

# 8-Channel Dimmer Operation and Configuration Guide



## Supported Model

- C4-DIN-8DIM-E 8-Channel Dimmer

## Introduction

The Control4® 8-Channel Dimmer controls up to eight (8) devices from one module in the Control4 system. It installs in a panelized backbox using typical wiring standards and communicates to the Control4 system using a CAT5 Ethernet connection.

## Dimming Mode Configuration

Each channel on the 8-Channel Dimmer can be set to several different dimming modes:

- Switch Mode:** Only allows the load to be set to 100% or off.
- Autodetect Mode:** The dimmer will detect the load type and set forward or reverse-phase dimming appropriately.
- Forward Phase Mode:** Forces the channel into forward-phase (leading edge) dimming.
- Reverse Phase Mode:** Forces the channel into reverse-phase (trailing edge) dimming.

The Autodetect, Forward Phase, and Reverse Phase modes should only be used with dimmable loads.

In its factory default state, all channels on the 8-channel Dimmer are set to “Switch Mode” to prevent inadvertent dimming of non-dimmable loads.

The mode can be configured for each channel using the buttons on the front of the module:

- Press the CH1 and CH8 buttons simultaneously.
- All channel LEDs will change color indicating the current dimming mode:
  - Solid Yellow – Switch Mode
  - Solid Red – Autodetect Mode
  - Solid Green – Forward Phase Mode
  - Solid Blue – Reverse Phase Mode
- Click each channel **button** to cycle through the four (4) dimming mode types.
- Once each channel is set as desired, click the **Module Override** button to initiate the autodetect sequence on any channels set to ‘Autodetect Mode.’ The channel being autodetected will blink Red. When the autodetect test is finished, the channel LED will go to one of the following states:
  - Blinking Green – Autodetected forward phase
  - Blinking Blue – Autodetected reverse phase
  - Solid Red – Autodetect failed. Run the test again or set an alternate mode.
- Exit the configuration mode by pressing and holding the Module Override button briefly. If any channels are still set to Autodetect (solid red), the autodetect sequence will run for those channels.

The previous procedure should be repeated anytime that a module is rewired or a load type changes.



**NOTE:** Once the module has been identified into a project, it is no longer possible to configure the dimming mode from the module. The dimmable/non-dimmable load type and dimming mode settings in Composer must be used to configure the dimming mode.



**NOTE:** When first identifying a module into a project, if the dimming mode of the light in Composer conflicts with the dimming mode of the corresponding channel on the module, a warning will be presented forcing the user to choose the appropriate dimming mode.

## Composer Pro Configuration and Reports

Use Composer Pro to define the properties of each 8-Channel Dimmer, its location in a panel, and the loads that are connected to it. Composer Pro can then be used to generate Panel Reports, Module Reports, and Load Schedule Reports. These reports are essential to ensuring that each 8-Channel Dimmer is properly installed in the correct location and wired to the appropriate loads. Please refer to the *Composer Pro User Guide* for detailed information.

## Browser Configuration Tool

Basic properties for each load as well as the network configuration for the 8-Channel Dimmer can be set using a standard web browser. To open the configuration page, simply start the browser and type in the IP address of the dimmer. Alternatively, the Properties page for the module in Composer Pro has a link to the browser configuration page.

The browser configuration tool can be used to set the following properties:

- Network Settings
  - DHCP Enable/Disable
  - IP Address
  - Subnet Mask
  - IP Gateway
- Control Settings for each Channel
  - Dimmable/Non-Dimmable (locked out once identified into a project)
  - Dimming Mode (locked out once identified into a project)
  - Click Ramp Rate Up/Down
  - Hold Ramp Rate Up/Down
  - Minimum & Maximum Levels
  - Preset Level
  - Cold Start Level
  - Module Override Level

Additionally, the browser configuration tool can be used to view the current temperature of the dimmer as well as any channel short circuit faults.

## LEDs

During normal operation, the indicator lights on the front of the 8-Channel Dimmer communicate the status of the device.

Indicator	LED Color	Status	Notes
Module Override	Blue	Power on, normal operation	
	Black	Off	
	Red	Thermal overload	See “Faults” section below
Channels	Blue	Load on	
	Black	Load off	
	Red	Short Circuit Fault	See “Faults” section below

Indicator	LED Color	Status	Notes
Link/Activity	Solid Green	Link	
	Orange	Activity	
	Flashing Green	Firmware updating	Flashing gets faster as update proceeds

## Channel and Module Override Buttons

During normal operation, the buttons on the front of the 8-Channel Dimmer behave in the following manner:

Button	Action	Result
CH1-CH8	Click	Toggles the load on and off.
	Hold	Ramps/fades the load (if dimmable).
Module Override	Click	Toggles between the module override scene and all channels off.
	Hold for five (5) seconds	Sets the module override scene to current channel levels. The Module Override LED will blink rapidly to indicate that the override scene has been saved.

The following button tap sequences are available using the CH1 and CH8 buttons.

Function	CH1	CH8	CH1
Identify	4		
Reboot Device	15		
Factory Reset	9	4	9

## Reset Button



**NOTE:** The Reset button is recessed and must be pressed using a paperclip or similar device.

A single click of the Reset button is equivalent to powering the 8-Channel Dimmer off and back on. Additionally, certain special activities can be accomplished by pressing and holding a specific button while clicking the Reset button. Note that the same activity is possible by pressing and holding the designated button while power cycling the 8-Channel Dimmer:

Hold Button While Clicking Reset	Result
CH7	Sets the device to DHCP-disabled and forces the IP address to 192.168.1.200.
CH8	Toggles between DHCP-enabled and DHCP-disabled.
Module Override	Restores the factory image (do not perform unless directed to do so by Control4 Technical Support).

## Faults

The 8-Channel Dimmer is designed to protect itself and the attached load(s) through certain fault conditions. These fault conditions are indicated via the LEDs on the front of the device and are available through the driver for the device as properties and variables.

### Overtemp Fault

- Occurs if the module reaches an unsafe operating temperature.
- Is generally an indication that the device is over its load ratings.
- All loads attached to the module will turn off.
- The Module Override LED will turn red.
- The fault condition cannot be cleared nor loads turned back on until the device has reached a safe operating temperature. Once the device has reached a safe operating temperature, the fault will automatically clear. Note, though, that loads will not automatically turn back on after the fault has cleared.

### Overcurrent Fault

- Occurs if a significantly large current spike happens on an individual channel. There are several reasons why this could occur:
  - A true short circuit occurs (e.g., nail hits wires)
  - The attached load has an excessively high in-rush current
  - The attached incandescent bulb burns out creating a large current spike
  - A non-dimmable load is dimmed (particularly non-dimmable CFLs and LEDs)
- The load attached to the faulted channel will turn off.
- The Channel LED will turn red.
- To clear the fault, simply turn the load back on via the appropriate channel button on the front of the module or via a keypad (or any other action) that has been programmed to control the load.
- If the same fault occurs within 10 seconds of clearing the fault, the fault condition is considered to be ongoing and must be addressed before proceeding. After addressing the underlying problem, the fault can be cleared by pressing and holding the Channel button for five (5) seconds. Composer Pro can also be used to clear the fault condition.

## Manual Overrides

Prior to installation of the control system, or in case a problem occurs with the control system or the network, it is possible to control the loads attached to the 8-Channel Dimmer via several methods:

- Override Scene
  - The module override scene is stored in the module itself and does not require interaction from the control system.
  - The default setting for this override scene is all loads on at 100%.
  - The override scene settings can be changed using the buttons on the front of the module (see the "Channel and Module Overrides" section above), the Browser Configuration Tool, or Composer Pro.
- Module Override Button
  - Clicking the Module Override button toggles the attached loads between the stored override scene and all loads off.
- Auxiliary Override Contacts
  - The Aux In and Aux Out terminals on the 8-Channel Dimmer can be wired to a standard line-voltage toggle switch installed in a hidden but convenient location, such as a closet.
  - Each time the attached switch is flipped, the 8-Channel Dimmer will toggle between the stored override scene and all loads off.
  - If desired, a single toggle switch can be wired to the Aux In contact on multiple Control4 Panelized Lighting modules, but all modules sharing an auxiliary override switch MUST BE ON THE SAME ELECTRICAL PHASE.
  - The desired location of the Auxiliary Override Switch can be defined in Composer Pro for each module. This information will appear in the Module Report generated by Composer Pro.
- Channel Override Buttons
  - The channel override buttons on the front of the module provide individual control of each load attached to the 8-Channel Dimmer. Click the specific Channel Override button to toggle the load between its preset level and off. Press and hold the specific Channel Override button to ramp/fade the load (if dimmable).

## Troubleshooting

Symptom	Possible Solution
Module does not power on	Verify that the circuit breaker is on.
	Verify that Line-In 1 is connected to the power.
Load does not turn on	Verify that the load is wired to the proper channel terminal.
	Verify that the channel is not in a fault condition (see "Faults" section above).
	Verify that the light bulb is not burned out.
Loads do not turn off	Verify that the Terminal Block jumpers that connect the black Terminal Block to the red Terminal Blocks have been removed.
Module overheats	Verify that the load ratings have not been exceeded.
	Verify that the module is receiving proper ventilation.

## About this Document

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