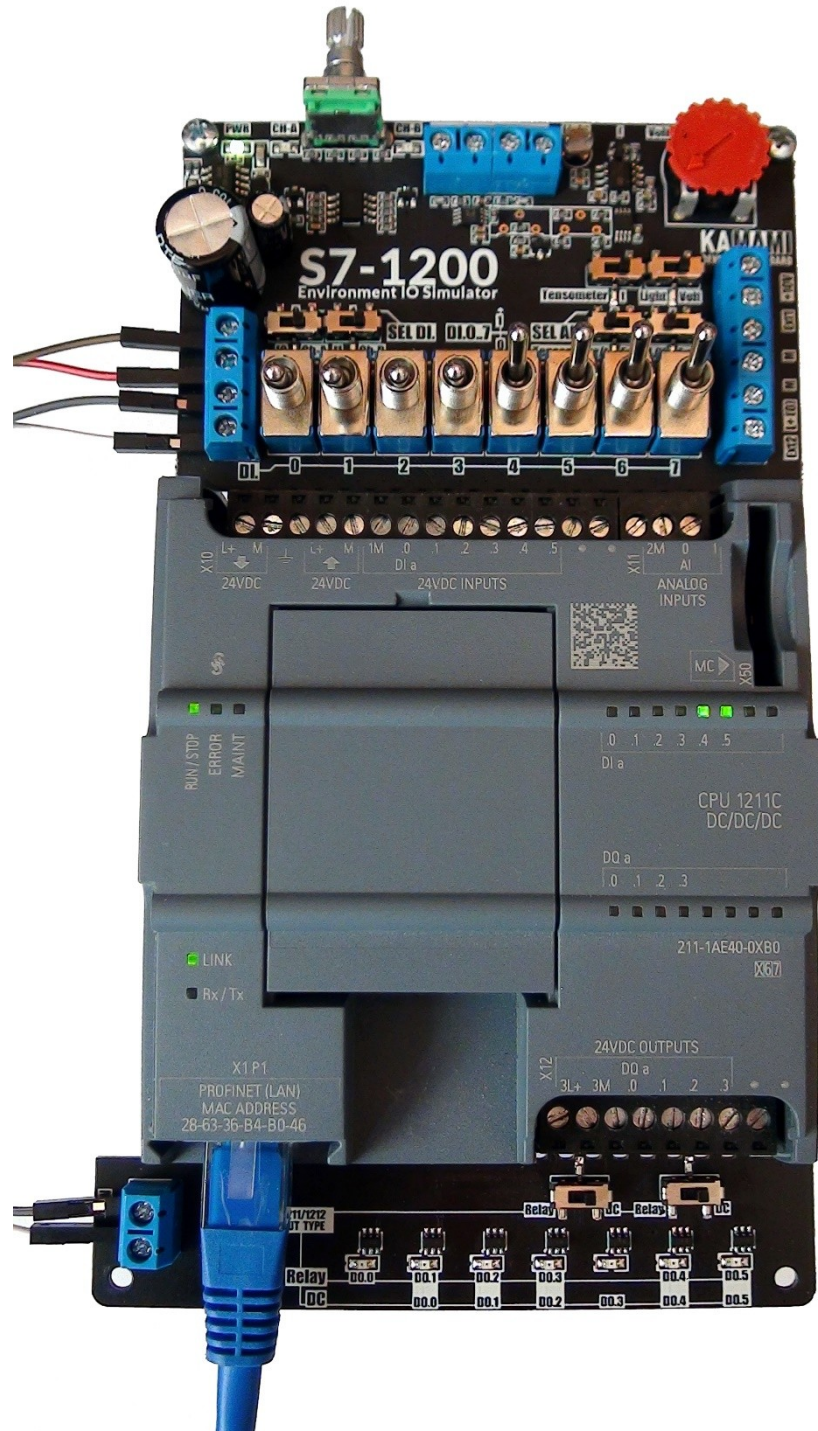


Description of test software for KA-S71200-IO-Simulator





Warning:

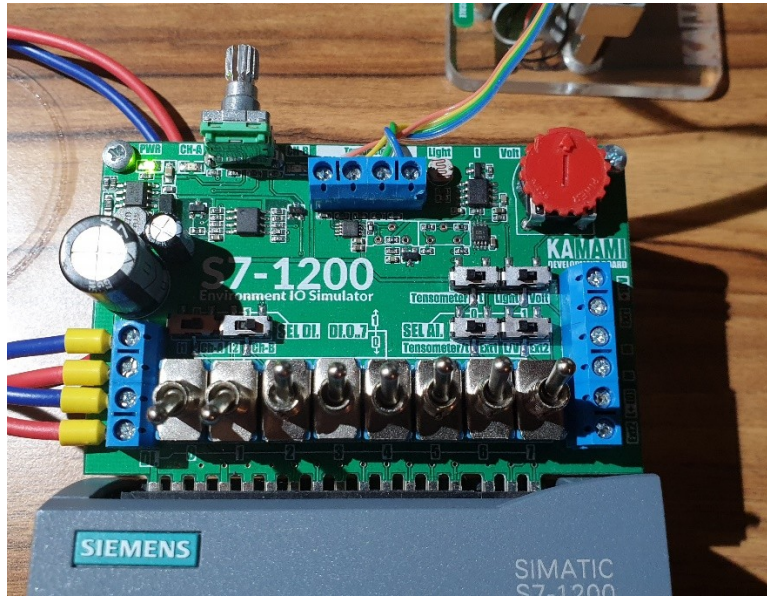
1. The photos included in the further part of the document show the pre-production version of KA-S71200-IO-Simulator with a green solder mask. It is technically identical to the current production version available at KAMAMI.pl.
2. The pictures show a test kit with the CPU1212C DC / DC / DC controller. It is equipped with 8 digital inputs and 6 outputs.

The sample test application for CPU1211C DC/DC/DC (6 digital inputs and 4 outputs) works similarly to the version for CPU1212C DC/DC/DC, where:

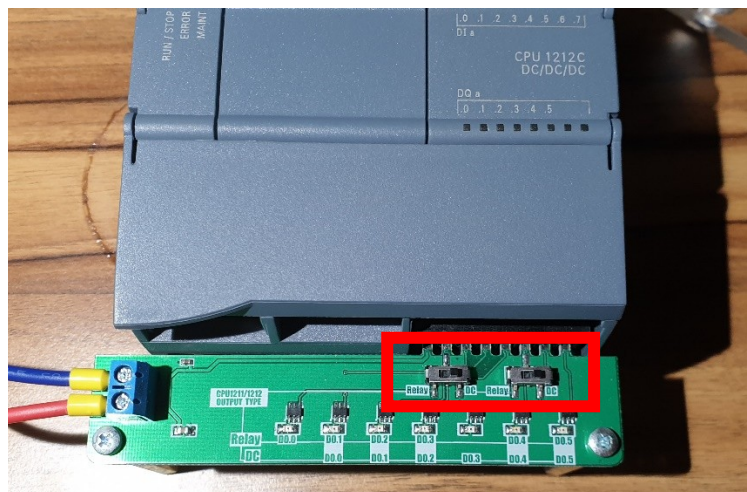
- a. The test selectors are switches connected to the inputs DI.4 and DI.5 (instead of DI.6 and DI.7)
- b. Switches connected to DI.6 i DI.7 are not used
- c. Working output line monitors: DO.0...DO.3
- d. Output monitors DO4 i DO.5 are not used

1. Preparation

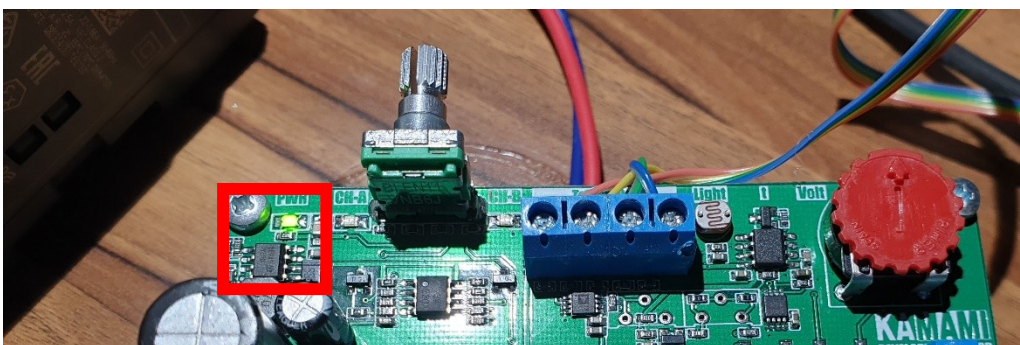
1.1. An input board should be attached to the controller inputs - as in the photo below.



1.2. The controller outputs should be connected to the output board, the switches located in its upper right should be in the "DC" position.

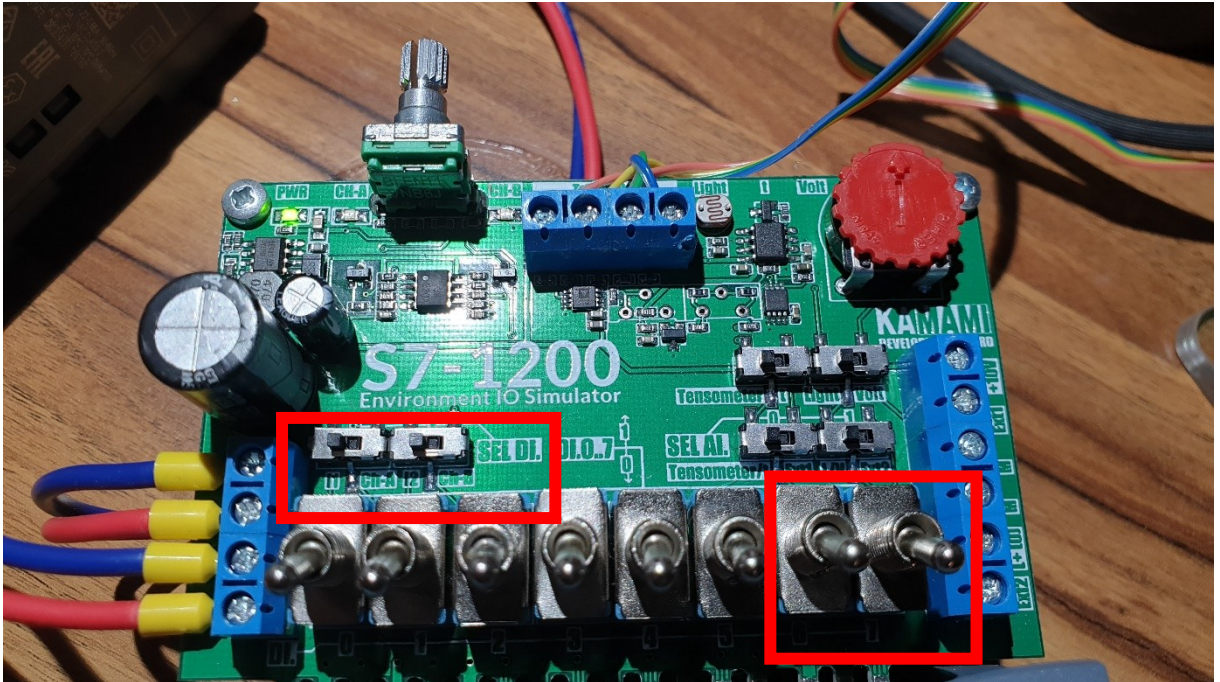


1.3. The power supply terminals of both boards should be connected to each other and connected to the 24VDC power supply. When the set is properly powered, the "PWR" LED located in the upper-left corner of the (large) input board will light up - as in the photo below.

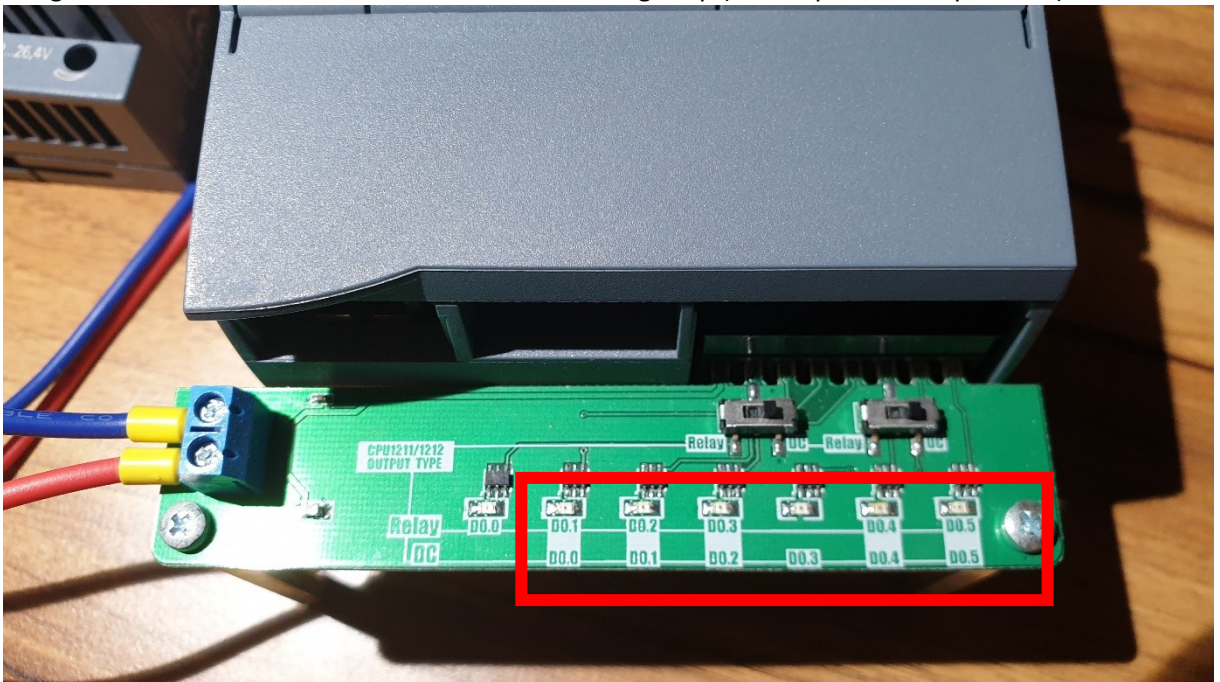


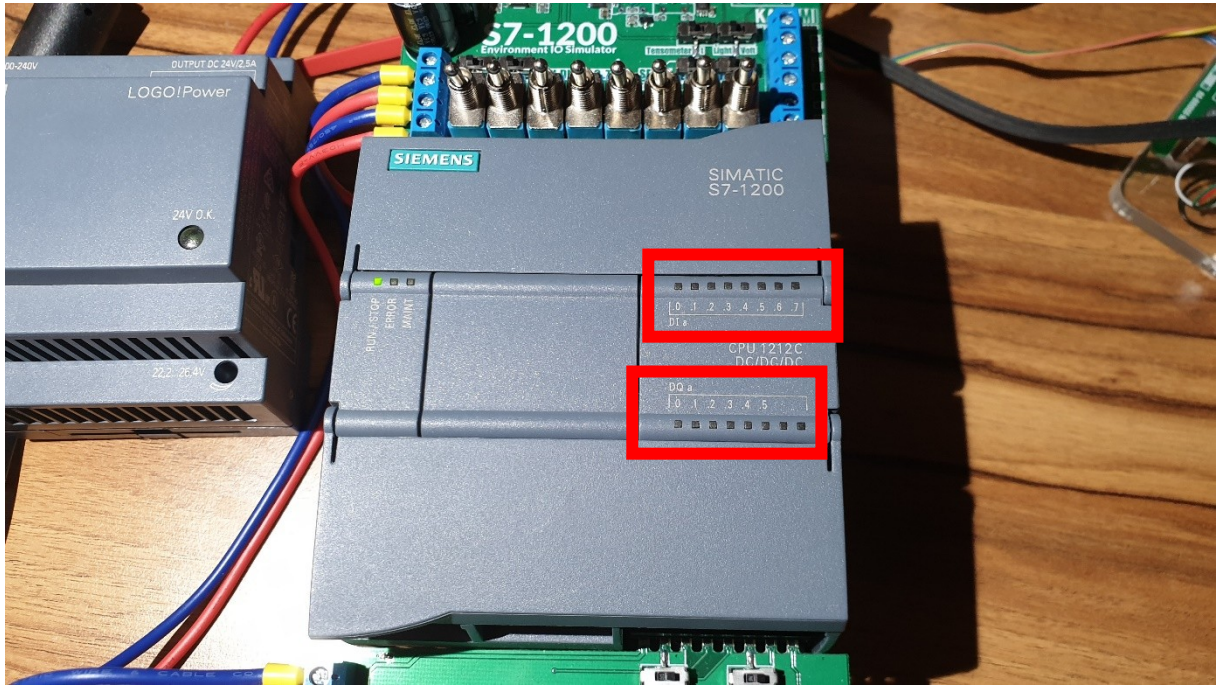
2. Test #1 – digital inputs

2.1. "SEL DI." Switches should be in positions "I1" and "I2" and switches DI.6 and DI.7 in "down" position



2.2. Flip each switch DI.0...DI.5 on-off-on and check if LED on the output plate DO.0...DO.5 and the green LEDs embedded in the S7-1200 controller light up (both input and output lines)

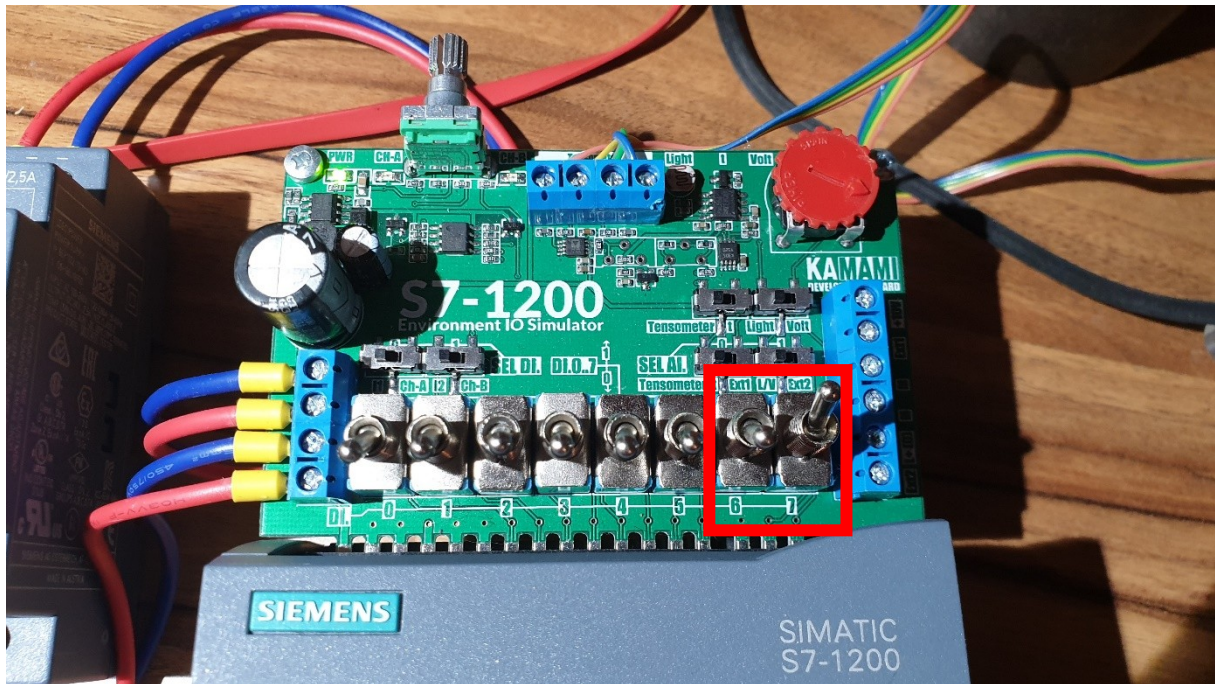




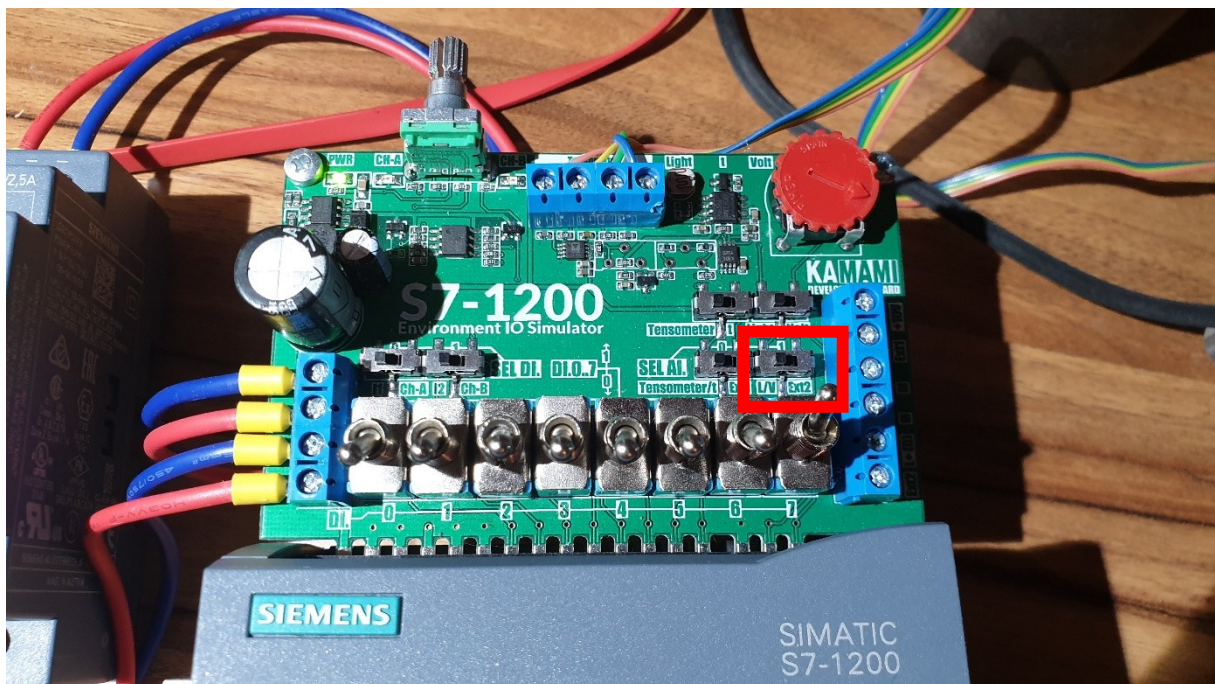
2.3. Passing test # 1 requires the reaction of the respective outputs to state changes on all inputs.

3. Test #2 – AIN1 analog input (light sensor / potentiometer)

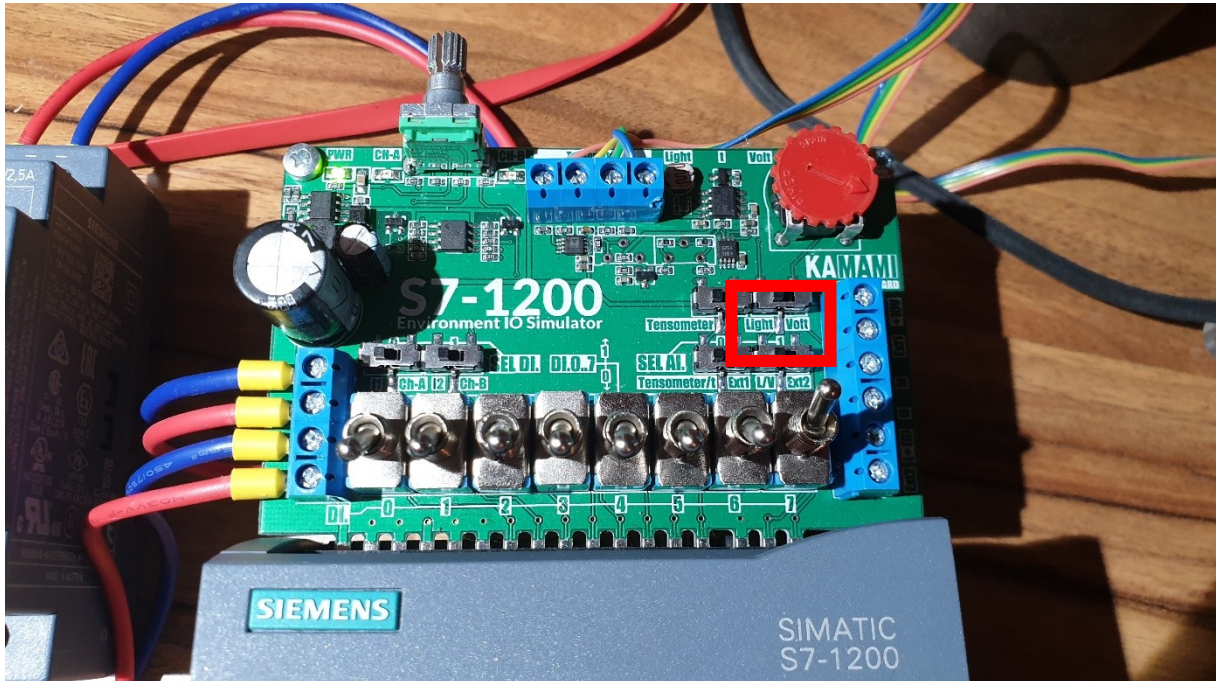
3.1. Switches DI.6 and DI.7 should be set in positions as in the photo below.



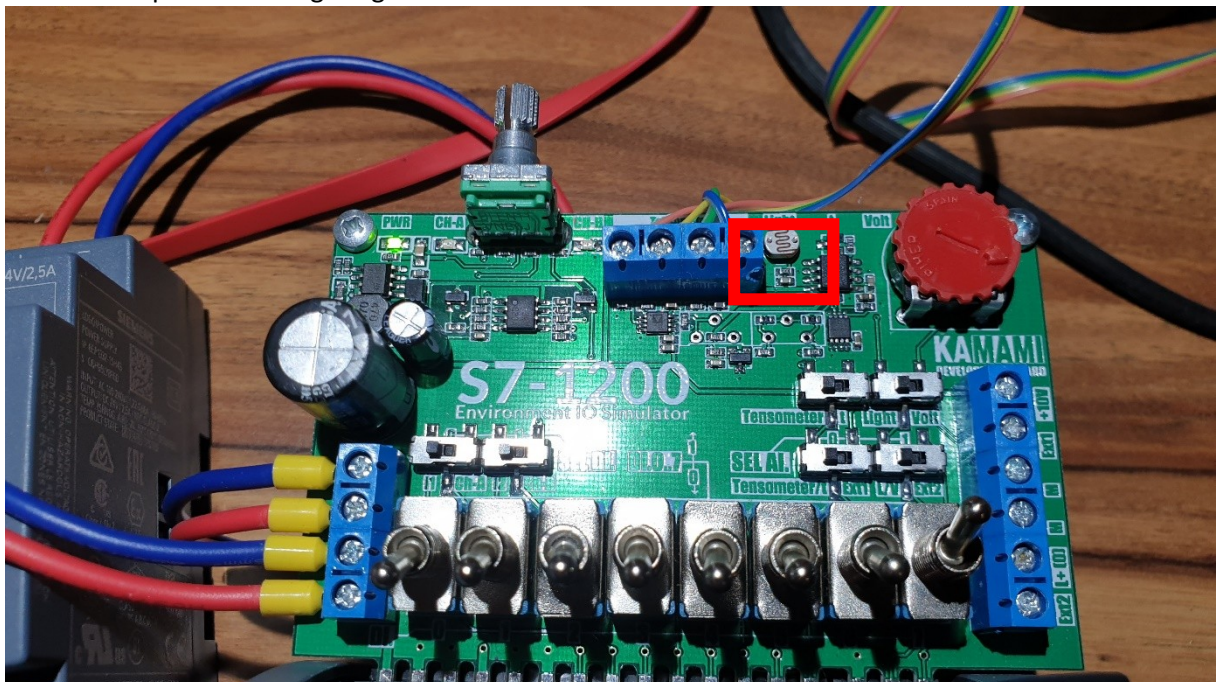
3.2. The SEL AI.1 switch should be set to the "L/V" position.



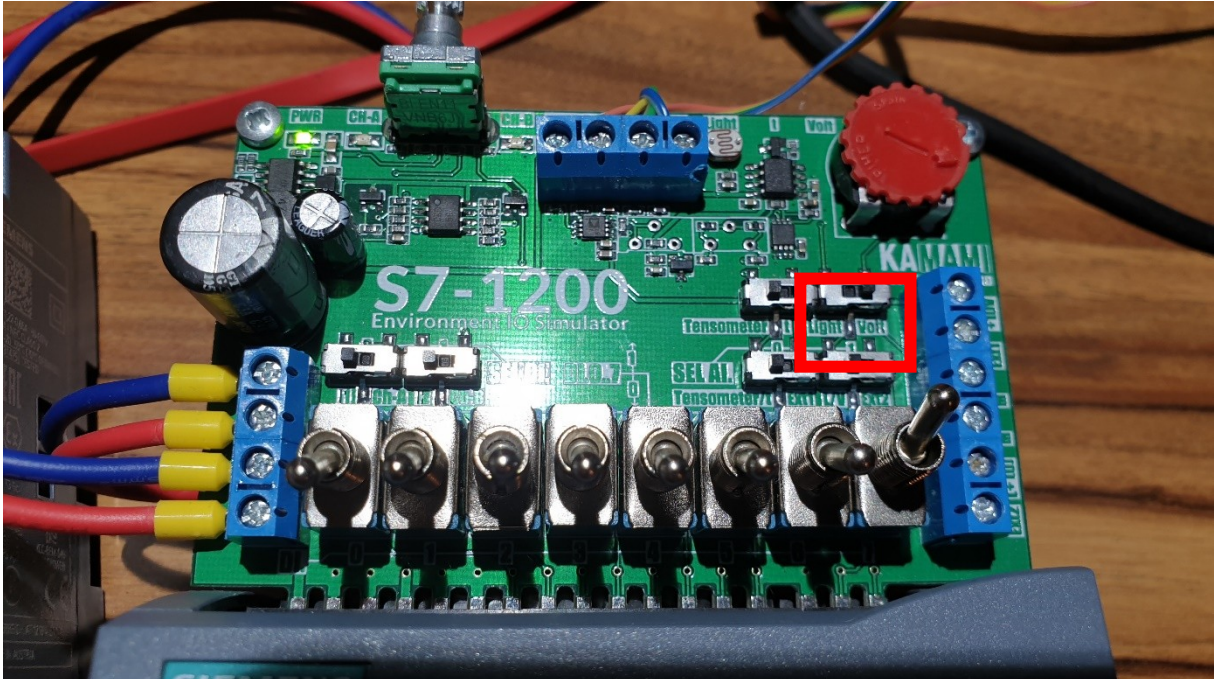
3.3. The "Light / Volt" switch should be set to the "Light" position - as in the photo below.



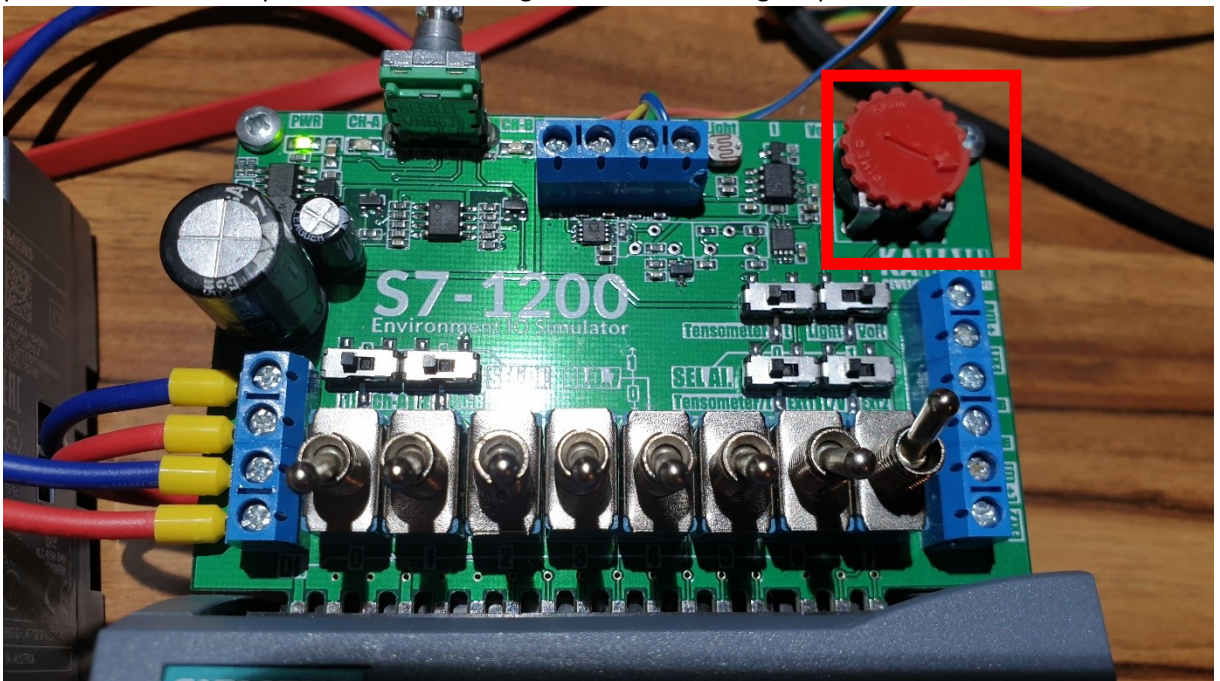
3.4. The light sensor marked on the board as "Light" should be illuminated or shielded from light, which - depending on the intensity of light falling on the sensor - changes the state of the selected output and the lighting of one of the LEDs connected to DO.0...DO.5.



3.5. The "Light/Volt" switch should be now set to the "Volt" position - as in the photo below.

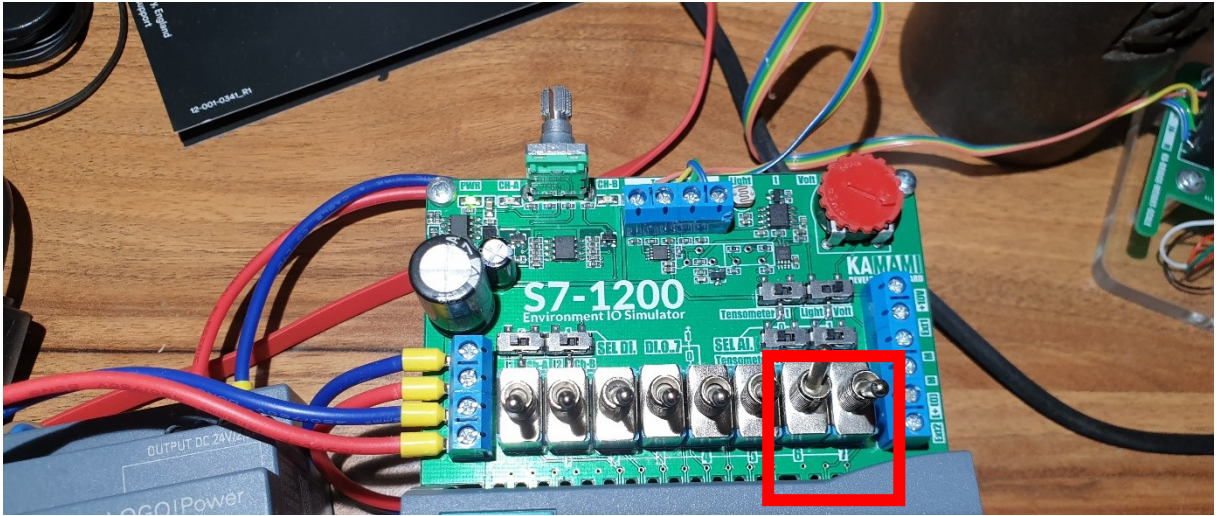


3.6. By turning the red knob of the "Volt" potentiometer we check if the statuses of the DO.0...DO.5 outputs change, with the potentiometer knob being closer to the rightmost position of the "Volt" potentiometer, the higher DO.x LED will light up.

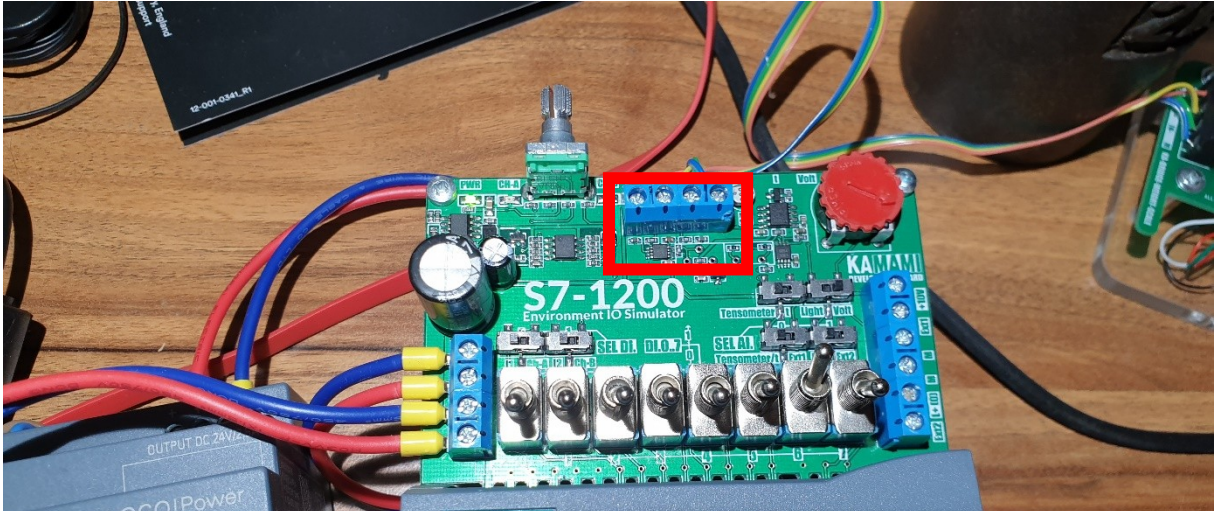


4. Test #3 – analog input AIN0 (tensometer / temperature)

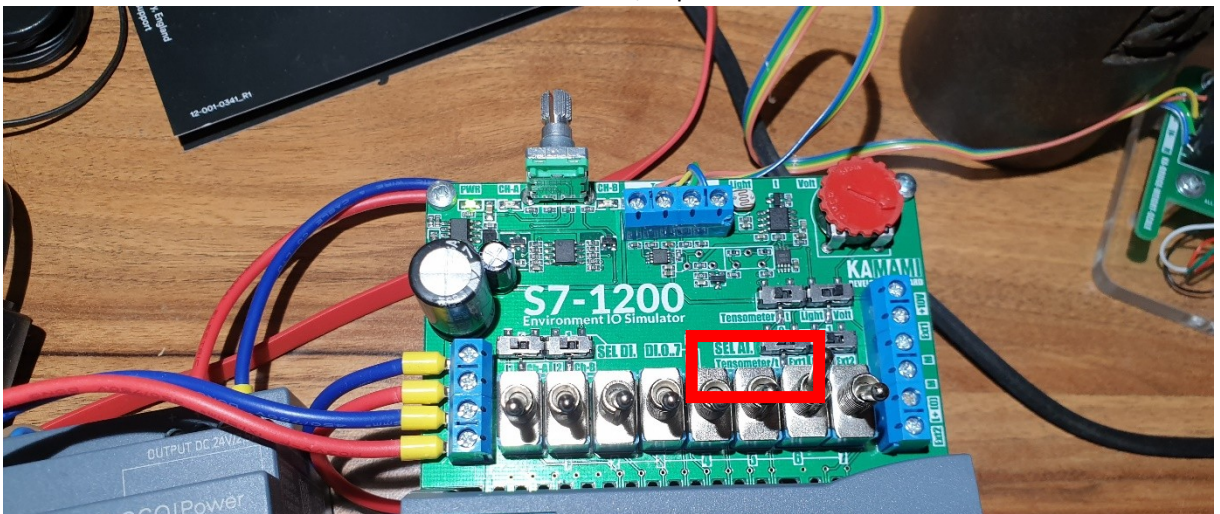
4.1. Switches DI.6 and DI.7 should be set in positions as in the photo below.



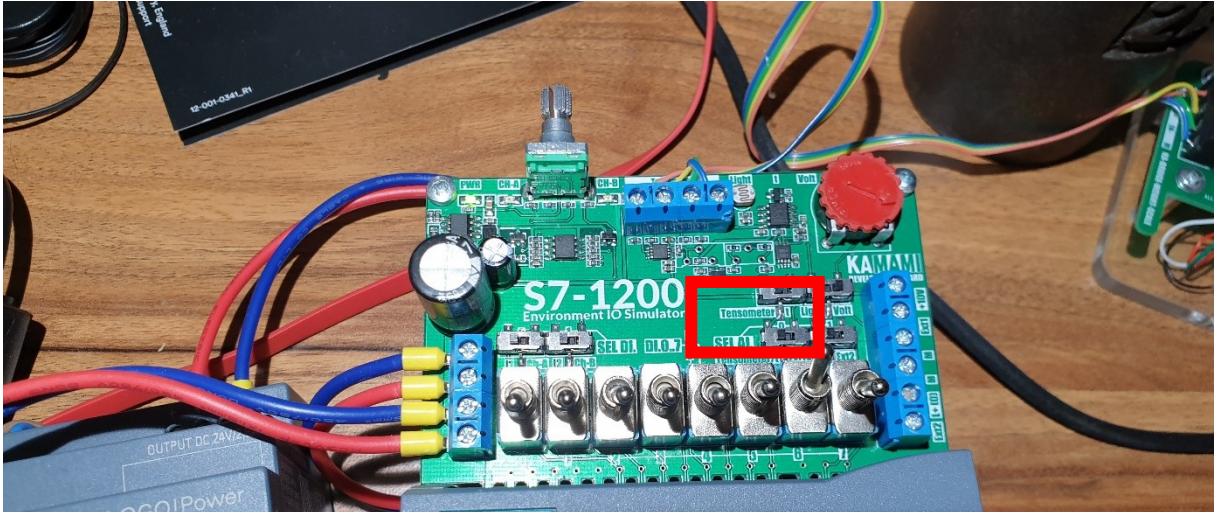
4.2. Connect tensometer (load beam) to „Tensometer” connector.



4.3. The SEL AI.0 switch should be set to the "Tensometer/t" position.

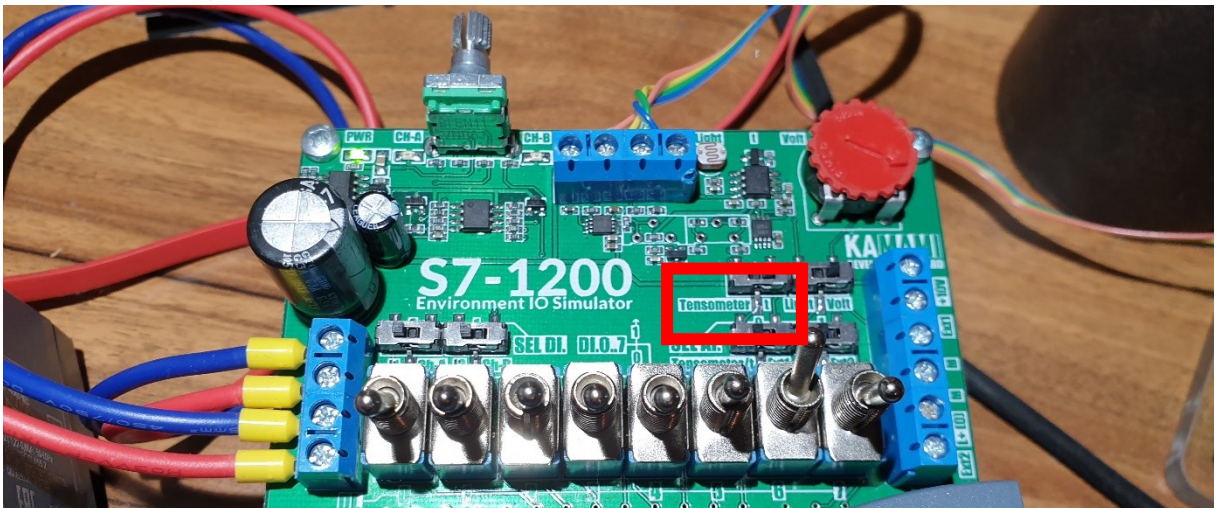


4.4. Set the "Tensometer/t" switch to the "Tensometer" position.

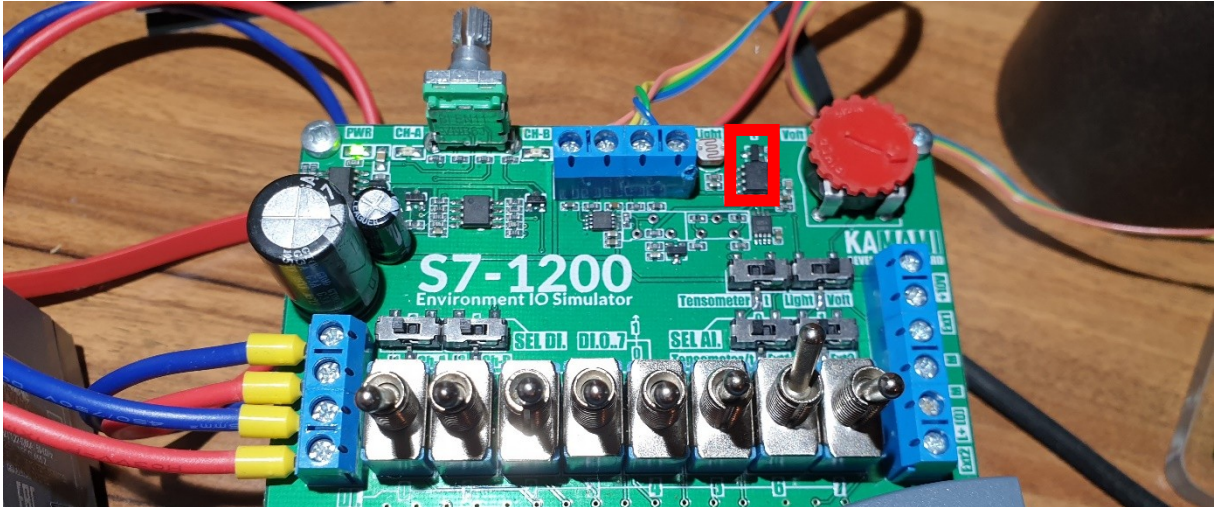


4.5. By changing the pressure force on the tensometer and its direction, we check whether the LED states change at the DO.0...DO.5 outputs (the greater the pressure force, the higher the LED with the larger number turns on).

4.6. The "Tensometer/t" switch should be set to "t"

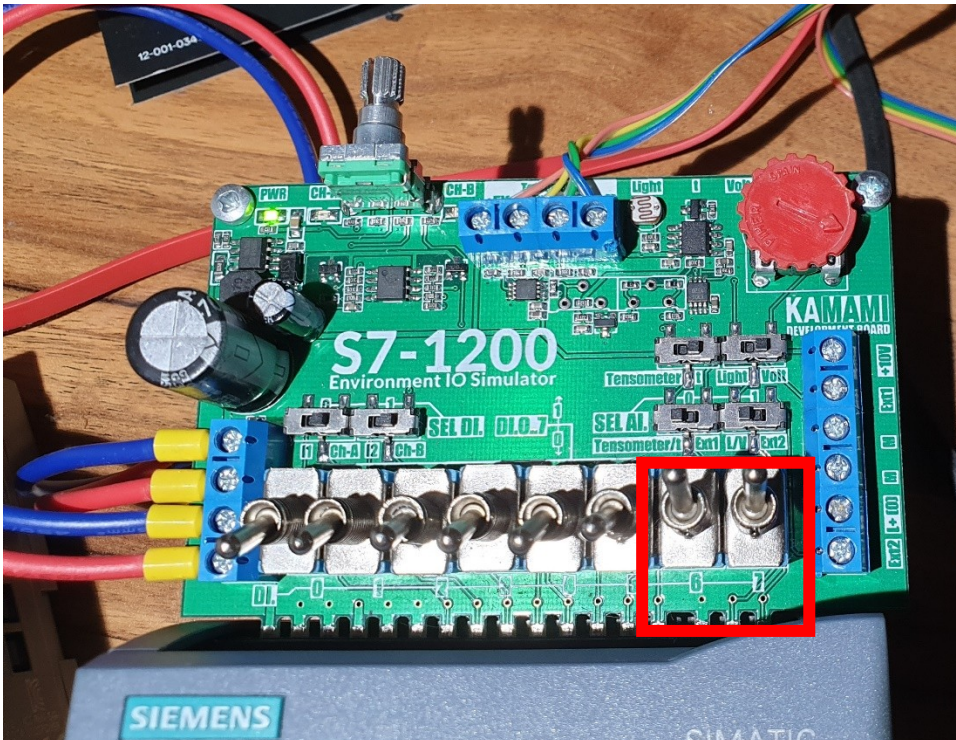


4.7. By heating (e.g. by hand) the temperature sensor "t" and then cooling it, we observe whether the LEDs at DO0...DO.5 change (the higher the temperature, the higher the LED with the larger number turns on).

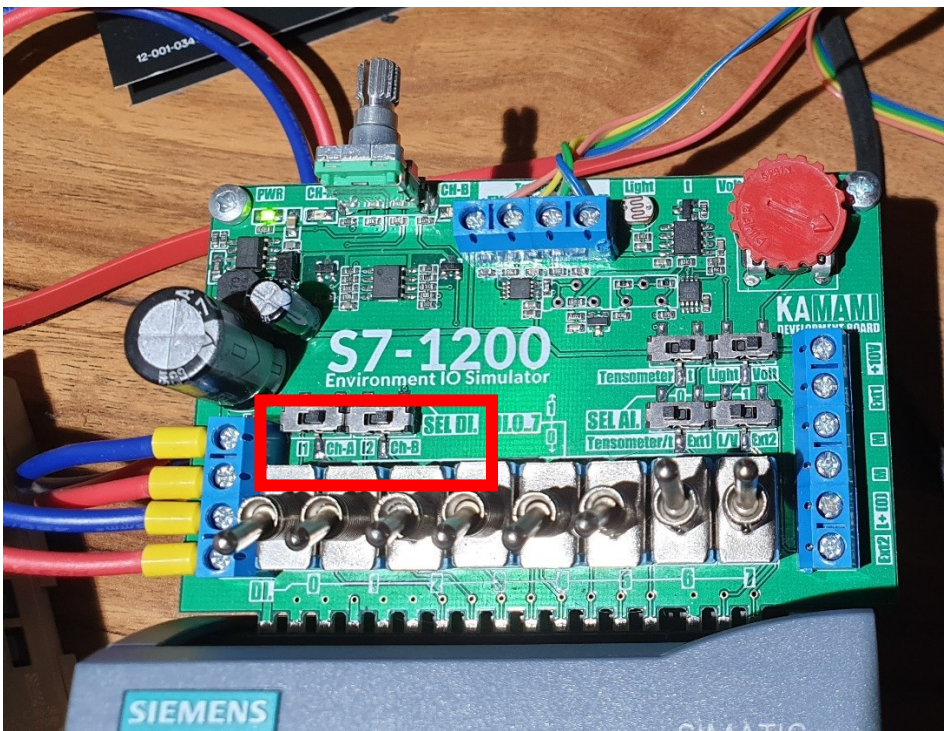


5. Test #4 – encoder

5.1. Switches DI.6 and DI.7 should be set in positions as in the photo below.



5.2. The "SEL DI.0" and "SEL DI.1" switches should be set to "Ch-A" and "Ch-B".



5.3. Turning the encoder knob we observe the LED DO.0...DO.5, which should turn on sequentially:

DO.0...DO.2 > DO.3...DO.5

or

DO.3...DO.5 > DO.0...DO.2

depending on the direction of rotation of the encoder axis.
The CH-A and CH-B LEDs should also turn on when turning the encoder axis.

