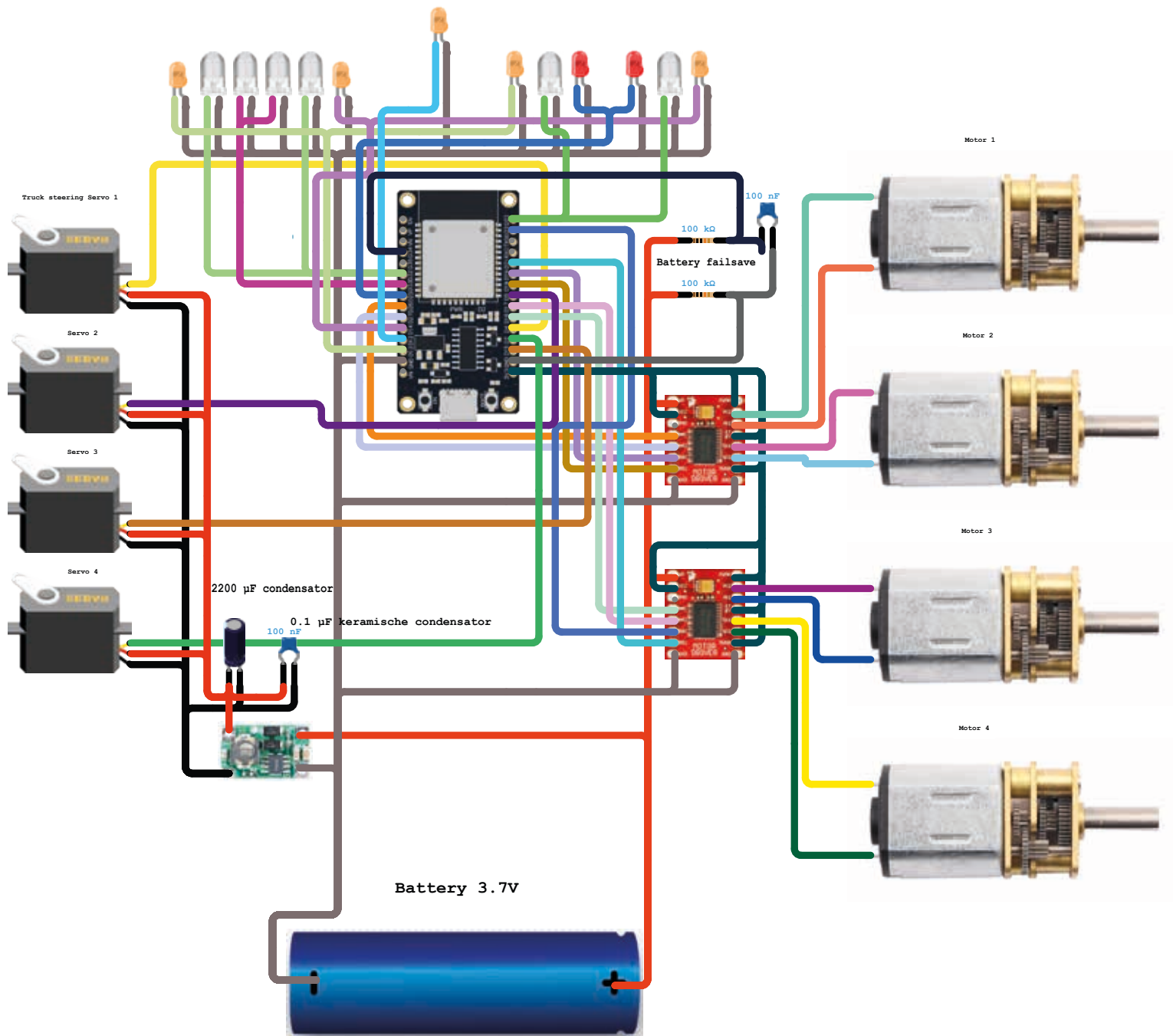


On the - (minus) you need to put resistors you need to calculate based on the LED used what is needed.

If you use our LED boards then resistors are already in place.





Pin List
Motors (to TB6612 IN pins)

TB6612 #1

Motor 1: GPIO26 → AIN1, GPIO27 → AIN2

Motor 2: GPIO18 → BIN1, GPIO19 → BIN2

Motor 1

ESP32 GPIO	TB6612 Pin
GPIO26	AIN1
GPIO27	AIN2
Motor	A01 - A02

Motor 2

ESP32 GPIO	TB6612 Pin
GPIO18	BIN1
GPIO19	BIN2
Motor	B01 - B02

TB6612 #2

Motor 3: GPIO16 → AIN1, GPIO17 → AIN2

Motor 4: GPIO21 → BIN1, GPIO22 → BIN2

Motor 3

ESP32 GPIO	TB6612 Pin
GPIO16	AIN1
GPIO17	AIN2
Motor	A01 - A02

Motor 4

ESP32 GPIO	TB6612 Pin
GPIO21	BIN1
GPIO22	BIN2
Motor	B01 - B02

TB6612 Fixed Connections (as shown in schematic)

VM: Battery + (3.7-4.2V)

GND: Battery -

VCC: 3.3V

STBY: 3.3V

PWMA / PWMB: 3.3V (HIGH)

Servo Signals

Servo 1: GPIO4

Servo 2: GPIO5

Servo 3: GPIO15

Servo 4: GPIO2



Servo Power

+5V: from boost converter

GND: common ground

Recommendation:

Place a 1000-2200 μF electrolytic capacitor on the 5V servo rail, close to the servos.

Correct Servo Power Supply

You must use one of the following options:

Option A (recommended)

Separate 5V buck/boost converter for servos

Connect GND only to ESP32

Option B (minimum)

Use the same 5V supply

BUT add:

1000-2200 μF electrolytic capacitor near the servo

0.1 μF ceramic capacitor

Short, thick wires

Without this, Bluetooth will remain unstable.

LED Outputs (3.3V logic)

Low beam: GPIO32

High beam: GPIO33

Left indicator: GPIO13

Right indicator: GPIO14

Reverse: GPIO23

Brake: GPIO25

Beacon: GPIO12

Power Supply

18650 VBAT (3.0-4.2V) \rightarrow TB6612 VM (motor power) + LED PCB power

USB-C boost/charger 5V OUT \rightarrow servo 5V + input of 3.3V regulator

3.3V regulator OUT \rightarrow ESP32 3V3 + TB6612 VCC / STBY / PWMA / PWMB