



Aeotec Range Extender 6

(Z-Wave Range Extender)



Change history

Revision	Date	Change Description
1	5/31/2016	Initial draft.

Aeotec Range Extender 6

Engineering Specifications and Advanced Functions for Developers

Aeotec Range Extender is a Z-Wave repeater device based on Z-Wave enhanced 232 slave library V6.51.08.

It can extend the range of the communication between Z-Wave products and assist other devices to reach each other in your Z-Wave network.

It can be included and operated in any Z-wave network with other Z-wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

It is also a security Z-Wave device and supports the Over The Air (OTA) feature for the product's firmware upgrade.

1. Library and Command Classes

1.1 SDK: 6.51.08

1.2 Library

- Basic Device Class: BASIC_TYPE_ROUTING_SLAVE
- Generic Device class: GENERIC_TYPE_REPEATER_SLAVE
- Specific Device Class: SPECIFIC_TYPE_REPEATER_SLAVE

1.3 Commands Class

	Included Non-Secure Network	Included Secure Network
Node Info Frame	COMMAND_CLASS_ZWAVEPLUS_INFO V2 COMMAND_CLASS_COLOR_SWITCH V1 COMMAND_CLASS_SWITCH_MULTILEVEL V2 COMMAND_CLASS_CONFIGURATION V1 COMMAND_CLASS_ASSOCIATION_GRP_INFO V1 COMMAND_CLASS_ASSOCIATION V2 COMMAND_CLASS_MANUFACTURER_SPECIFIC V2 COMMAND_CLASS_VERSION V2 COMMAND_CLASS_FIRMWARE_UPDATE_MD V2 COMMAND_CLASS_POWERLEVEL V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1 COMMAND_CLASS_MARK V1	COMMAND_CLASS_ZWAVEPLUS_INFO V2 COMMAND_CLASS_VERSION V2 COMMAND_CLASS_MANUFACTURER_SPECIFIC V2 COMMAND_CLASS_SECURITY V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1 COMMAND_CLASS_MARK V1
Security Command Supported Report Frame	-	COMMAND_CLASS_COLOR_SWITCH V1 COMMAND_CLASS_SWITCH_MULTILEVEL V2 COMMAND_CLASS_CONFIGURATION V1 COMMAND_CLASS_ASSOCIATION_GRP_INFO V1 COMMAND_CLASS_ASSOCIATION V2 COMMAND_CLASS_FIRMWARE_UPDATE_MD V2 COMMAND_CLASS_POWERLEVEL V1

2. Technical Specifications

Model number: ZW117

Operating distance: Up to 300 feet/100 meters outdoors.

Input: 120V~, 60Hz. (USA Version)

230V~, 50Hz. (EU, AU, CN Version)

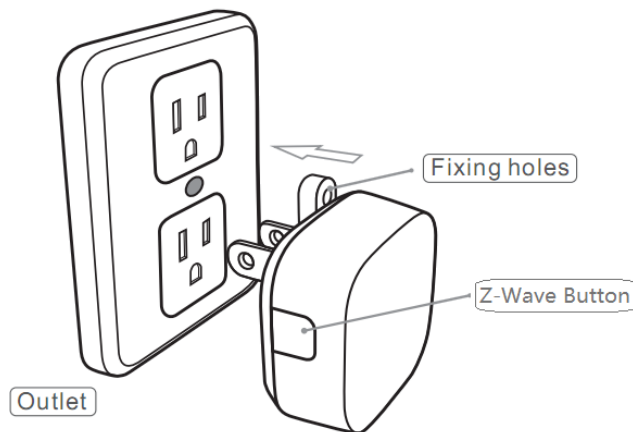
230V~, 60Hz. (BR version)

Operating temperature: 0°C to 40°C.

Relative humidity: 8% to 80%.

3. Familiarize yourself with your Range Extender

3.1 Interface



4. All functions of each trigger

4.1 Function of Action Button

Button Action	Description
Press one time	<p>Add the Range Extender into the Z-Wave network:</p> <ol style="list-style-type: none">1. Power on your Range Extender, the Network LED will be colorful gradient status.2. Let your Z-Wave controller into add/inclusion mode.3. Implement the Button action, the Range Extender will send out a Node info without Security CC in command class list (<i>Non-security inclusion</i>).4. If the inclusion is successful, its Network LED will be solid when you press the Action Button again, Otherwise, please repeat the steps above. <p>Remove Range Extender from a Z-Wave network:</p> <ol style="list-style-type: none">1. Power on your Range Extender, the Network LED will be solid.2. Let the primary controller into remove mode (If you don't know how to do

	<p>this, refer to its manual).</p> <p>3. Press the Action Button on the Range Extender.</p> <p>If the remove is success, the Network LED will be colorful gradient status. If the Network LED still is solid, please repeat the process from the steps above.</p>
Press 2 times	<p>Add the Range Extender into the Z-Wave network:</p> <ol style="list-style-type: none"> 1. Power on your Range Extender, the Network LED will be colorful gradient status. 2. Let your Z-Wave controller into add/inclusion mode. 3. Implement the Button Action, the Range Extender will send out a Node info that contains Security CC in the command class list (<i>Security inclusion</i>). 4. If the inclusion is successful, its Network LED will be solid when you press the Action Button again. Otherwise, please repeat the process above. <p>Remove Range Extender from Z-Wave network:</p> <ol style="list-style-type: none"> 1. Power on your Range Extender. 2. Let the primary controller into exclusion mode (If you don't know how to do this, please refer to its manual). 3. Press the Action Button on the Range Extender.. 4. If the exclusion is failed, please repeat the process from step 2. <p>If Range Extender has been successfully removed from your Z-Wave network, the Network LED will be colorful gradient status. If Network LED still is solid, please repeat the process from the steps above.</p>
Press and hold 20 seconds	<p>Reset Range Extender to factory default.</p> <p>Note:</p> <ol style="list-style-type: none"> 1, This procedure should only be used when the primary controller is inoperable. 2, Reset Range Extender to factory default settings will: remove the Range Extender from the Z-Wave network; restore the Configuration settings to the default.

5. Special Rule of Each Command Class

5.1 Z-Wave Plus Info Report Command Class

Parameter	Value
Z-Wave Plus Version	1
Role Type	5 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON)
Node Type	0 (ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE)
Installer Icon Type	0x1B00
User Icon Type	0x1B00

5.2 Association Command Class

Range Extender supports 2 association groups and Max 5 nodes for each group.

5.3 Association Group Info Command Class

5.3.1 Association Group Info Report Command Class

Profile: General: NA (Profile MSB=0, Profile LSB=0)

5.3.2 Association Group Name Report Command Class

Group 1: Lifeline

Group 2: Retransmit

5.4 Manufacturer Specific Report

Parameter	Value
Manufacturer ID 1	US/EU/AU=0x00
Manufacturer ID 2	US/EU/AU=0x86
Product Type ID 1	EU=0x00, US=0x01, AU=0x02 CN=0x1D (29)
Product Type ID 2	0x04
Product ID 1	0x00
Product ID 2	0x75 (117)

5.5 Configuration Set Command Class

7	6	5	4	3	2	1	0
Command Class = COMMAND_CLASS_CONFIGURATION							
Command = CONFIGURATION_SET							
Parameter Number							
Default	Reserved					Size	
Configuration Value 1(MSB)							
Configuration Value 2							
.....							
Configuration Value n(LSB)							

Parameter Number Definitions (8 bit):

Parameter Number Hex /Decimal	Description	Default Value	Size
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0x21 (33)	Set the RGB value of the LED for the quality test of the LED diode. Value1: Reserved Value2: Red value Value3: Green value Value4: Blue value	-	3
0x52 (82)	Set the default status of the LED when the Range Extender relays Z-Wave message. 0 = the green LED remains On for 2 seconds , 1 = Off.	0	1
0xC8 (200)	Partner ID (0= Aeotec Standard Product, 1= others).	0	1
0xFC (252)	Enable/disable the Configuration to be locked. 0 =disable, 1 = enable.	0	1
0xFE (254)	Device Tag.	0	2
0xFF (255)	1, Value = 0x55555555 Default = 1 Size = 4 Reset to factory default settings and removed from the z-wave network	N/A	4
	2, Value = 0 Default = 1 Size = 1 Reset all configuration parameters to factory default settings	N/A	1