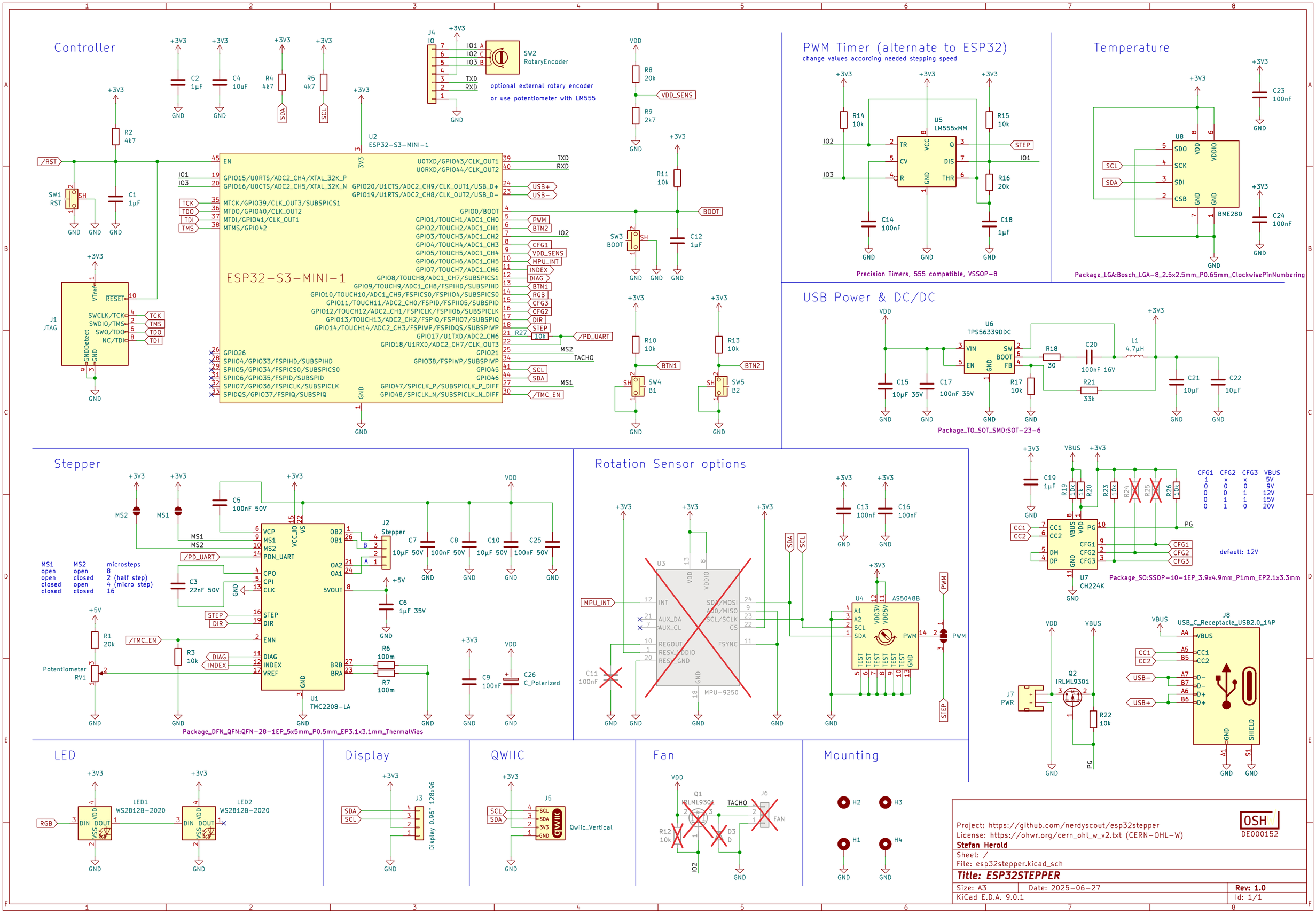
Controller
ESP32-S3-MINI-1
U2
J4
SW2
RotaryEncoder
optional external rotary encoder
or use potentiometer with LM555
SW1
RST
SW3
BOOT
J1
JTAG
PWM Timer (alternate to ESP32)
change values according needed stepping speed
U5
LM555xMM
Precision Timers, 555 compatible, VSSOP-8
Temperature
U8
BME280
Package_LGA:Bosch_LGA-8_2.5x2.5mm_P0.65mm_ClockwisePinNumbering
USB Power & DC/DC
U6
TPS56339DDC
Package_TO_SOT_SMD:SOT-23-6
Stepper
U1
TMC2208-LA
J2
Stepper
Potentiometer
RV1
Package_DFN_QFN:QFN-28-1EP_5x5mm_P0.5mm_EP3.1x3.1mm_ThermalVias
Rotation Sensor options
U3
MPU-9250
U4
AS5048B
U7
CH224K
Package_SO:SSOP-10-1EP_3.9x4.9mm_P1mm_EP2.1x3.3mm
default: 12V
J7
PWR
Q2
IRLML9301
J8
USB_C_Receptacle_USB2.0_14P
LED
LED1
WS2812B-2020
LED2
WS2812B-2020
Display
J3
Display 0.96" 128x96
QWIIC
J5
Qwiic_Vertical
Fan
Q1
IRLML9301
J6
FAN
Mounting
H1
H2
H3
H4
Project: https://github.com/nerdyscout/esp32stepper
License: https://ohwr.org/cern_ohl_w_v2.txt (CERN-OHL-W)
Stefan Herold
Sheet: /
File: esp32stepper.kicad_sch
Title: ESP32STEPPER
Size: A3
Date: 2025-06-27
Rev: 1.0
KiCad E.D.A. 9.0.1
Id: 1/1
OSH
DE000152