Z-Wave Remote PSR03-A/B/C

PSR03-A   **PSR03-B**   **PSR03-C**

The Remote PSR03 is a simple control can control AV device through Z-Wave-to-IR extender, and it can also controls 8 lighting groups ON/OFF via basic set, 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-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.

Function Compare A/B/C

	Group Control	AV Control	Panic
PSR03-A	V	V	V
PSR03-B	V	V	V
PSR03-C			V

Adding 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	1. Have Z-Wave™ Controller entered add mode. 2. Hold down the central key, then press the top-right key three times within 1.5 seconds to enter the add mode. Note: PSR03-C is added by pressing panic key

	three times. 3. After add successful, the device will wake to receive the setting command from Z-Wave™ Controller about 20 seconds.
Remove	1. Have Z-Wave™ Controller entered remove mode. 2. Hold down the central key, then press the top-right key three times within 1.5 seconds to enter the remove mode.Node ID has been excluded. Note: PSR03-C is removed by pressing panic key three times.
Reset	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. Note: PSR03-C is reset by pressing panic key four times within 1.5 seconds and do not release the top-right key in the 4th pressed. 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 remove and all settings will reset to factory default.
Association	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. Note: PSR03-B supports 9 groups. Group 1 is for receiving the report message, like AV controls, battery status. Group 2 to group 9 are for lighting group control, the device will send the "Basic Set" command to these groups. And each group support 4 nodes maximum. PSR03-A 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.
• 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.

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

Function Control

Remote PSR03 can control AV device via Z-Wave-to-IR extender and lighting groups ON/OFF.
PSR03-B has five keys on the device. The central one has group-button switching and special function, the others are control keys.
There are two group-buttons that can be switched by pressing central key. When the device is switched to group-button 1, LED will light on with red color for 3 seconds. When the device is switched to group-button 2, LED will light on with green color.
PSR03-A has three keys on the device. The central one has panic function and the others are control keys.
PSR03-C has panic function.

* AV Control

PSR03-B:
In Group-Button 1(Red LED), the top-left key and bottom-left key control Volume Up(0x0003) and Volume Down(0x0002), and the top-right key and the bottom-right key control Channel Up(0x0004) and Channel Down(0x0005).
In Group-Button 2 (Green LED), the top-left key and the bottom-left key control Play(0x0013) and Stop(0x0014), and the top-right key and the bottom-right key control Fast Forward(0x0016) and Rewind(0x0017).

Simple AV Control Set (V4)
Group-Button 1
Key: Top-left Command: 0x0003 Universal Label: Volume Up
Key: Bottom-left Command: 0x0002 Universal Label: Volume Down
Key: Top-right Command: 0x0004 Universal Label: Channel Up
Key: Bottom-right Command: 0x0005 Universal Label: Channel Down
Group-Button 2
Key: Top-left Command: 0x0013 Universal Label: Play
Key: Bottom-left Command: 0x0014

Universal Label: Stop
Key: Top-right Command: 0x0016 Universal Label: Fast Forward
Key: Bottom-right Command: 0x0017 Universal Label: Rewind

PSR03-A:
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

* Lighting Group Control

PSR03-B:
Each group-button controls four lighting groups through keys around the central key. Switch ON/OFF the lighting groups by pressing those keys once/twice quickly. For example, if you want to turn on lighting group 1, press central key to switch to mode 1(Red LED) then press the top-left key once. If you want to turn off lighting group 7, press the central key to switch to mode 2(Green LED) then press the bottom-left key twice quickly.

The lighting groups are not equal to association groups. The relation between lighting groups and association groups is shown below.

Lighting Group Control	
Group-Button 1	
Top-left Key	Lighting group 1 (Association group 2)
Top-right Key	Lighting group 2 (Association group 3)
Bottom-left Key	Lighting group 3 (Association group 4)
Bottom-right Key	Lighting group 4 (Association group 5)
Group-Button 2	
Top-left Key	Lighting group 5 (Association group 6)
Top-right Key	Lighting group 6 (Association group 7)
Bottom-left Key	Lighting group 7 (Association group 8)
Bottom-right Key	Lighting group 8 (Association group 9)

PSR03-A:
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.

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 or just press the key once if the device is PSR03-C. The device will wake-up 10 seconds.

Z-Wave™ Message Report

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

* 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 Service (0x03)

* 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.

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.

* 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.

* 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.

Over The Air (OTA) Firmware Update

The device support 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.

Security Network

The device support 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

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.

NO.	Name	Def.	Valid	A	B	C	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)
		0					**Bit1**: Reserve.
		0					**Bit2**: Reserve.
		0					**Bit3**: Reserve.
		0					**Bit4**: Reserve.
		0					**Bit5**: Reserve.
		0					**Bit6**: Reserve.
		0					**Bit7**: Reserve.
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	All	☑	☑	☐	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.
84	Association Group 4 Basic Set Level	0	All	☐	☑	☐	Setting the BASIC command value to turn on the light in the association group 4. 0 means using the value of configuration 2 to set.
85	Association Group 5 Basic Set Level	0	All	☐	☑	☐	Setting the BASIC command value to turn on the light in the association group 5. 0 means using the value of configuration 2 to set.
86	Association Group 6 Basic Set Level	0	All	☐	☑	☐	Setting the BASIC command value to turn on the light in the association group 6. 0 means using the value of configuration 2 to set.
87	Association Group 7 Basic Set Level	0	All	☐	☑	☐	Setting the BASIC command value to turn on the light in the association group 7. 0 means using the value of configuration 2 to set.
88	Association Group 8 Basic Set Level	0	All	☐	☑	☐	Setting the BASIC command value to turn on the light in the association group 8. 0 means using the value of configuration 2 to set.
89	Association Group 9	0	All	☐	☑	☐	Setting the BASIC command value to turn on the light in the

NO.	Name	Def.	Valid			Description
	Basic Set Level					association group 9. 0 means using the value of configuration 2 to set.

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

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: 0ºC ~ 40ºC
For indoor use only.
Specifications subject to change without notice due to continuing product improvement.

FCC ID: RHHPSR03

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.

Company of License Holder：Philio Technology Corporation
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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.