

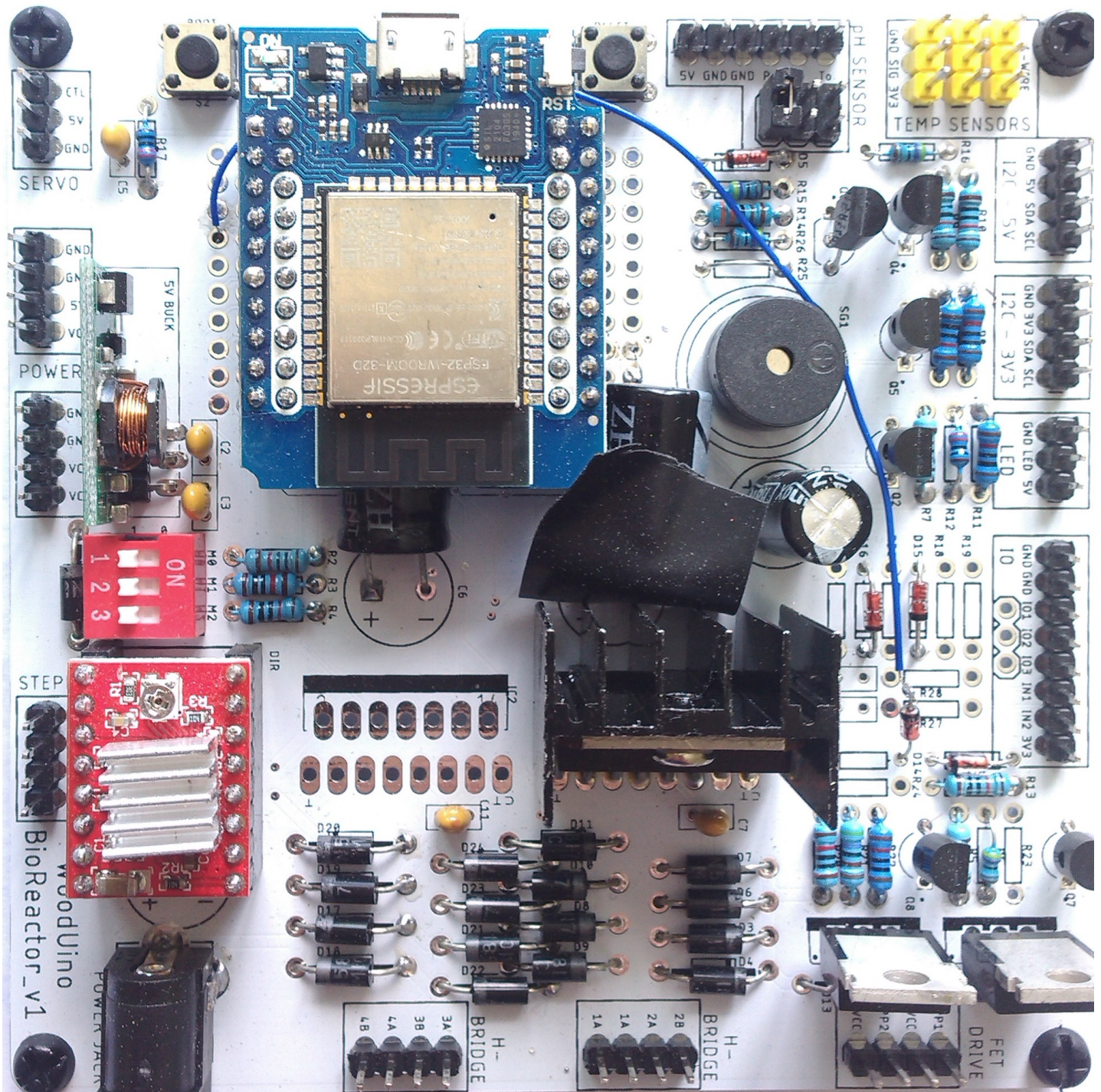
# Configuration and setup management

## Bioreactor v1

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# Device mapping



Pic 1. Board schematic

Currently software supports three sensors – for temperature, PH measurement and light intensity.

1. To hook up temperature, use DS18B20 probe and connect it to any of 3 connection ports (Pic 1 temp sensors pins).
2. PH sensor wiring described below in details, just one thing to remember – it has to be calibrated before using.
3. Light sensor is an I2C device here, can be connected to any of I2C pins on the board. Tested with BH1750 sensor.

There are 8 devices managed by reactor:

Output	Status	Action
Motor	Disabled	<input type="checkbox"/> Enable
FET1	Disabled	<input type="checkbox"/> Enable
FET2	Disabled	<input type="checkbox"/> Enable
HBridge1	Off	Off ▼
HBridge2	Off	Off ▼
HBridge3	Off	Off ▼
HBridge4	Off	Off ▼
LED	Disabled	<input type="checkbox"/> Enable

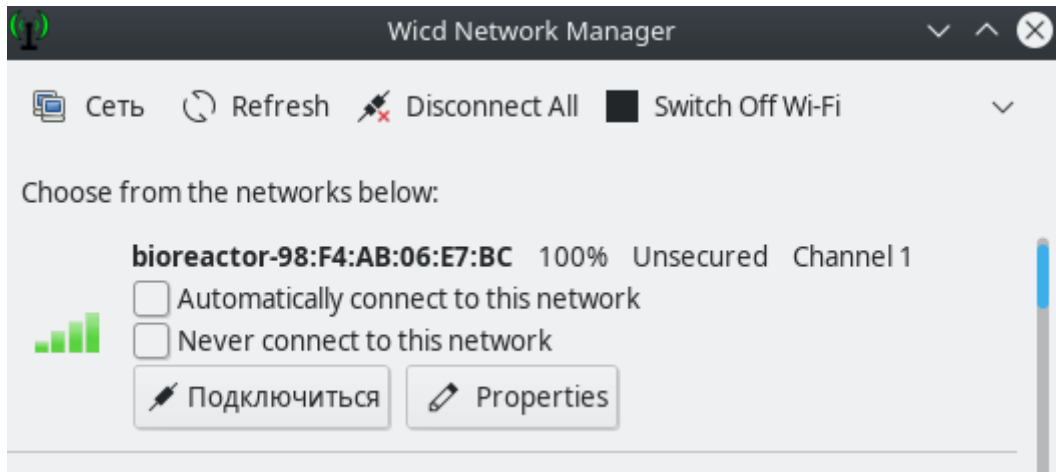
Apply

Pic 2. Main page pane with devices state, every state can be altered

1. Motor – STEPPER pins (refer to Pic 1 here and further). NEMA cable can be connected in forward and reverse way.
2. FET1 - fet drive PP1, VCC pins. Designed to provide permanent power supply.
3. FET2 – fet drive PP2, VCC pins.
4. Hbridge1 – h-bridge 1A, 1A(board misprint ) pins. Designed for intermittent supply.
5. Hbridge2 – h-bridge 2A, 2B pins
6. Hbridge3 – h-bridge 3A, 3B pins
7. Hbridge4 – h-bridge 4A, 4B pins
8. LED – led\GND\5V pins. Can be attached to be on or off by default

# Wi-Fi setup

1. Connect to the device



2. Open in your browser <http://bioreactor.local/settings>, or <http://192.168.4.1/settings> and enter your WiFi point name and pass, then save it.

← → ↻ ⚠ Not secure | bioreactor.local/settings ☆

[Main](#) [Program](#) [Settings](#)

**WiFi settings**

Connection to 'CGN3-7590' WiFi saved

WiFi:

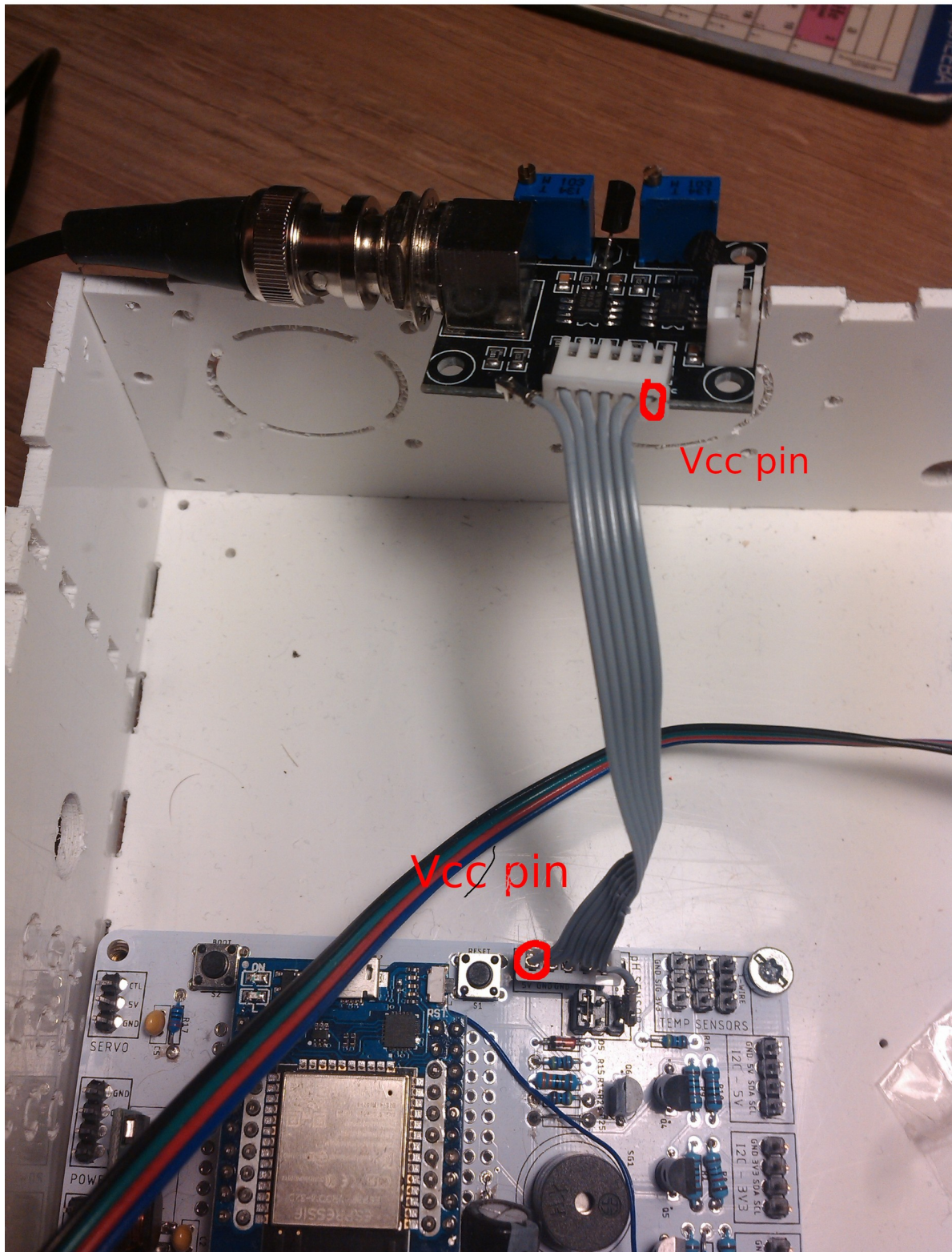
Password:

3. reboot the device. You can then connect to your wifi and access the reactor by visiting <http://bioreactor.local/>



# PH meter wiring

PH Probe connection is a straightforward process, one thing to note however is that cable has to be twisted, so that Vcc pin on the reactor board will match Vcc pin on ph board



# Firmware upgrade

1. Open <http://bioreactor.local/settings> page.
2. Click on 'Choose file' button of 'Update ESP32 firmware' section and find 'bioreactor.bin' file on your file system

## Firmware update

Update ESP32 firmware:

Choose File

bioreactor.bin

Update

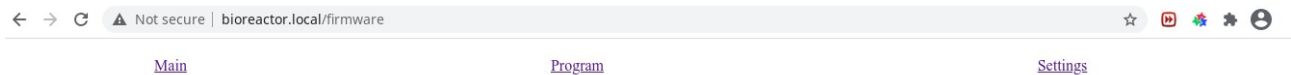
Update UI:

Choose File

No file chosen

Update

3. Click update and wait till confirmation appears



Reboot the board to apply changes

4. After rebooting your firmware should be updated

# Updating UI files

1. Open <http://bioreactor.local/settings> page.
2. Click on 'Choose file' button of 'Update UI' section and find html or js file on your file system

Update ESP32 firmware:		
<input type="button" value="Choose File"/>	No file chosen	<input type="button" value="Update"/>
Update ESP32 html:		
<input type="button" value="Choose File"/>	settings.html	<input type="button" value="Update"/>

3. Click update. You should be able to see confirmation promptly. No reboot required, new changes should be applied immediately

← → ↻ ⚠ Not secure | bioreactor.local/upload

[Main](#)

[Program](#)

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Successfully uploaded