



ZigBee Module

User manual

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1 User Manual Information

1.1 Copyright Statement

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1.2 About Manual

Distinguished users, thank you very much for your trust in our ZigBee Module product, which is developed and manufactured by our R&D department. We sincerely hope it can satisfy your need, also, we're glad to receive your suggestions on improving our product. The target of the manual is to provide the detailed product information, installation, operation and maintenance.

1.3 Target Group

The user manual is applied for technicians and common users to operate and maintain the ZigBee Module. The readers should be acquainted with some computer network knowledge and operating skill.

1.4 Guideline

Before using the ZigBee Module, please read the manual carefully. In the meantime, please keep it well, lest maintenance staff may not find it later. All the content, pictures, logos, symbols are reserved. No part of this document may be transmitted in any form without the prior written permission of our internal staff. The content of manual could be changed. Every attempt has been made to make this document complete, accurate and up-to-date. If there are any differences between the contents of the instruction and the product, please regard the actual one as the truth. You can download the newest version from our website www.growatt.com.

1.5 FCC Warning

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 or more 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.

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body: Use only the supplied antenna.

2 Description

ZigBee Module is a wireless device used to enable the communication between inverter and data logger. The Shine Webbox and Shine Pano serve as the data logger.

3 Setting the ZigBee ID and Channel of the Data Logger

In order to adopt the ZigBee wireless communication method, the ZigBee ID and Channel of the data logger should be configured first. Start the web browser and enter 192.168.1.230 in the address bar, then you can set the ZigBee ID and Channel via the integrated server of the data logger.

Note: Only the IP address of the data logger and the accessing PC are in the same network segment, then it is available to get access into the integrated server of the data logger. As to more details, please refer to the user manual of data logger e.g. Shine Webbox User Manual.

Serialno	1000110040
Check_code	39717
Device_type	Shine WebBox_C
Hardware_verion	V1.03
Software_verion	Software:SW2.1 Build:1212-1102

Local_ip: 192.168.1.230
Mask: 255.255.255.0
Gateway: 192.168.1.1
DNS: 192.168.1.1
Server_ip: 192.168.1.74
Server_url: server.growatt.com
Addren_start: 1
Addren_end: 32
Delay time(S): 2.5
System_time: 2012-12-24 17:37:51 Enable_write
Zigbee_ID: 3355
Zigbee_channel: 11
Environment: addren 36
Ammeter: addren 37
Power Adjust: OFF
Inverter type: Growatt
 Enable_Reboot Enable_Reset Enable_Clear_record

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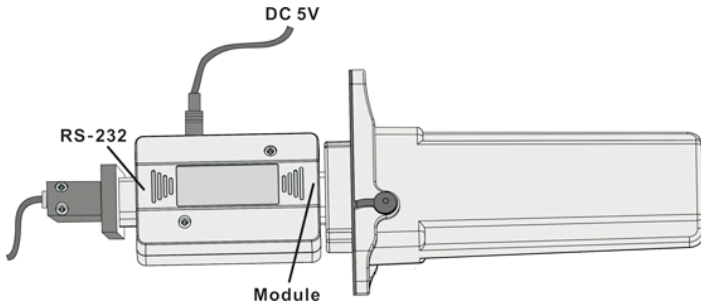
1. Set ZigBee ID. In "parameter" field, select "Zigbee_ID", enter ZigBee ID within the range between 1000 and 9999.
2. Set ZigBee channel. In "parameter" field, select "Zigbee_channel", enter the ZigBee channel within the range between 11 and 25.

Zigbee_ID:	<input type="text" value="3355"/>
Zigbee_channel:	<input type="text" value="11"/>

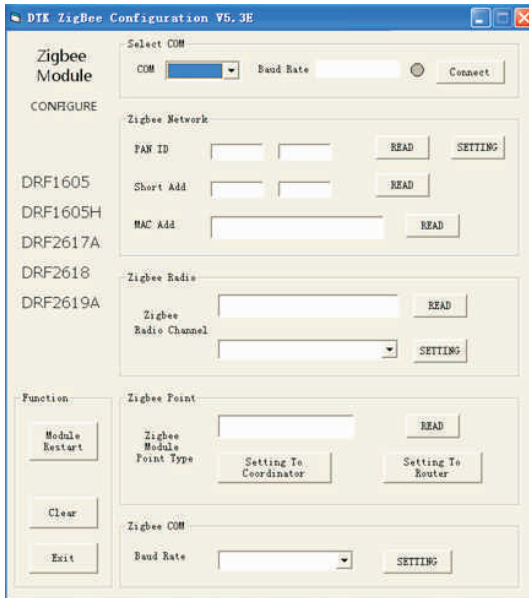
3. If the parameters of data logger about the ZigBee configuration have been modified, the parameters of the ZigBee Module have to be also modified.

4 Setting the ZigBee Module

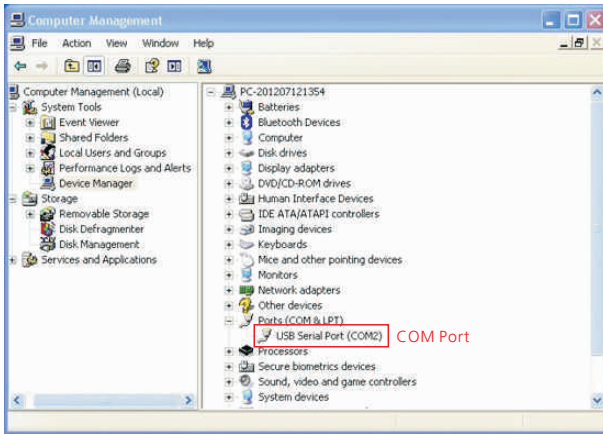
1. Copy the folder "V53E Setup" from the CD to personal computer. Double click "V53E Setup" → "Support" → "ZConfigureV53E.exe".
2. Connect the ZigBee Module with PC via the configuration Box. ZigBee Module corresponds to the side of Configuration Box printed with "Module", and the RS232 port corresponds to another side of Configuration Box printed with "RS-232".



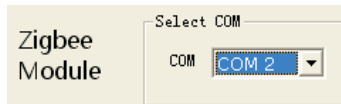
3. Operate the "ZConfigureV53E.exe", as following figure.



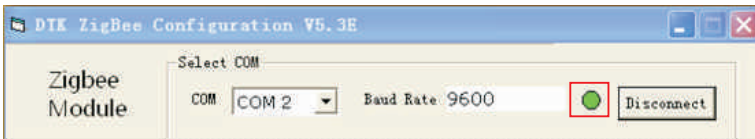
4. Right click "My computer" → choose "Manage" → "Device Manager" → "Ports (COM & LPT)".



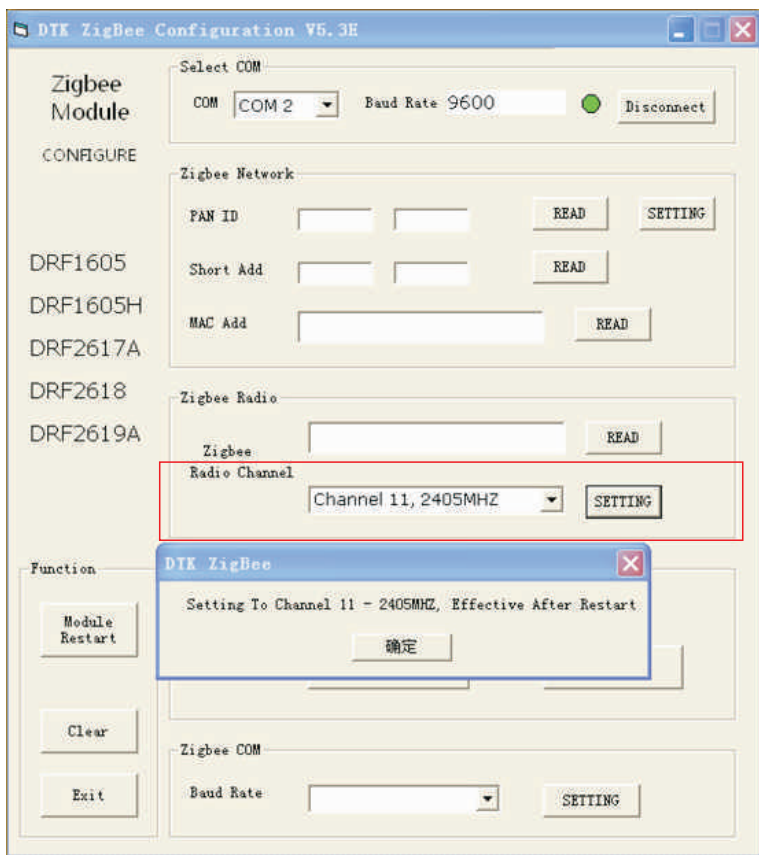
5. Choose the same "COM port" with device manager.



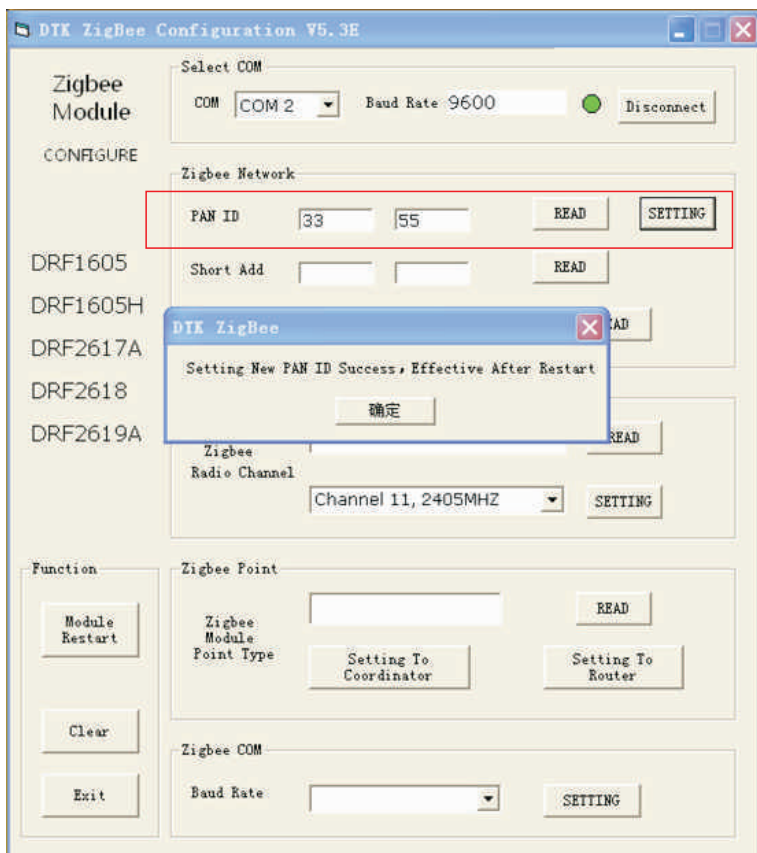
6. Single-click "connect". If the indicator light turns to green, the connection state is OK.



7. Select Zigbee Radio Channel. The range of channel is 11-25. The Radio Channel of ZigBee Module should be set as the same value of "Zigbee_channel" configured in the data logger.

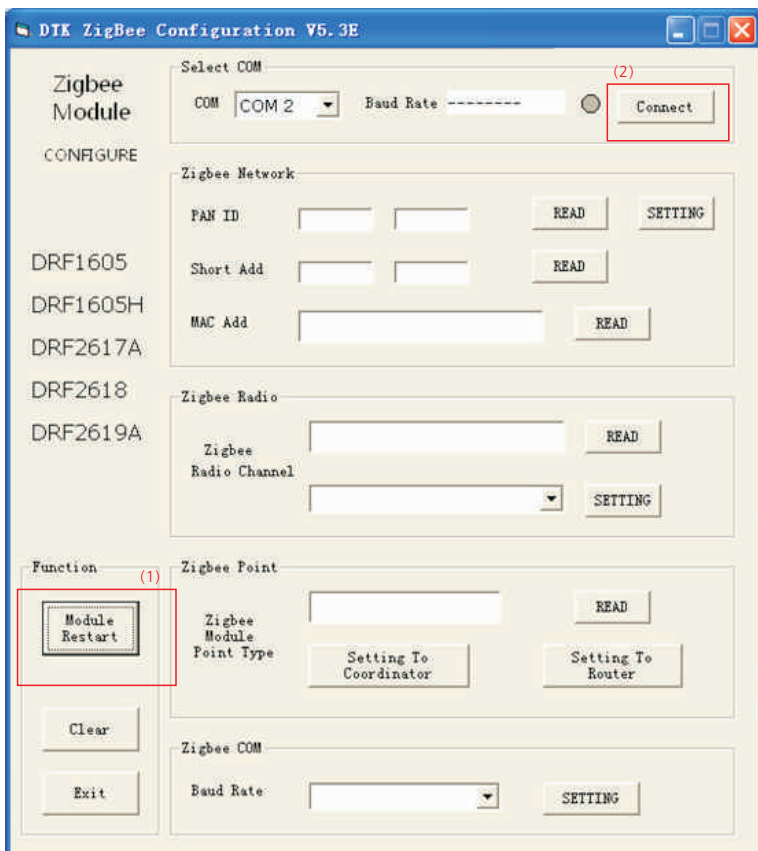


8. Set PAN ID. The "PAN ID" of ZigBee Module should be same as the "Zigbee_ID" configured in the data logger. If not, the connection would fail. Enter two values in the input box of PAN ID (e.g. 33 55). Single-click "SETTING", then click "READ". If it works, the success dialog box will pop up. If not, please set again.



9. After setting, click on "Module Restart", and then click on "connect". If PAN ID is still the pre-set value, the configuration is OK. If not, please set again.

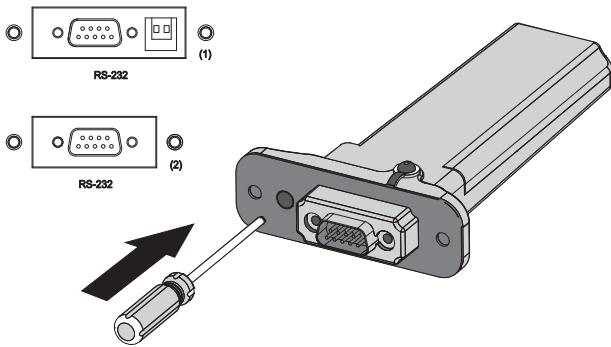
Note: If you have already set 6 ZigBee Modules, one of the 6 Modules should be power-on, and then you can set another 6 ZigBee Modules.



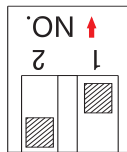
5 Installation of ZigBee Module

1. Plug the ZigBee Module to inverter via Rs232.

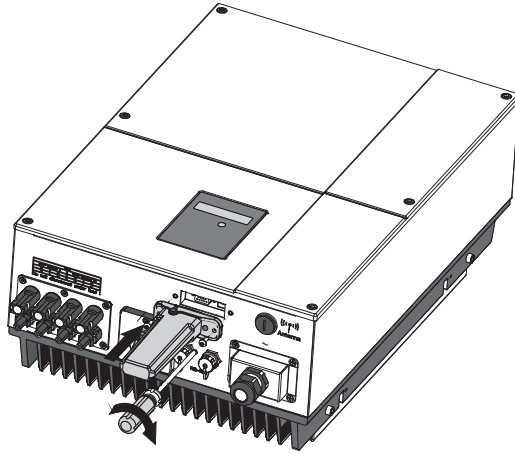
The RS232 port of Growatt inverter has two specifications.



If the RS232 port is compliant with the specification (1), please turn on the DIP switch, then plug the ZigBee Module to the inverter directly via the RS232 and lock screw.



If the RS232 port is compliant with the specification (2), please pry open the rubber plug in the waterproof cushion, then plug the ZigBee Module to the inverter and lock screw.



2. Open the "Record" interface of the data logger. If the inverter corresponding to the ZigBee Module has shown in the list, the installation is OK.

001 Inverter record - Windows Internet Explorer

http://192.168.1.230/web_record.cgi

001 Inverter record

Address	Serial_no	State	Outpower(W)	E_Today(KWh)	E_Total(KWh)	2012 Emerg(KWh)												Fault code	Last update time
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
4	2053025008	Normal	1338.2(46%)	11.9	4192.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	170.7	409.4	217.8	0.0	NO	2012-11-14 16:30:29
5	2053022941	Normal	2868.8(99%)	18.1	4483.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	152.6	413.5	244.1	0.0	NO	2012-11-14 16:30:31
6	2053022113	Normal	2820.8(98%)	17.8	4122.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	168.6	380.4	234.8	0.0	NO	2012-11-14 16:30:33
7	6053045987	Normal	2836.2(98%)	17.1	4260.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	162.2	367.4	228.3	0.0	NO	2012-11-14 16:29:17
8	2053022917	Normal	2314.6(80%)	17.4	4109.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	165.3	375.1	231.5	0.0	NO	2012-11-14 16:29:20
9	2053022963	Normal	2752.5(95%)	17.6	3991.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	147.9	24.1	232.9	0.0	NO	2012-11-14 16:29:22
11	2053022937	Normal	2876.8(100%)	18.2	4044.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.9	386.7	242.0	0.0	NO	2012-11-14 16:29:27
13	B025088529	Normal	2034.2(100%)	13.3	2893.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	132.3	275.8	179.8	0.0	NO	2012-11-14 16:29:31
19	B025088534	Normal	2026.4(100%)	13.4	2882.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	115.9	281.8	34.5	0.0	NO	2012-11-14 16:29:44
34	0123456789	Normal	734.6(7%)	19.7	757.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.7	304.6	0.0	NO	2012-11-14 16:28:59
ALL:10pcs			22609.1(82%)	164.5	35738.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1366.4	2945.9	2150.3	0.0		

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6 FAQ

1. When set PAN ID, if the dialog box displays "Setting New PAN ID Failed", the setting fails. Please click on "Module Restart" → "Connect", and then reset PAN ID (refer to chapter4, step 3-7).
2. When read PAN ID, if the value box displays "FF FE", the setting fails. Please click on "Module Restart" → "Connect", and then reset PAN ID (refer to chapter4, step 3-7).As an alternative method, you could change the value of the PAN ID and channel, then reset the data logger and ZigBee Module.
3. As to the same one inverter, either wireless method or wired method could be chosen as a monitoring scheme. If not, the data logger couldn't search inverters well.

7 Technical Data

Communication

Inverter	RS 232
Protocol	Modbus RTU
Communication range	300m (without obstacle)

Electrical Data

Voltage	8V-15V DC
Power consumption	<0.5W

Operating Conditions

Ambient temperature	- 20-60°C
Humidity	5% --95%
Degree of protection	IP65

General Data

Length*Width*depth	135*79*29mm
Net Weight	63g

8 Contact

If you have technical problems concerning our products, please contact Growatt.

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