Solid**: the device is already added to the Z-Wave network.

3. Add the device (see "Adding/removing the device" on page 6).
4. Close the cover and turn it clockwise.



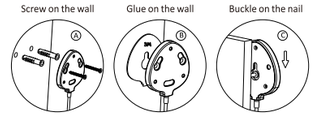
5. Place the sensor on a surface prone to flooding, or use the extension probe (see "Installation" on page 5) .

Ⅲ. INSTALLATION

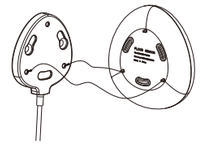
The Flood Sensor should not be mounted directly on or near metal framing or other large metallic objects since metal objects may weaken the radio signal strength.

After "activation" process, the sensor can work without any installation. Furthermore, you can use the extension probe to fix sensor body.
To install with extension probe, follow the steps:

(1)There are 3 kinds of methods to install the baseplate of extension probe into the wall.



(2)Magnet the sensor body (Note the direction)

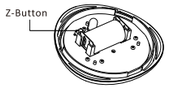


(3)Paste the extension probe close to the area where can detect water or leaks.

NOTE:
Wipe clean the surface where the flood sensor will be mounted. Any dust and particles can reduce the adhesion of double-sided mounting tape.

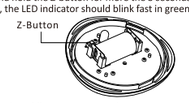
Ⅳ. ADDING/REMOVING THE DEVICE

Included as a non-secure device:
(1)Open the cover.
(2)Place the device within the direct range of your Z-Wave controller.
(3)Set the main controller in Adding Mode (see the controller's manual).
(4)Click the Z-button once or triple click the Z-button quickly, the LED indicator should blink fast in blue.



(5)Wait for the adding process to end.
(6)Successful adding will be confirmed by the Z-Wave controller's message.

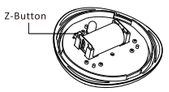
Included as a secure device (S0 or S2)
(1)Open the cover.
(2)Place the device within the direct range of your Z-Wave controller.
(3)Set the main controller in security add mode (see the controller's manual).
(4)Press and hold the Z-button for more the 3 seconds and then release, the LED indicator should blink fast in green.



(5)Wait for the adding process to end.
(6)Successful adding will be confirmed by the Z-Wave controller's message.

TIP:
If you want your flood sensor to be a security device that use secure/encrypted message to communicate in a Z-Wave network, then a security enabled Z-Wave controller is needed.

Removing
1)Open the cover.
2)Place the device within the direct range of your Z-Wave controller.
3)Set the main controller remove mode (see the controller's manual).
4)Triple click the Z-button quickly, the LED indicator should blink fast in orange.



(5)Wait for the removing process to end.
(6)Successful removing will be confirmed by the Z-Wave controller's message.

Ⅴ. RESETTING

Reset procedure clears the flood sensor's memory, including Z-Wave network controller information and advanced configuration.

To reset a Flood Sensor:
Press and hold the Z-button for more than 20 seconds.

NOTE:
Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.

Ⅵ. ASSOCIATION

Association allows flood sensor to control other Z-Wave device such as Siren, Smart Switch, etc.
The Flood Sensor supports two association groupings.

Group 1 reports the flooding detection, shock detection and the battery level.
Group 2 is assigned to send BASIC SET command.

TIP:
1.The max number of associated nodes of all these 2 groups is 5.
2.Association allows for direct transmission of control command between devices and takes place without the participation of the main controller.

Ⅶ. WAKE UP

Wake up interval:
Available settings: 0-2678400
Default setting: 0
Defining a time period by which the flood Sensor sends a wake up notification command frame to communicate with the assigned device, update parameters, update software, detects battery level. Wake up interval set to 0 disables the sending wake up notification command, in such configuration it is needed to manually wake the device up by press the Z-button.

NOTE:
60 seconds is the step of wake up interval time, which means flood Sensor will send wake up notification command by a timeline that is multiple 0f 60 seconds.
Setting examples:
0~59 = 0 second, the device will not wake up by itself.
60~119 = 60 seconds, the device will wake up every 60 seconds.

Ⅷ. ADVANCED CONFIGURATION

The Flood Sensor offers a wide variety of advanced configuration settings. Below parameters can be accessed from main controllers configuration interface.

Parameter No.14 Enable/Disable BASIC SET command
The Flood sensor can send BASIC SET command to nodes associated with group 2.

0 – Disable.
1 – Enable.
Default setting: **0**
Parameter size: **1 [byte]**

Parameter No.15 Value of the BASIC SET
The Flood sensor can reverse its value of BASIC SET when flooding is triggered.

0 –Send BASIC SET VALUE = 255 to nodes associated with group 2 when flooding alarm is triggered.
Send BASIC SET VALUE = 0 to nodes associated with group 2 when flooding alarm is canceled.
1 –Send BASIC SET VALUE = 0 to nodes associated with group 2 when flooding alarm is triggered.
Send BASIC SET VALUE = 255 to nodes associated with group 2 when flooding alarm is canceled.

Default setting: **0**
Parameter size: **1[byte]**

Parameter No.17 Enable/Disable flooding alarm
0 –Disable.
1 –Enable.

Default setting: **1**
Parameter size: **1[byte]**

Parameter No.18 Enable/Disable shock alarm
0 –Disable.
1 –Enable.

Default setting: **0**
Parameter size: **1[byte]**

Parameter No.17 Enable/Disable high temperature alarm
0 –Disable.
1 –Enable.

Default setting: **0**
Parameter size: **1[byte]**

Parameter No.20 Set the high temperature alarm trigger value
Available settings(US): **-670 - 2570**（**-67 – 257°F**）
Available settings(Other): **-550 - 1250**（**-55 – 125°C**）
Default setting (US): **1040 (°F)**
Default setting (Other): **400(°C)**
Parameter size: **2[byte]**

Parameter No.21 Enable/Disable low temperature alarm
0 –Disable.
1 –Enable.

Default setting: **0**
Parameter size: **1[byte]**

Parameter No.22 Set the low temperature alarm trigger value

Available settings(US): **-670 - 2570(-67 – 257°F)**
Available settings(Other): **-550 - 1250(-55 – 125°C)**
Default setting (US): **0 (°F)**
Default setting (Other): **0 (°C)**
Parameter size: **2[byte]**

Parameter No.24 Enable/Disable blinking LED when alarm being triggered
0 –Disable.
1 –Enable.

Default setting: **1**
Parameter size: **1[byte]**

Parameter No.32 Level of low battery
This parameter defines a battery level as the "low battery".

Available settings: **10-50 (10% - 50%)**
Default setting: **20 (20%)**
Parameter size: **1[byte]**

Ⅸ. FCC NOTICE

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.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.
Note: 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 or more 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.