



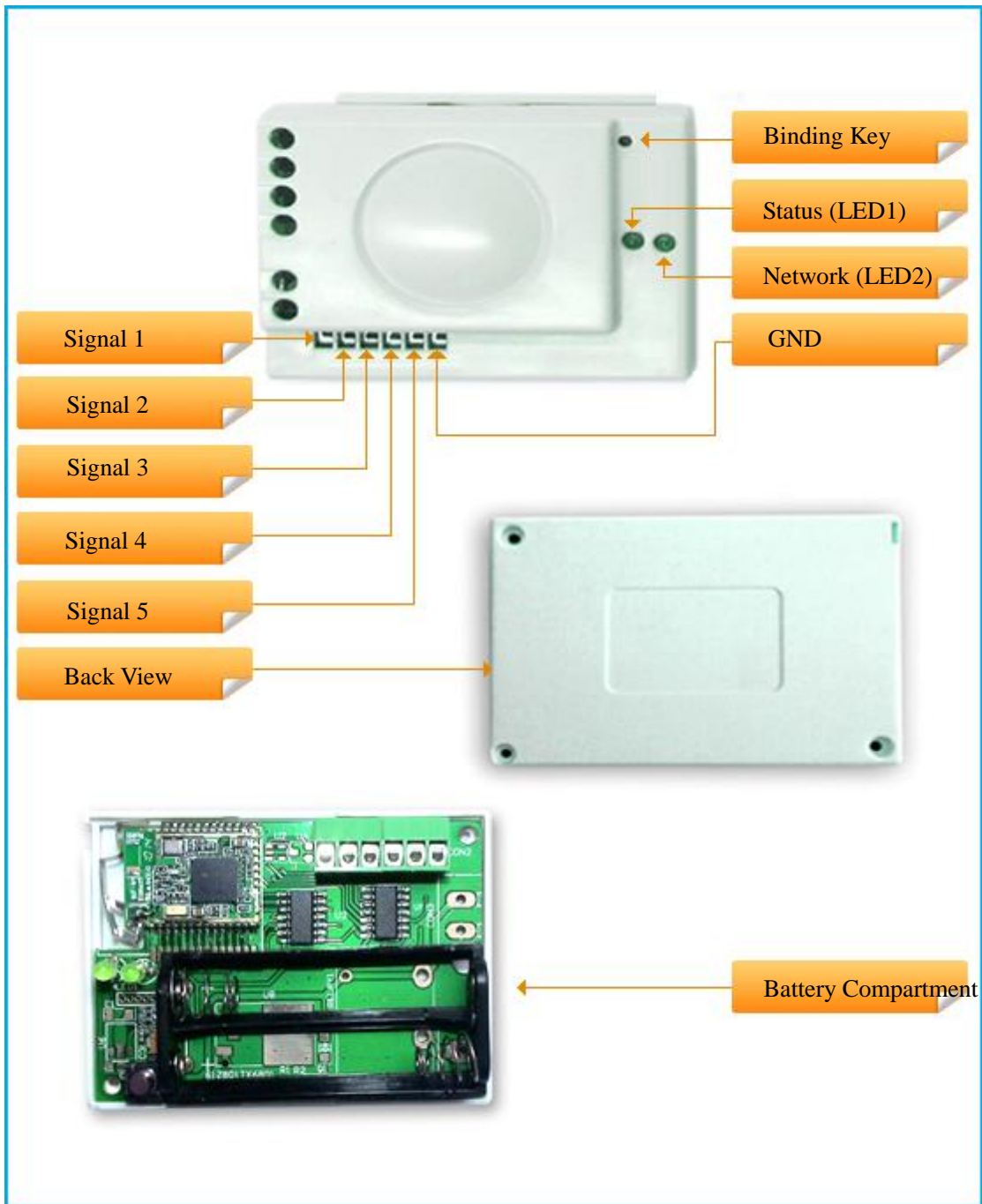
ZigBee™- Flood Sensor

Flood Sensor User Manual

Model: Z801WLS

FW V3.1
HW V4.3/V4.4

Model: Z801WLS



Introduction

NETVOX Z801WLS is a water or wet Z801WLS. It acts as an end device in the ZigBee Home Automation Profile network. It allows [five Z801WLS types](#) to be attached for customizing feature. When signal is detected the device sends a warning message to its enrolled or bound CIE (a security central) device in the network to notify the user. To know more about CIE device please consult your supplier.

What is ZigBee?

ZigBee is a short range wireless transmission technology which defined for a minimum complexity, low power consumption, low data rate, cost effective wireless solution. ZigBee lies in between wireless markup technology and Bluetooth. ZigBee is based on IEEE802.15.4 standard, the mutual co-ordination between thousands of Z801WLSs to exchange data. Sensor to Z801WLS or node-to-node communication is achieved through relays of control data between devices with only a fraction of energy use which denoted for highly transmission efficiency.

Note: Wireless communication, in some real use cases, can be limited by the signal blockage. Please consult your service provider or place of purchase.

Product Specification

- ✓ IEEE 802.15.4 compliant
- ✓ 2.4GHz ISM band (total 16 channels)
- ✓ 3V battery powered
- ✓ Built-in metal antenna
- ✓ Transmit up to 80 meters in radius range @ optimum condition
- ✓ Simple setup and configuration

Setting up the Z801WLS and network

Here are the summarized steps

- (1) Powering the device and network association
- (2) Enroll Z801WLS to a CIE (security central)
- (3) It is ready to be used.

● Step 1: Power on and network association

To allow Z801WLS to function, it must first join to a ZigBee network either through a coordinator or a router device. When it is given power (refer to [Power on the device and cabling](#)) it will automatically start searching for an existed network. So before you give power to Z801WLS make sure it is within the wireless coverage distance (~70 meters or less) and make sure **first** you have the **permit-join feature enabled** either on a coordinator or a router device from the network so that Z801WLS can detect and automatically join to the network through it;

**On how to enable permit-join please refer to the router or coordinator device user manual*

Operation:

Step 1: First make sure you have opened up permit-join function (valid for 60 seconds) on a coordinator or a router in the network.

Step 2: Now power on the Z801WLS device to let it search automatically for this network.

Step 3: if join successful the network indicator will flash **5 times**, otherwise the indicator stays unchanged. Soon within 7 seconds the device will enter sleep mode to save power. To wake up the device for another join attempt, please press any key to repeat the join process. Make sure that the permit-join of a router or coordinator is enabled if 60 seconds has expired.

Notes:

- a. By default the network does not allow any devices to join, this is done this way to prevent any potential unauthorized device join attempt. Make sure Z801WLS must be within the coverage area. You must enable permit join feature on a router or a coordinator already in the network so that Z801WLS is permitted to join when the channel is automatically searched.
- b. On how to enable permit-join feature please refer to the coordinator or the router user manual.

Power on the device and cabling

Z801WLS comes in battery powered supply.

For [battery power](#) Z801WLS, you will use 2 AAA size batteries. Open up the battery compartment and insert the battery.

Now connect the Z801WLS cable into the signal input ports; one Z801WLS to one signal port. Also connect the Z801WLS's negative cable to the GND. For example, Z801WLS can be a water Z801WLS.

● [Step 2: Automatic zone enrollment](#)

Soon after the network join, the next step is to enroll itself into security system to validate zone alarm feature to report alarm events. The [enrollment will automatically take place](#) within 10 seconds right after the network join. As Z801WLS has 5 Z801WLSs, it will enroll all these 5 Z801WLS zones into the CIE security.

Observation: If enrollment is successful the status indicator will **flash 6 times**. If CIE device registration table is saturated or failed for other reasons it gives **2 flashes**. Please apply [manual enrollment](#) when automatic enrolment failed.

[Manual enrollment](#)

Short press binding key, the status indicator will **flash once**. The enrollment process will start. The status indicator **flashes 6 times if successful** otherwise **flashes 2 times if unsuccessful**.

[Assigning Z801WLS to a preferred CIE system](#)

Z801WLS can be manually enrolled to a preferred CIE device via external application software such as Netvox's ZiG-BUTLER PC based software or any other 3rd party device. For ZiG-BUTLER user, please refer to ZiG-BUTLER section in this manual.

If registration is **successful**, it **flashes 6 times**.

If registration table is **full** and unable to enroll, it **flashes 4 times**.

If CIE is not existed and **failed** to enroll, it **flashes 2 times**.

How to use

When the device has successfully joined to the network and has enrolled to a CIE device, the device is ready to be used.

When Z801WLS detects signal from Z801WLS, it will trigger an event reporting message to the CIE device for a corresponding alarm to notify the user. If you have ZiG-BUTLER PC software or siren on the ZigBee network, a notification message will be displayed or an audible sound will be heard.

Restore to factory setting

Z801WLS is capable of storing and saving includes network routing information. If you wish to remove Z801WLS from the network to join to a new network, you would need to clear its memory by reset the device to restore to the factory setting.

Operation:

1. To reset the device, first remove the power then hold on to the binding key.
2. While doing so, power up the device to give power then release the key.
3. If restore to factory setting is successful, the status indicator light will flash quickly. Now the device has restored to the factory setting.

Now if you wish to join Z801WLS to a new network please power cycle the device again to put the device into search for a network mode.

Overcoming a sleeping device

The device is battery powered and is designed to enter sleep mode when not transmitting. Sometimes you would need to collect attribute data or during installation and during the deployment process, you need to force the device to enter active mode.

Operation:

Hold press the binding key for 3 seconds until you see the status indicator flashes **once** and network indicator flashes **5 times** then release the key. The device should automatically send its own short address and IEEE address.

Battery disposal

This device uses AAA size battery. When the battery is bellowing 2.4V DC, the device will not work and the status indicator will steadily flash to notify the user to replace it.

Warning: Do not cast battery into the fire. The battery may be explosive and may cause injuries.

Installation

These 5 connection ports accept short and open circuit as signal. Whether a short or an open circuit is to trigger the alarm or not, it really depends on your need.

You may program the device by initially open or close connection at the time of device joining to the ZigBee network.

To program Z801WLS to trigger the alarm by [an open circuit](#):

1. First short the S# port to GND. (select one of the 5 S ports)
 2. Restored the device to factory default setting.
 3. Then power cycle the device after the device has restored to factory default setting.
- The device regards [short circuit](#) is a normal status and therefore will not trigger the alarm.

To program Z801WLS to trigger the alarm by [a close circuit](#):

1. First leave the S# port [open](#). (select one of the 5 S ports)
 2. Restored the device to factory default setting.
 3. Then power cycle the device after the device has restored to factory default setting.
- The device regards [open circuit](#) is a normal status and therefore will not trigger the alarm.



Netvox related products



Z201B: Coordinator with CIE



Z601A: Alarm with Notification

[Next Page: Device Attributes Description for developers only]

Clusters of Home Automation for Z801WLS

Home Automation device feature is defined by the endpoint which contains functional clusters. Table 1 lists clusters for the endpoint of Z801WLS

- 1) End Point(s) : 0x01 、 0x02 、 0x03 、 0x04 、 0x05
- 2) Device ID : IAS Zone (0x0402)
- 3) EndPoint Cluster ID

Cluster ID for Z801WLS	
Server side	Client side
EP: 0x01 (Device ID: 0x0402)	
IAS Zone(0x0500)	None
Basic(0x0000)	
Identify(0x0003)	
Optional	
Power configuration(0x0001)	None

Attributes of the Basic Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>ZCLVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x03	M
0x0001	<i>ApplicationVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x1F	O
0x0002	<i>StackVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x2F	O
0x0003	<i>HWVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x2B	O
0x0004	<i>ManufacturerName</i>	Character string	0 – 32 bytes	Read only	netvox	O

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0005	<i>ModelIdentifier</i>	Character string	0 – 32 bytes	Read only	Z801WLSE3E D	O
0x0006	<i>DateCode</i>	Character string	0 – 16 bytes	Read only	20140210	O
0x0007	<i>PowerSource</i>	8-bit Enumeration	0x00 – 0xff	Read only	03	M
0x0010	<i>LocationDescription</i>	Character string	0 – 16 bytes	Read/write	-----	O
0x0011	<i>PhysicalEnvironment</i>	8-bit Enumeration	0x00 – 0xff	Read/write	0x00	O
0x0012	<i>DeviceEnabled</i>	Boolean	0x00 – 0x01	Read/write	0x01	M

Attributes of the Power Configuration Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0020	<i>BatteryVoltage</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	-	O
0x0034	<i>BatteryRatedVoltage</i>	Unsigned 8-bit integer	0x00 – 0xff	Read/write	0x3C	O
0x0035	<i>BatteryAlarmMask</i>	Bitmap (8-bits)	0000 000x	Read/write	0x01	O
0x0036	<i>BatteryVoltageMin Threshold</i>	Unsigned 8-bit integer	0x00 – 0xff	Read/write	0x18	O

Each endpoint is specified as water sensor.

Signal Port	Zone type
1	0x04: EMBER_ZCL_IAS_ZONE_TYPE_WATER_SENSOR = 0x002A
2	0x04: EMBER_ZCL_IAS_ZONE_TYPE_WATER_SENSOR = 0x002A
3	0x04: EMBER_ZCL_IAS_ZONE_TYPE_WATER_SENSOR = 0x002A
4	0x04: EMBER_ZCL_IAS_ZONE_TYPE_WATER_SENSOR = 0x002A
5	0x04: EMBER_ZCL_IAS_ZONE_TYPE_WATER_SENSOR = 0x002A

Important Maintenance Instructions

As the device is not water proof it is recommended to keep the device in a dry place. Liquid and heavy moisture contains minerals that may oxidize the electronic circuitry. In case of liquid spill, please leave the device to completely dry before storing or using.

- Do not use or store the device in a dusty area. Dust may cause electronic parts to destroy.
- Do not use or store the device in an over heated place. Store in a hotter temperature than the suggested maximum temperature may shorten the life span of the device; and may damage the battery and causing the housing to deform.
- Do not use or store the device in a very cold place than the suggested minimum temperature. The water can be condensed inside the device when moving to an area that is higher in temperature. This can severely damage the PCB board and circuitry. This may shorten the life span of the device; damage the battery and cause the housing to deform.
- Do not throw or strongly vibrate the device. This may damage connectivity of the electronic parts and other sensitive components on the PCB board.
- Do not use any strong chemical or washing to cleanse the device.
- Do not use any coloring materials on any removable parts which may cause poor connections and may keep the device from function properly.

All the above applies to the purchased products, battery and other packaged items. If any unusable or damaged items are found please return the product to your nearest authorized repairing center.