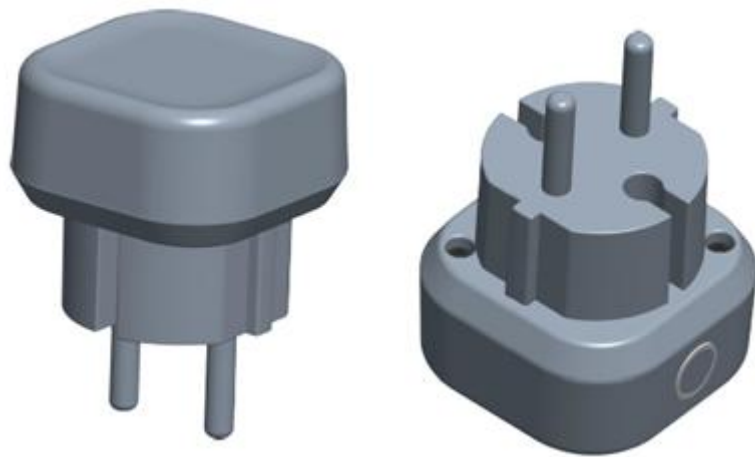




# Range Extender 7



# Engineering Specification

## Range Extender 7

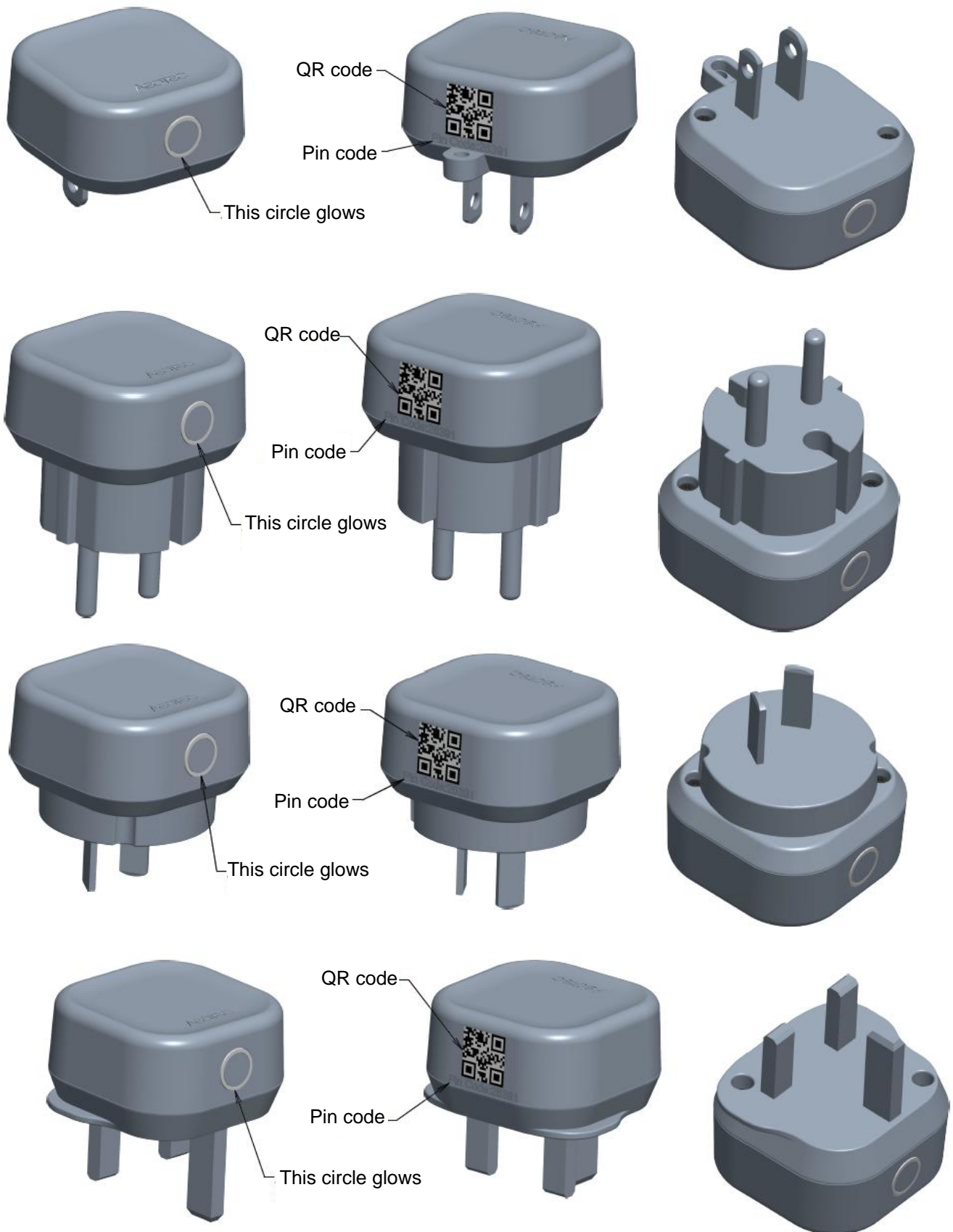
Document No.	SPEC-ZW189
Version	1
Description	<p>This document mainly introduces the new generation AEOTEC Range extender. The content mainly includes its interfaces, accessories, features, specifications, quick start, and software function definition.</p> <p>Range extender 7 is based on Z-Wave.</p> <ul style="list-style-type: none"><li>● Can extend the communication range of z-wave network</li><li>● Support SmartStart, which makes inclusion more convenient.</li><li>● Support S2, which makes it more secure and reliable.</li></ul>
Written By	
Date	
Reviewed By	
Date	
Approved By	
Date	

REVISION RECORD		
Version	Date	Brief description of changes
1	2019.06.11	First revision.
2	2019.07.01	Weight and dimensions added

# Table of Content

<b>1</b>	<b>INTERFACES &amp; ACCESSORIES .....</b>	<b>5</b>
<b>2</b>	<b>FEATURES &amp; SPECIFICATIONS .....</b>	<b>7</b>
2.1	<i>Structural Characteristics.....</i>	<i>7</i>
2.2	<i>Hardware Characteristics .....</i>	<i>7</i>
2.3	<i>Software Characteristics .....</i>	<i>7</i>
<b>3</b>	<b>PRODUCT QUICK START.....</b>	<b>9</b>
3.1	<i>Important safety information .....</i>	<i>9</i>
3.2	<i>How to install the product .....</i>	<i>9</i>
3.3	<i>How to add the product into Z-Wave network .....</i>	<i>9</i>
3.3.1	SmartStart Learn Mode .....	9
3.3.2	Classic Inclusion Learn Mode .....	9
3.4	<i>How to remove the product from Z-Wave network .....</i>	<i>9</i>
3.5	<i>How to factory reset .....</i>	<i>10</i>

## 1 INTERFACES & ACCESSORIES



Terminology	Description
Action Button	Used for networking and resetting.
Indicator Light	Used for indicating the current state of the product.
Plug	Used for AC power input, models vary from different countries.
Antenna	Used for Wireless communication.
QR Code	Used for Z-Wave SmartStart Inclusion.

## 2 FEATURES & SPECIFICATIONS

### 2.1 Structural Characteristics

Parameter	Value
Product Identifier	ZW189-A01/B21/C15/C07
Dimensions	US: 53.2×46×40mm EU: 46×46×60.65mm AU: 46×46×48.6mm UK: 53.2×46×48.6mm
Weight	US: 33.9g EU: 38.8g AU: 34.9g UK: 38.9g
Color	White
Shell Surface Treatment	Frosted(upper shell), Bright fine lines(lower shell)
Shell Fire-proof Level	UL94 V-0
Waterproof and Dustproof	Rated IP20 under IEC 60529
Usage	For indoor use. Used for extender the communication range of Z-Wave Network
Operating Temperature	32~104°F (0~40°C)
Relative Humidity	8%~80%

### 2.2 Hardware Characteristics

Parameter	Value
Z-Wave Antenna Distance	30m (Indoor) /150m (Outdoor)
Plug and Socket Type	Plug Type A for USA , Plug Type 21 for AU , Plug Type E/F for EU, Plug Type G for UK
Indicator Light Color	White
Buttons and Connectors	Action Button (x1)
Input Voltage	US: 120V AC, 60Hz. EU/AU/UK: 230V AC, 50Hz.
Battery Included	No
Working Current	EU/UK/AU : MAX 150mA@230VAC,50Hz US : MAX 100mA@120VAC.60Hz
Power Consumption	US: Max 0.6W EU/AU/UK: Max 1.2W
Over-Heat Protection	Support.
Built-in Sensors	No
Safety Certifications	US : FCC/ETL AU : RCM EU : CE

### 2.3 Software Characteristics

Parameter	Value
Wireless Technology	Z-Wave
Z-Wave Plus	Yes
Z-Wave Version	7.11.00
Z-Wave Library Type	Enhanced 232 Slave
Z-Wave Device Type	REPEATER_SLAVE

Z-Wave Role Type	Always On Slave
Security Class	Non-Security, S2 Unauthenticated, and S2 Authenticated
Smart Start Compatible	Support
Over The Air (OTA)	Support
Multi Channel Device	No
Association	Support
Factory Reset	Support
Power-down Memory	Support



## 3 PRODUCT QUICK START

### 3.1 Important safety information

Please read this Engineering Specification carefully for correct and effective use.

Failure to follow the recommendations set forth by AEOTEC Limited may be dangerous or cause a violation of the law. The manufacturer, importer, distributor, and/or reseller will not be held responsible for any loss or damage resulting from not following any instruction in this guide or in other materials.

### 3.2 How to install the product

Getting your Range Extender up and running is as simple as plugging it into a wall outlet and adding it to your Z-Wave network.

### 3.3 How to add the product into Z-Wave network

This product supports Security 2 Command Class. While a Security S2 enabled Controller is needed in order to fully use the security feature. This product 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.

#### 3.3.1 SmartStart Learn Mode

SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes after this product being powered on in the network vicinity.

#### 3.3.2 Classic Inclusion Learn Mode

1. Set your Z-Wave Controller into its 'Add Device' mode in order to add the product into your Z-Wave system. Refer to the Controller's manual if you are unsure of how to perform this step.
2. Make sure the product is powered. If not, plug it into a wall socket and power on; its LED will be breathing white light all the time.
3. Click Action Button once, it will quickly flash white light for 30 seconds until it is added into the network. It will become constantly bright white light after being assigned a NodeID.
4. If your Z-Wave Controller supports S2 encryption, enter the first 5 digits of DSK into your Controller's interface if /when requested. The DSK is printed on its housing.
5. If Adding fails, it will come back to breathing white light; repeat steps 1 to 4. Contact us for further support if needed.
6. If Adding succeeds, it will turn to white light. Now, this product is a part of your Z-Wave home control system. You can configure it and its automations via your Z-Wave system; please refer to your software's user guide for precise instructions.

#### Note:

If Action Button is clicked again during the Classic Inclusion Learn Mode, the Classic Inclusion Learn Mode will exit. At the same time, Indicator Light will become breathing white light.

### 3.4 How to remove the product from Z-Wave network

1. Set your Z-Wave Controller into its 'Remove Device' mode in order to remove the product from your Z-Wave system. Refer to the Controller's manual if you are unsure of how to perform this step.

2. Make sure the product is powered. If not, plug it into a wall socket and power on.
3. Click Action Button once.
4. If Removing fails, it will turn back to constantly white light; repeat steps 1 to 3. Contact us for further support if needed.
5. If Removing succeeds, it will become breathing white light. Now, it is removed from Z-Wave network successfully.

### 3.5 How to factory reset

If the primary controller is missing or inoperable, you may need to reset the device to factory settings.

Make sure the product is powered. To complete the reset process manually, press and hold the Action Button for at least 20s. The LED indicator will become breathing white light, which indicates the reset operation is successful. Otherwise, please try again. Contact us for further support if needed.

**Note:**

1. This procedure should only be used when the primary controller is missing or inoperable.
2. Factory Reset will:
  - (a) Remove the product from Z-Wave network;
  - (b) Delete the Association setting;

#### 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, and (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.

#### Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.