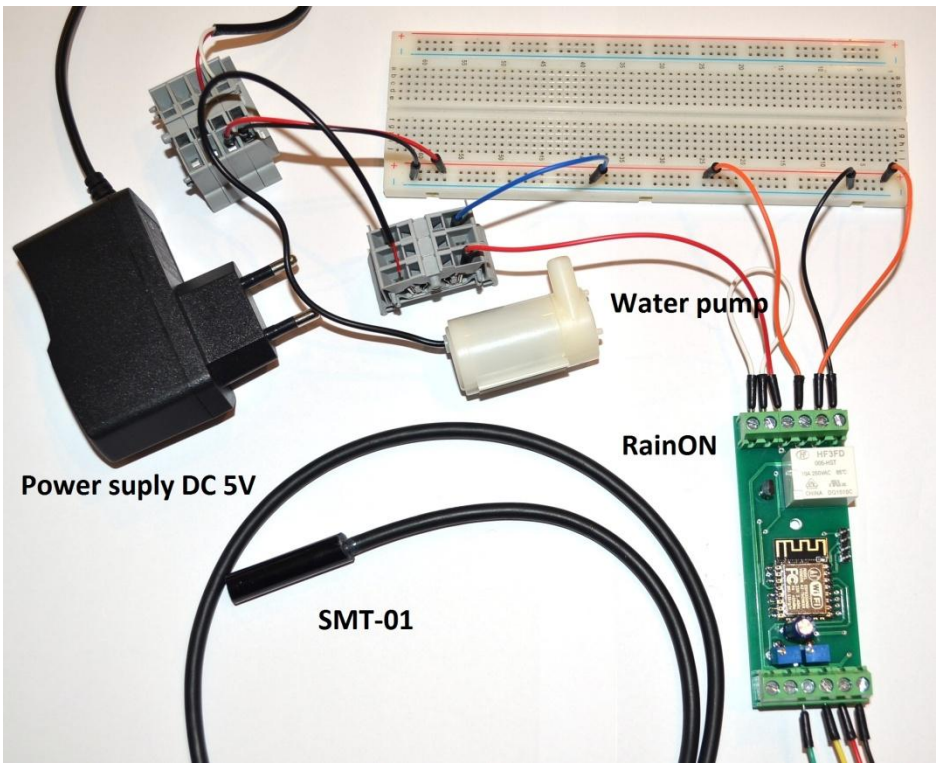
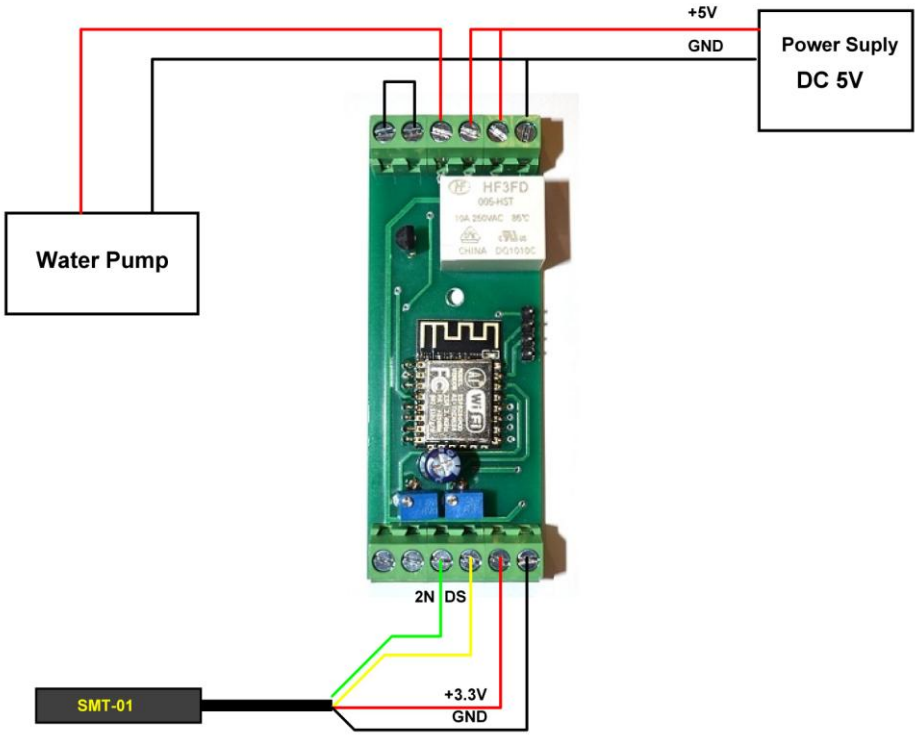
How it works

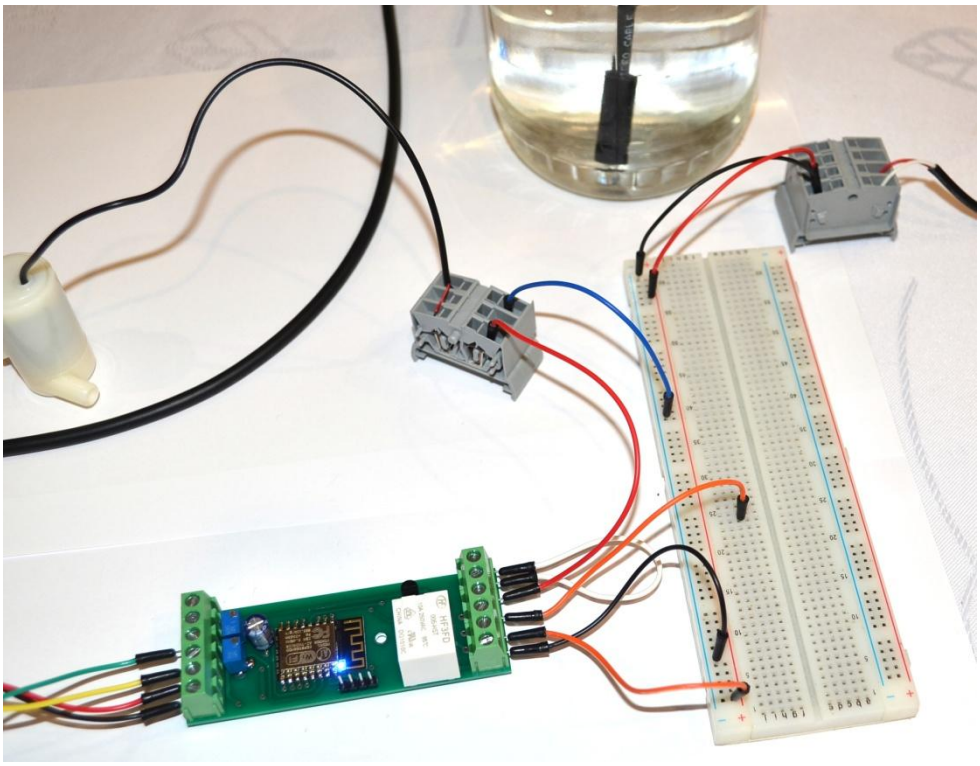
Main components for testing:



Electrical circuit diagram for testing:



Test #1: SMT-01 in water



When the blue LED on the controller is on, the controller is measuring.

When the blue indicator of the controller is off, we connect to the WiFi access point «RainON» (password: «11111111») and see the result on WEB-page 192.168.4.1:

RainON Controller

RainON

Parameter	Value
Soil Moisture, %	100.00
Soil Temperature, oC	28.24
Tank level	Fine

Controller setup:

Parameter	Value
Start Rain at:	60.00
Stop Rain at:	70.00
Time Rain, s:	5

Submit Reset

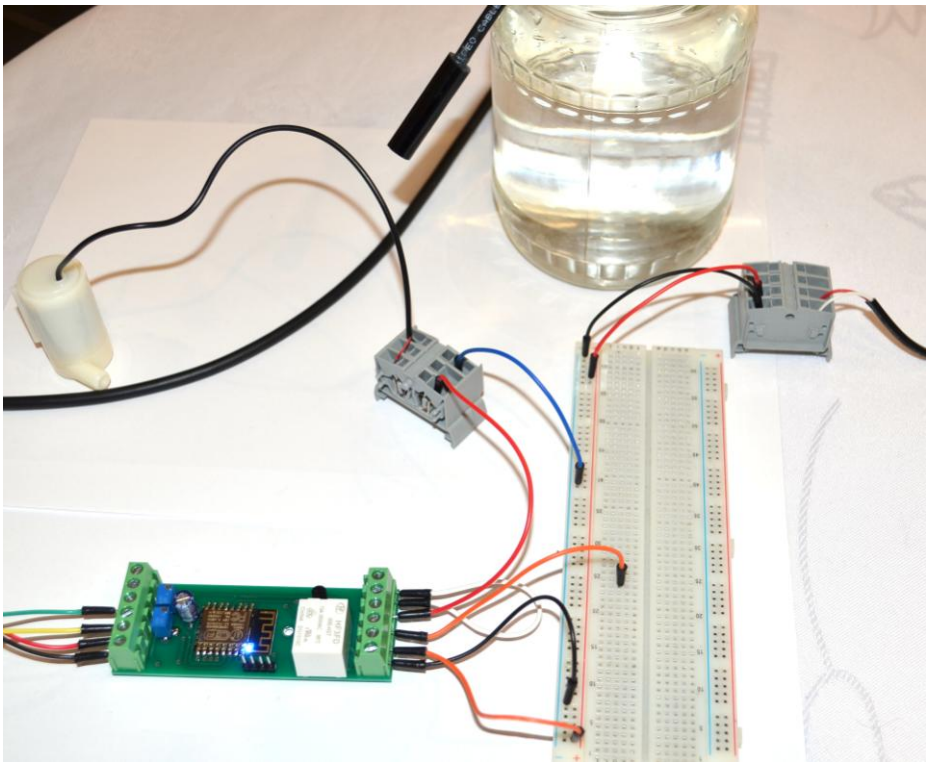
Sensor setup:

Parameter	Value
Time of Heat Dissipation, s	31.62
Sensor DRY:	250.00
Sensor WET:	30.00
Measurements period, min:	5.00

Submit Reset

The **Time of Heat Dissipation** is **31.62** in Water. We write this value in **Sensor DRY** than press **Submit**.

Test #2: SMT-01 at open air.



When the blue indicator of the controller is off, we see the result on WEB-page 192.168.4.1 (need to refresh page):

RainON Controller

RainON

Parameter	Value
Soil Moisture, %	20.00
Soil Temperature, oC	23.56
Tank level	Fine

Controller setup:

Parameter	Value
Start Rain at:	60.00
Stop Rain at:	70.00
Time Rain, s:	5

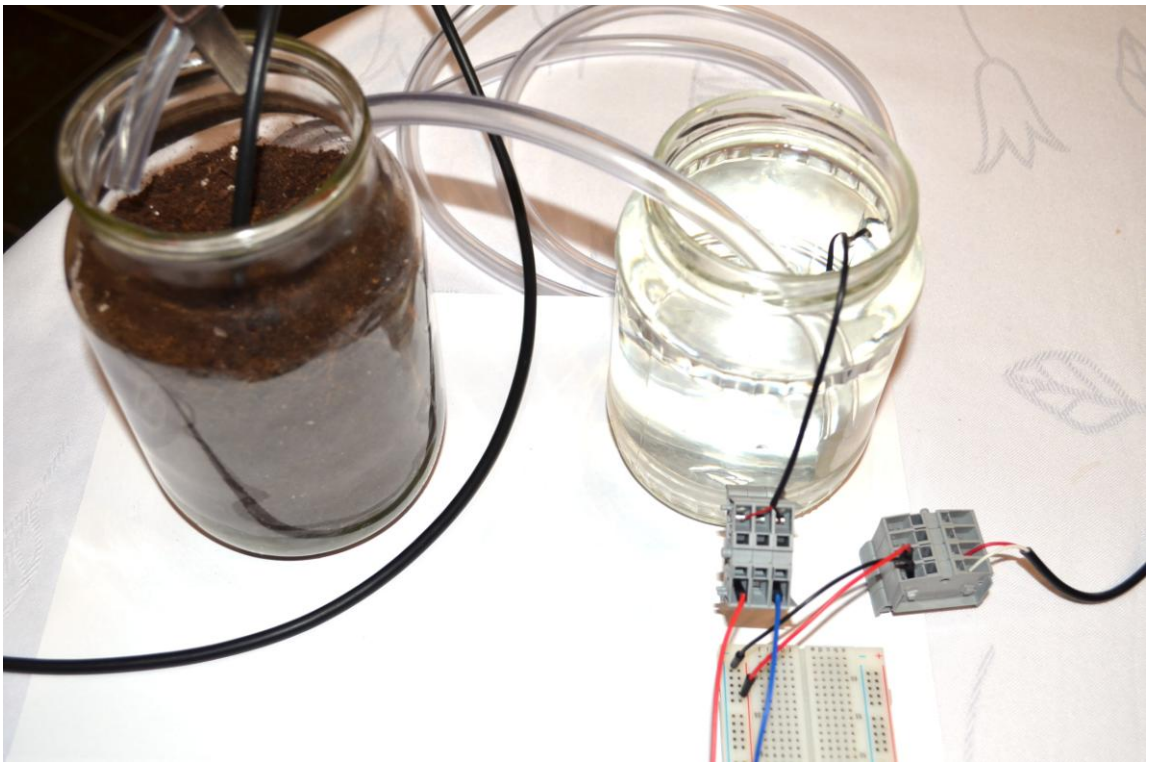
Submit Reset

Sensor setup:

Parameter	Value
Time of Heat Dissipation, s	206.06
Sensor DRY:	250.00
Sensor WET:	31.62
Measurements period, min:	5.00

Submit Reset

Test #3: SMT-01 in DRY soil.



Volume of the Soil is about 1000 ml. Volume of the Water is about 600 ml. Water pump in water, but not connect to power (we need to see result measurement before watering).

When the blue indicator of the controller is off, we see the result on WEB-page 192.168.4.1 (need to refresh page):

RainON Controller

RainON

Parameter	Value
Soil Moisture, %	32.00
Soil Temperature, oC	21.91
Tank level	Fine

Controller setup:

Parameter	Value
Start Rain at:	60.00
Stop Rain at:	70.00
Time Rain, s:	9

Submit Reset

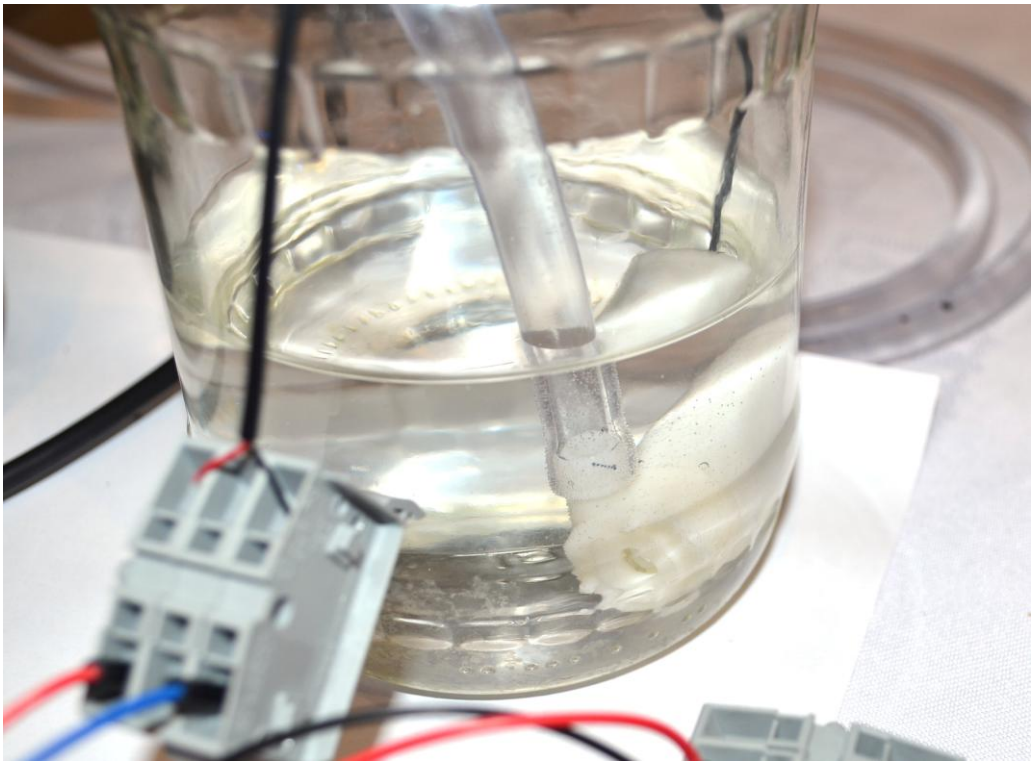
Sensor setup:

Parameter	Value
Time of Heat Dissipation, s	181.58
Sensor DRY:	250.00
Sensor WET:	31.62
Measurements period, min:	5.00

Submit Reset

We see that the measured soil moisture is 32% and this is below the established limit 60%.

Than we connect water pump to power supply and expect what will happen next



After the next measurement, the controller turned on the irrigation water for 9 seconds. During this time, the pump used more than half the volume of water, that is, 300 ml.

We see that during this time the ground has become wet.

Next, let's see the results of measuring wet soil after watering.

Test #4: SMT-01 in WET soil.

RainON Controller

RainON

Parameter	Value
Soil Moisture, %	94.00
Soil Temperature, oC	24.34
Tank level	Fine

Controller setup:

Parameter	Value
Start Rain at:	60.00
Stop Rain at:	70.00
Time Rain, s:	12

Submit Reset

Sensor setup:

Parameter	Value
Time of Heat Dissipation, s	45.90
Sensor DRY:	250.00
Sensor WET:	31.60
Measurements period, min:	5.00

Submit Reset