

User Manual

Shade

Model: Z815N

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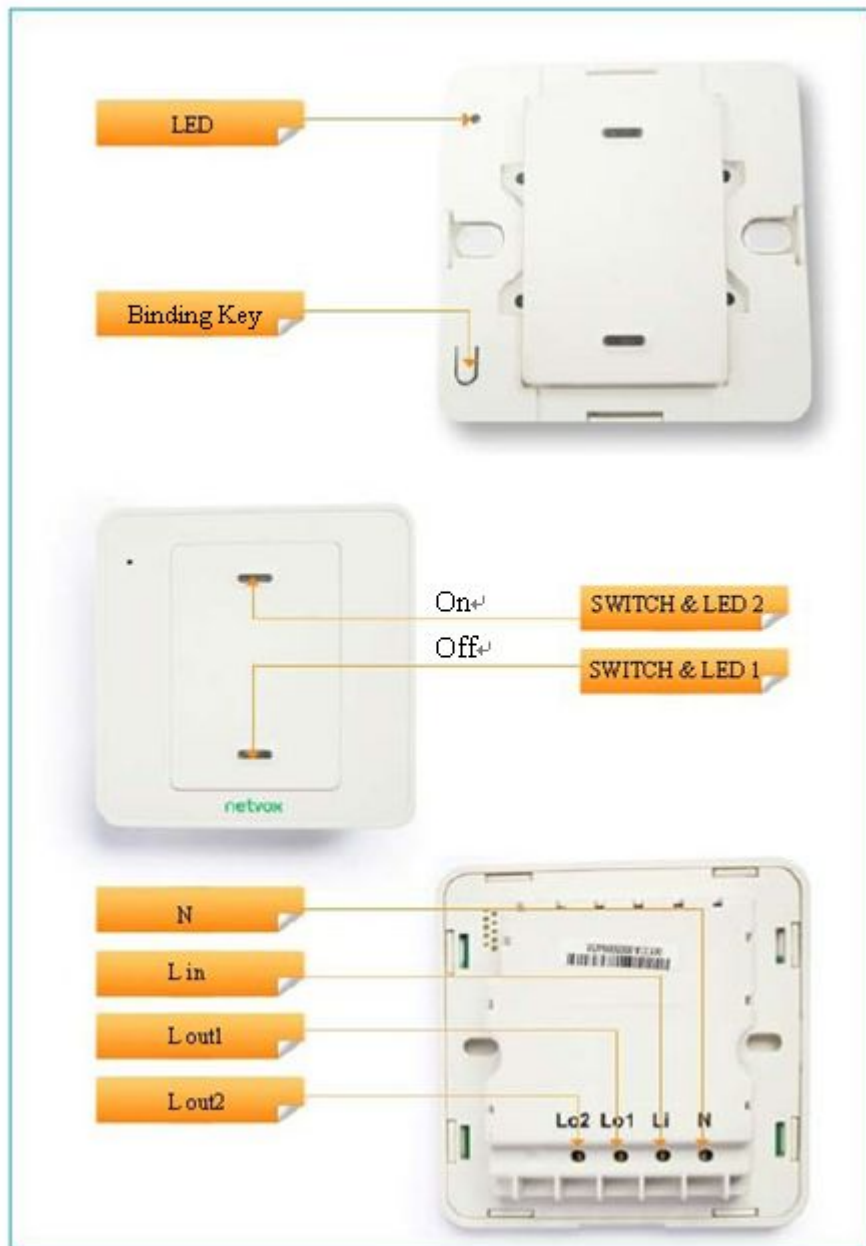
1. Introduction

Netvox Z815N, a wireless AC shade, acts as a Router Device in ZigBee network. Z815N can be bound with the On/Off or level controller. After binding, users are able to control Z815N using the controller.

What is ZigBee?

ZigBee is a short range wireless transmission technology based on IEEE802.15.4 standard and supports multiple network topologies such as point-to-point, point-to-multipoint, and mesh networks. It is defined for a general-purpose, cost-effective, low-power-consumption, low-data-rate, and easy-to-install wireless solution for industrial control, embedded sensing, medical data collection, smoke and intruder warning, building automation and home automation, etc.

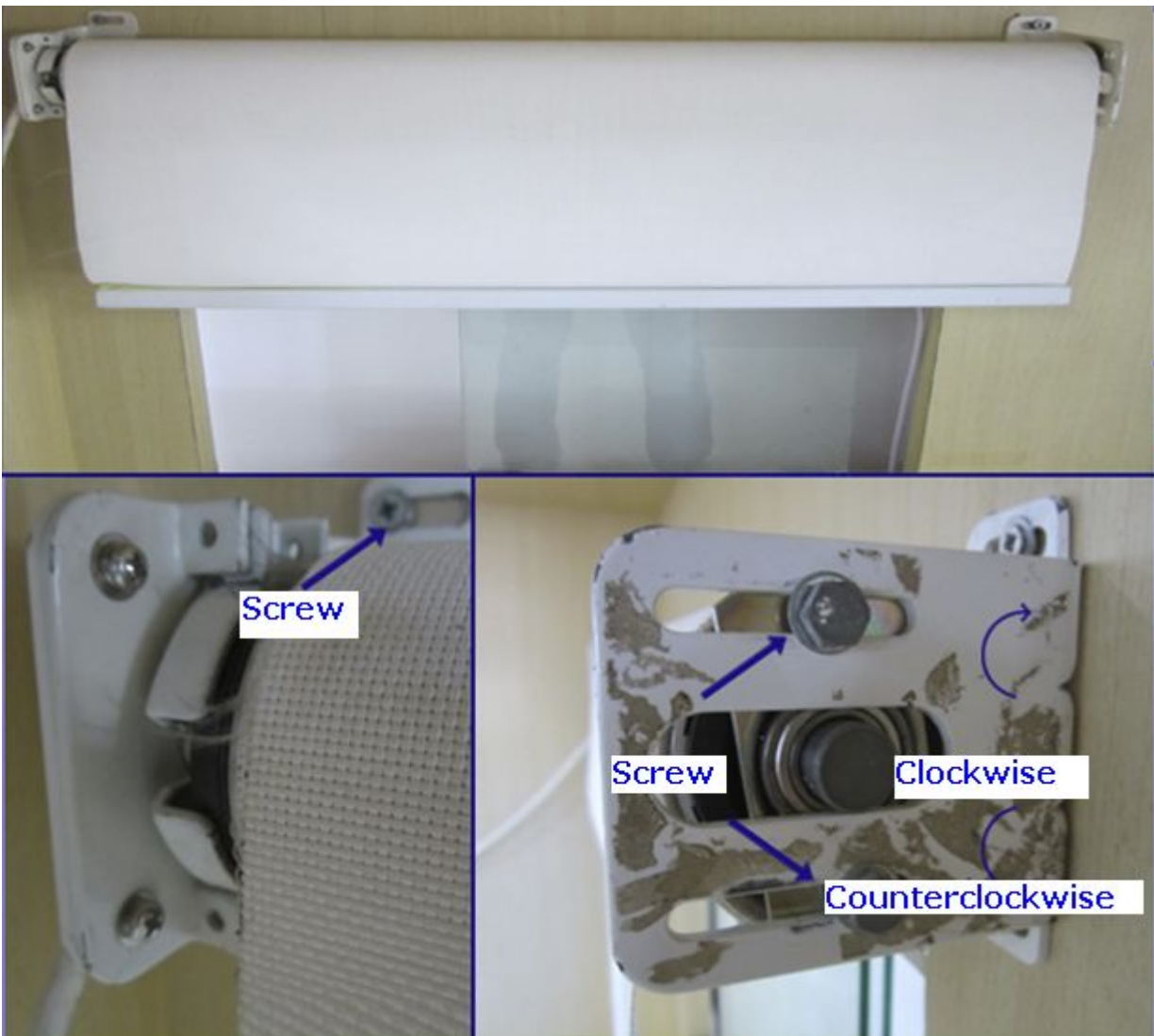
2. Product Appearance



3. Specification

- Fully IEEE 802.15.4 compliant
- Utilizes 2.4GHz ISM band; up to 16 channels
- Power supply: 100-240VAC; 50/60HZ
- Operating consumption: $\leq 17\text{mA}$
- Up to 210 meters wireless transmission range in non-obstacle space
- Easy installation and configuration

4. Installation





- The curtains should be installed using the suitable tools.
- We recommend that the installation should be performed by the professional workers.
- We recommend that users use the objects that insulate electricity to press the Binding Key..

5. Setting up Z815N

5-1. Join the ZigBee Network

After Z815N is powered on, it will search for an existing ZigBee network and send a request to join the network automatically. While Z815N is under the coverage from a coordinator or a router whose **permit-join feature is enabled**, Z815N will be permitted to join the network.

- Step1. Enable the permit-join function (valid for 60 seconds) of a coordinator or a router (please refer to the user manual of the coordinator or the router to enable the permit-join feature).
- Step2. Power on Z815N. It will start to search and join the network.
- Step3. The indicator will stay ON after it is joined successfully.

5-2. Permit-Join

Z815N is designed to work as a router. To allow other devices to join the ZigBee network, users could enable the Permit-Join feature using the tips:

- A. Press the *Binding Key* to enable the Permit-Join feature. The indicator will flash once per second.
- B. The default Permit-Join period of time is 60 seconds.

5-3. Binding

Z815N can be bound with the On/Off or level controller such as Netvox Z931/ Z501/ Z503.

- Step1. Press and hold the *Binding Key* for 3 seconds.
- Step2. Enable the binding feature of the On/Off or level controller.
- Step3. The indicator flashes **5 times** after the binding is completed; otherwise, it will flash **10 times**.

5-4. Learning Mode

When the rolling direction is incorrect, please use the Attribute 0x0002 (Cluster 0x0100) to reverse the rolling direction. After installation, users need to switch Z815N to the Learning Mode to make Z815N test the length of the curtain.

Step1. Entering into Learning Mode (2 methods)

Method A (through buttons):

- Step1. Press and hold *Binding Key* & *On* for 3 seconds. The indicator will flash **once**.
- Step2. Release both keys to enter into Learning Mode.

Method B (through Netvox application ZiG-BUTLER):

Step1. Modify the **Mode Attribute** of **ShadeConfig Cluster** to **0x01** to enter into Learning Mode.

After entering into Learning Mode, the curtain/shade will go to the fully-open/fully-roll-up status.

Step2. Learning the proper opened/roll-up level:

- a. When users would like to use the fully-open/fully-roll-up status for the proper level, go to step3.
- b. Press *ON* button or send out the ON command.
- c. While the curtain is in proper opened/roll-up level, press *ON* button or send out the ON command again to stop it.

Step3. Learning the proper closed/roll-down level:

- i. Press *OFF* button or send out the OFF command.
- ii. While the curtain is in proper closed/roll-down level, press *OFF* button or send out the OFF command again to stop it.
- iii. When users would like to use the fully-close/fully-roll-down status for the proper level, just apply the step i. and skip step ii.

When the learning is completed, the indicator will flash **5 times**. Otherwise, it will flash **20 times**.

5-5. Controlling

- ON button:
 - a. Press *ON* → the curtain/shade will go to the proper opened/roll-up status.
 - b. While the curtain/shade is opening/rolling-up, press *ON* again to stop it.
 - c. Press and hold the *ON* button → the curtain/shade will start to open/roll up. After release the *ON* button, the curtain/shade will stop.
- OFF button:
 - i. Press *OFF* → the curtain/shade will go to the proper closed/roll-down status.
 - ii. While the curtain/shade is closing/rolling-up, press *ON* again to stop it.
 - iii. Press and hold the *ON* button → the curtain/shade will start to open/roll up. After release the *ON* button, the curtain/shade will stop.

Please adjust the left-right curtain to proper position before controlling it.

5-6. Restore to Factory Setting

There are 2 methods to restore it to factory setting:

Method A:

Step1. Press and hold the *Binding Key* for 15 seconds. The network indicator will flash **3 times** (at the 3rd, the 10th, and the 15th second).

Step2. After releasing the *Binding Key*, press the *Binding Key* again within 2 seconds to complete the restore.

Method B:

Step1. Power off Z815N.

Step2. Press and hold the *Binding Key*, then power on Z815N to perform the restore.

6. Home Automation Clusters for Z815N

A cluster is a set of related attributes and commands which are grouped together to provide a specific function. A simple example of a cluster would be the On/Off cluster which defines how an on/off switch behaves. This table lists the clusters which are supported by Z815N.

Server side	Client side
EP 0x01 (Device ID: Shade (0x0200)	
Basic(0x0000)	<i>None</i>
Identify(0x0003)	
Groups(0x0004)	
Scenes(0x0005)	
On/Off(0x0006)	
Level Control(0x0008)	
Shade Configuration(0x0100)	
Commissioning(0x0015)	
Diagnostics (0x0B05)	

Attributes of the Basic Device Information attribute set

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>ZCLVersion</i>	8-bit Unsigned integer	0x00 –0xff	Read only	0x03	M
0x0001	<i>ApplicationVersion</i>	8-bit Unsigned integer	0x00 –0xff	Read only	30	O
0x0002	<i>StackVersion</i>	8-bit Unsigned integer	0x00 –0xff	Read only	53	O
0x0003	<i>HWVersion</i>	8-bit Unsigned integer	0x00 –0xff	Read only	13	O
0x0004	<i>ManufacturerName</i>	Character string	0 – 32 Bytes	Read only	netvox	O
0x0005	<i>ModelIdentifier</i>	Character string	0 – 32bytes	Read only	Z815N E3R	O

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0006	<i>DateCode</i>	Character string	0 – 16 bytes	Read only	20141030	O
0x0007	<i>PowerSource</i>	8-bit Enumeration	0x00 –0xff	Read only	0x01	M

7. Related Devices

Please refer to the below Curtain Motor spec requirements as below,

1. AC motor;
 2. Has much difference between active-mode power consumption and standby-mode power consumption;
 3. Built-in process automation and control; can be opened/closed manually when power outage;
 4. Supports synchronous belt drives;
 5. Constant speed motor; central position can be arranged;
 6. Motor start time is immediate and consistent
- EG 800-80AC02 Curtain Motor
<http://www.wyongli.com>
 - HY168A-SSB Curtain Motor
<http://www.siaer.com/>
 - HY45SL-10/17 Curtain Motor
<http://www.siaer.com>

8. Important Maintenance Instructions

- Please keep the device in a dry place. Precipitation, humidity, and all types of liquids or moisture can contain minerals that corrode electronic circuits. In cases of accidental liquid spills to a device, please leave the device dry properly before storing or using.
- Do not use or store the device in dusty or dirty areas.
- Do not use or store the device in extremely hot temperatures. High temperatures may damage the device or battery.
- Do not use or store the device in extremely cold temperatures. When the device warms to its normal temperature, moisture can form inside the device and damage the device or battery.
- Do not drop, knock, or shake the device. Rough handling would break it.
- Do not use strong chemicals or washing to clean the device.
- Do not paint the device. Paint would cause improper operation.

Handle your device, battery, and accessories with care. The suggestions above help you keep your device operational. For damaged device, please contact the authorized service center in your area.