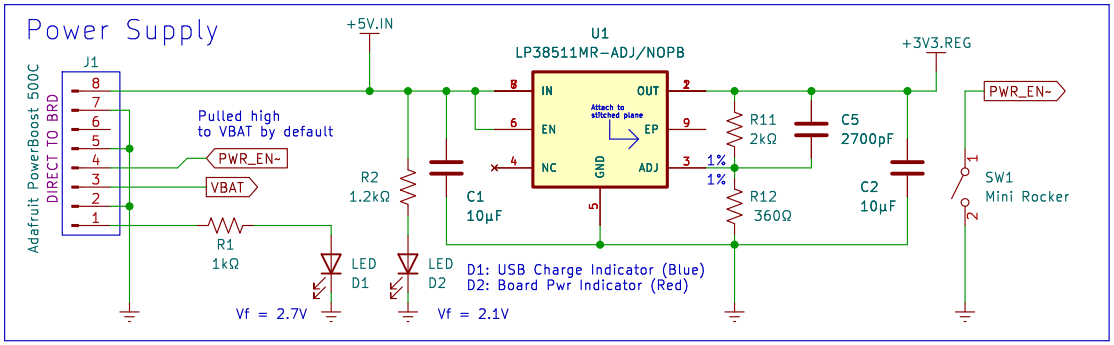


Design Notes:

All resistors are 5% 1/4W unless otherwise noted.
All capacitors are ceramic.

All components and daughterboards are throughhole except for U1 (SOIC8)

LEDs and switches should be oriented so that they are interactable through the project enclosure
The same goes for J3 and J4

Relevant FW is encoderMonitor.ino
Relevant BOM is ESP8266encoderMonitorEdit.xslx

Harness Information:

4 Harness are required for the encoder monitoring fixture...

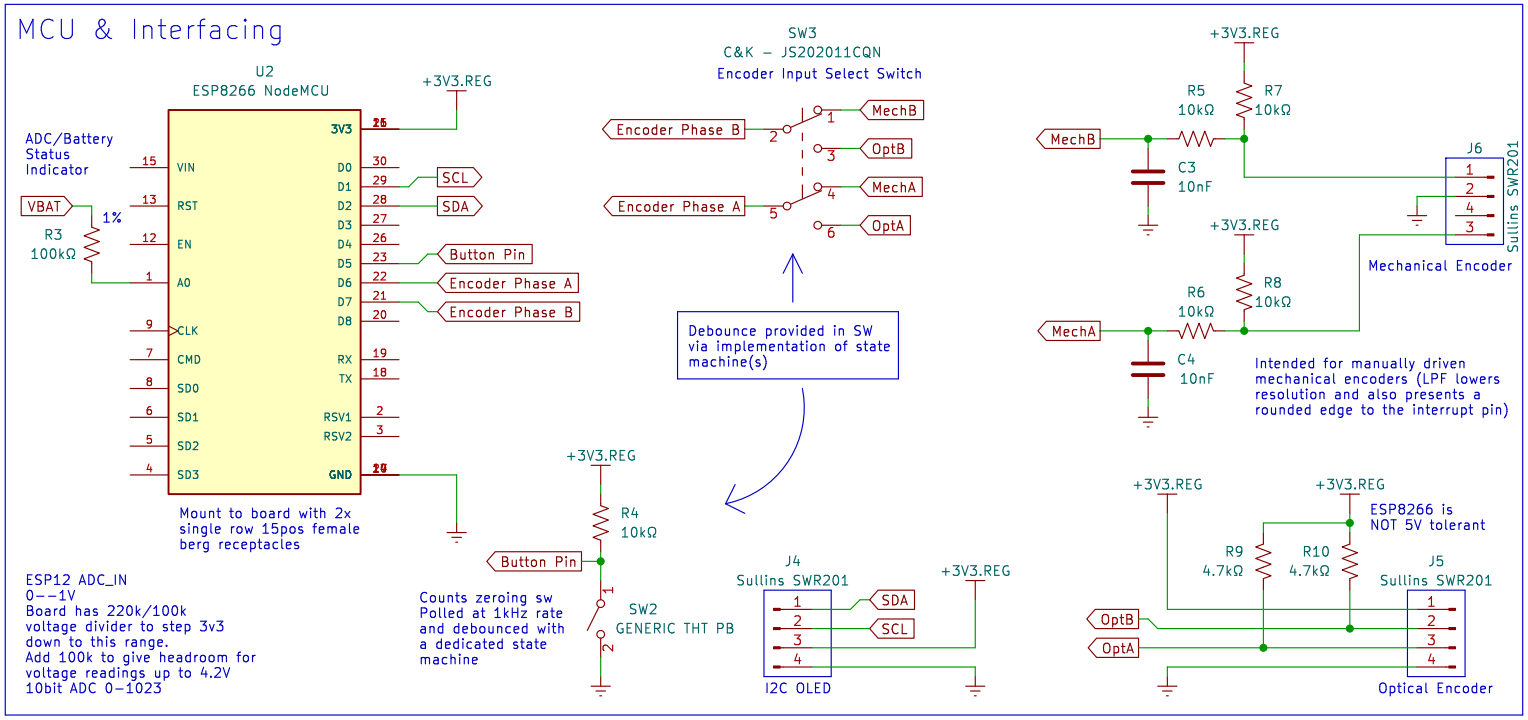
Power supply harness must interface with Adafruit Powerboost 500C board.
The board has 8 pins @ 0.100" spacing.
Use AMP 3-640441-8 on either side to mate with board side AMP 2-644488-8 which is right angle with strain relief and keying shroud.

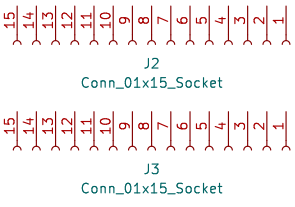
I2C OLED harness has a Sullins SWH201-NULN-S04 4POS receptacle on boardside end to mate with board mounted Sullins SWR201-NRTN-S04. OLED side has 4x 0.100" pins and therefore uses AMP 3-640441-4 to mate with board mounted AMP 640456-4 (on the actual OLED board).

Encoder harnesses are constructed identical to MW83020D, using a JST PHR4 (or equivalent Sullins part) on either end to mate with the B4B-PH-K shrouded male board mounted headers (or equivalent Sullins part). The mechanical encoder harness uses only 3 condcutors. Also, these harnesses are not internal to the enclosure (unlike the power supply and OLED harnessing), but are necessary to interface with the encoder assembly under test. These board mounted headers should protrude through the project enclosure.

Future Improvements:

Replace poor choice of µC for less ambient power diss. (ESP8266 uses a lot of power)
We're also not making use of WiFi at all, so no need for an IOT based microcontroller.
Though it is a cheap and avaialable 32bit micro with up to 160MHz clock speed and plenty of interrupts.





Pitney Bowes		
Sheet: /		
File: ESP8266encoderMonitor.kicad_sch		
Title: Portable Encoder Monitor		
Size: A4	Date: 2023-06-21	**Rev: 1**
KiCad E.D.A. eeschema 7.0.5		Id: 1/1