Air Live®
Powered by OvisLink Corp.

SR-101

Smart Color Button

User Manual

www.airlive.com

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This product contains some codes from GPL. In compliance with GPL agreement, AirLive will publish the GPL codes on our website. Please go to www.airlive.com and go to the "Support->GPL" menu to download source code.

FCC Interference Statement

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 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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.
When replacing old appliances with new once, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.

Disposal

	This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

Table of Contents

1 Overview

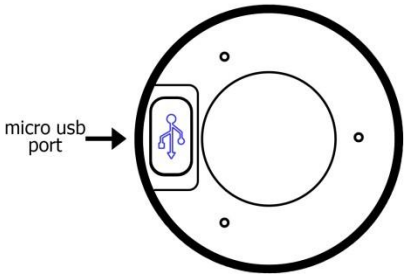
SR-101 Z-wave Smart Color Button is a battery-operated multifunctional remote button control. There is more than meets the eye. Smart Color Button is an on/off, adjustable percentage remote. It is also be used as a timer. This remote can be connected, operated into any Z-waveTM network from other manufacturer and or other applications.

SR-101 Z-wave Smart Button is designed for security and home automation. It can be easily retrofitted into homes, and can be integrated to lives.

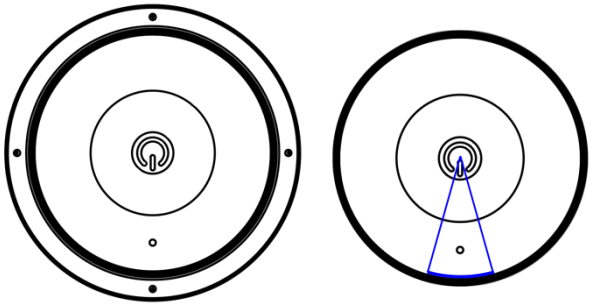
SR-101 Z-wave Scene Remote is a Z-wave™ plus certified product. It also supports Security Command Class, where in it can be included as a secured device to a Secured controller.

1.1 Add to Z-Wave™ Network

1. Set the controller or gateway into the including mode.
2. Turn the device on. Open the cover of the micro USB port and connect a micro USB to power up the device. Once powered up, device will automatically be in inclusion mode.



If device is not in inclusion mode, make sure device is placed against the wall, pointer pointing downwards (pointer will show white LED) and tap the center of the button three times.



3. Once successfully included to the network, LED from the device will light ON for one second.
4. In some cases where device is not working well, make sure the controller associate with Group 1 of the device.

1.2 Power Up Procedure

❖ **Battery Power Check**

If power level is low, the LED will continue to flash after when button is pressed.

❖ **NWI**

Device will check if it has been included into the network. If not, it will start the NWI mode. The LED will flash once in every second for 30 seconds, until it timeouts or it gets included into a network. To abort the NWI mode, hold panic button and press the right key three times.

❖ **Wake-Up**

Device will be awake for 10 seconds. In this period, the controller can communicate with the device.

1.3 Charging the Battery

The device comes with a built it battery level monitoring. If battery is running low, the LED will flash after pressing the panic button. If gateway used supports battery level, a low battery notification will also be received.
When the battery is low, kindly charge the button with a micro USB connection. When charging the SR-101, LED lights will alternatively turn on/off.

1.4 Z-Wave Network Functions

Function	Description
Inclusion	1. Have Z-Wave™ Controller entered inclusion mode. 2. Make sure device is placed against the wall, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button three times. 3. If successful, LED lights up for one second 4. After add successful, the device will wake to receive the setting command from Z-Wave™ controller about 20 seconds.
Exclusion	1. Have Z-Wave™ Controller entered exclusion mode. 2. Make sure device is placed against the wall, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button three times. 3. If successful, Node ID will be excluded. Device will be in NWI mode.
Reset	1. Make sure device is placed against the wall, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button four times within 1.5 seconds and on the 4th press, hold until LED lights up. 2. After 3 seconds the LED will turn OFF, and then release within 2 seconds. If successful, the LED will light up for one second. 3. IDs are excluded and all settings will reset to factory default. Device will automatically be in NWI mode **Note:** Use this procedure only when primary controller is lost or otherwise interoperable.
Association	1. Have Z-Wave™ Controller entered association mode. 2. Make sure device is placed against the wall, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button three times within 1.5 seconds to set the association. **Note:** The device supports 2 groups. Group 1 is for receiving message, group 2 is for lighting group control, and the device will send basic set command to this group. Each group supports a maximum of 8 nodes.

Note:

1. Device needs to be powered up first.
2. Always Reset device before adding it to a new network.
3. When device is in NWI mode, the functions of the sensor are disabled. NWI mode times out after 30 seconds. To abort the NWI mode, make sure device is placed against the wall, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button three times within 1.5 seconds.

1.5 Z-Wave Support Command Class

COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_BATTERY
COMMAND_CLASS_CENTRAL_SCENE_V1
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_CONFIGURATION
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_WAKE_UP_V2
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_POWERLEVEL
COMMAND_CLASS_DEVICE_RESET_LOCALLY
COMMAND_CLASS_MULTI_CMD
COMMAND_CLASS_SECURITY
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2

1.6 Security Network

COMMAND_CLASS_BATTERY
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_CONFIGURATION
COMMAND_CLASS_WAKE_UP_V2
COMMAND_CLASS_CENTRAL_SCENE

The device supports the security function. When device is included to a security controller, the device will auto switch to security mode. In Security mode, the commands need to be wrapped with Security CC, otherwise it will not response.

1.7 Wake Up Device

When the device has been added into the network, wake up will depend on the gateway used. When it wakes up, it will send a “Wake Up notification” message to the network, and

be awake for 10 seconds to receive the settings.
It is possible to change the wake up interval time, if your Z-wave controller supports it. The minimum wake-up interval is 30 minutes while the maximum is 120 hours. The wake-up interval needs to be in multiple of 30 minutes.
If user wants to wake-up the device immediately, Make sure device is placed horizontally, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button three times once. The device will be awake for 10 seconds.

1.8 Function Control

SR-101 can be used as a Controller and Timer.
To shift function between Control mode and Timer mode, make sure device is placed horizontally, pointer pointing downwards (pointer will show white LED) and press until Pointer's LED light turns off.

Beep indication for which mode is as follows:

Mode	Beep Indication
Timer Mode	One long beep
Control Mode	Two short beeps

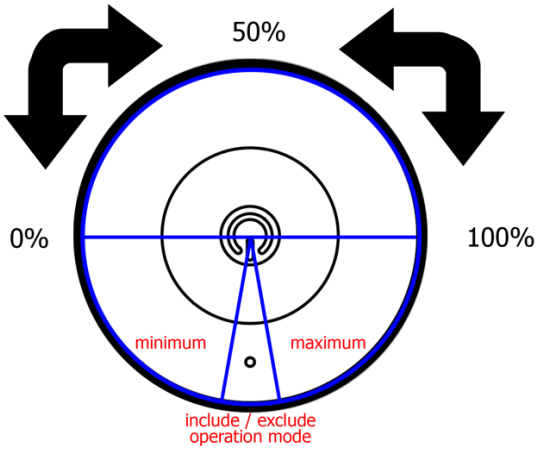
1.8.1 Control Mode

Switch on/Off
When device is tapped, it will send Basic Set to the devices in groups 1 and 2.

Basic Set	Beep Indication
Off (0X00)	Long Beep
On (0x63)	Short Beep

Dimmer (Percentage Control)
When the device is Switch on, device can work as a dimmer. As a dimmer, it will send Basic Set to the devices in groups 1 and 2.

To make device work as a dimmer, make sure device is place against the wall, and the pointer is on the upper half of the button. See below figure for the percentage level.

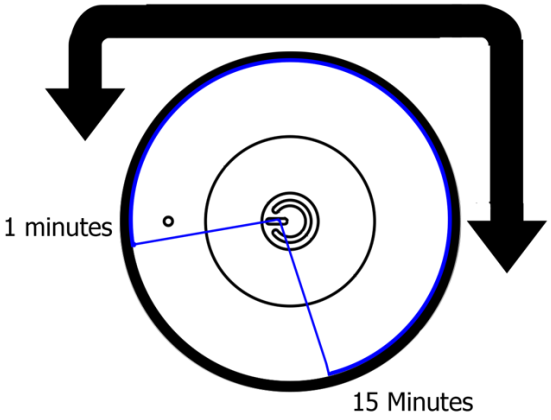


If device is switch off, then it will not work.

The range of the percentage control is based on the minimum (Configuration 1) and maximum value (configuration 2).

1.8.2 Timer Mode

When device is at Timer Mode, you can set time the length to send BASIC SET to nodes in group 2. The maximum length is 15 minutes. Each minute can be distinguished through change in the surrounding LED light.



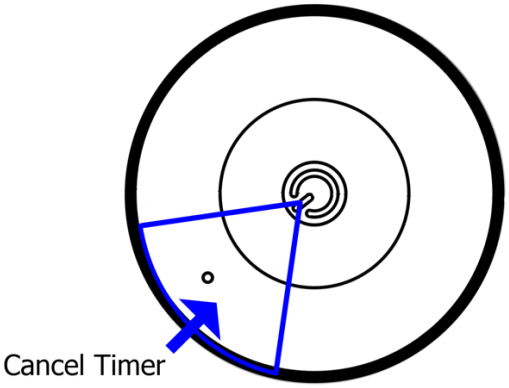
To activate the timer, rotate it to the desired time and tap the device. When the timer starts, the pointer's LED will flash once and a beep sound

When countdown starts, surrounding LED will flash, and buzzer will on accordingly.

Timer Left	Flash color over time	Buzzer
10~15 minutes	Cyan / 10 seconds	NA

5 ~10 minutes	Green / 10 seconds	NA
3 ~ 5 minutes	Yellow / 10 seconds	NA
1 ~ 3 minutes	Orange / 10 seconds	NA
30~60 seconds	Pink / 10 seconds	NA
10~30 seconds	Pink / 10 seconds	1 beep / 10 seconds
1 ~ 5 seconds	Pink / seconds	1 beep / second
Times Up	White	4 beeps

To cancel the timer, put the pointer into the cancel portion and tap the device. The surround LED is blue.



Note:

Buzzer in timer mode can be disabled by setting Configuration No. 25 to 1.

1.9 Z-Wave™ Message Report

1.9.1 Timer Report

The device sends timely report status for battery level.

	Hours (default)	Configuration Number
Battery Level Report	6	10
Low Battery	0.5	

Note:

1. To know the correct time multiply tick time for auto report battery level report (Configuration No. 10 with the tick interval of 30 minutes). The default tick time is 12 ticks.
2. To disable, set Configuration No. 10 to 0.

1.10 Over The Air (OTA) Firmware Update

The device supports OTA firmware update.
To do the OTA update:

1. Follow the steps on based on the controller on how to update the firmware via OTA.
2. Once the controller has started with the update, make sure device is placed horizontally, pointer pointing downwards (surround LED will flash white LED) and tap the center of the button once to wake the device up and start the update.
3. After firmware is transferred completely to the device, the LED will start to flash once in every 0.5 second.
4. Wait the LED stop flash, the firmware update has succeeded.

Note:
Do not run an OTA update when battery is running low.

1.11 Z-Wave Configuration Settings

Note:

1. Data Size for all configurations is 1.
2. All numbers used are in Dec value.
3. An asterisk (*) on the Configuration Number means even device is excluded, the settings made will still remain. It is only when you reset the device will the settings be set back to default.
4. A plus (+) on the Configuration Number means that when device associated is a secured device, it will not work.

1. Minimum Dimming Value+	
Default: 0	Valid Value: 0~99
Control the value represented by the west side of the dimmer mode. This is also the minimum. When device is switch off, device will send BASIC SET to the associated device. 0: OFF 255: ON 0~99: for percentage control (i.e. dimmer) **Note:** The range of the percentage control is based on the minimum (Configuration 1) and maximum value (configuration 2).	

2. Maximum Dimming Value+			
Default:	99	Valid Value:	0~99
Control the value represented by the east side of the dimmer mode. This is also the maximum. When device is switch off, device will send BASIC SET to the associated device. 0: OFF 255: ON 0~99: for percentage control (i.e. dimmer) **Note:** The range of the percentage control is based on the minimum (Configuration 1) and maximum value (configuration 2).			

10. Auto Report Battery Level Tick Time			
Default:	12	Valid Value:	0~127
Set tick time for auto report of battery level. 0: turn off auto report **Note:** To know the correct time interval, multiply tick time with the tick interval. The tick interval is 30 minutes.			

25. Customer Function					
Default:	0		Valid Value:	0~3	
This mode uses Bit to control. To get the correct value, add the values of all the bits. For example, *if Bit 0 set to 1(Dec Value 1), Bit 1 set to 1 (Dec Value 2). Value for Configuration 25 = 3*					
Bit	**Name**	**Default**	**Description**		
Bit 0	Dimmer Setting Method	0	0: Auto send BASIC SET after rotating. 1: Send BASIC SET by tap key after rotating (Dec Value:1)		
Bit 1	Buzzer in timer Mode	0	0: Enable	1: Disable (Dec Value:2)	

26. Send Scene Holding Report			
Default:	0	Valid Value:	0~1
Send Central Scene Holding when the button is held. 0: Enable 1: Disable			

1.12 Troubleshooting

In case there are problems occur, please see below for some simple troubleshooting:

Problems Encountered	Cause of Failure	Recommendation
The button on/off is not working, and LED is off	Battery is running out of power	Recharge the battery via Micro USB
	Wrong function mode	When placed horizontally, put the pointer pointing downwards, the surround LED should be white. Press the button and hold until LED lights turns off and you hear two short beeps.
Cannot adjust the percentage of dimmer	The device might not be in the correct position	Make sure device is placed horizontally before adjusting
	The device is off	Put the arrow to the maximum area and tap the device.
The device cannot include the Z-wave network	Device may have already been included in a z-wave network	Exclude the device first and then include again.
	The device is not at its correct place for inclusion	Make sure device is placed horizontally and pointer pointing downwards (pointer will show white LED). Try including again.
Button is not responding	Button will not response when red LED is flashing	Until LED light to stop and try again.

1.13 Specifications

Power Supply	Li602025 Lithium Battery
RF	EU: 868.40 MHz, 869.85 MHz US: 908.40 MHz, 916.00 MHz JP/TW: 922~927 MHz AU: 921.40 MHz, 919.80 MHz RU: 869.00 MHz IN: 865.20 MHz
Radio Protocol	Z-Wave
Range	Up to 40 meters indoor, depends on the building material used and structure.
Dimensions	Device(with mount): 71.16 (Diameter) x 35 (W) mm
Operation Temperature	0~ 40 °C

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