

Jetlun ZigBee Appliance Module User Guide (RD77715)

User Guide

rev 1.0

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1.0 ABOUT THIS GUIDE

1.1 Becoming familiar with this User Guide

1.1 Quick Reference

The Jetlun ZigBee Appliance Module (RD77715) User Guide describes the following:




Table 1: Where to find information in this User Guide

Installing and Configuring the Jetlun Appliance Module	Chapter 2 and 3
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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 visit 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 Appliance Module (RD77715). The ZigBee Appliance Module is a 15A (10A for Australia) ZigBee-enabled single-phase Load Control Switch (LCS) that also monitors the energy usage of the appliance that is plugged in.

The ZigBee Appliance Module features the following:

- ZigBee RF mesh networking
- Remote ON/OFF
- Demand Response (DR) LED indicator
- DR Switch
- One-time DR Opt-Out/ Opt-In button
- Measuring energy usage of the appliance plugged 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:

- 1x ZigBee Appliance Module RD77715
- 1x Quick Installation Guide
- 1x Warranty Guide

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 Appliance Module 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.

Please DO NOT:

- Use the RD77715 near water.
- Place the RD77715 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

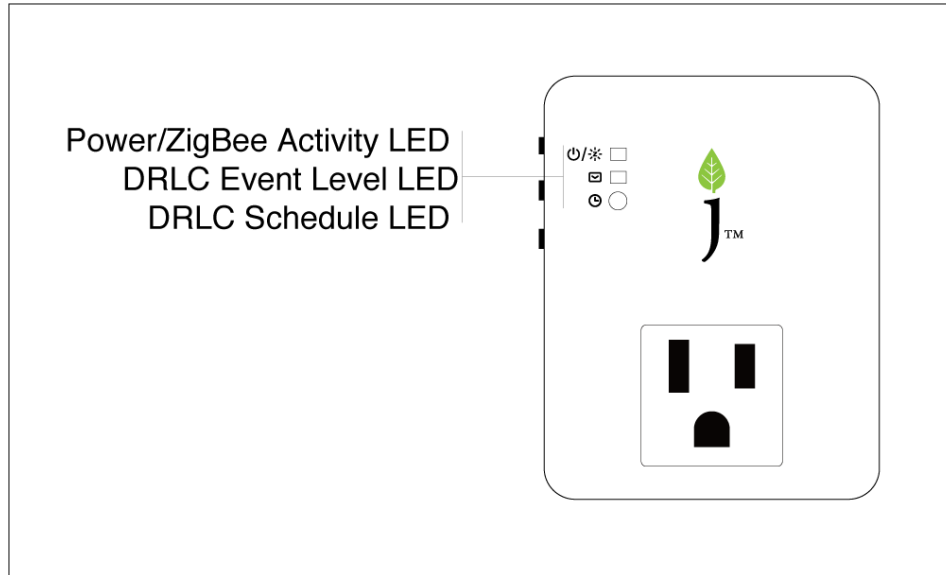




Figure 1: Front Panel of the Appliance Module

Table 3: Front Panel LED Description

Icon	Name	Description
	Power LED	When first plugged in, the Power LED will lit up solid green for 15 seconds to indicate there is power to the device.
	ZigBee LED	<p>Off indicates no ZigBee network and the device have not be commissioned to join any network.</p> <p>Blinking Green @ 0.5s interval indicates the device has been commissioned to scan for available network to join.</p> <p>Solid Green indicates the device has successfully connected to the ZigBee Coordinator and has performed time sync.</p> <p>Blinking (flickering) Green @ 0.2s interval indicates the device has connected to the ZigBee Coordinator and has not been able to perform time sync.</p> <p>Blinking Green @ 2s interval (slow blink) indicates the deivce failed to join any available network.</p>
	Demand	Off indicates No Event in Progress

	<p>Response Level LED</p>	<p>Solid Green indicates Level #1</p> <p>Slow Blinking Green @1.5s interval indicates Level #2</p> <p>Fast Blinking Green @0.5s interval indicates Level #3</p> <p>Solid Orange indicates Level #4</p> <p>Slow Blinking Orange @1.5s interval indicates Level #5</p> <p>Fast Blinking Orange @0.5s interval indicates Level #6</p> <p>Solid Red indicates Level #7</p> <p>Slow Red @1.5s interval indicates Level #8</p> <p>Fast Blinking Red @0.5s interval indicates Level #9</p>
	<p>Demand Response Schedule LED</p>	<p>Solid Green indicates Scheduled Event and No Event in Progress.</p> <p>Blinking Green @ 1.5s interval indicates Event in Progress and No Scheduled Event.</p> <p>Blinking Green @0.5s interval indicates Event in Progress and Have Scheduled Event</p>

2.4 Left Panel

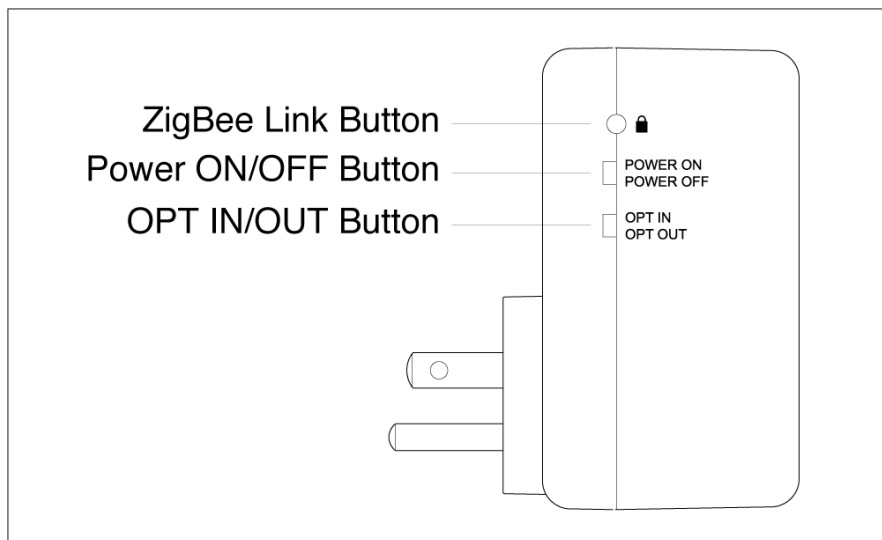



Figure 2: Left Panel of the ZigBee Appliance Module

Table 4: Back Panel of the applicne module Description

	<p>The ZigBee Link button is engaged for ZigBee Appliance Module to join the network and/or leave the network.</p>
<p><input type="checkbox"/> POWER ON <input checked="" type="checkbox"/> POWER OFF</p>	<p>The Power On/Off switch is to turn on/off the ZigBee Appliance Module.</p>
<p><input type="checkbox"/> OPT IN <input checked="" type="checkbox"/> OPT OUT</p>	<p>The Opt in/out switch is to set the demand response participation options of the ZigBee Appliance Module. Silde the switch to left, the appliance option is permanently opt-in. Silde the switch to right, the appliance option is permantly opt-out.</p>

3.0 INSTALLING THE ZIGBEE APPLIANCE MODULE

Follow these quick steps to install your JIM ZigBee Appliance Module.


3.1 Installing the Appliance Module

➔ **STEP 1:** Plug in the ZigBee Appliance Module to a nearby power outlet. The Power LED will lit solid green for 15 seconds before going off.

3.1.1 Join the Network

➔ **STEP 1:** Press and hold the ZigBee network button for 3-5 seconds and release the button. The ZigBee LED will blink green every 0.5 seconds (fast blinking) which indicate the device scanning a network to join.

➔ **STEP 2:** Once the ZigBee Appliance Module joins a network successfully, the ZigBee LED will be solid green.

	<p>NOTE: If the ZigBee LED is flickering green (blinking every 0.2 seconds), this means the ZigBee Appliance Module successfully joined to the ZigBee Coordinator but was not able to synchronize time with the ZigBee Coordinator, which could cause some malfunction. The ZigBee Appliance Module will automatically try to time sync with the ZigBee Coordinator. I</p>
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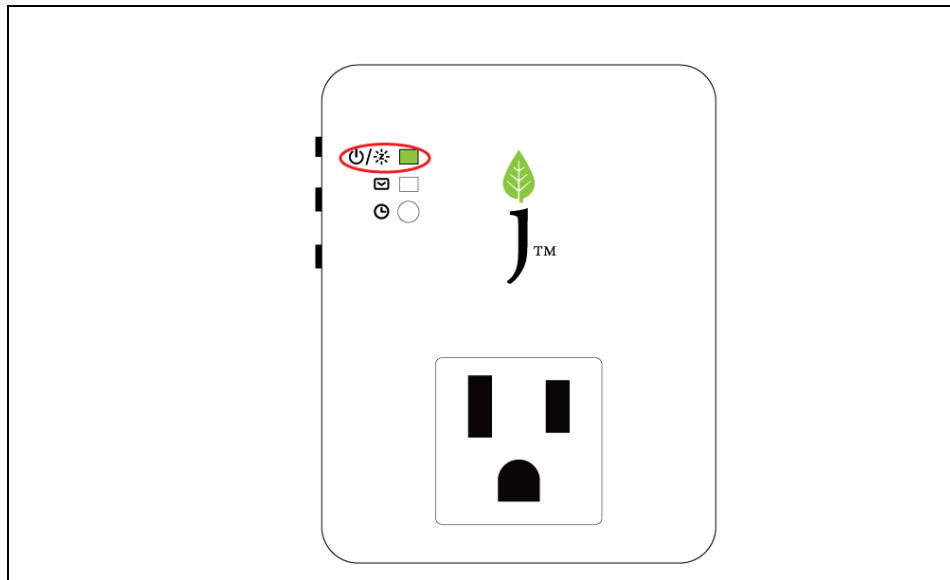


Figure 3: ZigBee link LED ON

3.1.2 Leaving the network

- ➔ **STEP 1:** Press and hold the ZigBee link button for >8 seconds and release the button.
- ➔ **STEP 2:** You will know that the ZigBee Appliance Module has left the network successfully when the link LED is off.

3.2 Demand Response Configuration

	NOTE: The following Demand Response features only apply if you have signed in a Demand Response program with your local electrical utility company.
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3.2.1 Joining Demand Response

Permanent Opt-In Mode

- ➔ **STEP 1:** To configure the Zigbee Appliance Module to always Opt In to Demand Response Events (Permanent Opt In Mode), slide the opt-in/out button to the left position.

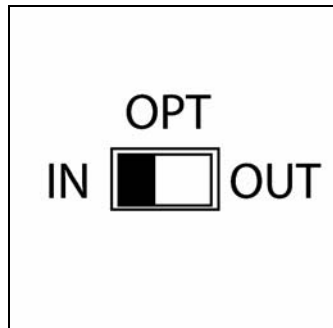


Figure 4: Demand Response Always Opt In Switch

To Opt-Out of Demand Response on an individual case-by-case basis when in Permanent Opt In Mode, simply press the Demand Response LED once when receiving a demand response notification.

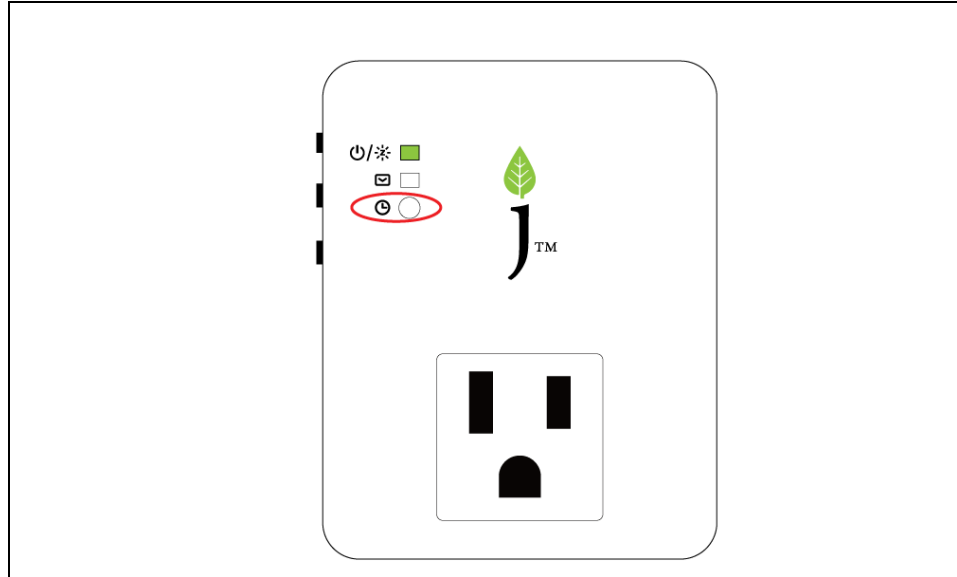


Figure 5: Demand Response Opt Out Button

Permanent Opt-Out Mode

➡ **STEP 1:**

To configure the Zigbee Appliance Module to Always Opt Out to Demand Response Events, slide the opt-in/out button to the right position.

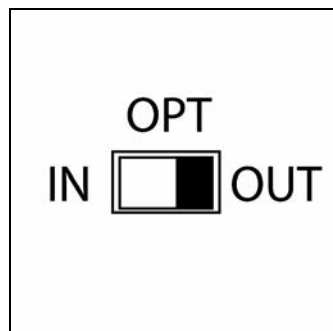


Figure 6: Demand Response Always Opt Out Switch

To Opt-In of Demand Response on a case-by-case basis, simply press the Demand Response LED.

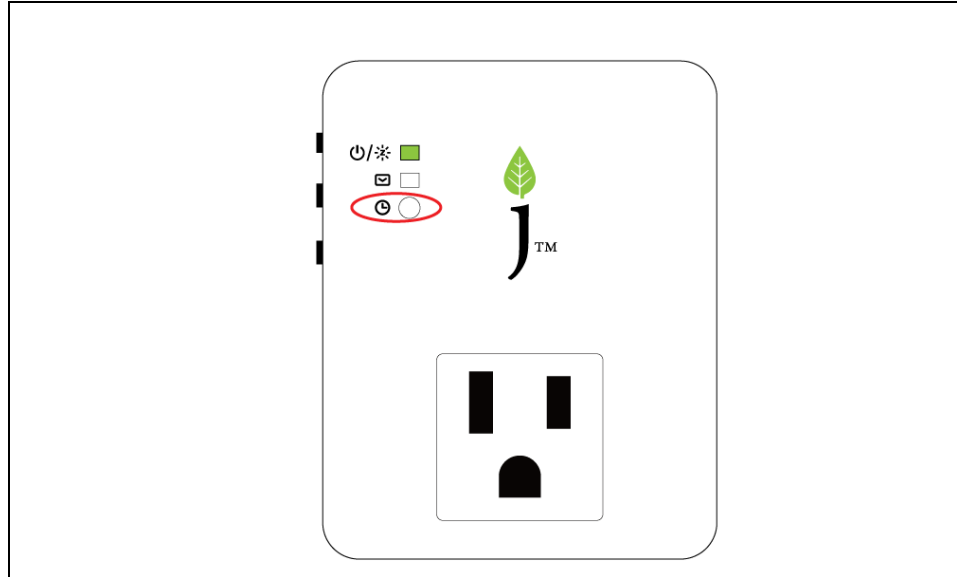


Figure 7: Demand Response Opt In Button

4.0 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.

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.

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.

5.0 TECHNICAL SPECIFICATIONS

Part Number	RD77715
Product Name	JIM ZigBee Appliance Module
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 100 ft (30 m)
ZigBee Antenna	Rx: -99dBm (normal mode), -100dBm (burst mode) Tx: -32dBm to +3dBm (normal mode), -23dBm to +5dBm (burst mode)
Security	128-bit AES Encryption
LEDs	Power/ZigBee, Demand Event Level, Demand Response Schedule
Accuracy	+/- 1.0%
Resolution	1 watts
Operating Temp	-32°F to 113°F (0°C to 45°C)
Operating Humidity	10 to 85% non-condensing
Storage Temp	-4°F to 158°F (-20°C to 70°C)
Storage Humidity	5 to 90% non-condensing
Consumption	Maximum 1.5W
Operating Voltage	100-240VAC, 50-60 hz
Safety and EMI	FCC/UL/cUL for 100-120VAC 60hz model only CE/C-Tick for 220-240VAC 50hz model only
WEEE	RoHS Compliant

Notes



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