

Overview

> DISCLAIMER: This software is neither affiliated with nor endorsed by either Control4 or WLED.

Integrate WLED LED controllers into Control4. The driver connects to a WLED controller on the local network, keeps a live connection to it, and gives the controller a Control4 light: on and off, level, color and white with fades, Advanced Lighting Scenes and keypad buttons. It also shows what the controller reports: its name, firmware, MAC address, LED count and segments.

The light controls the whole controller: its power and level, the color of every segment, and the controller's own WLED effects, palettes, presets and playlists, from the light's Extras menu and from programming. For a strip split into parts, the **WLED Segment** driver adds a light for each segment, through this driver.

Index

- System Requirements
- Features
- Compatibility
  - Updating WLED
- Using the light
  - On, off, level and scenes
  - Colors and WLED effects
  - The Extras menu
  - Segment lights
- Installer Setup
  - DriverCentral Cloud Setup
  - Driver Installation
  - Driver Setup
    - Driver Properties
      - Cloud Settings

        - Driver Settings
        - Controller Settings
        - Light Settings
        - Preset Cycle
        - Device Info
      - Driver Actions
    - Programming Reference
    - Connections
- Developer Information
- Support
- Changelog

System Requirements

- Control4 OS 3.3.2 or later
- A WLED controller running WLED 0.15 or later, on a network the Control4 controller can reach

Features

- A Control4 light with color and white, fades, Color On Mode and Dim-To-Warm
- Advanced Lighting Scenes and keypad button links with LEDs
- WLED's effects, palettes, presets and playlists in programming and the Extras menu, with preset cycling from keypads
- A light for each segment, with the **WLED Segment** driver
- Controllers found on the network, and followed when their address changes
- Live updates when the WLED app, a button or another system changes the controller

Compatibility

Any controller running WLED 0.15 or later: ESP32, ESP32-S3, ESP32-C3 and ESP8266 boards, whether WLED came installed or was installed by hand. `Driver Status` names a controller running firmware older than 0.15; update WLED on it.

Each segment reports what its LEDs can light, and the `Segments` property shows it:

Shown	LEDs
RGB	Color
RGBW	Color and a white channel
RGB, tunable white	Color and two whites
RGB, CCT	Color, with WLED's white balance correction turned on
Tunable white	Two whites (CCT)
CCT	Color temperature, with no white channel reported
White	One white channel
On/off	A relay

> **Note:** WLED's own settings change what a segment reports. An RGBW strip with WLED's white mode set to calculate the white from the color reports RGB. The light follows such a change while it runs.

If you have a board or controller that does not work, please contact us at driver-support@finitelabs.com.

Updating WLED

1. Download the WLED release file for the controller's chip from the WLED releases page, or the board maker's own file if WLED came installed and the maker publishes one.
2. Open the controller's address in a browser, then "Config", then "Security & Updates".
3. Under "Software Update", open the update page, choose the file and upload it.
4. The controller restarts with its settings kept, and the driver connects again on its own.

After moving a controller to an older WLED version, check its LED settings in "Config", then "LED Preferences", since a downgrade can reset color gamma and the frame rate.

Using the light

On, off, level and scenes

The light works as any Control4 light does: on, off, level and toggle, with the Default On level, Previous Level and Min and Max On Level set on the light in Composer. Fades up to 16 minutes run on the WLED controller itself, with the light's click and hold rates. Advanced Lighting Scenes run level and color steps, ramps, stops and flash. The light offers color and white as the controller's LEDs allow (see Compatibility), with color temperature between `Warm White (K)` and `Cool White (K)`, or level only, and follows the Color On Mode and Dim-To-Warm set on the light in Composer. A color set while the light is off is the color it next turns on in, in place of the Color On Mode's.

Colors and WLED effects

Any color Control4 sends, from a color pick, a scene step, the Color On Mode or Dim-To-Warm, shows as that solid color on every segment and ends a running WLED effect. A level change alone dims an effect and leaves it running.

Picking an effect, in the Extras menu or with Set Effect in programming (see Programming Reference), turns the light on, lights every segment and starts the effect. WLED lays the light's white over an effect's colors, so on LEDs with color an effect starts with that white mixed into the light's color instead, and WLED's second and third colors clear. While an effect runs, Control4 keeps the light's own color, and picking Solid brings back the colors each segment showed before an effect picked in Control4. The palette and effect setting commands run on every segment and leave the light's power and level as they are. A preset or playlist sets whatever it was saved with in WLED, power and level included.

The Extras menu

Press and hold the light in the Control4 app or on a touchscreen to open its Extras menu. It shows what the controller's main segment shows:

- **Effect**: the controller's effects, with the running one picked. Below it are the sliders and checkboxes that effect uses, under the names WLED gives them for it. The ones the effect does not use are hidden.
- **Color palette**: the controller's palettes, shown only while the effect uses a palette and the LEDs have color.

- **Preset** and **Playlist**, when the controller has any. Picking a preset applies it, picking a playlist starts it, and `None` stops the running playlist.

Entries in a list that share a name show their WLED id after it.

An effect, palette, slider or checkbox runs on every segment, as the programming commands do. An effect turns the light on and starts from its own speed, intensity and options, as in the WLED app, with no white laid over it. A palette, slider or checkbox leaves the light's power and level as they are. A preset or playlist sets whatever it was saved with, power and level included. The menu follows the controller, so a change made in the WLED app, by a preset or by a playlist step shows there too.

Segment lights

For a strip split into parts in WLED, add a **WLED Segment** driver for each part and bind it to that segment's connection on this driver (see Connections). The segment light controls its segment only; this driver's light still controls the whole strip. The **WLED Segment** driver includes its own documentation, accessible from within Composer Pro.

- A segment light's level is its segment's own level, and this light's level is the controller's master level, which WLED applies on top of every segment.
- A segment light is on while its segment is on and the controller is on. This light is on while the controller is on and at least one segment is lit.
- Turning a segment light on while the controller is off turns the controller on with only that segment lit. With a fade, the segment and the controller fade up together, so it starts a little slower than on a lit controller.
- Turning off the last lit segment turns the controller off alone.
- Turning this light on turns every segment on, as it lights the whole strip. A level or color change while it is on leaves each segment on or off as it is.
- This light's colors, effects and presets still cover every segment.

WLED can renumber segments when a segment is deleted or a preset with another layout is applied. Each connection follows its segment by its LEDs, so a segment light stays on the same part of the strip, and a renamed segment's connection is renamed with it. A new segment gets a new connection. When a segment is gone, its connection goes too, unless a segment light is still bound to it: then the light shows `Segment not found` and drives nothing until a segment is back on the same LEDs, and unbinding the light removes the connection.

Installer Setup

> ⚠ Add one **WLED** driver per WLED controller, and give each controller a DHCP reservation in the router so its address does not change.

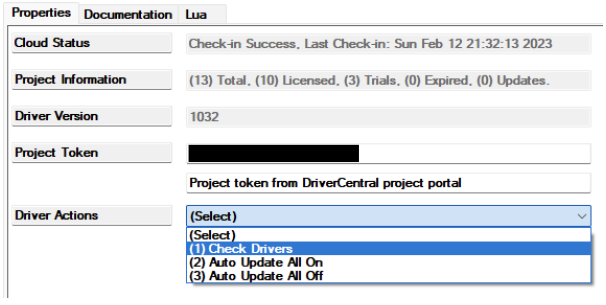
DriverCentral Cloud Setup

> If you already have the DriverCentral Cloud driver installed in your project you can continue to Driver Installation.

This driver relies on the DriverCentral Cloud driver to manage licensing and automatic updates. If you are new to using DriverCentral you can refer to their Cloud Driver documentation for setting it up.

Driver Installation

1. Download the latest `control4-wled.zip` from DriverCentral.
2. Extract and install the `.c4z` file.
3. Use the "Search" tab to find the "WLED" driver and add it to the room the LEDs light.
4. Select the newly added driver in the "System Design" tab. The `Cloud Status` reflects the license state: `License Activated` if you have purchased a license, otherwise `Trial Running` and the remaining trial time.
5. You can refresh the license status by selecting the "DriverCentral Cloud" driver in the "System Design" tab and running its "Check Drivers" action.



6. Pick the WLED controller in `Found Controllers`, or set `IP Address` to its address.
7. After a few moments `Driver Status` shows `Connected` and the Device Info properties fill in.

If it does not connect, check the address opens WLED's own page in a browser on the same network, then set `Log Mode` to `Print` and check the Lua output window.

Driver Setup

Driver Properties

Cloud Settings

Cloud Status (read-only)

Displays the DriverCentral cloud license status.

Automatic Updates [Off | *On*]

Turns automatic driver updates on or off. Changing it on one WLED driver changes it on all of them.

Driver Settings

Driver Status (read-only)

Displays the state of the connection:

- `Connected`: the driver has a live connection to the controller.
- `Connected over HTTP; reconnecting live updates`: the live connection dropped and the driver reaches the controller over HTTP while it reconnects.
- `...; live data ... is in control`: another system is sending the controller live lighting data, which WLED shows in place of its own state, so Control4's commands show once it stops. The line names the sender's address and protocol when WLED reports them. It doesn't show while WLED's live override is on, since WLED then shows its own state.
- `...; WLED ... is older than 0.15, update WLED`: the controller's firmware is older than the driver supports. See Updating WLED.
- `Connecting`: the driver is reaching the controller.
- `Not connected: ...`: the controller cannot be reached, and why.
- `Set the IP Address ...`: no address is set.
- `A different WLED controller ... answers at this address`: see Reset Driver.

- `No active license`: the driver has had no active DriverCentral license for five minutes, so it has disconnected from the controller and shows its light and segment lights offline at the level they had. Check `Cloud Status`, and refresh the license with the **DriverCentral Cloud** driver's **Check Drivers** action. The driver connects again once a license is active.

Driver Version (read-only)

Displays the current version of the driver.

Log Level [0 - Fatal | 1 - Error | 2 - Warning | *3 - Info* | 4 - Debug]

Sets the logging level. Default is `3 - Info`. While a Support Code has Composer's Lua tab open, it also offers `5 - Trace` and `6 - Ultra`.

Log Mode [*Off* | Print | Log | Print and Log]

Sets the logging mode. Default is `Off`. It turns itself off after three hours.

Support Code

Leave it blank unless Finite Labs support gives you a code: for an hour, it opens Composer's Lua tab to this driver and adds `5 - Trace` and `6 - Ultra` to Log Level.

Cloud Monitoring [Disabled | *Enabled*]

When Enabled, the driver sends Finite Labs a short report once an hour, and a report of each error it hits, at most 10 a minute. We use them to find and fix problems in the driver. Set it to Disabled to send nothing.

A report holds the controller's MAC address and OS version, the driver's name, version, device ID and DriverCentral license status, how much memory the driver uses, and the sizes of its largest internal tables. An error report also holds the error message and where in the driver it happened. Before a message is sent, anything in it that looks like a password, token, key, network address or email address is removed.

Controller Settings

IP Address

Sets the WLED controller's address on the network. Changing it connects to the new address at once. When the controller stops answering, the driver finds it again by its MAC address and changes `IP Address` and `Port` to where it answers.

> **Note:** The driver looks every 30 seconds, and also when another controller answers at its address. It never moves away from an address you set before the controller has answered there, and it keeps a host name you typed.

Port [1 - 65535, default: *80*]

Sets WLED's web port. Leave it at `80` unless it was changed in WLED.

Found Controllers

Shown only while the last search found a controller. Lists the WLED controllers the driver finds on the network. Picking one sets `IP Address` and `Port` to it and makes it the driver's controller, in place of any controller it used before.

> **Note:** The driver searches when it loads, when Find Controllers runs, and while its controller cannot be reached. It finds controllers on the same network as the Control4 controller that have an mDNS address set in WLED's WiFi settings, as they do by default.

Light Settings

Warm White (K) [1900 - 10091, default: *2700*]

Sets the color temperature of the strip's warmest white. WLED does not know its strip's white points, so the light's color temperature range runs between this and `Cool White (K)`.

Cool White (K) [1900 - 10091, default: *6500*]

Sets the color temperature of the strip's coolest white.

Preset Cycle

Cycle Presets

Sets the presets the Next and Previous Preset buttons and commands step through, in order, as WLED preset ids or names separated by commas. Empty, the default, cycles every preset on the controller in id order. Playlists do not cycle.

> **Note:** A number is read as a preset id, so use the id for a preset whose name is a number or has a comma in it. A preset named here keeps its place when it is renamed in WLED. An entry the controller has no preset for is left out and written to the log.

Presets in Cycle (read-only)

Displays the presets that cycle, in order, as `Name (id)`, or `None`.

Device Info

Details the controller reports, updated whenever they change.

Name (read-only)

Displays the controller's name, as set in WLED.

Brand (read-only)

Displays the brand the controller's firmware reports.

Product (read-only)

Displays the product name the controller's firmware reports.

Firmware Version (read-only)

Displays the controller's WLED version.

MAC Address (read-only)

Displays the controller's MAC address, which the driver uses to tell its controller from another one (see Reset Driver).

LED Count (read-only)

Displays the number of LEDs the controller drives.

Segments (read-only)

Displays each segment's id, name, LED range and what its LEDs light, for example `0: Left cabinet 0-59 RGBW; 1: Right cabinet 60-119 RGB`, or `None`. Compatibility lists what each LED type means.

Driver Actions

Find Controllers

Looks for WLED controllers on the network again and lists them in `Found Controllers`.

Reset Driver

> ⚠ This unbinds every **WLED Segment** light from its segment connection, and every keypad button from this driver's button links.

The driver remembers the MAC address of the first controller it reaches. If a different controller answers at the address later, the driver does not drive it. It looks for its own controller on the network and follows it (see IP Address), and until then `Driver Status` names the other one. When the controller was replaced on purpose, pick the new one in `Found Controllers`, or run Reset Driver with `Yes`: the driver forgets the old one and takes the new one.

Reset Driver returns the driver to a fresh install. It keeps the `IP Address` and `Port`, and the programming that uses the driver. It unwires every keypad button from the On, Toggle, Off, Next Preset and Previous Preset button links, removes every segment connection and preset link (making them again for the controller that answers), and returns the other properties to their defaults. The update settings stay as they are, since every WLED driver in the project shares them. Bind each **WLED Segment** light and each keypad button again afterwards. The light keeps the level it shows, so a reset fires no Light Off or Light On.

Parameters:

- **Are You Sure?** [***No*** | Yes] - Confirmation to reset the driver.

Diagnostics Snapshot

Prints a report in the Lua output, and sends it to Finite Labs only while Cloud Monitoring is Enabled.

Programming Reference

Commands

Command	Parameters	Description
Set Effect	Effect	Turns the light on and runs a WLED effect on every segment, from its own defaults, with no white laid over it
Set Effect Speed	Speed (0 - 255)	Sets the effect speed on every segment

Command	Parameters	Description
Set Effect Intensity	Intensity (0 - 255)	Sets the effect intensity on every segment
Set Effect Custom Value	Control (Custom 1, 2, 3), Value (0 - 255; Custom 3: 0 - 31)	Sets one of the effect's Custom values on every segment
Set Effect Option	Option (Check 1, 2, 3), State (On, Off)	Turns one of the effect's options on or off on every segment
Set Palette	Palette	Uses a WLED palette on every segment
Apply Preset	Preset	Applies a WLED preset
Start Playlist	Playlist	Starts a WLED playlist
Stop Playlist	(none)	Stops the running playlist; the light keeps the look the playlist last showed
Next Preset	(none)	Applies the next preset in the cycle
Previous Preset	(none)	Applies the previous preset in the cycle

The choices are the controller's own, read when the driver connects and again when the controller reports a change: a preset or playlist saved or deleted, an effect or palette added, or new firmware. Effects that need a 2D matrix are offered only on a controller set up with one. Custom palettes show as `Custom Palette 1`, `Custom Palette 2` and so on.

Presets and playlists show as their name and WLED id, for example `Movie Night (4)`. The command finds the preset by its id, so programming keeps working after the preset is renamed in WLED. Effects and palettes are found by name.

The controller applies a preset or starts a playlist on its next loop; the variables and events below follow once it reports the result.

Variables

Variable	Type	Description
Connected	BOOL	True while the driver is connected to the controller

Variable	Type	Description
Effect	STRING	The effect the controller runs, as its main segment shows it
Palette	STRING	The palette the controller uses, as its main segment shows it
Preset	STRING	The preset the controller last applied, or empty once its look has been changed
Playlist	STRING	The playlist the controller runs, or empty when none runs or it was sent unnamed

Events

Event	Description
Connected	Fires when the driver connects to the controller, at start and after every reconnect
Disconnected	Fires when the driver loses the controller
Effect Changed	Fires when the main segment's effect changes
Preset Changed	Fires when the controller applies a different preset, including each playlist step
Playlist Started	Fires when a playlist starts, or another one replaces it
Playlist Ended	Fires when the running playlist stops or ends

A live connection that drops while the controller still answers over HTTP fires neither connection event. The effect, preset and playlist events fire only for a change: a driver start, a reload or a reconnect that finds the controller as it was fires none of them, and applying the preset already shown fires nothing. Each variable is set before its event fires.

WLED tells the driver at once about most changes, but not about a preset saved, renamed or deleted, a playlist stopped in the WLED app, or live data starting or ending. The driver also asks the controller every 15 seconds, so these show in the lists, variables, events and `Driver Status` within about 15 seconds, a little longer while the driver is sending other requests.

Conditionals

Conditional	Tests
WLED controller connection status	Whether the driver is Connected or Disconnected, as the events follow it
WLED playlist status	Whether a playlist is Running or Not Running, as the Playlist events follow it
Preset Is	Whether the preset showing is, or is not, the one picked

Preset Is lists the controller's presets as programming shows them, for example `Movie Night (4)`, and follows the controller as presets are saved, renamed and deleted. It tests by the preset's id, so programming keeps working after a rename in WLED. It appears once the controller has a preset.

Connections

Light (provider)

The Control4 Light proxy connection. The light is online while the driver is connected and offline while it is not, keeping the level it last showed.

`{segment name}` (provider, dynamic)

One `WLED_SEGMENT` connection for each segment the controller reports. Bind a **WLED Segment** driver's **WLED Controller** connection to one (see Segment lights).

> **Note:** `{segment name}` is the segment's name in WLED, or `Segment` and its id when it has no name, for example `Segment 1`.

Button Links

Connection	Description
On Button Link	Turns the light on when triggered
Toggle Button Link	Toggles the light when triggered
Off Button Link	Turns the light off when triggered

A keypad button bound to a button link shows whether the light is on, in that button's on and off colors. They are set in Composer under the light's **Button and Button Connection Status LED Colors** (Top for On, Bottom for Off, Toggle for Toggle). With the project's default colors, the Off button is lit while the light is off.

Connection	Description
Next Preset Button Link	Applies the next preset in the cycle when triggered
Previous Preset Button Link	Applies the previous preset in the cycle when triggered
`{preset name} ({id})` Button Link	One for each preset in the cycle: applies it when triggered

> **Note:** `{preset name}` and `{id}` come from the controller's preset, for example `Movie Night (4) Button Link`, and the link is renamed with the preset.

Next steps from the preset showing, or, once its look has been changed, from the preset the cycle last applied; with neither, Next starts at the first preset and Previous at the last. The cycle wraps at both ends. A preset applies whatever it was saved with in WLED, power and level included.

A keypad button bound to a preset's own button link is lit while that preset is showing. A preset taken out of `Cycle Presets` loses its link. A preset deleted on the controller loses its link too, unless a keypad is still connected to it: then the link stays, and does nothing until a preset is saved again under that id.

Developer Information



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Support

If you have any questions or issues integrating this driver with Control4 or WLED, you can contact us at driver-support@finitelabs.com or call/text us at +1-949-371-5805.

Changelog

v20261117 - 2026-11-17

Added

- Added the WLED and WLED Segment drivers
- Added a Control4 light with color and white, fades, Color On Mode and Dim-To-Warm
- Added Advanced Lighting Scenes and keypad button links with LEDs
- Added WLED's effects, palettes, presets and playlists to programming and the Extras menu, with preset cycling from keypads
- Added a light for each segment, with the WLED Segment driver
- Added finding controllers on the network, and following a controller when its address changes
- Added live updates when the WLED app, a button or another system changes the controller
- Added a Support Code property, Cloud Monitoring and a Diagnostics Snapshot action