



SB-101

Panic Button

User Manual



www.airlive.com



Copyright & Disclaimer

No part of this publication may be reproduced in any form or by any means, whether electronic, mechanical, photocopying, or recording without the written consent of OvisLink Corp.

OvisLink Corp. has made the best effort to ensure the accuracy of the information in this user's guide. However, we are not liable for the inaccuracies or errors in this guide. Please use with caution. All information is subject to change without notice

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.

All Trademarks are properties of their respective holders.



FCC ID: ODMSB101

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.

Table of Contents

1. Overview.....	2
1.1 Add to Z-Wave™ Network.....	3
1.2 Function Control	4
1.3 Z-Wave™ Notification	4
1.4 Z-Wave™ Message Report.....	5
1.5 Activate the power	5
1.6 Over The Air (OTA) Firmware Update	6
1.7 Security Network.....	6
1.8 Z-Wave Configuration Settings	7
1.9 Z-Wave Supported Command Class.....	8
1.10 Specifications.....	8

1

Overview



The Remote SB-101 is a simple control can control AV device through Z- Wave-to-IR extender based on Z-Wave™ technology.

It is the Z-Wave™ plus product, it support the security, OTA. Those newest features of the Z-Wave™ technology. Z- Z-Wave™ is a wireless communication protocol designed for home automation, specifically to remotely control applications in residential and light commercial environments. The technology uses a low-power RF radio embedded or retrofitted into home electronics devices and systems, such as lighting, home access control, entertainment systems and household appliances.

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.

The device adopts the Z-Wave™ 500 series chip, when your Z-Wave™ network system is all made by Z-Wave™ 500 series devices. The network system will have the advantages as below.

- Concurrent multi-channel support reduces external interference.
- Better RF range, improve about 10 meters in indoor.
- Support 100 Kbps transmit speed, speed up communication.

1.1 Add to Z-Wave™ Network

In the first time, activate the device through micro USB, then it can be added into the Z-Wave™ network. First, make sure the primary controller is in the add mode. And then power on the device. The device will auto start the NWI (Network Wide Inclusion) mode. And it should be added in 5 seconds. You will see the LED light ON one second.

Function	Description
Add	<ol style="list-style-type: none"> 1. Have Z-Wave™ Controller entered inclusion mode. 2. Hold down the central key, then press the top-right key three times within 1.5 seconds to enter the add mode. 3. After add successful, the device will wake to receive the setting command from Z-Wave™ controller about 20 seconds.
Remove	<ol style="list-style-type: none"> 1. Have Z-Wave™ Controller entered exclusion mode. 2. Hold down the central key, then press the top-right key three times within 1.5 seconds to enter the remove mode. 3. Node ID has been excluded.
Reset	<ol style="list-style-type: none"> 1. Hold down the central key, then press the top-right key four times within 1.5 seconds and do not release the top-right key in the 4th pressed, and the LED will light ON. 2. After 3 seconds the LED will turn OFF, after that within 2 seconds, release the keys. If successful, the LED will light ON one second. Otherwise, the LED will flash once. 3. IDs are removed and all settings will reset to factory default.
Association	<ol style="list-style-type: none"> 1. Have Z-Wave™ Controller entered association mode. 2. Hold down the central key, then press the top-right key three times within 1.5 seconds to enter the association mode. <p>Note: SB-101 supports 3 groups. The group 1 is for receiving the report message. Group 2, 3 are for lighting group control. Each group supports 4 nodes.</p>
<ul style="list-style-type: none"> ● Including a node ID allocated by Z-Wave™ Controller means “Add” or “Inclusion”. Excluding a node ID allocated by Z- Wave™ Controller means “Remove” or “Exclusion”. ● Failed or success in including/excluding the node ID can be viewed from Z-Wave™ Controller. 	

Notice 1: The device can not work normally in the first time. Please activate the battery before the first use.

Notice 2: Always RESET a Z-Wave™ device before trying to add it to a Z-Wave™ network.

Notice3: When the device into NWI mode, the sensor functionality will useless. The NWI mode will timeout after 30 seconds. You can Hold down the central key, then press the top-right key 3 times within 1.5 seconds to abort the NWI mode.

1.2 Function Control

Remote SB-101 can control AV device via Z-Wave-to-IR extender and lighting groups ON/OFF.

SB-101 has three keys on the device. The central one has panic function and the others are control keys.

1.2.1. AV Control

The left key controls Volume Up(0x0003) and the right key controls Volume Down(0x0002)

Simple AV Control Set (V4)	
Key: Left Command: 0x0003	
Universal Label: Volume Up	
Key: Right Command: 0x0002	
Universal Label: Volume Down	

1.2.2. Lighting Group Control

Only has one group-button which controls two lighting groups.

Lighting Group Control	
Left Key	Lighting group 1 (Association group 2)
Right Key	Lighting group 2 (Association group 3)

Notice: For switch AV control or lighting group control function please setting the configuration No.7 bit 0.

1.3 Z-Wave™ Notification

After the device adding to the network, it will wake-up once per day in default. When it wake-up it will broadcast the “Wake Up Notification” message to the network, and wake-up 10 seconds for receive the setting commands.

To wake-up the device immediately, please hold down the central key, and press the top-right key once. The device will wake-up 10 seconds.

1.4 Z-Wave™ Message Report

When the panic triggered, the device will report the trigger event and also report the battery status.

1.4.1. Panic Report

When the central key is held down over 2 seconds, the device will unsolicited to send the report to the nodes in the group 1.

Notification Report (V4)
Notification Type: Emergency Alarm (0x0A)
Event: Contact Medical (0x03)

1.4.2. Timing Report

Beside the event triggered could report message, the device also support the timing unsolicited report of the status.

- Battery level report: Every 6 hours report once in default. It could be changed by setting the configuration NO. 10.
- Low battery report: When the battery level is too low, every 30 minutes will report once.

Notice: The configuration NO. 10 could be setting to zero to disable the auto report.

1.5 Activate the power

The device can not work normally in the first time. Please activate the battery through micro USB before the first use. After the device is activated by connecting to micro USB, the device will start charging and LED will light on with red color. If the battery is full charged, LED will light on with green color.

When device is charging, it will send Wake Up Notification to controller minutely.

1.5.1. Battery Power Check

When any keys around the central key is pressed, the device will check the battery power. If the power level is too low, the red LED will flash once after pressing. Please charge the device through micro USB immediately.

1.5.2. NWI

When the device is activated, the device will check is it already adding to the network? If doesn't, it will auto start the NWI mode. The LED will flash in every second and continue 30 seconds. Until timeout or the device successful to add by controller. Users can hold down the central key, then press the top-right key three times within 1.5 seconds to abort the NWI mode.

1.6 Over The Air (OTA) Firmware Update

The device supports the Z-Wave firmware update via OTA.

Let the controller into the firmware update mode, and then wake up the device to start the update.

After finish the firmware download, the LED will start flash in every 0.5 second. Wait the LED stop flash, the firmware update is succeeded.

Caution: Do not running the OTA when the battery is running low.

1.7 Security Network

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

```
COMMAND_CLASS_BATTERY  
COMMAND_CLASS_SIMPLE_AV_CONTROL_V1  
COMMAND_CLASS_NOTIFICATION_V4  
COMMAND_CLASS_ASSOCIATION_V2  
COMMAND_CLASS_CONFIGURATION  
COMMAND_CLASS_WAKE_UP_V2
```

1.8 Z-Wave Configuration Settings

Notice:

- All of the configuration, the data size is 1.
- The configuration mark with star(*), means after the remove the setting still keep, don't reset to factory default. Unless the user execute the "RESET" procedure.

The reserve bit or not supported bit is allowed any value, but no effect.

NO.	Name	Def.	Valid	Description
2	Basic Set Level	0xFF	All	Setting the BASIC command value to turn on the light. The 0xFF(-1) means turn on the light. For dimmer equipment 1 to 100 means the light strength. 0 means turn off the light.
7(*)	Customer Function	0	All	Customer function switch, using bit control.
		0		Bit0: Switch AV control/Lighting group control. (0: AV control, 1: lighting group control)
10	Auto Report Battery Time	12	0 ~ 127	The interval time for auto report the battery level. 0 means turn off auto report battery. Each tick means 30 minutes. The default value is 12 (6 hours).
82	Association Group 2 Basic Set Level	0	All	Setting the BASIC command value to turn on the light in the association group 2. 0 means using the value of configuration 2 to set.
83	Association Group 3 Basic Set Level	0		Setting the BASIC command value to turn on the light in the association group 3. 0 means using the value of configuration 2 to set.

1.9 Z-Wave Supported Command Class

COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_BATTERY
COMMAND_CLASS_NOTIFICATION_V4
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_SECURITY
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2
COMMAND_CLASS_MARK
COMMAND_CLASS_BASIC
COMMAND_CLASS_SIMPLE_AV_CONTROL_V1

1.10 Specifications

Power by Li 602025 battery.

Signal (Frequency):

868.40 MHz, 869.85 MHz(EU),
908.40 MHz, 916.00 MHz(US),
922~927 MHz(JP/TW),
921.40 MHz, 919.80 MHz(ANZ),
869.00 MHz(RU),
865.20 MHz(IN),
916.00 MHz(IL),

Range:

Minimum 40 meters indoor,
100 meters outdoor line of sight.

Operating Temperature: 0°C ~ 40°C

For indoor use only.

Specifications subject to change without notice due to continuing product improvement.



OvisLink Corp.,

<http://www.airlive.com/>

TEL: +886 2 2218 6888

FAX: +886 2 2918 6988

