



Mode Pushbutton

LED Mode Indicator

Overview

New for 2024, the Pro Flicker LED controller is now available in a high performance, dual channel configuration with up to 10A (TBC) output current per channel. As with our other Flicker LED controllers, these feature the most advanced pattern effects generator for LEDs and now includes artificial intelligence (AI) based prediction algorithms for the most realistic candle and flame effects. Software based low pass filtering is also employed to provide smooth and organic modulation without the sharp transitions and flickering common with inexpensive and inferior flicker controllers.

Two pushbuttons allow the user to cycle through a wide array of output candle, flame, neon sign, and electrical glitch patterns with varying intensities, modulation, and flickering. Internal memory allows the device to resume the previously selected output mode in the event power is loss to the device. This is also useful for permanent installations where a single operating mode is required continuously even when power is cycled.

These Pro Flicker LED controllers can be used with LEDs, low voltage incandescent, and halogen bulbs.

Features

- Artificial Intelligence (AI) Forward Prediction
- True non-repeating random algorithms
- (26) modes of operation
- For use with LEDs (dimmable types)
- Incandescent and halogen lights
- Two pushbutton operation
- Two (2) onboard LEDs mirror the output modes
- Memory saves mode during power loss
- Operating Voltage: 7VDC to 24VDC
- Max. Load Current: 10 (TBC) per channel
- Reverse Voltage Protection
- Flange mount for easy installation
- Removable terminal blocks

Connection Diagram

Operation

Using the Pro Flicker LED controller is extremely simple. Simply connect the light source to the output terminals as shown in the previous diagram and use the pushbutton to cycle through the various modes. Each press of the pushbutton will advance the operational mode by one. After all modes have been cycled through, the unit will enter OFF mode. In this mode, the output to the LED driver is disabled.

If the event you do not have an external light connected, there is an onboard LED which will illuminate and reflect the specific mode that is chosen.

Onboard LED Status

There is an onboard amber LED that mirrors the output modulation. This is useful for setting the mode without having an output connected, or if the output light is located in an area that is separate from where the controller is located.

OFF Mode Considerations for Battery Powered Controllers

When the unit is in OFF mode, the output driver is disabled, however, the microprocessor inside is still in a quiescent state which is consuming a minute amount of power. If you are using a battery source, it is recommended to use an external switch to disconnect power from the controller when not in use.

Discrete LEDs and Current Limiting Resistors



The output driver of the Pro Flicker controller is not current regulated, therefore if you plan on using discrete LEDs, you will need to use the proper current limiting resistors with the LEDs. Current limiting resistors should be utilized to ensure the maximum continuous current is not exceeded per the LED's datasheet.

Please note, that LED bulbs and other commercially packaged LEDs that are labeled for 12V or 24V use, generally already have the proper current limiting resistors installed.

Modes

The following list are all the available modes included with the Pro Flicker LED controller for the Candle and Flame Suite.

Mode	Description	Brightness
OFF	Output OFF	
1	Steady Output	100%
2	Steady Output	75%
3	Steady Output	50%
4	Steady Output	25%
5	Steady Output	10%
6	Candle – soft glow	Low
7	Candle – bright	Med
8	Flame – blowing	Med
9	Flame – windy with flicker	Med
10	Torch – soft	Med
11	Glow – soft	Med
12	Flame – high modulation	Med
13	Candle – subtle and dim	Very Low
14	Flame – intense with soft mod	High
15	Torch – intense and fast mod	High
OFF	Output OFF	
16	Strobe light – very slow	
17	Strobe light – slow	
18	Strobe light – medium	
19	Strobe light - fast	
20	Strobe light – very fast	
21	Pulsating ramp – very slow	
22	Pulsating ramp –slow	
23	Pulsating ramp – medium	
24	Pulsating ramp – fast	
25	Pulsating ramp – very fast	
OFF	Output OFF	
26	Neon light – fast flicker	
27	Neon light – fast flicker with extended ON defect	
28	Neon light – fast flicker with igniter defect (extended OFF)	
29	Electrical flicker – subtle	
30	Electrical surge – subtle	
31	Electrical surge – major defect	
32	Thunderstorm – distant	
33	Thunderstorm – mild	
34	Thunderstorm - intense	

Note: As we are continually striving to improve our products, the included modes listed above may be changed

and updated at any time without notice and/or inclusion in this datasheet.

Output Current Capability

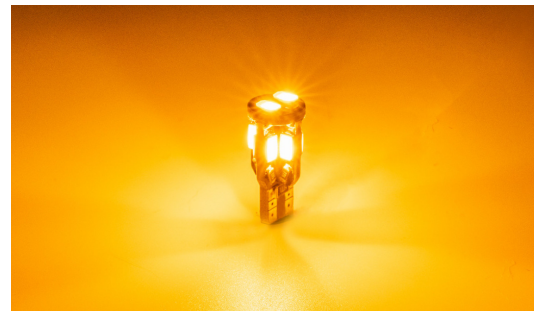
The output driver stage of the Pro Flicker LED controller uses a high power, ultra-efficient N-channel switching MOSFET utilizing advanced Pulse Width Modulation (PWM) technology.

The maximum output current of the Pro Flicker LED controller is 10A. (TBC)

Types of LEDs that cannot be used

There are some LEDs and spotlights that include their own regulation and/or filter circuitry inside them. These LEDs will not be able to work with these flicker controllers as the internal regulator circuitry will filter out the high frequency modulation of the flicker controller and prevent it from changing the brightness of the LED. Generally, if the LED or spotlight is relatively expensive, it most likely will have internal regulation circuitry.

Additional Products from Eastern Voltage Research



High Brightness Candle Flame LED

These high brightness Candle Flame LEDs were custom designed to provide the most realistic candle and flame color available. They were specifically designed for use with the Pro Line Flicker controllers. The LEDs were designed with a color temperature of 1900K to match that of a true candle flame.

- Color: Yellow-Orange (1900K)
- Brightness: 300 Lumens @ 12VDC
- Input Voltage: 7-12VDC
- Input Current: 175mA @ 12VDC
- Socket type: Compatible with 194 / 168 bulbs
- Wire can also be soldered directly to the bulb

Visit the website below for purchasing these candle flame LEDs as well as additional information.

www.EasternVoltageResearch.com