Main PCB as blackbox (only connector):
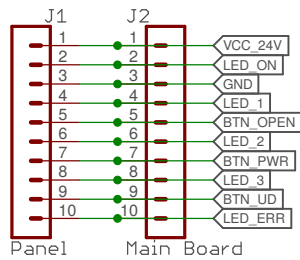
J1 J2

|			Voltage (Off and On)
1	1	VCC_24V	23.2 23.0
2	2	LED_ON	20.8 1.3
3	3	GND	GND GND
4	4	LED_1	20.8 1.3
5	5	BTN_OPEN	5.1 GND
6	6	LED_2	20.8 1.3
7	7	BTN_PWR	5.1 GND
8	8	LED_3	20.8 1.3
9	9	BTN_UD	5.1 GND
10	10	LED_ERR	21.7 5.1

Panel   Main Board

All pins of the connectors potentially carry 24V
=> cannot directly feed into Arduino!

Turning the device on has no effect on the voltages of the LED and the BTN pins. A button press connects to GND,
a burning LED causes the voltage to drop from 20.8V to 1.3V, except for the error LED, which drops from 21.7V to 5.1V
when turned on.

As the LEDs and the button pins are not disabled when the device appears off, one can still flash the leds programmatically!

Power Supply for ESP8266 (3.3V)

A linear voltage regulator like the L78M05 gets too hot, so a step-down converter is required.
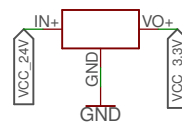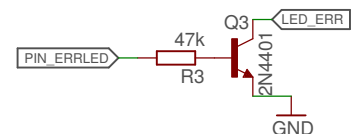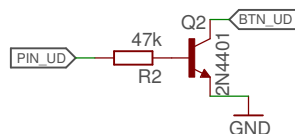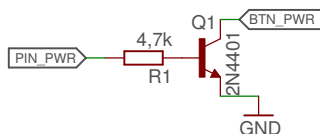
Alternatively, figure out a proper circuit to generate 3.3V
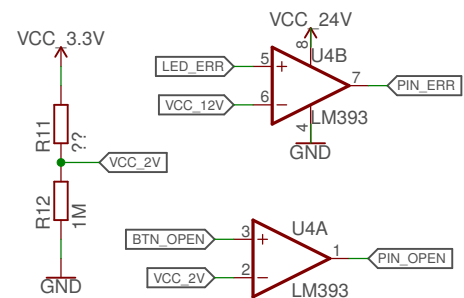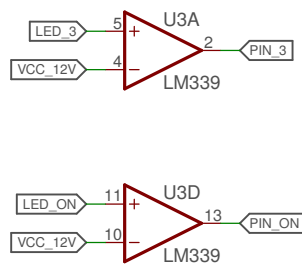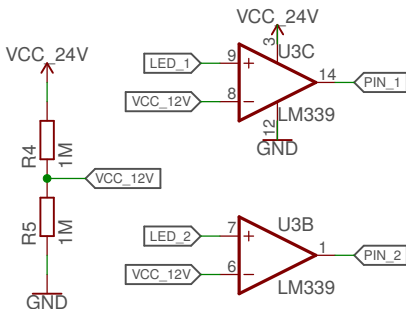=> need to adjust voltage dividers then!

open hardware

Actuators: Emulate power On/Off button press, emulate UP button press, override error LED
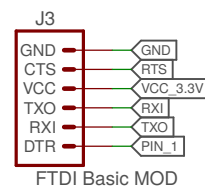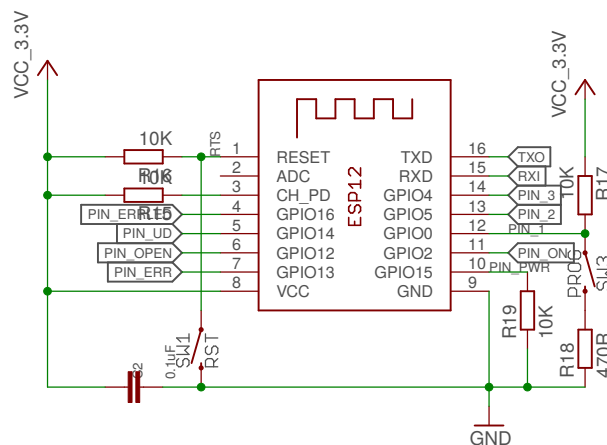

Sensors: Detect if LEDs (Power, level, error) are on, check if case open sensor (button) is triggered

All Input pins (PIN_1, PIN_2, PIN_3, PIN_ON, PIN_ERR and PIN_OPEN) must enable internal pull-up resistors!

Microcontroller: ESP8266, Board: ESP-12F

Venta Connected ESP

ESP8266-based WiFi Interface for Venta Humidifier, Version 0.01

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