SDWM002 Intelligent Pool Central Control Unit

Manual for Installation and Commissioning

Version 2.0

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The product images are for illustrative purposes only and may differ from the actual product.

Introduction

Thank you for choosing the PoolmatixPro SDWM002 pool automation system. The system and its components are designed to be as easy as possible to install and operate as long as you follow the following instructions. This manual will give you a complete overview of the correct installation and maintenance of the Poolmatix system.

In addition, this guide will take you through the installation and commissioning process of the Poolmatix system. This document serves as a complete guide for installation preparation, installation, and commissioning and gives you some useful tips, especially on the following topics:

- How to prepare the pool technology and pipe system
- How to connect and control your pool heater
- How to connect Poolmatix devices
- How to install the PoolmatixPro SDWM002 main control unit
- How to connect pool technology and Poolmatix accessories
- How to connect the Poolmatix system to the Internet
- How to configure the Poolmatix system

Important Note

Please read the documentation carefully and follow the instructions in this document. Incorrect installation or improper use of the system components can lead to material damage or health hazards. Incorrect handling of the system will void the warranty.

Note

Please note that the installation should be carried out by a pool technician familiar with the Poolmatix system. The installation of all electrical parts and low voltage connections should be carried out by a qualified electrician.

1 Installation of Pool Technology Components

1.1. Overview of Components

We recommend that you plan and prepare the entire pool technology and piping system in advance, depending on the configuration of your pool.

The following diagrams show typical components of your pool technology, Poolmatix components, and their locations.

Please follow these diagrams carefully when preparing the pool technology for the installation of the Poolmatix system.

Fig. 1 Saltwater Pool Installation

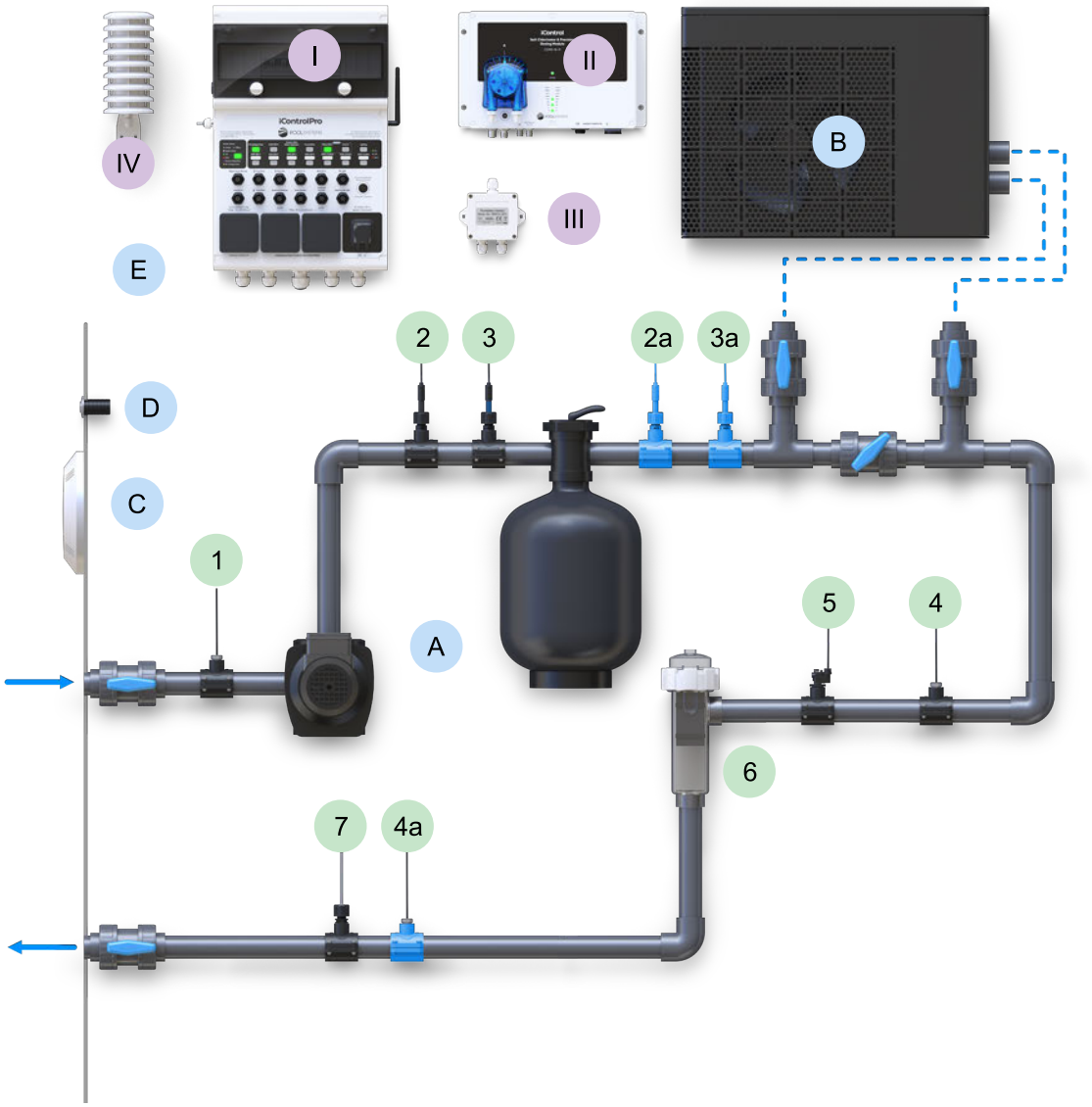


Fig. 2 Saltwater Pool Installation with Bypass for the Electrolytic Cell. The Water Flow Sensor Must be Installed in the Bypass.

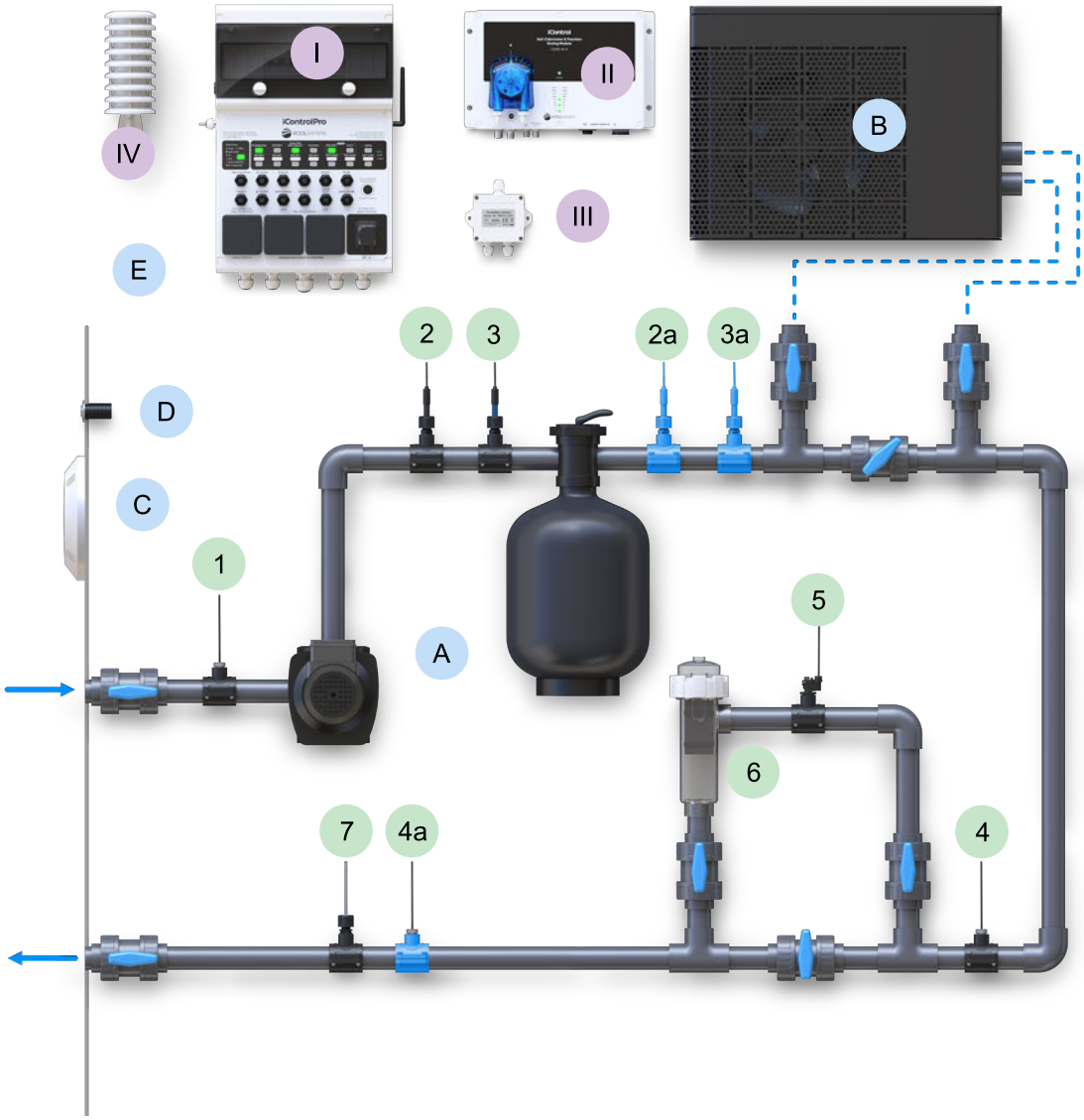


Fig. 3 Alternative Mounting Position of the Electrolytic Cell

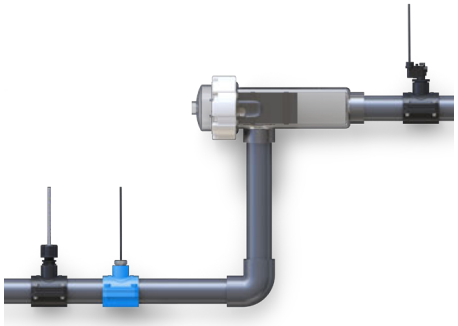
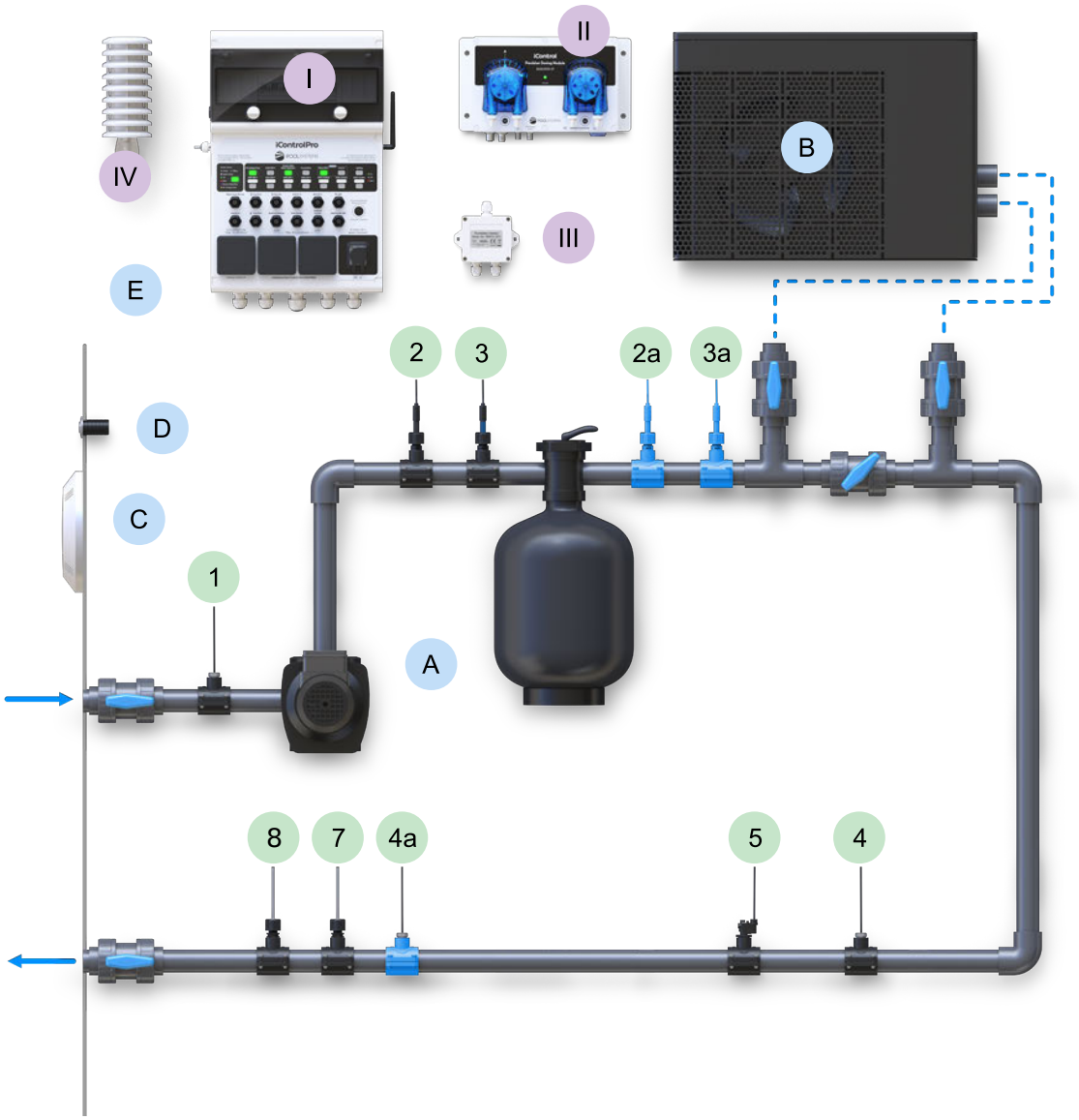


Fig. 4 Freshwater Pool Installation



Poolmatix Components:

- A Circulation Pump and Filter
- B Heat Pump (or other type of heating)
- C Pool Lighting
- D Pool Pushbuttons
- E Counterflow
- I PoolmatixPro SDWM002 Intelligent Control Unit
- II Poolmatix Salt Chlorinator
- III Poolmatix Pushbutton Interface
- IV Poolmatix Outside Temperature Sensor
- 1 Water Temperature Sensor (from Pool)
- 4a Alternative Mounting Position of the Water Temperature Sensor (into Pool)

2 pH Electrode
2a Alternative Mounting Position of the pH Electrode
3 ORP or Free Cl Electrode
3a Alternative Mounting Position of the ORP Electrode
4 Water Temperature Sensor (into Pool)
5 Water Flow Sensor
6 Electrolytic Cell (Saltwater Pool)
7 pH Agent Injection Dosing Valve
8 Chlorine Agent Injection Dosing valve (Freshwater Pool)

Note

Installing the electrodes in the alternative mounting positions (as indicated above) can slightly influence the measured values. Contamination of the pool filter can affect the pH value and reduce the ORP measured downstream of the filter.

1.2. Water Flow Sensor

The PFS-R1D paddle water flow sensor provides an essential protective function of the pool. It sends a signal to the system in the event of a water circulation malfunction, thus protecting both the water quality and the pool technology.

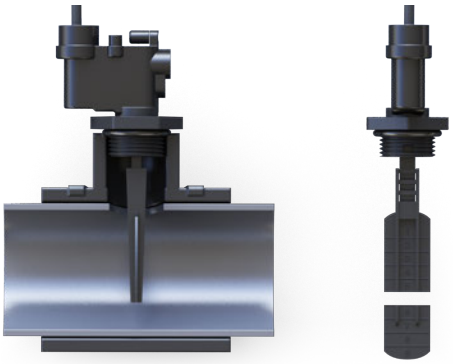
The sensor monitors the proper functioning of the water circulation. It detects when the water flow rate in the pipe falls below the minimum level. This allows the Poolmatix system to react immediately to a fault in the water circulation, stop the water treatment and circulation pump, and notify the user.

Installation

The sensor should be installed in a saddle clamp with a 1/2" internal thread size. If you are not using the saddle clamp supplied with the flow sensor, please ensure that the height of the clamp's entry opening above the pipe surface is approximately 25 mm.

Please refer to the detailed installation instructions in the flow sensor installation manual.

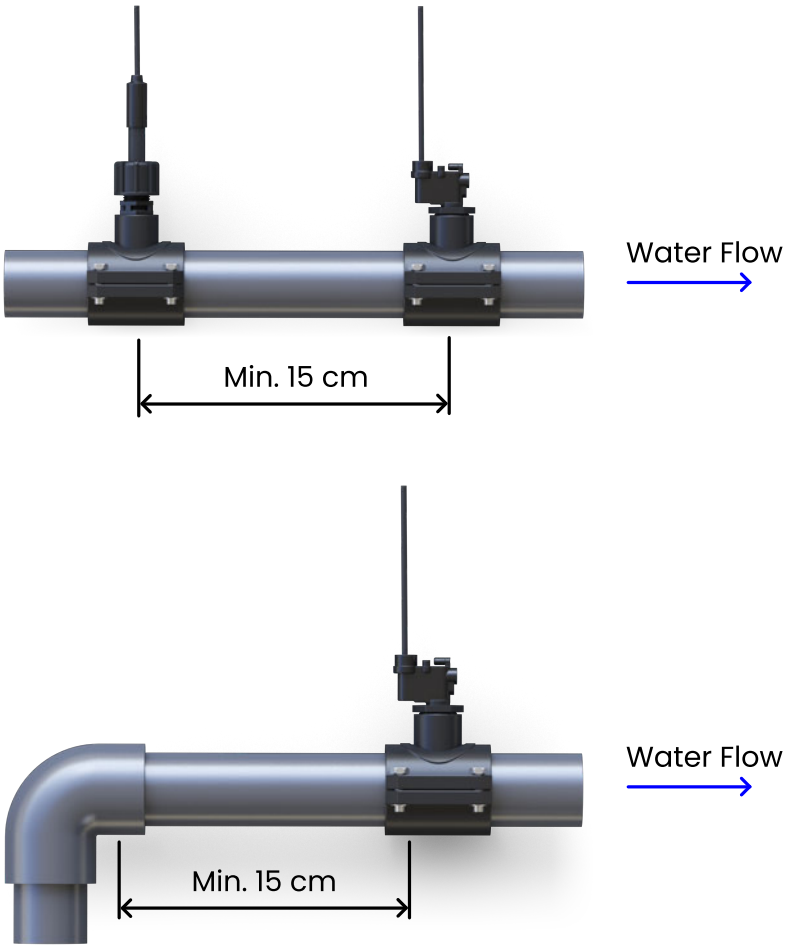
Fig. 5 Installation of the Water Flow Sensor



When installing the sensor, you must ensure that the water flow in the pipe in front of the sensor is not obstacled by any other objects.

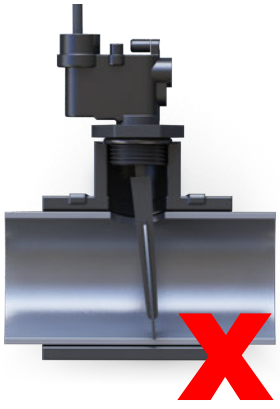
Make sure that the flow sensor is installed at least 15 cm behind other sensors or obstacles in the pool pipe that could cause turbulence of the water flow.

Fig. 6 Distance of the Flow Sensor from Obstacles in the Piping



Please ensure that the sensor paddle is the correct length.

Fig. 7 Sensor Paddle Too Long



Note

Please ensure that the hole in the pool pipe for the flow sensor is large enough to prevent the sensor paddle from becoming blocked. We recommend drilling a hole with a minimum diameter of 20 mm.

1.3. Water Temperature Sensors

The DTSP01 water temperature sensor is a recommended accessory for every PoolmatixPro SDWM002 installation. Two temperature sensors are required for saltwater pools.

The sensors monitor the temperature of the water flowing from the pool into the pool technology and the water flowing back into the pool.

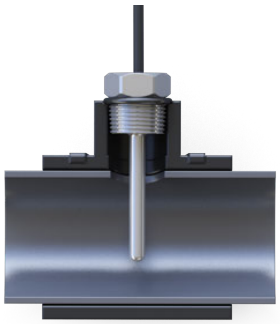
The water temperature sensor from the pool is required to measure and display the current temperature of the pool water and to control the pool heating.

The temperature sensor for the water flowing back into the pool is required to measure the water temperature in the pool after the heater. This allows the pool water salinity to be calculated accurately.

The sensor is installed in a saddle clamp or in a T-piece with a ½" female thread.

Please refer to the detailed installation instructions in the temperature sensor installation manual.

Fig. 8 Installation of Temperature Sensor



1.4. Water Quality Electrodes

Depending on the configuration of the pool, you may need to install pH, ORP, and/or free chlorine electrodes. The electrodes are installed in the pool piping between the circulation pump and the filter tank. If you cannot install the electrodes between the circulation pump and the filter tank, you can install the pH and ORP electrodes after the filter tank. However, never install the free chlorine electrode after the filter tank, as this would prevent the correct calibration of the electrode.

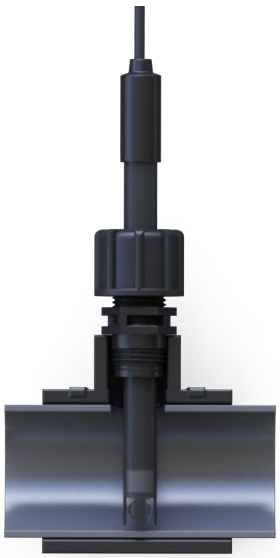
The electrodes are installed in a 12 mm inline electrode holder, which is mounted in a saddle clamp or a T-piece with a ½" internal thread.

Installation

The electrodes must be installed in a vertical position with the tips pointing downwards. The maximum permissible deviation from a vertical position is 30°.

Please refer to the detailed installation instructions in the electrode installation manual.

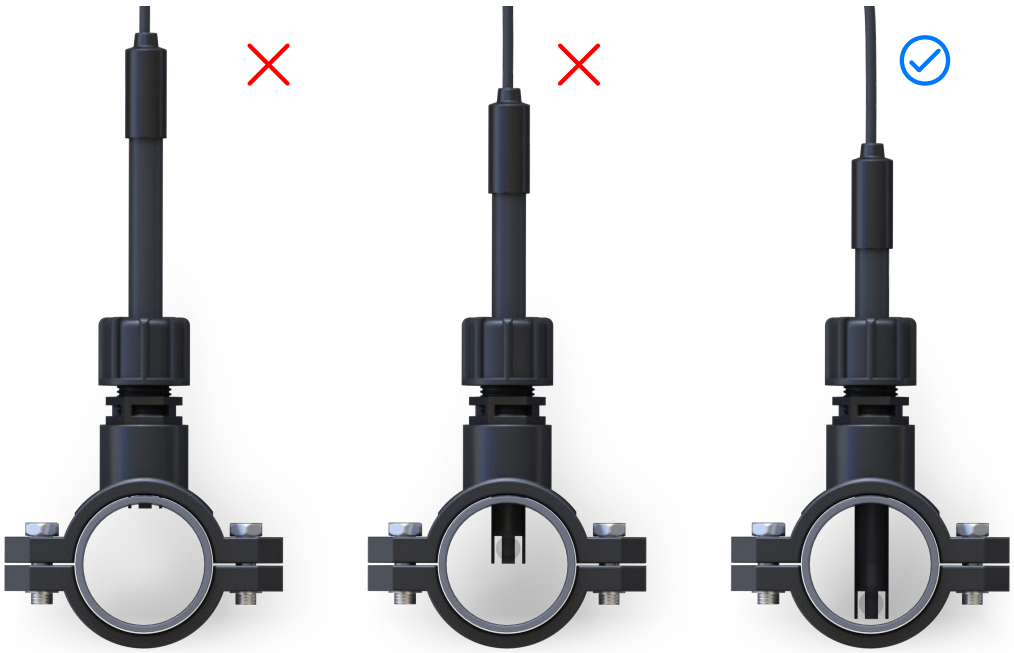
Fig. 9 Installation of the Water Quality Electrodes



To reduce the risk of damage to the electrodes from solid particles in the water flow, we recommend installing the electrode tip outside the main water flow, approximately 5-10 mm from the bottom of the pipe.

Please follow these instructions:

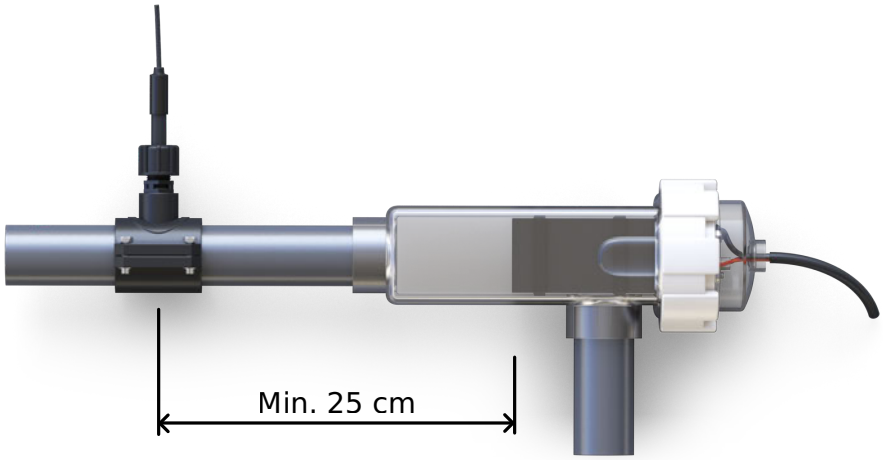
Fig. 10 Recommended Electrode Installation



Distance Between the Electrodes and the Electrolytic Cell

The electrodes of the electrolytic cell generate stray voltages in the water that can affect the accuracy of the water quality electrode measurement. The water quality electrodes must therefore be at least 25 cm (but preferably further) away from the electrolytic electrodes of the salt chlorinator.

Fig. 11 Distance Between the Electrodes and the Electrolytic Cell



1.5. Injection Dosing Valves

The injection dosing valves are installed in a saddle clamp or a T-piece, with a ½" internal thread. Please refer to the component diagrams in this manual for the correct installation position of the valves.

2 Connecting the Pool Heating

PoolmatixPro SDWM002 can control the water temperature of your pool. It can control a heat pump, a heat exchanger or another type of heater. To connect and control the heating, it is necessary to prepare the wiring in advance. PoolmatixPro SDWM002 offers several options for controlling the pool heating (or cooling).

Important Note:

If you use the Poolmatix system, the heating is always controlled by the PoolmatixPro SDWM002 control logic, not the other way round.

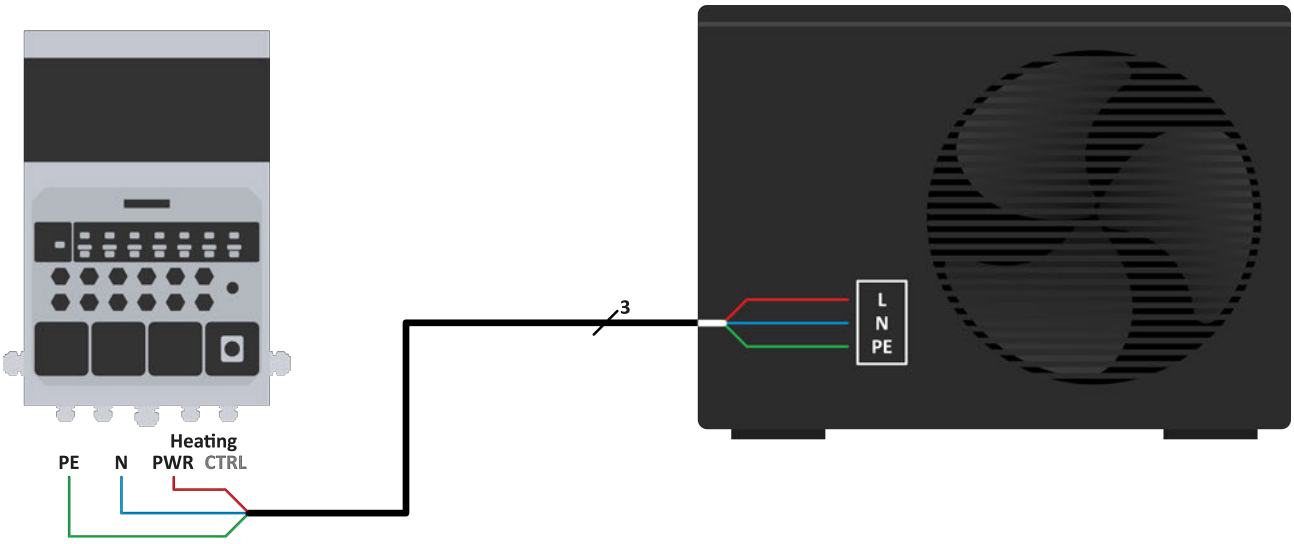
2.1. Control via a Power Output (230V)

This is the simplest way to control the heater. In this configuration, the power supply to the heater (e.g. the heat pump) is switched on depending on whether heating is required. The power output is also used to control solar systems or heat exchangers. Please note that the cooling function is not supported in this configuration.

Note

If the heater is equipped with its own thermostat (usually accessible via the display control panel), this thermostat needs to be always set to a higher temperature than the maximum temperature you wish to achieve for your pool.

Fig. 12 Control via a Power Output (230V)



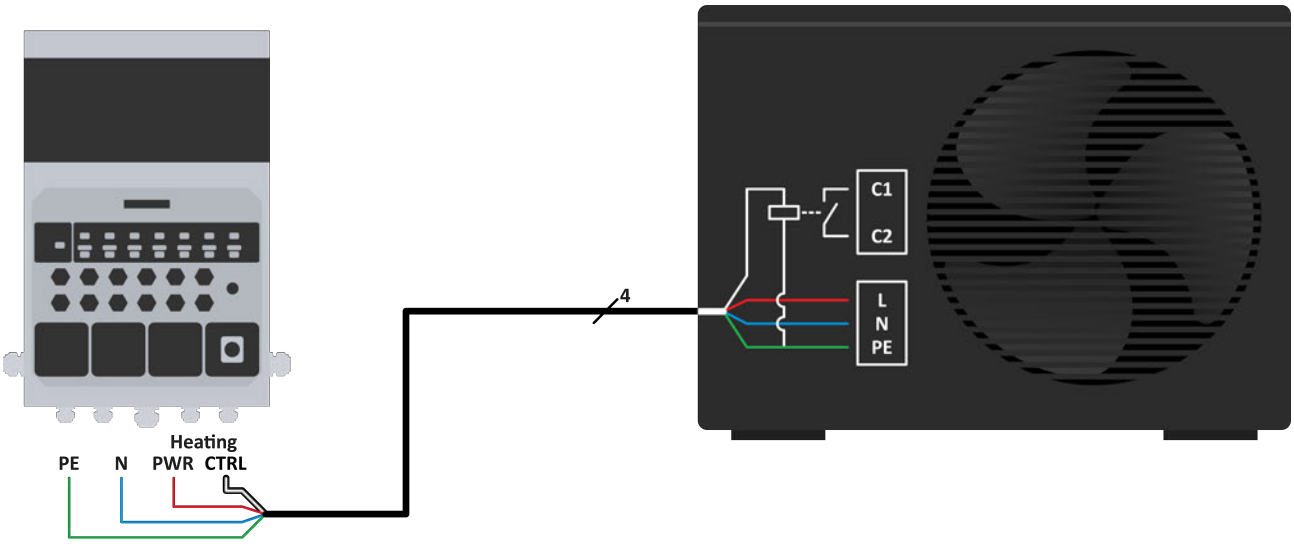
2.2. Control via an External Relay

Most heat pumps and many other types of heating are equipped with a control input for external control via a potential-free contact. This contact is usually accessible on the appliance's circuit control board after opening the cover of the heating appliance. In this case, the appliance's power supply remains permanently switched on, and the appliance is controlled via the potential-free contact. Please note that the cooling function is not supported in this configuration.

Note

If the heater is equipped with its own thermostat (usually accessible via the display control panel), this thermostat needs to be always set to a higher temperature than the maximum temperature you wish to achieve for your pool.

Fig. 13 Control via an External Relay



2.3. Control via RS-485 Communication Interface (Including Cooling Control)

Many heat pump modes are equipped with an RS-485 / Modbus interface for external control. The RS-485 connection is usually accessible after removing the cover of the heat pump on the control circuit board. Depending on the type of heat pump, this interface can be shared with the connection of the heating display panel and/or the Wi-Fi module. In this configuration, the power supply to the heater remains permanently switched on. The heater is controlled by commands that are sent via the RS-485 interface from the PoolmatixPro SDWM002 main control unit.

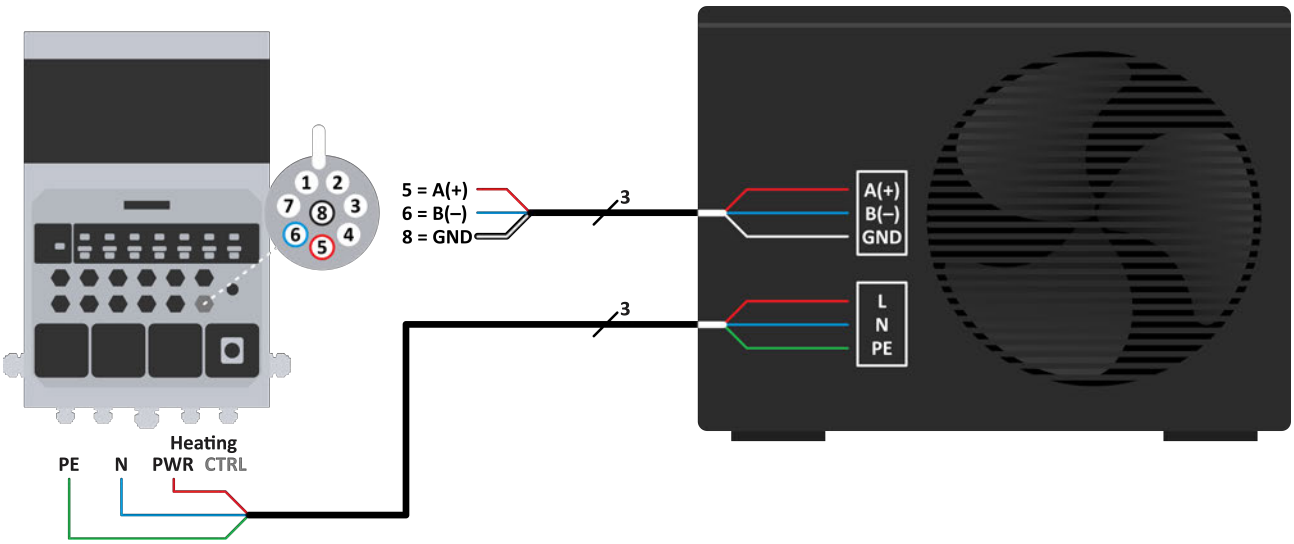
If your heat pump is equipped with a cooling function, the PoolmatixPro SDWM002 system can also control the pool cooling via the RS-485 connection.

Note

If you intend to use this type of heat pump control, please consult your dealer in advance about the compatible heat pump models.

Ask your dealer whether a connection kit is available for your heat pump model.

Fig. 14 Heating Control via RS-485 Communication Interface



The control cable between the main control unit and the heat pump must be laid separately from any power cable in a separate cable conduit or cable tray.

You can use any commercially available cable to extend the length, however please do not exceed a total length of 25 meters.

3 Connection of Poolmatix Intelligent Devices

The PoolmatixPro SDWM002 main control unit constantly communicates with other Poolmatix intelligent devices. These intelligent devices include:

- Poolmatix Intelligent Salt Chlorinator
- Poolmatix Dosing Units
- Other Poolmatix Intelligent Peripheral Devices

3.1. Poolmatix Dedicated Control Data Bus

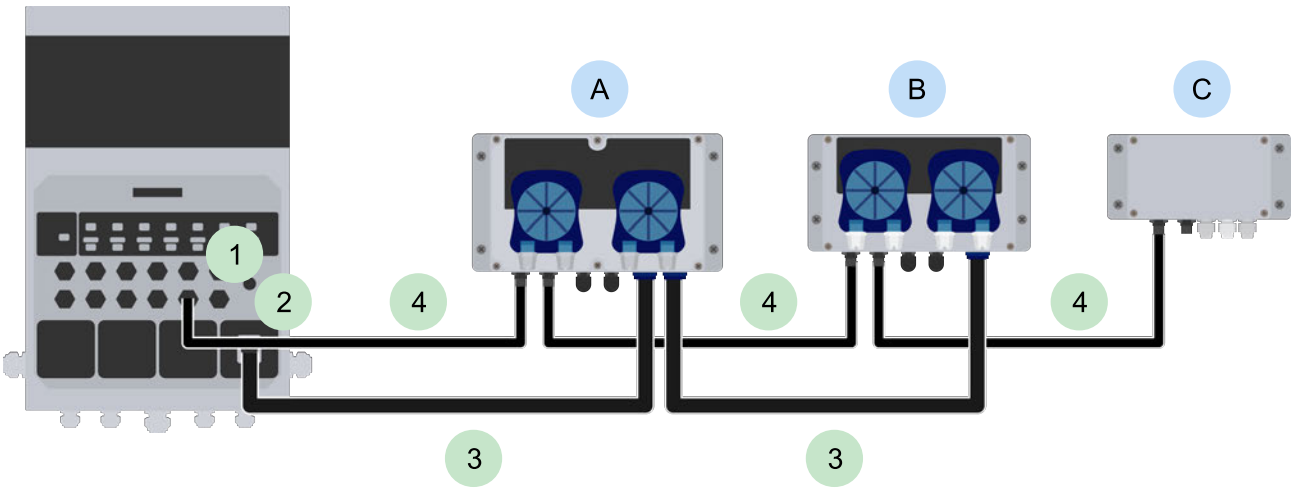
The Poolmatix intelligent devices utilize a specialized RS-485 data bus for connection to the PoolmatixPro SDWM002 main control unit. The data bus connections, which are 8-pin M12 connectors, are labeled “Poolmatix Water Treatment” on all devices.

The data connections of the Poolmatix devices are “daisy-chained”, meaning they are connected to each other in a series. The order of the devices does not matter.

3.2. Connection of the Supply Voltage

Some of the Poolmatix intelligent devices require a 230 V power supply. These devices are equipped with a 230 V input. This power input needs to be connected to the power output of the main control unit labeled “Poolmatix” 230 V Water Treatment. The remaining devices are connected to the same power supply using a “daisy chain” method, whereby the power inputs and outputs of all devices are connected together.

Fig. 15 Diagram 9: “Daisy-Chaining” of Poolmatix Intelligent Devices



A Poolmatix Device A

B Poolmatix Device B

C Poolmatix Device C

1 Poolmatix Control Data Bus
2 Poolmatix Power Output (230 V)
3 Poolmatix Power Cable (230 V)
4 Poolmatix Control Data Bus

4 Connection of the Poolmatix Sensors

The Poolmatix sensors provide the PoolmatixPro SDWM002 control system with information about the status and values of various components of the pool system:

- Water Temperature Sensor (into Pool)
- Outside Temperature Sensor
- Water Flow Sensor
- Pushbutton Interface
- Water Level Sensor
- Water Pressure Sensor

All these sensors have their dedicated connection points on the PoolmatixPro SDWM002 main control unit.

4.1. Water Flow Sensor and Flood Sensor

These sensors provide a simple contact output and are connected to the corresponding M12 sensor connections on the PoolmatixPro SDWM002 main control unit.

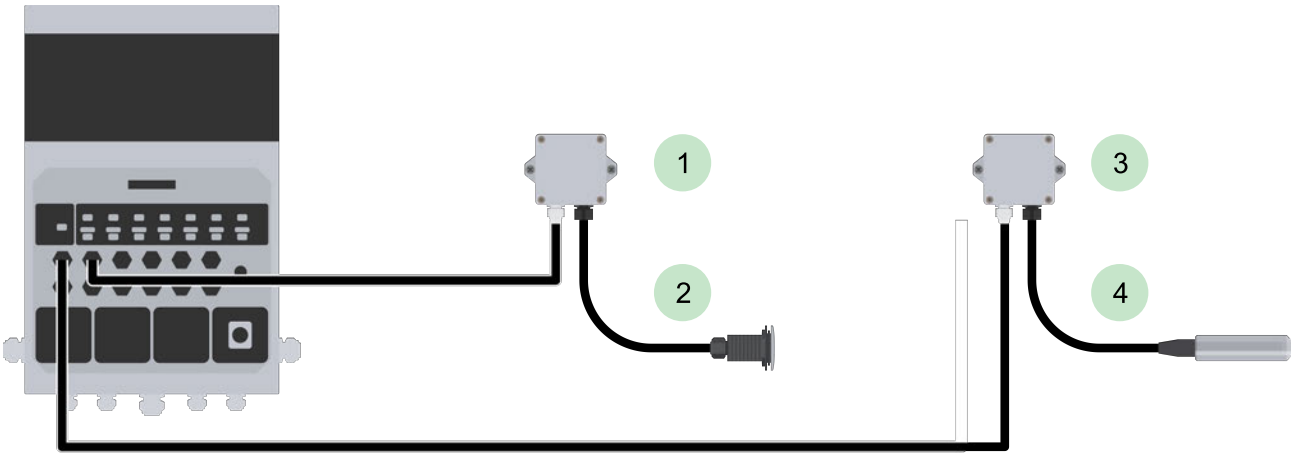
4.2. Water Temperature Sensors and Outdoor Temperature Sensor

The Poolmatix water temperature sensors and the outdoor temperature sensor use a digital one-wire connection. These sensors are connected to the corresponding M12 sensor connections on the PoolmatixPro SDWM002 main control unit.

4.3. Push-button Interfaces and Water Level Sensor

The PoolmatixPro SDWM002 pushbutton interface and the water level sensor use the standard industrial 4-20 mA current loop type interface. This allows the devices to be installed at a great distance from the PoolmatixPro SDWM002 main control unit without the risk of electrical interference. Please follow these guidelines when preparing the wiring for your Poolmatix installation:

Fig. 16 Wiring of the Poolmatix Pushbutton Interface and Water Level Sensor



1. Poolmatix Pushbutton Interface Near the Pool Button(s)
2. Pneumatic or Electrical (Piezoelectric) Connection
3. Poolmatix Water Level Sensor Near the Balancing Tank
4. Water Level Sensor with Special Cable with Internal Capillary Tube

The signal cable between the main control unit and the interface box must be laid separately from any power cable in a separate cable conduit or cable tray.

You can use any commercially available cable to extend the length, however please do not exceed a total length of 20 meters.

5 Internet Connection Type

PoolmatixPro SDWM002 is an online system, although it can also control your pool without an Internet connection. However, a reliable internet connection is required to set up the system to benefit from all its advantages and to access the pool via the user applications.

5.1. Mobile Connection

If you have a stable mobile signal, the mobile connection is the easiest way to connect your PoolmatixPro SDWM002 to the Internet.

Mobile connection is generally the easiest option for setting up an Internet connection and is usually also the most reliable.

If you order the PoolmatixPro SDWM002 control unit with a mobile connection, you will receive an M2M SIM card for various operators, which always searches for the best available mobile phone signal in your area.

However, we strongly recommend that you check the mobile network signal at the location of the PoolmatixPro SDWM002 control unit in advance.

Checking Mobile Network Signal in Advance

There are several ways to check the quality of the mobile signal in advance:

Check the signal bar on your cell phone: Look at the bars indicating the signal or icons displayed on your mobile device. Normally, more bars indicate a stronger signal. Two out of four or five bars usually indicate a sufficient signal. Make sure you check the 4G signal.

Check your phone's data rate: Use your mobile internet and monitor the speed and responsiveness of your data connection. Slow loading times, buffering, or the inability to load web pages can be signs of a weak signal.

Use signal strength apps: There are various apps for smartphones that can provide more detailed information about signal strength, e.g. signal strength measurements in decibels (dBm) or signal quality metrics. You can search for signal-strength apps in your device's app store.

Underground PoolmatixPro SDWM002 Installation

There is rarely good mobile phone coverage in an underground shaft.

If you install the PoolmatixPro SDWM002 main control unit underground, ensure that the antenna is placed outside the main area of the underground room.

If there is a strong signal at the entrance to the manhole, you can locate the standard LTE antenna directly under the manhole cover.

Fig. 17 Antenna Holder and Extension Cable for Installation Under a Manhole Cover

If the cellular signal at the manhole entry is not strong enough, you must use an external antenna placed in a location with a good mobile signal and connect an antenna extension cable.

Fig. 18 External Antenna with an Extension Cable

⚠ Important Note:

Soil is a very effective absorber of electromagnetic waves! If you wish to complete your landscaping work after installing the PoolmatixPro SDWM002 underground, please note that the mobile phone signal in the underground shaft may deteriorate as soon as more soil is brought in around the shaft.

Note

After switching on the Poolmatix system at a new location, it can take up to 20 minutes for the LTE connection to be established. The system searches for all available mobile networks and selects the connection with the best quality.

5.2. Ethernet Connection

All versions of the intelligent PoolmatixPro SDWM002 control unit support an Ethernet connection. The RJ-45 Ethernet connector is located on the side of the intelligent PoolmatixPro SDWM002 control unit. Simply plug the Ethernet cable into this RJ-45 Ethernet port.

Important Note:

Check the firewall of your home network. Some home routers use a network firewall that can partially or completely block communication with the PoolmatixPro SDWM002 . Before installation, make sure that neither your router nor your ISP is restricting communication on any network ports.

5.3. Wi-Fi Connection

All versions of the PoolmatixPro SDWM002 control unit intelligent support a 2.4 GHz Wi-Fi connection.

If you decide to use the Wi-Fi connection, make sure that there is sufficient signal at the location where the control unit or its Wi-Fi antenna is to be placed.

The best way to determine this is with the help of a smartphone.

When installing the Poolmatix system in an underground shaft, please follow the same recommendations as for a mobile connection.

For detailed instructions on connecting the PoolmatixPro SDWM002 main control unit to your Wi-Fi network, please refer to Chapter 9 of this document.

Detailed instructions on setting up the Wi-Fi connection can be found in Chapter 9.

⚠ Important Note:

Watch out for moving obstacles. If you are connecting from an outdoor location to a wireless Wi-Fi access point located inside a building, be aware that moving obstacles such as lids, metallic glazing, blinds, shutters, garage doors, or the pool cover can significantly impair the wireless signal connection. We, therefore, recommend placing a dedicated Wi-Fi access point for PoolmatixPro SDWM002 in a location where the signal reception cannot be obstructed by such moving obstacles.

If the password of your Wi-Fi access is changed, you will lose the connection to your PoolmatixPro SDWM002. It is therefore recommended that you use a dedicated Wi-Fi access point.

Check the firewall of your home network. Some home routers use a network firewall that can partially or completely block communication with the PoolmatixPro SDWM002 . Before installation, make sure that neither your router nor your ISP is restricting communication on any network ports.

6 Installation of the PoolmatixPro SDWM002 Control Unit

6.1. Product Characteristics

PoolmatixPro SDWM002 is an integrated intelligent control unit designed specifically for the control of leisure pools. It comprises a Linux-based control unit, a range of power outputs to control the pool technology and a range of communication interfaces for sensors, controllers and expansion devices.

The PoolmatixPro SDWM002 control unit is supplied together with basic required installation accessories.

Settings and controls for the intelligent control unit are made via the iXmanager mobile app and the iXfield web application.

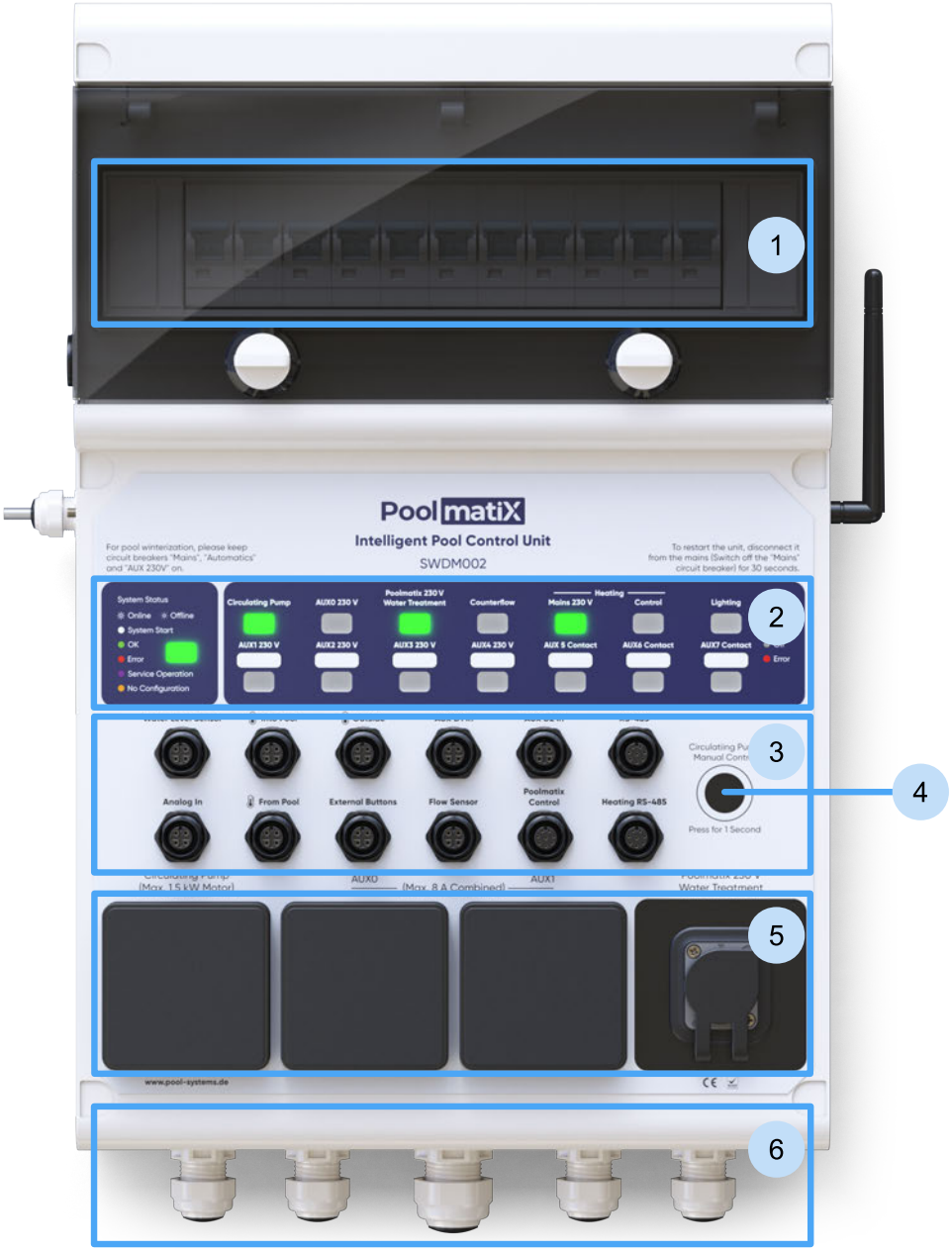
6.2. Product Features

The intelligent control unit PoolmatixPro SDWM002 was designed as an integrated and versatile pool control center that completely replaces the conventional pool distributor and electrical installation.

- Elegant, Compact Design
- Super Easy Installation
- Large Selection of Outputs and Interfaces
- Flexible, Remotely Set up Functionalities
- Control of the Entire Pool Water Treatment System
- Management of all Pool Technology
- Integrated Connectivity
- Available in 1-phase and 3-phase versions

6.3. Functional Parts - Front View

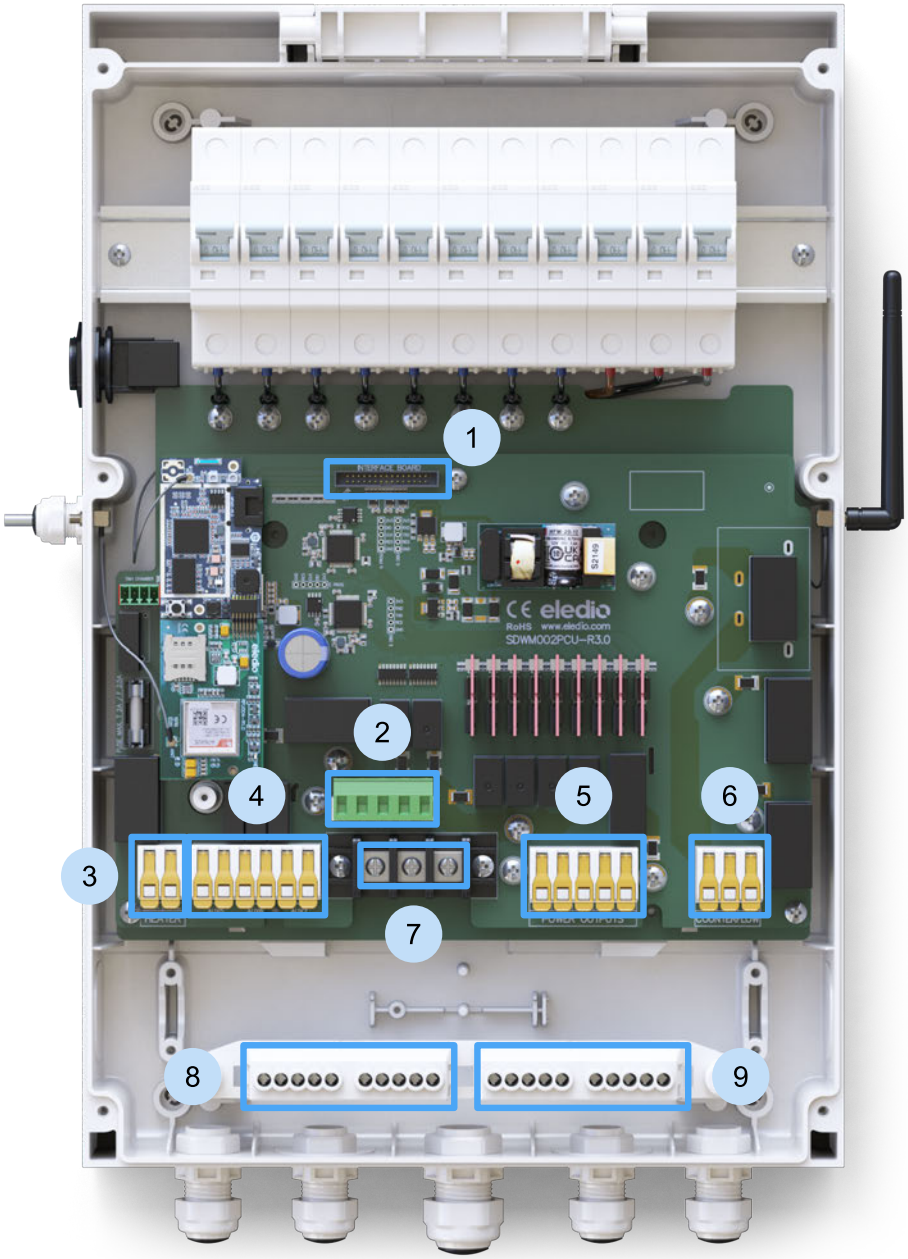
Fig. 19 Functional Parts of the PoolmatixPro SDWM002 Control Unit



1. Circuit Breakers
2. LED Indicator Panel
3. Connections for Sensors and Peripheral Devices
4. Manual Control Button
5. 230 V Sockets
6. Cable Glands for Mains Power and Additional Connections

6.4. Inside View - Connection Points

Fig. 20 Functional Parts of the PoolmatixPro SDWM002 Control Unit



1. Interface Board Connector (for Ribbon Cable)
2. Connection Terminals for Front Panel 230V Sockets (Wiring Harness)
3. Heating Connection
4. Connection for Potential-Free Contacts (AUX5 - AUX7)
5. Connection for 230 V Pool Technology Components (Lighting, AUX1 - AUX4)
6. Counterflow Connection

7 Mains Power Connection

8 PE Busbar

9 N Busbar

6.5. Technical Data

1-Phase Version: SDWM002-PS(D)114122
3-Phase Version: SDWM002-PS(D)314120

Basic Data

Design	Low-voltage plastic distributor for indoor use	
Nominal voltage	SDWM002-PS(D)114122	230 VAC
	SDWM002-PS(D)314120	400 VAC
Switchgear rated current	SDWM002-PS(D)114122	25 A
	SDWM002-PS(D)314120	20 A
SELV Isolation Voltage	4 kV	
Input Power	20 W	
Main Circuit Breaker	SDWM002-PS(D)114122	1 x C25A
	SDWM002-PS(D)314120	3 x C20A
Indicators	RGB LED	
IP Protection Class	IP 54	
Overvoltage Category	III	
Pollution Degree	2	
Operating Temperature	-15 - 45 °C	
Storage Temperature	-20 - 55 °C	
Operating Humidity	20 ÷ 90%, No Condensation	
Operating Position	Vertical	
Mounting Method	Wall Mounting, Screws	
Dimensions	300 x 445 x 125 mm (W x H x D)	
Net Weight	SDWM002-PS(D)114122	4.4 kg
	SDWM002-PS(D)314120	4.1 kg
Applicable Standards	EN 61439-1 ed. 3, EN 61439-3, EN 62368-1, EN 301489-1, EN 301489-17, RoHS	

Output load capacity

Output	Maximum Switching Load		Connection Point
Circulation Pump	Single-phase asynchronous motor 1,5 kW		Front panel, 230 V Schuko socket outlet
Poolmatix Water Treatment	1,5 A		Front panel, 230 V bayonet plug connector
AUX0 230 V output	Resisitve load 8.0 A Single-phase 230 V asynchronous motor 300 W Solenoid valve 100 W		Front panel, 230 V Schuko socket outlet
AUX1 230 V output	Resisitve load 8.0 A Single-phase 230 V asynchronous motor 300 W Solenoid valve 100 W		Front panel, 230 V Schuko socket outlet Internal screw terminal
AUX2 - AUX4 230 V output	Resisitve load 8.0 A Single-phase 230 V asynchronous motor 300 W Solenoid valve 100 W		Internal screw terminal
AUX5 - AUX7 Potential-free contacts	Resisitve load 8.0 A Single-phase 230 V asynchronous motor 300 W Solenoid valve 100 W		Internal screw terminal
Light (Lighting)	LED power supply 200 W Halogen lamp with transformer 600 W		Internal screw terminal
Heating (Heating)	Single-phase heat pump 3.0 kW		Internal screw terminal
Heating Control (Heating Control)	Resistive load 2.0 A Single-phase 230 V asynchronous motor 100 W Solenoid valve 20 W		Internal screw terminal
Counterflow	SDWM002-PS(D)114122	2,2` Single-phase asynchronous motor 1.5 kW	Internal screw terminal
	SDWM002-PS(D)314120	Three-phase asynchronous motor 4,0 kW	Internal screw terminal

6.6. Installation and Commissioning

This chapter will guide you through the installation of the PoolmatixPro SDWM002 intelligent control unit.

⚠ Important Note:

The unit must be installed in accordance with the standards and regulations of the respective country and in compliance with the specific local technical conditions and requirements.

The unit may only be installed by a person who has sufficient qualifications to work on electrical devices and who has properly familiarized themselves with these installation and operating instructions.

The control electronics of the unit includes protective measures against voltage peaks and interference pulses in the distribution network. However, it is necessary to reduce disturbances from external sources of electromagnetic interference, such as switching power supplies, power contactors, motors, and inductive loads, by adhering to relevant technical standards.

The main power supply of the control unit must be protected by an external 30 mA residual current device (RCD).

Do not install the unit in an environment with excessive pollution and electromagnetic interference.

The operating temperature of the appliance during continuous operation and the maximum ambient temperature must not be exceeded.

Do not install or operate the unit if it shows signs of damage. In this case, return the product to the dealer.

The unit contains a CR1220 button cell for the real-time clock. This battery may only be replaced with the same type (CR1220), which is suitable for an operating temperature range of at least -15 to +65 °C.

The battery replacement requires the removal of the front cover of the unit and should only be carried out by a qualified person.

It is necessary to establish an earthing connection between all conductive external parts of the technology, including water, and the PE protective conductor.

Installation Process

1. Remove the front cover of the switchgear (removable part).
   a. Loosen the 6 screws on the front cover.
   b. Remove the front cover.
   c. Carefully disconnect the ribbon cable that connects the interface board on the front panel to the main board in the cabinet.
   d. Disconnect the wiring harness that connects the sockets on the front panel to the main board in the cabinet.
   e. Disconnect the PE wire of the wiring harness that connects the mains sockets on the front panel with the PE busbar in the cabinet.
2. Fasten the main cabinet of the unit with screws in the desired position.
3. Connect the pool technology to the terminals and busbars in the cabinet.
4. Connect the mains power cable to the terminals and busbars in the cabinet.

Fig. 21 Internal Connection Points for Pool Technology and Mains Power - 3-phase version: SDWM002-PS(D)314120

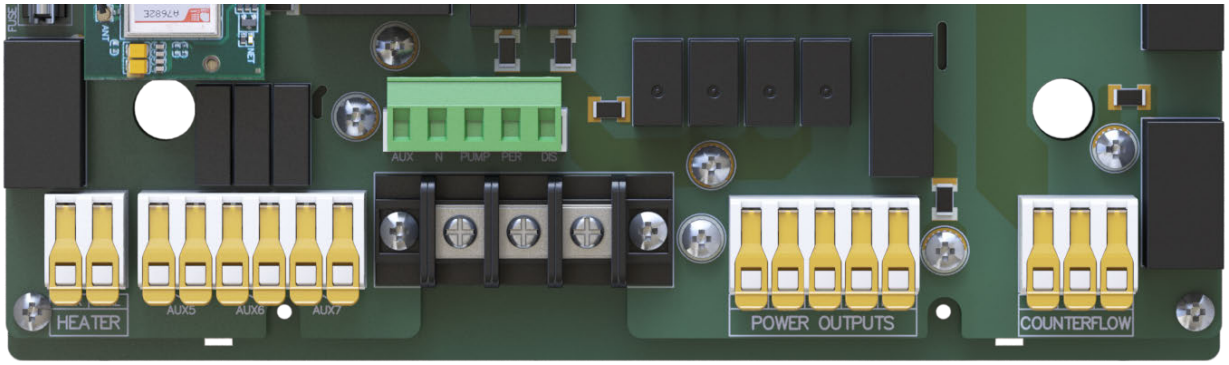
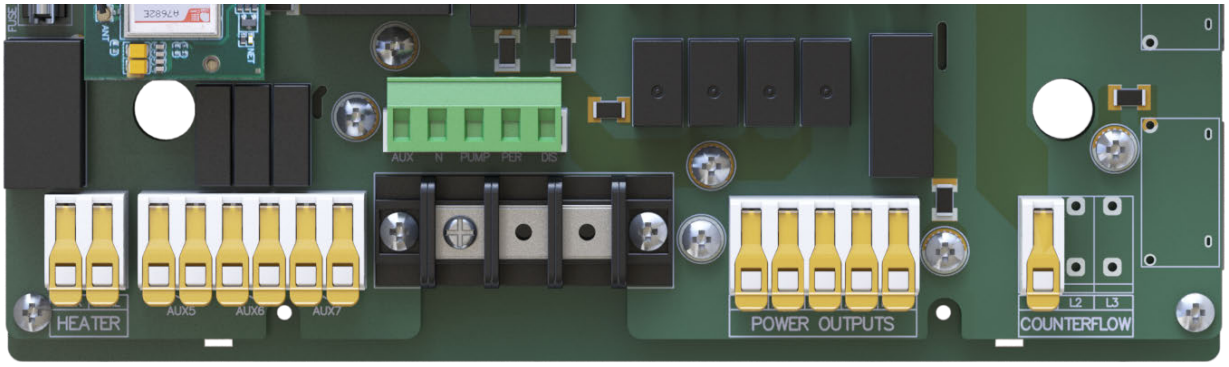


Fig. 22 Internal Connection Points for Pool Technology and Mains Power - 1-phase version: SDWM002-PS(D)114122



Recommended Use of AUX Universal Outputs	
230 V Outputs with Measurement of Electrical Quantities	
Recommended for devices that require diagnostics, such as motors and third-party water treatment units.	AUX0 AUX1
230 V Outputs without Measurement of Electrical Quantities	
Recommended for devices that do not require diagnostics, such as solenoid coils and relays.	AUX2 AUX3 AUX4

1. Remove the front cover of the switchgear (removable part).
   a. Connect the PE conductor (green-yellow) of the wiring harness to the PE busbar. Reattach the plug of the wiring harness that connects the sockets on the front panel to the main circuit board in the cabinet.

b. Connect the ribbon cable that connects the interface board of the front panel to the main board in the cabinet. The ribbon cable must be laid in the cabinet so that it is at a safe distance from the power cables and terminals.
c. Reinstall the front panel on the unit and screw it on. When closing the cover, place the wiring harness of the mains sockets in the space above the PE and N terminal busbars.

2. Remove the front cover of the switchgear (removable part).
   a. Connect the power supply cable of the Poolmatix devices to the corresponding bayonet socket labeled 230 V Water Treatment.
   b. Connect the circulation pump and the other appliances to their respective sockets.
3. Connect the Poolmatix sensors, peripheral devices, and Poolmatix water treatment units to the corresponding M12 connectors on the main control unit.
4. Install the Wi-Fi or LTE antenna, if you are using it.
5. Connect the Ethernet cable to the main control unit, if you are using it.

Commissioning

1. Switch off all circuit breakers in the switchgear.
2. Switch on the main power supply to the switchgear.
3. Switch on the “Main current” and “Automatic” circuit breakers.
   a. The LEDs on the front panel will light up and a short beep will sound from the main control unit.
   b. Approximately one minute after switching on, the main control unit will beep for the second time to indicate the start of the pool control application.
4. Make sure that the system is connected to the Internet.
   a. Search for the pool in the iXfield web application.
   b. Check whether the system is online and, if using an LTE or Wi-Fi connection, check if its signal quality is good.
5. To connect the pool to a Wi-Fi network, please follow the instructions in a separate Chapter 9.

6. Switch on all other required circuit breakers of the switchgear.

6.7. Pool Configuration

We recommend that you prepare your pool configuration in advance. Please refer to the document titled “Manual Software Configuration and Settings” for detailed instructions.

6.8. Testing Individual Pool Functions

⚠ Important Note:

Please note that it can take up to 15 minutes after system startup for the iXmanager mobile app and the iXfield web app to display accurate water temperatures, pH values, OPR values, and free chlorine values. This delay occurs because the sensor values need time to stabilize.

The system will only start the ORP and free chlorine adjustment process after 2 hours of running time with the circulation pump in operation.

First make sure that the iXfield application indicates no errors.

To test the counter-current and lighting functions, use the pool buttons and the iXfield web application or the iXmanager mobile app. Make sure that the 3-phase counter-current motor is rotating in the correct direction.

Search for the section with the service sequences in the iXfield web application or the iXmanager mobile app.

Perform the following service sequences:

- Manual Circulation Pump Control

Depending on your pool configuration, please carry out additional service sequences to check that the pool technology is functioning correctly.

Follow the instructions of the individual service sequences to test the respective pool function.

7 Commissioning of the system and handover to the customer

We strongly recommend that you follow a few more steps before leaving the pool installation site.

7.1. Pool Operating Modes

You can choose between different pool operating modes in the iXfield web application.

Under Construction	This is the default operating mode. In this mode, pool operation is deactivated, and control of the pool by the iXmanager mobile app is blocked. As soon as you leave this operating mode, you can no longer return to it.
Normal Operation	This is the normal operating mode. All error notifications are activated and the pool can be controlled via both the iXfield web application and the iXmanager mobile app.
Maintenance	Select this operating mode during service work on the pool. In this mode, error notifications are suppressed and control of the pool via the iXmanager mobile app is blocked.
Waiting for Service	Select this operating mode if a service intervention is planned for the pool. This operating mode suppresses email, SMS and app push error notifications. Pool control is blocked for both the iXfield web application and the iXmanager mobile app.
Winterized	In this operating mode, the system suppresses functions that are not desired in the winter operation.

7.2. Pool Handover to the End Customer

We strongly recommend that you familiarize the user with the operation of the Poolmatix system before leaving the site.

- Help the customer install the iXmanager mobile application.
- Help the customer to create a user account and assign the pool to the application.

> **Use the User Manual to Set Up the iXmanager App**
>
> Please refer to the Poolmatix User Manual for detailed instructions on how to set up the iXmanager mobile app and connect the user's pool to the app.

- Show the customer the basic functions of the application.

- Help the customer to set the basic parameters of the pool - pH, ORP, free chlorine and temperature.
- Help the customer set a basic time schedule for the pool.

8 Connection of a Variable Speed Circulation Pump

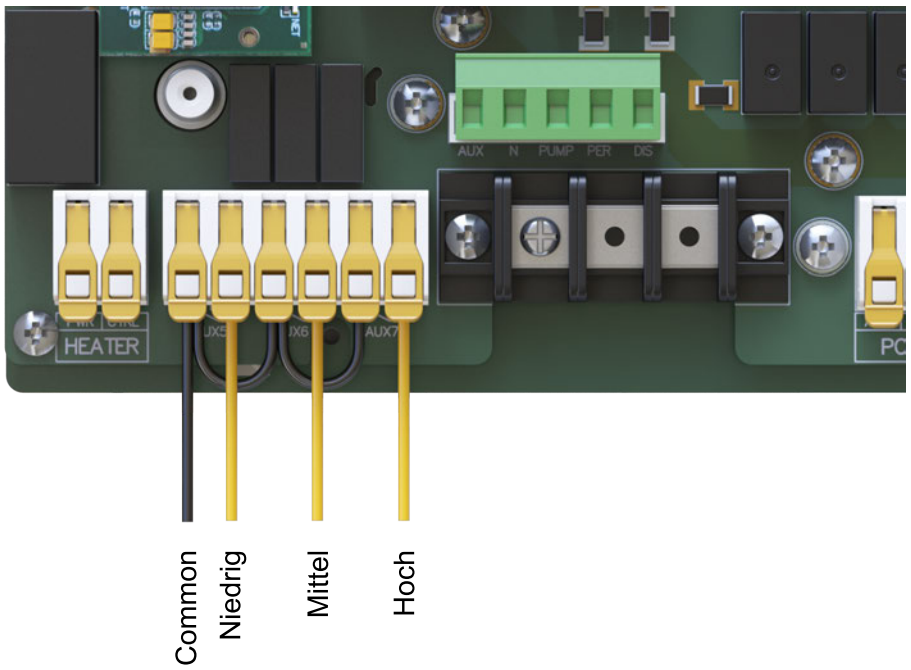
PoolmatixPro SDWM002 can control the speed of a variable speed circulation pump based on the current requirements of the pool. It offers two types of speed control.

8.1. Control via Potential-Free Contacts

In this connection configuration, the pump speed is controlled by activating one of the predefined circulation pump speed steps using the potential-free contacts of the PoolmatixPro SDWM002 main control unit. You need to set each speed directly on the control panel of the circulation pump.

The following figure shows the recommended wiring for the speed control signals. Please note that you must configure the functions of the relays in the PoolmatixPro SDWM002 main control unit in the iXfield technical application.

Fig. 23 Recommended Wiring of the Speed Control Signals



8.2. Control via RS-485 / Modbus

In this connection configuration, the pump speed is controlled via an RS-485 communication interface using the Modbus protocol. You need to set the pump speeds directly in the iXfield web technical application.

In this case, please connect the RS-485 connect cable of the circulation pump to the RS-485 connector.

⚠ Important Note:

Please contact your distributor to check whether your circulation pump is supported by the PoolmatixPro SDWM002 system before selecting this option.

9 Wi-Fi Setup of the PoolmatixPro SDWM002 Main Control Unit

The connection of the PoolmatixPro SDWM002 main control unit to the Internet via Wi-Fi is set up via the web configuration interface of PoolmatixPro SDWM002 .

To access the web interface, you must first connect your phone, tablet, or computer to the Wi-Fi network of the PoolmatixPro SDWM002 control unit.

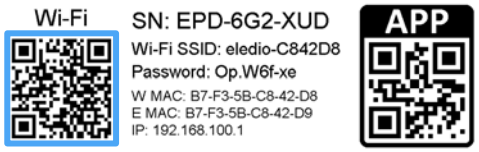
The Wi-Fi network of the main control unit becomes visible approximately 30 seconds after switching on the PoolmatixPro SDWM002 main control unit and remains visible unless the system is already connected to another IP network (e.g., via the Ethernet interface or a previously set up Wi-Fi network).

If PoolmatixPro SDWM002 main control unit has already been connected to a Wi-Fi network and you want to connect it to a new Wi-Fi network, you must first deactivate the previous Wi-Fi connection by temporarily switching off the previously connected Wi-Fi access point.

Follow these steps to set up the Wi-Fi connection:

Step 1

After switching on the PoolmatixPro SDWM002 main control unit, scan its Wi-Fi QR code with your cell phone or tablet to connect to the Wi-Fi access point of the PoolmatixPro SDWM002 . You will find the QR code on the label of the PoolmatixPro SDWM002 control unit.

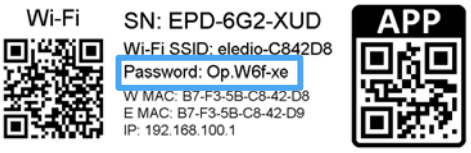


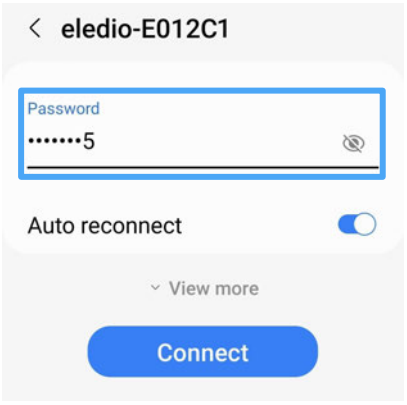
Step 2

Alternatively, you can search for available Wi-Fi networks and select the Wi-Fi SSID eledio-xxxxxx.

Step 3

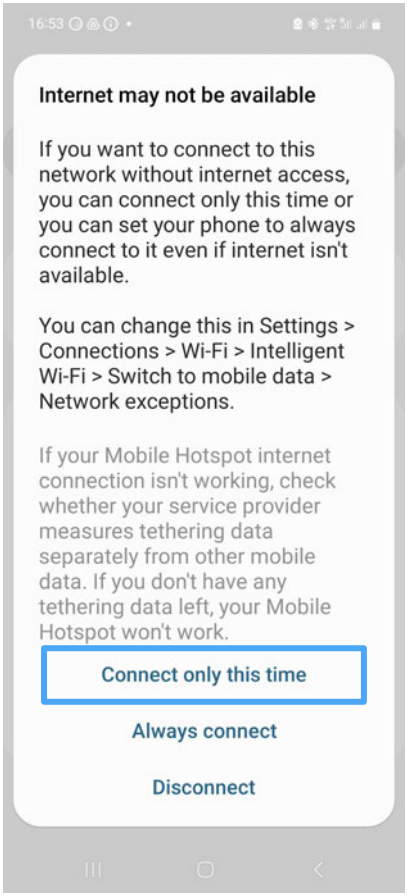
Enter the Wi-Fi password. You can also find it on the label of the PoolmatixPro SDWM002 main control unit.





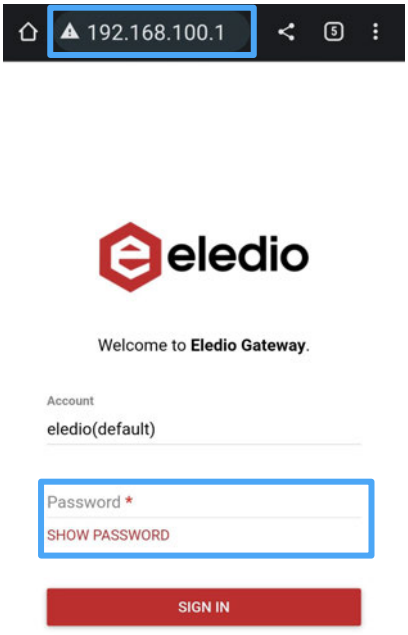
Step 4

Confirm “Only connect this time” when this window appears.



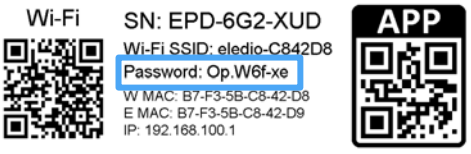
Step 5

If you are connected to a Wi-Fi network, enter 192.168.100.1 in your web browser and open the web configuration page PoolmatixPro SDWM002 This page should display automatically.



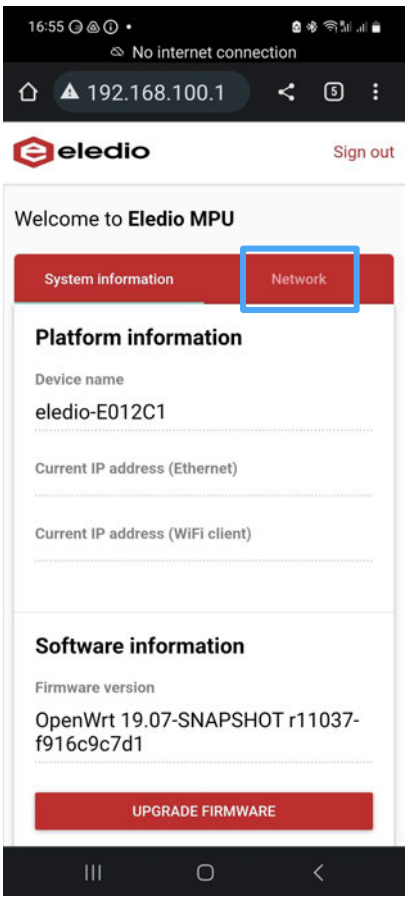
Step 6

Enter the Wi-Fi password again. You will find it on the label on the main control unit.



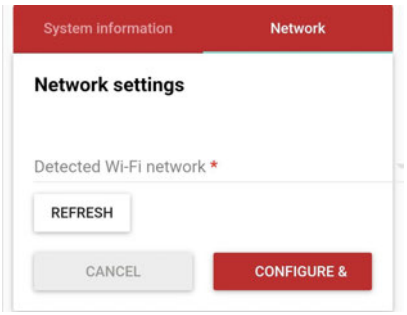
Step 7

This screen is now displayed. Select the “Network” tab.



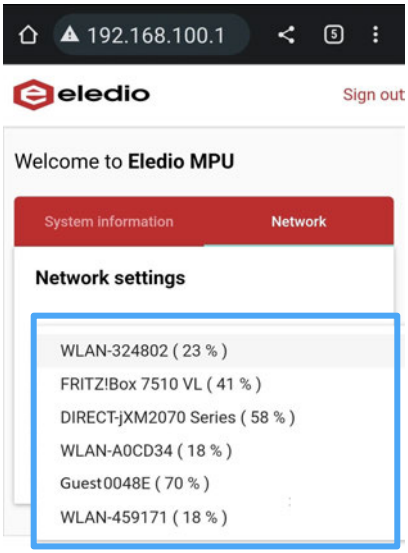
Step 8

Select “Detected Wi-Fi Network*”.



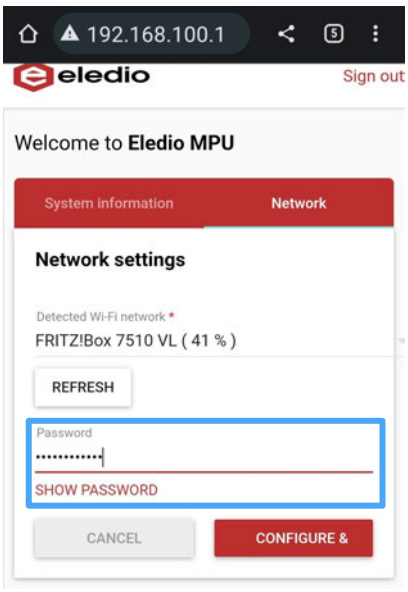
Step 9

Now select the Wi-Fi network to which you want to connect the PoolmatixPro SDWM002 .



Step 10

Enter the Wi-Fi password of the selected network and press “CONFIGURE & RESTART”.



Step 11

The PoolmatixPro SDWM002 is automatically restarted and connected to the new Wi-Fi network. The restart takes about 30 to 60 seconds.

Step 12

If the PoolmatixPro SDWM002 unit cannot establish a connection to the newly set up Wi-Fi, please repeat the process. Make sure that you enter the correct password for the Wi-Fi network you want to connect to.

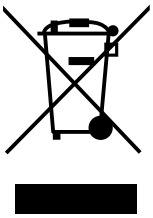
10 Service Sequences

PoolmatixPro SDWM002 offers several predefined service sequences that automate and simplify most common installation and maintenance tasks.

Title	Description	Use
Circulation Pump - Manual Control	This sequence starts only the circulation pump. Dosing, chlorination, and heating functions are blocked. The status of the flow sensor is ignored.	Testing the circulation pump, priming the water piping system, manual filter backwash, connecting the pool vacuum cleaner to the skimmer
Flow Sensor Test	This sequence starts only the circulation pump. Dosing, chlorination, and heating functions are blocked. The status of the flow sensor is ignored. Flow Sensor Test.	Flow Sensor Test
Salt Chlorinator Test	This sequence only starts the main pump and the salt chlorinator, regardless of the current ORP or FCl values. Dosing, chlorination, and heating functions are blocked.	Visual test of the chlorinator
Heating Test	This sequence only starts the circulation pump and activates heating, regardless of the current water temperature. Dosing and chlorination functions are blocked.	Physical test of the heating function
Cooling Test	This sequence only starts the circulation pump and activates cooling, regardless of the current water temperature. Dosing and chlorination functions are blocked.	Physical test of the cooling function
Manual Dosing (Dosing Pump A / B / C / D)	This sequence enables manual dosing with the selected dosing pump via the user applications, regardless of the current pH, ORP, and FCl values, while blocking dosing with other dosing pumps, chlorination, and heating functions.	Test of the dosing pump control, remote maintenance, priming the dosing pump
pH Electrode Calibration - 2-Point	This sequence stops all technologies and guides the user through pH electrode calibration using 2 calibration buffers - pH 7.0 and pH 10.0.	Complete pH electrode calibration

Title	Description	Use
pH Electrode Calibration - 1-Point	This sequence stops all technologies and guides the user through pH electrode calibration using a pH 7.0 calibration buffer.	Simplified pH electrode calibration
ORP Electrode Calibration	This sequence stops all technologies and guides the user through the calibration of the redox electrode using the 465 - 475 mV calibration buffer.	ORP Electrode Calibration
ORP Electrode Check	This sequence stops all technologies and guides the user through checking the ORP electrode with any ORP calibration buffer.	ORP Electrode Check
UV Lamp Test	This sequence stops all technologies and allows the user to visually check the function of the UV lamp.	Visual check of the UV lamp function

11 Disposal of Used Product



Used products cannot be disposed of with normal household waste. When disposing of the used product, please follow the European Environmental Standards that define the proper handling of old electrical appliances.

The crossed-out waste bin symbol on the product indicates that waste must be separated and disposed of in an appropriate facility.