

Rako RDT-PILL Dimmer Modules – Installation, Programming and Operating Instructions.

The Rako RDT-PILL dimmer is a digital dimmer suitable for use with mains voltage tungsten and tungsten halogen lighting including GU10 downlights. It is not suitable for low voltage or any or any other transformer fed lighting types.

Note:

The RDT-Pill dimmer requires a minimum connected load of 60W to ensure stable operation.

Rako dimmer modules are designed to be installed in a lighting circuit and are controlled from Rako scene-sender panels transmitting Rako encoded radio signals.

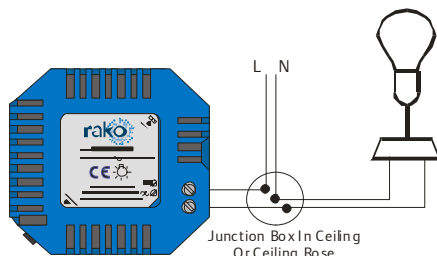


Fig 1.
Typical Wiring Detail

Installation

Before commencing installation of a Rako dimmer module first read this instruction manual carefully. Rako Controls 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 dimmer without first isolating the circuit at the fuse/MCB board.

The circuit supplying a Rako dimmer should always be protected by either a 5A fuse or 6A MCB.

Rako RDT-PILL dimmers are designed to be mounted in a wall mounted electrical back-box or conduit box. If a metal back box is used then the aerial should be mounted outside of the box, albeit into the fabric of the wall itself (see Fig 2)

If the dimmer module is not being mounted in a back-box then it should be somewhere accessible should any re-addressing or replacement ever be necessary.

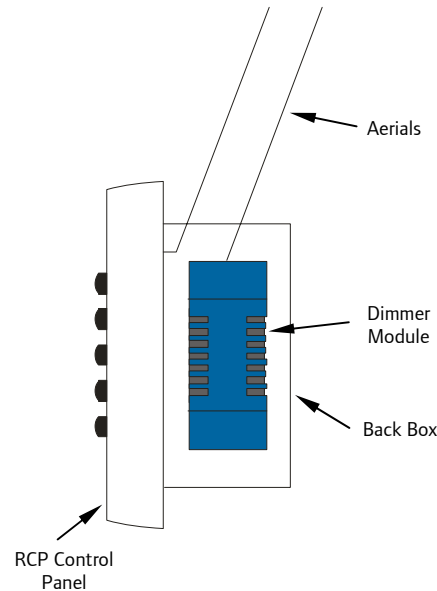


Fig 2.
Installaton Detail

Note:

The cabling both supplying the dimmer and to the load should be a minimum of 0.5mm²

The necessary connections are indicated on the label on the dimmer housing. The notation is as follows:

- L –Live wire from the supply
- ⊗ –Dimmed output to load

Auxiliary Contact

The auxiliary contacts allow a retractive volt-free switch to be connected to give a simple fade on/fade off/raise/lower operation without the need for a Rako Scene Sender panel or hand held.

Set-up and Addressing

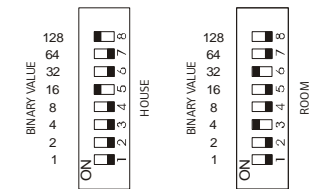
Before any lighting scenes can be programmed (see the wall panel or handheld instruction manual) the receivers need to be addressed.

To avoid interference between rooms or neighbouring installations a Rako system should be set to an address other than the factory default of House 1 Room 4. The preferred addressing method is to select a logical House address number for the project, separate Room addresses for rooms within the house and then sequential Channel numbers for each receiver within each room (see Fig.5). The House and Room addresses are set using the DIP switches on the back of a Rako controller (see Fig.4) and the Channel address is set by 'stepping' through the channel addresses with a panel in programming mode see 'Initial Addressing' overleaf.

Setting the address switches.

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 256 house addresses and 256 room addresses. To set the address, unclip the rear cover 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.

Note: Any control panels set with the same address will act as two or multi way controls.



House address
= 128+16=144

Room address
= 32+4=36.

Fig 3.
Addressing Switches

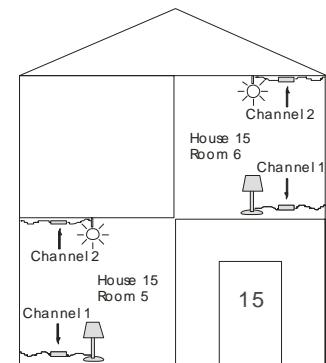


Fig 4.
Addressing Example

Notes on addressing.

A dimmer will not receive an address of House 0 (All switches set to off)

A dimmer will respond to, but not receive an address of Room 0 (All switches set to off). This Room 0 address is used for 'Master House' control

A dimmer cannot be set to channel 0.

To program a lighting scene see 'Programming a Lighting Scene'

Care and maintenance

A Rako dimmer module contains no user serviceable parts.

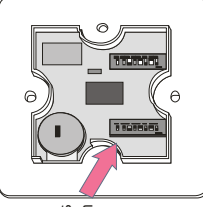
Should for any reason you need to contact us please contact us via our website www.rakocontrols.com or by phoning our customer help line on 0870-043-3905.

Initial Addressing of a Rako Receiver Module

In the following procedure both the controllers (wallpanels and hand held remotes) and the receivers have an automatic time out after approximately 3 minutes when in programming or set-up mode. This feature avoids the possibility of either being left permanently in programming or set-up mode. This may cause confusion if either the controller or receiver times out before the procedure is complete. It is worth becoming familiar with the procedures before starting the addressing procedure. If at any time it is necessary to start again the controllers can be returned to normal mode by pressing the 'Off' button and the receivers by resetting the electrical supply.

Note:

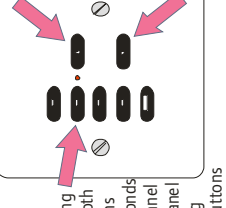
Step 1
Set address switches on controller



Pick an House address from 1-255 (keep same address for all panels in house)
Select Room addresses from 1-255 for each room (Room 0 is master house control)

Step 2
Put controller into programming mode by pressing and holding a scene button and both raise and lower buttons together. After 5 seconds the red LED on the panel starts to flash. The panel is now in programming mode. Release the buttons

TIP
Press the scene button first



Note:
A Rako panel will always enter programming mode at Channel 0. It is not possible to give a receiver an address of Channel 0 but this gives a consistent starting point.

Note:
When in programming mode the buttons have functions as detailed in table 1.

TABLE 1

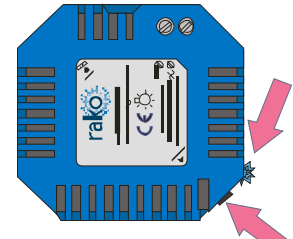
Button	Action
1	Step up one channel and ident
2	Step down one channel and ident
3	Ident
4	No action
Off	Exit programming

Step 3

Press button 1 once to step up one channel. If this is the desired channel i.e. Channel 1 (for the 1st receiver) then go to Step 4. If not, press button 1 again to step up to channel 2 (for the 2nd receiver), again to step to channel 3 etc, until the desired channel number is reached (maximum = 15). It is this channel number (along with the House and Room address) that is sent to the receiver in Step 5. If at any point it is necessary to step down a channel, press button 2 once.

Go to the receiver to be addressed

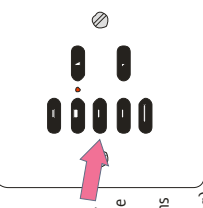
Step 4



Press the set-up button until the internal LED starts to flash. Module is now in set-up mode.
Note: If a receiver is already addressed to a controller (for example a receiver is addressed to the controller but with the wrong channel number) then the LED will be flashing as soon as the panel is put into programming mode. It will, however, still be possible to re-address the receiver as normal

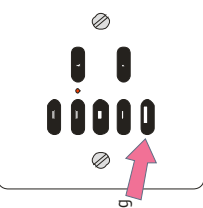
Step 5

Press button 3 to send the ident of the channel selected in step 3. Receiver automatically returns to normal mode (blue LED goes out) while controller remains in programming mode (red LED keeps flashing)



Step 6

Press Off button to exit controller from programming mode



Note
If some receivers are already addressed to a wall panel then they will 'flash' their connected lamps as their channel number is reached during the stepping procedure, this allows the user to 'identify' which channel numbers are already taken. To add a new receiver to an existing installation step up through the channels until a channel number is reached where no receiver flashes a load, this is then an available channel. If at any point there is uncertainty as to whether a receiver actually flashed its load then button 3 will flash the load but without stepping up or down a channel. If all of the loads flash then this indicates that the current address is Channel 0.

Note: If it is not possible to see the connected lamps flashing when stepping through the channels it is possible to tell from the LEDs in the receivers which will momentarily go solid when their channel address is reached.

Is the controller still in programming mode (red LED flashing)

NO

YES

Is there another receiver in the room to be addressed

NO

YES