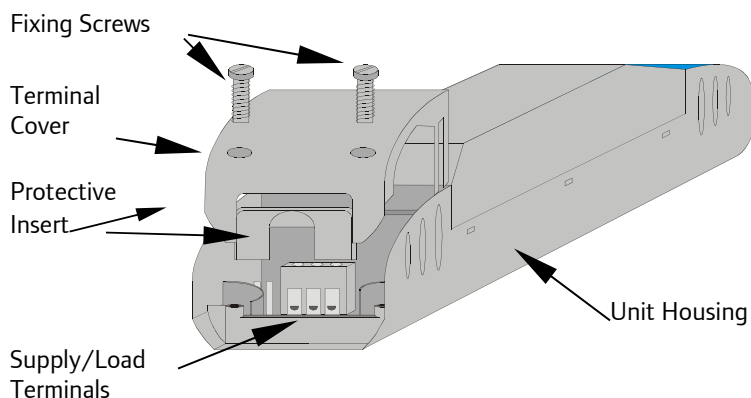


# Curtain and Blind Motor Control Unit - RACUB2L Installation, Programming and Operating Instructions.

## General

Rako RACUB2L curtain and blind control units are designed to control motors requiring two selectable live feeds for direction. For other motor types the RACUB control unit is available – contact Rako for queries regarding compatibility. The units are controlled using single or 8 channel switches and/or transmitters. The wall switches and hand-held controllers communicate with the modules using coded FM radio control signals.



**Fig 1.**  
**Front View of Components**

## Installation

**Before commencing installation of a Rako unit first read this instruction manual carefully.**

**Rako Ltd accepts no responsibility for any damage or injury caused by incorrect installation of a Rako product.**

**Installation should only be carried out by a competent electrician.**

**Never attempt to connect a Rako unit or remove the terminal covers without first isolating the circuit at the fuse/MCB board.**

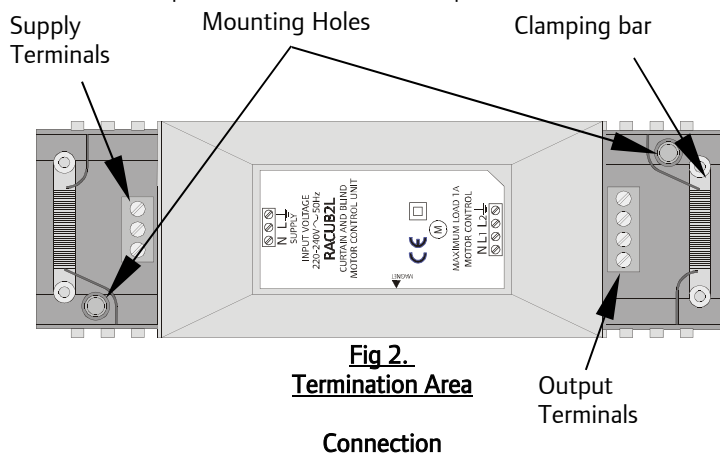
**The circuit supplying a Rako unit should always be protected by either a 5A fuse or 6A MCB. Under no circumstances should any protection devices with higher ratings be used.**

Rako units should be mounted in areas that are adequately ventilated, dry and outside of any enclosed metal casings. Wherever possible the units should be securely fixed using the mounting holes provided. The mounting holes are blanked off when supplied but are designed so that a woodscrew will easily cut through without the need for drilling.

Whilst the units are designed to be completely maintenance free the units should be mounted in a position where access can be gained should there be a fault or re-addressing of the unit be necessary.

## Permissible loadings.

The maximum permissible load current is 1A per module.



**Fig 2.**  
**Termination Area**  
**Connection**

To ensure that the cable clamping operates satisfactorily the cabling both supplying the unit and to the blind/track should be a minimum of 0.5mm<sup>2</sup> with double safety insulation and the wires should be stripped to ensure that the cable bar within the terminal cover clamps firmly on both sets of insulation.

To install a Rako RACUB2L unit isolate the supply then remove the Terminal Covers (see Fig.1) giving access to the supply/load terminals. The necessary connections are indicated on the label on the unit housing. The notation is as follows:

- L – Live wire from the supply (normally coloured Brown)
- N – Neutral (normally coloured Blue)
- L1 – Live feed to motor (normally coloured brown)
- L2 – Second live feed to motor (normally coloured black)
- ⊥ – Earth (normally coloured Green/Yellow)

Once the supply and load cables are connected ensure that the terminal covers are replaced and securely fastened, clamping the cable correctly as detailed above, before powering the unit.

Rako units are not designed for loop in/loop out connections. Should it be necessary to loop the supply on to further fittings then a junction box should be connected in circuit to facilitate this.

With the supply and load connected and prior to switching on the supply ensure that the terminal covers are fitted and that they are securely clamping the cables. It is important to ensure that the protective inserts (see Fig.1) are fitted and located securely, both in the terminal cover and over the supply and load cables. The protective inserts provide important protection against the risk of electric shock from conductive objects forced down the side of the cables.

## Set-up and Addressing

To avoid interference between adjacent rooms of a house and neighbouring houses as well as allowing individual control of separate curtains/blinds within a room Rako radio units employ a structured addressing system.

Rako radio units use a structure based on house, room and channel addresses. Using the two banks of DIL switches on the back of a wall switch or hand held transmitter (see Fig.3) a House address can be selected from one of up to 255 possible addresses and a Room address from one of up to 255 possible addresses.

### Note

**House 0 is not a valid address and Room 0 is a special address which gives overall control for a whole house. Room 0 should not be selected as a Room address without careful thought regarding the application.**

Setting an address is the way in which interference between other Radio Controlled Rako units, either with other rooms within your house or neighbouring houses is avoided. It should be remembered that a Rako transmitter may have a range of over 100m.

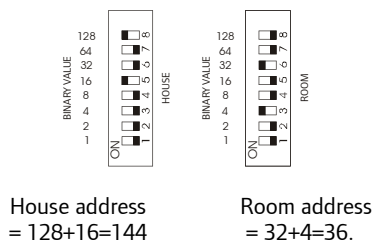
Rako controllers come set with a default address of House 1, Room 4, Channel 1 and whilst the unit will function with this address it is strongly advised that a specific and logical address for both House and Room be selected.

Units can be given channel addresses from 1-8 allowing control from an 8 channel wall mounted switch or transmitter.

Some advanced grouping arrangements are possible allowing banks of units to be controlled as groups within a room. Systems with advanced programming need to be factory set. For more details contact Rako

### Setting an Address

Each Rako transmitter has two, 8 way banks of switches for setting its address. The two sets of switches allow the user to choose from 255 house addresses and 255 room addresses. To set the address, remove the rear cover (refer to controller manual for details), whereupon the banks of switches will be now become visible. To set an address, use a small terminal screwdriver or similar device and carefully move some of the switches into the 'ON' position. Addressing uses binary encoding and the value of the switches is shown below.



**Fig 3.**  
**Addressing Switches**

Once the addresses have been set it is strongly recommended to keep a note of the settings and to keep these in safe place. Whilst it is easy to set the addresses, those of the receiver units are normally only set once. To do so requires access to the units and once set these may be installed in inaccessible positions. If, therefore the wall-switch address get changed for any reason and the original settings cannot be remembered then access to the receiver units will be needed for reconfiguration.

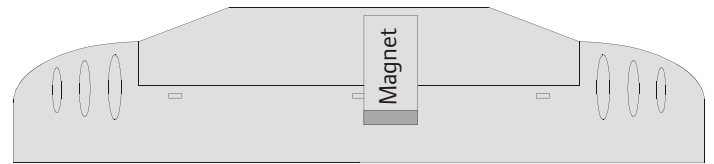
### Setting receiver addresses.

Once a House and Room number have been selected on a wall switch or transmitter these need to be transmitted to each receiving module along with a valid channel number. This is done by one of two methods using a Rako wall switch or transmitter. The method varies depending on whether an 8 or single channel version is being used.

### Note

When addressing from a single channel version only channel one can be set. If a single channel controller is being used in the same room as an 8 channel version then it is strongly advised to program using the 8 channel controller.

To send an address to a receiver unit, the unit needs to be put into receive mode. To do this hold the magnet provided against the side casing in the position indicated by the label and as shown below.



**Fig 4. Set-up Magnet Positioning**

Once the magnet is in the correct position an internal LED will illuminate. If the magnet is held in position for approximately 5 seconds the LED will start to flash, this flashing indicates that the unit is ready to receive an address from a transmitter.

### Sending address from an 8 channel wall switch/transmitter

From either a Rako 8 channel wall switch / transmitter (both are functionally identical) press the appropriate channel button with the LED flashing. To send Channel addresses 1-4, select the channel by pressing the appropriate channel button and then send the command by pressing the Open button. This action automatically sends the House, Room and selected Channel address. To select addresses 5-8 the 'All' button needs to be pressed (to shift the pad into 5-8 mode) and then send by pressing the Open button. As soon as the receiver gets a valid address it automatically drops out of set-up mode.

### Note

If a receiving unit, in set-up mode, does not receive a valid address within 3 minutes the receiver will automatically drop out of set-up mode.

### Sending address from a single channel transmitter

From either a Rako single channel wall switch or hand-held transmitter (both are functionally identical) press and hold both buttons for 5 seconds. After 5 seconds the unit will automatically send a channel 1 address. The red LED on the transmitter will flash to confirm that this has been sent. As soon as the receiver gets a valid address it automatically drops out of set-up mode.

### Reversing and Pulsing Motor Command

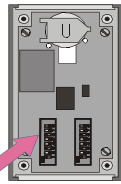
To Reverse Motor Commands See Motor Instructions. Should the motor require pulsing action, the control unit needs to be pre-set by Rako

**Setting an address from a single channel controller**

**Setting an address from an 8 channel controller**

Step 1

Set address switches on controller



Step 2



Hold magnet against casing until LED illuminates

Step 3

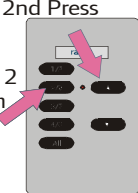


Remove magnet when LED starts to flash  
Module is now in set-up mode

Step 4

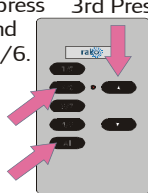
To send Channel 2 address, press button 2. Then Open to confirm

1st Press



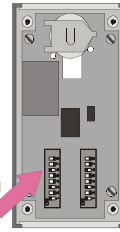
To send Channel 6 address, first press 'All' button and then button 2/6. Then Open to confirm

2nd Press  
1st Press

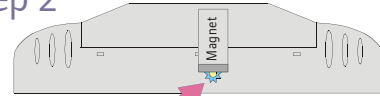


Step 1

Set address switches on controller

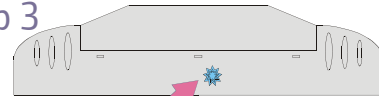


Step 2



Hold magnet against casing until LED illuminates

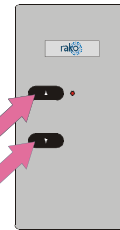
Step 3



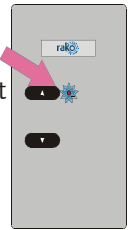
Remove magnet when LED starts to flash  
Module is now in set-up mode

Step 4

Press and hold both buttons for 5 seconds



LED flashes to confirm address command is sent



**Operation**

**8 Channel Transmitters**

To control a Rako curtain/blind unit from a transmitter select the channel to be controlled by pressing the appropriate button and then pressing either the open or close buttons. To control channels 5-8 then use the 'All' button to shift the button pad so that pressing button 1/5 selects channel 5 and so on.  
To control all of the channels together press the 'All' button and then either the open or close buttons.

**Single Channel Transmitters**

2 button transmitters only allow simultaneous control of all channels in a room.

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