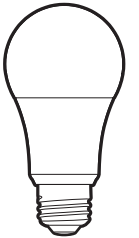


Aeotec

LED Bulb 6: Multi-Colour

ZWA002-A / ZWA002-C



Used in this guide.



Important safety information.

Please read this and the online guide(s) at <http://support.aeotec.com/ledbulb6> carefully. 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 instructions in this guide or in other materials.

LED Bulb 6 can be used in dry locations only. Do not use in damp, moist, and / or wet locations.

Quick start.

The following will step you through installing LED Bulb 6 and connecting it to your Z-Wave network.

1. Select a socket for LED Bulb 6. Turn off the corresponding light switch or power circuit if no switch is available.
2. If present, remove the socket's existing light bulb.
3. Insert LED Bulb 6 into the chosen socket.
4. Set your Z-Wave gateway into its 'add device' mode in order to connect LED Bulb 6 to your Z-Wave system. Refer to the gateway's manual if you are unsure of how to perform this step.
5. Turn on the wall switch or the power circuit. LED Bulb 6 turns solid yellow for a short period of time, then blinks white and then green for 3 seconds to indicate

that it successfully joined your Z-Wave network. Should LED Bulb 6 blink white and then red, it indicates it was unable to join your Z-Wave network; repeat the above steps and please refer to your digital user manual or contact us for further support if needed.

LED Bulb 6 is now a part of your Z-Wave home control system. LED Bulb 6 will send its status to the lifeline group when the state of the LED Bulb is changed. You can configure it and its automations via your Z-Wave system; please refer to your software's user guide for precise instructions. If your gateway incorrectly identifies LED Bulb 6 as a different product, please refer to our digital user manual and / or contact us or your gateway maker for further assistance.

LED Bulb 6 will be controllable via Z-Wave. To ensure that it remains part of your network and controllable, please leave any connected light switch in the on position. Cutting power to LED Bulb 6 will disable its operation.

Resetting

Please use this procedure only when the network primary controller is missing or otherwise inoperable: Led bulb re-power 6 times (between 0.5-2 seconds each time); If the 6th power on, the led bulb flashes twice, which means that the resetting is successful.

Get help & learn more.

Should you encounter any problem with LED Bulb 6, visit <http://support.aeotec.com/ledbulb6> or contact our support team via aeotec.com/contact. You can also learn more about LED Bulb 6 features, configuration options, and technical specifications at the link.

Gateway compatibility.

To see if this device is known to be compatible with your Z-Wave gateway, please refer to aeotec.com/z-wave-gateways

FCC Notice.

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.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment. 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.
- This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Declaration of Conformity.

Aeotec Limited declares that LED Bulb 6 is in compliance with the essential requirements and other relevant provisions of RED 2014/53/EU, RoHS 2011/65/EU, IEC62321:2008, EN50581:2012 and EU Regulation 874/2012. The full text of the declaration is available from support.aeotec.com/ledbulb6/doc

Maximum RF output power: 1.48mW; frequency range: 869.7-870.0MHz.

RF 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 of 20 cm between the radiator and your body.

Specifications.

Z-Wave devices operate between 868.40-869.85 MHz for EU, 908.40 & 916.00 MHz for US. Full information on device specifications and certifications at support.aeotec.com/ledbulb6/specs

California Proposition 65.

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Use only for intended purposes. Do not use for other purposes including, but not limited to, the consumption of food and drinks.

3. All functions of each trigger

RGBW Bulb not in the Z-Wave network:

Trigger	Description
press once	Add for inclusion 1. Ensure the led bulb has been excluded outside the network. 2. Triggered by OFF -> ON (between 0.5-2 seconds each time) 3. LED solid yellow Color (0xFFFF00) during the pairing(Timeout is 10 seconds). ● Failure: Blinks between 100% White and Red 0x0000FF color for 3 seconds (at a rate of 200ms per flash). Once 3 seconds have passed, the LED should return to a Warm White LED at 100% ● Success: Blinks between 100% White and Green 0x00FF00 color for 3 seconds (at a rate of 200ms per flash). Once 3 seconds have passed, the LED should return to a Warm White LED at 100%.
press twice	1. Ensure the led bulb has been excluded outside the network. external switch OFF -> ON -> OFF -> ON within (between 0.5-2 seconds each time). 2. Bulb color cycle: red-> orange-> yellow-> green-> blue -> Indigo-> purple.

RGBW Bulb in the Z-Wave network:	
Trigger	Description
press once	- When the color cycle arrives at the color you'd like to select, toggle (off -> on) in quick succession via external switch. - The visible color will be set as your bulb's default or color cc set.
press twice	- Ensure the led bulb has been included the network. external switch OFF -> ON -> OFF -> ON within (between 0.5-2 seconds each time). - Bulb color cycle: red-> orange-> yellow-> green-> blue -> Indigo-> purple.
press three times	Remove for exclusion - Assuming led bulb was added to controller. - Triggered by OFF -> ON -> OFF -> ON -> OFF -> ON (between 0.5-2 seconds each time). - LED Solid Purple/Violet Color (0xEE82EE) during the unpairing process. (Timeout is 10 seconds). - Failure: Blinks between 100% White and Red 0x0000FF color for 3 seconds (at a rate of 200ms per flash). Once 3 seconds have passed, the LED should return to the last color (memory status(color cc set)) of LED Bulb. - Success: Blinks between 100% White and Blue 0x0000FF color for 3 seconds (at a rate of 200ms per flash). Once 3 seconds have passed, the LED should return to a Warm White LED at 100%.

press six times	Reset the Device. - Assuming led bulb was added to controller and was power on. - RGBW bulb re-power 6 times (between 0.5-2 seconds each time). Note: ON -> OFF -> ON -> OFF -> ON -> OFF -> ON -> OFF -> ON -> OFF -> ON -> OFF -> ON ON -> OFF -> ON - If the 6th power on, the led bulb change to Yellow color(into pairing process), which means that the reset factory settings are successful. Using this action in case of the primary controller is missing or inoperable.
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Association Command Class			
Association Group	MAX Nodes	Send Mode	Send Commands
Group 1	0X01	Single Cast	Set Configuration parameter 0x50
			0: nothing. 1: Send the Basic Report.

4.4 Switch Color Set Command Class		
Priority	Capability ID	Color
1(Highest)	0	Warm White
2	1	Cold White
3	2	Red
4	3	Green
5(Lowest)	4	Blue

Note: White color LED and RGB LED will not light up at the same time, so the software makes the following processing. When you want to activate the current RGB color, the color value of higher priority should be set to 0.

For example: The warm white is the highest priority, when it is configured to 0, the Cold white or RGB color configuration values can be activated. Otherwise, the bulb is always be activated by warm white.

4.5 Configuration Set Command Class

Parameter Number	Description Size	Default Value	Size
0x01	User custom mode for LED animations. 0 = Disable custom mode. 1= Blink Colors in order mode. 2=Randomized blink color mode	0	1
0x02	Enable/Disable Strobe over Custom Color. 0 = Disable. 1 = Enable. Others = Ignore.	0	1
0x03	Set the rate of change to next color in Custom Mode. Value1 ~ Value4: Value Range = 5 - 8640000 (50 - 86400000ms)	0x00000032	4
0x04	Set color that LED Bulb blinks in (Blink Mode) Value range =0x01-0xFF	0x01	1
0x10	Ramp rate when dimming using Multilevel Switch V1 CC in 100ms Value range = 0x00 -0x64	0x14	1
0x50	Enable to send notifications to associated devices (Group 1) when the state of LED Bulb is changed. 0 = Nothing. 1= Basic CC report.	1	1

0x51	The user can configure the parameter to adjust the color component Warm White. Value range =Warm White(0x0A8C(2700k) ~ 0x1387 (4999k))	0x0A8C	2
0x52	The user can configure the parameter to adjust the color component Cold White. Value rang = Cold White (0x1388 (5000k) ~ 0x1964 (6500k))	0x1964	2

Parameter 1 (8 bits)- User custom mode for LED animations	
custom mode	Description
0	Disable custom mode
1	Blink Colors in orderMode
2	Randomized blink color mode

Note:

0 = disable custom mode

(1)Alternatively, sending Basic, Binary Switch, Multilevel, and Color SET will automatically disable custom mode and set Parameter 1 [1 byte] = 0.

(2)Toggling OFF -> ON will cancel custom mode set on LED Bulb and change the LED Bulb back to default White Color at 100%.

1 = Blink Colors in order that has been set

Blinks instantly to the next color.Does not turn off, instantly turns to the next color.

- Parameter (#3) - Set the X ms rate of change to next color in Custom Mode.
Ex1: If Parameter 3 = 0x08 for example, instantly change to the next color in 80ms.

- Parameter (#4) - colors can be set
Cycles through the colors in this order based on what is set (White -> Red -> Orange -> Yellow -> Green -> Blue -> Indigo ->Violet/purple)
EX1: If all colors are set , it will instantly change through the colors in order (White -> Red -> Orange -> Yellow -> Green -> Blue -> Indigo ->Violet/purple -> White)
EX2: Blue and Yellow are set. It will cycle between Blue and Yellow.
EX3: If blue is set only, it will remain on blue solid color.
- Parameter (#2) - Strobing of blinking
This should only happen if Parameter 2 = 1, When changing to another color, it must turn OFF, then switch to the next color.OFF transition will take half the time of LED Bulb being ON based on the speed.
EX1: if time to next color is 500ms, color that is on will stay on for 250ms, then 250ms off, then 250ms for the next color and so on.
EX2: If it was a blue color, LED must turn OFF, then turn on another color or the same color if only blue is set.
EX3: If all colors are set to report, it will blink through the colors in order (White -> OFF -> Red -> OFF -> Orange -> OFF -> Yellow -> OFF -> Green -> OFF -> Blue -> OFF -> Indigo -> OFF ->Violet/purple -> OFF -> White)
2 = Randomized blink color mode
Blinks instantly to the next color.Does not turn off, instantly change to the next color.
- Parameter (#3) - Set the X ms rate of change to next color in Custom Mode.
EX1: If Parameter 3 = 8 for example, instantly change to the next color in 80ms.
- Parameter (#2) - Strobing of animation
This should only happen if Parameter 2 = 1,When changing to another color, it must turn OFF, then switch to the next color.OFF transition will take half the time of LED Bulb being ON based on the speed.

EX1: If time to next color is 500ms, color that is on will stay on for 250ms, then 250ms off, then 250ms for the next color and so on.

EX2: If it was a blue color, LED must turn OFF, then turn on another color or the same color if only blue is set.

Parameter 2(8 bits) - Enable/Disable Strobe over Custom Color

Strobe Blink	Description
0	Disable Strobe over Custom Color
0x01	Enable Strobe over Custom Color

Note: If enabled, this will change the reaction of LED Bulb 7 Parameter #1 when changing to the next color.

Parameter 3 (4 byte) - Set the rate of change to next color in Custom Mode.

rate of change	Description
0x05~0x0083D600	Set the rate of change to next color(50 - 86400000ms(one day))

Note: Set in multiples of 10ms

EX1: setting of 0x14 would set 200ms for each transition.

Parameter 4 (8 bits) - Set color that LED Bulb blinks in (Blink Mode)

Color Bit Set	Description
0x01~0xFF	Setting out the output color by the bit selection

Note: 0x01 = White, 0x02 = Red (0xFF0000), 0x04 = Orange (0xFFA500), 0x08 = Yellow (0xFFFF00), 0x10 = Green (0x00FF00), 0x20 = Blue (0x0000FF), 0x40= Indigo (0x4B0082),0x80= Violet/Purple (0x800080)

EX1: If customer set a value of 0x06 (0000 0110) (0x02+0x04), LED Bulb will blink between (Red -> Orange) in a cycle.

EX2: If customer set a value of 0xFF (11111111), LED bulb will blink (White -> Red -> Orange -> Yellow -> Green -> Blue ->Indigo -> Violet/purple)

Parameter 10 (8 bits)- Ramp rate when dimming using Multilevel Switch V1 CC in seconds (0 = instant change, while 10 setting allows 10 seconds to ramp from 0 to 100%).

Dimming time	Description
0~0x64	Multilevel Switch V1 CC would take(0~10s)seconds to dim from 0 to 100% and vise versa
>0x64	Ignore

Note:

If set to 50, it would take 5.0 seconds to dim from 0 to 100% and vise versa.

If set to 100, it would take 10.0 seconds to dim from 0 to 100% and vise versa.

If set to 0, it would instantly set any dim level the customer sets it to.

If set to 7, it would take 0.7 seconds to dim from 0 to 100% and vise versa.



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CONFORMS TO UL STD. 1993

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