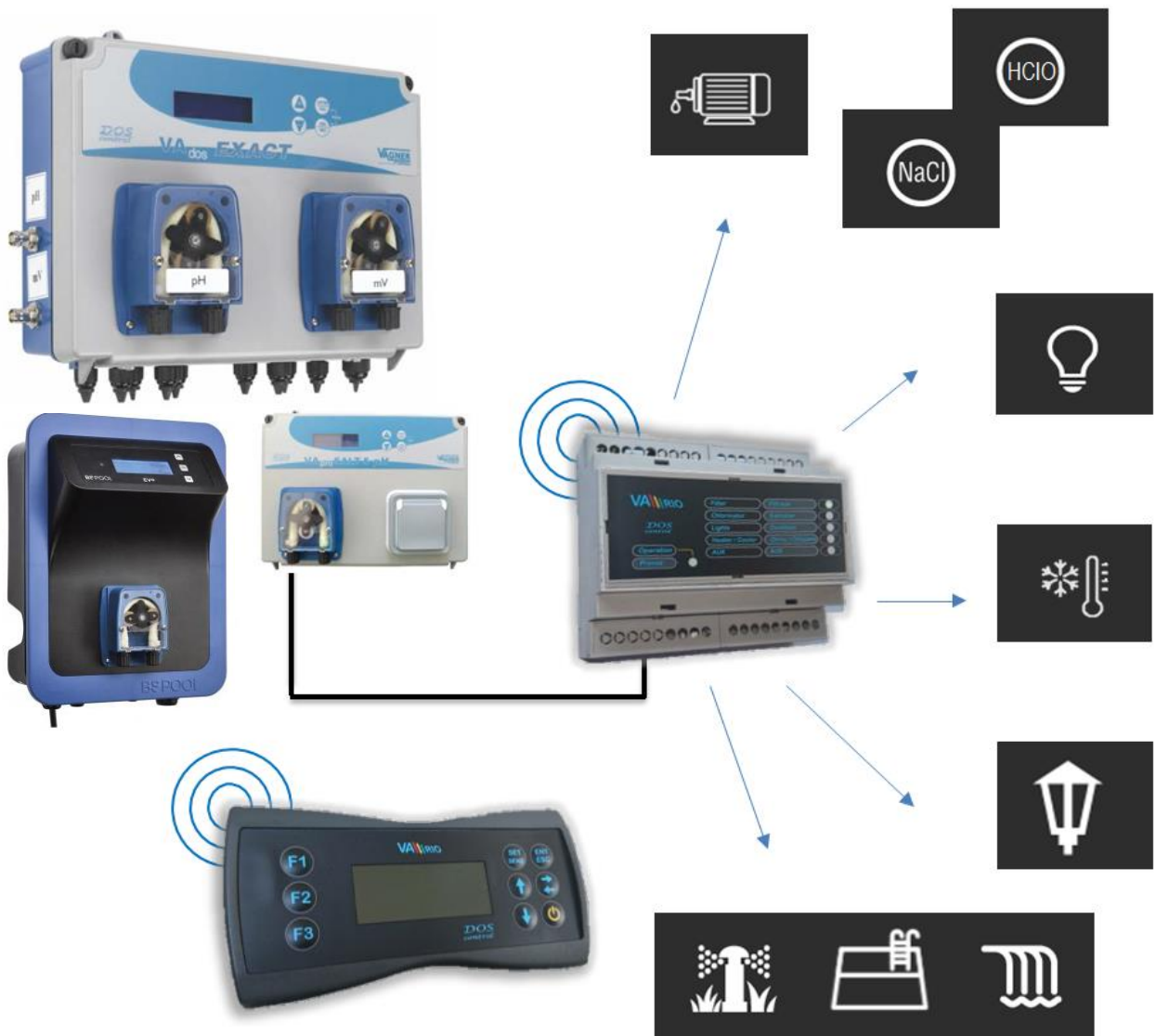


# POOL TECHNOLOGY CONTROL SYSTEM



--- DIN Module ---



## 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  $\leq$  20mW.



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

Pool control system consists of a VA RIO DIN module, which can control up to 5 output relays (filtering, dosing, lights, heating, attraction), and a local radio remote control unit VA RIO RC (furthermore RC module). The relay outputs are pre-set from the factory as follows:

### DIN module

R1 – Filtration (4 programmable timers - programs)

R2 – Dosing (operation depends on filtering time - 25%/50%/75%/100% of filtering time) / Attraction2 (timer)

R3 – Lights (timer - 15 min. step: 0/15/30/45/60/90/120/180/240 min. or permanent ON)

R4 – Heating (heating or cooling based on the pre-set/actual temperature)

R5 – Attraction (timer - 15 min. step: 0/15/30/45/60/75/90/105/120 min)

**RC module** provides information and statuses of relay contacts and outputs and allow the user to modify the parameters. When a dosing station is connected (VA DOS EXACT / VA DOS BASIC / VA DOS FLOC / VA FOR SALT pH), the RC will display actual water quality parameters as measured by the dosing unit and will also allow the user to change the operating parameters of the dosing unit.

## 3. Technical information

### DIN module (VArio)

Dimensions (w – h – d)	106,3 x 57,8 x 90,2 mm
Material	ABS nylon 66
Flammability Class	UL94V-066
Power supply/consumption	100-250 VAC 50-60 Hz / max. 12W
Temperature sensor:	0 - 50 °C ( $\pm$ 0,5 °C)
Output relays:	8 A 250 V (potential-free contact)
Frequency / Band	869,530 / P, max. output $\leq$ 20mW



### Internal EEPROM memory

The DIN module automatically stores the measured water temperature into internal memory – 3x daily at pre-set times: **10:00 / 16:00 / 22:00.**

### Other features and protective functions

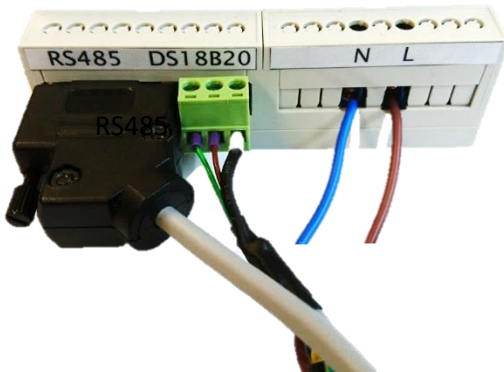
Heating priority – system will automatically switch on the filtration pump for 5 mins each hour to check the water temperature. Based on the water temperature settings the filtration pump may be switched on for heating or cooling. *Can be deactivated by DIP switch – see below.*

Anti-freeze protection – with water temperature below 4°C the system will automatically run the filtration pump every ½ hour in order to keep the water from freezing.

Salinator protection – with water temperature below 14°C the system will automatically deactivate the R2 relay output (Dosing/Atr2) to prevent the salinator from operating in cold water.

## 4. Electrical connection

### DIN module



- **RS485** – Communication cable (connection to dosing unit)
- **Temperature sensor**
  - D – ( data / green wire)
  - + – (+3,3 V / brown wire)
  - – ( 0,0 V / black or blue wire)
- **Power supply**
  - N – neutral wire
  - L – phase wire 230 V



#### IMPORTANT:

*The temperature sensor must be connected, otherwise the DIN Module will not function properly (heating activation, dosing, oprational protections, etc.).*

### Pre-set relay outputs



- **1/2** – R1 output (Filtration)
- **3/4** – R2 output (Dosing) / (Attraction2)
- **5/6** – R3 output (Lights)
- **7/8** – R4 output (Heating/Cooling)
- **9/10** – R5 output (Attraction)

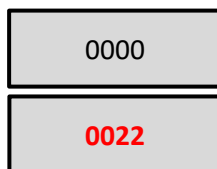
#### Note:

*The relay connection and suppression of their inductive load diagram is in Section 8, page 11..*

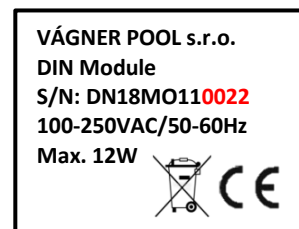
## 5. Pairing the DIN and RC modules (when purchased)

To establish a radio communication between Din and RC modules, both units need to be paired. Required for pairing is the DIN module serial number – simply input the last 4 digits into the RC module. The DIN S/N is located on the side label of the DIN module; alternatively, also under the DIN microchip cover.

To access the pairing mode, take the turned-off RC module, press and hold the “F1” button and **press the “⏻”** button for at least 3 seconds. The display will light up and „0000” will be displayed.



- a) Using the “V” or “Λ” buttons, select the desired number,
- b) Press “<” to move to the next digit,
- c) Press “SET/SEND” to confirm changes and pair the device. The display will switch to normal screen.



## 6. Unit notifications

### DIN module

The statuses of the individual relay outputs are indicated by green LEDs (unit active = green LED steady on).

A flashing green LED indicates that the DIN module is under voltage or communicating with the RC. Rapid flashing indicates ongoing communication with a dosing station (connected with a cable).



## 7. DIN Module configuration (DIP switch)

Operating functions of the DIN module (heating priority, flow switch, dosing stations / chlorinators) can be configured with a DIP switch.

<p>2 ON / 3 OFF VA SALT SMART</p>	<p>2 OFF / 3 ON VA DOS BASIC CL VA PRO SALT PH</p>	<p>2+3 ON VA DOS EXACT</p>
<p>1 ON Průtokoměr Flow meter</p>	<p>4 ON Priorita topení Heating priority</p>	<p>2 OFF / 3 OFF VA DOS BASIC OXY</p>

- |     |  |
|-----|--|
| 1   | Flow switch – default OFF                |
| 2-3 | Dosing station <-> saltwater chlorinator |
| 4   | Heating priority – default ON            |

**ATTENTION** – with DIP switch 4 (heating priority) OFF, the **antifreeze protection and cell protection with water temperatures under 14 °C will be deactivated!** Temperature readings at 10, 14 and 20:00 hours will remain active.

### 7.1. DIN Module + Dosing station

In order to review or modify the pool water parameters and review the operating status of a dosing station, follow these steps:

The dosing station must be connected with DIN module by a communication cable. The instructions below refer to dosing unit **VA DOS EXACT (2 “ON” / 3 “ON”)**,



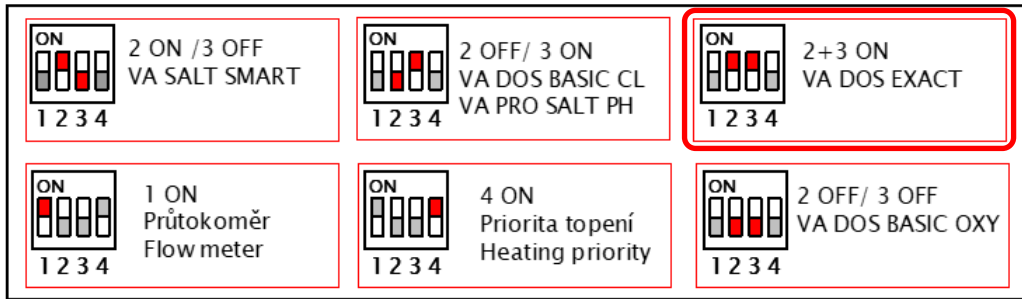
Illustrative image

The dosing unit must have the **RS485 (ON/Aktiv)** communication activated. The setup for correct communication must be the following:

#### DIN Module configuration:

Under the DIN module front cover (black) a label shows the required positions of DIP switches for the connected device = **dosing unit (VA DOS EXACT)**:





**Dosing unit configuration:**

VA DOS EXACT – ID: 1, Parity: NO, Speed: 2400, DOA=OFF,

VA DOS BASIC – ID: 2, Parity: NO, Speed: 2400, DOA=OFF,

**7.2. DIN Module + Saltwater chlorinator**

In order to review or modify the pool water parameters and review the operating status of a saltwater chlorinator, follow these steps:

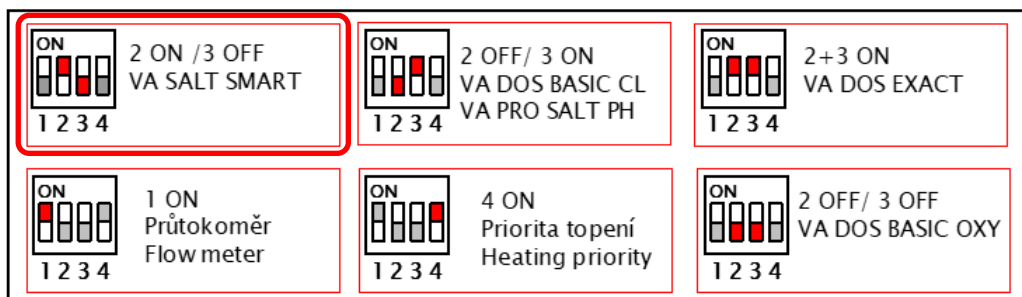
The chlorinator unit must be connected with DIN module by a communication cable. The instructions below refer to **VA SALT SMART (2 “ON” / 3 “OFF”)**,



Illustrative image

**DIN Module configuration:**

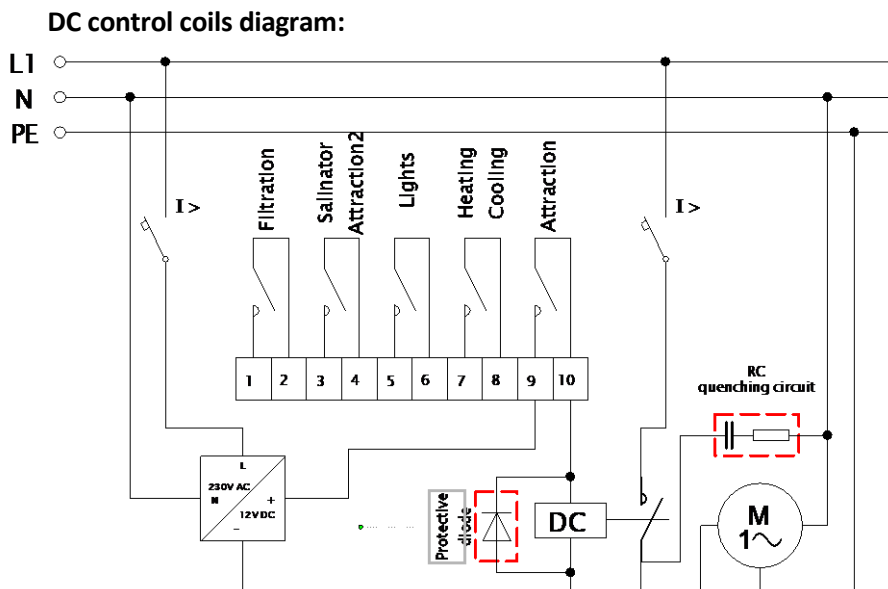
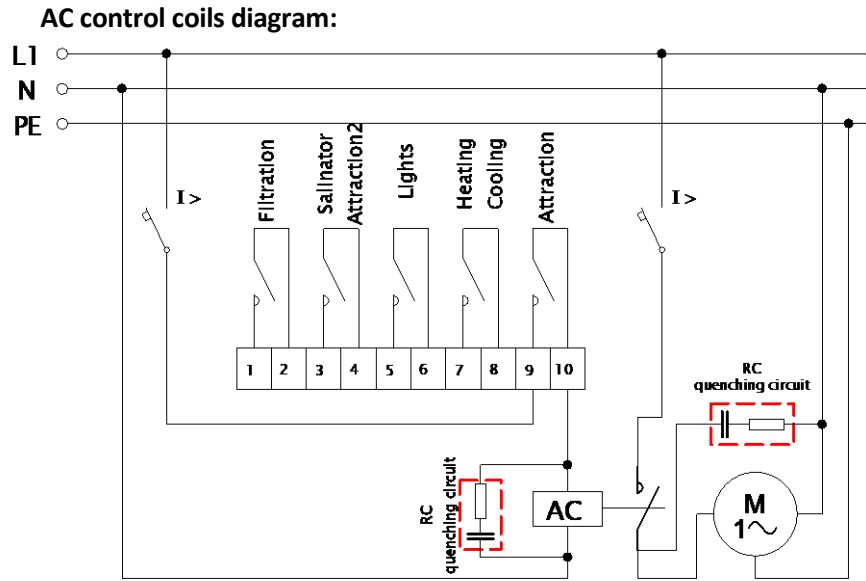
Under the DIN module front cover (black) a label shows the required positions of DIP switches for the connected device = **saltwater chlorinator (VA SALT SMART)**.



**Saltwater chlorinator configuration:**

For saltwater chlorinator configuration, please consult the VA SALT SMART user manual.

## 8. Relay connection and suppression of their inductive load



**This is the recommended output connection of the VARIO DIN Module for connection of inductive load inside a breaker box (diagram is valid for one output = in this case the “Attraction” contact). Connect the other outputs with inductive load accordingly.**

The outputs are designed for general use as potential-free contacts, which provides for a wide range of utilization.

For DC coil switching / inductive load suppressing, we strongly recommend using a parallel diode connection (in closing direction).

Following these rules and recommendations will result in significant lifetime extension of contacts and relays in the DIN module. In addition, the failure rate of electronic systems placed inside the breaker box, which could be caused by disturbances from inductive load switching, will be substantially reduced (e.g. electromotors, the contactor control coil transformers and relays).

## 9. Accessories – communication with Dosing Units / Saltwater Chlorinators



1. Vario in a complete breaker box + connection cable to a dosing unit / chlorinator:

**Item 516130 = CABLE – VARIO IN BREAKER BOX**  
(Breaker box case -> VA DOS BASIC/EXACT or VA SALT SMART)



2. Separate DIN Module for building-in into an existing breaker box + connection cable to a dosing unit/chlorinator:



**Item 516131 = CABLE – VARIO INTO OLD BR. BOX**  
(DIN module -> Breaker box case, as internal extension)

**Item 516130 = CABLE – VARIO IN BREAKER BOX**  
(Breaker box case -> VA DOS BASIC/EXACT or VA SALT SMART)



3. Separate DIN Module + cable for direct connection to a dosing unit / saltwater chlorinator:

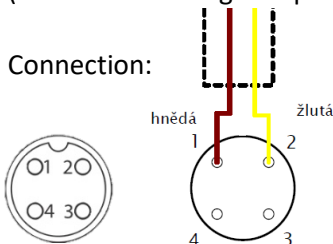


**Item 516132 = CABLE - VARIO SEPARATE DIN**  
(DIN Module -> dosing unit / chlorinator)

**Yellow “-”** (minus)  
**Brown “+”** (plus)

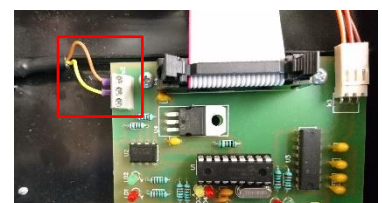


**VA DOS – dosing unit connector**  
(included in dosing unit package)



**VA SALT SMART – BSV communication kit**  
(Item 516141 – VARIO COMM. MODULE VA SALT SM.)

Connection:



# 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:



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Further information and documents to the VARio system can be found at [www.variopools.com](http://www.variopools.com)