RGB Encoder Board
Version 1.1

1 Overview

This is real simple. Its a ring of twenty nano Neopixel LEDs (SK6805-2427) surrounding a rotary encoder. It was originally designed to be used in a guitar, but it could be used pretty much anywhere. The encoder is also a NO switch, with one leg tied to ground.

2 Usage

Using this item is exactly the same as using a normal encoder and string of Neopixels. There is some example code in the Git repo, along with the KiCad schematic and board files in case you want to make your own.

If you are unfamiliar with working with Neopixel LEDs, check out the Adafruit guide here: https://learn.adafruit.com/adafruit-neopixel-uberguide. The Git repo with example code and other documentation can be found here: https://github.com/isotope-engineering/RGB-Encoder-Board.

3 Tech Specs & Pinout

Parameter	Symbol	Value	$Unit$
Power supply voltage	VDD	$+3.5 \ +5.5$	V
Logic input voltage	V_{IN}	$-.5 \ VDD + .5$	V
Working temperature	T_{opt}	$-40 \ +85$	$^\circ C$
Pulses per revolution		20	
Knob diameter (flattened)	D	.25	in
Rotational life		30k	cycles

Pin	Name	Signal
1	vdd	Power
2	gnd	Ground
3	do	Neopixel Digital Out
4	di	Neopixel Digital In
5	eb	Encoder B
6	ea	Encoder A
7	sw	Switch

4 Dimensions

All given dimensions are in inches. If you need more detailed dimensions for the onboard components, check out their datasheets: SK6805-2427 and EN11-HSM1AF15 . There is also a CAD model in the Git repo.