



## 3-Channel Remote Light Controller – RLC-901

### Overview

The ABELtronics RLC-901 is a 3-channel remote light controller capable of controlling three separate channels of mains lighting from up to 150m away. The device includes two key-fob radio transmitters, each featuring three buttons. Outputs 1 and 2 feature a toggle action (press button once to turn the output on, press again to turn off) and output 3 features a timed output variable between one and four minutes.

- 3 output channels, two toggle action, one timed
- Range up to 150m transmitter to antenna
- Uses state-of-the-art 433MHz FM license exempt radio
- Secure code-hopping transmission protocol
- Controls up to 2400W of lighting
- 220V – 240V AC operating
- Remote hermetically sealed antenna can be located up to 50m away from main unit (requires satellite co-axial cable, not supplied)
- Can be used to control other mains loads

### Applications

- Driveway lighting
- Garage door opening
- Outside lighting
- Architectural or garden lighting

## Instructions for Use

The RLC-901 comes in two parts – the antenna unit and the main controller box.

### Antenna Unit

The antenna unit is designed to be mounted outside and should be positioned such as to give a clear line of sight to the desired transmission position. For example, if the RLC-901 is used to activate lights as you approach a driveway, ensure the antenna can be seen from the end of the driveway. This will achieve maximum range. The antenna unit is fully waterproof. Removing the lid of the unit will expose the fixing holes. Mount the antenna unit:

- In line of sight with transmitter
- At least 2m away from any metallic objects or other cables
- Avoid corners where two walls meet
- Ideal mounting is half-way between the ground and the gutter on a large exterior wall.

### Control Box

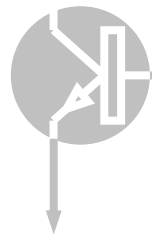
The control box is designed to be mounted indoors and is not suitable for mounting outside. Fixing holes need to be drilled in the corners of the enclosure after first removing the lid, as do 20mm holes for the supplied cable glands. These have been left undrilled to allow greater flexibility in installation. Extreme caution is required to prevent damage to the circuit board inside the unit.

There is a cable linking the main circuit board inside the unit with the lid. This must be plugged into the socket on the lid after the unit is fixed to the wall.

### Electrical Connections

Mains connections to the unit should be made using suitably rated twin and earth cable. The power input connects to L and N 'in', as marked on the board inside the control box, for live and neutral connections respectively. Outputs 1, 2 and 3 are similarly marked. The earth connections for all mains cables must be insulated with earth sleeve and connected to the supplied earth terminal.

The Antenna Unit and Control Box can be mounted up to 50m away from each other and are connected together with ordinary double-shielded 75Ω co-axial satellite cable (not supplied). Each end of the cable can be terminated with the supplied 'F' connectors. Maximum cable length is 50m. For a cable length of 5m, attainable range is in excess of 150m. An insulating boot is provided for the 'F' connector at each end of the antenna cable.



## Transmitter Operation

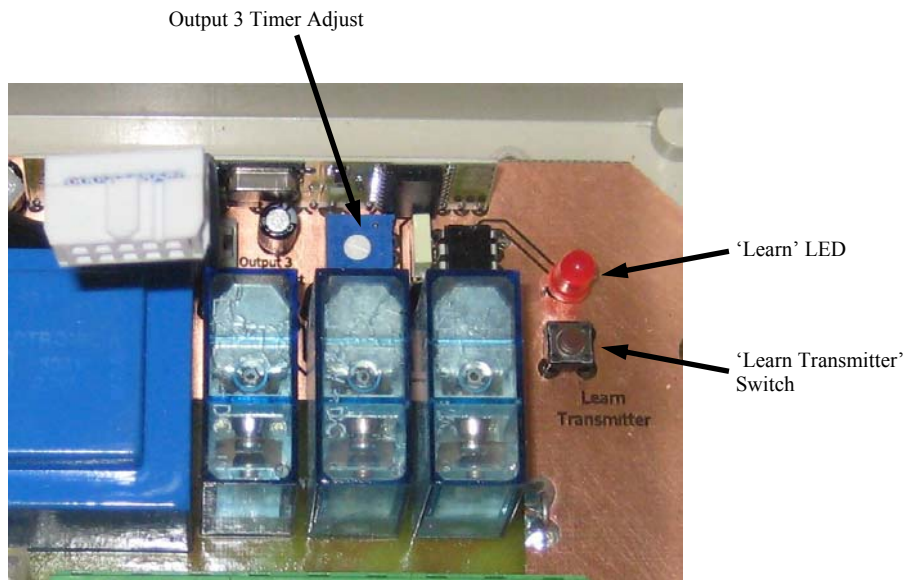
The key-fob style radio transmitters control the three outputs in the following fashion:

Triangular button:	Output 1
Circular button:	Output 2
Red Button:	Output 3 (Timed)

Outputs 1 and 2 are toggle action, i.e. one press of the transmitter button to turn the output on, press again to turn off. Output 3 is timed for between 1-4 minutes: Press the red button once, the output stays on for the pre-determined time. Pressing the red button again while the output is on has no effect – it does not turn the output off.

## Output 3 Timer

The on-duration of output 3 can be varied between 1 and 4 minutes by adjusting the 'Output 3 Timer Adjust' as indicated below. Use a small flat-head screwdriver to adjust the trimmer: Fully anti-clockwise for 1 minute delay, fully clockwise for 4 minutes.



## Transmitter Learning

The RLC-901 is supplied with two transmitter key-fobs, but more key-fobs can be purchased to operate the unit. The RLC-901 is capable of learning up to 50 different transmitters. The RLC-901 uses a sophisticated and highly secure 'code-hopping' radio transmission protocol to ensure the radio signal cannot be 'grabbed' preventing third-parties operating the unit. For this reason, additional transmitters will need to be taught to the Control Box. To provide extra security, in the event of a lost transmitter for example, the receiver's memory can be completely erased of all the transmitters previously taught to it, preventing a lost transmitter operating the system.

To learn a new transmitter:

1. Briefly press the 'Learn Transmitter' Switch (shown above)
2. 'Learn' LED will illuminate.
3. Press one of the buttons on the transmitter once, 'Learn' LED will extinguish.
4. Press one of the buttons on the transmitter again, 'Learn' LED will flash for 10 seconds.
5. Wait for Learn LED to stop flashing.
6. This transmitter will now operate the system.

To Erase the receiver's memory:

1. Press and hold 'Learn Transmitter' switch for 10 seconds.
2. Release the 'Learn Transmitter' switch and the LED flashes while the module erases its memory.
3. All remaining transmitters will need to be re-taught to the receiver after the erase is complete.



## Specifications

Parameter	Value	Comment
Operating Voltage	220 – 240V AC	
Max Total Switching Current	10A	Sum of each channel's current
Max Total Switching Power	2400W	Sum of each channel's power
Transmission Frequency	433MHz FM	MPT1340-WT Licence Exempt
Transmission Range	<150m	Line of sight

## Spare Parts

Part	Part Number
Key-fob Transmitter	120T3-433F
Antenna Box	RLC-901-A
Control Box PCB	RLC-901-CPCB
M20 Grey Cable Gland	PG20-G