User Manual

Wireless Touch Panel Switch with Power Meter (1-Gang)

Model: Z825A

Firmware: V1.1
Hardware: V1.0 and above

20150922
FW V2.1 (20150922)
HW V1.0

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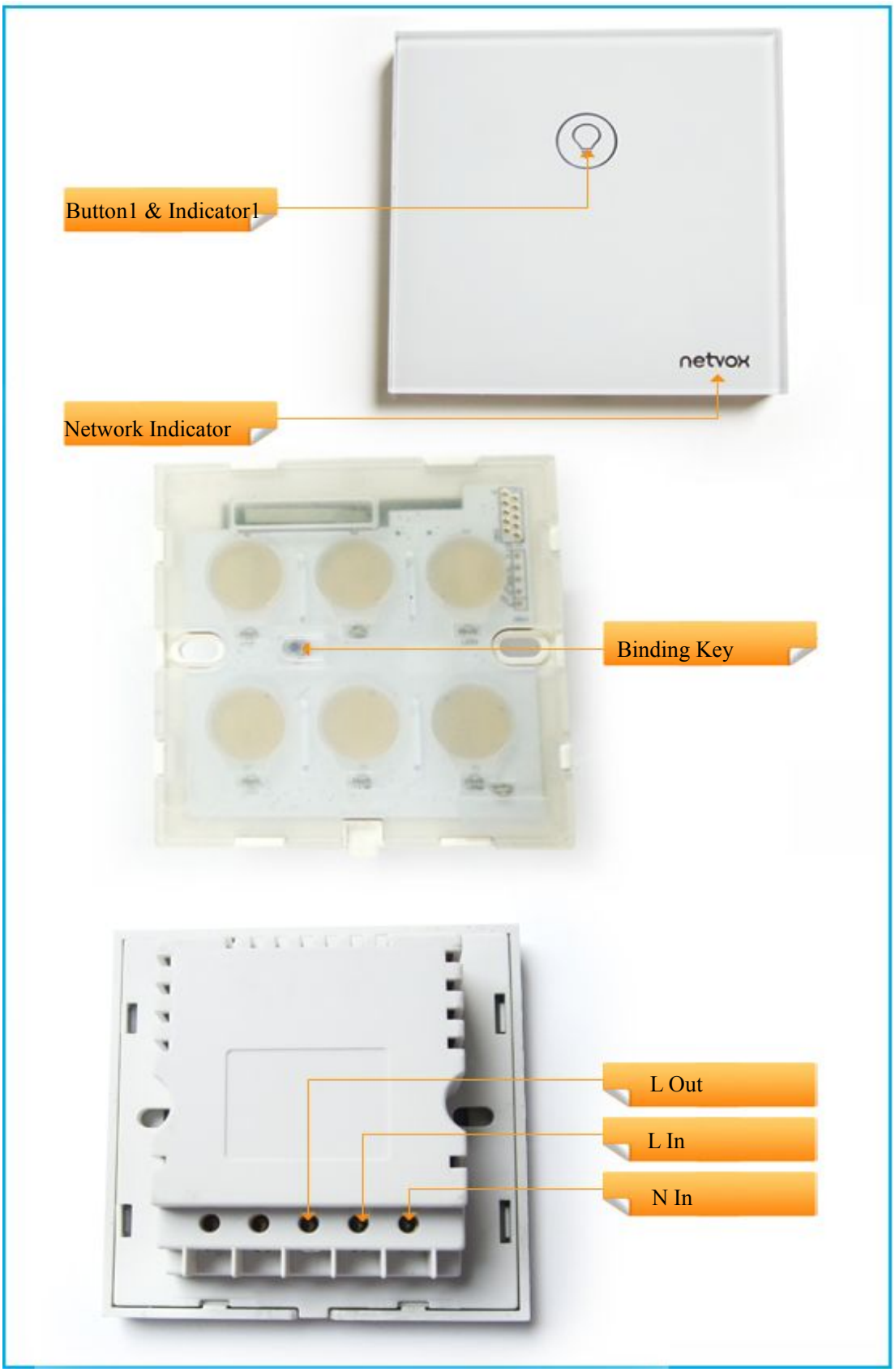
1. Introduction

Netvox Z825A, 1-gang touch panel wall switch, acts as a Router Device in ZigBee network. It allows users to turn On/Off the electrical appliances which connect with its AC outputs. Based on ZigBee technology, users are also able to control the switches wirelessly using paired On/Off ZigBee enabled remote controller. Z825A is equipped with current/voltage/power/energy consumption monitoring feature. It helps people manage and save the power spending much easier.

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
- Power consumption: 7mA@230V
- Resistive load: 8A/250VAC; P:2000W
- Inductive load: 5A/250VAC; P:1250W （COSφ=0.4）
- Monitoring range 100mA to 8A with ±1% accuracy
- Relay Lifetime: 100,000 times
- Up to 210 meters wireless transmission range in non-obstacle space
- Easy installation and configuration

4. Installation

- This device is NOT truly waterproof/ resistant and is for indoor use.
- Power on Z825A using 100~240 VAC power supply.
- Load Protection:

  The current is over 8A → it will be off-load in 120 seconds

  The current is over 10A → it will be off-load in 60 seconds

  The current is over 12A → it will be off-load in 30 seconds
- The power consumption data is saved every 10 seconds

5. Setting up Z825A

5-1. Join the ZigBee Network

After Z825A is turned on, it will search for an existing ZigBee network and send a request to join the network automatically. While Z825A is under the coverage from a coordinator or a router whose **permit-join feature is enabled**, Z825A 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 Z825A. It will start to search and join the network.
Step3. The Network Indicator flashes **cyan** **twice** when it finds a network to join.
Step4. The Network Indicator stays **cyan** after it is joined successfully.

5-2. Permit-Join

Z825A 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 Network Indicator will flash **cyan** per second.
B. The default Permit-Join period of time is 60 seconds.

Z825A allows up to 14 End Devices to join its network.
Note: Please remove the touch panel cover to press the binding key.

5-3. Binding

Z825A can be bound with the On/Off device such as Netvox Z501.

Step1. Press and hold the Binding Key for 3 seconds. The Network Indicator will flash **cyan** **once**.
Step2. Release the Binding Key and then short press the Binding Key again within 5 seconds.
Step3. Enable the binding feature of the On/Off device.
Step4. The Network Indicator flashes **cyan 5 times** after the binding is completed; otherwise, it will flash **cyan 10 times**.

Note: It supports 36 binding rules/ 36 groups/ 32 scenes

5-4. Control

A. Remote Control
Users are able to use the device which is bound with Z825A to control it.
While the switch is ON, the indicator shows **green**.
While the switch is OFF, the indicator shows **red**.

B. Touch Panel Control
Users also can control Z825A via the touch panel.

C. Backlight of tough key: the backlight of touch keys can be adjusted from range 0x00 ~ 0xFE. Users can press binding key for 6 seconds (the green light flash twice on 3rd and 6th second.) to turn on /off backlight of touch keys .

5-5. Power Metering

Z825A reports the power consumption data to the ZigBee network.
The related Cluster ID:

- Simple Metering Cluster ID (0x0702)
- Electrical Measurement Cluster ID (0x0B04)

The related Attribute ID of Simple Metering Cluster ID (0x0702):

- Current Attribute ID: 0xE000; unit: mA
- Voltage Attribute ID: 0xE001; unit: V
- Power Attribute ID: 0xE002; unit: W
- Energy Attribute ID: 0xE003; related to AttributeID CurrentSummationDeliver (0x0000); unit: Wh

The related Attribute ID of Electrical Measurement Cluster ID (0x0B04):

- Current Attribute ID: 0x0508
- Voltage Attribute ID: 0x0505
- Power Attribute ID: 0x050B
- Power Factor Attribute ID: 0x0510

The command to reset power consumption summation: 0xE0. The format is:

Bits:8	16	8	8	8
Frame control	Manufacturer code	Transaction Sequence number	Command identifer	Frame payload
				Action
0x05	0x109F		0xe0	0x00

(clusterid：0x0702，Action：0x00)

5-6. Reset Power Consumption Summation

To reset the power consumption data, please follow the steps:

Step1. Press and hold the Binding Key for 20 seconds. The Network Indicator will flash **cyan 5 times** (at the 3rd, 6th, 10th, 15th, and 20th second).

Step2. After releasing the Binding Key, press switch key (Button 1) within 2 seconds. The Network Indicator will flash **cyan once**.

5-7. Restore to Factory Setting

To restore it to factory setting, please follow the steps:

Step1. Press and hold the *Binding Key* for 15 seconds. The Network Indicator will flash **cyan 4 times** (at 3rd, 6th, 10th , and 15th second).

Step2. After releasing the *Binding Key*, press switch key (*Button 1*) within 2 seconds. The Network Indicator will flash **cyan**. After the Network Indicator stops flashing, the restore is completed.

6. Home Automation Clusters for Z825A

1.End Point(s)：0x01
2.Device ID：Mains Power Outlet (0009)
3.EndPoint Cluster ID

Cluster ID for Z-825A	
Server side	**Client side**
EP 0x01 (Device ID: Mains Power Outlet (0009))	
Basic(0x0000)	*None*
Identify(0x0003)	
Group(0x0004)	
Scene(0x0005)	
On/Off(0x0006)	
Meter(0x0702)	
Diagnostics(0x0B05)	
Commissioning（0x0015）	
Electrical Measurement （0x0B04）	

Attributes of the Basic Device Information attribute set

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	*ZCLVersion*	8-bit Unsigned integer	0x00 –0xff	Read only	0x03	M
0x0001	*ApplicationVersion*	8-bit Unsigned integer	0x00 –0xff	Read only	0x15	O
0x0002	*StackVersion*	8-bit Unsigned integer	0x00 –0xff	Read only	0x33	O
0x0003	*HWVersion*	8-bit Unsigned integer	0x00 –0xff	Read only	0x0B	O
0x0004	*ManufacturerName*	Character string	0 – 32 Bytes	Read only	netvox	O
0x0005	*ModelIdentifier*	Character string	0 – 32bytes	Read only	Z-825AE3 R	O
0x0006	*DateCode*	Character string	0 – 16 bytes	Read only	20140605	O

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0007	*PowerSource*	8-bit Enumeration	0x00 –0xff	Read only	0x01	M

7. Loading property

Rated Load（AC）** Remark**	Max. Load with LEDs **Remark**	Max. Inductive Load（cosφ=0.4）	Max. Load with Electric Motors	Max. Surge Endurable	Surge Detecion	Overload Protection with Auto Power Cutoff
10A/250V	400W/8 LEDs	8A/250V	1.5HP/250V	150A	YES	Yes

This device is not waterproof, after network configuration, place it indoor.

Note：

1. When measured current is over 10A, the device will cut power within 2 seconds and check if attribute Bit1(Current OverLoad) level of ACAlarmsMask is 1. If it's 1 and then device will send Alarm. If it's 0 and then device will not send Alarm. When alarm is on, AlarmCluster = 0x0B04, AlarmCode = 0xF0；network indicator flash 10 times (10, 250, 250).

2. Power data saving chip AT2401 : saving data every 30 seconds.
   Power data saving chip AT2402 : saving data every 10 seconds.
   Power data saving chip:AT2404/08: saving data every second.

3. When device is loaded, it would generate peak power (150A) and device would cut off power in 3 seconds. It will also send alarm warning, AlarmCluster = 0x0B04， AlarmCode = 0xEF；network indicator lashes 20 times (20,250,250).

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.