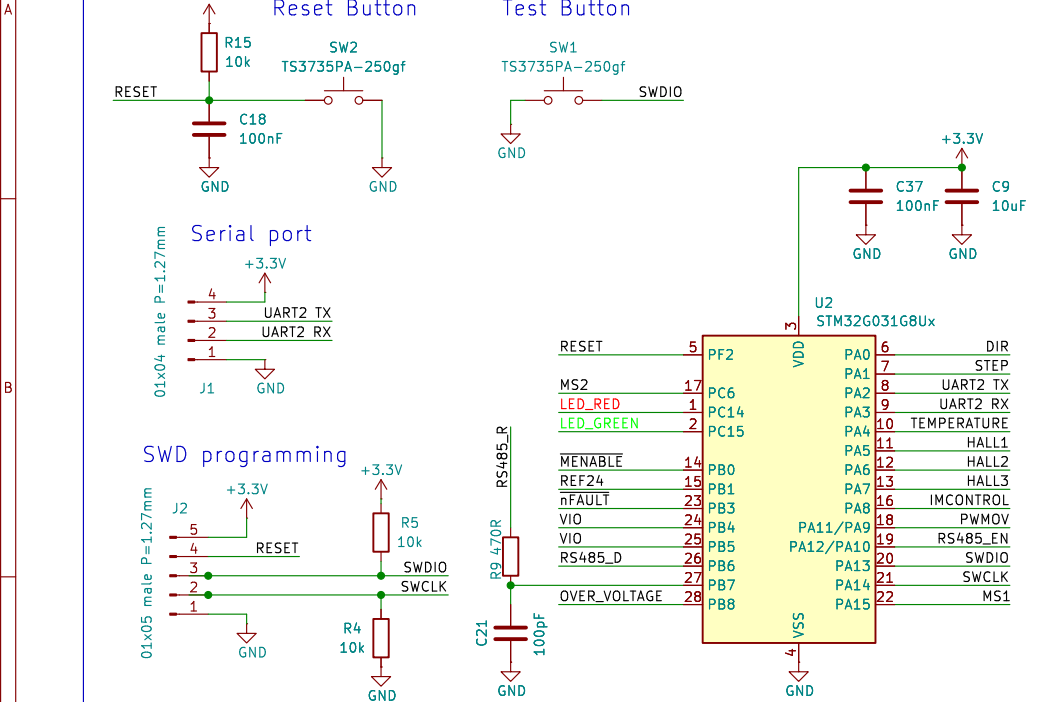


1	2	3	4	5	6	7	8
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[illegible]

Hall Sensors

The diagram illustrates the connection of three AH49HSC Hall sensors (U7, U6, U4) to a +3.3V supply. Each sensor's VCC pin is connected to +3.3V, its GND pin to GND, and its VOUT pin to a common output line. Each output line is also connected to a capacitor (C17, C20, C23) to GND.

RS485 Transceiver

The diagram illustrates the circuit for an RS485 Transceiver. It features a 74VHC1T3088E buffer IC (U10) configured as a transceiver. The IC is powered by a +5V supply (VCC, pin 8) and ground (GND, pin 5). A 10µF capacitor (C35) is connected between the +5V supply and ground. The RS485_R signal (pin 1) is connected to the RO/RE pin (pin 2). The RS485_D signal (pin 3) is connected to the DE/DI pin (pin 4). The RS485_EN signal (pin 13) is connected to the RO/RE pin (pin 2) through a 10kΩ resistor (R13). The RS485_A signal (pin 6) is connected to the A pin (pin 6) through a 10kΩ resistor (R17). The RS485_B signal (pin 7) is connected to the B pin (pin 7) through a 10kΩ resistor (R2). The IC is labeled U10 SIT3088E.

Input Power and RS485 Connector

The diagram illustrates the wiring for a 6-pin connector labeled J4. The pins are numbered 1 through 6. Pins 1, 2, and 3 are connected to the input power supply: pin 1 to GND, pin 2 to +24V, and pin 3 to +24V. Pins 4, 5, and 6 are connected to the RS485 interface: pin 4 to RS485_A, pin 5 to RS485_B, and pin 6 to RS485_B. The RS485_A and RS485_B lines are shown as a twisted pair.

Input power

RS485 interface

ATD5833 Motor Driver

+24V stepper driver supply
Place close to the stepper motor driver chip

Cutoff frequency: 1592 Hz

Motor Connections

MS1 and MS2 pins: step resolution

MS2	MS1	Step resolution
0	0	Full step
0	1	1/2
1	0	1/4
1	1	1/16

R3 and R1: Max current setting resistors:

$$ITRIP_{max} = VREF / (8 * RSENSE)$$

$$2.5 / (8 * 0.15) = 2.08A$$

The maximum voltage on the SENSEx pin cannot exceed 0.32V
 $2.08 * 0.15 = 0.312$ (We are ok, not exceeded)

Voltage Regulator

The diagram shows a voltage regulator circuit. A yellow rectangular component labeled U11 ME6211C33M5 is the central element. It has five pins: Pin 1 (VIN) is connected to a +5V input. Pin 3 (CE) is connected to the same +5V input. Pin 2 (VSS) is connected to a GND symbol. Pin 5 (VOUT) is connected to a +3.3V output. A capacitor labeled C5 10uF is connected between the +3.3V output and the VSS pin (Pin 2).

Status LEDs

Temperature Monitoring

The diagram shows a circuit for temperature monitoring. A green line labeled "TEMPERATURE" enters from the left and connects to a green node. This node is connected to a resistor R29 (4.7k) which leads to a +3.3V supply. The green node is also connected to a capacitor C41 (100nF) which leads to GND. Additionally, the green node is connected to a thermistor TH1 (100k 1% NTC) which is also connected to GND. The thermistor is represented by a rectangle with a diagonal line and a small circle at the end.

ESD Discharge Points

The diagram illustrates the ESD discharge points for a 10-bit DAC. The DAC has 10 outputs, labeled C24 through C34. Each output is connected to a 220pF capacitor, which is in turn connected to ground (GND). The GND symbol is located at the bottom left of the diagram.

Servo motor stepper – Schematic top level

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File: schTop.kicad_sch

Title: Servo motor stepper M3 – Schematic top level

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