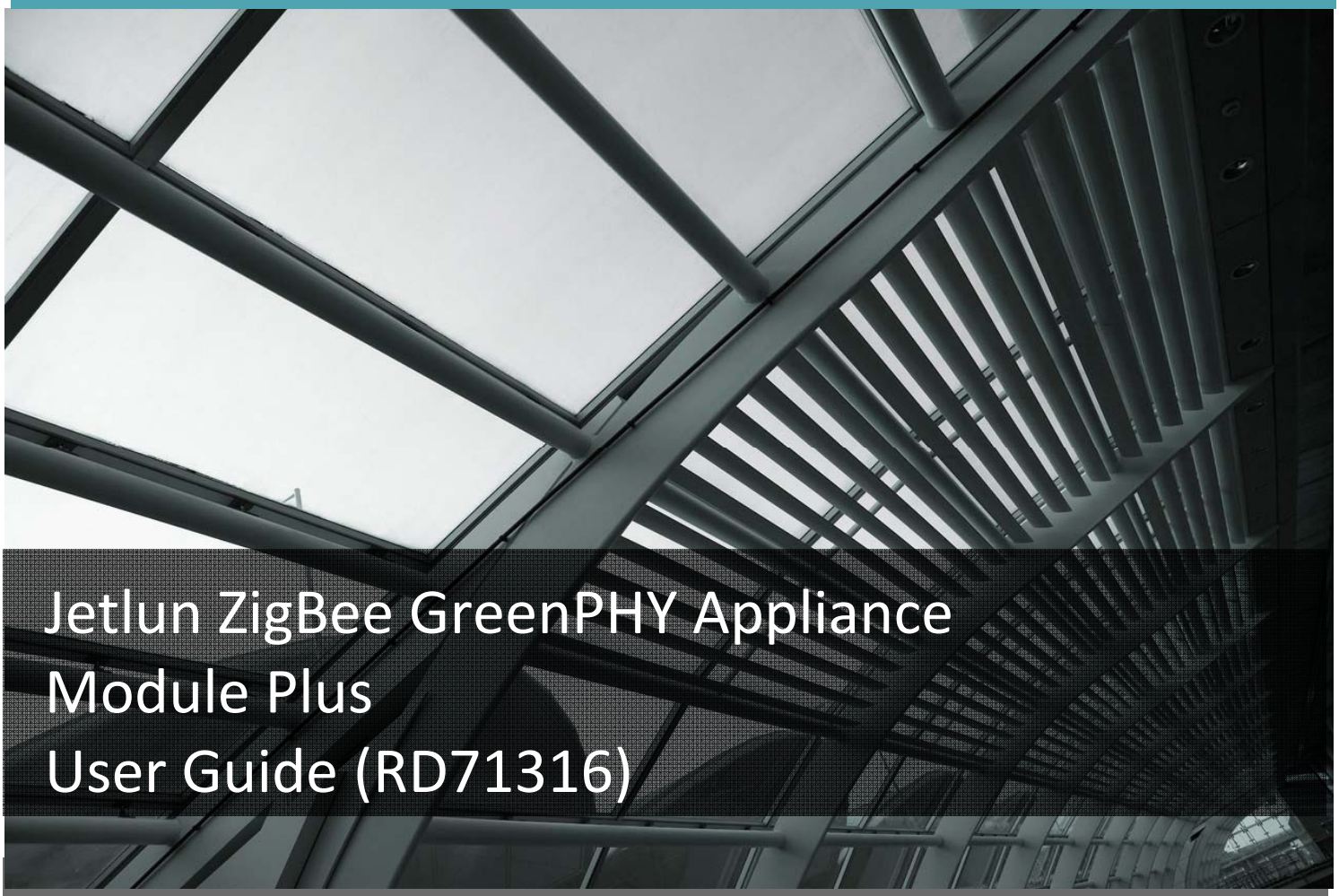

Jetlun ZigBee GreenPHY Appliance Module Plus User Guide (RD71316)

User Guide

Draft

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1.0 ABOUT THIS GUIDE

1.1 Becoming familiar with this User Guide

1.1 Quick Reference

The Jetlun ZigBee GreenPHY Appliance Module Plus (RD71316) User Guide describes the following:

Table 1: Where to find information in this User Guide

Installing and Configuring the Appliance Plus	Chapter 2 and 3
Restoring the ZigBee GreenPHY Appliance Module Plus to Factory Default	Chapter 4
EMI Information	Chapter 5
Technical Specification	Chapter 6

1.2 Icon Descriptions

While reading through this User Guide, you may see various icons that call attention to specific items. Below is a description of these icons:

Table 2: Icon descriptions

	NOTE: This mark indicates that there is a note of interest and is something that you should pay attention to while using the product.
	IMPORTANT: This mark identifies an indication that you should watch for, or reiterates something that you should always keep in mind.
	WARNING: This exclamation point indicates that there is a caution or warning and may be something that could damage your property or project.

1.3 Getting Additional Help

To get information or assistance for problems that you encounter, please contact Jetlun Technical Support by going online at support.jetlun.com.
Please always include with all inquiries the following information:

- Product name, model number, part number (if applicable) and serial number
- A description of the devices connected or a system configuration
- The circumstances surrounding the error or failure
- A detailed description of the problem and what has been done to try to resolve it

1.4 Sending Feedback regarding this Documentation

We welcome your feedback on Jetlun Gateway documentation. This includes feedback on the structure, content, accuracy, or completeness of our documents, and any other comments you may have. Please send your comments to docs@jetlun.com.

2.0 PRODUCT OVERVIEW

Thank you for choosing the ZigBee GreenPHY Appliance Module Plus (RD71316). The ZigBee GreenPHY Appliance Module Plus is a 30A ZigBee-enabled two-relay Load Control Switch (LCS) that also monitors the energy usage of the appliances that are connected.

The ZigBee GreenPHY Appliance Module Plus features the following:

- ZigBee RF mesh networking
- Remote ON/OFF for two Appliances
- Demand Response (DR) LED indicator
- DR button
- Measuring energy usage of the appliance connected in with a resolution of 1 watts

2.1 Package Contents

When you first open the box, please check and confirm that the following items are all included:
Appliance Plus x 1
Quick Install Guide x 1
Warraty Card x 1
Product Label x 1

Contact the retailer where you made your purchase if any of these parts are incorrect, missing or damaged. Keep the original receipt and original packaging materials, in case you need to return the unit for repair.

2.2 Important Safety Information

Please read all documentation and retain documentation for future reference. Follow all warnings, alerts and instructions.

The use of of Jetlun ZigBee GreenPHY Appliance Module Plus and any other similar LCS in conjunction with an appliance may cause a loss of ignition in gas cooktops, damage to clothing (washer/dryers), and food spoilage (ranges, refrigerators, and freezers). Power cut-off to a dishwasher during a cycle may result in dirty dishes. The use of these devices may also shorten the useful life of the appliance plus.

Please DO NOT:

- Use the RD71316 near water.
- Place the RD71316 near any heat source such as direct sunlight, radiators, heaters, stoves, or other apparatus (including amplifiers) that produce heat.
- Open the device housing or alter the product in any way.
- Do not dispose of electrical appliances as unsorted municipal waste. Contact your local government for information regarding separate collection facilities.

2.3 Front Panel

Figure 1: Front Panel of the Appliance Plus

Table 3: Front Panel LED Description

Icon	LED	Description	
	Power/ZigBee	• Solid Green for 15 seconds • Fast Blinking Green • Slow Blinking Green • Solid Green • Blinking Orange	• Power On • Factory Default in process • ZigBee Successfully joined by time is NOT synchronized • ZigBee Successfully joined by time IS synchronized • Searching for available ZigBee Network
	HomePlugGP	• Solid green • • OFF	• HomePlugGP Networking form • No HomePlugGP Networking
1	Relay 1 LED	Solid green OFF	The relay 1 is ON The Relay 1 is OFF
2	Rleay 2 LED	Solid green OFF	The relay 2 is ON The Relay 2 is OFF
	Demand Response Event	• Off • Solid Green • Slow Blinking Green • Fast Blinking Green	• No event • Scheduled event and no event in process • Event in process annd no scheduled event • Event in process and have

			scheduled event
	Demand Response Level	• Off • Solid Green • Slow Blinking Green • Fast Blinking Green • Solid Orange • Slow Blinking Orange • Fast Blinking Orange • Solid Red • Slow Blinking Red • Fast Blinking Red	• No event in process • Level#1 • Level#2 • Level#3 • Level#4 • Level#5 • Level#6 • Level#7 • Level#8 • Level#9

Table 4: Front Panel Button Description

Icon	Button	Description
	DR button	Press the button once and its change the status in the following when no DRLC event receives or executes by Plus: (Relay 2 ON, Relay 1 OFF)→(Relay 2 OFF, Relay 1 ON)→Relay 2 and Relay 1 OFF)→ (Relay 2 ON, Relay 1 OFF) Press the button once and the Demand Response are set to Opt-out for this time when receives or executes the DRLC event.
	Factory Default and Leave ZigBee Network button	Press and hold 8 seconds, it leaves network Press and hold 30 seconds, it is factory default

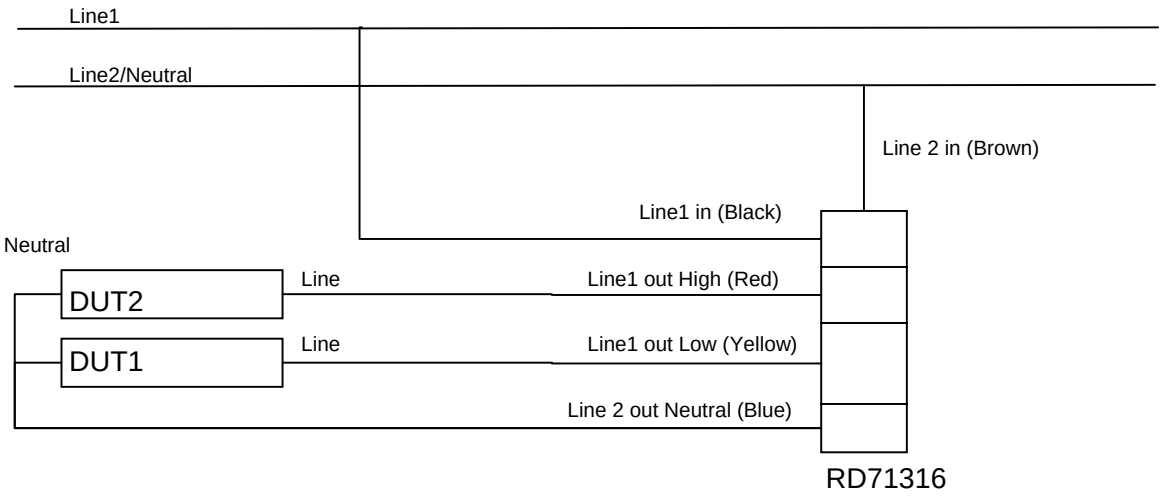
3.0 INSTALLING THE JETLUN APPLIANCE PLUS

3.1 Installing the ZigBee GreenPHY Appliance Module Plus Hardware

Follow these quick steps to install your ZigBee GreenPHY Appliance Module Plus

	NOTE: There are two devices DUT1 and DUT2 connecting to ZigBee GreenPHY Appliance Module Plus. Relay 1 is used to control DUT1, and Relay 2 is used to control DUT2

- ➲ STEP 1: Connect the line for power to Line 1 in (Black wire) for ZigBee GreenPHY Appliance Module Plus
- ➲ STEP 2: Connect the Neture for power to Line 2 in / Neutral (Brown wire) for ZigBee GreenPHY Appliance Module Plus
- ➲ STEP 3: Connect the Line 1 out High (Red wire) for ZigBee GreenPHY Appliance Module Plus to Line for DUT2
- ➲ STEP 4: Connect the Line 1 out Low (Yellow wire) for ZigBee GreenPHY Appliance Module Plus to Line for DUT1
- ➲ STEP 5: Connect the Line 2 out/Neutral (Blue wire) for ZigBee GreenPHY Appliance Module Plus to Neutral for DUT2 and DUT1
- ➲ STEP 6: Plug in the ZigBee GreenPHY Appliance Module Plus to a nearby power outlet and the ZigBee GreenPHY Appliance Module Plus's ZigBee LED will be lit solid green for 15 seconds.



3.2 Join and Leave the ZigBee GreenPHY Appliance Plus

3.2.1 Join the Network

- ➲ STEP 1: The ZigBee GreenPHY Appliance plus will automatically search for any available ZigBee network upon power up, indicated by the blinking orange LED on the Power/ZigBee LED.

➲ STEP 2: When the ZigBee GreenPHY Appliance plus joined the ZigBee network, the Power/ZigBee LED is solid green.

➲ STEP 3: When the ZigBee GreenPHY Appliance plus joined the PLC network, the HomePluGP LED is solid green.

Figure 2: Power/ZigBee LED

Figure 4:HomePlugGP LED

3.2.2 Leaving the network

➲ STEP 1: Press and hold the factory default button for 8 seconds and release the button. You will know that the ZigBee GreenPHY Appliance Module Plus has left the network successfully when the ZigBee LED goes from solid green to blinking orange.

➲ STEP 2: Change ZigBee GreenPHY Appliance Module Plus's NMK ,. You will know that the ZigBee GreenPHY Appliance plus has left the network successfully when the ZigBee LED goes from solid green to Off.

3.3 Demand Response Configuration

	NOTE: The following Demand Response features only apply if the ZigBee GreenPHY Appliance Module Plus is connected to a smart meter provided by or approved by your electrical utility company.

The ZigBee GreenPHY Appliance Module Plus is always opt-in of demand response by default. If you want to opt-out of the received or executing the DRLC events, simply press the DR Button once.

Figure 5: DR Button

4.0 RESTORING FACTORY DEFAULT

To restore factory default, press and hold the factory default button for 30 seconds. The Power/ZigBee LED will start blinking green very quickly to signify the factory default is in process.

Figure 3: Factory Default button

5.0 FEDERAL COMMUNICATION COMMISSION 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.
This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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.

6.0 TECHNICAL SPECIFICATIONS

Part Number	RD71316
Product Name	Jetlun ZigBee GreenPHY Appliance Module Plus
Standard Compliance	ZigBeePro Smart Energy 1.1 or Home Automation 1.0
Frequency Band	2.4 GHz
Transport Mode	Up to 250 kbps
Range	Up to 300 ft (100 m)
ZigBee Antenna	Rx: -99dBm (normal mode), -100dBm (burst mode) Tx: +18dBm (normal mode), +20dBm (burst mode)
Security	128-bit AES Encryption
LEDs	Power/ZigBee, Demand Response Event, Demand Response Event Schedule, Relay 1 and Relay 2
Accuracy	+/- 99.0%
Resolution	1 watts
Operating Temp	-32ºF to 113ºF (0ºC to 45ºC)
Operating Humidity	10 to 85% non-condensing
Storage Temp	-4ºF to 158ºF (-20ºC to 70ºC)
Storage Humidity	5 to 90% non-condensing
Operating Voltage	100-240 VAC, 50-60 Hz
Consumption	Maximum 4W
Safety and EMI	FCC/UL/cUL
WEEE	RoHS Compliant

Notes

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