



LED BULB

View the expanded manual:
<http://aeotec.com/support>

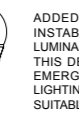


1 Aeotec by Aeon Labs LED Bulb.

Aeotec LED Bulb is a multi-coloured LED bulb which allows control (on/off/dim/colour change) via wireless Z-Wave® commands.

The LED Bulb can also communicate securely via AES 128 wireless Z-wave commands and supports Over-The-Air (OTA) firmware upgrades.

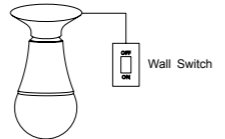
2 Familiarize yourself with your LED Bulb.



ADDED WEIGHT OF THE DEVICE MAY CAUSE INSTABILITY OF A FREE-STANDING PORTABLE LUMINAIRE.
THIS DEVICE IS NOT INTENDED FOR USE WITH EMERGENCY EXITS OR NOT FOR EMERGENCY LIGHTING.
SUITABLE FOR USE IN ENCLOSED LUMINAIRES.

3 Quick start.

Getting your LED Bulb up and running is as simple as inserting it into a lamp holder and adding it to your existing Z-Wave network. To set your Z-Wave hub into pairing mode, please refer to the respective section within your hubs instruction manual.



1. Toggle off the wall switch before you screw in LED Bulb and firmly screw in LED Bulb.

2. Set your Z-Wave hub into pairing mode.

3. Toggle off the wall switch controlling your LED Bulb to turn it off (keep it in the “OFF” state for 2 seconds) and then toggle on the wall switch to turn your LED Bulb on, the green LED will blink to indicate the Bulb is entering into pairing mode.

4. If LED Bulb has been successfully added to your Z-Wave network, its RGB LED will be solid when you turn LED Bulb on.

Note:

1. If your Bulb has already been added into another Z-Wave network, you'll need to remove it from the existing network first. Refer to the section below: “Removing your LED Bulb from a Z-Wave network” below.

2. To check if LED Bulb is already paired to an existing

network, toggle the wall switch off and on 3 times fast (the final ending position of the wall switch must be on). If LED Bulb blinks orange for 3 seconds, it is already paired into a Z-Wave network.

With your LED Bulb now working as a part of your smart home, you'll be able to configure it to indicate different colours from your home control software via setting the RGB value. Please refer to the user manual for your Z-Wave hub for precise instructions on configuring your LED Bulb to your needs.

Manually changing LED Bulb's colour.

After LED Bulb is paired into your network, toggle the LED Bulb off, on, off, on in quick succession via the wall switch to enter a colour cycle (Warm white, Cold white, Red, Orange, Yellow, Green, Cyan, Blue or Purple) from which you may select from. Toggle off the LED bulb to select and lock the colour visible.

Note:

1. The Power Outage LED is a small red LED in the Bulb, which is used to indicate the power outage state of the LED Bulb. When the LED Bulb is switched off by the wall switch, the red Power Outage LED will light for 1.2 seconds.

2. The wall switch needs to be left in the “On” position in order for the bulb to function properly in the Z-Wave network. This functionality would include being an active repeater, repeating the Z-Wave RF commands and being controlled remotely.

Removing your LED Bulb from a Z-Wave network.

Your LED Bulb can be removed from your Z-Wave network at any time. You'll need to use your Z-Wave network's main controller. To set your Z-Wave hub into removal mode, please refer to the respective section within your hubs instruction manual.

1. Set your Z-Wave hub into device removal mode.

2. Toggle the wall switch off and on 3 times fast (the final ending position of the wall switch must be on). If successful, the LED Bulb will change to orange colour for 2 seconds before changing to white. If removal was unsuccessful, then LED Bulb will blink orange for 3 seconds before changing to red colour for 2 seconds.

4 Advanced functions.

Colour Display Cycle Configuration.

Parameter 37 [4 byte] will cycle the colour displayed by LED Bulb into different modes:

	7	6	5	4	3	2	1	0
Value 1 (MSB)	Colour Transition Style		Reserved		Colour Display Cycle			
Value 2	Cycle Count							
Value 3	Colour Change Speed							
Value 4 (LSB)	Colour Residence Time							

Colour Display Mode (4 bits)

The Colour Display Cycle field can have the following values corresponding to 4 different modes:

Colour Display Cycle	Description
0	Single Colour Mode
1	Rainbow Mode(red, orange, yellow, green, cyan, blue, violet, pinkish)
2	Multi Colour Mode(colours cycle between selected colours)
3	Random Mode
15	Inactive (keep the current configuration values)
4 to 14	Reserved

Colour Transition Style (2 bits)

The following values correspond to 3 different transition styles between colours:

Colour Transition Style	Description
0	Smooth Colour Transition.
1	Fast/Direct Colour Transition.
2	Fade Out Fade In Transition.
3	Inactive (keep the current configuration values).

Cycle Count (8 bits)

The Cycle Count is used to define the number of repetitions/cycles displayed by your LED Bulb in Colour Display Cycle before stopping.

Cycle Count	Description
0	Unlimited
1 to 254	Total number of repetitions/cycles before stopping.
255	Inactive (keep the current configuration values)

Colour Change Speed (8 bits)

This field specifies the transition speed when one colour changes to another.

Speed	Description
0 to 254	0 is the slowest and 254 is the fastest.
255	Inactive (keep the current configuration values)

Colour Residence Time (8 bits)

This field specifies the length of time each individual colour is displayed before a transition.

Colour Residence Time	Description
0 to 254	Corresponds from 0 to 25.4 seconds.
255	Inactive (keep the current configuration values)

The table above shows a decimal representation of the settings that can be set on parameter 37.

Parameter 38 [4 byte] can be used to set up to 8 colours to cycle between when LED Bulb is in Multi Colour Mode. Colours transition from Colour Index 1-8.

	7	6	5	4	3	2	1	0
Value 1 (MSB)	Colour Index 8				Colour Index 7			
Value 2	Colour Index 6				Colour Index 5			
Value 3	Colour Index 4				Colour Index 3			
Value 4 (LSB)	Colour Index 2				Colour Index 1			

Colour Component Id:

ID	1	2	3	4	5	6	7	8
Colour	Red	Orange	Yellow	Green	Cyan	Blue	Violet	Pinkish

Example:

If you set the parameter 38 to 801(0x00000321 in hexadecimal), the colour will be changed from Red to Orange and then Orange to Yellow circularly(Red→Orange→Yellow→Red).

● Enabling Security Encryption.

1. Set your Z-Wave hub into pairing mode.
2. Toggle off the wall switch controlling your LED Bulb to turn it off (keep it in the “OFF” state for 2 seconds) and then quickly toggle on the wall switch on, off, on, off, on. The blue LED will blink to indicate the Bulb is entering into secure pairing mode.
3. If LED Bulb has been successfully added to your Z-Wave network, its RGB LED will be solid when you turn LED Bulb on.

● Reset your LED Bulb.

Removing LED Bulb from the Z-Wave network will set LED Bulb to factory default settings.

⑤ Technical specifications.

Model number: ZW098.

Bulb holder type: E26 for USA version, E27 for EU/AU version.

Max operating power: 9W.

Max brightness: 850 lumens.

Rated colour temperature: 4700K.

Useful life: 50000 hours.

Operating temperature: 0°C to 40°C/32°F to 104°F.

Relative humidity: 8% to 80%.

Operating distance: Up to 492 feet/150 meters outdoors.

AC Input:

Version	Input (Standby Power)	Working band
AU	230V 50Hz, Max: 0.7W	921.42MHz
BR	220V 60Hz, Max: 0.7W	921.42MHz
CN	220V 50Hz, Max: 0.7W	868.40MHz
EU	230V 50Hz, Max: 0.7W	868.42MHz
IL	230V 50Hz, Max: 0.7W	916.02MHz
IN	230V 50Hz, Max: 0.7W	865.20MHz
UK	230V 50Hz, Max: 0.7W	868.42MHz
US	120V 60Hz, Max: 0.5W	908.42MHz

⑥ Warranty.

Aeon Labs warrants to the original purchaser of Products that for the Warranty Period (as defined below), the Products will be free from material defects in materials and workmanship. The foregoing warranty is subject to the proper installation, operation and maintenance of the Products in accordance with installation instructions and the operating manual supplied to Customer. Warranty claims must be made by Customer in writing within thirty (30) days of the manifestation of a problem. Aeon Labs' sole obligation under the foregoing warranty is, at Aeon Labs' option, to repair, replace or correct any such defect that was present at the time of delivery, or to remove the Products and to refund the purchase price to Customer.

The "Warranty Period" begins on the date the Products is delivered and continues for 3 years.

Any repairs under this warranty must be conducted by an authorized Aeon Labs service representative and under Aeon Labs' RMA policy. Any repairs conducted by unauthorized persons shall void this warranty.

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Customer must prepay shipping and transportation charges for returned Products, and insure the shipment or accept the risk of loss or damage during such shipment and transportation. Aeon Labs will ship the repaired or replacement products to Customer freight prepaid.

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to property to the extent any of the foregoing is proximately caused either by a defective product (including strict liability in tort) or by the negligent or willful acts or omissions of Customer or its officers, employees, subcontractors or agents, and/or (ii) arising from or relating to any actual or alleged infringement or misappropriation of any patent, trademark, mask work, copyright, trade secret or any actual or alleged violation of any other intellectual property rights arising from or in connection with the products, except to the extent that such infringement exists as a result of Aeon Labs' manufacturing processes.

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● FCC NOTICE (for USA)

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT.SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

STORE INDOORS WHEN NOT IN USE. SUITABLE FOR DRY LOCATIONS. DO NOT IMMERSE IN WATER. NOT FOR USE WHERE DIRECTLY EXPOSED TO WATER.

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 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.
- Consul the dealer or an experienced radio/TV technician for help.

● Warning

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

● Certifications (regional):



CONFORMS TO UL STD.1993
CERTIFIED TO CSA STD.C22.2 NO.1993-09



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