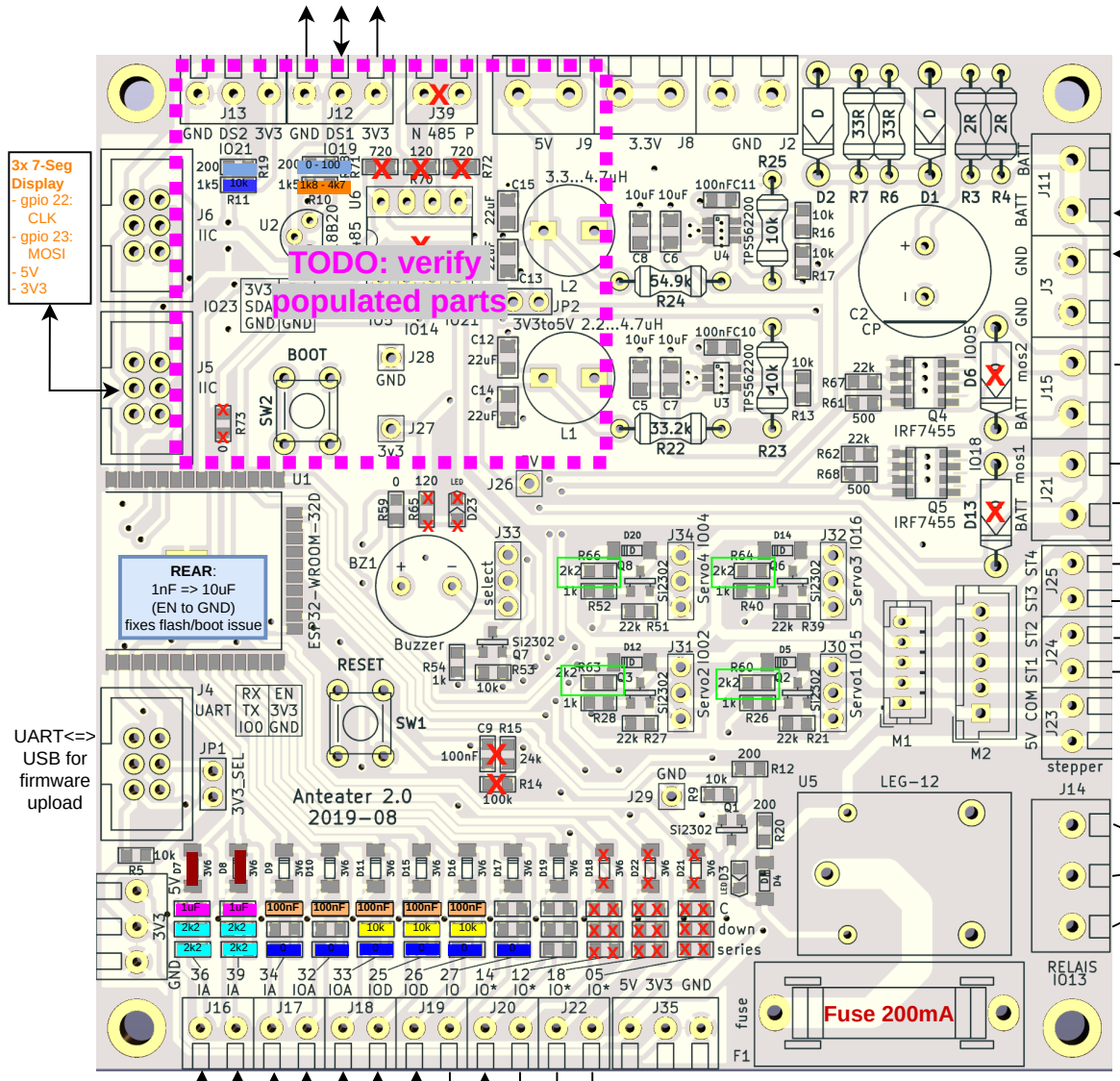
Waterpump Connection plan

13.04.2024



gpio 36: ADC in: Pressure Sensor 0-5V -> 0-2.5V

gpio 39: ADC in: free

gpio 34: ADC UI: Poti 0-3.3V

gpio 32: ADC out: 7 Seg Displays CS

gpio 33: in: Button UI

gpio 25: in: Button Start

gpio 26: in: Flow-Sensor (Pulses in)

gpio 27: out: Servo Signal (PWM out)

gpio 14: [RS485]

gpio 12: [LED/BUZZER]

gpio 18: [MOS1]

gpio 05: [MOS2]

cable configuration

control-box => VFD

Oelflex 7x0.5mm²
gn: GND (driver)
01. 5V (reserve)
02: 3V3
03: Start
04: X1 speed bit 0
05: X2 speed bit 1
06: X3 speed bit 2

control-box => UI Panel

Oelflex 12x0.5mm²
gn: GND Poti, led
01. GND Display
02: 3v3 Button, LED?
03: 5V Display
04: 5V Poti [ ] 3V
05: 12V LED power

06: mosfet->gnd LED
07: MISO
08: MOSI
09: CS

10: Poti Analog
11: Button

Legend pcb

- 0 Ohm Resistor
- 3v3 Z-Diode
- 0 Ohm Optional
- [xxx] Conflicting Component
- xx nopop
- critical / important

Components on Pump

13.04.2024

servo

Oelflex 12x0.5mm²
gn : GND (brown)
1: 12V (red)
2: PWM signal (orange)

https://de.aliexpress.com/item/1005006064899449.html

pressure sensor

Oelflex 12x0.5mm²
gn : GND (black)
1: 5V (red)
2: Analog-out (green)

0.5 - 4.5V
0 - 500 psi
0 - 34.5 bar

https://de.aliexpress.com/item/1005003614240635.htm

TODO: add connectors servo, flow sensor

Flow meter

Oelflex 3x0.5mm²
gn : GND (black)
1: 5V (red)
2: Pulse out (yellow)

1l = 12 pulses
5-24V

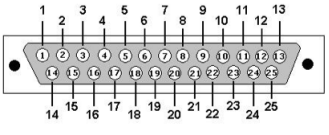
Cable Conection: Red: Positive+ (IN) ; Black: Negative- (GND) ;Yellow: NPN Pulse signal (OUT)

https://de.aliexpress.com/item/4000379407344.html

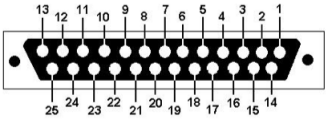
Pump->Box

D-Sub 25 pin Connector, pin assignment

Signal	*Device*	*Color*	*Pins*
GND	Servo	black, brown, red, orange	1, 2, 3, 4
GND	Pressure sensor	yellow	5
GND	Flow sensor	green	6
12 V	Servo	blue, purple, gray, pink	7, 8, 9, 10
5 V	Pressure sensor	light brown	11
5 V	Flow sensor	white	12
PWM 3.3 V	Servo	white-black	13
Analog 0-5 V	Pressure sensor	white-brown	14
Pulse	Flow sensor	white-red	15
FREE			16-25



View looking into male connector



View looking into female connector