

# Inline Relay (500W)

Model No. LW821

## Instruction Manual



Connect Series

[www.lightwaverf.house](http://www.lightwaverf.house)

# EC DECLARATION OF CONFORMITY

**Responsible Authority:**

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**Model Number(s):**

JSJSLW821

**Description:**

Inline Relay

**Directives this equipment**

**Complies with:**

2006/95/EC The Low Voltage Directive N/A  
2004/108/EEC The Electromagnetic Compatibility Directive  
1999/5/EC R&TTE Directive  
93/68/EEC CE Marking Directive

**Standards Applied in order to verify compliance**

Safety: BS EN 60730-1: 2011

**Health:**

R&TTE: EN 301 489-1 V1.9.2: (2011-09), EN 301 489-3 V1.4.1: (2002-08)  
EN 300 220-1 V2.1.1: 2006, EN 300 220-2 V2.1.2: 2007  
EMC: EN 301 489-1 V1.9.2: (2011-09), EN 301 489-3 V1.4.1: (2002-08),  
EN 55022: 2010, EN 61000-3-2: 2006 +A1: 2009 +A2: 2009 Class A,  
EN 61000-3-3: 2008, EN61000-4-2: 2009,  
EN 61000-4-3: 2006 +A1: 2008 +A2: 2010, EN 61000-4-4: 2012,  
EN 61000-4-5: 2006, EN 61000-4-6: 2009, EN 61000-4-11: 2004

For and on behalf of LightwaveRF PLC

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Name  
Position

J Shermer  
Managing Director



## How do I get started?

Please refer to the following installation and setup instructions that will guide you through the installation and setup process.



## What do I need?

The relay is designed to remotely turn on/off lighting or power circuits (max 500W) or to control door, window or curtain openers. You must understand how your devices need to be wired and how to safely turn off the electricity supply. You will also need suitable electrical screwdrivers.

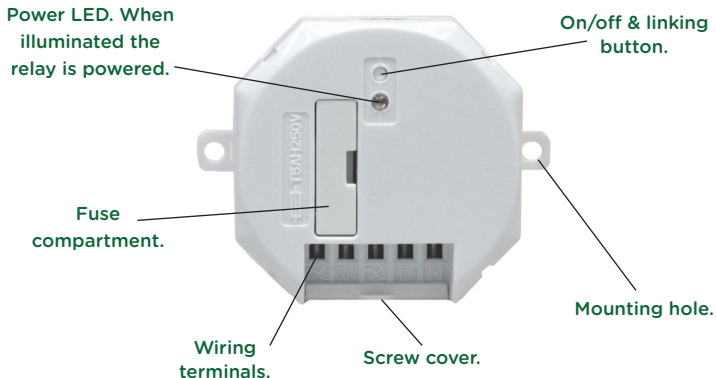


## Help video & further guidance

For additional guidance, and to watch a video that will help guide you through the installation process, please visit the support section on [www.lightwaverf.com](http://www.lightwaverf.com)

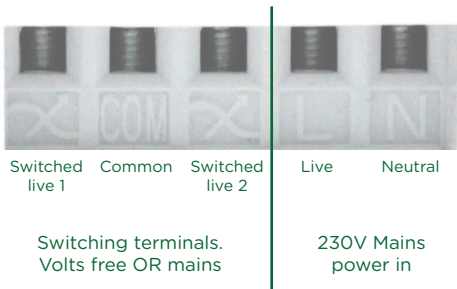


## Overview



**IMPORTANT:** All LightwaveRF products can be legally DIY installed in your own home; however, if in doubt, always consult a qualified electrician or heating engineer. It is important to install this product in accordance with the following instructions. Failure to do so may void your warranty.

## Wiring terminals



The Inline relay requires mains power to operate. It can be used to provide up to 500W of mains powered switching OR separate volts free switching for circuits not requiring additional mains power. The relay latches between three positions: switched live 1, switched live 2 and a neutral position (not connected).

**IMPORTANT:** The Inline relay is not designed to be left exposed once it is installed, as live mains wiring is connected to the terminals. Ensure that the device is mounted securely in a suitable housing. If conducting an insulation resistance test, all LightwaveRF products **must** be disconnected from the mains, or damage will occur.

## Wiring the relay

**1. IMPORTANT:** Turn off the mains electrical supply.

**2.** Connect the live and neutral terminals, as shown in the diagram, to provide power to the relay. When the green LED is illuminated, the relay is connected to mains power.

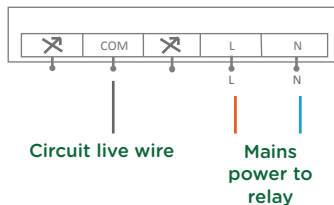
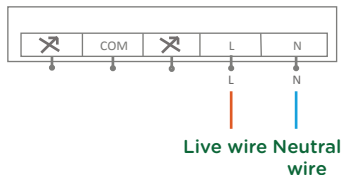
**NOTE:** Even if switching a low voltage or non-mains circuit, the relay must always have mains power connected to the live and neutral terminals for it to be able to function.

### Connecting to a circuit volts free

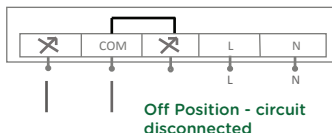
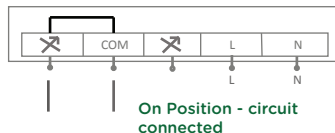
Use this configuration to switch one or two circuits that do not require mains power to be provided from the live and

**1.** Connect the incoming 'live' wire from the low voltage circuit to the common (com) terminal as shown in the diagram.

Relay terminals



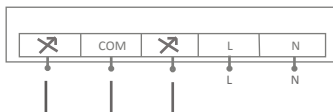
The relay now has 2 positions - 'on' and 'off'. The diagrams below show the on and off positions if a live were to be connected to the common and load to the leftmost load terminal.



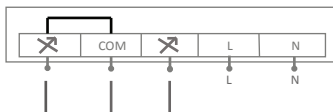
**IMPORTANT:** When the relay is operated remotely via RF, it is always the lefthand load terminal that will be connected when the 'on' button is pressed. Therefore, if the circuit is wired as shown, pressing 'on' using an RF remote will turn on the circuit, and 'off' will disconnect it.

## Switching between two Circuits

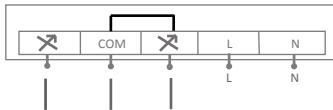
If a second load wire connected to another circuit is attached to the second switched live terminal (see diagram), the relay can be used to switch between two circuits. In addition to the on and off positions, there is also a 'stop' position which breaks contact with both of the right and lefthand circuits.



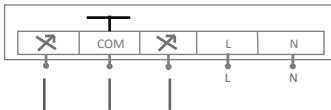
Circuit switched live 1 (to device)  
Circuit live wire  
Circuit switched live 2 (to device)



Position 1 - circuit 1 connected



Position 2 - circuit 2 connected



Stop Position (no circuit connected)



**NOTE:** A standard handheld or other LightwaveRF remote control will only be able to utilise the 'on' and 'off' commands to switch between circuits but NOT use the stop command, as it does not include this function.

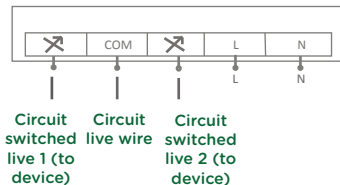
To operate the stop command you will need a LightwaveRF 'On/Off/Stop Switch' which includes 'on/off' (open/close) and 'stop' commands OR the LightwaveRF App (requires Lightwave Link).

If you are using the App, you must select the device as 'open/close' during linking process (see in-app help). This will give you the 'stop' command as well as on/off (open/close) when you come to operate the device from the smartphone.

## **Curtains, Blinds and Doors**

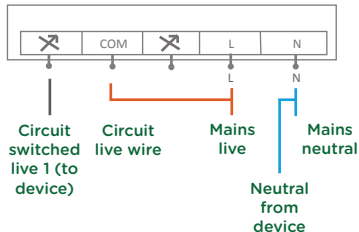
Because of the 'stop' command feature, the relay can be used to operate a device that requires an on/off (or open/close) function AND a stop (or pause) function, such as blinds, curtains and doors.

In this case, as before, the incoming live wire will be connected to the 'com' terminal, and there will be two separate outgoing 'load' wires each connected to the separate switched live (or load) terminals (see diagram on the next page).



**NOTE:** Because of the extra 'stop' command, a LightwaveRF 'On /off/stop Switch' or the LightwaveRF App and Lightwave Link will be required to operate this setup.

## Connecting the Inline Relay to a circuit requiring mains power



If the relay is being used to control (interrupt) a mains powered circuit (max 500W load), then power must be taken from the relay's main live terminal via a jumper connection to the common terminal (see diagram).

The neutral terminal must now also accommodate an incoming and outgoing connection to the mains circuit.

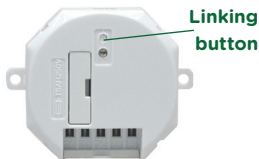
## Linking the relay to the App / controllers

**NOTE:** This procedure applies to the LightwaveRF Smartphone and Web App and all LightwaveRF controllers (e.g. Handheld Remote or Mood Controller).

LightwaveRF relays each have **6 unique memory slots** which means they can link with up to 6 LightwaveRF controllers in total. If you are using a smartphone/tablet/PC to control the relay via the Lightwave Link, this will always count as **ONE** controller and take up one memory slot even if you are using multiple smartphones/tablets.

**1.** On the relay, press and hold down the linking button until the LED flashes then release it. The relay is now in **linking mode**.

**2.** Using the LightwaveRF Smartphone App, press the 'connect' button (the App instructions will guide you through this). If using another controller press the button that you intend to link. The blue light on the relay will flash more quickly to confirm that the App/controller is now linked.



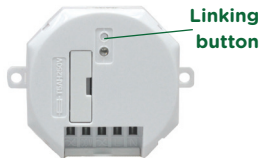
**NOTE: Linking mode** lasts for 12 seconds; if no signal is received from a controller during this time then the socket will automatically exit linking mode without linking the device.

If, when expecting a quick flashing LED to confirm pairing, a slow flash is received instead, then the relay memory is FULL and no further remotes may be linked with it unless one of the existing remotes is unpaired first (see below).

### Unlinking controllers and clearing the Inline Relay memory

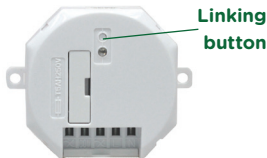
Removing a single device:

1. On the relay, press and hold down the linking button until the LED flashes alternately, and then release it. That relay is now in **linking mode**.
2. Using a LightwaveRF controller, Smartphone or Web App, press the button intended to be unlinked; the LED light on the relay will flash to confirm that the App/controller is now unlinked.



Clearing the memory (will remove any linked App or Controllers):

**1.** On the relay, press and hold down the linking button until the LED flashes, and then release it. That relay is now in **linking mode**.



**2.** Press and hold down the linking button again until the LED flashes more quickly, then tap (don't hold) the linking button a further time; the LED will flash slowly to confirm that the memory has been cleared.

**NOTE:** Reliable range of remote operation is around 15 metres indoors and up to 100m outdoors using the Lightwave Link. This figure may vary depending upon the environment; very thick walls, bodies of water or large metal objects may interfere with radio range.

If the distance between the transmitter and receiver is too great to achieve reliable operation, the LightwaveRF Signal Booster may be used in conjunction with this product to increase the range.

**IMPORTANT:** Inline relays should not be positioned within 30cm of one another, as their transmission signals may interfere and reduce the effective operational range.

## Remote operation

### Control with the LightwaveRF App or On/off/stop Switch

1. Press the 'on'/'open' button on the transmitter to turn the circuit on or switch between circuits.
2. Press the 'off'/'close' button on the transmitter to turn the circuit off or switch between circuits.
3. Press the 'stop' button to disconnect both circuits and cut power to connected devices.



### Control using an on/off transmitter such as the handheld remote

1. Press the 'on' button on the transmitter to turn the circuit on or switch between circuits.
2. Press the 'off' button on the transmitter to turn the circuit off or to switch between circuits.



## Specification

**RF frequency:** 433.92 MHz

**Input rating:** 220-240V~ 50Hz.

**Output rating:** 500W Max.

**Dimensions:** Width 68mm, Height 52mm, Depth 27mm

**Standby Energy Use:** Less than 1W

**Warranty:** 2 year standard warranty



Lightw<sup>RF</sup>ve Electric



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