Zigbee 4 Channel Relay Module User Manual

CT4RZB

Introduction

The Confio 4-Channel Relay is a Wireless Control Module that can be remotely controlled and is designed to operate with AC mains power. Four relay switches enable ON/OFF control of loads. It also has the capability of muxing its internal relays to support higher wattage load.

The 4-Channel Relay can be used in one of four operating modes:

- 4-Channel Relay Controller - Controls up to 4 Relay-Controlled Devices.
- Dual-Channel Curtain Controller - Controls up to 2 Dual Channel Curtains or Blinds.
- Single-Channel Curtain Controller - Controls a Single High-Wattage Curtains or Blinds.
- Fan-Light Controller - Controls a Three-Speed Fan and a Light when used with the Confio Fan Capacitor Module CTFCZB.

Technical Specifications

Power Input	240VAC, 50Hz
Operating Temperature	-10 to +55 °C
Relative Humidity	5% - 95%
Dimensions	49mm x 49mm x 18mm
RF Frequency	2.4GHz

Power Consumption	<1 Watt
Surge Protection	2.5kv
Typical Line of Sight Range	Up to 10m indoor / 10-20m outdoor
Plastic Housing	Fire retardant ABS
Supported Load Types	Incandescent bulbs, LED Lights, Fan, AC, and other ON/OFF Devices.

Power Ratings

Load Type	Single Channel	2 Channel Muxed	3 Channel Muxed	4 Channel Muxed
Incandescent	400W	500W	750W	1000W
MLV	200W	250W	375W	500W
LED	100W	125W	185W	250W
Inductive	150W	185W	280W	375W

QR Codes

This document includes usage details for the 4-Channel Relay Controller. Please refer to the following documents for details on additional operating modes.

Please SCAN the QR code below for the 4-Channel Relay Controller Manual.

Please SCAN the QR code below for the Dual Channel Curtain Controller Module.

Please SCAN the QR code below for the Single Channel Curtain Controller Module.

Please SCAN the QR code below for the Fan-Light Controller Module.

Warnings & Considerations

WARNING!
Turn OFF electrical power before installing or servicing this product. Improper use or installation can cause SERIOUS INJURY, DEATH, or LOSS/DAMAGE OF PROPERTY.

WARNING!
This Device must be protected by a Circuit Breaker (20A max).

WARNING!
Ground this Device in accordance with the National Electric Code (NEC) requirements. DO NOT rely solely upon the yoke plate's contact with a metal wall box for adequate grounding. Use the Device's ground wire to make a secure connection to the safety ground of the Electrical System.

IMPORTANT!
This Device must be installed by a licensed Electrician in accordance with all national and local electrical codes.

IMPORTANT!
If you are unsure about any part of these instructions, consult a qualified Electrician.

IMPORTANT!
Use this Device only with copper or copper-clad wire. Do not use aluminum wiring. This product has not been approved for use with aluminum wiring.

IMPORTANT!
This product generates heat during normal operation.

IMPORTANT!
Using this product in a manner other than outlined in this document voids your warranty. Further, Confio is NOT liable for any damage incurred with the misuse of this product.

Safety Measures

1. Before installation, make sure that the power supply mains is turned off.
2. . If multiple loads are connected to a single terminal, use appropriate connectors to avoid short circuit.
3. Use only a minimum of 1.5 sqmm wire and a maximum of 2.5 sqmm wires for connections..
4. This Device requires a Neutral connection to operate.

ID Button Location on the Device
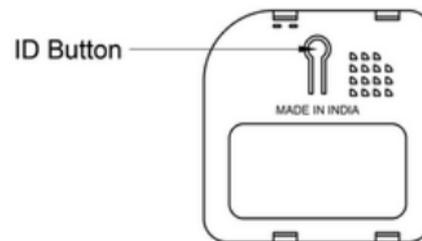
Changing Modes

By default, the Device is configured to operate as a 4 Channel Relay.
The operating mode can be changed using one of two methods.

1. ID Button press sequence as referred to in the table, this must be done before adding the device to the Zigbee Network.
2. Change Mode function is available in the Confio Puck Driver's Actions Tab. This function will allow you to choose one of the four Operation Modes. After changing modes once, the mode cannot be changed again unless the Device is removed from the Zigbee Network and reset to defaults.

Note: If the Device is added to Zigbee Network, pre-configured parameters, and mode in the Device will be overwritten by the Confio Puck Driver.
**Please refer to the Confio PUCK Driver documentation for additional details.**

ID Button Functions & LED Indication

| Operation	ID Button Presses	Function/Mode	LED Indications	Notes
Normal Operation	4	Joining to Zigbee Network (Started Identify process)	Both LEDs toggle on every 1 second	The joining process will take 15 seconds
	9	Factory Reset	Both LEDs keep glowing until the factory reset completes	Parameters will be set to default state
	13	Leave Network & Reset	Red LED Toggle on every 1 second	
	15	Restart		Device power cycle
	5	Device Mode Selection	Both LEDs toggle on every 500 milli seconds	Refer below Note 1
Device Mode Selection	1	To select 4-Channel Relay Mode	Red LED toggle on every 1 second until the Device joins to ZigBee Network	
	2	To select Dual Curtain Controller Mode	Red LED toggle on every 2 seconds until the Device joins to ZigBee Network	Refer Dual Curtain Controller Manual for more details
	3	To select Single Curtain Controller Mode	Red LED toggle on every 3 seconds until the Device joins to ZigBee Network	Refer Curtain Controller Manual for more details
	4	To select Fan Controller Mode	Red LED toggle on every 4 seconds until the Device joins to ZigBee Network	Refer Fan Controller Manual for more details

Note:
1. If no Device Mode is selected within 30 seconds the Device will return to the previous application mode.
2. All settings will be reset to their factory defaults after the Device is left from Zigbee Network by the ID Button.
3. If the Device is joined to Zigbee Network Green LED toggle on every 500 milliseconds.

Device Dimensions
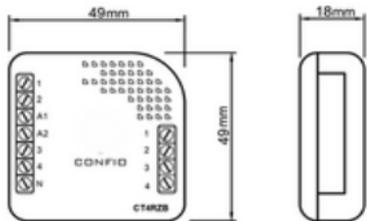
Internal Block Diagram
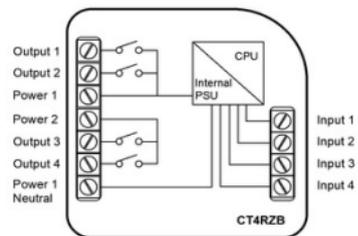
Note: As indicated Power 2 is NOT tied to the Neutral or Input Terminals, care MUST be taken if power is sourced from a different "Circuit Breaker" to alleviate tripping.

Configuration

Function	ID Button	Input 1 (SW1)	Inputs 1 & 2 (SW1 & 2)
Identify	4	4	NA
ZigBee Channel	7	7	NA
Reboot Device	15	15	NA
Factory Reset	9	22	9-4-9
Leave Mesh & Reset	13	30	13-4-13

- **Identify** – Join the Device to the Zigbee Network.
- **Zigbee Channel** – Device's current Zigbee channel is identified as the number of times LEDs blinks.
- **Reboot Device** – The Device will be rebooted and the relays will return to their previous state.
- **Factory Reset** – All Device application parameters will be reset to the factory defaults, except Zigbee Network parameters. The Device will remain connected to the Zigbee Network.
- **Leave Mesh and Reset** – All Device parameters will be reset to factory defaults including Zigbee Network parameters. The Device will be removed from the Zigbee Network.

Button Behaviour

Button Behaviours can be changed using Button Setup in Confio Puck Driver's properties.

- **Load On** – When the Switch detects voltage the corresponding load turns ON.
- **Load Off** – When the Switch detects voltage the corresponding load turns OFF.
- **Toggle Load** – When the Switch detects voltage the corresponding load turns on, when the Switch is turned off the load is turned OFF.
- **Keypad** – Adds a keypad connection to the Driver that will be triggered when the switch detects voltage.
- **Toggle load (Latch)** – When the Switch detects voltage the corresponding load is toggled.
- **Keypad (Latch)** – When the Switch detects voltage the keypad connection is triggered on, when the switch is turned off the keypad is turned off.
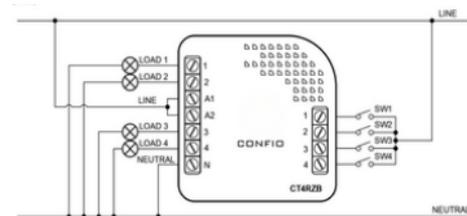
Note: Default Switch Behaviour is Toggle Load.

Relay Configuration

To select Relay Configuration, click CT4R Driver in System Design under properties as shown below, and refer to wiring diagrams for proper wiring.
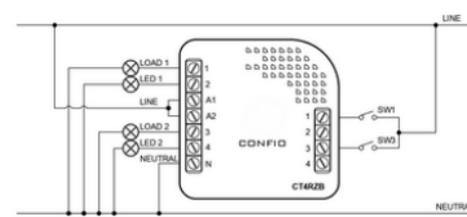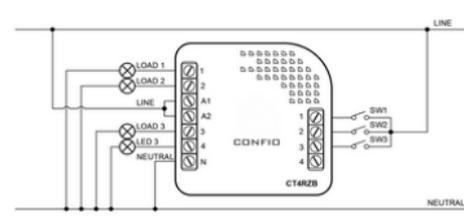

Option 1: R1 R2 R3 R4

NOTE: All 4 Relays work Independently.

Option 2: (R1-LED1) (R2-LED2)

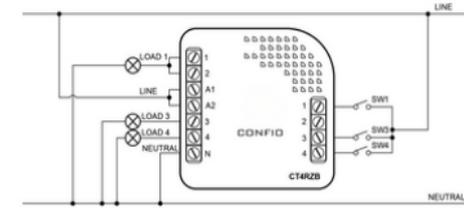**NOTE: Triggering Relay 1 will also trigger Relay 2. Triggering Relay 3 will also trigger Relay 4. Relays 2 and 4 cannot be triggered independently.**
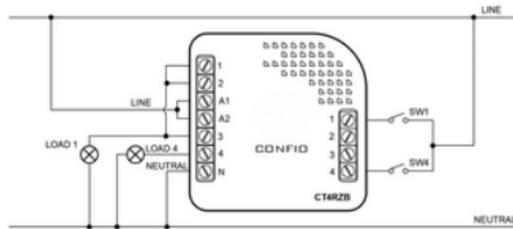
Option 3: R1 R2 (R3-LED3)

NOTE: Triggering Relay 1 and Relay 2 are independent. Triggering Relay 3 will also trigger Relay 4. Relay 4 cannot be triggered independently.

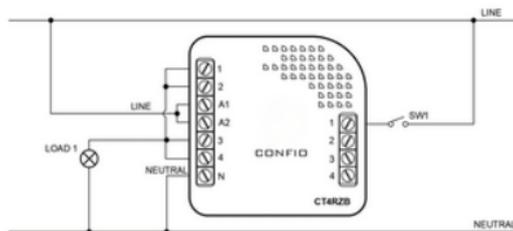## Option 4: (R1-R2) R3 R4

NOTE: Triggering Relay 1 will also trigger Relay 2. Relays 3 and 4 work independently. Relay 2 cannot be triggered independently.

Option 5: (R1-R2-R3) R4

Note: Triggering Relay 1 will also trigger Relays 2 and 3. Relay 4 works independently. Relays 2 and 3 cannot be triggered independently.

Option 6: (R1-R2-R3-R4)

Note: Triggering Relay 1 will also trigger Relay 2, 3, and 4. Relays 2, 3, and 4 cannot be triggered independently.

Important Instructions

Wear standard personal protection equipment to give protection to the installer.
- Position the antenna far away from metal elements to avoid interference.
- DO NOT cut or shorten the antenna, as its length is matched to the band in which the system operates.
- DO NOT over-tighten the terminal block. It can cause serious malfunction after installation.

Trouble Shooting

1. If the load does not turn ON/OFF:
- Ensure that the circuit breaker is not turned off or tripped.
- Ensure that the load is not burned out and is screwed in properly.
- Ensure that the Device is in working condition. (Red/Green LED blinks)
- Check for proper wiring (see "Wiring Diagrams").
2. If the Switches connected to the input contacts do not operate the load, check for proper wiring (see "Wiring Diagrams").
3. If the device is not identifying to the Zigbee Network:
- Confirm that the Control4 Controller and the Device are within the 10m distance while adding to the Zigbee Network.

Recommendations

For connecting multiple loads on a single device, ask the electrician to calculate the total load and confirm that it does not exceed the ratings mentioned under the Technical Specification section.
- When outputs are muxed and connected to an AC or a Geyser, appropriate switches automatically get disabled.
- Check the space behind the Switch Box for placing the Device.
- Turn off the MCB before the installation of Puck Module.
- Use only minimum 1.5sqmm wires and maximum 2.5sqmm wires for connections.
- Strictly follow the wiring diagram for connections.
- Do not connect higher loads(more than 8A) to single channel.
- Make sure parameters and configurations for muxing are set before connecting higher loads.
- If there are signs of water seeping into the Switch Box, disconnect the power supply to avoid short circuits.

Warranty

A standard warranty of 24 months from the date of supply is applicable for all products.

The warranty SHALL NOT cover below conditions:
- Mechanical damage caused by impact, falling, or dropping the device, unauthorized use, or use in a manner inconsistent with the usage defined in the Operating Manual.
- Damage resulting from external causes, for example - floods, storms, fires, lightning, and any other natural disasters.
- Damage resulting from surges in the power and/or Telecommunication, Network, improper connection to the grid in a manner inconsistent with the Operating Manual, or from connecting other Devices NOT recommended by the Manufacturer.
- Damage resulting from the use of spurious spare parts or accessories improper for the given model, repairing and introducing alterations by unauthorized persons.
- Defects caused by operating in-operable devices or accessories.

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For any technical and support queries, please contact the Manufacturer