

2 CHANNEL DIMMER USER MANUAL



Introduction

- 2 Channel Dimmer is a miniature Micro Module, which is remotely controlled and designed to operate in AC mains. In AC mains, it operates with a common neutral lead.
- Two Bell Switches enable ON/OFF and dimming control of regular loads. It can be used to control different types of Analog/ digital dimmable lights.
- The Device also operates as a repeater within the Z-Wave Network to which it is associated and uses the latest Z-Wave plus chips.
- Typical regular Dimmer Loads (2D) are light sources and other dimmable utility appliances.

Technical Specification

Power Input	240VAC, 50Hz
Maximum Load per Channel @240VAC	Phase Cut Ch - LED - Max 120W Incandescent - Max 200W Analog Ch(PWM) - NA (Not limited by Device/Based on External Driver connected)
CumulativeLoad - 4 Channels Muxed @240VAC	NA

Warnings & Considerations



CAUTION

READ INSTRUCTIONS IN FULL BEFORE USE

The wiring Connection Diagram and Parameters to use are mentioned in the manual. The Manufacturer, Confi o will not be held responsible for any loss or damage resulting from not following the instructions of the operating manual.

Operating Temperature	-10° to +55°C
Temperature Sensing	NA
Relative Humidity	8% - 80%RH
Dimensions	50mm x 50mm x 17mm
Radio Frequency	865.2MHz (IN)
Surge Protection	1.2kV
Typical Line of Sight Range	10~15m Indoor /30m Outdoor
Plastic Housing	Fire Retardant ABS
Supported Load Type	<p>Phase Cut Dimming at 240VAC: Wipro Inbuilt Dimmable Loads, Allokin Drivers, Corvi Dimmable Lights with Bypass, Incandescent Bulbs, Philips Dimmable Loads.</p> <p>Analog Dimming - LCM Meanwell PWM Drivers, Philips PWM Drivers, OSRAM PWM Drivers.</p>



CAUTION

DO NOT CONNECT THE DEVICE TO LOADS

EXCEEDING RECOMMENDED VALUES

Connect loads to the module below the load ratings to work normally. Do not connect overload, this may lead to Module failure.



CAUTION

FOLLOW INSTRUCTION MANUAL FOR CIRCUIT CONNECTION

Connections must be made according to the instructions available on operational manual, faulty connection leads to manual failure.



DANGER

DANGER OF ELECTRIC SHOCK

Any works introducing changes to the configuration of connections or the load must be always performed with disconnected voltage. Since there are high chances of voltage occurrence at the terminals even after device turn off. (Turn off the MCB).



DANGER

DANGER OF ELECTRIC SHOCK

If the installation is done by an unauthorized Technician the Manufacturer will not be held responsible. Contact support@confi o.labs.com or call +91-9606030659 for a list of authorized Technicians.



DANGER

DANGER OF ELECTRIC SHOCK

Faulty connection or use may result in fire or Electric shock.

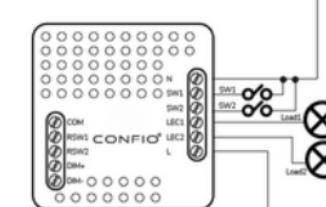
Safety Measures

- Before installation, make sure that the power supply Mains are turned off.
- Remove the Switchboard cover frame and the switch frame to access the switches.
- Select the Loads to be connected on particular terminals.
- If multiple Loads are connected to a single terminal, use appropriate connectors to avoid short circuits.
- Use only minimum 1.5mm² wires and maximum 2.5mm² wires for connections.
- This Device requires a neutral lead to operate.

Circuit Connections

The below wiring diagrams explain the possible combinations that are available.

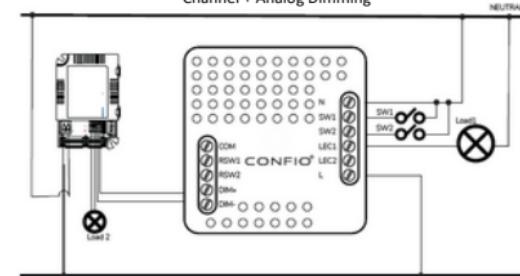
Option 1: Direct Dimming through LEC1 & LEC2



For connecting two LEC output Loads you will have to set
Parameter: 15 Value:1
Load value must be less than what is mentioned in the manual.

Option 2: Direct Dim through LEC1

Channel + Analog Dimming



For Connecting LEC1 output load and Analog Load set

Parameter:15 Value :2

By default Dimmer is in value 1, so need to set Parameter as mentioned for the above circuit connection.

Load value must be less than what is mentioned in the manual.

Notes for Wiring Diagram

N - Input Neutral terminal

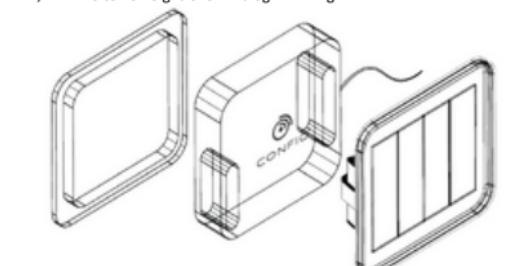
L - Input Phase terminal

LEC1 - Leading Edge Dimming Channel 1

LEC2 - Leading Edge Dimming Channel 2

SW1, SW2 - Terminal for Switches

DIM+, DIM- - 0 to 10V Signals for Analog Dimming



Activating Confio Dimmer

1. Installing the Device

- a. Make sure that the power supply mains is turned off.
- b. Connect the Device following the wiring diagram.
- c. Connect the Phase, Neutral and the Loads on LEC1/LEC2 and PWM.
- d. Replace existing switches using Bell Switch, SW1 and SW2.
- e. Complete all the connections and check the Pairing before sealing the Electrical Box.

2. Managing the Device through Z-Wave Network

- It is recommended to place the Micro Module within 3m Line of Sight, as adding mode requires direct communication with the Controller.
- Move the Module near the Primary Controller during this step, if required.

Inclusion Methods

Method 1

Press the Node ID Button (at the back of the Module), to start Pairing the device to the Gateway.

Method 2

Toggle S1 3 times within 4 seconds to start Pairing the device to the Gateway. (Sequence: ON-OFF, ON-OFF, ON-OFF).

Exclusion Methods

Method 1

Press the Node ID Button (at the back of the Module), to start Unpairing the device from the Gateway.

Method 2

Toggle S1 3 times within 4 seconds to start Unpairing the device from the Gateway. (Sequence: ON-OFF, ON-OFF, ON-OFF).

Resetting Device

For resetting the Micro Module, press and hold the Node ID Button behind the Module for 10 seconds. Then, the Device will be restored to default.

LED Indications

LED Indication	Status
Red blinking	Excluded
Green blinking	Included/Paired
Red and Green	In pairing Mode
Green/Red Blinking every half-second	PWM Mode
Green/Red Blinking every second	LEC Mode

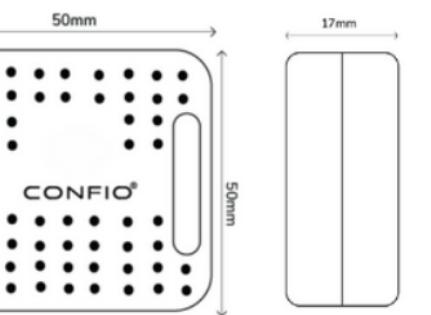
Controlling by Position Switches

- SW1 and SW2 are controlled by Bell Switches for Dimming and Position Switches for ON/OFF.
- Press and hold the appropriate switch to increase or decrease the brightness of the channel.

Setting Additional Parameters

- Log on to Z-Wave Gateway from app.
- Click Device Options >> Add Configuration Settings.
- Enter the Parameter Number in the Variable Box and enter the desired Parameter Value. *For example, to set the Device into LEC mode, set Parameter - /15 1-Byte-Dec 01/.*
- Click "SET".
- Close the dialog box and click Update Button.

Device Dimensions



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.

Parameters

Parameter 01	Range	Description
Power ON Status of SW1	0: Switch SW1 1: Memory	This Parameter decides the power ON state (when the Module is powered ON) of Load connected on LEC2 or DIM+/- Channel. This parameter provides two options either power ON to memory (previous state as it was before power OFF) or present Switch Position.
Power ON Status of SW2	0: Switch SW2 1: Memory	This Parameter decides the power ON state (when the Module is powered ON) of Load connected on LEC1 or DIM+/- Channel. This parameter provides two options either power ON to memory (previous state as it was before power OFF) or present Switch Position.

Parameter 02

Range

Default

Description

Power ON status of SW2.

0: Switch SW2

1: Memory

This Parameter decides the power ON state (when the Module is powered ON) of Load connected on LEC2 or DIM+/- Channel. This parameter provides two options either power ON to memory (previous state as it was before power OFF) or present Switch Position.

Parameter 04

Range

Default

Description

Dimming preference for LEC1 load.

0: Instant 1: Smooth

1: Smooth

This Parameter Switch between the Dimming preference smooth Dimming or Instant Dimming for the Load connected on LEC1 Load.

Parameter 05

Range

Default

Description

Dimming preference for LEC2 / PWM LED Load

0: Instant, 1: Smooth

1: Smooth

This parameter switches between the Dimming preference Smooth Dimming or Instant Dimming for the Load connected on LEC2 / DIM+/- Channel.

Parameter 06

Range

Default

Description

Dimming Speed for LEC1 load

1: Very fast, 2: Fast, 3: Medium, 4: Slow, 5: Very slow

3: Medium

This parameter sets the Dimming Speed of Load connected on LEC1 Channel.

Parameter 07

Range

Default

Description

Dimming Speed for LEC2 / PWM LED Load

1: Very fast, 2: Fast, 3: Medium, 4: Slow, 5: Very slow

3: Medium

This parameter sets the Dimming Speed of Load connected to the LEC2 / PWM LED Channel.

Parameter 08

Range

Default

Description

Potentiometer Status (RSW1 & RSW2)

0: RSW1 & RSW2 Disable 1: RSW1

2: RSW2 Enable 3: RSW1 & RSW2

0: RSW1 & RSW2 Disable

This parameter enable/disable potentiometer service for both LEC1 & LEC2 / PWM LED Loads

Parameter 09

Range

Default

Description

SW1 Functionality

0: Position Switch ON-to-ON and OFF-to-OFF

1: Toggle Switch 2: Bell switch

This parameter Switch between the Switch functionality for SW1 i.e. Position Switch OR Toggle Switch OR Bell Switch Dimming.

Parameter 10

Range

Default

Description

SW2 Functionality

0: Position Switch ON-to-ON and OFF-to-OFF

1: Toggle Switch 2: Bell switch

This parameter Switch between the Switch functionality for SW2 i.e. Position Switch OR Toggle Switch OR Bell Switch Dimming.

Parameter 12

Range

Default

Description

Channel 1 minimum ON level Calibration Value

1 to 99

0

This parameter will set minimum ON level for Channel 1

Parameter 13

Range

Default

Description

Channel 2 minimum ON level Calibration Value

1 to 99

0

This parameter will set minimum ON level for Channel 2

Parameter 15	Device Mode 1: LEC mode 2: PWM Mode 1: LEC This parameter sets the Device Operating Mode. Device can be either in LEC Mode or PWM Mode.
Parameter 16	Device based Timer or Interrupt 1: Dimmer is based on Timer 2: Dimmer is based on Interrupt 1: Dimmer is based on Timer If the load is flickering, the device has to be changed from the timer-based dimming mode to the interrupt-based dimming mode.
Parameter 18	Channel 1 maximum ON Level Calibration Value 0 to 100 100 This parameter holds the maximum value for turning on the Dimmer (LEC2 / PWM LED Load).
Parameter 20	Channel 1 minimum ON Level for Position / Toggle Switch 30 to 100 30 This parameter holds the minimum value for only Position / Toggle Switch (LEC1).
Parameter 21	Channel 2 minimum ON Level for Position / Toggle Switch 30 to 100 30 This parameter holds the minimum value for only Position / Toggle Switch (LEC2 / PWM LED Load)

Common Issues

Pairing not Working: Confirm that the Gateway and the Dimmer Controller are within 3 meters from each other while adding to the Gateway. Check that the Node ID Button is pressed properly, Red and Green LEDs will appear if the device goes to Inclusion/Exclusion Mode.

Operating the Device

The two loads may be operated using the following options:

- Bell Switches connected to SW1 and SW2.
- Z-Wave Remote Controller with Multi-Channel implementation.
- Bell Switches(Dimming)/Position Switches(ON/OFF)/Toggle Switches(ON/OFF).
- Any Controller compatible with Multi-Channel implementation of Z-Wave.

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.
- Check the space behind the Switch Box for placing the Device. Turn off the MCB before the installation of Puck Module.
- Use only minimum 1.5mm² wires and maximum 2.5mm² wires for connections.
- Strictly follow the wiring diagram for connections. If there are signs of water seeping into the Switch Box, disconnect the power supply to avoid short circuits.

Warranty

Standard Warranty of 24 months from the date of supply is applicable for all product

The Warranty shall not cover:

- Mechanical damages caused by impact, falling or dropping the Device or their object, unauthorised use or not observing the Operation Manual.
- Damages resulting from external causes, for example, flood, storm, fire, lightning, natural disasters.
- Damages resulting from surges in the 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.
- Damages resulting from the use of spurious spare parts or accessories improper for given model, repairing and introducing alterations by unauthorised persons.
- Defects caused by operating devices or inoperable accessories.



For any technical and support queries,
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