

ZT-2017/ZT-2017C SERIES

Quick Start Guide

1 What's in the Shipping Package?

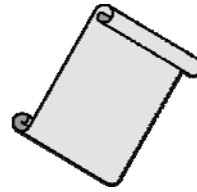
The shipping package contains the following items:



ZT-2017/Zt-2017C
Device



ANT-124-05



Quick Start Guide

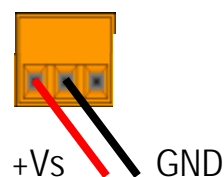
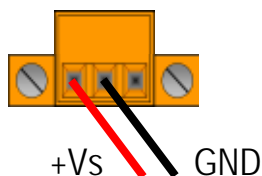


CD

If any of these items are missing or damaged, please contact your local distributor for more information. Save the shipping materials and cartons in case you need to ship the module in the future.

2 Preparing the Device

1. Refer the chapter 4. to configure the DIP switch of ZT-2000 I/O device.
2. Install the ZT Configuration Utility to configure the ZT-2000 coordinator.
CD: \Napdos\ZigBee\ZT_Series\Utility
http://ftp.icpdas.com/pub/cd/usbcd/napdos/zigbee/zt_series/utility
3. Power Supply: +10 ~ +30 V_{DC}



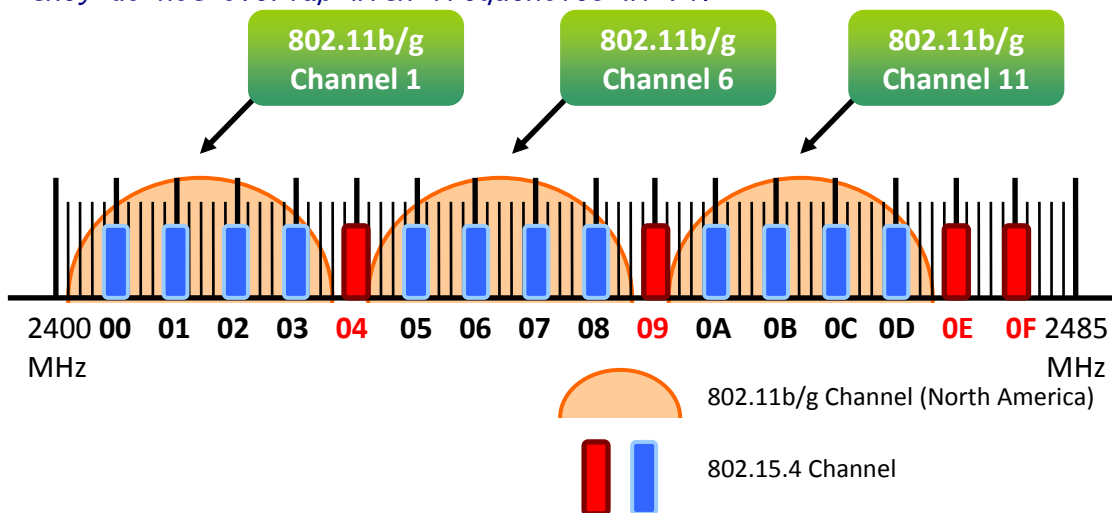
3 Setting up the ZT-2000 I/O Device

3.1 Introduction to the Configuration Parameters

- A. "Pan ID" is the group identity of a ZigBee network, and must be set to the same if they are in the same ZigBee network.
- B. "Node ID" is the identity of the ZigBee module.
The identity number must be unique if it is in the same ZigBee network as other ZigBee module.
- C. "RF Channel" indicates the radio frequency channel, and must be set to the same channel if the module is in the same ZigBee network as other ZigBee modules.

Channel	0x00	0x01	.....	0x0F
Frequency (MHz)	2405	2410	.....	2480

※ In addition, the RF channels 0x04, 0x09, 0x0E or 0x0F are recommended because they do not overlap with frequencies Wi-Fi.



D. Protocol/Application Mode :

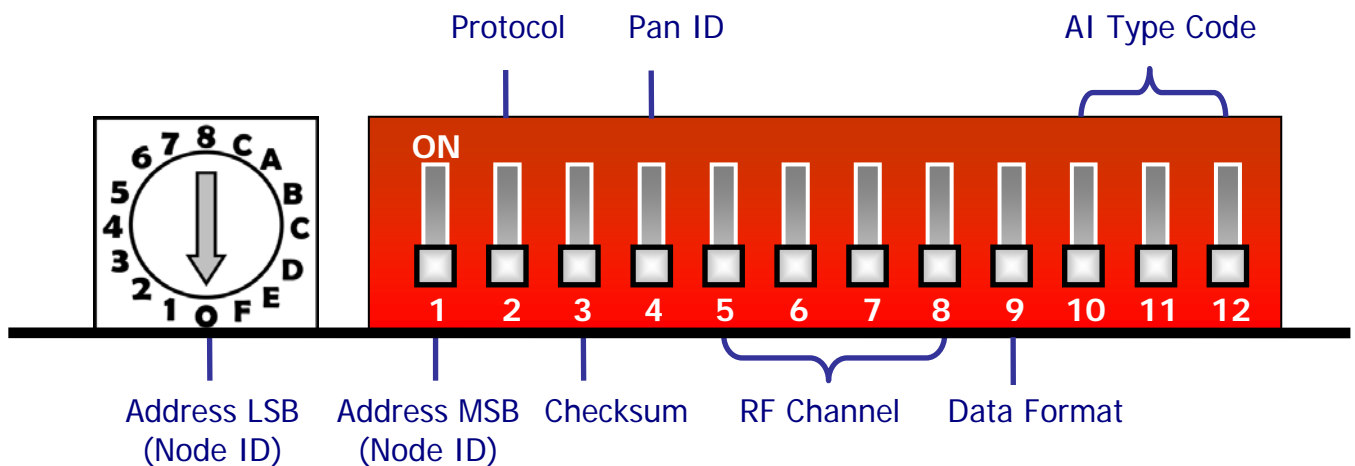
For using different protocol on the user program, the following recommended application mode works together.

User Program Protocol	ZT-2000 I/O	ZT-2550	ZT-2570
DCON	DCON	Transparent	Transparent
Modbus RTU	Modbus RTU	Transparent Modbus Gateway	Transparent Modbus Gateway
Modbus TCP	Modbus RTU	-----	Modbus Gateway

4 Rotation Switch and DIP Switch

The configurations is adjusted by the external rotation switch and DIP switch. User only reboot the power when ZT-2000 device configuration completed.

➤ ZT-2017/ZT-2017C



➤ Rotation Switch

	0 (Soft. Configuration)	1	2	3	.....	F	Note
Address	*Note 1	01	02	03	.....	0F	MSB = 0
Node ID	*Note 1	0x0001	0x0002	0x003	.....	0x000F	
	0	1	2	3	.....	F	
Address	10	11	12	13	.....	1F	MSB = 1
Node ID	0x0010	0x0011	0x0012	0x013	.....	0x001F	

*Note 1 : The "Address" and "Node ID" are defined through the command. In the software configuration mode, the dip switch of "Address", "Data Format" and "AI Type Code" are ignored and "Address", "Data Format" and "AI Type Code" can be set through the command also.

➤ DIP Switch

Number	Item	Status	Explain
1	Address MSB	OFF	Valid address(Node ID) from 0x01 to 0x0F
		ON	Valid address(Node ID) from 0x10 to 0x1F
2	Protocol	OFF	DCON Protocol
		ON	Modbus RTU Protocol
3	Checksum	OFF	Disabled (DCON Protocol)
		ON	Enabled (DCON Protocol)
4	ZigBee Pan ID	OFF	Pan ID = 0x0000
		ON	Pan ID = 0x0001
5	ZigBee RF Channel	OFF	-----
		ON	0x08
6		OFF	-----
		ON	0x04
7		OFF	-----
		ON	0x02
8		OFF	-----
		ON	0x01
9	Data Format	OFF	Engineering Format
		ON	Hex Format

ZT-2017

Number	AI Type Code							
	0x08	0x09	0x0A	0x0B	0x0C	0x0D	0x07	0x1A
10	OFF	OFF	OFF	OFF	ON	ON	ON	ON
11	OFF	OFF	ON	ON	OFF	OFF	ON	ON
12	OFF	ON	OFF	ON	OFF	ON	OFF	ON

ZT-2017C

Number	AI Type Code							
	0x0D	0x0D	0x0D	0x0D	0x0D	0x0D	0x07	0x1A
10	OFF	OFF	OFF	OFF	ON	ON	ON	ON
11	OFF	OFF	ON	ON	OFF	OFF	ON	ON
12	OFF	ON	OFF	ON	OFF	ON	OFF	ON

5 *Start-up ZT-2000 I/O Device*

Because the ZigBee network is in charged by the ZigBee coordinator, so user must first configure ZT-2550/ZT-2570 (ZigBee coordinator). Please see the configuration details in the documents as below links.

Once the ZigBee coordinator has completed the configuration, you only configure the ZT-2000 I/O device into the same “Pan ID” and “RF channel” and then reboot power. It will start working in the ZigBee network via the default protocol.

※ Documents

http://ftp.icpdas.com.tw/pub/cd/usbcd/napdos/zigbee/zt_series/document/zt-255x/

http://ftp.icpdas.com.tw/pub/cd/usbcd/napdos/zigbee/zt_series/document/zt-257x/

※ Configuration Utility (Used to configure ZT-2000 I/O device Coordinator)

http://ftp.icpdas.com.tw/pub/cd/usbcd/napdos/zigbee/zt_series/utility/

6 Examples

➤ Configurations of ZT-2550/ZT-2570

ZigBee Argument

Part Number: ZT-2550
FW Version: 01.00

Pan ID:

Node ID:

RF Channel:

RF Power:

Application Mode

Transparent
 Addressable
 MB Gateway

➤ Configurations of ZT-2000 I/O Device

1

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Number	Item	Status	Explain
1	Address MSB	OFF	Address/Node ID is 01 (Rotation Switch=1)
2	Protocol	ON	Use Modbus RTU Protocol
3	Checksum	OFF	Disabled
4	ZigBee Pan ID	OFF	Pan ID=0x0000
5	ZigBee RF Channel	ON	0x08
6		ON	0x04
7		ON	0x02
8		OFF	-----
			ZigBee RF Channel = 0x0E
9	Data Format	OFF	Engineering Format
10	Type Code	OFF	All Type Code
11		OFF	ZT-2017=Type Code 8 (+/-10V)
12		OFF	ZT-2017C=Type Code D (+/-20mA)

7 Communication Test

Once the ZT-2000 I/O device has joined ZigBee network, user may confirm the signal quality via the LED status of ZigBee Net LED indicators. If the LED indicator is steady light, it is allowed communicating with ZT-2000 I/O device for data acquisition and controlling.

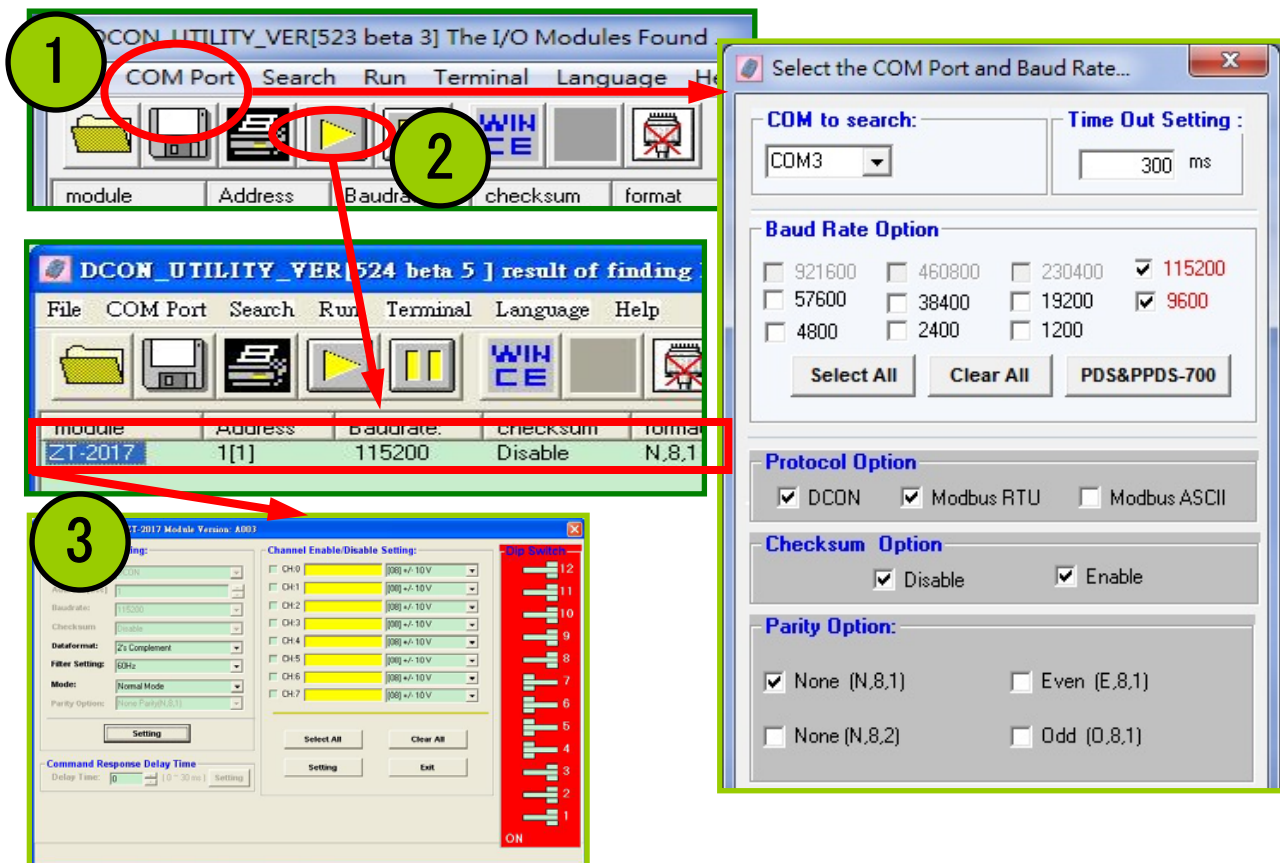
ICP DAS also provides a software “DCON Utility” to simulate the DCON/Modus communication, user may use this software to verify the setting and ZigBee I/O functions.

※ Download DCON Utility

http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_utility/

➤ Simulate I/O channel operating via using DCON Utility

1. Launch DCON Utility and select the correct COM Port settings to connect the ZigBee Coordinator (ZT-2550/ZT-2570).
2. Clicking “Search” button will start searching which ZT-2000 I/O device is in the same ZigBee network.
3. If there is any ZT-2000 I/O devices displayed, double clicking the “module name” will start the I/O channels operated platform.



8 Troubleshooting

(1) Technical Support.

If you are any difficulties using the ZT-2000 I/O device, please send the description of DIP switch status to the ZT-2000 I/O device. Please also save the configurations of ZT-2000 coordinator via using the described below. Please provide a description of problem and attach file to an email and send it to service@icpdas.com

- a. Set the DIP switch of the ZT-255x device to the [ZBSET] position then reboot the device. Launch the ZT Configuration Utility and select [Save Log] icon to save the configuration of ZT-255x as a file.
- b. After clicking the [Save Log] icon, enter the "File Name" and "File Path" in the Windows save dialog. Once the configuration has been successfully saved, the following message will be displayed.

(2) LED Indicator Status :

LED Indicator	Status	Introduction
ZigBee Net (Green LED)	ZigBee Coordinator (Host)	
	Steady Lit	ZigBee network is establish
	Blink to Steady Lit	Rejoin ZigBee network or it has occupied
	ZigBee Router (Slave)	
	Steady Lit	Signal Strength
	Blinking (500 ms)	Signal Available
	Blinking (1s)	Signal Weak
	Blinking (2s)	Signal Terrible or No ZigBee Network
ZigBee PWR (Red LED)	The status of module board	
	Steady Lit	Power on
	Blinking (200ms)	Module Initialization failure
	Blinking (1s)	Watchdog enabled
	Steady Unlit	Power off