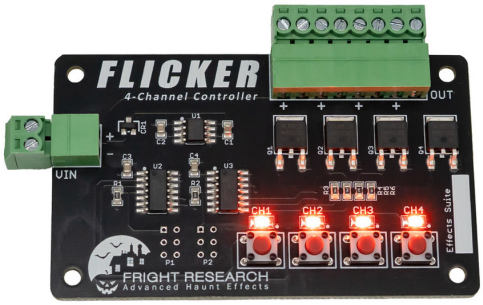


Overview

The Pro Flicker 4-Channel LED controller, new for 2025, is our 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.

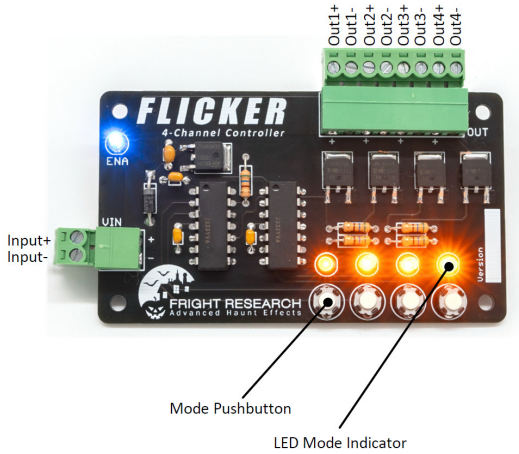
Four pushbuttons allow the user to cycle independently the modes on all four output channels allow the user to cycle through a wide array of output electrical glitches and surges most commonly seen in neon signs, lamps, fluorescent lights, and other light fixtures. Internal memory allows the device to resume the previously selected output modes 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.

The Pro Flicker 4-Channel LED controller 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
- Four (4) mode pushbuttons
- Four (4) onboard LEDs mirror the output modes
- Memory saves mode during power loss
- Operating Voltage: 7VDC to 26VDC
- Max. Total Load Current: 8A
- Max. Load Per Channel: 3A
- Reverse Voltage Protection
- Flange mount for easy installation
- Removable terminal blocks

Connection Diagram



Operation

Using the Pro Flicker 4-Channel LED controller is extremely simple. Simply connect the light sources to the output terminals as shown in the above diagram and use the pushbuttons to cycle through the various modes on all four channels. 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 for each channel which will illuminate and reflect the specific mode that is chosen.

Onboard LED Status

There are four (4) onboard amber LEDs that mirror the output modulation for each channel. 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.

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 per channel of the Pro Flicker 4-Channel LED controller is 3A. **Total output current of the four (4) channels combined should not exceed 8A!**

Note: Please use the appropriate input power supply that is capable of delivering the current necessary for all four (4) channels.

Electrical Glitch Effect Modes

The following list are all the available modes included with the Pro Flicker LED controller for the Electrical Glitch Effects suite. Note, there is an additional OFF mode between the 1st Bank and 2nd Bank sections to aid in finding a particular mode.

In the brightness column, the first number is the default brightness and the second number is the brightness level of the defect (flicker / surge, etc…).

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	Neon – Intermittent off	100% - 0%
7	Neon flash – Intermittent off	100% - 20%
8	Neon high frequency flicker Intermittent off	100% - 20%
9	Lamp with igniter defect Extended off	100% - 20%
10	Lamp Flash (smooth) with igniter defect – Extended off	100% - 20%
11	Lamp high frequency flicker with igniter defect – Extended off	100% - 20%
12	Lamp high frequency flicker with Subtle dimming defect	100% - 35%
13	Same as mode 12 but at 50%	50% - 20%
14	Electrical surge – Fast flicker	20% - 100%
15	Electrical surge – Fast flicker with extended on	20% - 100%
16	Lamp high frequency flicker with Intermittent surges	30% - 100%
17	Lamp fast flicker with extended off	100% - 30%
OFF	Output OFF	
18	Electrical flicker	100% - 0%
19	Electrical flicker - Subtle	100% - 75%
20	Electrical flicker – Subtle dim	50% - 0%
21	Electrical flicker – Very subtle	100% - 35%
22	Electrical surge – Subtle	50% - 100%
23	Electrical surge – Dim to Full	20% - 100%
24	Electrical surge – Very Dim to Full	10% - 100%
25	Electrical surge – Very subtle	80% - 100%
26	Electrical flicker – Extended OFF	35% - 0%

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.

Other Program Suites

The Pro Flicker 4-Channel controller is also available with other programmed effect suites including candle and flame, and electrical glitch. Please visit our website for additional information.

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.

Custom Pattern Programming

Even though the number of operating modes in the Pro Flicker controller is quite impressive, customers sometimes do have a unique light pattern that they need for a specific application. We do offer custom pattern programming for the Pro Flicker controllers.