

8-Channel Forward Phase Dimmer Operation and Configuration Guide



Introduction

The Control4® 8-Channel Forward Phase Dimmer (C4-DIN-8FPD-E) controls up to eight 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 Forward Phase Dimmer can be set to two different dimming modes:

- Switch Mode—Only allows the load to be set to 100% or off
- Dimming Mode—Forces the channel into forward-phase (leading edge) dimming
- SSL 7A Mode—Sets dimming parameters complaint to NEMA SSL 7A

 **Note:** Dimming mode should only be used with dimmable loads.

 **Note:** By default, all channels on the 8-Channel Forward Phase Dimmer are set to Switch Mode to prevent inadvertent dimming of non-dimmable loads.

With the buttons on the front of the module, configure the mode for each channel:

- 1 Press the **CH1** and **CH8** buttons simultaneously.
- 2 All channel LEDs will indicate their current dimming mode:
 - Solid yellow—Switch Mode
 - Solid green—Forward Phase Mode
 - Solid magenta—SSL 7A Mode
- 3 Click each channel button to cycle through the dimming mode.
- 4 Once each channel is set as desired, exit the configuration mode by pressing and holding the **Module Override** button briefly.

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 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 Forward Phase 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 Forward Phase 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 Forward Phase 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)
 - Click Ramp Rate Up/Down
 - Hold Ramp Rate Up/Down
 - Minimum and 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 faults.

LEDs

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

Indicator	LED color	Status	Notes
Module Override	Blue	Power on, normal operation	
	Black	Off	
	Red	Overtemp Fault	See "Faults" section below
Channels	Blue	Load on	
	Black	Load off	
	Red	Overcurrent Fault or Overtemp Fault	See "Faults" section below
	Yellow	Over-Wattage Fault	"
	Cyan	No Power On Phase Fault	"
	Flashing green	Firmware updating	
	Green	Firmware update complete	
Link/Activity	Solid green	Link	
	Orange	Activity	
	Flashing green	Firmware updating	Flashing gets faster as update proceeds
	Flashing red	No link	

Channel and Module Override buttons

During normal operation, the buttons on the front of the 8-Channel Forward Phase 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

A single click of the Reset button is equivalent to powering the 8-Channel Forward Phase 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 Forward Phase Dimmer.



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

Hold button while pressing Reset	Result
CH7	Disables DHCP and forces the IP address to 192.168.1.200.
CH8	Toggles between Enable/Disable DHCP.
Module Override	Restores the factory image (do not perform unless directed to do so by Control4 Technical Support).

Faults

The 8-Channel Forward Phase Dimmer is designed to protect itself and the attached load(s) through certain fault conditions. These fault conditions are indicated by 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 Channel LED and 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: 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 (for example, a nail hits the wires).
 - The attached load has an excessively high in-rush current.
 - An 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 with 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 seconds. Composer Pro can also be used to clear the fault condition.

Over-Wattage Fault

- Occurs if the wattage is over the allowed individual channel threshold of 1000W for 10 seconds.
- The load attached to the faulted channel will turn off.
- The channel LED will turn yellow.
- 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.
- The fault can also be cleared by pressing and holding the channel button for five (5) seconds. Composer Pro can also be used to clear the fault.

No Power On Phase Fault

- Occurs if there is no zero cross detected on Line 2 (L and N).
- The channel LEDs will turn solid cyan on channels 5-8.
- The fault condition cannot be cleared until the Line 2 (L and N) are connected to the product.

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 Forward Phase Dimmer by 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 Override" 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 Forward Phase 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 Forward Phase 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 Forward Phase 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 1 in 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 blocks 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.

Additional resources

The following resources are available for more support.

- Control4 Knowledgebase and forums
- Control4 Technical Support
- Control4 website at www.control4.com
- Composer Pro documentation in various formats available at ctrl4.co/docs

Regulatory/safety Information

To review regulatory information for your Control4 products, see ctrl4.co/reg.

Patent information

Applicable patents are available at ctrl4.co/patents.

Warranty

See ctrl4.co/warranty for details.

More help

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