



ZigBee™ - Combined Interface

User Manual

Combined Interface

Model: ZL01E

20131216
FW V4.0 (20131216)
HW V1.3

Table of Contents

1. Introduction.....	2
2. Product Appearance	3
3. Specification	4
4. Installation.....	4
5. Setting up ZL01E	5
5-1. Join the ZigBee Network.....	5
5-2. Permit-Join	5
5-3. Switch Transmission Mode	5
5-4. Control and Management	6
5-5. Restore to Factory Setting	6
6. Home Automation Clusters for ZL01E.....	6
7. Important Maintenance Instructions.....	8

1. Introduction

Netvox ZL01E, the ZigBee gateway, acts as a Coordinator or a Router Device in ZigBee network. It is designed to interface the USB terminals with ZigBee network. There are two transmission modes: the data-transmission mode and the command-transmission mode. Any terminal is able to send data wirelessly via ZL01E under the data-transmission mode. Under the command-transmission mode, it is able to collect network information using ZigBee application.

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: 5V DC
- Up to 150 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.



5. Setting up ZL01E

5-1. Join the ZigBee Network

A. When ZL01E is a Coordinator.

It will establish a ZigBee network after powering on. The indicator will stay **ON** after the network is created successfully. Otherwise, the indicator will be **OFF**.

B. When ZL01E is a Router Device.

It will search for an existing ZigBee network and send a request to join the network automatically after powering on. While ZL01E is under the coverage from a coordinator or a router whose **permit-join feature is enabled**, ZL01E will be permitted to join the network. The indicator will stay **ON** after it is joined successfully.

5-2. Permit-Join

ZL01E is designed to work as a coordinator or a router. To allow other devices to join the ZigBee network, users could enable the Permit-Join feature using the tips:

- A. Press the *Permit-join Key* once 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. Switch Transmission Mode

ZL01E performs two transmission modes: the data-transmission mode (default) and the command-transmission mode.

To switch the modes, please use this command format:

02	Cmd=0x0FFE	Len=0x11	Data	CRC
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The command to switch to data-transmission mode

"020FFE11777772E6E6574766F782E636F6D2E636ECB"

It is actually "www.netvox.com.cn"

After it switches to data-transmission mode successfully, the stream "021FFE0100E0" is returned.

In data transmission, ZL01E broadcasts data wirelessly. Raw data '010203', for example, can be entered and transmitted directly. Raw data can also be received wirelessly without any need of conversion. The data received can be ported to serial connection of, for example, a PC.

The command to switch to command-transmission mode

"020FFE115757572E4E4554564F582E434F4D2E434ECB"

It is actually "WWW.NETVOX.COM.CN"

After it switches command-transmission mode successfully, the stream "021FFE0100E0" is returned. The module strictly follows Profile Command to sent and receive control commands.

5-4. Control and Management

Users could use ZiG-BUTLER to manage your ZigBee network. From ZiG-BUTLER, you are able to send ON or OFF command to the ZigBee network. Follow the instructions bellow for control and management.

5-5. Restore to Factory Setting

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

- Step1. Power off ZL01E.
- Step2. Press and hold the *Permit-join Key*.
- Step3. Do not release the key and power on ZL01E to complete the restore.

6. Home Automation Clusters for ZL01E

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 ZL01E.

- 1.End Point(s) : 0x0A
- 2.Device ID : Combined Interface (0x0007)
- 3.EndPoint Cluster ID

Server side	Client side
Mandatory	
Basic(0x0000)	
Identify(0x0003)	
Commissioning(0x0015)	
Diagnostics(0x0B05)	
Optional	

This lists the 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	0x28	O
0x0002	<i>StackVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x33	O
0x0003	<i>HWVersion</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x0D	O
0x0004	<i>ManufacturerName</i>	Character string	0 – 32 bytes	Read only	netvox	O
0x0005	<i>ModelIdentifier</i>	Character string	0 – 32 bytes	Read only	ZL01EE3C /ZL01EE3R	O
0x0006	<i>DateCode</i>	Character string	0 – 16 bytes	Read only	20131216	O
0x0007	<i>PowerSource</i>	8-bit Enumeration	0x00 – 0xff	Read only	0x04	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

7. 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.