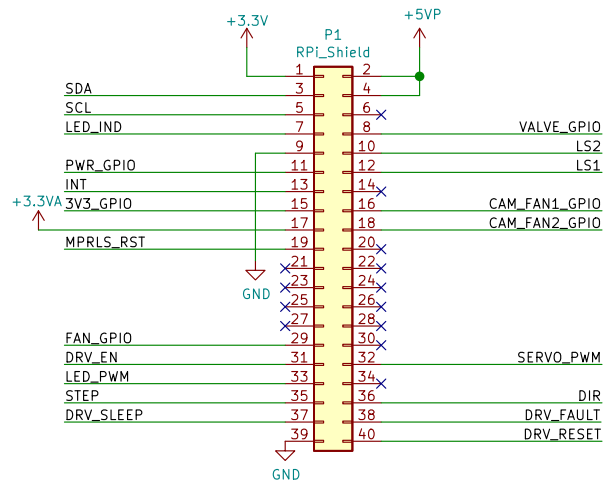


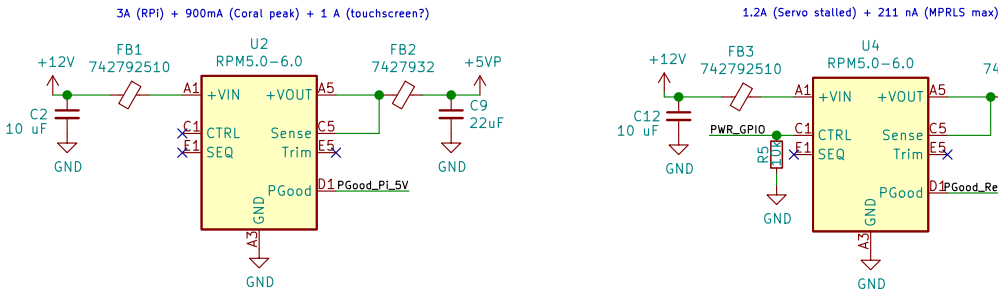
## RPi GPIO

Use male-female headers, w/ male side up



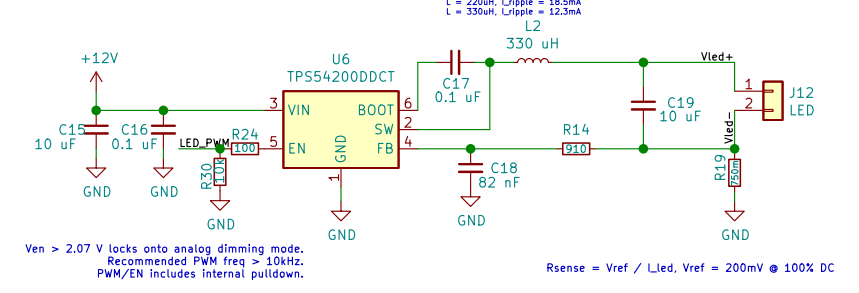
## Power

Powered directly off 12V: 120mA (Fan), 0.4A (Motor)



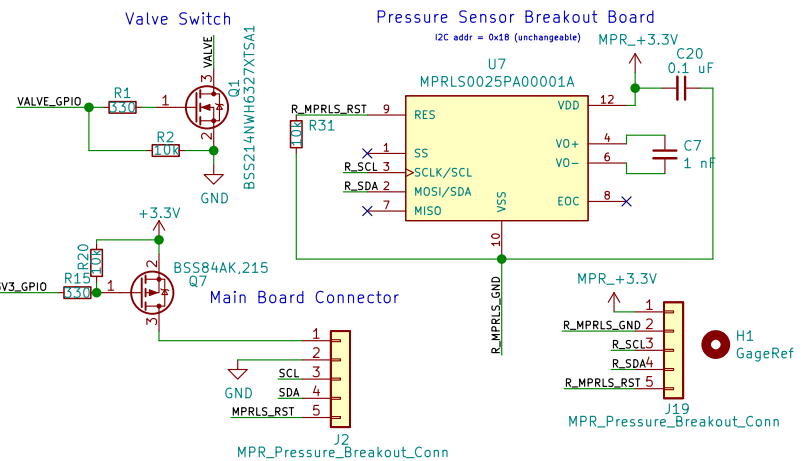
## LED Driver

Vf,typ = 3.5V, If,typ = 500mA (run at 250mA)



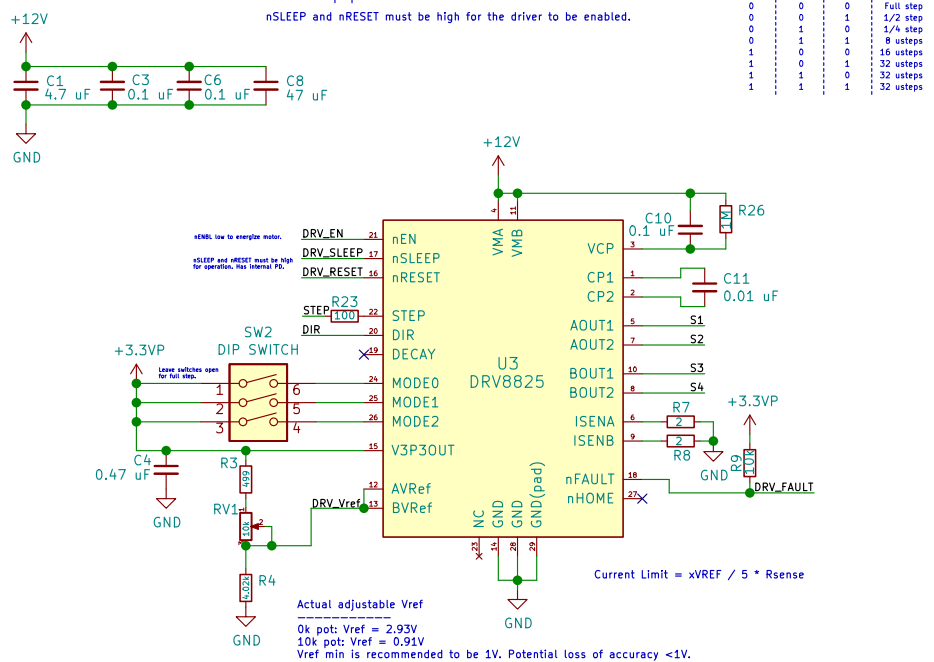
## Pneumatic Control

Pressure sensor breakout board will be mounted separately from the PCB.



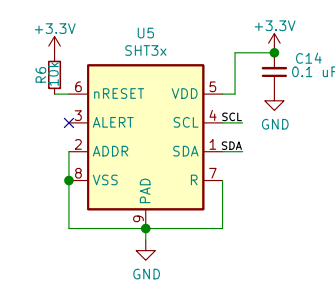
## Stepper Motor Control

nSLEEP and nRESET must be high for the driver to be enabled.



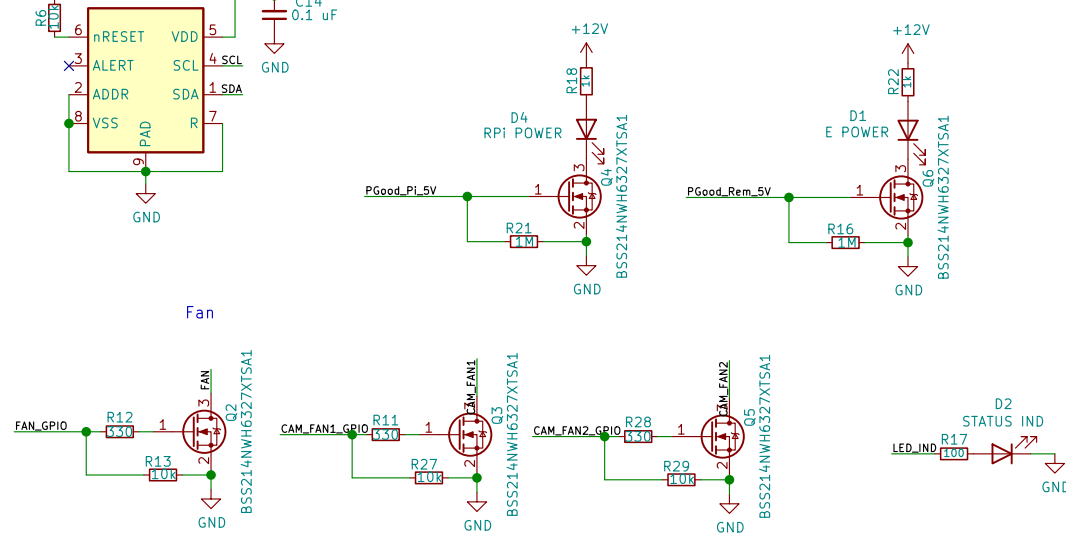
## Temp/Humidity Sensor

I2C addr = 0x44

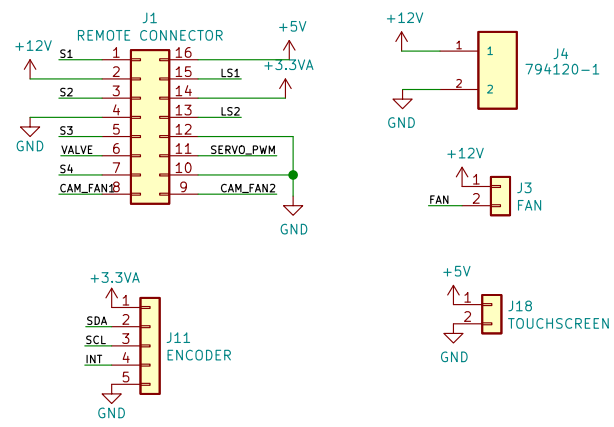


## Peripherals

Vf = 2.15V, If (ideal) = approx. 20mA  
LED Indicators

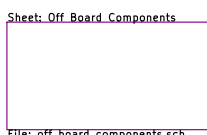


## Shield Connectors

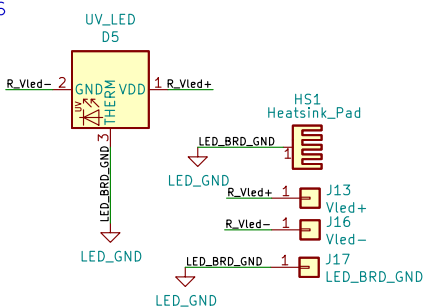


## Off Board Components

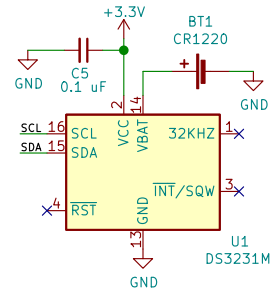
Sheet with components that are mounted off board, but connect to the PCB.



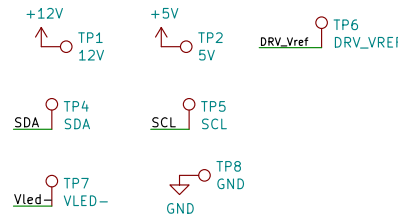
## LED Board



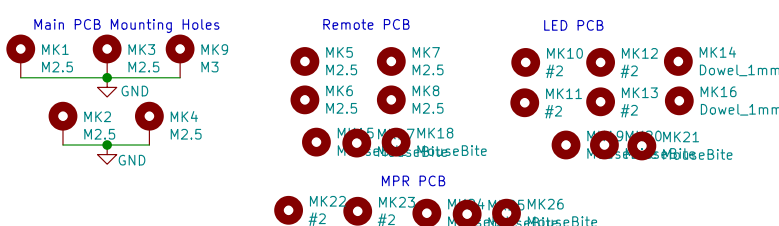
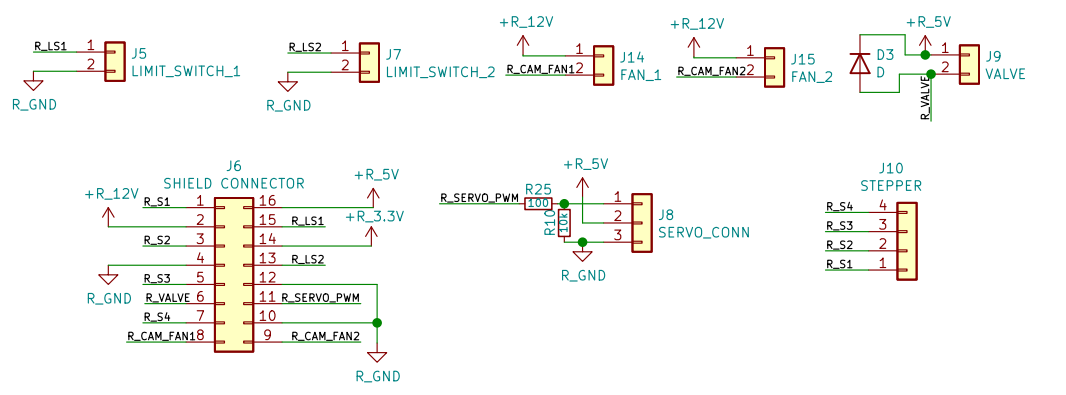
## Real Time Clock



## Test Points



## Remote Board



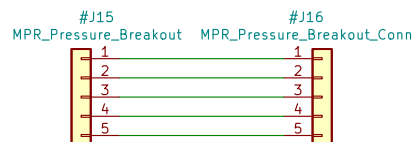
PN: 5-0005, 5-0006, 5-0008  
Bioengineering Platform  
Chan Zuckerberg Biohub

Sheet: /  
File: ulc-mm.sch  
**Title: Label Free Malaria Scope**

Size: A3 Date: 2021-09-14  
KiCad E.D.A. kicad (5.1.10-1-10\_14)

Rev: A  
Id: 1/2

## Main Board Components

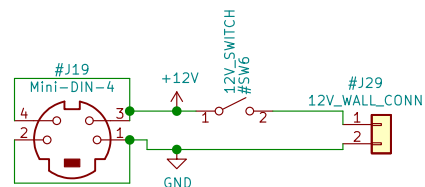
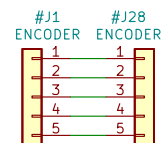
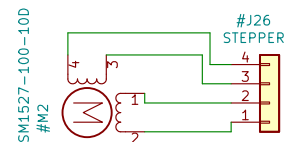


Use regular P2.54mm male pins on breakout board

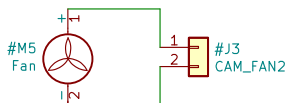
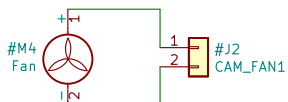
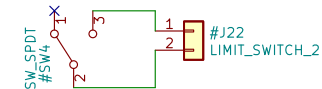
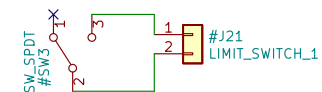
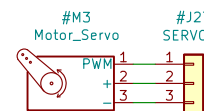
Board to board cable assembly. Female-female IDC headers on a ribbon cable.



## Remote Board Components



Servo comes with female headers, but we may need to replace it w/ the proper mating component for the male headers so that there is a good friction lock.



PN: 5-005

Bioengineering Platform

Chan Zuckerberg Biohub

Sheet: /Off Board Components/

File: off\_board\_components.sch

**Title: Off Board Components**

Size: A4

Date: 2021-09-21

Rev: A

KiCad E.D.A. kicad (5.1.10-1-10\_14)

Id: 2/2