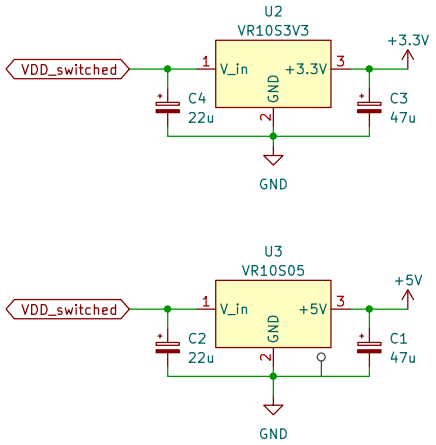
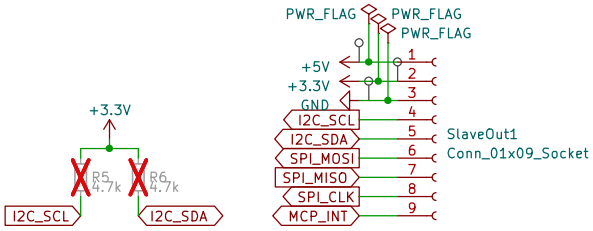
DCDC Supply



Interconnects



Comments

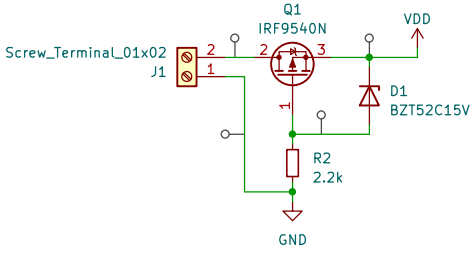
Device should only be powered by external supply voltage!

If powered by POE, the power needed will most likely be higher then 4W for multiple modules! This can lead to unexpected behavior.

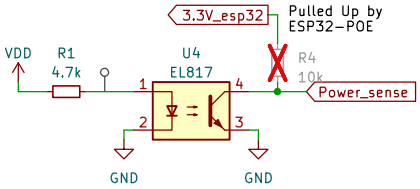
If the uC is powered by POE and the modules externaly (jumpers not set), the modules should be turned off if the uc loses power for safety. Otherwise some outputs stay on which could lead to great harm.

I strongly recommend to not use the POE feature and power the ESP32 over the same power supply!

Reverse Polarity Protection



Input Power Sense

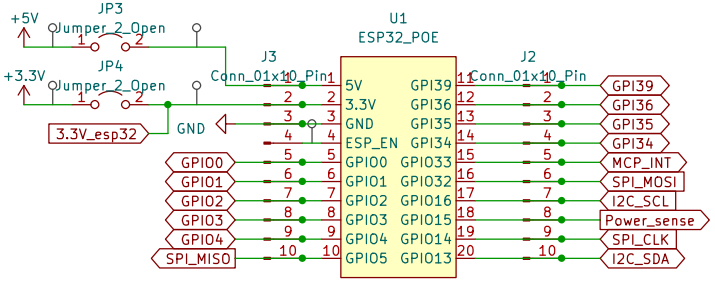


Microcontroller ESP32-POE

useable pins of revision L: 4,5,13,14,16,32,33,35,36

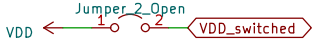
unused indicates no usage by esp32 poe itself

0: critical with wrover board
1: Uart TX (= unused)
2: with SD card connected to D_Com with diode
3: Uart RX (pull up) (= unused)
4: U1TX = unused
5: SPI_CS (pull up)= unused
13: I2C SDA = unused
14: connected to SD card = unused if sd card not used
15: connected to SD card (pulled up) = unused if sd card not used
16: connected to IO33 if wrover via resistor and pulled up
32: unused
33: connected to IO16 if wrover via resistor
34: pull up and connected to BUT1
35: connected to measure battery. pulled down by default = unused
36: U1RX (pulled up)
39: external power detector (between 47k and 100k)



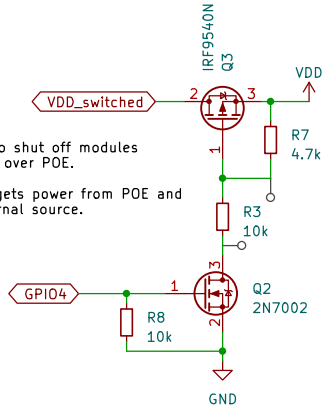
Input Power Shut Off

Close if uC AND modules are powered from external powersupply. No POE allowed!



Switch off circuit to shut off modules if uC looses power over POE.

Only usable if uC gets power from POE and modules from external source.



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File: Controller-module-V1.1.kicad_sch

Title: Controller-module

Size: A4	Date: 27.01.2025	**Rev: 1.1**
KiCad E.D.A. 8.0.2		Id: 1/1