

PAU01

Z-Wave Dongle

Philio Z-Wave Utility

Manual



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1. Copyright and Confidential

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3. Abbreviations

Abbreviation	Explanation
NID	Network ID
RF	Radio Frequency
SDK	Software Development Kit
SIS	SUC ID Server
SUC	Static Update Controller

4. Introduction

The “Philio Z-Wave Utility” application is a tool for Philio RD testing, and also suitable for product line testing in factory.

The purpose of this manual is to help user familiar the functionality of the application, and operate the user interface.

This tool is for Z-Wave product, some concept of the Z-Wave network, or the specification of the Z-Wave command, please refer to the Z-Wave SDK first.

The follow subjects will describe these scopes:

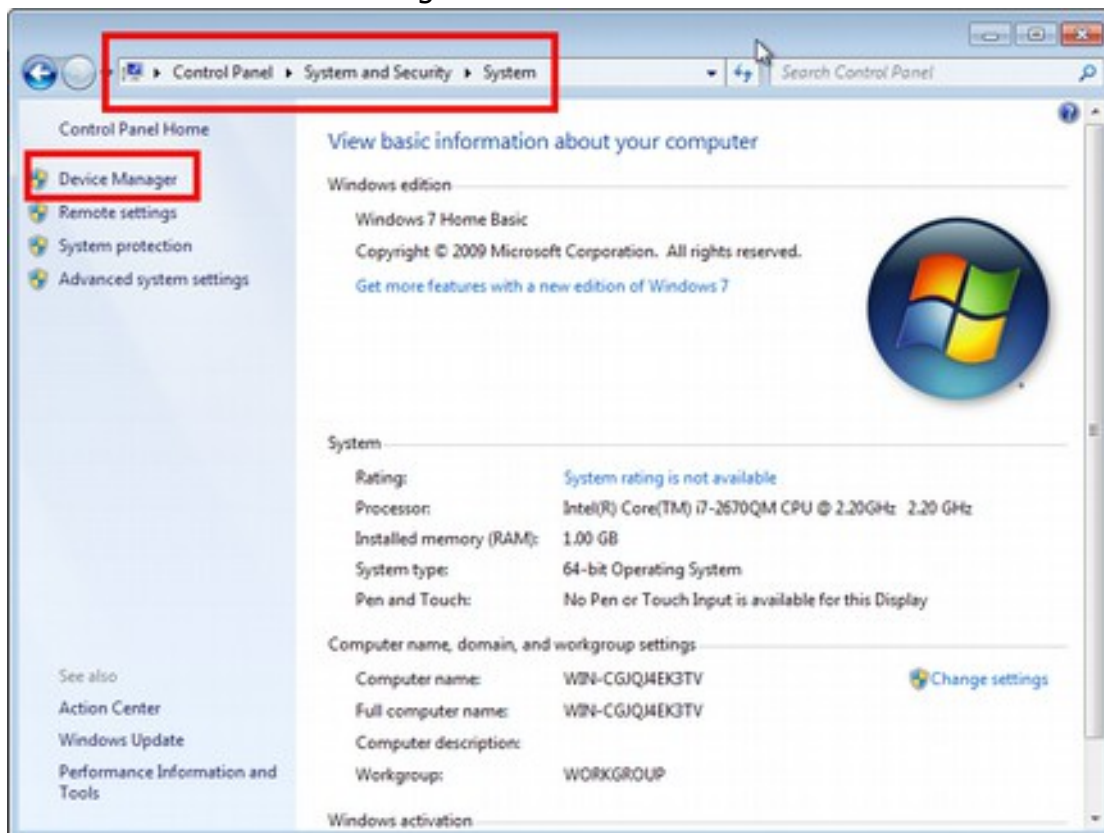
- Installation
- Start
- Binding
- Report Form
- Z-Wave Command Function
- Consistent Test

5. Installation

5.1. Install Dongle Driver

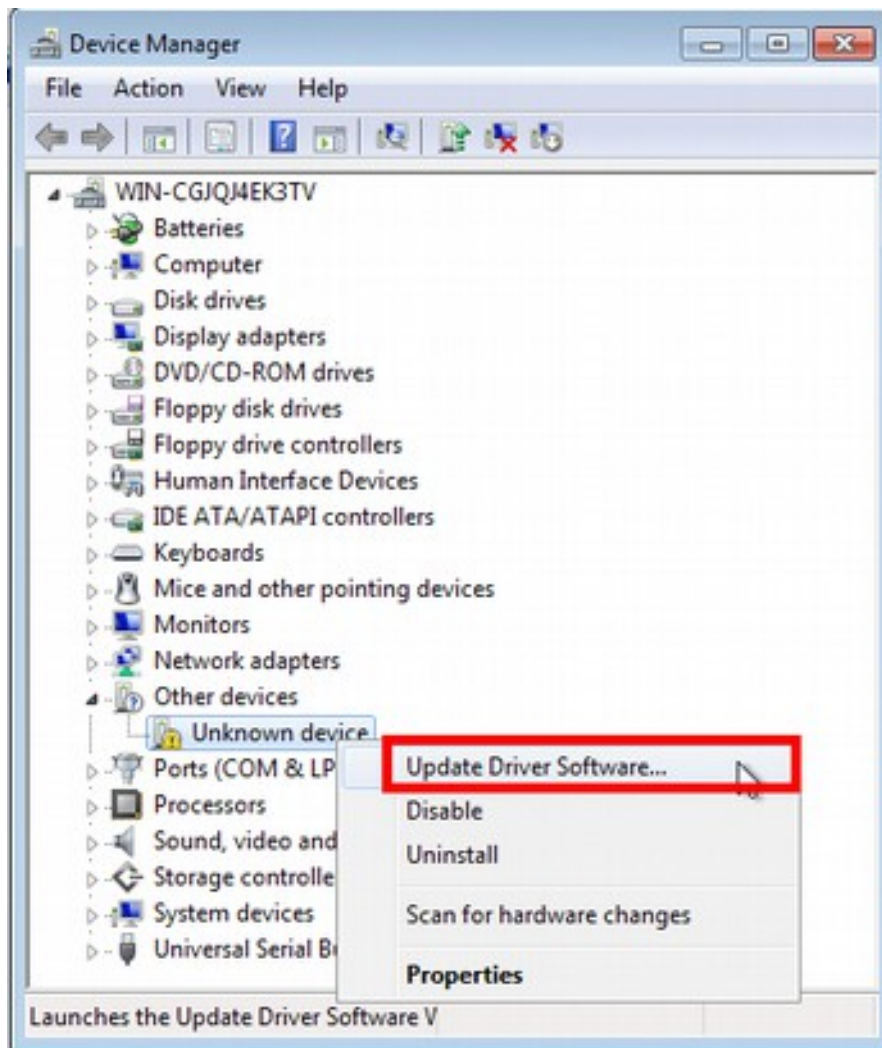
The dongle need the PC driver.

Please extract the "ZW040x_USB_VCP_PC_Driver.zip". There is a uzb.inf file. Insert the dongle to the PC, in the first time, the PC will issue the driver can't found. You can observe the Control Panel → System and Security → System → Hardware → Device Manager

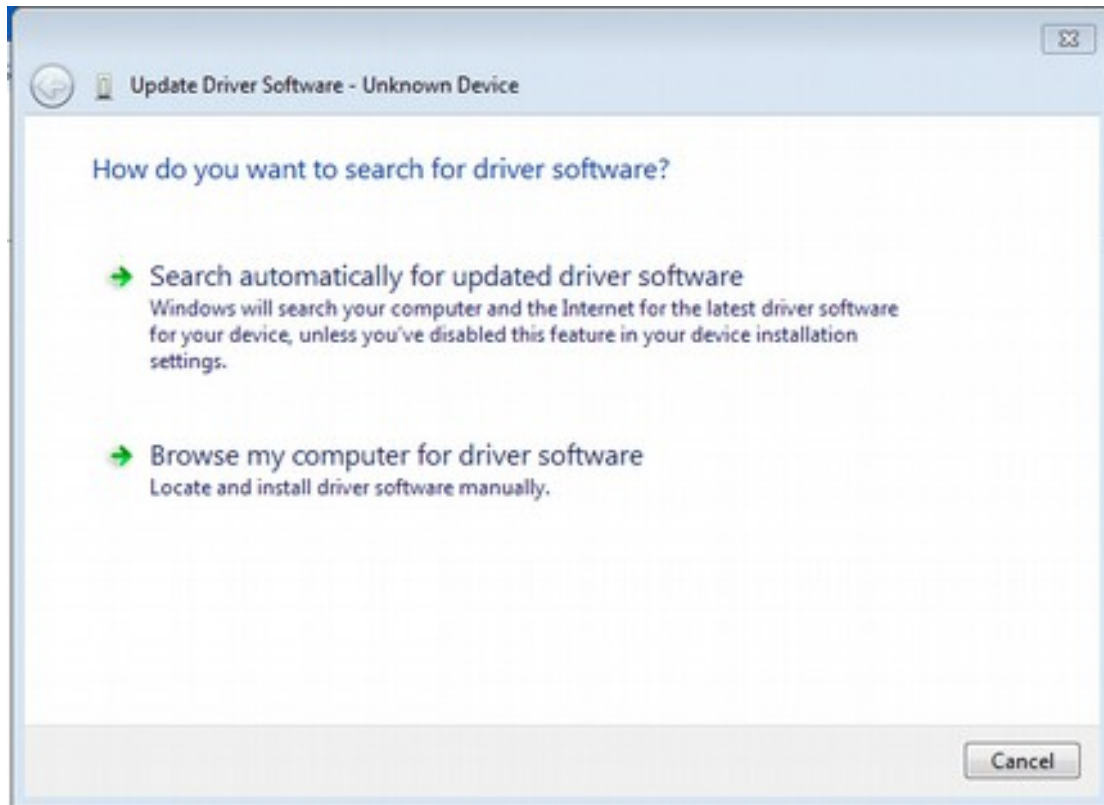


Click the "Device Manager".

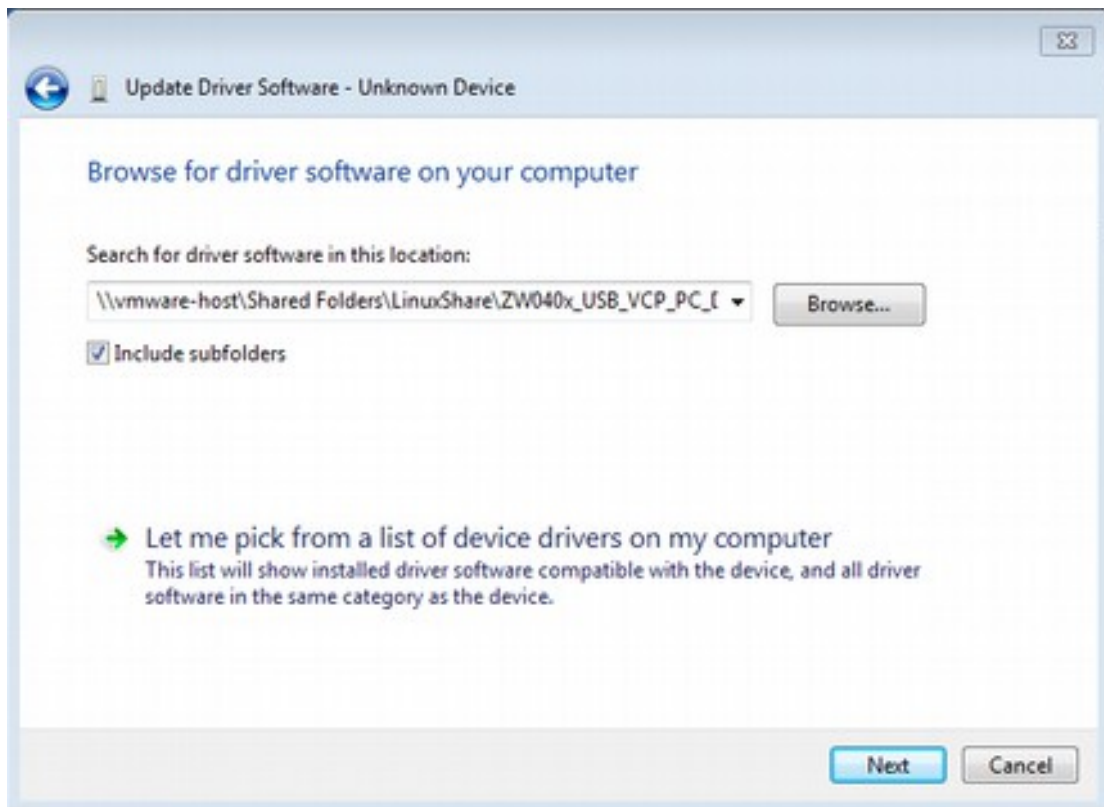
Right Click the "Unknown device". And select "Update Driver Software..."



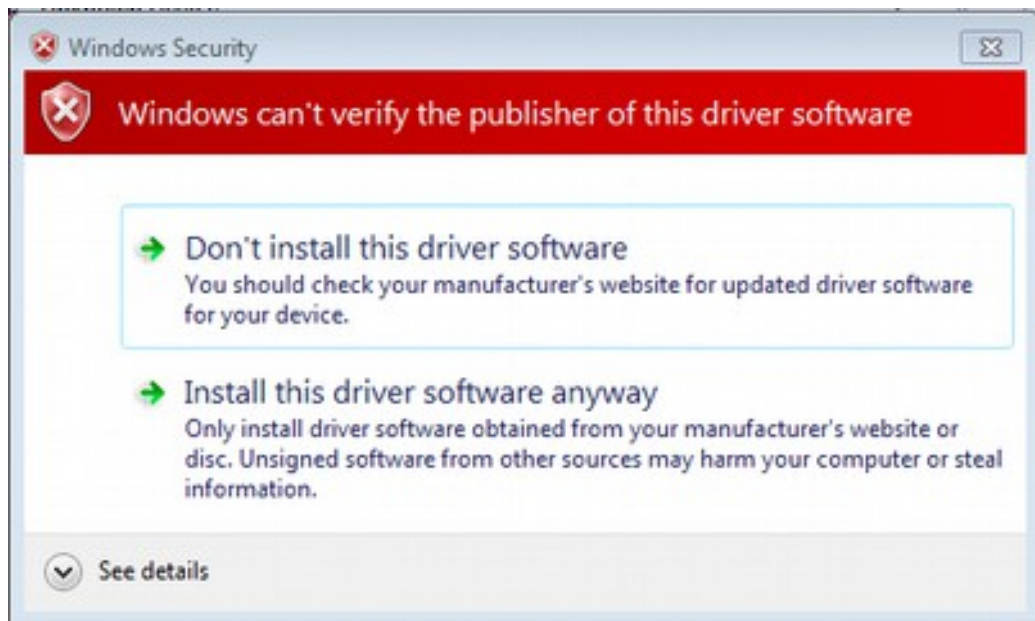
Click "Browse my computer for driver software".



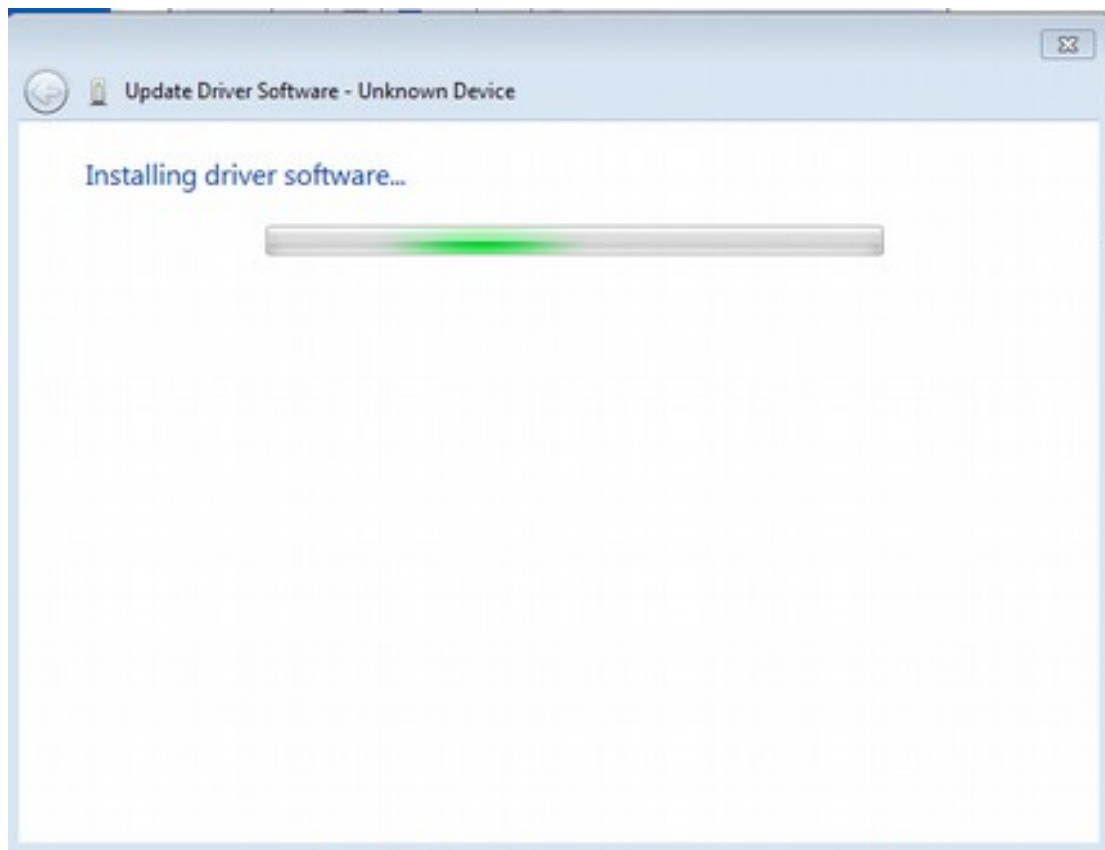
Fill the driver file location. And click "Next".



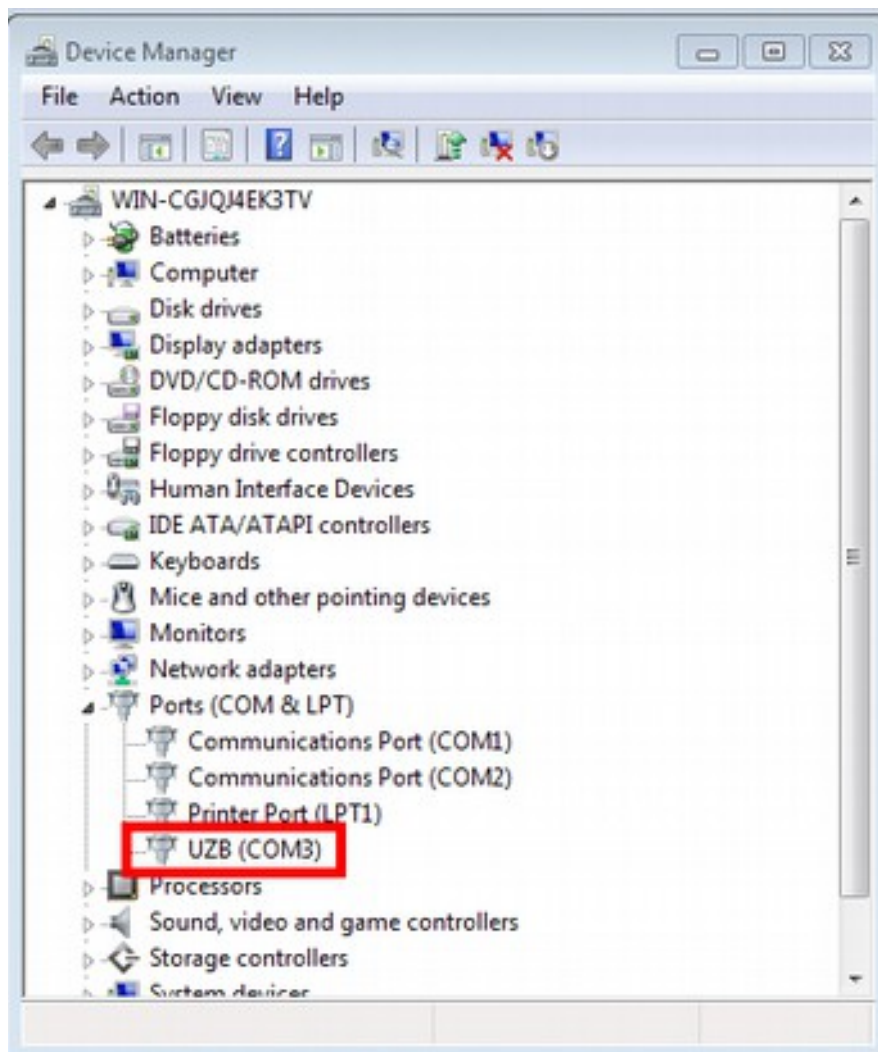
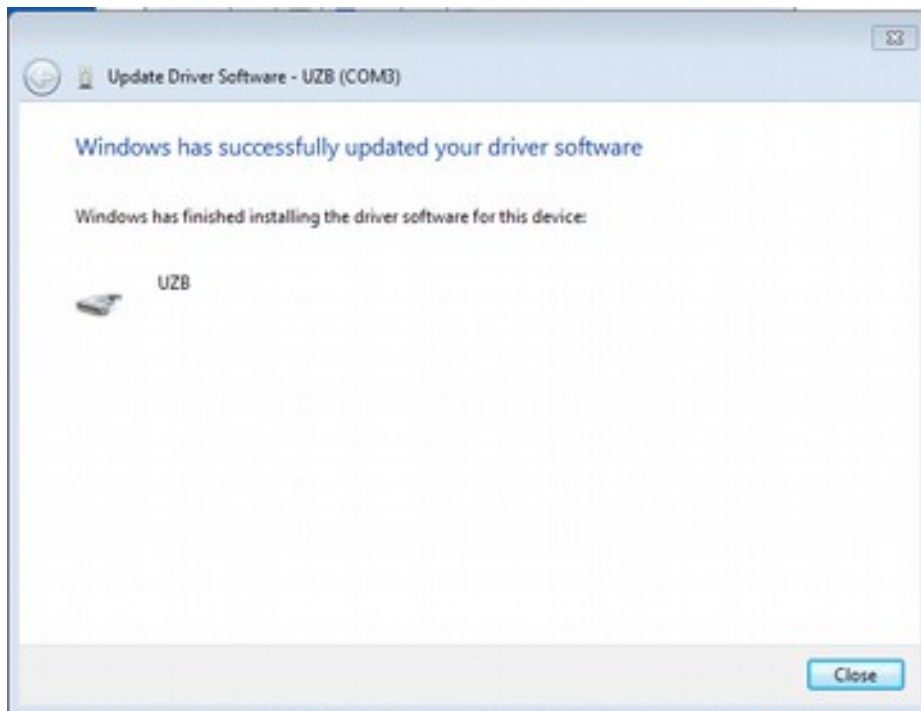
Select "Install this driver software anyway".



Wait a while.



Install OK.



5.2. Install Application

Extract the "PhilioZWaveUtil.7z" to the folder whatever you want, but please don't install on the remote disk, it may cause some error.

Insert the dongle into the PC USB socket. And then execute the "PhilioZWaveUtil.exe" to start the application.

Note: This tool is designed by .Net Framework, you need to install .Net Framework 4.0 before running the application. You can easily use the "Windows Update" to install that. Windows 7 already install .Net Framework in default.

6. Start

Insert the USB dongle, and execute the "PhilioZWaveUtil.exe" to start the application. If the application can't find the USB dongle, it will show the pop window, and click the OK button to close the application.

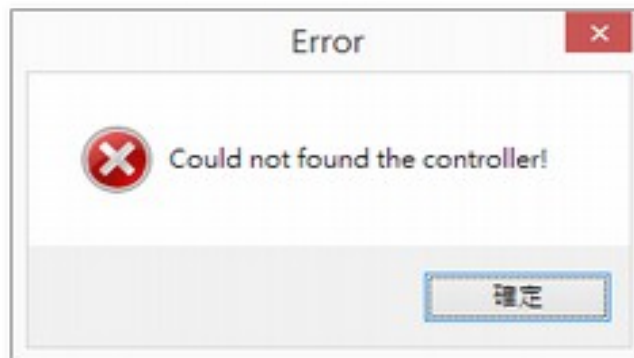


Figure 1 USB dongle not found

Normally, the application will read controller information from the USB dongle; you can see the progress bar is running.

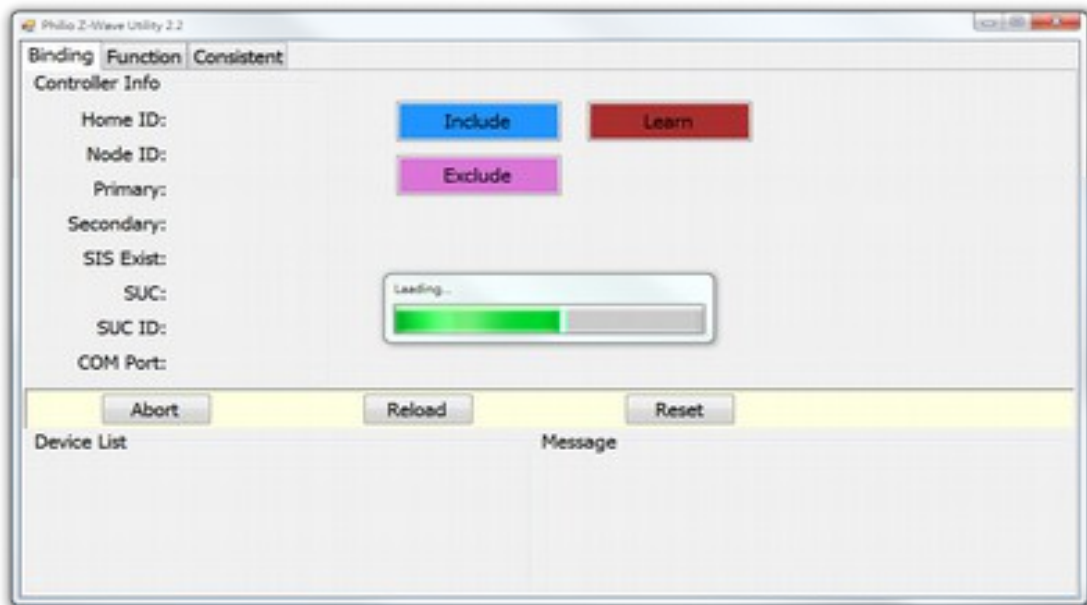


Figure 2 Reading the information of the controller

After finish, it will show the basic information of the dongle.

- Home ID:
The home ID of the controller.
- Node ID:
The node ID of the controller. If the controller is secondary controller, this value may not be 1.
- Primary:
Is the dongle is the primary controller?
- Secondary:
Is the dongle is the secondary controller?
- SIS Exist:
Is the Z-Wave network exist the SIS?
- SUC:
Is this dongle is the SUC?
- SUC ID:
If the SUC is exist, which node ID is.
- COM Port:
The application is using which COM port to communicate with USB dongle.

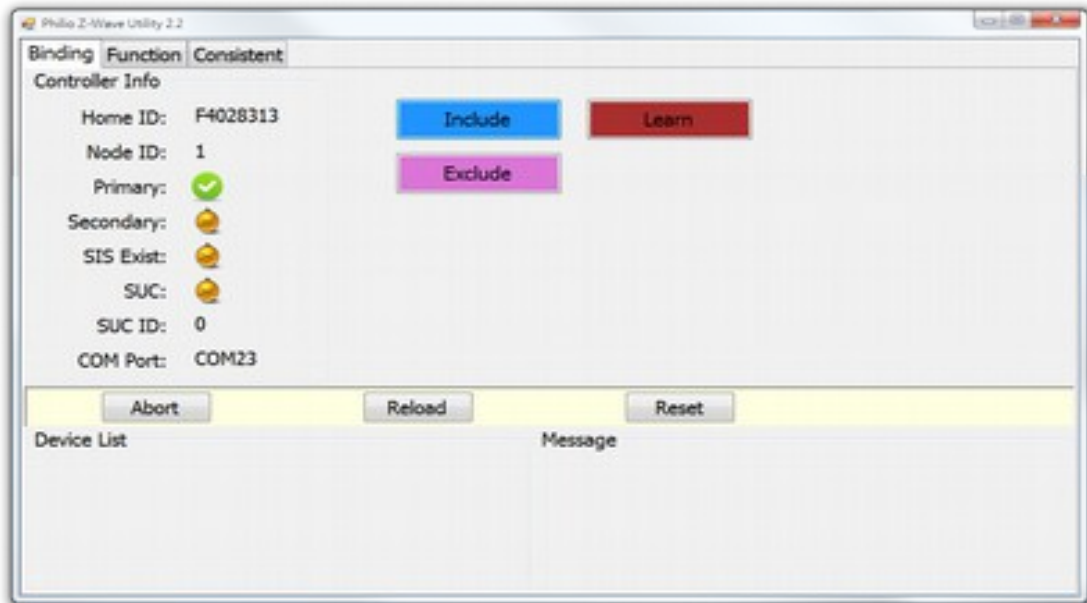


Figure 3 Display the basic information of the controller

7. Binding

This function tab is for user to maintain the Z-Wave network, include or remove a device from the network, or add dongle to the other network.



Figure 4 Binding page

The binding page has 5 parts:

1. Controller Info:
The information of the controller.

2. Main Function:
Include or exclude the device from the network, and also can add the dongle to the other network.
3. Controller Function:
User can abort the operation, reload or reset the information of the controller.
4. Device List:
Display the device information of the controller.
5. Message:
Display the operation result or the status.

7.1. Include Device

Add a Z-Wave device to the Z-Wave network, the controller should include it. But before you execute the include operation, please make sure that device is not be included to other network. If it is, please operate the exclude procedure first.

To execute the include operation; please press the "Include" button.

The all buttons of the main function part will be disabled. And the controller will into to inclusion mode. If you want to abort the include operation, please press the "Abort" button in the controller function part.

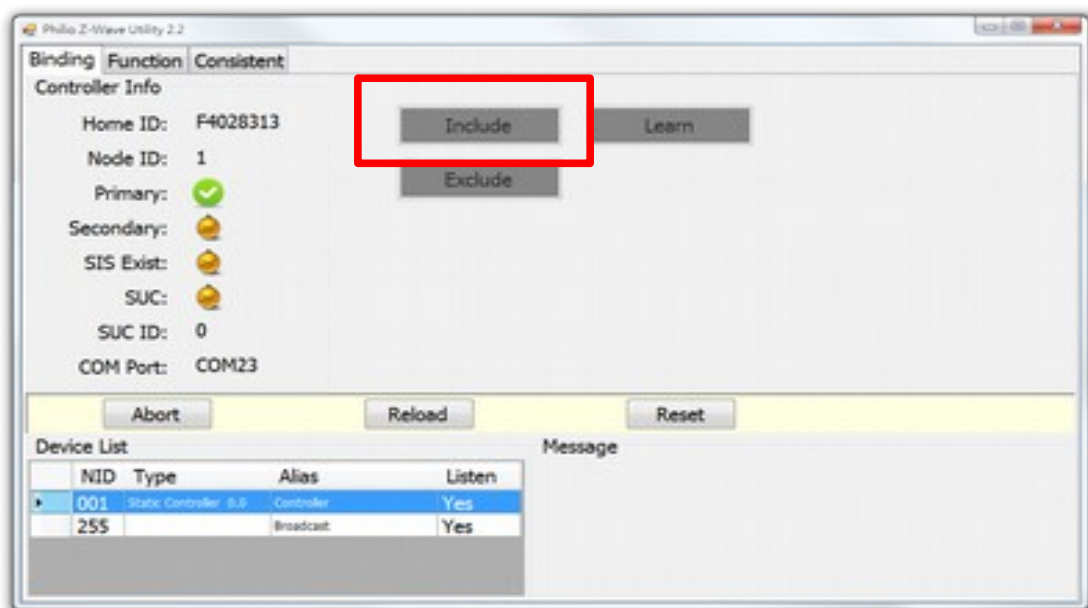


Figure 5 Controller into inclusion mode

Now press the learning key on the device, usually the Z-Wave devices made from Philio, press the learning key three times the device will into the learn mode. If the controller got that message, the UI will show a progress bar, the dongle will query some information from the device.

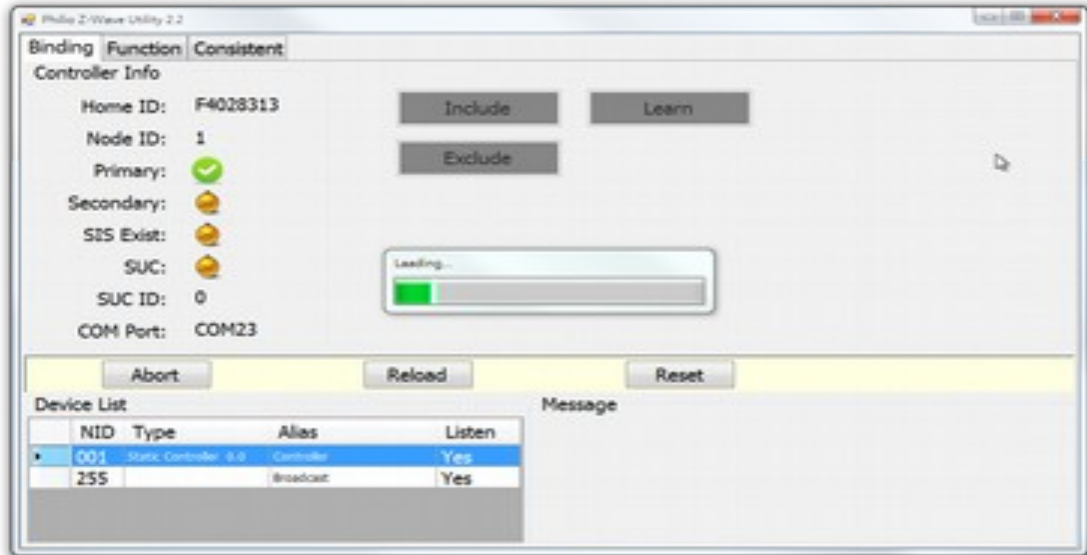


Figure 6 Query the information from the device

After all done, the all buttons of the main function part will recover, and in the device list part will add a new device record. The message part will show a new device was added, and which node id it is.

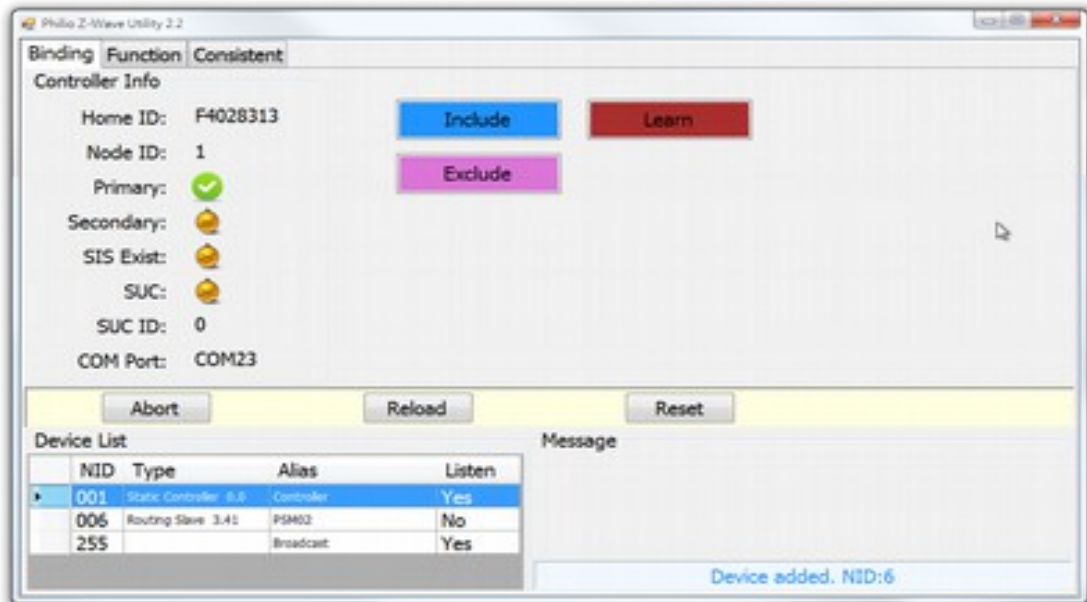


Figure 7 Include a new device

PS: In the including procedure, you may saw the "Report Form" pop up. More information of the "Report Form", please refer to the "8 Report Form".

7.2. Exclude Device

Remove the Z-Wave device from the Z-Wave network, the controller should exclude it.

To execute the exclusion operation, please press the "Exclude" button. The all buttons of the main function part will be disabled. And the controller will into to the exclusion mode. If you want to abort the exclude operation, please press the "Abort" button in the controller function part.

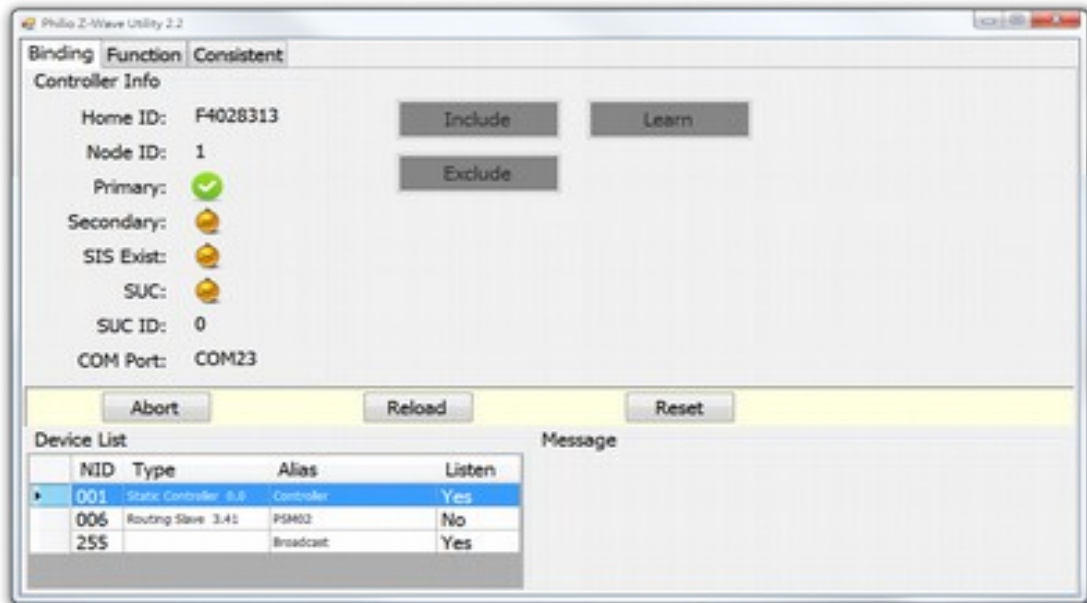


Figure 8 Controller into exclusion mode

Now remove the device from the controller, press the learning key three times. If the controller got the message, the controller will remove it. The all buttons of the main function part will recover, and in the device list part will remove that device record. The message part will show a device was removed, and which node id it is.

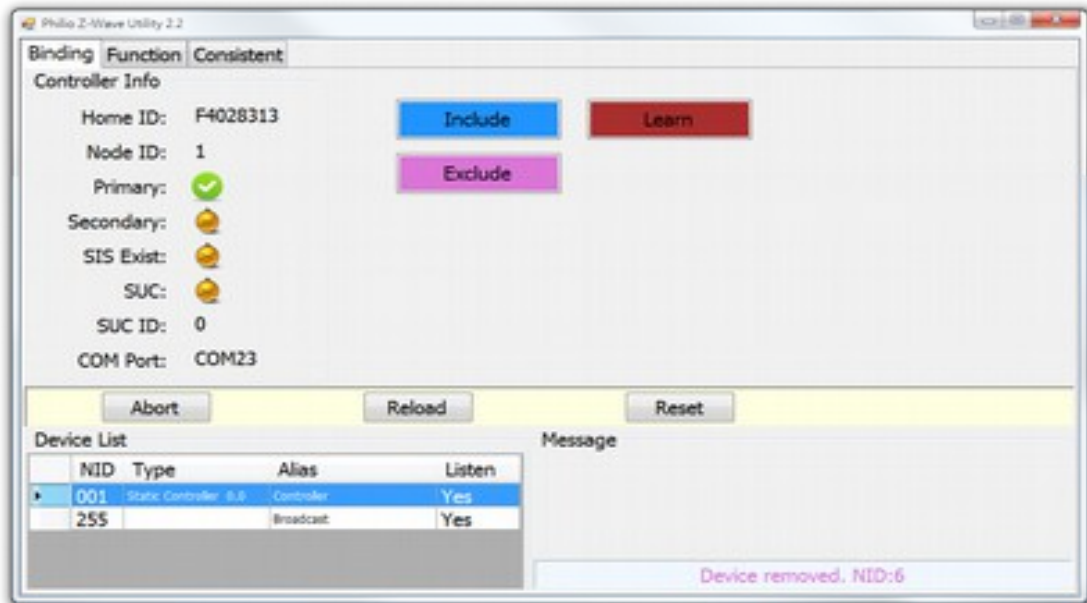
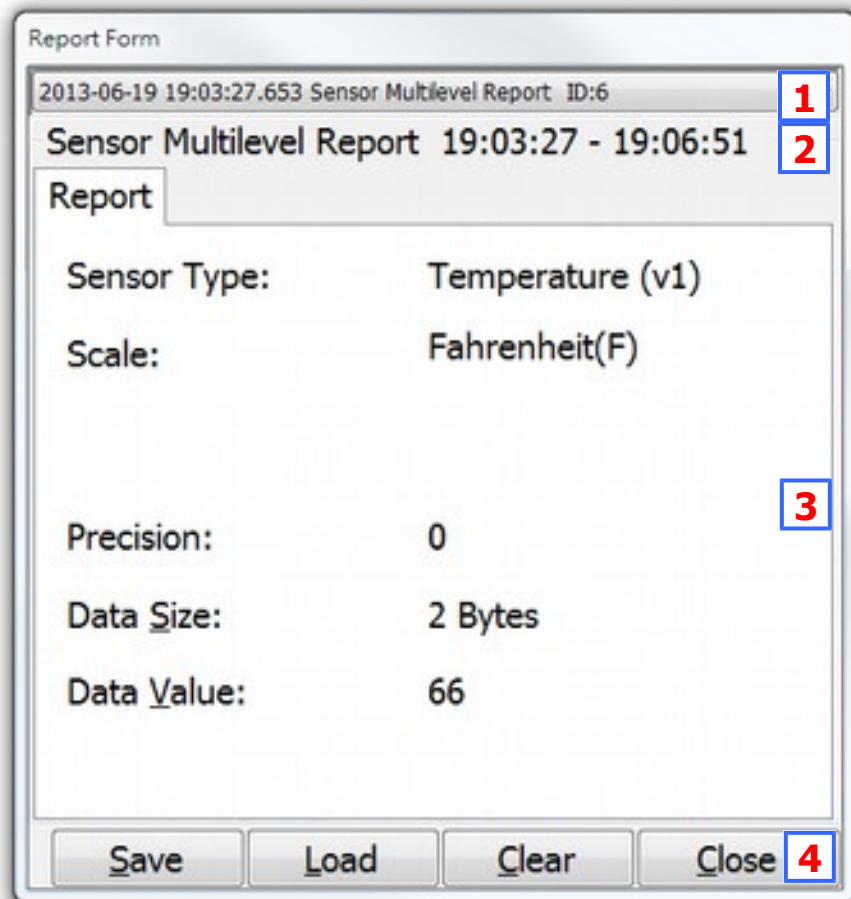


Figure 9 Exclude a device

8. Report Form

The "Report Form" will show up, when the dongle receive the report from the other devices. For instance, you send a "Basic Get" command to the device, if the device response the "Basic Report" to the dongle, that report will be show up in the "Report Form".



Report Form

2013-06-19 19:03:27.653 Sensor Multilevel Report ID:6

Sensor Multilevel Report 19:03:27 - 19:06:51

Report

Sensor Type:	Temperature (v1)
Scale:	Fahrenheit(F)
Precision:	0
Data Size:	2 Bytes
Data Value:	66

Save Load Clear Close

Figure 10 Report Form

There are 4 parts in the "Report Form".

1. History Report:
It is a drop down list box, It will display a list to record the report commands, those were received by the dongle. And you can click the old report in the list; it will show the content of that report.
2. Report Name and Time:
This part will display the report is belong to which Z-Wave command class. And the time of receive the report. You can see there are two time in this part, the second time it the time of now, the last number is the discrepancy seconds of these two times.
3. Content:
The content of the report.
4. Operation Buttons:
You can save, reload or clear the history report. And also can close the "Report Form".

Note: When you load the report from the saved file, that history report will display in a new "Report Form" window.

9. Z-Wave Command Function

You can send out the Z-Wave command by this function.

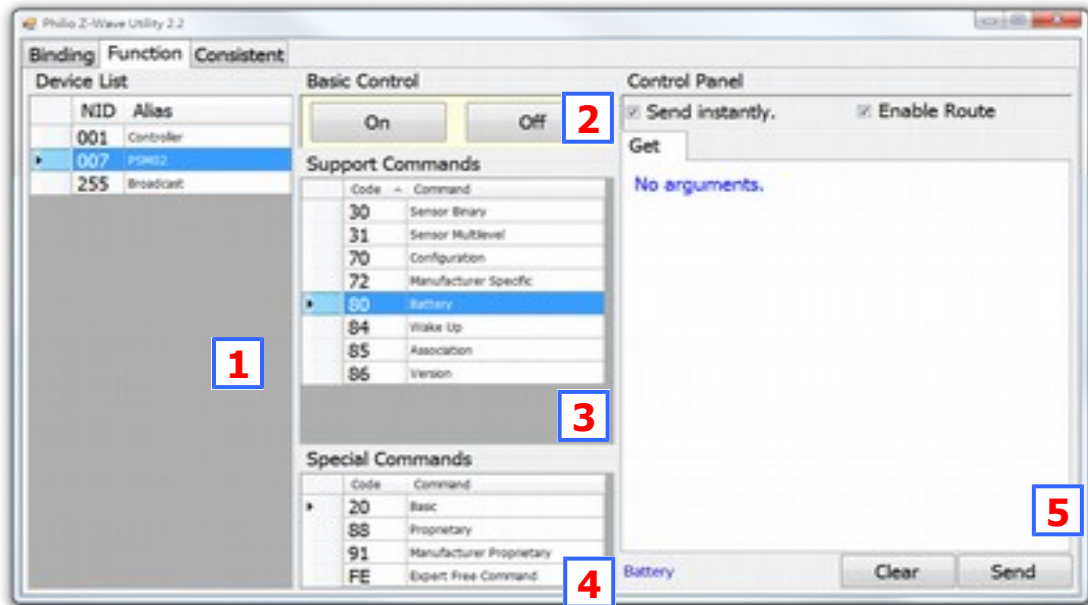


Figure 11 Function page

There are 5 parts in this page:

1. Device List:
Display the node of the controller.
2. Basic Control:
Quick to send out the basic set command, On or Off.
3. Support Commands:
List the supported commands of the device that you selected in the device list.
4. Special Commands:
Some commands always can send, no matter the device is supported or not.
5. Control Panel:
Setting the arguments of the command, and send it out.

9.1. How to Send Command

First select the device that you want to send the command to it.

Note: The NID: 255 is for broadcast.

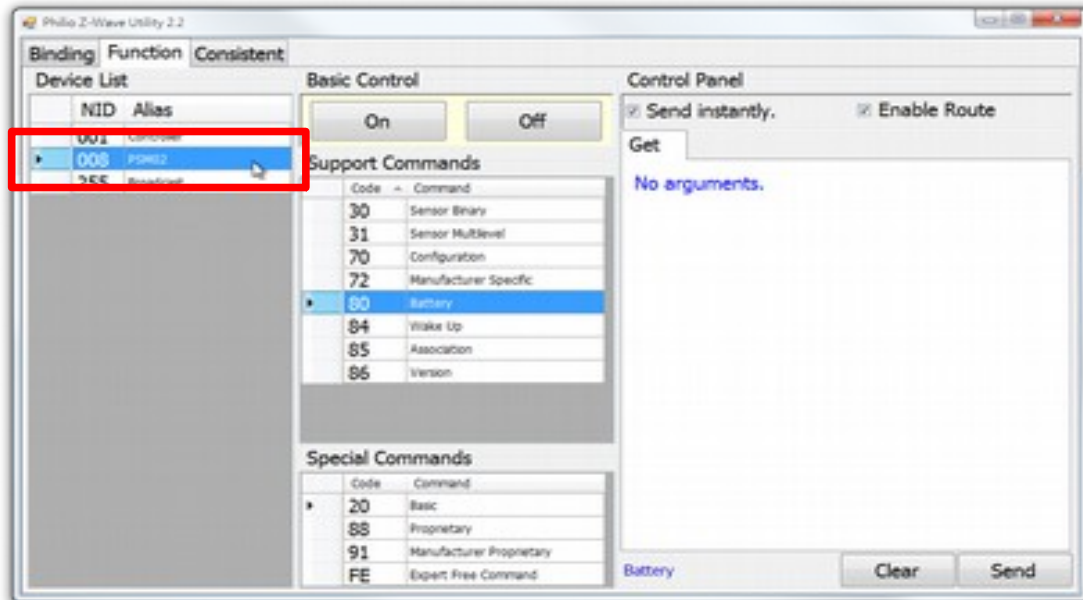


Figure 12 Select the device

Select the command that you want to send.

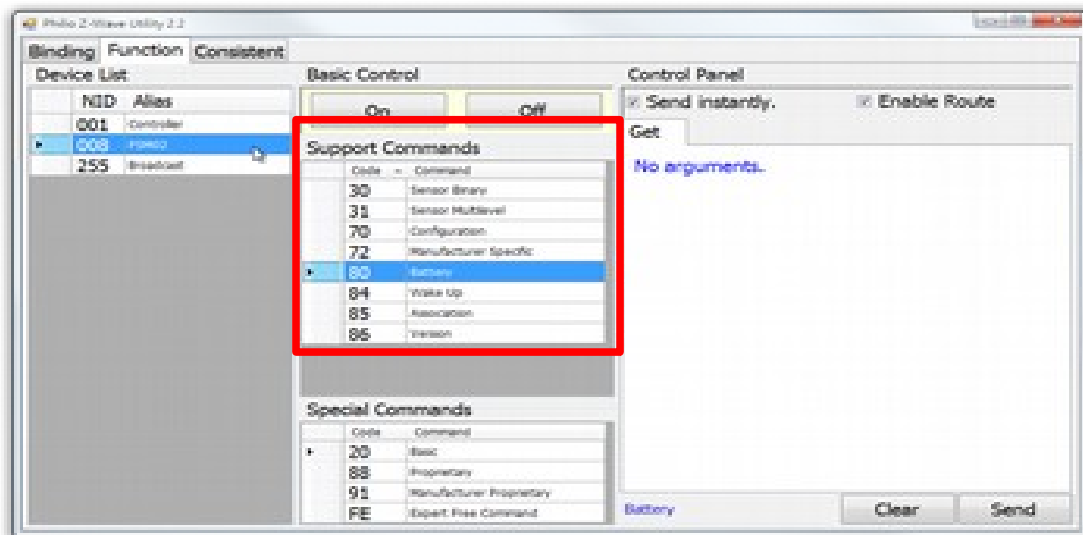


Figure 13 Select the command

Before you send out the command, you must make sure the Z-Wave device is in sleep mode or not. If the device is sleeping, it won't receive any command. Usually you can press some button to wake up the device.

At the top of control panel, there are two options. First one is "Send Instantly", if the device is awake, you can check this option, after you click the

send button, the command will send to the device instantly, otherwise, please don't check it. And after you click the send button, the application will put the command into the queue, wait the device to wake up, or got the node information from that device. When it happen, the application will send out the command, those in the queue.

Another option is "Enable Route", if this option be checked, the command will be sending by the route table path. That means the command maybe send to other node first, and pass to more than one node, at the end to the destination node. Otherwise, the command will send directly to the destination node.

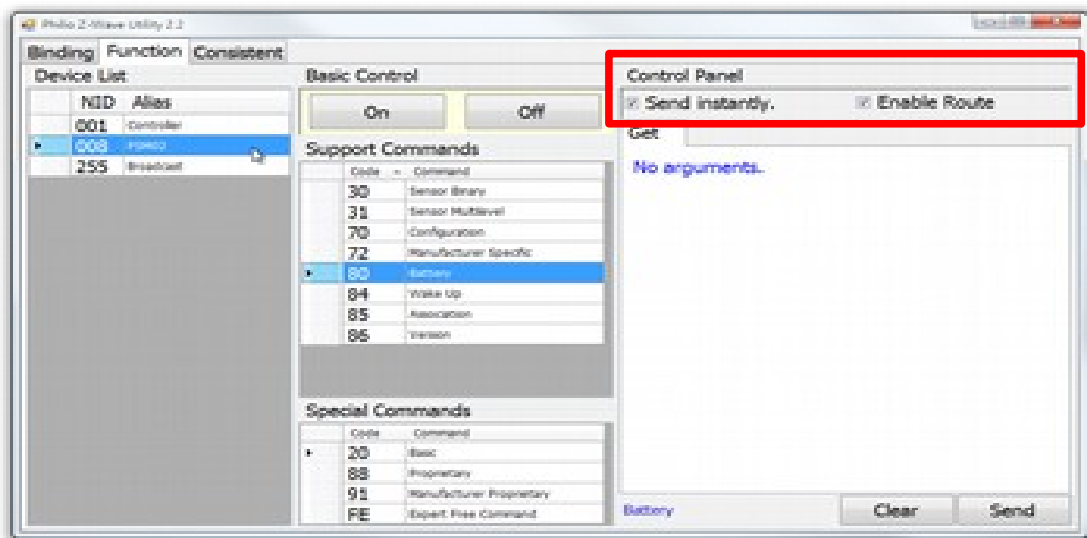


Figure 14 Check the options

Select the command type that you want to send, and fill the arguments. Each command has define different arguments, Please refer to the Z-Wave SDK to get more detail specification.

Some command type there is a number in the head that means the version of that command type. 2 means version 2.

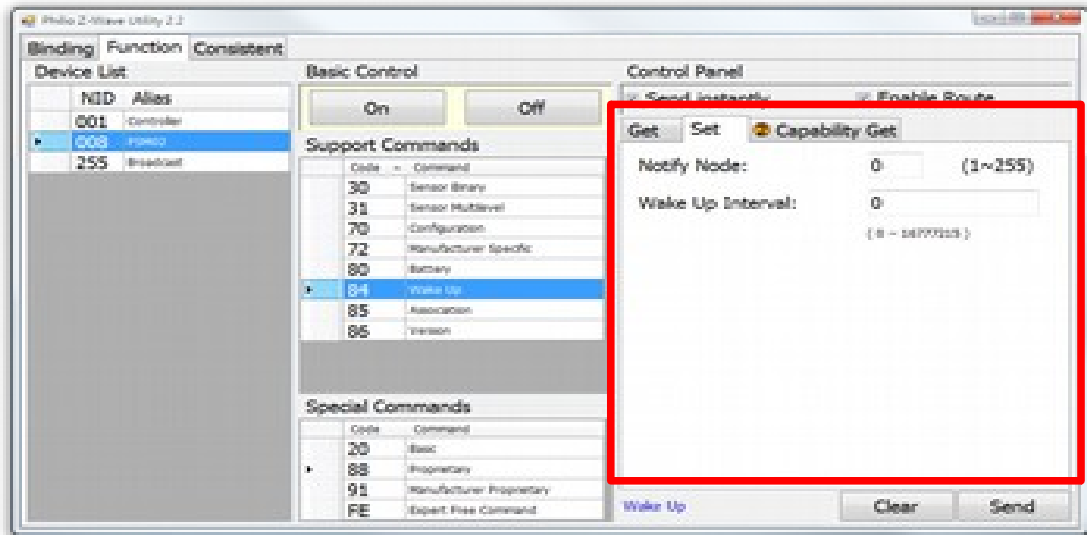


Figure 15 Select the command type

At the end, click the send button to send out the command. Some command types will response the report. So the "Report Form" will pop up. please refer to the "8 Report Form".

10. Consistent Test

This page is for test the RF command is send to the device correctly.

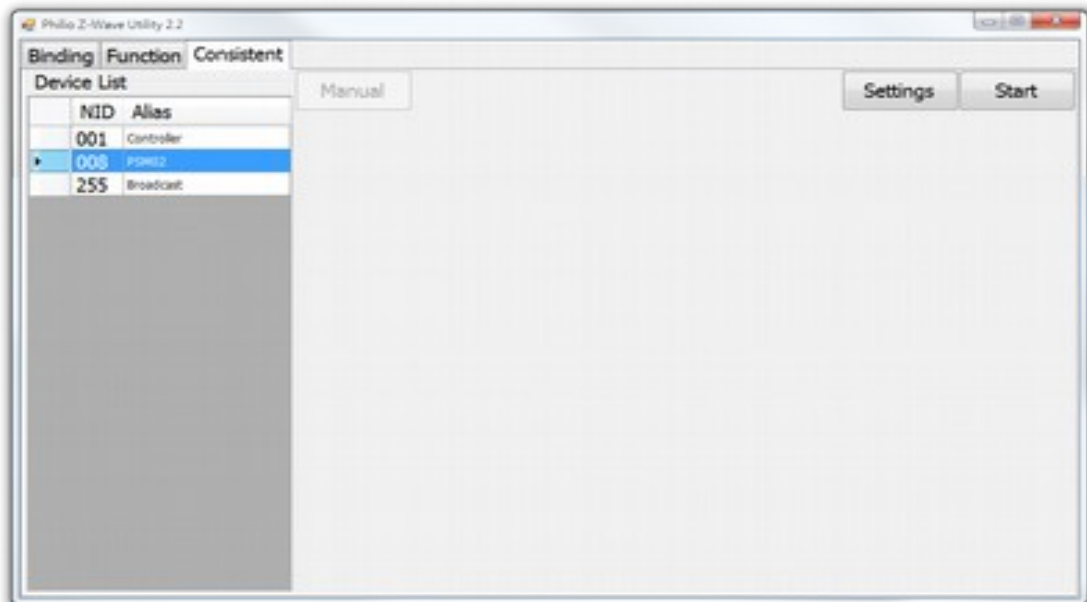


Figure 16 Consistent Test Page

You can do some settings by press the "settings" button.

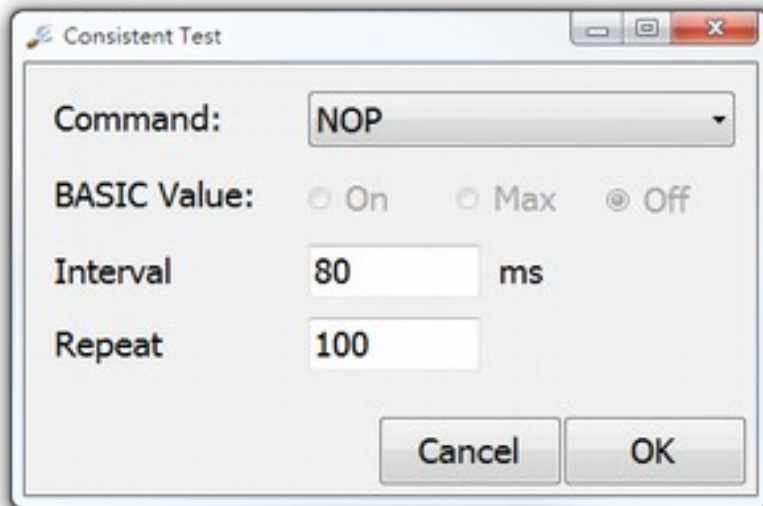


Figure 17 Consistent Setting

You can choose send the NOP command or the basic command. The interval field is for setting the interval time between each command. The repeat field is for setting how many commands will be sent.

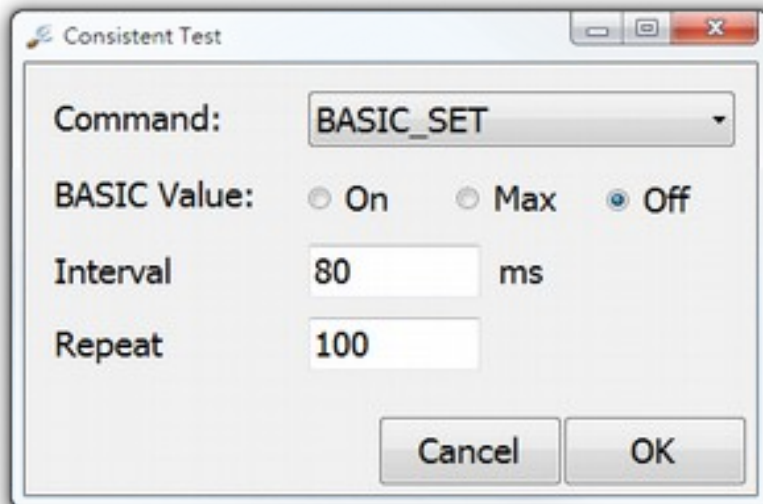


Figure 18 Using the basic command

If you choose the basic command, you also can choose the basic value.

- On: 255
- Max: 99
- Off: 0

Click the "start" button to start the testing. There are two way to trigger the consistent test. One is let the device send out the NIF(Node Information), another is select the device from the left side "Device List", and the presss the "Manual" button. When the consistent test start, the controller will

consistently to send the command to the device. And also calculate the count of the sent command and the response acknowledge.

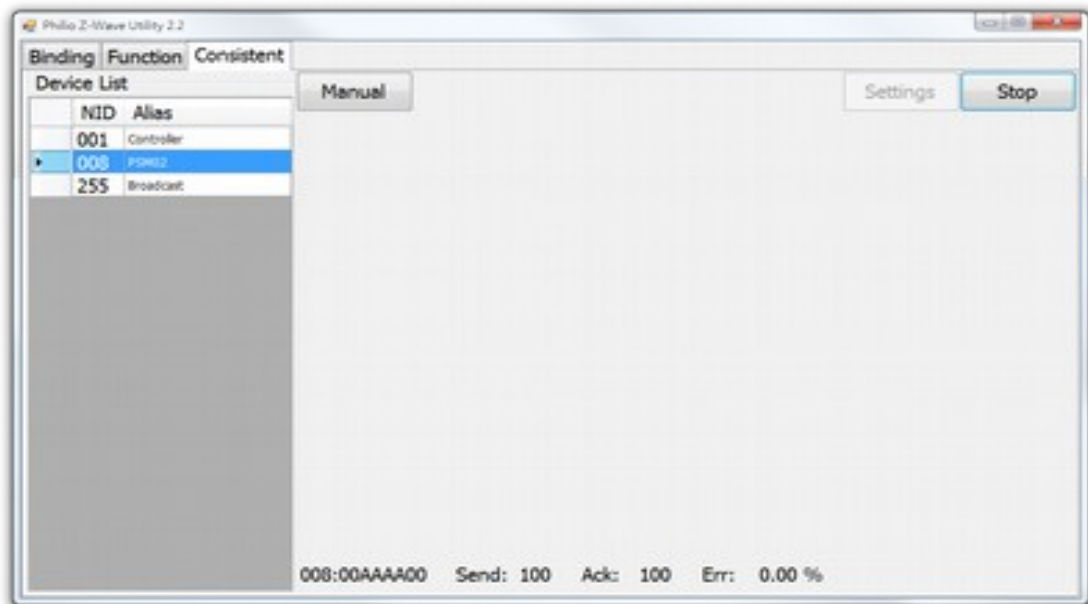


Figure 19 Start testing

11. Specification

Power by DC 5V.

Signal (Frequency):

868.40 MHz, 869.85 MHz(EU),
 908.40 MHz, 916.00 MHz(US),
 922~927 MHz(JP/TW),
 921.40 MHz, 919.80 MHz(ANZ),
 869.00 MHz(RU),
 865.20 MHz(IN),
 916.00 MHz(IL),

Range:

Minimum 30 meters indoor,
 70 meters outdoor line of sight.

Operating Temperature: -10°C ~ 40°C

For indoor use only.

Specifications subject to change without notice due to continuing product improvement.



FCC ID: RHHPAU01

Disposal



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

Company of License Holder : Philio Technology Corporation

**Address of License Holder : 8F.,No.653-2,Zhongzheng Rd., Xinzhuang Dist.,
New Taipei City 24257,Taiwan(R.O.C)**

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Warning

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new once, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.