MONOPRICE

Z Wave Plus® Smart Plug and Repeater with 2 USB Ports

P/N 27481

User's Manual

CONTENTS

SAFETY WARNINGS AND GUIDELINES

- This device is intended for indoor use only.

- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.

- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.

- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

INTRODUCTION

Thank you for purchasing this Z-Wave Plus® Smart Plug and Repeater with 2 USB Ports from Monoprice! This smart plug is an AC powered Z-Wave enabled device and is fully compatible with any Z-Wave enabled network. Z-Wave is an interoperable, two-way RF mesh networking technology used for home automation and security. Every AC powered Z-Wave device acts as a signal repeater, so multiple devices result in more possible transmission routes, which helps eliminate RF "dead spots" in the network. Any Z-Wave enabled device displaying the Z-Wave logo can be used with Z-Wave devices from other manufacturers.

This Smart Plug can be operated remotely, using the Z-Wave controller, or directly, using the Z-Button on the device. It plugs into a standard NEMA 5-15 power outlet and includes both a Z-Wave controlled outlet and two USB charging ports. It can report wattage consumption or kWh energy usage. It is designed so that when it is plugged into a standard two-plug wall outlet, it will not block the other power socket. As an AC powered Z-Wave device, this Plugin will act as a Z-Wave repeater.

FEATURES

- Single 15-amp/1800-watt NEMA 5-15 AC outlet with two USB charging ports

- Outlet can be switched on or off manually or via Z-Wave® commands

- RGB LED indicates Z-Wave network communications quality and load power

- Tracks and can report on wattage consumption and kWh energy usage

- Acts as a Z-Wave repeater

- Supports Over-the-Air firmware updates

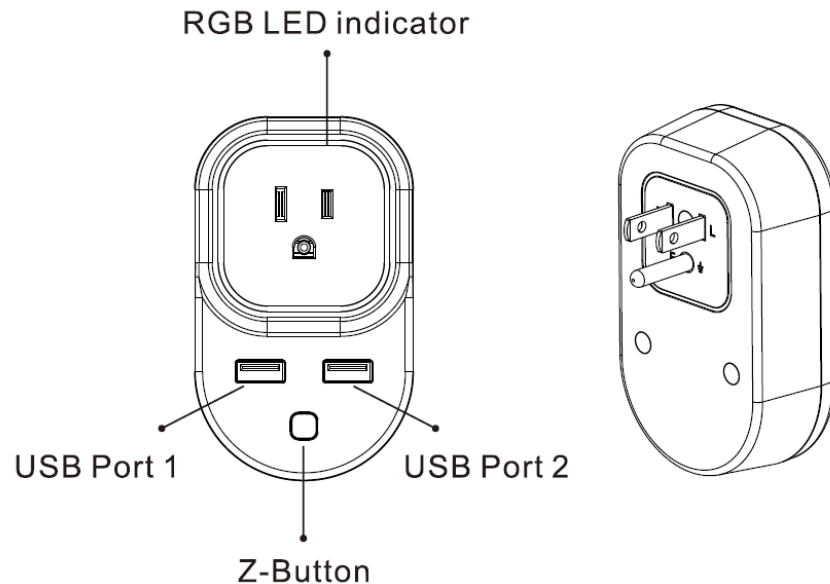# PACKAGE CONTENTS

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

1x Z-Wave Plus® Smart Plug

1x User's Manual

PRODUCT OVERVIEW

POWER INDICATION

Under normal operating conditions, the RGB LED will illuminate different colors, depending on the load level.

RGB LED Color	Result
Burgundy	Smart plug's output is off
Blue	0 ~ 300 watts
Cyan	300 ~ 600 watts
Green	600 ~ 900 watts
Yellow	900 ~ 1200 watts
Red	1200 ~ 1500 watts
Purple	1500 ~ 1800 watts
Blinking Purple	Exceeds 1800 watts

TESTING Z-WAVE CONNECTIVITY

You can test the connectivity of the Z-Wave® network connection, with the RGB LED being used to indicate the connection quality. To begin testing, press and hold the Z button for 6-9 seconds, releasing the button when the RGB LED illuminates violet. Note that the smart plug must be included into a Z-Wave network to test the network connection. You can abort the test at any time by pressing the Z button.

Blinking Green: The RGB LED will blink green while the smart plug is attempting to establish a connection with the main controller.

Solid Green: The RGB LED will illuminate green for about 2 seconds to indicate that direct communications are stable.

Blinking Orange: The RGB LED will blink orange while the smart plug is attempting to establish a connection with the main controller with intermediate radio transmitting power.

Solid Orange: The RGB LED will illuminate orange for about 2 seconds to indicate that the communication quality is moderate.

Solid Red: The RGB LED will illuminate red for about 2 seconds to indicate that they communications attempt has failed.

INSTALLATION

Note: If you are installing a complete Z-Wave® system for the first time, please refer to the installation guide of your Z-Wave Interface Controller before installing this smart plug.

1. Insert the smart plug into an AC outlet at the desired location.

2. Add the smart plug to your Z-Wave network, if necessary

3. Plug the device that will be controlled into the NEMA 5-15 socket on the smart plug module.

4. Turn on the connected device.

5. Press the Z button to turn the smart plug on. The connected device should also turn on.

6. Press the Z button to turn the smart plug off. The connected device should also turn off.

INCLUSION

This device can be included manually or using the auto-inclusion feature.

Automatic Non-Secure Inclusion

1. Put your Z-Wave controller into Inclusion mode (refer to your controller's manual for instructions).

2. Plug the smart plug into an AC power outlet. The smart plug will automatically begin searching for the Z-Wave network controller.

3. The RGB LED will blink blue rapidly, indicating that the smart plug is performing the auto-inclusion with the Z-Wave® network controller.

4. The smart plug should be recognized and included into the Z-Wave network. The RGB LED indicator will change color, as detailed in the *POWER INDICATION* section above, and the auto inclusion feature will be disabled.

Manual Non-Secure Inclusion

1. Plug the smart plug into an AC power outlet.

2. Put your Z-Wave controller into Inclusion mode (refer to your controller's manual for instructions).

3. Triple press the Z button. The RGB LED will blink blue rapidly, indicating that the smart plug is being included into the network.

4. The smart plug should be recognized and included into the Z-Wave network. The RGB LED indicator will change color, as detailed in the *POWER INDICATION* section above, and the auto inclusion feature will be disabled.

Manual Secure Inclusion

1. Plug the smart plug into an AC power outlet.

2. Set your security-enabled Z-Wave controller into Node Secure mode (refer to your controller's manual for instructions).

3. Press and hold the Z button for about 3 seconds until the RGB LED begins blinking green rapidly.

4. The smart plug should be recognized and included into the Z-Wave security network. The RGB LED will change color, as detailed in the *POWER INDICATION* section above, and the auto inclusion feature will be disabled.

EXCLUSION

1. Ensure that the smart plug is inserted into an AC outlet.

2. Set your Z-Wave® controller into exclusion mode (refer to your controller's manual for instructions).

3. Triple-click the Z-Button. The RGB LED will blink orange while the smart plug is being removed. The smart plug will be removed from your Z-Wave network and the RGB LED will then illuminate orange steadily for about 2 seconds.

RESETTING THE PLUG-IN

Note that the smart plug can only be reset if it is included in a Z-Wave network.

1. Ensure that the smart plug is inserted into an AC outlet.

2. Press and hold the Z-Button on the smart plug for more than 20 seconds. The LED indicator will illuminate yellow steadily for about 2 seconds.

ASSOCIATION

The ASSOCIATION command class allows the smart plug to communicate with other Z-Wave devices directly, such as sending a BASIC REPORT whenever it is turned on or off. It supports 1 association grouping and up to 5 associated nodes.

ADVANCED CONFIGURATIONS

This smart plug supports a variety of advanced configuration settings. The following parameters can be accessed from your Z-Wave® controller's configuration interface.

Overload Protection

Parameter #:   20

Default Setting: 1

Parameter Size: 1 byte

The Overload protection feature constantly monitors the power load. Once the power load exceeds 16.5 amps for more than 5 seconds, the smart plug will automatically turn off.

0 = Overload protection disabled

1 = Overload protection enabled (default)

Status Memory

Parameter #:   21

Default Setting: 0

Parameter Size: 1 byte

The smart plug can be set to remember and restore its on/off status after a power outage.

0 = The smart plug remembers its on/off status when power is lost and will restore the on/off status when power is restored (default).

1 = The smart plug will not remember its on/off status when power is lost. The connected device will be turned on when power is restored.

2 = The smart plug will not remember its on/off status when power is lost. The connected device will be turned off when power is restored.

Load Status Change Notification

Parameter #:   24

Default Setting: 1

Parameter Size: 1 byte

The smart plug can send notifications to an association device (Group Lifeline) whenever the power load changes.

0 = Notifications are disabled.

1 = The smart plug sends a BASIC REPORT whenever the power load changes (default).

2 = The smart plug sends a BASIC REPORT only when the power load changes by some means other than by Z-Wave® command.

LED Indicator Modes

Parameter #:   27

Default Setting: 0

Parameter Size: 1 byte

Whenever the smart plug is included in a Z-Wave network, the LED indicator will indicate the status of the load.

0 = The RGB LED illuminates when the smart plug is turned on and is off when the smart plug is turned off (default).

1 = The RGB LED illuminates when the smart plug is turned on, but turns off after 5 seconds if the Z-Button is not pressed and no Z-Wave command is received.

Absolute Threshold of Power Report

Parameter #:   151

Default Setting: 50 (watts)

Parameter Size: 2 bytes

The smart plug can be set to send a power report to an association device (Group Lifeline) when the power load changes by the set number of watts.

0 = Power report disabled.

1 - 65535 = The number of watts by which the load must change to trigger a power report.

Percentage Threshold of Power Report

Parameter #:   152

Default Setting: 10 (%)

Parameter Size: 1 byte

The smart plug can be set to send a power report to an association device (Group Lifeline) when the power load changes by the set percentage.

0 = Power report disabled.

1 - 255 = The percentage by which the power load must change to trigger a power report.

Power Report Interval

Parameter #:   171

Default Setting: 30 (seconds)

Parameter Size: 4 bytes

To prevent continuous transmission of power reports, the power report is only sent after the set amount of time has elapsed since the last report.

0 = The function is disabled, allowing the power report to be sent whenever the power load changes.

5 - 2678400 = The number of seconds that must elapse before another power report is sent.

Energy Report Interval

Parameter #:   172

Default Setting: 300 (seconds)

Parameter Size: 4 bytes

To prevent continuous transmission of energy reports, the energy report is only sent after the set amount of time has elapsed since the last report.

0 = The function is disabled, allowing the energy report to be sent whenever the energy value changes.

5 - 2678400 = The number of seconds that must elapse before another energy report is sent.

Voltage Report Interval

Parameter #: 173

Default Setting: 300 (seconds)

Parameter Size: 4 bytes

To prevent continuous transmission of voltage reports, the voltage report is only sent after the set amount of time has elapsed since the last report.

0 = The function is disabled, allowing the voltage report to be sent whenever the voltage changes.

5 - 2678400 = The number of seconds that must elapse before another voltage report is sent.

Electricity Report Interval

Parameter #: 174

Default Setting: 300 (seconds)

Parameter Size: 4 bytes

To prevent continuous transmission of electricity reports, the electricity report is only sent after the set amount of time has elapsed since the last report.

0 = The function is disabled, allowing the electricity report to be sent whenever the electricity level changes.

5 - 2678400 = The number of seconds that must elapse before another electricity report is sent.

SPECIFICATIONS

Radio Protocol	Z-Wave®
Radio Frequency	908.42 MHz
Radio Range	More than 150 meters outdoors, about 30 meters indoors, depending on building materials
Input Power	120 VAC ±10%, 60Hz
Power Load Current	15 amps
Power Output (for resistive load)	1800 watts
Power Consumption	Less than 1.5 watts
USB 1 Output	5.0 ±0.25 VDC, 1A, 5 watts
USB 2 Output	5.0 ±0.25 VDC, 2.4A, 12 watts
Operating Temperature	+14 ~ +104°F (-10 ~ +40°C)
Storage Temperature	-4 ~ +140°F (-20 ~ +60°C)
Storage Humidity	0 ~ 80% RH, non-condensing
Dimensions	3.9" x 2.4" x 1.2" (100 x 60 x 31 mm)

REGULATORY COMPLIANCE

Radio Notice for FCC

This FCC Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Monoprice, including the use of non-approved antennas, could void the user's authority to operate this device.

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.