Instruction Manual

WLED30CV4

Wired 4-Channel Constant Voltage Dimmer

2024
Version 2.2.0

For programming system programming information: Wired system setup guide.

For a general overview: Wired RAK application sheet.

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1 What is the WLED30CV4?

The WLED30CV4 is a 4-channel constant voltage dimmer used in a Rako Wired Network. The output channels can be controlled using 4 individual Rako Channels or the colour wheel in the Rako app.

The RJ11 port on the WLED30CV4 is used to connect to the Rako Wired Network, if it is not connected to one of the RAK-LINKs RJ11 ports, a WK-CONNECT is required.

2 Loadings

Voltage (MAX)	Wattage (MAX)
12VDC	30W per Channel
24VDC	60W per Channel

3 Installing the WLED30CV4

⚠WARNING

Installation should only be carried out by a competent electrician.
DO NOT CONNECT DIRECTLY TO THE MAINS SUPPLY.

- WLED30CV4 modules should be mounted in areas that are adequately ventilated, and dry.
- Modules should be mounted vertically, with the terminals at the bottom, or horizontally.
- While the modules are designed to be maintenance-free, they should be mounted in an accessible location should investigation or re-addressing of the units be necessary.
- Ensure that the cable clamps are fitted tightly to secure the cables.
- The unit input voltage is 12V or 24V DC, and the power supply must be adequately rated for the connected load.

STEP 1		Remove the covers and cable clamps.
STEP 2		Connect the 12/24V power supply to the 'DC Input' terminals. NB The connected power supply must be adequately rated for the load.

STEP 3		Connect the Constant Voltage load. The WLED30CV4 has a common positive and four individual switched negative outputs.
STEP 4		Connect the RJ11 cable to the RJ11 port. If the WK-CONNECT is used, connect the opposite side of the RJ11 cable into the WK-CONNECT RJ11 port. The WK-CONNECT punch down connection can accept up to two CAT5 or CAT6 cables.
STEP 5		Secure the cables with the cable clamps provided.
STEP 6		Replace the covers.

4 Terminating the WK-CONNECT

The WK-CONNECT is used to connect between the WLED30CV4 and the Rako Wired Network. The WK-CONNECT must be terminated correctly otherwise the WLED30CV4 will not function. The termination requirements depend on the nature of the installation and the position of the WK-CONNECT within the system.

No TERM - Both jumpers removed
When the WK-CONNECT is not at the end of line. This is usually identifiable by two cables being punched down to the WK-CONNECT.

TERM - Jumper fitted across 1+2 & 4+5
When the WK-CONNECT is the end of line in a daisy chain configuration.

STAR TERM - Jumper fitted across 2+3 & 5+6
When the WK-CONNECT is end of line in a STAR wire configuration.

5 Adding the WLED30CV4 into Rasoft Pro

Once the WLED30CV4 has been installed and connected to the Rako Wired Network, it needs to be assigned as a Device in Rasoft Pro.

The following steps assume:

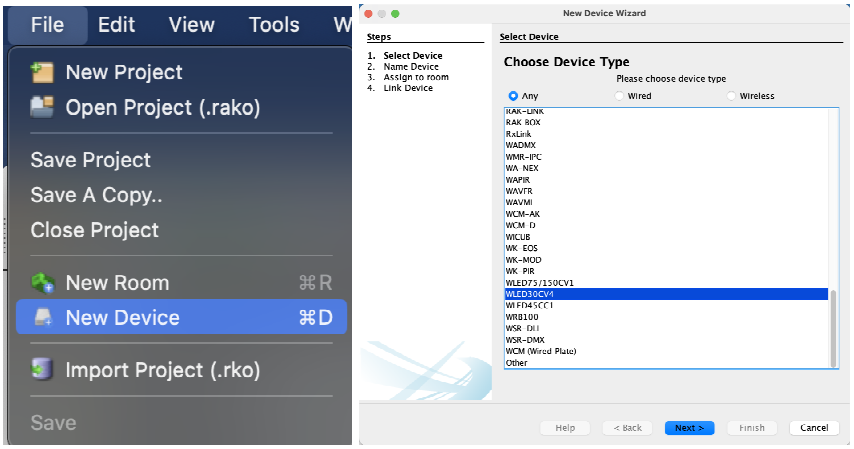
- A Project File has been created.
- Rooms have been added to the Project File.
- Channels have been added to the Project File.
- The HUB has been configured.

If any of the above steps have not been completed, see Wired System Setup Guide.

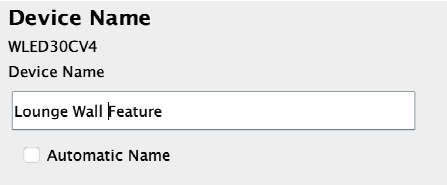
- Connect to the HUB in the communications window by double-clicking it, there will be a green tick to confirm the connection has been successful.



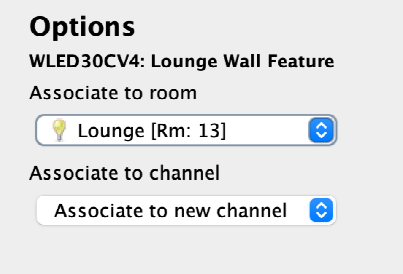
- Select "File" - "New device" to bring up the "New device Wizard" and choose "WLED30CV4" from the list.



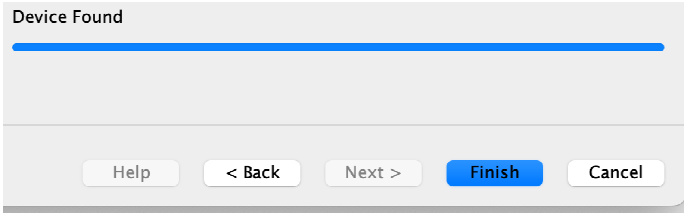
- Choose a Device name, if multiple devices are being programmed it is advised to add a unique description. To assign an automatic name and leave the text field blank, tick the box 'Automatic Name'.



- Assign the WLED30CV4 a Room, and leave 'Associate to new Channel' blank.



- Press and hold the clear button on the WLED30CV4 for 3-4 seconds until it starts to flash, 'Device Found' will appear in the software window.



- Select ‘Finish’.

NB

The Rako Wired Network must be connected and powered to the WLED30CV4 for pairing to be successful.

The WLED30CV4 has now been added as a Device, the Channels for the Device can be found by selecting the Room it was programmed to.

By default the WLED30CV4 will allocate four Rako Channels representing the four outputs on the WLED30CV4, each channel can be controlled individually to mix colours, this can also be done on the Rako App via the colour wheel.

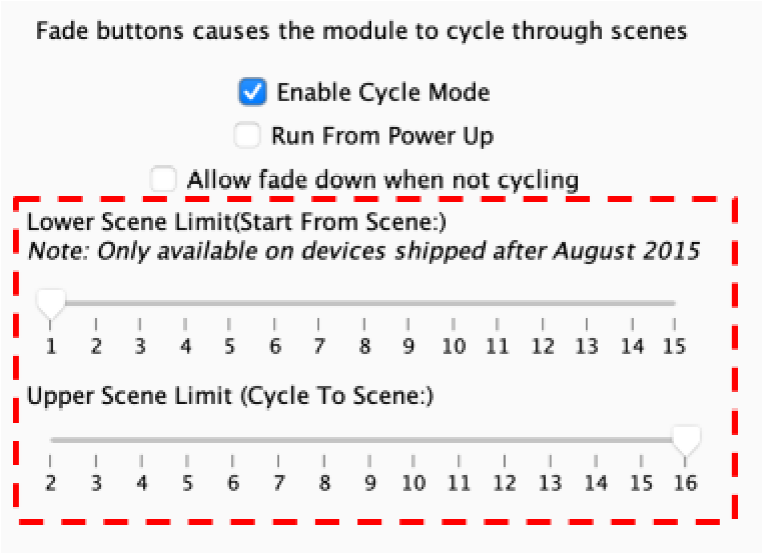
6 Additional features of the WLED30CV4

6.1 Cycle mode

The WLED30CV4 can be set to run through a sequence of colours in a loop, this is most commonly used in accent lighting as a feature.

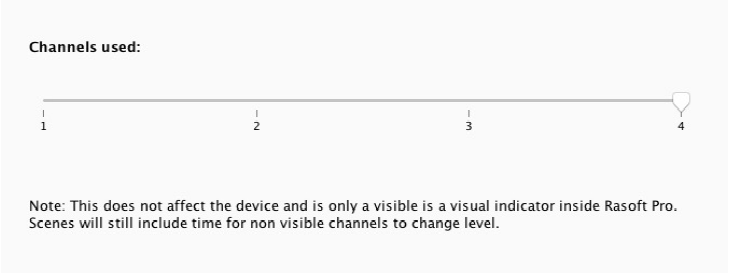
By default, Cycle Mode will start on Scene 1 and cycle through to Scene 2, Scene 3 and Scene 4 and then repeat. The Scene range can be adjusted in the Device menu via the Lower and Upper Scene Limit.

The Fade-Up command will start Cycle Mode, and the Fade-Down command will stop Cycle Mode, this can be disabled by deselecting ‘Enable Cycle Mode’.



6.2 Visible channels

Rasoft will allocate four Rako Channels by default for the WLED30CV4, if less than four channels are being used, the allocation can be adjusted in the 'Visible Channels' section of the WLED30CV4 Device Editor.



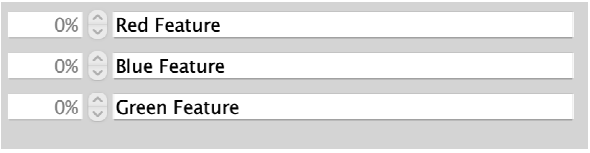
6.3 Colour Wheel

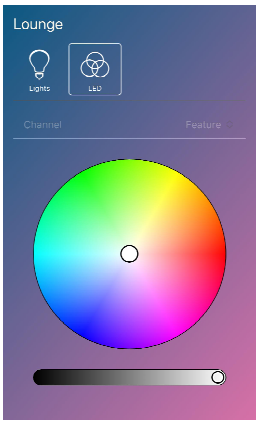
The outputs on the WLED30CV4 can be controlled using a colour wheel in the Rako App, where selecting a colour will automatically mix the Channels without needing to do it individually.

The colour wheel is not enabled by default, for a colour wheel to show in the Rako App, the Channels need to be labelled as below:

Example:

A colour wheel in the App called "Feature" would have the following channel names:





Appendix 1 - Wiring Examples

A1.1 STAR Wiring

Star Wired systems are connected back to the RAK-STAR unit with individual runs of CAT5 or CAT6 cable, there can be multiple Devices on a single run, although the end of line must be set to 'STAR' at the end of line.

A1.2 Radial Wiring

Radial wiring connects two or more Devices in a single continuous run, each end of line must have a 'Term' set on the termination jumpers.