



## USER MANUAL

# KERC2102-W

DIN Rail Controllers

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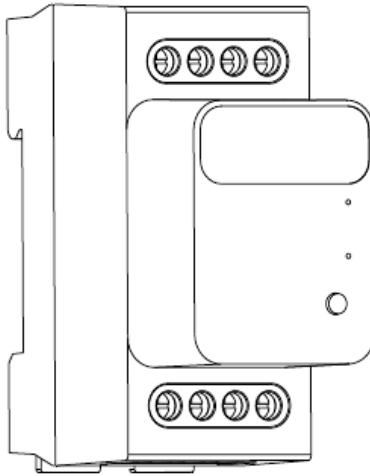
Manufacturer: KONSTRUCTHOR ALL S.R.L., Str. Teleorman nr. 53A, ap. 2, 400573 Cluj-Napoca, Cluj County, Romania

Read this manual before installation and keep it. Version v3, October 2026.

## Overview

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The KERC2102-W is a 2-channel DIN rail controller with phase outputs (L1, L2) and two inputs (S1, S2) for wired switches, in addition to wireless and app control. It controls lighting circuits or other loads from KINETIC ENERGY switches (wireless, battery-free) and from the Tuya Smart / Smart Life app.



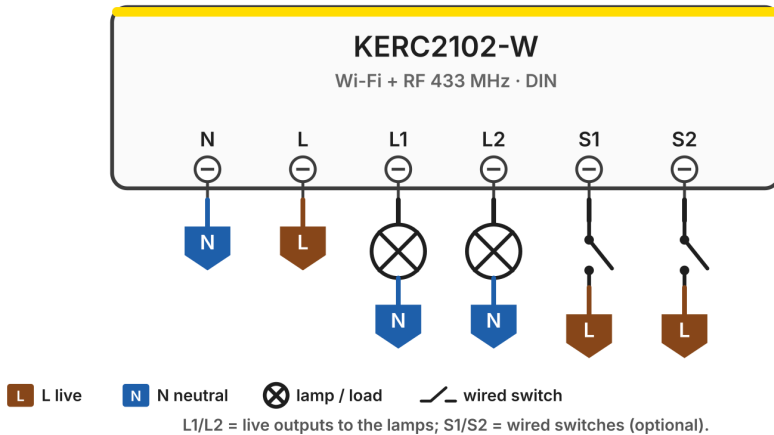
Pairing button and LEDs LED1 and LED2

# Specifications

| Parameter                     | KERC2102-W                                     |
|-------------------------------|------------------------------------------------|
| Supply voltage                | 100–240 V AC, 50/60 Hz                         |
| Number of channels            | 2                                              |
| Output type                   | phase output L1, L2                            |
| Rated current                 | 2 × 10 A                                       |
| Maximum power per channel     | LED 1000 W; resistive 2200 W                   |
| Communication                 | RF 433 MHz + Wi-Fi 2.4 GHz (IEEE 802.11 b/g/n) |
| App                           | Tuya Smart / Smart Life                        |
| Inputs for wired switch       | 2 (S1, S2)                                     |
| KINETIC ENERGY buttons stored | up to 10 per channel                           |
| Receiver sensitivity          | -110 dBm                                       |
| Operating range               | up to 80 m outdoors / 25 m indoors             |
| Operating temperature         | -20...+55 °C                                   |
| Mounting                      | DIN rail                                       |
| Protection rating             | IP20                                           |
| Dimensions                    | –                                              |

Note: Operating ranges are laboratory values. In practice they depend on the building (walls, reinforcement, metal panels).

## Connection



Wiring diagram — KEREC2102-W

Installation must be carried out only by a qualified electrician, with the power disconnected at the circuit breaker. Follow the L (phase) and N (neutral) symbols on the housing.

Terminals: L – phase input, N – neutral, L1 – circuit 1 output, L2 – circuit 2 output, S1 – wired switch 1 input, S2 – wired switch 2 input.

1. Disconnect the power at the circuit breaker.
2. Mount the controller on the DIN rail.
3. Connect the phase to terminal L and the neutral to terminal N.
4. Connect lamp 1 to L1 and lamp 2 to L2; the lamp neutral goes to neutral.
5. If you use wired switches, connect them to S1 and S2, as shown in the diagram.

## Pairing with KINETIC ENERGY switches

You can pair one KINETIC ENERGY switch with any number of controllers. You can pair with any rocker of a single, double or triple switch.

### Standard pairing

1. Power the controller.
2. Press the pairing button briefly twice to select the output channel (L1 or L2).
3. Press and hold the pairing button for approximately 3 seconds, until the indicator blinks slowly. Release the button.

4. Press the selected rocker of the KINETIC ENERGY switch once.
5. The indicator goes out: pairing succeeded. Each channel stores up to 10 rockers.

After pairing, the switch controls that channel. With no load connected, the channel state is shown by its indicator.

### **Directional pairing**

Directional pairing separates switching on from switching off: one rocker switches on, the other switches off. This way, several controllers controlled by the same switch always stay in the same state. It works only with rocker switches and with 2-gang or 6-gang switches.

1. Power the controller.
2. Press and hold the pairing button for approximately 3 seconds, until the indicator blinks. Release the button.
3. For a rocker switch: press once at the top and once at the bottom, within a maximum of 0.5 seconds.
4. For a switch with rockers: press any rocker 4 times quickly, within a maximum of 1 second.
5. The indicator goes out: pairing succeeded.
6. Rocker switch: press the bottom to switch on and the top to switch off. Switch with rockers: the left rocker switches off, the right rocker switches on.

### **Pairing from the app**

1. Open the controller page in the Tuya Smart / Smart Life app and tap "Pairing" → "Start Pairing".
2. When the app shows "waiting for pairing", press the rocker of the KINETIC ENERGY switch. For directional pairing, press it 4 times, within a maximum of 1 second.
3. The app shows "Pairing succeeded".

### **Pairing from the wired switch**

1. Within the first 2 minutes after the controller is powered, press the wired switch 5 times, within a maximum of 2 seconds.
2. The indicator starts to blink: the controller is in pairing mode.
3. Press the rocker of the KINETIC ENERGY switch once (4 times, within a maximum of 1 second, for directional pairing).
4. The indicator stops blinking: pairing succeeded.

Note: More than 2 minutes after power-up, pairing mode can no longer be activated from the wired switch.

## Clearing pairings

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1. Press and hold the pairing button for approximately 12 seconds.
2. The indicator blinks quickly, stays on, then goes out. Release the button.
3. From the app: controller page → "Pairing" → "Clear Pairing", then select the channel. The app shows "Clearing Successful".

To use the controller again, pair it again.

## Tuya Smart / Smart Life app

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Use a 2.4 GHz Wi-Fi network; 5 GHz networks are not supported. The phone must be connected to the same network.

1. Install the Tuya Smart or Smart Life app and create an account.
2. Power the controller and check that the red indicator blinks quickly (2 times per second). This is EZ mode.
3. If the indicator does not blink quickly: press and hold the pairing button for approximately 10 seconds. The indicator changes from slow blinking to fast blinking, then stays on. Release the button. After a few seconds the indicator blinks quickly.
4. In the app, tap "+" → "Add Device". The app detects the controller automatically (it appears as a Wi-Fi switch). Confirm.
5. Enter the Wi-Fi network name and password and follow the steps in the app.
6. After adding the device in the app, the controller appears in the device list. You can control it from anywhere and use it in scenes and automations.

Keep the phone, controller and router as close together as possible while adding the device (under 5 m). If you change the router or the Wi-Fi password, repeat from step 2.

### AP mode

If adding in EZ mode fails, use AP mode.

1. With the controller in EZ mode, press and hold the button for approximately 10 seconds, until the indicator stays on. Release the button.
2. The indicator blinks slowly and goes out once every 2 seconds: the controller is in AP mode.
3. In the app, tap "+" → "Add Device", select the detected controller and enter the Wi-Fi password.
4. In the top right corner of the page, change the mode from "EZ Mode" to "AP Mode" and follow the steps in the app.
5. To return to EZ mode, press and hold the button for approximately 10 seconds, until the indicator blinks quickly, then stays on. Release the button.

## Removing from the network

- From the app: controller page → "Remove Device".
- From the button: press and hold the button for approximately 10 seconds, until the indicator changes from blinking to steady on, then release. LED1 blinks quickly and the controller is removed from the app.
- From the wired switch (push button (momentary) only): within the first 2 minutes after power-up, press and hold the wired switch for 15 seconds. The lamp state reverses, which confirms the removal. Then you can add the controller to the app again.

## Amazon Alexa and Google Home

1. Rename the controller (or the channels) in the app with easy-to-pronounce names, for example "bedroom light".
2. In the Amazon Alexa or Google Home app, add the "Smart Life" skill and sign in with the account from the Tuya Smart / Smart Life app.
3. Let the assistant discover the devices.
4. Give a voice command, for example: "Alexa, turn on the bedroom light".

## Wired switch

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The controller detects the type of switch wired to S1/S2 automatically: push button (momentary) or rocker switch.

1. After powering and wiring correctly, press the wired switch once. The controller stores its type.
2. Do not press several times and do not hold: the type would be stored incorrectly.
3. If the type was stored incorrectly, switch off the controller power, switch it on again and repeat step 1.

## Repeater mode (bridge)

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Repeater mode (bridge) helps when the switch is far from one of the controllers, or when the signal passes through many walls, in a setup with one switch and several controllers. A controller with repeater mode active retransmits the commands it receives to the other controllers.

1. Pair the switch with all controllers using directional pairing.
2. Choose the controller closest to the switch.
3. Press and hold its button for approximately 7 seconds. LED1 changes from slow blinking to fast blinking (2 times per second).

4. Release the button while LED1 blinks quickly.
5. The indicator blinks once every 2 seconds: repeater mode is active.
6. To deactivate, repeat steps 3–4.

## Troubleshooting

| Problem                                                    | What to do                                                                                                                                                                                                                                                      |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The controller does not connect to Wi-Fi                   | Check that the indicator blinks quickly (2 times per second) before adding the device. If not, follow step 3 in the app section. Use a 2.4 GHz network, with a name without special characters. Keep the phone, controller and router within 5 m of each other. |
| The controller appears offline from time to time           | The router has probably reached its maximum number of connected devices (around 15 on typical routers). Disconnect devices you do not need or use a higher-performance router.                                                                                  |
| The indicator does not light up when the button is pressed | Check the power supply and the L/N wiring. A load above the rated current or a short circuit can damage the controller.                                                                                                                                         |
| The LED lamp glows faintly when off                        | Check that the phase (L), not the neutral (N), passes through the channel contact.                                                                                                                                                                              |
| The wired switch controls incorrectly                      | The switch type was stored incorrectly. Switch the power off and on, then press the switch once.                                                                                                                                                                |

# Safety instructions

- Installation must be carried out only by a qualified electrician, with the circuit switched off at the circuit breaker.
- For indoor use in dry rooms only, installed in a wall box, false ceiling or distribution board, out of direct reach.
- Do not exceed the maximum load in the specifications. For motors, transformers or other inductive loads, check compatibility before installation.
- Do not modify the product and do not use it if it is damaged.
- The product contains a radio transmitter. Metal enclosures and metal distribution boards reduce the operating range.

# Compliance and legal information

## Manufacturer

KONSTRUCTHOR ALL S.R.L. · Str. Teleorman nr. 53A, ap. 2, 400573 Cluj-Napoca, Cluj County, Romania. Phone +40 765 999 915 · office@konstructhor.ro · www.kinetic-energy.eu.

## Simplified EU declaration of conformity

Hereby, KONSTRUCTHOR ALL S.R.L. declares that the radio equipment type KERC2102-W is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.kinetic-energy.ro/declaratie-de-conformitate](http://www.kinetic-energy.ro/declaratie-de-conformitate)

## Frequency bands and maximum radio-frequency power transmitted

| Model      | Frequency band         | Maximum power transmitted                             |
|------------|------------------------|-------------------------------------------------------|
| KERC2102-W | 433 MHz; Wi-Fi 2.4 GHz | 4.00 dBm e.r.p. (2.51 mW); 18.93 dBm e.i.r.p. (78 mW) |

There are no geographical restrictions on putting into service in the EU Member States.

## Waste electrical and electronic equipment (WEEE)



The crossed-out wheeled bin symbol means that the product must not be disposed of with household waste. At the end of its life, take it to a collection point for electrical and electronic equipment or return it to the shop where you bought it. Batteries must be taken separately to a collection point for used batteries.

## Warranty

For consumers, the seller is liable for any lack of conformity that exists at delivery and becomes apparent within two years of delivery (Directive (EU) 2019/771; in Romania, Government Emergency Ordinance no. 140/2021). Defects caused solely by incorrect installation, overload, moisture or unauthorised work are not covered. Keep your invoice.

KINETIC ENERGY is a registered trademark. Up-to-date manual and declaration of conformity: [www.kinetic-energy.eu](http://www.kinetic-energy.eu). Manual version: v3, October 2026.