

Climabots:

Low power, long range IoT platform for environment monitoring and automation.

Standard Climabot platform is based on ESP8266 WiFi modules with additional interfaces like LORA, GSM or NB – IoT for long range applications.

Peripherals:

4 – channel 16bit ADC

I2C

SPI

UART/RS485

GPIO – extendable to 128

Available extensions:

8 – channel relay module (8 in total can be chained)

Battery powered solar module with ultra low power MSP430 module with additional I2C, 8bit analogs and GPIOs.

Applications

Meteorological station

- Wind speed (AVG, gusts)
- Wind direction
- Rain / Snow (rate, cumulative)
- Air temperature
- Air humidity
- Atmospheric pressure
- Light intensity
- UV index
- Soil humidity

Local area prediction models based on collected data (neural network model).

Air Quality and thermal comfort

- Air temperature
- Air humidity
- Atmospheric pressure
- Light intensity
- CO2
- VOC
- IAQ
- PM2.5
- PM10

Smart Metering

Additionally, to mentioned above:

- Electric / Gas / Water – we speak standard COSEM – DLMS protocol.
- Heat sniffers

Hydroponics, Greenhouse or Standard Field Automation systems

Measurement:

- CO2
- Light intensity
- Air temperature
- Air humidity
- Air flow
- pH
- EC
- Water Temperature
- Water Levels
- Water flow
- Water pressure
- Solenoid health status monitoring
- Power consumption

Control and automation:

- Manual ON/OFF (relay)
- PWM
- Scheduler (Schedule ON and OFF actions)
- Rule based system – (IF – Then – Else)
- Custom more complex models based on simple Neural networks or Fuzzy cognitive maps.

General Platform Information

Various endpoints are available for data sharing. The general messaging exchange is happening on MQ level. We can provide custom REST API, MQ connectors or push data to existing APIs. For general purpose we provide GUI for orchestration of all units.

The GUI provides the following functionality:

- Realtime Monitoring
- Historical data access with graphs
- Alarms based on user defined setpoints – (email notifications, etc)
- Manual control
- Scheduler
- Monitoring History
- Custom business rules
- Rule Based system (GUI in development)
- Special UIs for Weather stations with external widget.

Screenshots:

CLIMABOTS Connected Slavomir Kozar

FEATURED-CLIMABOTS

- CO2 MERAC** (Obyvacka)
 - CO2: 1288.35ppm
 - N/A: 0.61
 - Temperature: 23.79°C
 - CO2: 0.81V
 - Humidity: 68.09%
- OVLADANIE SPOTREBICOV** (Obyvacka)
 - Svetlo:
 - Ventilacia:
 - Ohrev:
 - Lampicka:
- WEATHER STATION** (uncategorized)
 - Temperature: 20.6°C
 - Dust Max: 45km/h
 - Humidity: 67%
 - Dust Min: 0.3km/h
 - Pressure: 1021hPa

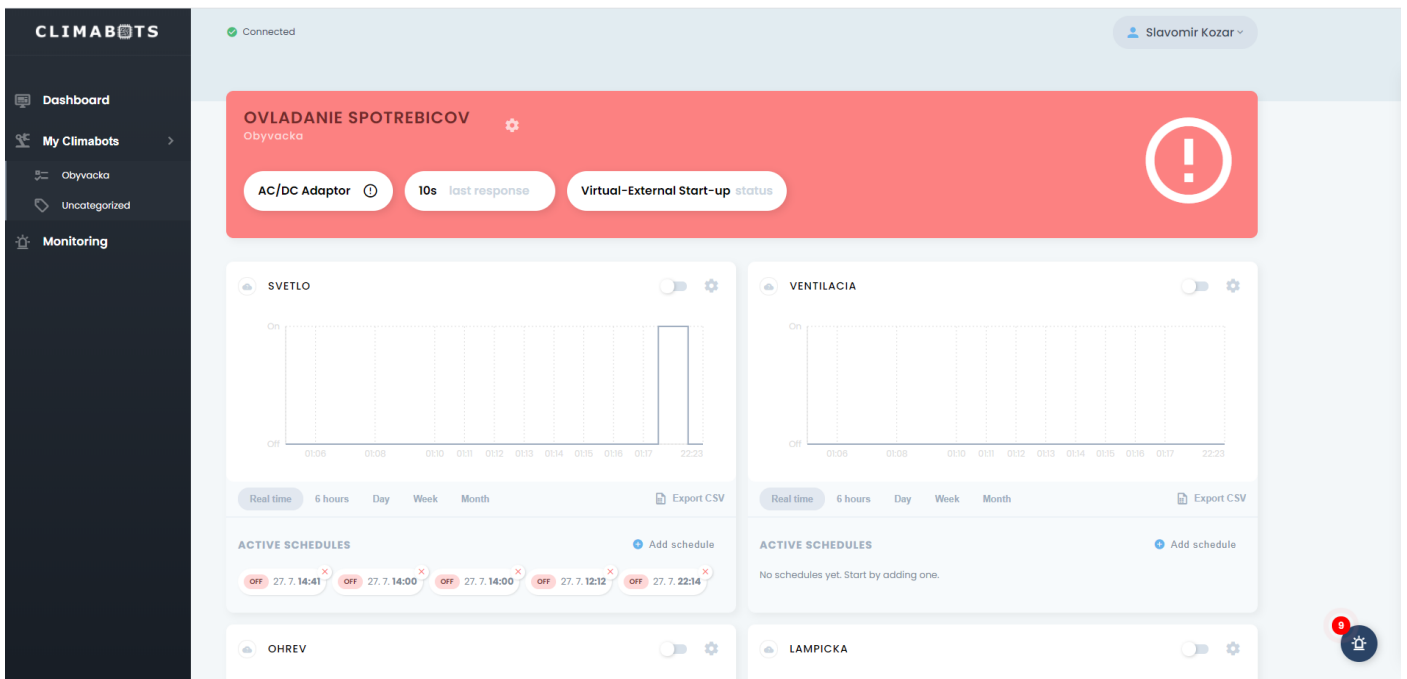
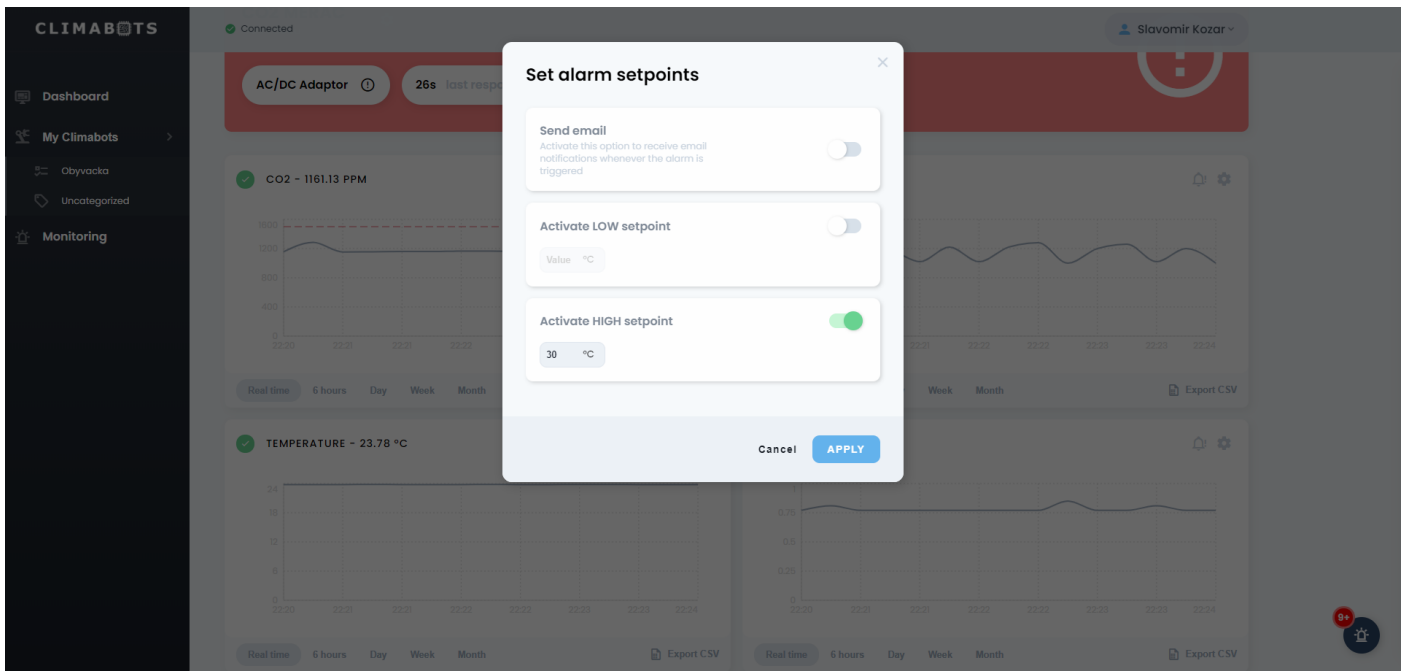
Alerts: A2_RAW Virtual Sensor (MEAS-TRESH: 21 - 2), A2_RAW Virtual Sensor (MEAS-TRESH: 21 - 3)

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CO2 MERAC (Obyvacka) **!**

AC/DC Adaptor 3s last response Power on; Long connect status

- CO2 - 1151.76 PPM**
 - Real time | 6 hours | Day | Week | Month | Export CSV
- N/A - 0.62**
 - Real time | 6 hours | Day | Week | Month | Export CSV
- TEMPERATURE - 23.79 °C**
 - Real time | 6 hours | Day | Week | Month | Export CSV
- CO2 - 0.77 V**
 - Real time | 6 hours | Day | Week | Month | Export CSV



CLIMABOTS

Connected

Slavomir Kozar

Dashboard

My Climabots

Obyvacka

Uncategorized

Monitoring

OVLADANIE SPOTREB

Obyvacka

AC/DC Adaptor

SVETLO

OHREV

LAMPICKA

Set schedules Svetlo

1 Select action OFF

Schedule the device to switch ON or to switch OFF

2 Schedule Recurrence Run once

Choose the recurrence option from dropdown menu

RUN ONCE: 24.8.2020

RUN EVERY: Mon Tue Wed Thu Fri Sat Sun

All days

3 Select time

HH: 22 MM: 23

Cancel SAVE

A2_RAW Virtual Sensor T:41 - 3

CLIMABOTS

Connected

Slavomir Kozar

Dashboard

My Climabots

Obyvacka

Uncategorized

Monitoring

ACTIVITY MONITORING AND ALARMS

SHOW: All SORT BY: Date - from newest

Icon	Device	Measurement	Setpoint	Date	Time	Action
🚫	A2_RAW Virtual Sensor, uncategorized	4.1 V	3 V	24.7.2020	22:24	🔄
✅	CO2 CO2 Merac, Obyvacka	1161.13 PPM	1500 PPM	24.7.2020	22:23	🔄
⚠️	CO2 CO2 Merac, Obyvacka	1438.87 PPM	1500 PPM	24.7.2020	22:23	🔄
🚫	A2_RAW Virtual Sensor, uncategorized	4.4 V	3 V	24.7.2020	22:23	🔄
🚫	A2_RAW Virtual Sensor, uncategorized	0.6 V	2 V	24.7.2020	22:22	🔄
⚠️	A2_RAW Virtual Sensor, uncategorized	2.1 V	2 V	24.7.2020	22:21	🔄
✅	A2_RAW Virtual Sensor, uncategorized	2.1 V	3 V	24.7.2020	22:21	🔄
🚫	A2_RAW Virtual Sensor, uncategorized	3.1 V	3 V	24.7.2020	22:20	🔄
🚫	A2_RAW Virtual Sensor, uncategorized	24.7.2020	22:19	🔄

A2_RAW Virtual Sensor T:31 - 3