



Aeotec Smart Dimmer 6 ZW099-A02 Manual

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Aeotec

Smart Dimmer 6

SKU: ZW099-A02





Quickstart

This is a
secure
Light Dimmer
for
U.S. / Canada / Mexico.

To run this device please connect it to your mains power supply.

To add this device to your network execute the following action:

Turn the primary controller of Z-Wave network into inclusion mode, short press the products Action button that you can find on the product's housing.

Please refer to the
[Manufacturers Manual](#) for more information.

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law.

The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material.

Use this equipment only for its intended purpose. Follow the disposal instructions.

Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quickstart section.

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.



This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.

Product Description

Aeotec Smart Dimmer 6 is a low-cost Z-Wave Dimmer plug-in module specifically used to enable Z-Wave command and control (on/off/dim) of any plug-in tool. It can report immediate wattage consumption or kWh energy usage over a period of time. In the event of power failure, non-volatile memory retains all programmed information relating to the units operating status. Its surface has a Smart RGB LED, which can be used for indicating the output load status or strength of the wireless signal. You can configure its indication colour according to your favour. The Smart Dimmer 6 is also a security Z-Wave device and supports Over The Air (OTA) feature for the products firmware upgrade.

Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state**. Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

Press and hold the Action button that you can find on the product's housing for 20 seconds and then release. This

procedure should only be used when the primary controller is inoperable.

Safety Warning for Mains Powered Devices

ATTENTION: only authorized technicians under consideration of the country-specific installation guidelines/norms may do works with mains power. Prior to the assembly of the product, the voltage network has to be switched off and ensured against re-switching.

Inclusion/Exclusion

On factory default the device does not belong to any Z-Wave network. The device needs to be **added to an existing wireless network** to communicate with the devices of this network. This process is called **Inclusion**.

Devices can also be removed from a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into exclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

Turn the primary controller of Z-Wave network into inclusion mode, short press the products Action button that you can find on the product's housing.

Exclusion

Turn the primary controller of Z-Wave network into exclusion mode, short press the products Action button that you can find on the product's housing.

Quick trouble shooting

Here are a few hints for network installation if things dont work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.
2. If inclusion still fails, check if both devices use the same frequency.
3. Remove all dead devices from associations. Otherwise you will see severe delays.
4. Never use sleeping battery devices without a central controller.
5. Dont poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

Association – one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

| Group Number | Maximum Nodes | Description |
|--------------|---------------|-------------|
|--------------|---------------|-------------|

| | | |
|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 5 | Z-Wave Plus LifelineThe Basic Report CC and Hail CC (configured by parameter 80) can be sent to this association group. |
| 2 | 5 | The Basic Set and Switch Multilevel CC will be sent to the associated nodes in this group when the Smart Dimmer 6 receives the Basic Set or SwitchMultilevel CC from the main controller. |

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 ... 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 100: Set 101-103 to default.

Set 101-103 to default value.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|-------------------------------|
| 1 | Set 101-103 to default value. |
|---|-------------------------------|

Parameter 101: To set which report needs to be sent in Report group 1

To set which report needs to be sent in Report group 1

Size: 4 Byte, Default Value: 0

SettingDescription

| | |
|---|-------------------------------|
| 1 | Send Meter Report for Voltage |
| 2 | Send Meter Report for Current |
| 4 | Send Meter Report for Watt |
| 8 | Send Meter Report for kWh |

Parameter 102: To set which report needs to be sent in Report group 2

To set which report needs to be sent in Report group 2

Size: 4 Byte, Default Value: 0

SettingDescription

| | |
|---|-------------------------------|
| 1 | Send Meter Report for Voltage |
| 2 | Send Meter Report for Current |
| 4 | Send Meter Report for Watt |
| 8 | Send Meter Report for kWh |

Parameter 103: To set which report needs to be sent in Report group 3

To set which report needs to be sent in Report group 3

Size: 4 Byte, Default Value: 0

SettingDescription

| | |
|---|-------------------------------|
| 1 | Send Meter Report for Voltage |
| 2 | Send Meter Report for Current |
| 4 | Send Meter Report for Watt |
| 8 | Send Meter Report for kWh |

Parameter 110: Set 111-113 to default.

Set 111-113 to default.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|-------------------------|
| 1 | Set 111-113 to default. |
|---|-------------------------|

Parameter 111: The time interval of sending Report group 1

The time interval of sending Report group 1

Size: 4 Byte, Default Value: 3

SettingDescription

| | |
|----------------|------------------------------------------------|
| 1 – 2147483647 | the available range is 1 to 2147483647 seconds |
|----------------|------------------------------------------------|

Parameter 112: The time interval of sending Report group 2

The time interval of sending Report group 2

Size: 4 Byte, Default Value: 600

SettingDescription

| | |
|----------------|------------------------------------------------|
| 1 – 2147483647 | the available range is 1 to 2147483647 seconds |
|----------------|------------------------------------------------|

Parameter 113: The time interval of sending Report group 3

The time interval of sending Report group 3

Size: 4 Byte, Default Value: 600

SettingDescription

| | |
|----------------|------------------------------------------------|
| 1 – 2147483647 | the available range is 1 to 2147483647 seconds |
|----------------|------------------------------------------------|

Parameter 2: Make Dimmer blink

This parameter is used to set the Smart Dimmer to start the blinking state.

Size: 2 Byte, Default Value: 3850

SettingDescription

| | |
|-------------|--------------------------------------|
| 1 – 255 | Specify the cycle of On/Off. |
| 256 – 32512 | Specify the time of Dimmer blinking. |

Parameter 20: Configure the output load status after re-power on

Configure the output load status after re-power on.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|--------------|
| 0 | Last status. |
| 1 | Always On |
| 2 | Always Off |

Parameter 200: PartnerID

Set the PartnerID

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---------|----------------------------|
| 0 | Aeon Labs Standard Product |
| 1 – 255 | Others |

Parameter 252: Enable/disable the Configuration parameters to be Locked.

Enable/disable the Configuration parameters to be Locked.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|---------|
| 0 | Disable |
| 1 | Enable |

Parameter 254: Device Tag

Set the Device tag for Smart Dimmer 6

Size: 2 Byte, Default Value: 0

SettingDescription

| | |
|-----------|------------------------------------|
| 1 – 32767 | The available range is 1 to 32767. |
|-----------|------------------------------------|

Parameter 255: Reset the Smart Dimmer 6

Reset the Smart Dimmer 6

Size: 4 Byte, Default Value: 0

SettingDescription

| | |
|------------|------------------------------------------------------------------------------|
| 0 | Reset all configuration parameters to factory default setting |
| 1431655765 | Reset Smart Dimmer 6 to factory default setting and exclude from the network |

Parameter 3: Current overload protection

When this parameter is enabled, the output Load will be turned off automatically when the Current overrun 2.6A and the time more than 2 minutes.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|---------|
| 0 | Disable |
| 1 | Enable |

Parameter 33: Set the RGB LED color value for factory testing.

Set the RGB LED color value for factory testing. Note: this is a Set-only parameter.

Size: 4 Byte, Default Value: 0

SettingDescription

| | |
|------------------|-------------------|
| 1 – 255 | Blue color value |
| 256 – 65280 | Green color value |
| 65536 – 16711680 | Red color value |

Parameter 80: To set which notification report can be sent to associated Nodes in association Group 1

To set which notification report can be sent to associated Nodes in association Group 1 when the state of Smart Dimmers load is changed

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|------------------------------------------------------------------------|
| 0 | Send Nothing |
| 1 | Send Hail CC |
| 2 | Send Basic Report CC |
| 3 | Send Hail CC when using Action Button to change the output load state. |

Parameter 81: Configure the state of LED

Configure the state of LED when it is in Energy mode, Momentary indicate mode or Night light mode.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0 | Energy mode, the LED will follow the status (on/off) of its load |
| 1 | Momentary indicate mode, when the state of Dimmers load changed, The LED will follow the status (on/off) of its load, but the LED will turn off after 5 seconds if there is no any switch action. |
| 2 | Night light mode. |

Parameter 83: Configure the RGB value when it is in Night light mode.

Configure the RGB value when it is in Night light mode.

Size: 4 Byte, Default Value: 1774619

SettingDescription

| | |
|------------------|-------------------|
| 1 – 255 | Blue color value |
| 256 – 65280 | Green color value |
| 65536 – 16711680 | Red color value |

Parameter 84: Configure the brightness level of RGB LED (0%-100%) when it is in Energy Mode/momentary indicate mode.

Configure the brightness level of RGB LED (0%-99%) when it is in Energy Mode/momentary indicate mode.

Size: 4 Byte, Default Value: 3289650

SettingDescription

| | |
|---------------|--------------------------------------|
| 0 – 99 | The brightness level of Green color |
| 256 – 355 | The brightness level of Yellow color |
| 65536 – 65635 | The brightness level of Red color |

Parameter 90: Enable or disable the parameter 91 and 92

Enable or disable the parameter 91 and 92.

Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---|---------|
| 0 | Disable |
| 1 | Enable |

Parameter 91: Minimum change in wattage (in terms of wattage) to induce a Meter Report

The value here represents minimum change in wattage (in terms of wattage) to induce a Meter Report.

Size: 2 Byte, Default Value: 25

SettingDescription

| | |
|-----------|-----------------------------------|
| 0 – 60000 | The available range is 0 to 60000 |
|-----------|-----------------------------------|

Parameter 92: Minimum change in wattage percent (in terms of percentage) to induce a Meter Report

The value here represents minimum change in wattage percent (in terms of percentage) to induce a Meter Report.
Size: 1 Byte, Default Value: 0

SettingDescription

| | |
|---------|----------------------------------|
| 0 – 100 | The available range is 0 to 100% |
|---------|----------------------------------|

Technical Data

| | |
|----------------------------|-----------------------------|
| Hardware Platform | ZM5101 |
| Device Type | Light Dimmer Switch |
| Network Operation | Always On Slave |
| Firmware Version | HW: 99 FW: 1.11 |
| Z-Wave Version | 6.51.09 |
| Certification ID | ZC10-17035455 |
| Z-Wave Product Id | 0x0086.0x0103.0x0063 |
| Z-Wave Scene Type | Scene |
| Electric Load Type | Dimmable LEDIncandescent |
| Firmware Updatable | Updatable by Consumer by RF |
| Color | White |
| Supported Meter Type | Electric Energy |
| Frequency | XXfrequency |
| Maximum transmission power | XXantenna |

Supported Command Classes

- Association Grp Info
- Association V2
- Basic
- Clock
- Configuration
- Device Reset Locally
- Firmware Update Md V2
- Manufacturer Specific V2
- Meter V3
- Multi Channel Association V3
- Multi Channel V4
- Powerlevel
- Scene Activation
- Scene Actuator Conf
- Security
- Switch All

- Switch Color
- Switch Multilevel V2
- Version V2
- Zwaveplus Info V2

Controlled Command Classes

- Basic
- Hail

Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network.
Controllers are typically Gateways, Remote Controls or battery operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network.
Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave device to announce that it is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.