

# Supporting Information

## Open Source Photoreactor

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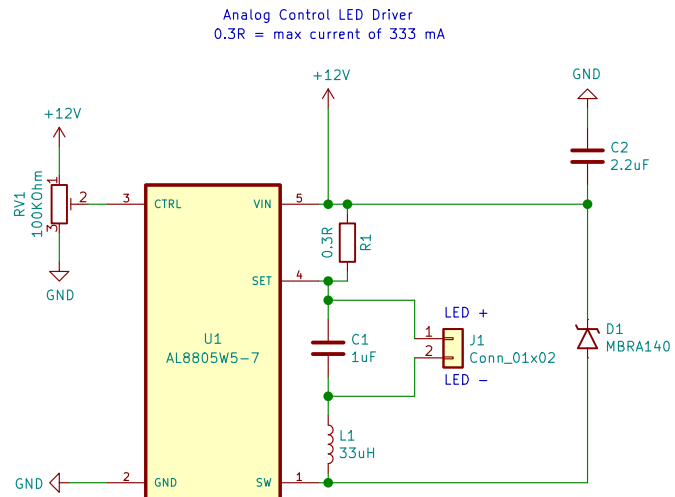
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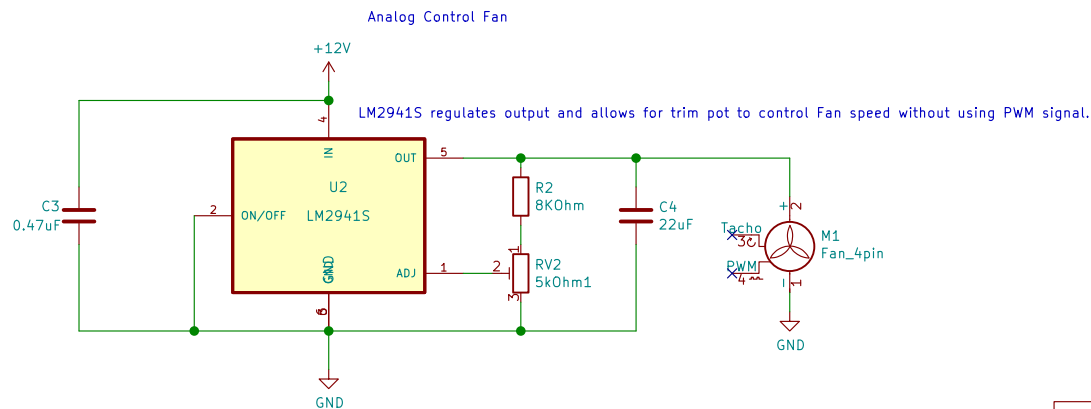
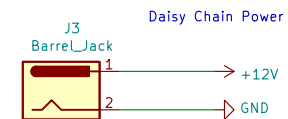
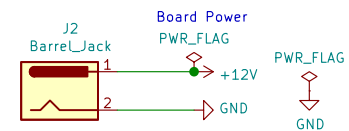
# 1 Introduction

## 2 Electronics

### 2.1 Analog



This LED driver is adapted from SparkFun femtobuck design.  
I've added a trim pot to control the driver. It should output constant 330 mA to LEDs.



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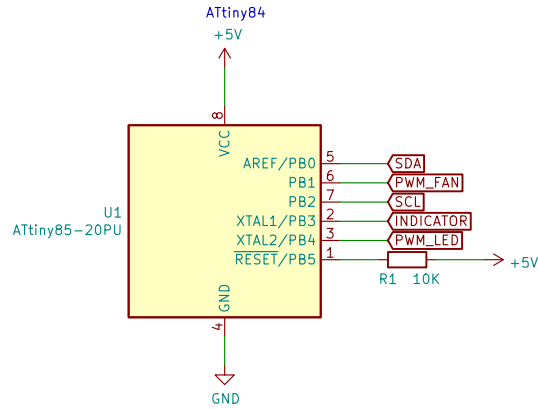
**Title: Analog Photoreactor Driver**

Size: USLetter	Date: 2021-01-19	<b>Rev: 1.0.0</b>
KiCad E.D.A. kicad 5.1.8+dfsg1-1+b1		Id: 1/1

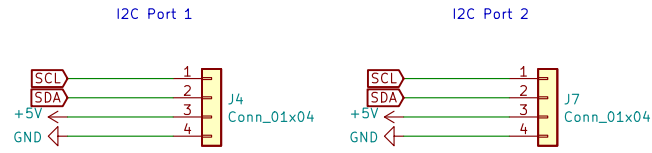
## 2.2 Digital

### 2.2.1 Driver

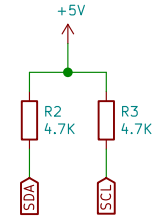
# Microcontroller



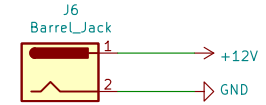
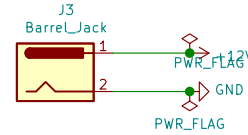
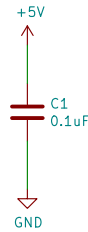
# I2C



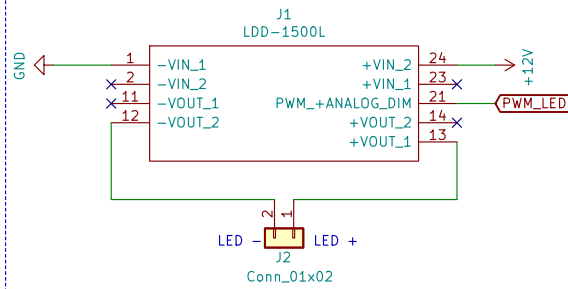
# Pullup Resistors for I2C



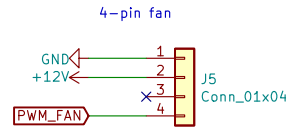
# Power



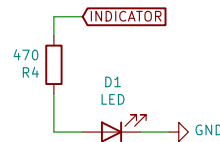
# LED Driver



# Fan



# Indicator LED



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## Title: Digital Photoreactor Driver

Size: USLetter | Date: 2021-01-19  
 KiCad E.D.A. kicad 5.1.8+dfsg1-1+b1

Rev: 1.0.0  
 Id: 1/1

## 2.2.2 Controller



## 3 Mechanical Construction

### 3.1 Base

#### 3.1.1 LED and Heatsink

TODO: LED PCB part number

TODO: heatsink part number

Tap the heatsink.

TODO: heatsink compoud

Install with wires facing towards printed hole

Use 4-40 1/4" .

#### 3.1.2 Fan

TODO: fan part number

Noctua NF-A12x15 PWM

pins: blue: PWM (5 V) yellow: +12 V black: ground

Use 4-40 3/4" into captured nuts

## 4 Efficacy