

# POOL TECHNOLOGY CONTROL SYSTEM



--- wifi module / web interface ---



## 1. Safety instructions



**Read this user manual before installation and unit activation.** Should you need any explanation or should you have any doubts, do not hesitate to contact Your VArio supplier.



**If you use any personal electronic medical device (pacemaker, etc.),** please consult the device manufacturer concerning potential radio interference which may affect the medical device. VArio system modules use radio communication on 869,530 MHz with peak output  $\leq 20\text{mW}$ .



The unit shall be always installed by a trained professional. Always disconnect the main power supply before performing repairs or maintenance, or before connecting additional external devices.

The DIN module must always be powered from the safety-protected power source of filtration or recirculation pump.

The system uses radio-frequency communication. It is forbidden to use the device near mines / quarries or any places with possible risk of explosion.

## 2. General information

WIFI Module is a Plug&Play device that enables wireless local control by phone / tablet / PC via web browser (WIFI SERVER mode). In WIFI CLIENT mode (after registering the module to an existing wifi network with Internet connection) the device allows remote access and control of the VArio system over the Internet.

### WIFI module functions

- Remote control via local wifi access point (**WIFI SERVER** mode)
- Remote control via Internet (**WIFI CLIENT** mode)

## 3. Technical information

### WIFI module

Dimensions (w – h – d)	50 x 100 x 40 mm
Material	ABS nylon 66
Flammability Class	UL94V-0
Power supply / consumption	230 VAC 50 Hz / max 3 W
Frequency / Band	869,530 MHz / P, max. výkon $\leq 20\text{mW}$



### Supported web browsers

Chrome ver.76.x and higher / FireFox ver. 68.x and higher  
Opera ver. 62.x and higher / Microsoft Edge 44.x and higher

## 4. Notifications of WIFI module

Using 3 LEDs, the WIFI module is able to notify the following statuses:



LED flashing – local VArio wifi is active (**WIFI SERVER** mode)



LED flashing – connection to home wifi in progress  
LED steady on – active connection to internet (**WIFI CLIENT**)



LED flashing – data transfer between WIFI module and VArio server

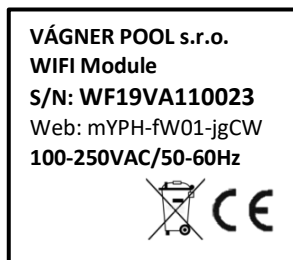
## 5. Installation and operation mode

### Installation of the WIFI module

Insert the WIFI module into a 230V electrical socket and wait for initialization. By default, the WIFI Module is configured as a WIFI **SERVER** (= direct local access point with own Vario wifi network). The WIFI module may also be connected to your home wifi network with Internet access (mode WIFI **CLIENT** = Vario system control over the Internet).

### Operation mode of the WIFI module

The WIFI module creates an independent local Vario wifi access point. Local Vario wifi network name contains the letters WF + serial number of the WIFI module. The S/N label is on the back side of the module:



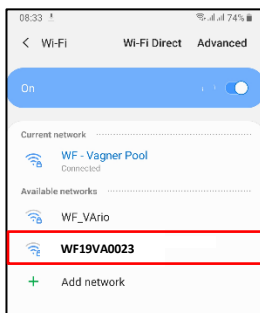
Vario wifi SSID:  
Default password:  
Default web address:

**WFxxxxxxxxxx**  
**VarioPool**  
**192.168.4.1**

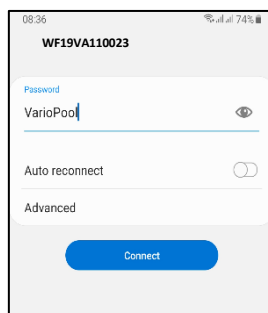
In this case the access point = **WF19VA110023 / VarioPool**

### --- VARIO LOCAL WIFI ACCESS POINT (WIFI SERVER, no internet) ---

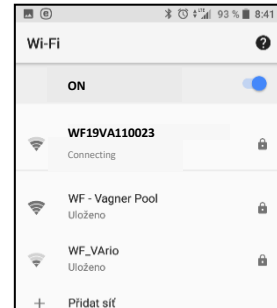
Select network **WF19VA110023**



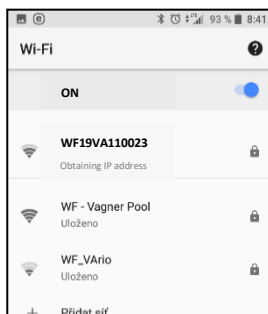
Enter password: **VagnerPool**



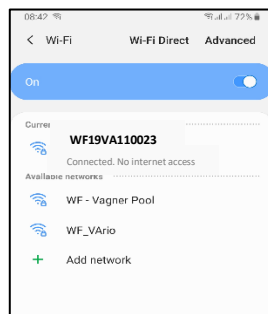
Connecting to local network



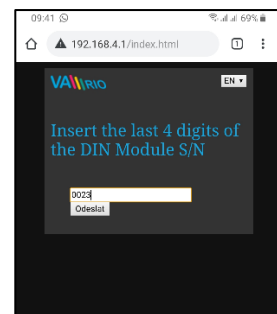
Obtaining IP address



Connected to local network



Enter **192.168.4.1** into your browser



After connecting to the Vario wifi network, open your web browser and enter the following address: **192.168.4.1**. A page will be displayed where the WIFI module must be paired with your DIN module.

**TIP:** If the 192.168.4.1 page doesn't open, disable mobile data on your device. With concurrently enabled mobile data your device tries to connect over the Internet, not over local Vario WIFI network.

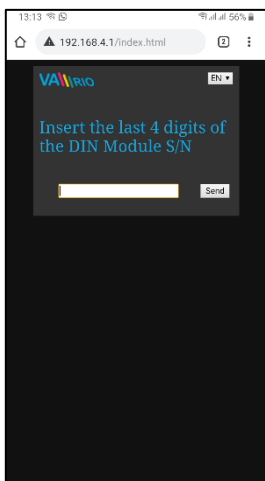
**Supported web browsers:** Chrome ver.76.x and higher / FireFox ver. 68.x and higher, Opera ver. 62.x and higher / Microsoft Edge 44.x and higher

## Pairing the DIN and WIFI modules

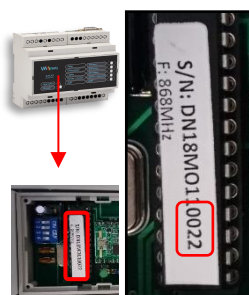
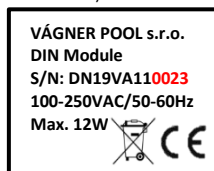
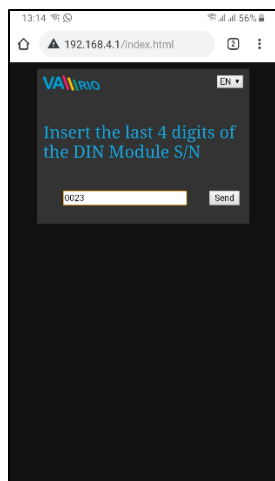
A WIFI module can be added to any existing installation where a DIN module is used. TO extend the control functions by phone/PC/tablet control you need to register the DIN module S/N into the WIFI module (pair the two devices).

Connect to the local VARIO wifi network (in this case **WF19VA110023** – see the previous page **VARIO local access point**) and enter the **192.168.4.1**. address into your web browser. Proceed as follows:

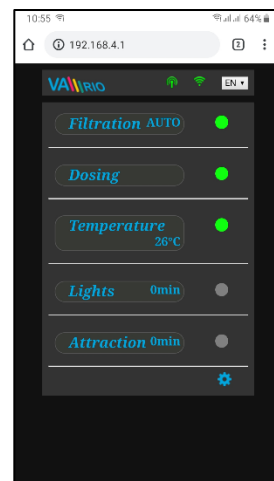
WIFI module automatically requests the DIN S/N



Type in the S/N of the DIN module  
(S/N is on the side label or on the processor label under cover)  
(In this case DIN S/N = DN19VA110023)



Pairing successful

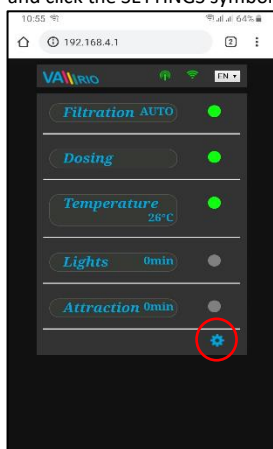


After successful DIN module registration (pairing) a page with actual pool technology statuses appears. In case an invalid S/N is entered the unit will attempt to connect, will fail and will ask for a new S/N to be entered.

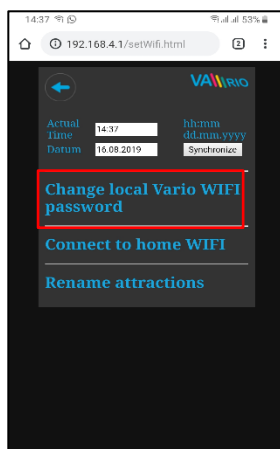
## Changing the default password of the local VARIO wifi network

After connecting to the local VARIO wifi network, open your web browser and enter the **192.168.4.1**. address.

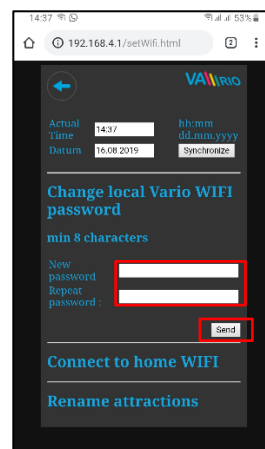
Open the **192.168.4.1** page and click the SETTINGS symbol



Choose "**Change local VARIO wifi password**"



Enter and confirm your new password



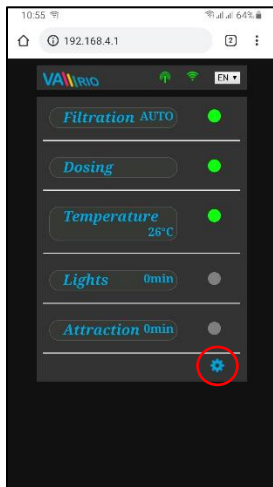
**TIP:** If the 192.168.4.1 page doesn't open, disable mobile data on your device. With concurrently enabled mobile data your device tries to connect over the Internet, not over local VARIO wifi network.

**Supported web browsers:** Chrome ver. 76.x and higher / FireFox ver. 68.x and higher, Opera ver. 62.x and higher / Microsoft Edge 44.x and higher

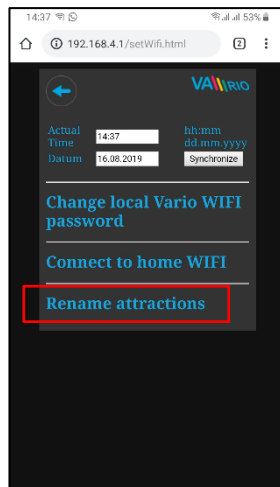
## Renaming the attractions or connected devices

After connecting to the local VARIO wifi network, open your web browser and enter the **192.168.4.1** address.

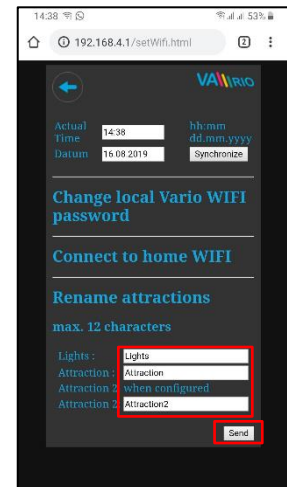
Open the **192.168.4.1** page and click the SETTINGS symbol



Choose "Rename attractions"



Enter new names and confirm

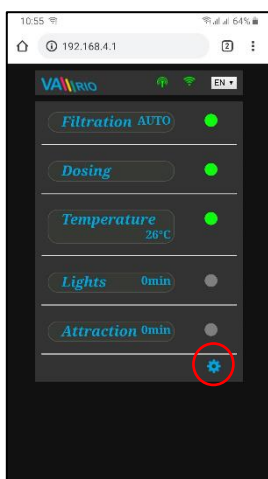


## --- VARIO WEB SERVICE – REMOTE CONTROL OVER THE INTERNET (WIFI CLIENT) ---

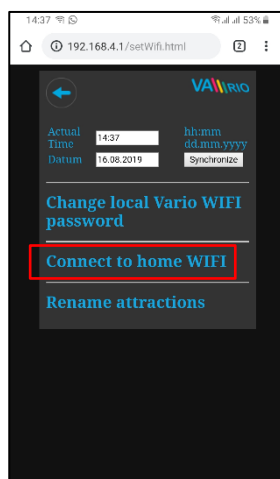
After successfully connecting your WIFI module to your home wifi network, you may switch the operating mode of the VARIO system to WIFI **CLIENT**. In the WIFI **CLIENT** mode you can control your pool **over the Internet** – using our [www.variopools.com](http://www.variopools.com) web service. See more about the web service in the next pages:

## CONNECTING TO YOUR HOME WIFI NETWORK

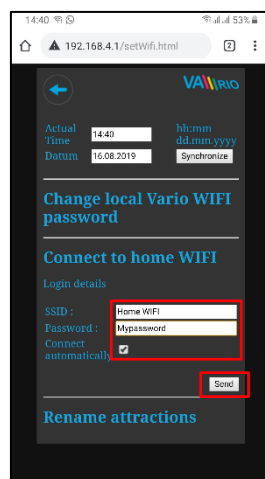
Open the **192.168.4.1** page and click the SETTINGS symbol



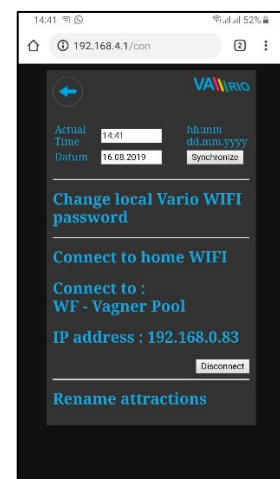
Register to existing WIFI



Enter SSID and password of your home WIFI



System successfully connected



After connecting the WIFI module to your home wifi network, disconnect from the local VARIO wifi network (WFxxxx) and reconnect to the internet via home wifi or mobile data. Open a browser and enter the VARIO web service address: [www.variopools.com](http://www.variopools.com). From the web service you can remotely monitor and control your pool, including its operating parameters. A registration is required for use of the webservice (see chapter 7).

**ATTENTION:** when changing your home wifi, disconnect from the old wifi and connect to your new wifi (next chapter).

**TIP:** If the 192.168.4.1 page doesn't open, disable mobile data on your device. With concurrently enabled mobile data your device tries to connect over the Internet, not over local VARIO wifi network.

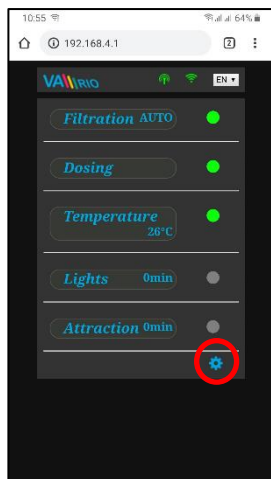
**Supported web browsers:** Chrome ver. 76.x and higher / FireFox ver. 68.x and higher, Opera ver. 62.x and higher / Microsoft Edge 44.x and higher

## --- VARIO WEB SERVICE – REMOTE CONTROL OVER THE INTERNET (WIFI CLIENT) ---

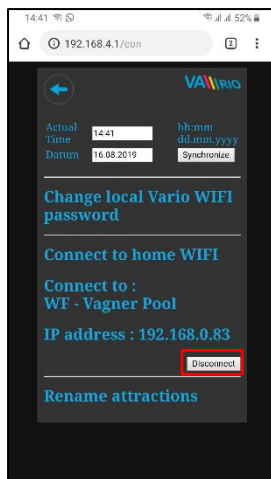
### DISCONNECTING FROM YOUR HOME WIFI NETWORK

Connect to the local WIFI NETWORK (in this case **WF19MO110023** – see previous page, operating mode WIFI SERVER) and enter the **192.168.4.1** address into your browser and follow the steps below:

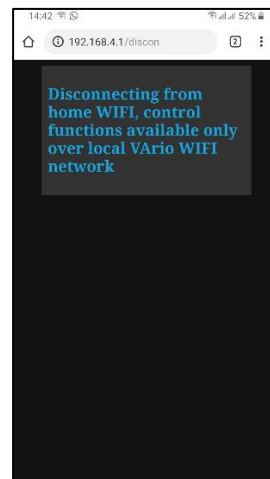
Enter **192.168.4.1** into web browser and click the WIFI symbol



Click "**Disconnect**"



System successfully disconnected



**TIP:** If the 192.168.4.1 page doesn't open, disable mobile data on your device. With concurrently enabled mobile data your device tries to connect over the Internet, not over local VARIO WIFI network.

**Supported web browsers:** Chrome ver. 76.x and higher / FireFox ver. 68.x and higher, Opera ver. 62.x and higher / Microsoft Edge 44.x and higher

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## SUMMARY – REMOTE ACCESS POINTS FOR VARIO POOL CONTROL

The local web interface makes the system control much easier. The menu structure and controls are very similar to the those of the RC Module. Simply use any supported web browser on your phone/PC/tablet to access you pool through the following addresses:

### o LOCAL WIFI ACCESS POINT – direct access using the **VARIO own WIFI network**



- [192.168.4.1](http://192.168.4.1) – enter this address after connecting to the VARIO wifi network
- direct access via VARIO wifi network (WIFI SERVER mode, chapter 5)
- controls and settings using the local VARIO wifi network are described in **chapter 6**

**TIP:** If the 192.168.4.1 page doesn't open, disable mobile data on your device. With concurrently enabled mobile data your device tries to connect over the Internet, not over local VARIO WIFI network.

**Supported web browsers:** Chrome ver. 76.x and higher / FireFox ver. 68.x and higher, Opera ver. 62.x and higher / Microsoft Edge 44.x and higher

### o INTERNET ACCESS POINT – online access using the **VARIO Web Service**

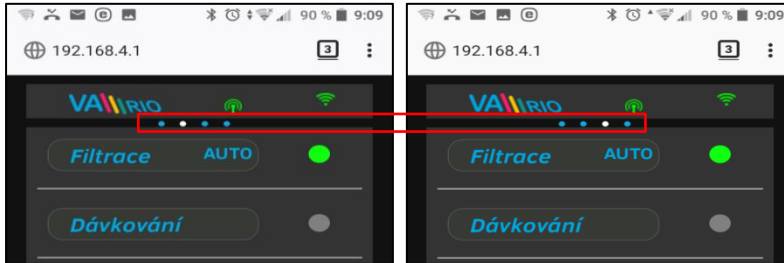


- <https://www.variopools.com> – access to the Internet is required
- remote control over the Internet (WIFI CLIENT mode, **chapter 5**)
- you need to register in order to access the web service (**chapter 7**)
- VARIO system control over the web service is described in **chapter 8**.

## 6. LOCAL WIFI ACCESS POINT – VARIO WIFI NETWORK

### Status update and notification

The Web Interface / browser display parameters / statuses of the DIN module and refreshes the page automatically every 3 seconds (**WFxxxxxxxxxx**) or every 30 seconds (local network/Internet). Updating in progress / reading statuses are notified by a moving white dot.

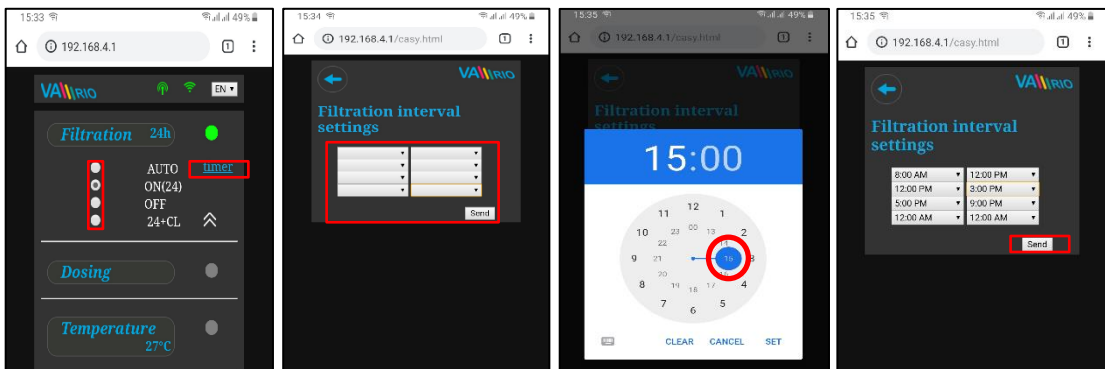


Before any parameter change, it is necessary to wait for the updating / status change confirmation.

### System operation and parameter control

Using the web interface, you can modify and change the parameters similarly to the remote-control module (RC). The following screenshots will guide you through the operation control options:

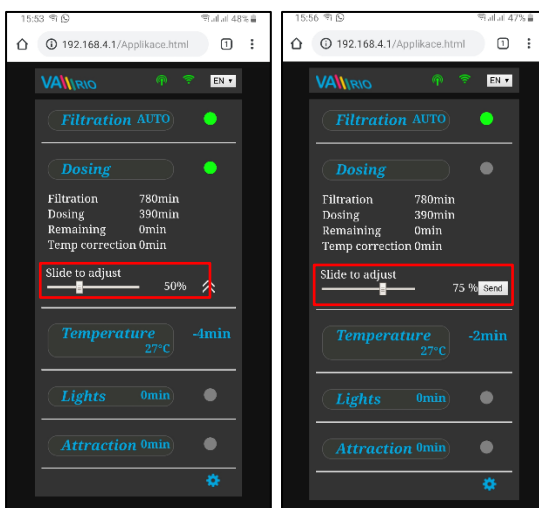
#### A. FILTRATION



There are 4 modes of filtration control:

- AUTO – ON timer with up to 4 programmable cycles
- ON(XX) – manual ON with pre-set duration (XX hours) without chemical dosing (e.g. filter backwash, pool cleaning, etc.)
- OFF – manual OFF (e.g. some technical issue, pump pre-filter cleaning, etc.)
- (XX)+CL – manual ON with pre-set duration (XX hours) for intensive chemical dosing (e.g. shock chlorination)

#### B. DOSING / ATRACTION2



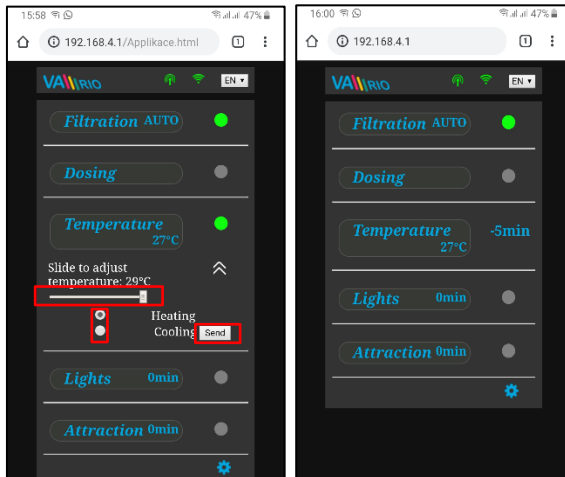
Relay output R2 of the DIN module could be configured for “**Dosing**” (this case = salinator) or “**Attraction2**” mode.

In the “Dosing” mode you are able to adjust the dosing intensity by setting the total dosing operation time – the unit can operate from 25 % up to 100 % of total filtration time.

With water temperature **above 28°C** the *automatic temperature correction function* will be activated and the dosing time will be extended to compensate the effect of higher water temperature.

With water temperature below **14°C** the *automatic temperature shut-down function* will activate and switch off the output to protect the dosing device (this case = salinator.)

## C. TEMPERATURE



Relay output R4 of the DIN module could be configured for “Heating” (this case) or “Cooling”.

Set the water temperature with the slider, select the heating or cooling mode and confirm the changes with the “Send” button.

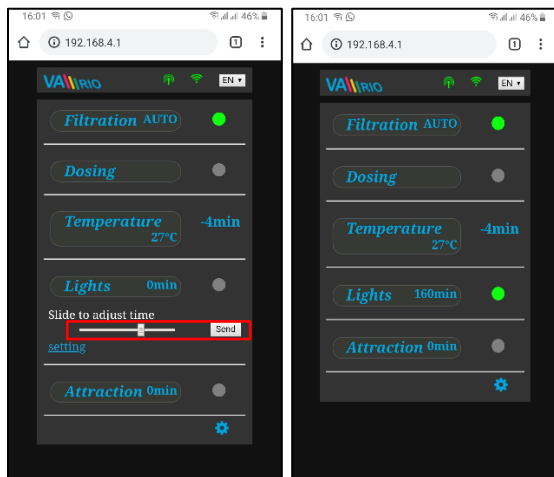
There is a default delay for the heating activation (this case = 2 minutes to final temperature reading and heating ON/OFF).

Even with heating OFF, the system will run the filter pump for 5 min each hour to get a temp. reading.

With water temperature **below 4°C** the *automatic anti-freeze protection function* will be activated and every ½ hour the filtration pump will run for a short time to prevent freezing.

**ATTENTION:** If your pool doesn’t reach the preset temp within 48 hours, VARIO will give a **TEMP OFA ALARM**. Check the temp setting and heating functionality. If you have no heating, always set the temperature slider to OFF.

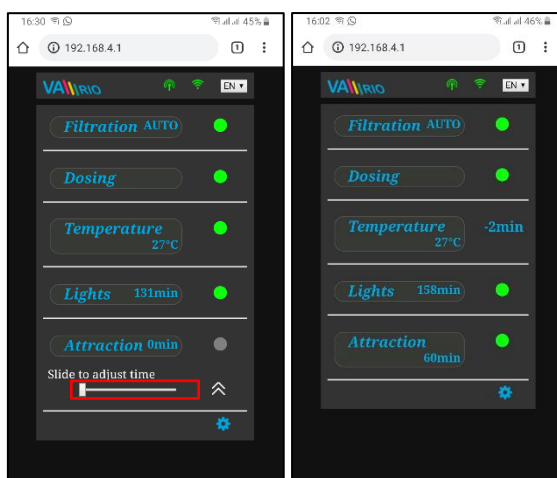
## D. LIGHTS



Relay output R3 of the DIN module is used for pool lights with timer (+5 min. step). Operation timer can be set within the 0-120 minutes range.

In this case the lights will be turned off automatically after 45 minutes of operation.

## E. ATTRACTION / ATTRACTION2



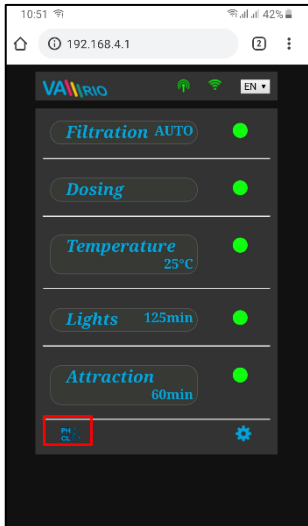
Relay output R5 of the DIN module is used for pool attraction with timer (+5 min. step). Operation timer can be set within the 0-120 minutes range. The same settings could be applied also for the R2 relay in Attraction2 mode.

In this case the attraction will be powered off automatically after 55 minutes of operation.

**TIP:** If the VA DOS BASIC/EXACT dosing device or the VA SALT SMART saltwater chlorinator are attached with a cable, always set the R2 output to Attraction 2.



F. DOSING UNIT (function is available only when a dosing unit is connected to the DIN module)



Displaying connected VA DOS EXACT dosing unit

Click the **PH/CL** icon to activate the control interface for the dosing station, where you can monitor and adjust selected water parameters (pH/RX/FCL/temperature/flow rate, depending on type of the dosing unit). You can also see any alarms the station may give.

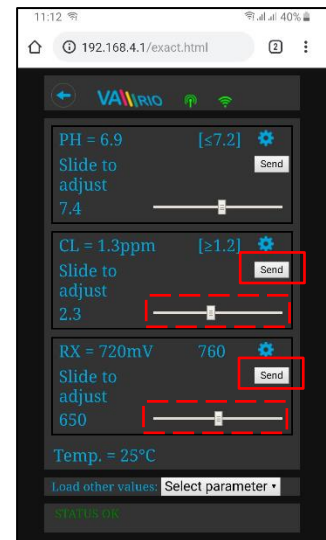
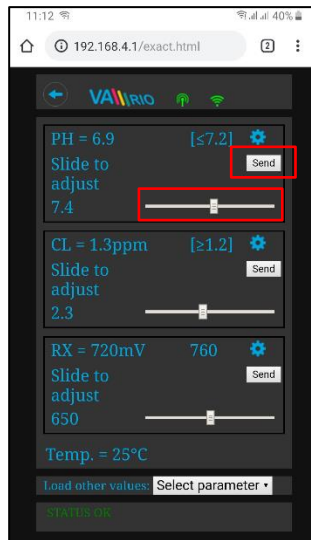
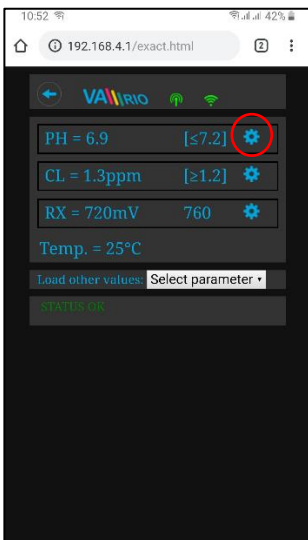
You cannot remotely change such parameters as type of dosed chemicals and deactivate the alarms. Such adjustments are possible only directly on the dosing unit control panel.

**Note:** The **PH/CL** icon will only be displayed when a dosing station is attached with a communication cable.

**TIP:** If the VA DOS BASIC/EXACT dosing device is attached with a cable, ***always set the R2 output to Attraction 2.***

Move the slider to set the desired pH level and confirm with Send

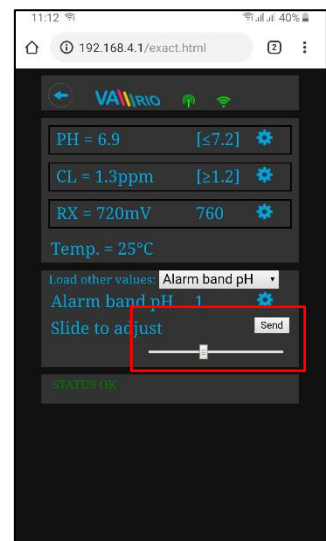
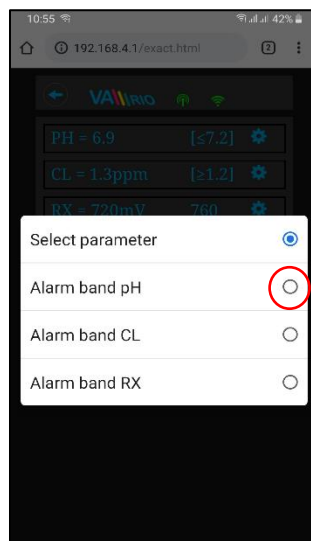
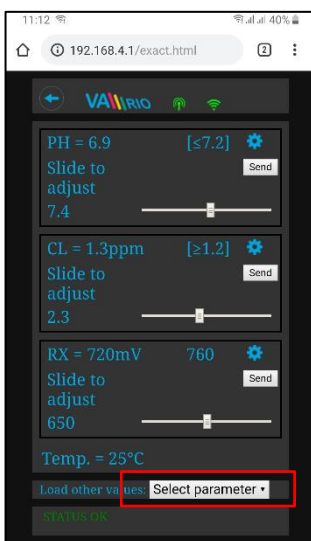
Adjust the Chlorine or Redox values the same way and confirm with Send



Click **“Load other parameters”** to set the alarm bands

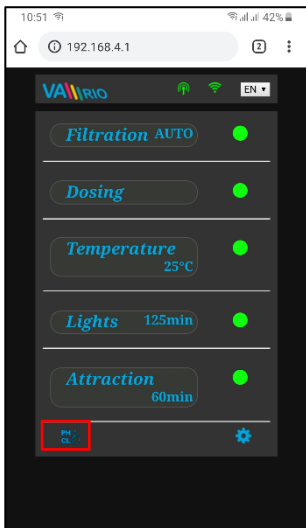
Select the parameter from the menu and click Settings

Move the slider to adjust the alarm band and confirm with Send




The alarm band settings shown above are for the pH. You can set the alarm bands also for the Redox (RX) and Chlorine (CL) parameters the same way.


## G. SW CHLORINATOR (function available only when a saltwater chlorinator is connected)



Displaying connected VA SALT SMART controls

Click the  icon to activate the control interface for VA SALT SMART saltwater chlorinator, where you can monitor and adjust selected water parameters (pH/RX/FCL/temperature/salinity, depending on type of the sensor attached). You can also see any alarms the SW salinator may give.

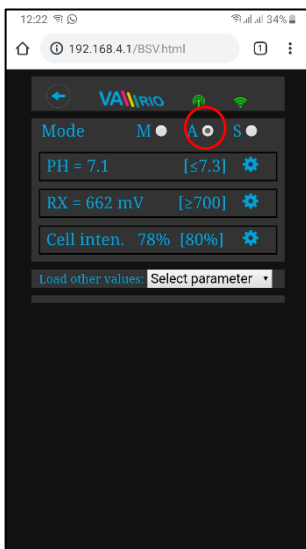
You cannot remotely change such parameters as type of dosed chemicals (pH) and deactivate the alarms. Such adjustments are possible only directly on the chlorinator control panel.

Note: The  icon will only be displayed when a dosing station is attached with a communication cable.

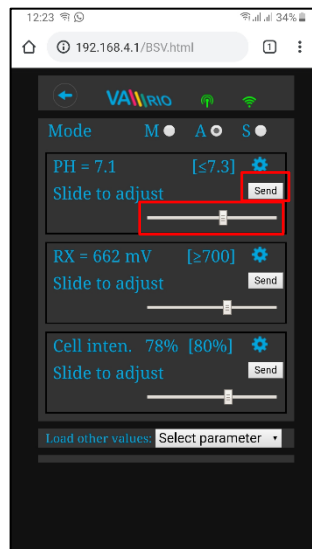
**TIP:** If the VA SALT SMART chlorinator is attached with a cable, always set the R2 output to Attraction 2.

Move the slider to set the desired pH level and confirm with Send

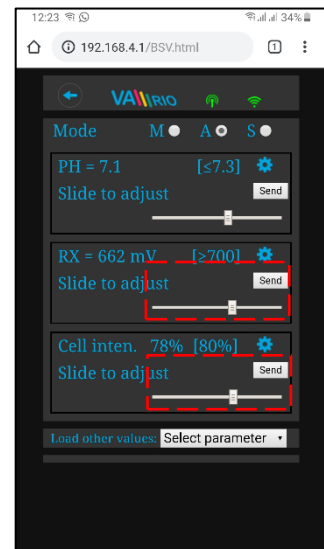
Adjust the cell output or Redox values the same way



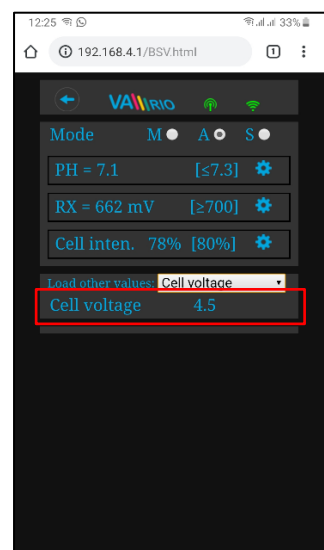
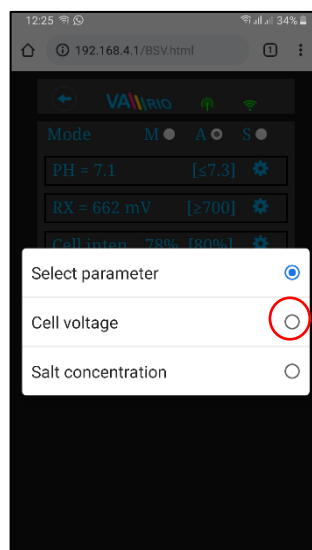
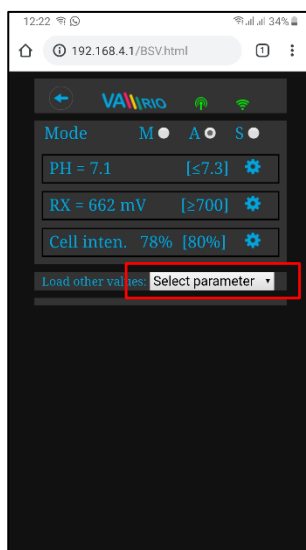
Click "Load other parameters" to view the cell potential and salinity



Select the parameter from the menu



Actual cell potential displayed

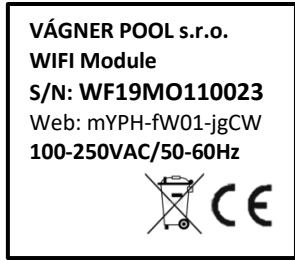


The adjustments and settings above are available for the pH parameter. Adjust the CL, RX values or alarm bands the same way. The salinity value can be displayed only if a salinity sensor is attached. Default password for all settings is "1234".

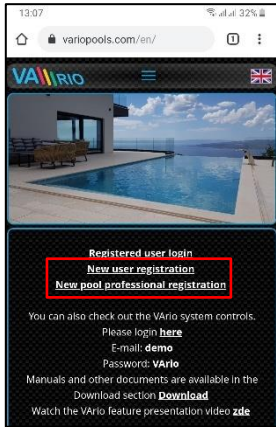
## 7. WEB SERVICE: WIFI Module registration for Internet Control

In order to open the VARIO system to access from the Internet, the WIFI module must be in CLIENT mode = the login to your home wifi network must be entered (chapter 5). For successful registration a **WIFI Module serial number (S/N)** and a **WIFI Module registration code (Web)** are required. Both codes are to be found on the back label.

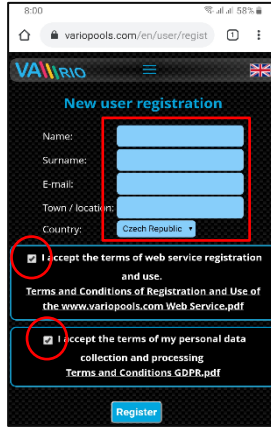
Below are the steps to create a new account, login and WIFI module registration:



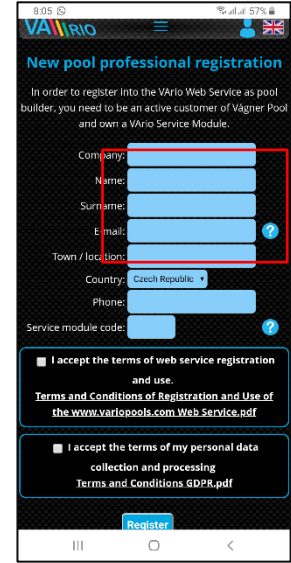
Go to [www.variopools.com](http://www.variopools.com) and click **New user registration / New pool professional registration**



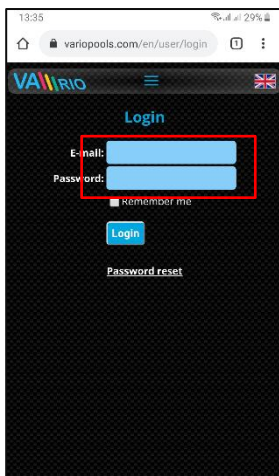
If you are a user, enter required details incl. a valid e-mail address to which you will receive the registration e-mail. Make sure to confirm the conditions and GDPR.



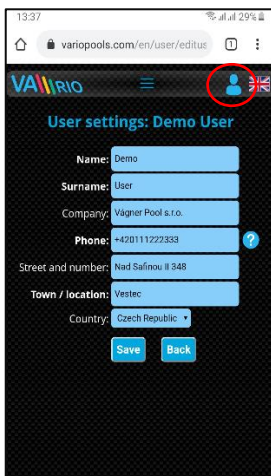
If you are a pool professional, enter your details, an e-mail address used for registration with Vágner Pool and the WEB code of your VARIO Service Module.



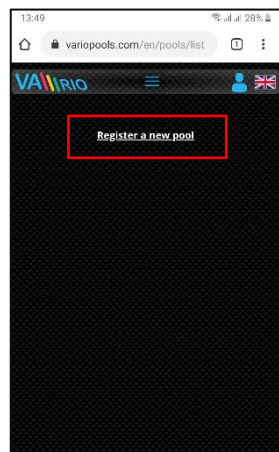
Login into your new account



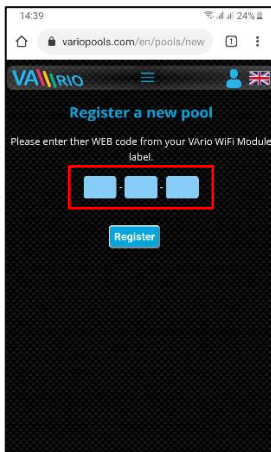
Adjust your personal settings in the "My details" section



Register your pool using the "Register a new pool" function



To register your pool, enter the WEB code from the label of your WIFI module (Web: xxxx-xxxx-xxxx)



The registered WIFI module /pool will be shown in the Pools section. You can now control your pool over the Internet.



## 8. WEB SERVICE: Internet control of the VARIO system

Remote control over the VARIO Web Service is very similar to the local wifi access point (chapter 6). However, it does offer some extra features (e.g. operation data export, graphs, night regime of filtration, advanced configuration of notification/alarms, etc.)

The main of these functions are shown below:

### Filtration Mode Selection

### AUTO / MAN / NIGHT Modes

#### **Note: Night Mode**

Night filtration mode („*silent mode*“) – the filtration pump and heating will not operate within the preset time interval. The start must be within 20:30 – 23:59, finish between 00:00-10:00.

*The night mode does not affect lights or attractions timers.*

# DECLARATION OF CONFORMITY

The company VÁGNER POOL s.r.o. hereby declares, that all below-listed products meet the necessary requirements for placing the product on the market:

Product line: **VArio – Pool Technology Remote Control System**

Directive: **RED Directive č. 2014/53/EU**

Module: **DIN Module**

Applicable norms: **EN 62368-1: 2014/A11:2017, EN 60730-1: 2016, EN 62479: 2010  
EN 301 489-1 V2.1.1, EN 301 489-3 V2.1.1  
EN 300 220-1 V3.1.1, EN 300 220-2 V3.2.1**

Module: **WiFi Module**

Applicable norms: **EN 62368-1: 2014/A11:2017, EN 62311: 2008  
EN 301 489-1 V2.1.1, EN 301 489-3 V2.1.1, EN 301 489-17 V3.1.1  
EN 300 220-1 V3.1.1, EN 300 220-2 V3.2.1, EN 300 328 V2.1.1**

Module: **RC Module**

Applicable norms: **EN 62368-1: 2014/A11:2017, EN 62479: 2010  
EN 301 489-1 V2.1.1, EN 301 489-3 V2.1.1  
EN 300 220-1 V3.1.1, EN 300 220-2 V3.2.1**

Module: **Service Module**

Applicable norms: **EN 62368-1: 2014/A11:2017, EN 62479: 2010  
EN 301 489-1 V2.1.1, EN 301 489-3 V2.1.1  
EN 300 220-1 V3.1.1, EN 300 220-2 V3.2.1**

Conformity was checked by Technický skúšobný ústav Piešťany (TSÚ), which – based on test report No. 190500058/1-4 – issued Conformity Certificates to all of the above-listed modules.

Declaration Issue Date: **20. 3. 2019**

Producer Stamp and Signature:



## Note:

For web communication, the libraries are used under the GNU Lesser General Public License v2.1 while its conditions are fully respected. (<https://github.com/esp8266/Arduino/blob/master/LICENSE>)

**PRODUCER:**

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