

Key-fob Remote Control

User Manual

● Description

Key-fob Remote Control with 4 keys is a Z-Wave standard reporting portable controller (RPC). It supports multiple key press action trigger central scenes notification and/or controls max 8 devices in group turn on, off, stop. A special "SOS" key designs for emergency notification. Further more, it can act as primary controller to add and control Z-Wave device as standalone application.

The product supports acting as Z-Wave primary controller to add (inclusion), remove (exclusion) device stand alone, meanwhile it can associated device to control groups while the device was added, supports triggers control associated device in groups.

Also, It supports learn mode for added by other master controller, supports trigger central scene command to master controller, and it can associated control devices by key-fob local operation or master controller association set configuration.

The product is Z-Wave wireless accessible and it can quickly, easily included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.



● Button define

Icon				
Key name	Off	On	Notification	Stop
Scene key number	Key1	Key2	Key3	Key4

● Battery replacement

Remove the battery separator before use to work (as shown on the right). The product adapts CR2032 battery. Low battery level was warning while LED blink, please replace new battery as soon as possible.

Open the bottom cover with a small screw at the plastic separator gap; then take out the PCBA to replace the battery.

Please be noted, polarity of battery install and use the same type of battery to make sure battery using life.



● Z-Wave Configuration

■ Association Groups

The product supports 4 association groups. Each group (#2~#4) supports associated 8 devices maximum except group #1 support associated 1 device only.

- i. Group #1 is assigned to send unsolicited report lifeline status, including central scene report, notification alarm report, battery report, factory reset locally report etc.
- ii. Group #2 assigned to send Basic Set Off/Binary Switch Off/Multilevel Start Change Down/Door Lock Secure Command control associated devices corresponding to the “off” key operation, including key press 1 times.
- iii. Group #3 assigned to send Basic Set On/Binary Switch On/Multilevel Start Change Up/Door Lock Unsecure Command control associated devices corresponding to the “on” key operation, including key press 1 times.
- iv. Group #4 assigned to send Stop Multilevel Change Command control associated devices corresponding to the “stop” key operation, including key press 1 times.

The production supports setting each group of association device from GUI of the master controller, or setting group #2~#4 association device together by key-fob itself locally. Please refer to the master controller’s operating manual to add an association device and specify to which group and what devices are to be associated.

The production supports send difference command to group #2~#4 associated device base on device type when it was associated by key-fob itself locally, or only send Basic On/Off command if it was associated from GUI of the master controller.

■ Secure vs no-Secure add to Z-Wave Network

The production is a security enabled Z-wave Plus production, implements Z-Wave Application Security Layer in accordance with Z-Wave protocol. This device must be used in conjunction with a Security Enabled Z-Wave Controller in order to fully implemented secure functions.

Even though the functionality and support command class are same when included as secure or no-secure node. But only following command class are supported no-secure access if it was added to Z-Wave network as secure:

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COMMAND_CLASS_ZWAVEPLUS_INFO  
COMMAND_CLASS_POWERLEVEL,
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■ Wakeup key-fob manually for Z-Wave configuration

The product is in battery power, you can set up the wake up time based in seconds. At each wake up, the product communicates with the master controller to updates parameters settings if necessary, e.g. receive the association group setting. The product will wake up at defined time interval and will ALWAYS try to communicate with the master controller. Longer time interval means less frequent communication and thus a longer battery life.

The product default wakeup interval is 86400 seconds. User can operate inclusion/exclusion process in order to trigger product wakeup manually, it will keeps in wakeup state for 30 seconds without initial wakeup parameter setting and will keeps in wakeup state for 10 seconds after initial wakeup parameter.

■ Application Requirement Reject

Since the product is configuration with push mode of alarm report, it will reply Application Requirement Reject to the device that attempts change alarm report push mode to pulling mode.

■ Notification Type and Event

The product fix supports notification alarm type of “EMERGENCY=0x0A” and event type of “MEDICAL=0x03” as it was added in other Z-Wave system and associated group 1#.

■ Protect key-fob’s keyboard

User can protect key-fob’s keyboard avoid un-want press key-fob keyboard. Factory default un-protect the keyboard, user can re-configuration protect timeout value between 30 second to 60 second to enable keyboard protect function. From last key-fob operation complete protect timeout or received protect command from master controller; key-fob’s keyboard was protected no more keyboard except un-protect sequence is acceptable.

■ Advance Configuration

The product supports configuration command setting parameter as following:

Parameter No# Hex (Dec)	Data Size (Byte)	Acceptable Set / Get	Parameter Value	Description
0x01 (1)	1	Get / Set	30 ... 60	Protect timeout, in second. Default=30; valid value=30~60 second.

● Quickly Setup

Item	Function Description	Key Define				LED indicator
						
1	Reset Factory Default	Press and hold for 2 sec.		Press and hold for 10 sec.		Illumine
						Blink off (0.5sec) interval 2 second while hold until flash on 3 times
2	Wakeup key-fob manually and send battery report to lifeline (group #1)	Press and hold for 2 sec.				Illumine
					Press 3 times in 2 sec.	Flash on fast 3 times, then keep in wakeup for 30 second w/o initial wakeup parameter or 10 second has initial wakeup parameter.
3	Add Device into Key-fob	Press and hold for 2 sec.				illumine
		Press and hold for 2 sec				Flash on slowly (3 second on, 3 second off) until 60 sec. timeout or illumine 3 sec. after successful.
4	Remove Device from Key-fob	Press and hold for 2 sec.				illumine
			Press and hold for 2 sec			Flash on quickly (1 second on, 1 second off) until 15 sec. timeout or illumine 3 sec. after successful.
5	Copy to new Controller	Press and hold for 2 sec.				illumine
					Press and hold for 2 sec	Intermittently flash (2 times @3 sec.) until 60 sec. timeout or illumine 3 sec. after successful.
6	Add/Remove Key-fob to/from other Z-Wave network	Press and hold for 2 sec.				illumine
				Press and		Intermittently flash (3times @3

				hold for 2 sec		sec.) until 60 sec. timeout or illumine 3 sec. after successful.
7	Create Associated Device in group #4~#6	Press and hold for 2 sec.				illumine
		Press 3 times in 2 sec				Blink on 1 time slowly (0.5 second on, 3 second off) until 60 sec. timeout or illumine 3 sec. after successful.
8	Delete Associated Device in group #4~#6	Press and hold for 2 sec.				illumine
			Press 3 times in 2 sec			Blink on 2 times slowly (0.5 second on twice, 3 second off) until 60 sec. timeout or illumine 3 sec. after successful.
9	Control turn on device in group #4	Press 1 time				Blink on 1 times (0.5 second on, 0.5 second off).
10	Control turn off device in group #5		Press 1 time			
11	Control turn stop device in group #5				Press 1 time	
12	Control central scene trigger	Press 1/2/3 times in 2 sec. or hold on for 2 sec. or release any one of key.				
13	Notification Alarm Event trigger			Press 1 time		
14	Notification Alarm Event clear			Press and hold for 2 sec.		
15	Un-protect Keyboard			Press and hold for 2 sec.		illumine for 3 second indicator un-protected.
16	Keyboard has protected	Press or hold any key				Blink on 3 times (0.5 second on, 0.5 second off).

[Note:] Item 1~2, 15, 16 is available while key-fob in Idle state; item 3~4 is available as key-fob is primary or installer controller, Item 5 is available as key-fob is primary controller only; item 6 is available as key-fob hasn't add any node, item 9~11 is available in anytime; item 7~8, 12~14 is available as key-fob was added in other controller.

● Z-Wave Network Setup

[Note:] It is recommended implement setup operation after new battery is replaced to ensure battery is powerful for setup procedure.

■ Reset factory default

- 1) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 2) Press and hold both  and  key together for 10 seconds, during hold time LED will blink off 0.5 second interval 2 seconds. After hold 10 seconds LED indicator light off, then release all keys, factory default is retrieve, LED indicator will flashes three times after restore factory default success.

[Note:] After restore factory default, the product reset all included and associated devices, and acting as portable primary controller. Please use this procedure only when the network primary controller is missing or otherwise inoperable.

[Note:] Keyfob exits setting mode in 30 seconds after press and hold both  and  key together for 2 seconds enter it without any following action.

■ Add Z-Wave Device into key-fob

- 1) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 2) Press and hold  key for 2 seconds until LED indicator flash slowly (3 second on, 3 second off), key-fob starts add device processing;
- 3) Refer to device manual, trigger the device which is going to included start network add/remove mode;
- 4) If key-fob detects any device started network add/remove mode, it implement add device procedure and LED indicator light on for 3 seconds after inclusion successful; If key-fob has not detects any device in 60 seconds, exit add device process and LED indicator goes off.

[Note:] Key-fob associate the included device to all association control groups (#2~#4) automatically after add a new device. Then, user can press On/Off/Stop key control all included devices(Group #4 only associate Multilevel Device).

[Note:] Press and hold on  key for 2 seconds before step 3) would terminal add device procedure.

■ Remove Z-Wave Device from key-fob

- 1) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 2) Press and hold  key for 2 seconds until LED indicator flash quickly (1 second on, 1 second off), key-fob starts remove device processing;
- 3) Refer to device manual, trigger the device which is going to included start network add/remove mode;
- 4) If key-fob detects any device started network add/remove mode, it implement remove device procedure and LED indicator light on for 3 seconds after exclusion successful; If key-fob has not detects any device in 15 seconds, exit remove device process and LED indicator goes off.

[Note:] Key-fob erase the excluded device from all association control groups (#2~#4) automatically after remove an exist device.

[Note:] Press and hold on  key for 2 seconds before step 3) would terminal remove device procedure.

■ Copy Z-Wave Device in key-fob to a new controller

- 1) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 2) Press and hold  key for 2 seconds until LED indicator intermittently flash (light on 2 times in 3 second), key-fob starts copy controller network processing;
- 3) Refer to controller manual, trigger the controller which is going to copied starts network learn mode;

- 4) If key-fob detects any controller started network learn mode, it implement copy controller procedure and LED indicator light on for 3 seconds after copy successful; If key-fob has not detects any device in 60 seconds, exit copy controller process and LED indicator goes off.

[Note:] Key-fob keeps the associated device in association control groups (#2~#4) after copy device to a new controller..

[Note:] Press and hold on  key for 2 seconds before step 3) would terminal copy device procedure.

■ Add key-fob to other Z-Wave network

- 1) Set the master controller into the add device mode (refer to main controller's operating manual).
- 2) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 3) Press and hold  key for 2 seconds until LED indicator intermittently flash (light on 3 times in 3 second), key-fob starts controller learn mode for include to the master controller as a secondary controller;
- 4) During inclusion, LED indicator intermittently flash until inclusion process complete, LED light on 3 second notice inclusion is successful. After inclusion successful, key-fob stays in wakeup state for 30 second in order to receive initial wakeup configuration from the master controller. Key-fob stays in inclusion process around 60 seconds, if there not any controller was detected.

[Note:] Key-fob's learn mode is only available as it has not added any device before or has included in master controller already.
[Key-fob always ignores Basic Set/Get command requires from other controller.](#)

[Note:] Press and hold on  key for 2 seconds after step 3) would terminal procedure if Z-Wave adding processing has not started.

■ Remove key-fob from other Z-Wave network

- 1) Set the master controller into the exclusion device mode (refer to main controller's operating manual).
- 2) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 3) Press and hold  key for 2 seconds until LED indicator light intermittently flash three times, key-fob starts controller learn mode for exclude from the master controller;
- 4) During exclusion, LED indicator intermittently flash until exclusion process complete, LED light on 3 second notice inclusion is successful. Key-fob stays in exclusion process around 15 seconds, if there not any controller was detected.

[Note:] Key-fob's learn mode is only available as it has not added any device before or has included in master controller already.

■ Create associate device to association group of #2~#4 together locally

- 1) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 2) Press  key 3 times in 2 seconds, LED indicator blink on 1 time interval 3 second (0.5 second on, 3 second off), key-fob starts associate device processing;

- 3) Refer to device manual, trigger the device which is going to associated start network add/remove mode;
- 4) If key-fob detects any device started network add/remove mode, it associate the device into group #2~#4 together and LED indicator light on for 3 seconds after association successful; If key-fob has not detects any device in 60 seconds, exit associate device process and LED indicator goes off.

[Note:] Key-fob's associate locally function is only available as it was included in other master controller. Please refer to the master controller GUI manual setup associate device with endpoint in order to control device's endpoint.

■ Delete associated device from association group of #2~#4 together locally

- 1) Press and hold both  and  key together for 2 seconds until LED indicator light on, release all key;
- 2) Press  key 3 times in 2 seconds, LED indicator blink on 2 times interval 3 second (0.5 second on twice, 3 second off), key-fob starts delete associated device processing;
- 3) Refer to device manual, trigger the device which is going to delete associated start network add/remove mode;
- 4) If key-fob detects any device started network add/remove mode, it delete associate of the device from group #2~#4 together and LED indicator light on for 3 seconds after delete association successful; If key-fob has not detects any device in 60 seconds, exit delete associated device process and LED indicator goes off.

[Note:] Key-fob's delete associated locally function is only available as it was included in other master controller. Key-fob always deletes the associated device with endpoint together.

● Operation

■ Control turn on, off, stop device

- 1) Press  or  or  key 1 time, key-fob send the specify command (on/off/stop) to the association group (#2 / #3/#4) device corresponding pressed key, LED indicator flash until send out command to all devices complete.

■ Notification alarm report

- 1) Press  key 1 time, key-fob send notification alarm command to association group (#1) device, LED indicator flash until send out command to all devices complete.
- 2) Press and hold  key for 2 second, key-fob send notification event clear command to association group (#1) device, LED indicator flash until send out command to all devices complete.

■ Central scene trigger

- 1) Press  or  or  or  key several times in 2 seconds, key-fob send the specify central scene report command to association group (#1) device corresponding key press operation, LED indicator flash until send out command to all devices complete.

● Technical Parameters

Operating voltage:	3V (Battery Type: CR2032)
Quiescent current:	<4uA
Alarm current:	<20mA

Operating frequency :	868.42 MHz – China / Europe
	908.42 MHz – United States
	921.42 MHz – Australia
	869.22 MHz – Russia
The distance :	from the indoor distance of 30 meters
	Outdoor straight : distance of 40 meters
Operating temperature:	-10°C~+50°C
Relative humidity :	≤95%RH

● Z-Wave Parameters

Device Type:

Generic Deice Type = GENERIC_TYPE_GENERIC_CONTROLLER

Specific Device Type = SPECIFIC_TYPE_PORTABLE_REMOTE_CONTROLLER

Support Command Class:

COMMAND_CLASS_ZWAVEPLUS_INFO,
 COMMAND_CLASS_VERSION,
 COMMAND_CLASS_WAKE_UP,
 COMMAND_CLASS_SECURITY,
 COMMAND_CLASS_MANUFACTURER_SPECIFIC,
 COMMAND_CLASS_POWERLEVEL,
 COMMAND_CLASS_DEVICE_RESET_LOCALLY,
 COMMAND_CLASS_ASSOCIATION,
 COMMAND_CLASS_ASSOCIATION_GRP_INFO,
 COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION,
 COMMAND_CLASS_BATTERY,
 COMMAND_CLASS_APPLICATION_STATUS,
 COMMAND_CLASS_NOTIFICATION,
 COMMAND_CLASS_CENTRAL_SCENE,
 COMMAND_CLASS_PROTECTION