JR Automation Technology 4 CHANNEL RELAY JR-4C01 Manual

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JR Automation Technology

4 CHANNEL RELAY

SKU: JR-4C01


JR Automation Technology
MADE IN INDIA
4 Channel Relay (JR-4C01)
Freq.: 865.2 MHZ IN
S/N: AEIN000001
N L Q1 Q2 IN Q3 Q4 S1 S2 S3 S4

Quickstart

This is a
secure
On/Off Power Switch
for
India.

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

To add this device to your network execute the following action:
To add the device to the Z-Wave network:1.Keep the device in Z-Wave range.2.Power the device.3.Set the main controller in (Security/non-Security Mode) add mode(see the controllers manual).4.Quickly, three times press the Config Button, LED color will change from Red to Blue.5.Wait for the adding process to end.6.Successful adding will be confirmed by the Z-Wave controllersMessage and LED Colour will change to Green.

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

JR automation 4 channel relay is designed for wireless home automation solution with Z-Wave technology. It communicates with all the Z- wave based controller with 2-way feedback with wireless communication. For the Indian market, it installs in all the 4 or more-module back box. It works for all type of load to turn ON and OFF like Fan, Lights, LED, Bulb and heavy-duty load (like AC, Geyser by using intermediate relays) by each of 6A load current capacity. It also works to increase the range of Z-Wave mess network as Z-Wave repeater. Due to 4 channel relays together its very perfect for Indian market requirement with lower cost and without any changes in the normal switchboard. The encryption mode that the switch supports is S2 Unauthenticated.

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.

Reset procedure allows restoring the device back to its factory settings, which means all information about the Z-Wave controller will be deleted.1.Press and Hold Config Button for 10 sec until White LED Indication to start blinking.2.Release Config button. Now you have 5sec to Reset Device otherwise it back to Normal Mode.3.Single Click Config Button.4.After a few seconds, the device will be restarted, which is signaledwith the red LED indicator color.NOTE:- Please use this procedure only when the network primary controller is missing or otherwise 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

To add the device to the Z-Wave network:1.Keep the device in Z-Wave range.2.Power the device.3.Set the main controller in (Security/non-Security Mode) add mode(see the controllers manual).4.Quickly, three times press the Config Button, LED color will change from Red to Blue.5.Wait for the adding process to end.6.Successful adding will be confirmed by the Z-Wave controllersMessage and LED Colour will change to Green.

Exclusion

To remove the device from the Z-Wave network:1.Power the device.2.Set the main controller into remove mode (see the controllers manual).3.Quickly, three times click the Config button LED color will change to Blue.4.Wait for

the removing process to end.5.Successful removing will be confirmed by the Z-Wave controllers message and Red LED color.

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller **C** is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device. To wakeup the device please perform the following action:

JR-4C01 is powered using an AC power supply unit so it is always awake.

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 NumberMaximum NodesDescription

1	5	Name: Lifeline Command: Device Reset Locally Notification Switch Binary Report
2	5	Name: JRS-1 Command: Basic Set Send Basic Set command to the other node in this association group when active endpoint 1.
3	5	Name: JRS-2 Command: Basic Set Send Basic Set command to the other node in this association group when active endpoint 2.
4	5	Name: JRS-3 Command: Basic Set Send Basic Set command to the other node in this association group when active endpoint 3.
5	5	Name: JRS-4 Command: Basic Set Send Basic Set command to the other node in this association group when active endpoint 4.

Technical Data

Hardware Platform	ZM5101
Device Type	On/Off Power Switch
Network Operation	Always On Slave
Firmware Version	HW: 1 FW: 4.01
Z-Wave Version	6.81.03
Certification ID	ZC10-19066559
Z-Wave Product Id	0x0426.0x0003.0x0001
Neutral Wire Required	ok
Electric Load Type	FluorescentIncandescentLED
Firmware Updatable	Updatable by Professional/Technician
Color	Black
Loads Controlled	4
Security V2	S2_UNAUTHENTICATED
Frequency	XXfrequency
Maximum transmission power	XXantenna

Supported Command Classes

- Association Grp Info
- Association V2
- Basic V2
- Device Reset Locally
- Firmware Update Md V4
- Manufacturer Specific V2
- Multi Channel Association V3
- Multi Channel V4
- Powerlevel
- Security

- Security 2
- Supervision
- Switch Binary
- Transport Service V2
- Version V3
- Zwaveplus Info V2

Controlled Command Classes

- Basic V2

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 announces that is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.