Switch Receiver User Manual

Model: Z801RX

Firmware: V4.1
Hardware: V4.4/V4.5

Model: Z801RX

Binding key

Status indicator

Network indicator

GND
+5V

5V DC Input

5V DC Output

Binding key

Status indicator

Network indicator
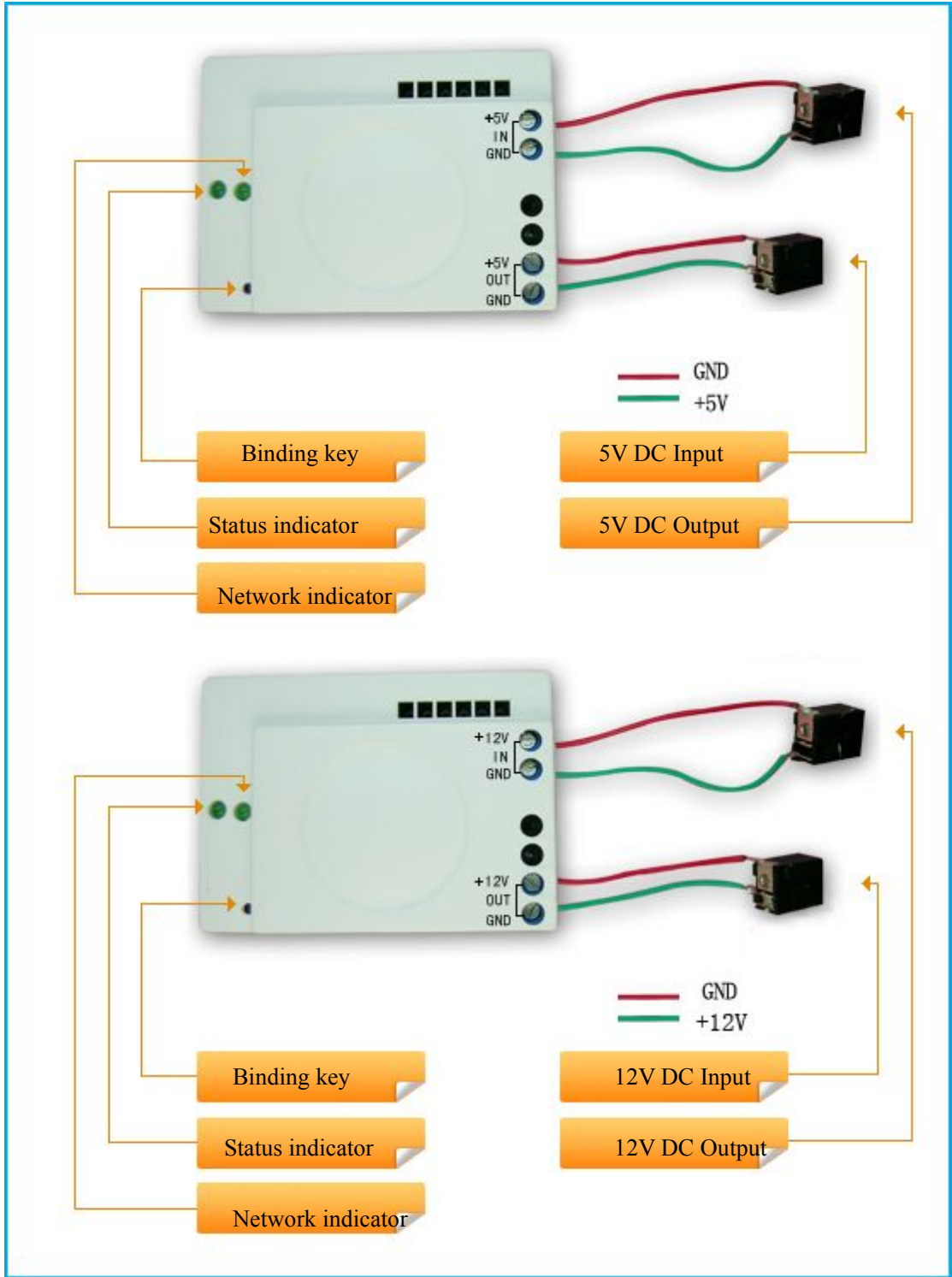
GND
+12V

12V DC Input

12V DC Output

Figure 1: Z801RX device. 5V DC output and 12V DC output models

Introduction

NETVOX Z801RX acts as a **router device** in the ZigBee Home Automation Profile network. It allows you to control ON/OFF your DC appliances attached to Z801RX. Any ZigBee HA Profile enabled on/off remote controller can be paired with Z801RX for wireless control.

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 sensors to exchange data. Sensor to sensor 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 7 channels)

➤ Either 5V DC or 12V DC powered

➤ Built-in metal antenna

➤ Transmit up to 80meters in radius range @ optimum condition

➤ Simple setup and configuration

Setting up the Z801RX and network

Here are the summarized steps

(1) Startup and network association
(2) Bind the device with other device where applicable
    (i.e. bind it with a ZigBee switch for wireless control).
(3) It is ready to be used.

Step 1. Startup and Network Association

To allowZ801RX to function, it must first join to a ZigBee network either through a coordinator or a router device. When it is given power it will automatically start searching for an existed network. So before you give power toZ801RX 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 thatZ801RX can detect and automatically join to the network through it. Make sure the coordinator is turned on.

Operation:
Step 1: First make sure you have opened up permit-join function (valid for 60 seconds) on a coordinator or a router device in the network.
Step 2: Now power on the Z801RX device (Connect the power to the 5V DC or 12V DC input) to let it search for the network automatically.
Step 3: if joining is in process the indicator on the Z800 will flash then turn non-flashing. A non-flashing solid light indicates successful otherwise the indicator stays dark. If unsuccessful remove power from the device and repeat the whole procedure again. Make sure that the permit-join of a router or coordinator is enabled first.

.

Step 2. Device pairing (binding)

To wirelessly control Z801RX, it is required to pair with ZigBee enabled on/off/toggle remote controller.

Operation: on Z801RX short press the binding key once, after 5 seconds it will send out binding request to the air. Now do the same on a switch device (i.e. Z503, Z501, Z801TX) to exchange binding request. Please refer to the switch device user manual on how to bind. The status indicator on Z801RX **flashes 5 times when successful** otherwise it will not flash.

Notes for application developer

Z801RX can be logically bound to a Home Automation On/Off client cluster, such as Netvox Z801TX or a wall switch ZB02.

How to use Z801RX

When the device has joined to the network and paired with a remote controller the device is ready to be used. Z801RX should now be able to responds to on, off, toggle control command from a wireless remote controller.

Operation: If the Z801RX device is properly bound to a switch device, you should see Z801RX respond to on or off instruction wirelessly.

Restore to factory setting

Z801RX is capable of storing and saving includes network routing information. If you wish to remove Z801RX from the network, you would need to clear it to join to a new network by simply reset the device to restore to the factory setting.

Operation:
Step 1. To reset the device, first remove the power then hold on to the binding key.
Step 2. While doing so, power up the device again to give power then release the key.
Step 3. If restore to factory setting is **successful, you should see the indicator light flashes quickly.** Now the device has restored to the factory setting.

If you wish Z801RX to join to a new network please power cycle the device again to put the device into search for a network mode.

Clusters of Home Automation for Z801RX

Home Automation device feature is defined by the endpoint which contains functional clusters. Table 1 lists clusters for the endpoint of Z801RX

   1.End Point(s)：0x01
    2.Device ID：On/Off Output (0002)
    3.EndPoint Cluster ID

Cluster ID for Z801RX	
Server side	**Client side**
EP 0X01 (Device ID: On/Off Output (0002)**)**	
Basic(0x0000)	*None*
Identify(0x0003)	
Group(0x0004)	
Scene(0x0005)	
On/Off(0x0006)	
Commissiong (0x0015)	
Diagnostics(0x0B05)	

Attributes of the Basic Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	*ZCLVersion*	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X03	M
0x0001	*ApplicationVersion*	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X1E	O
0x0002	*StackVersion*	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X35	O
0x0003	*HWVersion*	Unsigned 8-bit integer	0x00 – 0xff	Read only	0X2C	O
0x0004	*ManufacturerName*	Character string	0 – 16 bytes	Read only	netvox	O
0x0005	*ModelIdentifier*	Character	0 – 16	Read only	Z801RXE3R	O

		string	bytes			
0x0006	*DateCode*	Character string	0 – 16 bytes	Read only	2014-04-30	O
0x0007	*PowerSource*	8-bit Enumeration	0x00 – 0xff	Read only	0X04	M
0x0010	*LocationDescription*	Character string	0 – 16 bytes	Read/write	-	O
0x0011	*PhysicalEnvironment*	8-bit Enumeration	0x00 – 0xff	Read/write	0x00	O
0x0012	*DeviceEnabled*	Boolean	0x00 – 0x01	Read/write	0x01	M

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 my 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.