

Measuring, control and dosing technology for private pools

POOLKLAR Touch Basic

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Measuring, control and dosing technology for pH regulation and disinfectants

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Subject to technical modifications



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1 About this manual

1.1 Scope of applicability

This manual describes the installation, commissioning and operation of the device.

The manual covers the *POOLKLAR Touch Basic* for the hardware and firmware versions indicated in the cover sheet and footer.

1.2 Target group

Only persons who have received proper instructions regarding the device functions may operate the device. Electrical and water-side connection work may only be conducted by appropriately trained specialists.

1.3 Storage of the manual

All manuals for the device as well as those for the installed components must be stored in the immediate vicinity of the device and be accessible to the operating personnel at all times.

1.4 Further information

Further information about special topics, e.g., design of the dosing performance or description of the operating parameters, is available from your specialist dealer.

1.5 Symbols used

The following types of safety notices and general notices are used in this document.

	<p>DANGER! “DANGER” denotes a safety notice which, if disregarded, will directly result in death or serious injury!</p>
	<p>WARNING! “WARNING” denotes a safety notice which, if disregarded, may result in death or serious injury!</p>
	<p>CAUTION! “CAUTION” denotes a safety notice which, if disregarded, may result in minor or moderate injury!</p>
	<p>ATTENTION! “ATTENTION” denotes a safety notice which, if disregarded, may result in property damage!</p>
	<p>Notice A notice denotes information which, if disregarded, may result in operational disruptions.</p>
	<p>Tip A tip denotes information that may result in improvements in the operating process.</p>



2 Safety

2.1 Intended use

The *POOLKLAR Touch Basic* device is intended for regulating the pH value, disinfection and (optionally) the pool water temperature control in private swimming pools.

2.2 Safety notices

The operation manual must be consulted prior to installation, commissioning and maintenance work. Following the commissioning, the manual must be made available to the operator. In your own interest, please pay attention to the safety notices contained in this manual.

Always handle chemicals with special care!

Please contact your chemicals supplier for information about the required safety measures when handling chemicals.

**WARNING!**

There is a risk of chemical burns and poisoning!

Pay attention to the relevant regulations when handling chemicals!

- Never mix different chemicals with each other.
- Only use chemicals that have been approved for the treatment of swimming pool water.
- Wear suitable protective clothing when handling chemicals.

Further safety information about the chemicals used is available from your chemicals supplier.



3 Important facts about swimming pool water properties

3.1 Auxiliary hygiene parameters

The following information is meant to offer a preliminary overview about the most important auxiliary hygiene parameters in the treatment of swimming pool water. Additional literature is available from your swimming pool dealer, the chemicals suppliers, or the book trade. The information provided here refers to **DIN EN 16713** for swimming pool water in private pools. (applicable as of 08/2016)

Devices that are operated outside of the EU should comply with the county-specific regulations and statutes.

3.2 pH value

The pH value has a decisive effect on the chemicals added to the swimming pool cycle. If the pH value is too high, it negatively affects the germ-killing speed of disinfectants containing chlorine. There is an increased likelihood of lime precipitation and water clouding. If the pH value drops too low for an extended period of time, leading to an increase in the water's corrosivity, there is a risk of damage to the treatment system and the pool.

According to the standard, values below pH6.8 and above pH7.6 should be avoided. A pH value around **pH7** is recommended.

3.3 Redox voltage

The redox voltage is used as a measure for assessing the hygienic pool water quality. The redox voltage indicates the ratio between reducing substances (organic contaminations) and oxidising power (active chlorine content) in the pool water. The redox voltage is used as a measure for assessing the hygienic pool water quality. The higher the redox voltage, the faster germs and bacteria will be killed. To achieve a sufficiently fast germicidal effect, the redox voltage in private pools should also comply with the values specified by the **DIN (German institute for standardization)**. In this context, the amount of free chlorine measured with the DPD1 method should be between 0.3 and 0.6 mg/l.

The chlorine's disinfecting power essentially depends on the pool water's pH value. The higher the pH value, the lower the disinfecting power and thus the redox voltage. If the pH value decreases, the disinfecting power increases at a constant chlorine level.

If the redox voltage is far below 700 mV at a free chlorine content between 0.3 and 0.6 mg/l, the complete function of the swimming pool water treatment must be checked.

According to the standard, a redox voltage above **650 mV** should be aimed for. Values below 650 and above 800 mV should be avoided. A redox voltage around **> 700 to 750 mV** is recommended.

(According to DIN 19643 for public pools, a redox voltage **> 750 mV** is required.)

3.4 free chlorine

The chlorine available for disinfection in the pool water is called *free chlorine*. Free chlorine is detected by means of the DPD1 method.

According to the standard, the free chlorine content should be kept between **0.3 and 1.5 mg/l**.

Values below 0.2 and above 2.0 mg/l should be avoided.

3.5 combined chlorine

Combined chlorine is the product of a reaction between organic contaminants introduced in the pool and a chlorine-containing disinfectant. Combined chlorine causes the characteristic indoor pool smell and may lead to skin irritation and red eyes.

Ideally, the organic chlorine compounds will be retained in the swimming pool filter system and flushed out via the regular backwashing. If the filter system does not work correctly, or if the backwashing is not conducted in a proper fashion, combined chlorine may accumulate in the swimming pool cycle. If the water starts smelling of chlorine, it is high time to conduct a chlorine measurement by means of the DPD3 measuring.

The concentration of combined chlorine results from the difference between the overall chlorine content and the amount of free chlorine in the water. Pay attention to the instructions of the analytic device's manufacturer when determining the concentration. Combined chlorine can only be reduced by dilution, i.e., with vigorous backwashing or by a shock chlorination, if applicable.

Consult your swimming pool dealer.

According to the standard, a maximum combined chlorine content of **0.5 mg/l** is permissible.

"Chlorine odours" can result above a combined chlorine content of approx. **0.3 to 0.4 mg/l**. (characteristic indoor pool smell)



Tip – pH priority dosing

Since the pH value is an elementary factor in the swimming pool water treatment, the dosing of chlorine-containing disinfectants can be blocked via the **pH stop dosCL** function, depending on the pH.



4 Scope of delivery – device description

4.1 Scope of delivery

The *POOLKLAR Touch Basic* is delivered with the following standard accessories.

- Buffer solutions pH7, pH4, redox test solution
- Electrode cleaner, distilled water
- Electrolyte solution for overwintering
- 2 pc. ½" measuring water ball valve with immersion pipe
- 10 m measuring water pipe 6x1 mm in PE

Customer-specific or order-related modifications are possible.

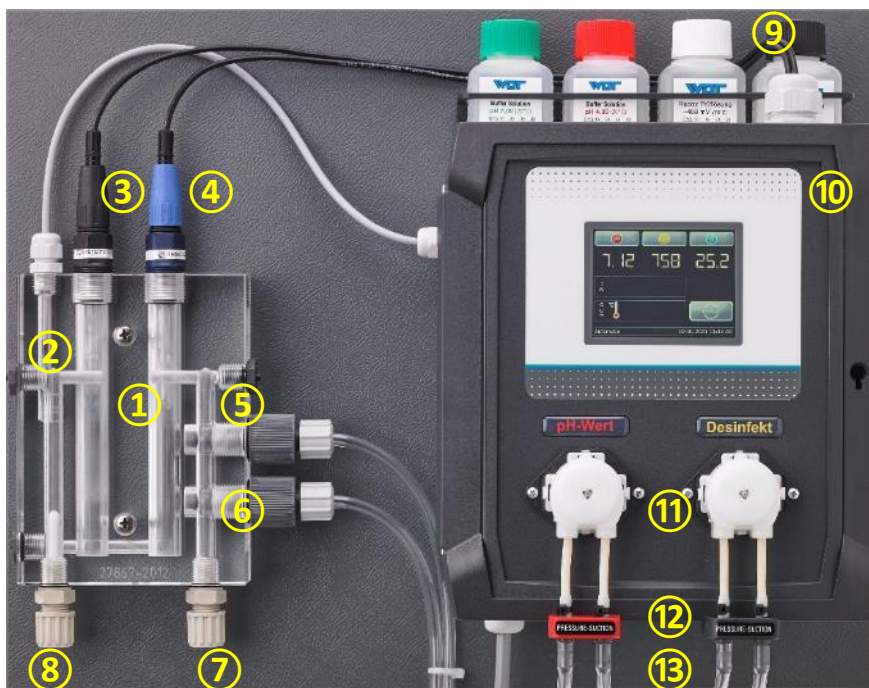
4.2 Check for transport damage

Please check the device and all accessories immediately upon receipt for transport damage and completeness.

4.3 Identification of the device

For spare part orders and troubleshooting, it is useful to know the device serial number and firmware version. The device serial number is located on the identification plate on the right side of the control housing. The Firmware version can be called up via the menu item **Service** → **Info**.

4.4 Device description



1. Flow-through fitting Basic
2. Flow monitoring
3. pH electrode
4. Redox electrode
5. Dosing valve for pH value
6. Dosing valve for disinfection
7. Measuring water backflow
8. Measuring water inlet
9. Buffer solutions
10. Control unit *POOLKLAR Basic*
11. Dosing pumps SR10
12. Hose bracket Basic
13. Suction sets
(not shown in the photograph)

The *POOLKLAR Touch Basic* is delivered as a ready-assembled unit. All parts are mounted on a plastic plate. This ensures a quick installation of the device.

For the transport, the electrodes 3+4 are removed from the measuring cell and delivered separately in a protective packing box. In order to avoid deformation of the dosing hoses during extended storage, the two dosing heads 11 have been pulled off the motor shaft.

The *POOLKLAR Touch Basic* is equipped with a touch-sensitive touch screen. This function is activated by touching a symbol (ICON). The calibration menus come with additional text-based instructions.

In order to eliminate the risk of confusing the two chemicals as far as possible, the dosing technology is colour-coded throughout. The colour-coding extends from the suction set over the associated dosing pump to the dosing valve.

The parts used for pH value regulation are located to the left and coded in **red**. The components used for disinfection are located on the right and coded in **yellow**.



CAUTION!

If the two chemicals are switched, this leads to a malfunction of the addition of chemicals to the pool water! This may result in significant overdosing!



5 Installation

5.1 Select the installation site

A freely accessible installation site should be selected to facilitate operation and subsequent maintenance tasks. The installation site must be protected from frost and the device may not be exposed to direct sunlight.

5.2 Mounting the device on the wall

Select the installation height so that the display is located at eye level. Measure the three drill holes on the mounting plate and mark their location on the wall.

5.3 Voltage supply

The devices' voltage supply (230 VAC) can be realised in two ways.

1. Continuous voltage:
This variant has advantages when there is a risk of condensation moisture, e.g., in a technical shaft at the head of the pool outdoors.
2. Voltage supply parallel to the filter pump
This variant can be selected for dry installation rooms. The advantage then lies in the reduced operating hours of the electronics.

In addition, the devices are equipped with an external OFF release contact. The dosing can be temporarily deactivated via this contact, which is interlocked with the filter control.

5.4 Installation notices

Only good pool hydraulics can achieve a satisfactory control of the two auxiliary hygiene parameters, pH value and redox voltage. The dosed chemicals must reach all areas of the pool within a short time. Even under stress, the concentrations measured at different points must be approximately the same. The measuring water should be identical to the pool water and must reach the measuring cell as quickly as possible. This is the only way to quickly detect changes in the water quality and rebalance them by adding corrective chemicals.

If the pool water is conducted through an overflow gutter and a compensation pool (splash water), which is potentially also used for the freshwater feed-in, only the sampling of the measuring water directly from the pool will lead to satisfactory measuring and control results.

At very low temperatures <5°C, the touch screen may become impaired due to the stiffness of the frontal film!

5.5 Measuring water prefilter

Depending on the local conditions, it may be necessary to provide a prefilter in the measuring water supply line. Especially in outdoor swimming pools, a higher amount of contaminants can be expected due to leaves, grass, flying seeds, etc. Select an easily accessible installation site that allows the operator to easily recognise the degree of contamination.

5.6 Temperature sensor

A temperature sensor is included with the accessories. Due to the rather sluggish temperature changes in a swimming pool cycle, this sensor can be attached to the filter circuit pipework as a contact sensor. If the temperature measurement is also used for temperature control, or if a more precise measurement result is required, the use of an immersion sleeve is recommended.

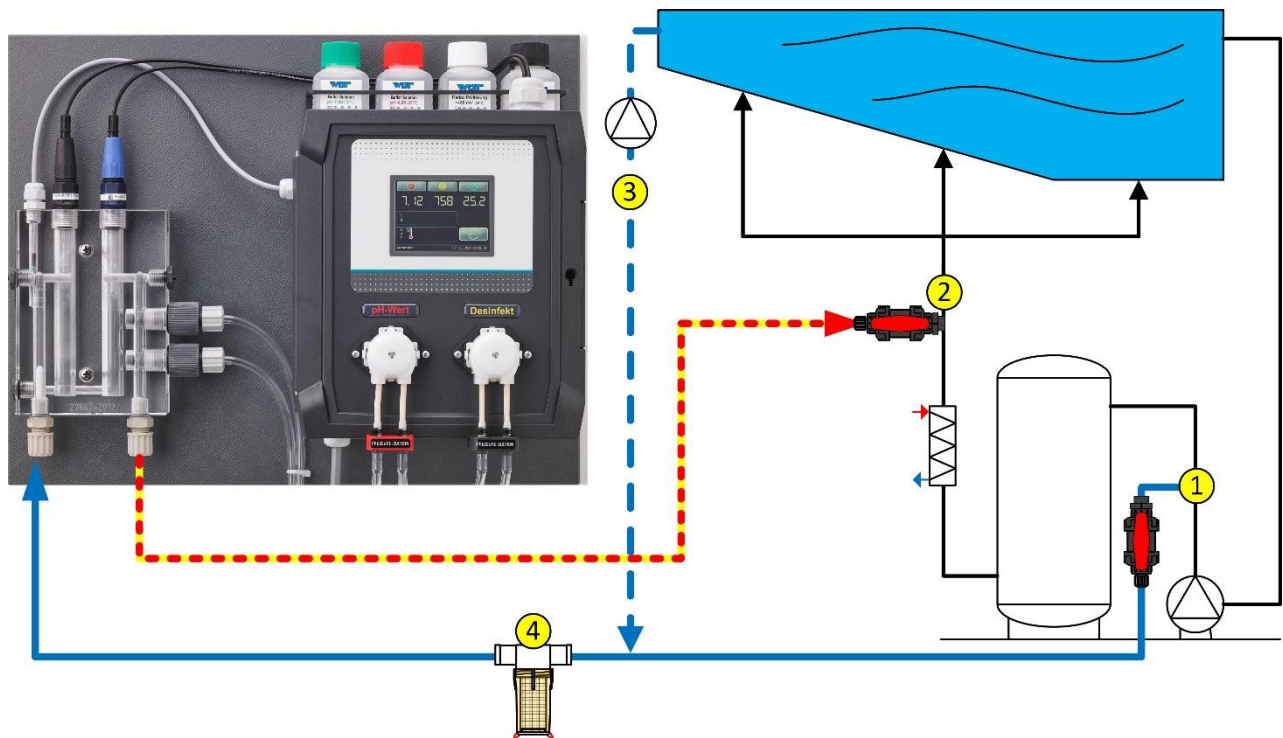


5.7 Installation suggestion

The following sketch shows an example of the integration of the *POOLKLAR Touch Basic* in the swimming pool's water treatment cycle with a skimmer. As a rule, the measuring water is withdrawn between the filter pump and the filter tank (1). The water is recirculated into the clean water line downstream of the heat exchanger (2). Two ball valves ½" with immersion pipe for the connection to the filter piping are provided with the accessories. The immersion pipe of the two ball valves should be shortened so that it ends approximately in the middle of the pipe.

In the case of an overflow basin, this variant can lead to greater measured value deviations. In this case, the measuring water must be taken directly from the pool with an additional measuring water pump, dashed line (3).

In the case of an outdoor pool, a prefilter must be provided due to the expected higher contaminant load! (4)



ATTENTION!

Since both chemicals are mixed in with the measuring water, the measuring water recirculation must occur in the direction of the flow **downstream of** the heat exchanger in order to prevent corrosion. If the pool is being operated with an overflow gutter and a splash water tank into which freshwater is also allowed to enter, marked differences in the water quality on the measuring cell and in the pool can be expected. In order to ensure perfect control quality in this case, it is recommended that the measuring water is withdrawn directly from the pool, using a separate measuring water pump.



ATTENTION!

During automatic fresh water replenishment, the measured values can change considerably due to the addition of fresh water. For this reason, we recommend interlocking the release of the dosing with the fresh water replenishment to avoid overdosing. For this purpose, the controller provides the external OFF release contact.



6 Notices regarding commissioning and ongoing operation

Before the device can be commissioned, the following actions must be implemented. You can find the position of the parts listed in the following under Item 4.4 Device description.

6.1 Control parameters

The device is loaded with factory-defined control parameters; see Commissioning protocol. Please adjust the control parameters for your pool according to the required dosing performance and the desired setpoints. The factory setting for the dosing performance is 100%, which should be sufficient for an outdoor pool of approx. 100 m³.

6.2 pH and redox electrode

Remove the pH and redox electrode from the packing box and pull off the protective cap. Insert the two electrodes from above into the flow-through fitting and fix them hand-tight with the union nut.

	<p>ATTENTION! The two electrode cables must not be interchanged! Original WDT electrode heads have colour differences; pay attention to the colour affiliation. Black union nut on black electrode plug head (pH electrode) Blue union nut on blue electrode plug head (redox electrode)</p>
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	<p>Tip Following a temperature adjustment and inflow time of approx. one hour, the electrodes must be calibrated.</p>
--	--

	<p>Tip Keep the electrodes' protective caps for later decommissioning or overwintering.</p>
--	--

	<p>ATTENTION! Please ensure that all hose screw connections of the measuring water pipes are firmly tightened. Check all pipe unions at the device and at the two measuring water ball valves ½". Plastic pipe unions may only be fastened hand-tight!</p>
--	---

6.3 Dosing head(s)

Push the dosing head(s) onto the motor shaft.

6.4 Measuring cell flow

Once all electrodes have been screwed hand-tight into the measuring cell and the measuring water pipes have been connected, the ball valves for the measuring water withdrawal and recirculation may be opened. The flow meter float must be pushed toward the top in order to release the dosing.

6.5 Chemicals

Place the two chemical containers under the device. In order to protect the floor, it is recommended to place the containers in a protection tray. Please observe the proper positioning of the container; on the left **red** → pH value correction chemical, and on the right **yellow** disinfection chemical.

	<p>ATTENTION! Please do not use hydrochloric acid for the pH value regulation. Hydrochloric acid diffuses through the dosing hose and corrodes the dosing motor, causing premature wear of the dosing pump.</p>
--	--



6.6 Disinfectants



Notice

Please find out which chemical was used to disinfect the pool water prior to the commissioning. If a different disinfectant is used from now on, the following must be observed.

If other disinfectants (e.g., organic chlorine (dichlorine) or “chlorine-free” disinfection chemicals) were used previously, this will lead to a lower redox voltage during commissioning. Without changes to the control parameters, this results in significant overdosing. The breakdown of the disruptive chemicals can take several weeks.

That means, if other disinfection chemicals were used prior to the installation of the POOLKLAR for the dosing of inorganic chlorine, we recommend to run the device with removed dosing heads for about 0.5-1 hour to be able to observe the redox status. The setpoint of the redox voltage should then be set at approx. 20-50 mV above the displayed value. The development of the chlorine concentration and the redox voltage must be observed during the subsequent period, and the redox voltage's setpoint must be adjusted so that the measured chlorine concentration approximates 0.5 mg/l.

Under certain circumstances, only a sufficient exchange of the pool water will help.

6.7 Fresh water replenishment

An automated fresh water replenishment usually takes place into the skimmer or the splash water tank. If the measuring water is now withdrawn downstream of the filter pump, a mixture of pool water and fresh water is fed to the POOLKLAR Touch Basic. The resulting change in water quality can lead to excessive dosing.

To avoid overdosing, we recommend interlocking the dosing via the **External OFF** release contact.

6.8 Floor cleaning

Necessary floor cleaning can be carried out using different cleaning equipment. For this purpose, manual, hydraulic and automatic electric cleaners are available on the market.

If floor cleaning is carried out by suction via the filter system, the measuring water line must be shut off.

The shut-off can be done manually at the ball valves or automatically via a solenoid valve.



Notice

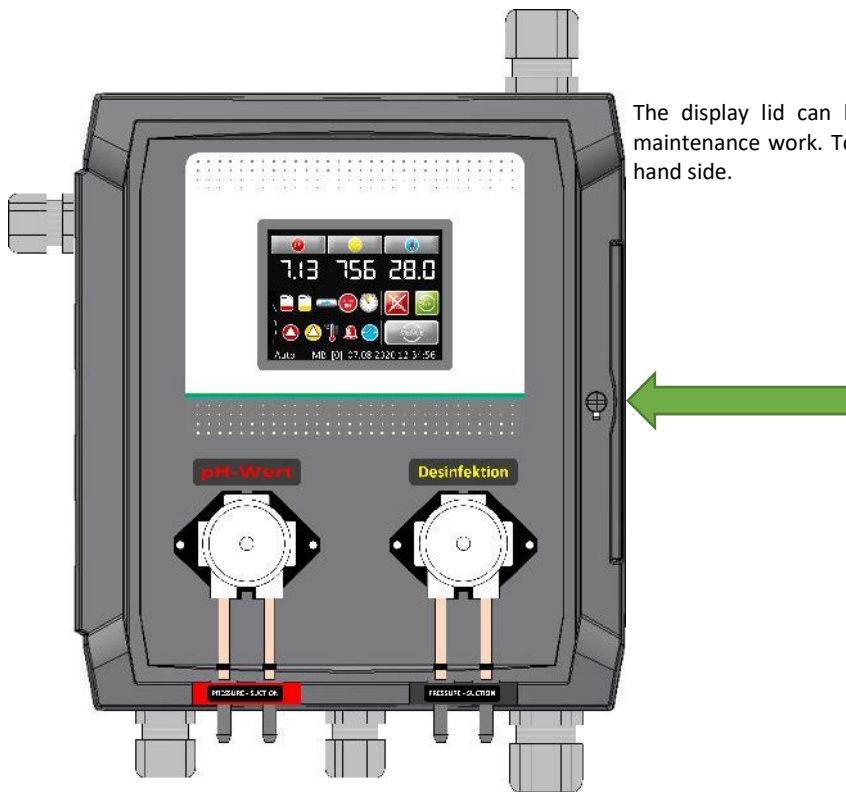
If the measuring water is withdrawn downstream of the filter pump, floor cleaning via the filter system will result in a higher contaminant load in the measuring water inlet. As a result, the measuring water prefilter can become clogged, which leads to a reduced flow and the **flow switch** fault.

Moreover, a contaminated prefilter can be subject to a certain chlorine depletion, which leads to measuring value falsifications and thus to overdosing.



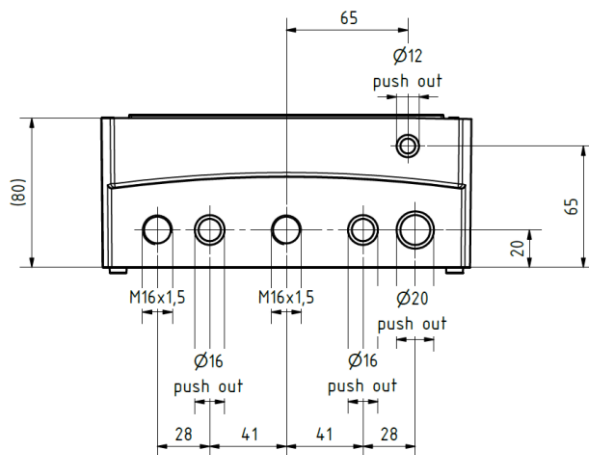
7 Electrical connection

7.1 Open and close the housing



The display lid can be rotated to the left for installation and maintenance work. To open, press the release lever on the right-hand side.

7.2 Insert lines



The bottom of the housing comes with factory-made free pipe unions. Several push-outs for metric screwed cable glands with a counter nut are available for additional insertions.



ATTENTION!

Please pay attention to the spatial separation between energy and signal lines when inserting additional lines. The crossing of energy and signal lines must be avoided!



ATTENTION!

Upon completion of the work, the housing must be properly closed again!
Please ensure that the display lid on the bottom of the housing is firmly tightened.



7.3 Overview of the connection diagram



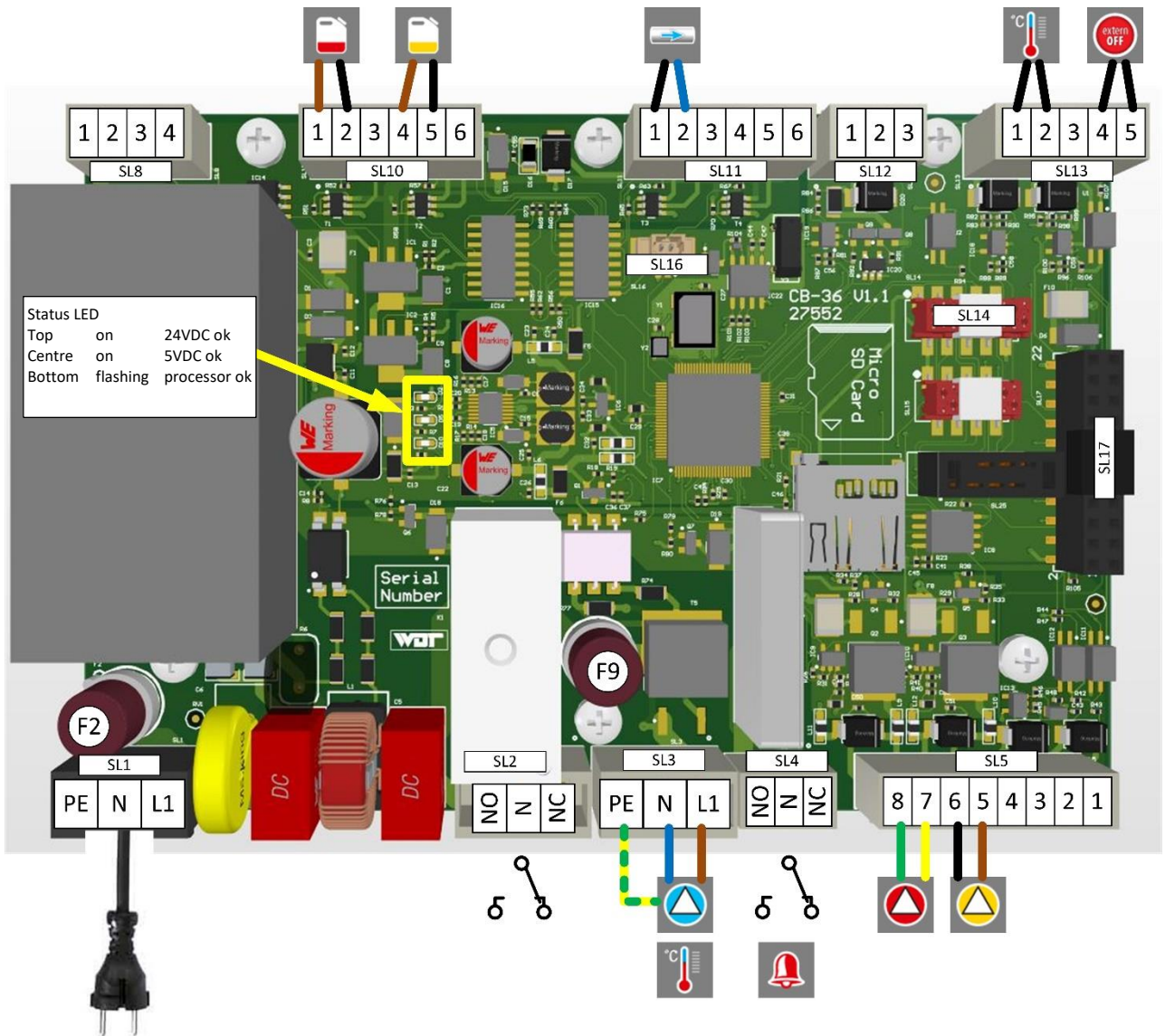
DANGER!

Risk of death due to high voltage.

All electrical work on the device must only be carried out by trained specialists in accordance with the applicable safety regulations!



7.3.1 The I/O board CB36

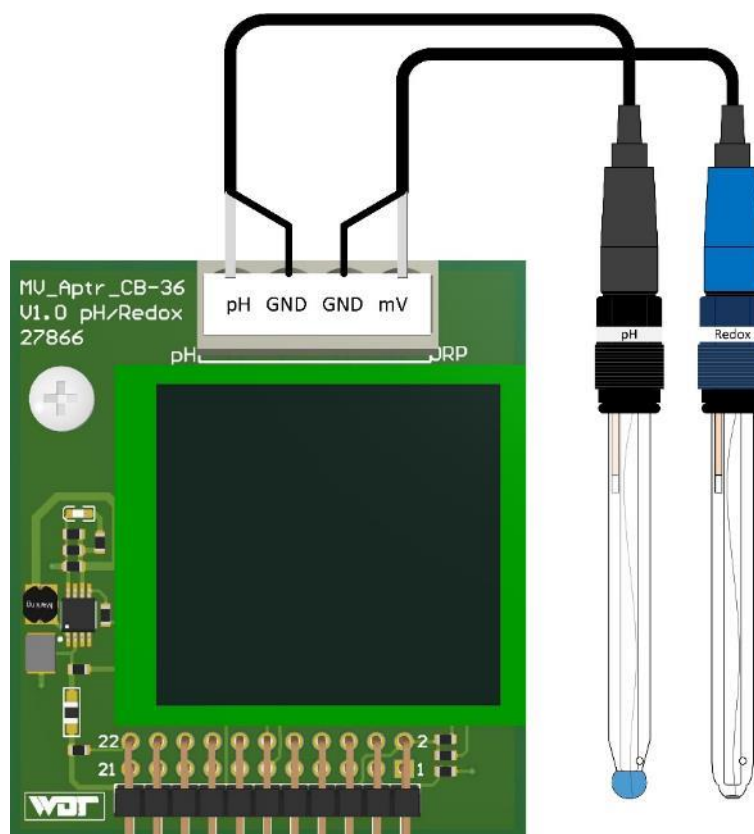


Plug	Function	Terminal assignment
SL1	3-pin RM 5 mm Power inlet 110 ... 240 V 50-60 Hz	1 = L1 , 2 = N, 3 = PE
SL2	3-pin RM 5 mm Reserve relay potential-free	Without function
SL3	3-pin RM 5 mm Temperature output Triac 230 V max. 4 A	1 = L1 , 2 = N, 3 = PE
SL4	3-pin RM 3.5 mm Alarm relay potential-free	1 = L1 , 2 = N, 3 = NO
SL5	8-pin RM 3.5 mm Outputs pH and mV 24 VDC	5 = + mV, 6 = - mV, 7 = + pH, 8 = - pH
SL10	6-pin RM 3.5 mm Level switch suction lances pH and mV	1 + 2 = pH, 4 + 5 = mV
SL11	6-pin RM 3.5 mm Flow switch	1 + 2 = flow switch
SL13	5-pin RM 3.5 mm Temperature sensor Release contact External OFF	1+ 2 = temperature sensor 4 + 5 = release contact (external OFF)
SL14	10-pin red Interface – display	Flat ribbon to the display
SL16	2-pin white Battery – power reserve	Reverse polarity protected
SL17	22-pin black Interface – measurement converter	Check for polarity!

Relay contact assignment NO (normally open) = NO contact, NC (normally closed) = NC contact



7.3.3 The MV_Aptr_CB-36_V1.0 measuring amplifier



ATTENTION!

The measuring amplifier may only be plugged in when it is disconnected from the power supply!
Non-compliance can lead to the destruction of the measurement converter or the I/O board!

7.4 External functions

7.4.1 Input External OFF – release contact

The **external OFF** input is used for the controlled deactivation of the POOLKLAR Touch Basic via the swimming pool filter system's central control. As long as the contact is open, there is **no** dosing, **no** heating of the pool water, **no** alarm message given.

7.4.2 Temperature control

The device is equipped with a temperature control. This temperature control can be used to regulate the pool water temperature. If the pool is heated by means of a flow-through heat exchanger, it must be ensured that the associated heating circuit pump may only be activated when the filter system is in operation!

Please remember that the regulation of the pool temperature can only be guaranteed if the filter operation times are set to an appropriate duration.

In order to achieve a precise measuring result, the sensor must be installed by means of an immersion sleeve in the swimming pool's piping.



ATTENTION!

Immersion sleeves must be corrosion-proof!



ATTENTION!

Please pay attention to the safety notices regarding the topic of temperature control in the menu!



8 Operating the touch screen

The device is fitted with a touch-sensitive touch screen. Desired parameter changes, calibrations and tests can be done simply by lightly touching the corresponding symbol or the numeric value.



Explanation of the symbols

IN line (inputs)



Chemical container empty
red = pH regulation, yellow = disinfection



No measuring cell flow, or flow too low



The dynamic dosing time monitoring has been exceeded.
(Dosing head worn, dosing valve or hose bracket blocked, chosen dosing performance too low)?



The POOLKLAR has been deactivated by an external release command from the swimming pool water treatment (filter system). There is no dosing, no heating of the pool water, no alarm message given.

OUT line (outputs)



red = dosing pump pH regulation active
yellow = dosing pump disinfection active



Temperature control active



Alarm relay active

on the right side



Temporarily switch off the alarm relay manually (it then remains deactivated until the next alarm)



Dosing delay Cancel **1. dosing** for dosing release



Open the main menu



Tipp

Tip
The menu of the POOLKLAR Touch Basic controller features a timeout function. If no action is performed in the menu for 12 minutes, the controller automatically exits the menu and returns to automatic mode.



8.1 The statuses in automatic mode

Depending on the operating state, the display shows different status displays, which are described below.

8.1.1 Status 1. Dosing – dosing delay



If the device is restarted or if the main menu is terminated, the dosing delay **1. Dosing in x s** is running. No dosing occurs during the dosing delay. Software alarms are suppressed during this time. The dosing delay must be set high enough to ensure that after the start of the filter system actual pool water flows through the measuring cell.

The dosing delay can be cancelled with  and the device is set to automatic mode.

8.1.2 Status pH stop dosCL – pH priority dosing



After refilling with fresh water, the pH value is usually above the recommended pH values of 7.0 to 7.4

Due to the reduced effectiveness of chlorine-containing disinfectants at high pH values, the release of the disinfectant dosage can be blocked depending on the pH value to avoid overdosing.

The status line reads **pH stop dosCL**, the disinfection output is blocked.

8.1.3 Status Auto (automatic)



The device is in the status **Auto** (*Automatic mode*).

The auxiliary hygiene parameters and the temperature (optional) are regulated based on set parameters.

IN: There is no fault

OUT: The temperature output is activated

8.1.4 Status standby



If **Standby** is displayed in the status line, dosing is blocked.

Either the controller is blocked by the filter system via the **external OFF** release contact or the **flow switch** measuring cell flow is too low.

External OFF is an intentional action, no alarm is issued.

For the **flow switch** fault there are two possible causes. Either the filter system is switched off or the flow through measuring cells is blocked, e.g., by contamination in the prefilter.



8.1.5 Time Limit - Dosing time monitoring alarm



The controller is equipped with an intelligent, dynamic dosing time monitoring.

If the corresponding measuring value does not reach the control range within the selected **Time Limit** time, e.g., due to a malfunction, the dosing stops with an alarm.

A is shown in the IN list, the alarm relay is activated and the dosing stops.

This alarm is automatically reset by reaching the control range, by a device restart or a manual acknowledgement by pressing the MENU key.

The cause is usually a worn dosing head or a blocked dosing valve. The **Set Output** dosing performance may be set too low.

8.1.6 General alarm



If a fault or an alarm occurs, this will be indicated by a symbol in the OUT line. The alarm relay is activated.

A differentiation is made between alarms (software alarms, e.g., alarm high, alarm low) and faults (chemical container empty, measuring cell flow too low).

In the event of alarms, the respective measuring value is shown in red.

In the event of faults, the corresponding symbol appears in the **In line**.

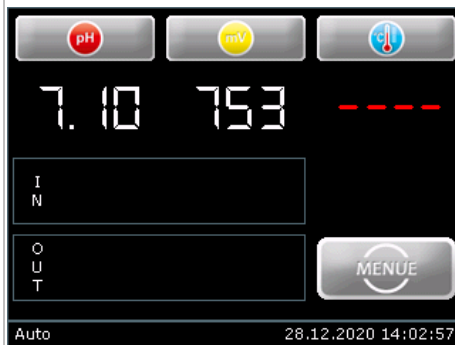


Tip

Tip

An alarm is automatically cancelled when the cause has been eliminated, e.g., when an empty chemical container has been replaced by a full container or when sufficient measuring water is flowing through the measuring cell again.

8.1.7 Temperature fault



If **----** is displayed instead of a number for the temperature, there is a fault in the temperature measurement.

This may be caused by the following:

1. No temperature sensor connected (cable broken)
2. Defective temperature sensor; → (resistance too high > 1.35 kΩ)
3. Wrong sensor type (resistance too high → 1.35 kΩ)

8.1.8 Measuring amplifier fault



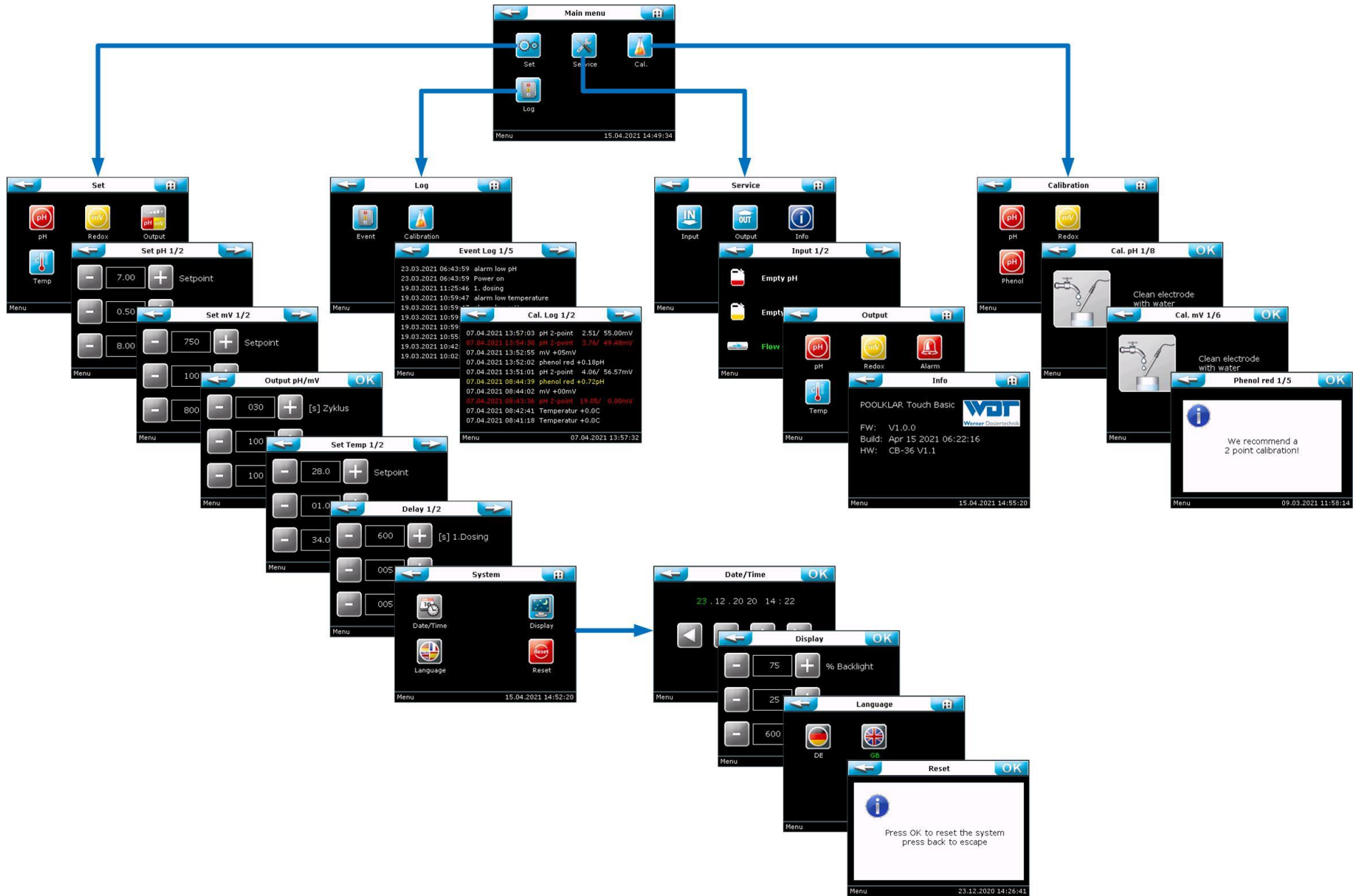
If **----** is displayed instead of the two measuring values pH and mV, there is a fault at the measuring amplifier.

This may be caused by the following:

1. No measuring amplifier plugged in
2. Polarity of the measuring amplifier incorrect (22-pin header correct?)
3. Measuring amplifier defective



8.2 The menu structure





8.2.1 Navigating the menu

With three menu levels, the menu structure is kept very simple and clear. Self-explanatory icons with short texts guarantee quick and safe navigation through the menu.

8.2.2 The header

Four different icons (**Back**, **Home**, **Forward** and **OK**) are used in the header, which are explained below.

<p>Back</p> <p>Back is used to jump back one step (one menu level).</p> <p>If you are in the Main menu, this switches to the Automatic mode.</p>				<p>Home</p> <p>Home is used to jump back to the Main menu.</p> <p>If you are already in the Main menu, this switches back to the Automatic mode.</p>
<p>Back</p> <p>Back is used to jump back one step (one menu level).</p>				<p>Forward</p> <p>In multi-page menus X/X, Forward is used to jump to the next page.</p>
<p>Back</p> <p>In multi-page menus X/X, Back is used to jump back one page.</p>				<p>OK</p> <p>In menus with settings, the OK button is located on the final menu page, e.g., 2/2.</p> <p>Changes must be confirmed with OK!</p>



Tip

Any changes made must be confirmed with **OK**. The **OK** icon is located on the final menu page. The individual steps during calibrations must also be confirmed with **OK**. If a menu is exited without **OK**, parameter changes or calibrations are not adopted!



8.2.3 Quick Info

The **Quick Info** function can be used to view the set control parameters without having to go through the menu.

8.3 Main menu

- Set - settings**
for adjusting the control parameters and system settings
- Service**
Input and output test, system information
- Cal. - Calibrate**
To the Calibrate pH and redox electrode sub-menu
- Log**
Event and calibration log, measuring value logging

8.3.1 Main menu → Set (settings)

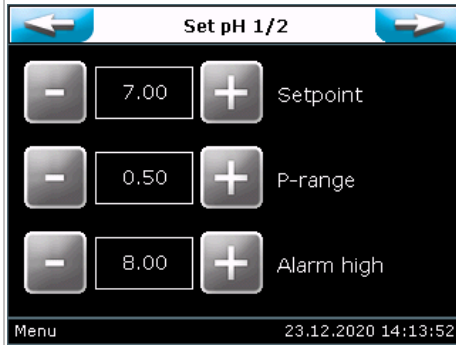
- pH**
Set control parameters for pH regulation
- Redox - disinfection**
Set control parameters for disinfection
- Output - dosing performance**
Adjust the dosing performance to the pool size
- Temperature**
Set control parameters for the pool temperature
- Delay - delay times**
Set times for dosing, debounce and alarm delays
- System**
Date/time, password, display, language, reset

Tipp

Tip
All parametrisable run times (time limit, cycle, delay) are shown in seconds [s].



8.3.1.1 Main menu → Set → pH



Setpoint → enter the desired pH value here

P-range → The dosing pumps work proportionally, i.e., the greater the difference between setpoint and actual value, the longer the dosing time.
The smaller the selected P-range, the faster the measuring value will react, which can easily lead to overdosing.

Alarm high → upper alarm value

Alarm low → lower alarm value

Time limit → if the P-range is not reached within three times the set time, the dosing is stopped.



In case of 000, the dosing time monitoring is deactivated!

pH stop dosCL → pH priority dosing
Release of the disinfection after falling below this threshold

Background:

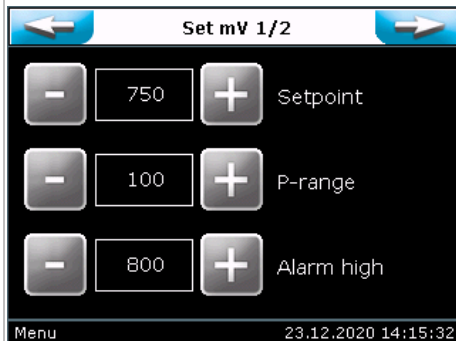
Chlorine-containing disinfectants have a reduced effectiveness at high pH values. To avoid overdosing, the disinfectant dosing can be blocked, depending on the pH.



Tip

The effectiveness of chlorine-containing disinfectants is heavily pH-dependant. For this reason, a threshold value can be chosen for releasing the chlorine dosing. This is referred to as a pH priority dosing.

8.3.1.2 Main menu → Set → Redox mV (disinfection)



Setpoint → enter the desired redox value here

P-range → The dosing pumps work proportionally, i.e., the greater the difference between setpoint and actual value, the longer the dosing time.
The smaller the selected P-range, the faster the measuring value will react, which can easily lead to overdosing.

Alarm high → upper alarm value

Alarm low → lower alarm value

Time limit → if the P-range is not reached within three times the set time, the dosing is blocked.



In case of 000, the dosing time monitoring is deactivated!



8.3.1.3 Main menu → Set → Output (dosing performance)

← Output pH/mV OK

-

030

+

[s] Zyklus

-

100

+

% pH

-

100

+

% mV

Menu 23.12.2020 14:17:23

[s] Zyklus → Set cycle time for dosing sequence

% pH → Set dosing performance for pH regulation

% mV → Set dosing performance for disinfection

The Dosing performance menu is used to adjust (reduce) the dosing performance. The dosing volume to be provided must be determined by means of the commonly used calculation methods. The dosing performance must be set according to the determined dosing volume under consideration of personal experience.

Cycle time

The shortest cycle time is 30 seconds; i.e., every 30 seconds the dosing is activated for a varying length of time, depending on the deviation from the setpoint.

It is divided into a maximum of 8 seconds dosing time for the pH regulation, followed by a pause of 3.5 seconds and then a maximum dosing time of 15 seconds for the disinfection dosing, followed again by a pause of 3.5 seconds.

An extension of the cycle time extends the second pause time, thus reducing the maximum available dosing performance.

Example 1				Example 2			
pH		mV		pH		mV	
8	3,5	15	3,5	8	3,5	15	3,5 + 30
0 sec. 30 sec.				0 sec. 60 sec.			
Example 1 shows the cycle time with 30 seconds = maximum dosing performance. At standard SR10 <ul style="list-style-type: none"> - pH regulation approx. 0.7 l/h - Disinfection approx. 1.2 l/h 				Example 2 shows a cycle time of 60 seconds. The extension of the pause time reduces the maximum available dosing performance to 50%. At standard SR10 <ul style="list-style-type: none"> - pH regulation approx. 0.35 l/h - Disinfection approx. 0.6 l/h 			

The POOLKLAR Touch Basic device series is delivered with its maximum dosing performance. Please determine the required dosing performance for the pool by means of the commonly used calculation methods.

In Germany, DIN 19643 requires an available dosing performance of 2 g/m³ for indoor pools or 10 g/m³ for outdoor pools in the public sector. Reduce the dosing performance on the basis of the calculation carried out.

Due to the lower frequency of use, the dosing quantities required by a standard in the public sector (DIN, BHyg G, SIA) are generally not needed in the private sector.

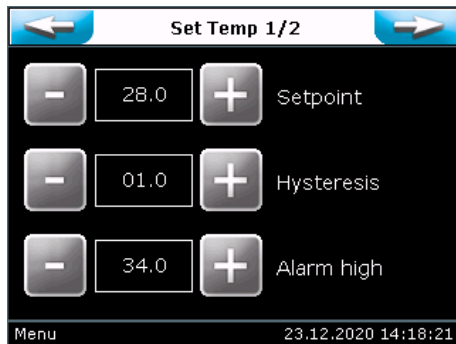
Achtung!

ATTENTION!

If the dosing performance is not adjusted when the demand is low (indoor pool, low pool content), this can lead to undesirable overdosing in case of unfavourable pool flow.



8.3.1.4 Main menu → Set → Temperature



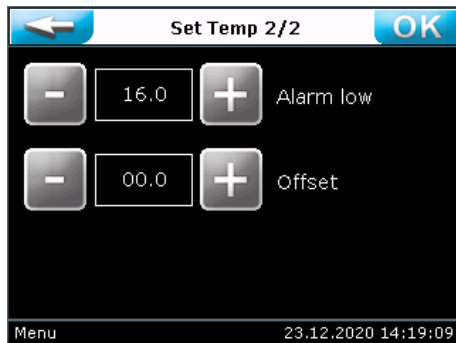
Setpoint → enter the desired pool temperature here

Hysteresis → The temperature control works as a 2-point controller. If the temperature falls by this difference, the Temperature output will be activated.
Example: Setpoint 28 °C – 1.0 K → actual value ≤ 27 °C = output active

Alarm high → upper alarm value

Alarm low → lower alarm value

Offset → for fine-tuning the temperature display against a reference measuring device

**ATTENTION!**

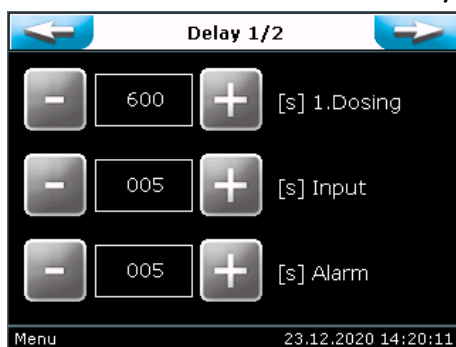
“Danger of frost” If the temperature control is used for the overwintering of an outdoor pool, it must be considered that too short filter run times, an extended voltage interruption or a device failure will lead to a failure of the pool heating!

This may result in frost damage to the pool! For this reason, it is recommended to conduct regular checks of the pool system or use other safety measures (e.g., ice pressure cushions).

**Tip**

If the temperature control is not used, a low setpoint can be selected. As a result, the temperature symbol is not displayed in the OUT list.

8.3.1.5 Main menu → Set → Delay



1.Dosing → Dosing is only released after this time has elapsed

The dosing delay **1. Dosing** starts after the system has been switched on or once the main menu has been exited.

Software alarms are suppressed during this time. The dosing delay must be set high enough to ensure that after the start of the filter system actual pool water flows through the measuring cell.

The dosing delay **1.** In automatic operation, **dosing** can be cancelled with the **Start** button.

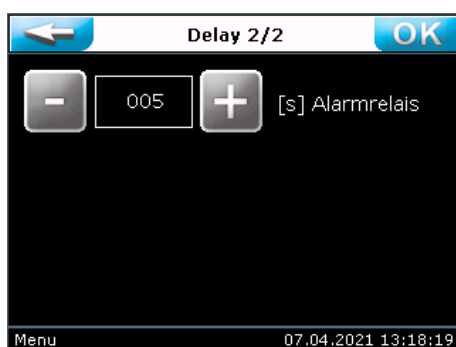
Input → for debouncing the inputs

Faults are only evaluated as alarms if they are present for at least this time. In this way, it can be prevented, for example, that a toggling measuring cell flow leads to an unnecessary alarm.

Alarm → Delay time for measuring value alarms


Measuring value alarms are only evaluated as alarms once this time has been exceeded.

Alarm relais → The alarm relay is only activated once the time has been exceeded





8.3.1.6 Main menu → Set → System



Date/ Time
Set date and time


Display
Set display brightness and screen saver

Language
Select the user language

Reset
Reset the controller to the factory settings

Menu 15.04.2021 14:52:20

8.3.1.7 Main menu → Set → System → Date/ Time



Set the **date and time**

For time-based functions such as log data, it is necessary to correct the date and time if required.

There is no automatic changeover from summer to standard time.

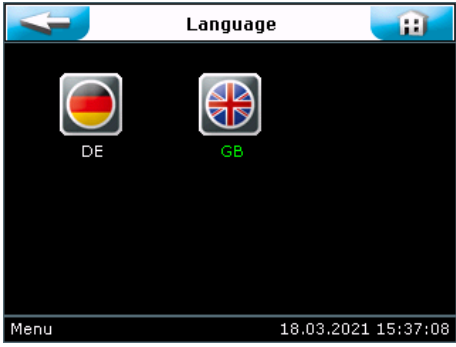
Menu 23.12.2020 14:22:38

**Notice**

In the event of voltage interruptions, the time is buffered with a battery. Depending on the daily running times, this battery is sufficient for many years. If the status line shows the year 2001, the battery must be replaced.

Batteries must be disposed of in accordance with local regulations!


8.3.1.8 Main menu → Set → System → Language



The currently selected menu language is shown in green.
Select your desired menu language.

Menu 18.03.2021 15:37:08

8.3.1.9 Main menu → Set → System → Reset



In very rare cases, it may be helpful to perform a **SYSTEM RESET**.
During a RESET, the following actions are performed.

- Sets control parameters to the factory settings (see default table)
- Sets ideal values for calibrations
- Deletes all log data

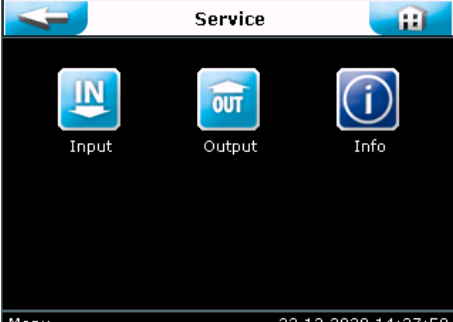
Menu 23.12.2020 14:26:41

**Notice**

After a RESET, the pH and redox electrodes must be calibrated!



8.3.2 Main menu → Service



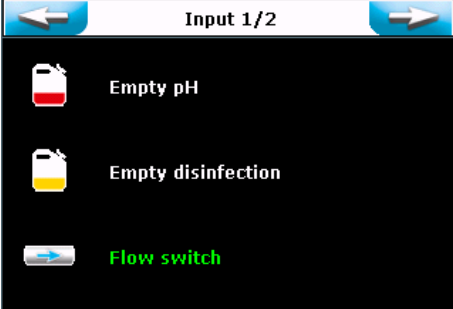
Menu 23.12.2020 14:27:58

Input
Test programme for switch inputs

Output
Test programme for pumps and relay outputs

Info
Information about the current firmware and hardware

8.3.2.1 Main menu → Service → Input Input test

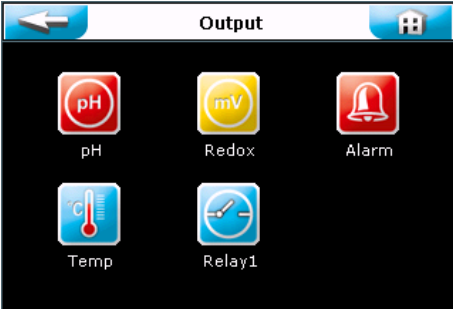


Menu 23.12.2020 14:28:46

The **input test** is used to check the inputs quickly. Pressing the switches changes the font colour to white (contact open) or green (contact closed).


The function of the **Flow switch** (measuring cell flow) and **External off** (release) inputs is designed to be wire-break-proof. That means that the inputs must be closed to release the dosing. In the event of a fault (e.g., flow too low or wire break), the input opens, thus leading to a fault indication, and the dosing is stopped.

8.3.2.2 Main menu → Service → Output (Output test)

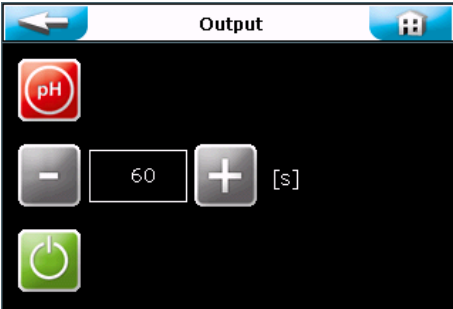


Menu 23.12.2020 14:30:30

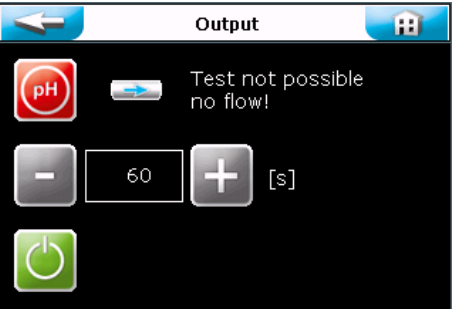
The **output test** is used to check the outputs (pumps and relays). The duration of the control can be changed. A duration of 60 seconds is preset by the factory.

The control can be cancelled at any time using .


A duration of 60 seconds is sufficient to flush the suction line. (60 s ≈ 50 ml standard PVC hose 4 x 1 mm, 3 metres with 13 ml/m)



Menu 23.12.2020 14:31:23



Menu 20.01.2021 12:37:05

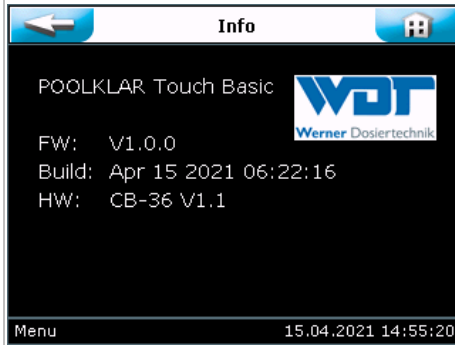


Tipp

Tip
For safety reasons (chlorine gas formation), the two outputs pH regulation and disinfection can only be started if a sufficient measuring cell flow ensures the removal of the chemicals. Therefore, no "Measuring cell flow" fault must be pending!



8.3.2.3 Main menu → Service → Info



The **Info** menu shows the currently used firmware and hardware.

POOLKLAR Touch Basic → device type

FW: VX.X.X → Firmware version

Build: → Date of publication

HW: → Hardware version

8.2.2 Main menu → Calibration



pH 2-point calibration

Calibration of the pH electrode with two buffer solutions



Phenol 1-point calibration

Adjusting the pH display value according a manually conducted phenol red measurement



Redox

Calibration of the redox electrode

The calibrations are text-guided with graphic support. The individual steps are explained in brief texts. The work step can be acknowledged with the OK button at the earliest after the countdown has run down to 0.

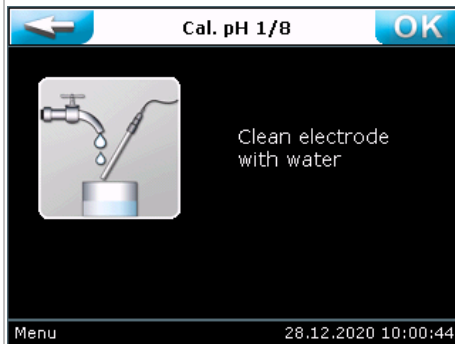


Notice

Stable measuring values are essential for a calibration! Please wait to acknowledge the work steps until stable measuring values have been achieved. With older electrodes, this may well take a minute!

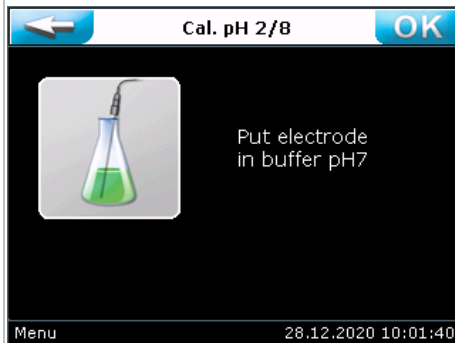


8.2.2.3 Main menu → Calibration → pH (2-point calibration with pH electrode)



The calibrations are text-guided with graphic support.

Follow the instruction for the individual work steps.



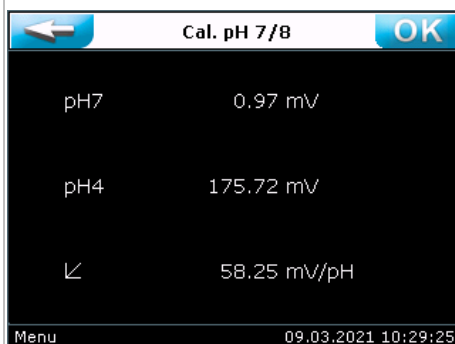
Please pay attention to the sequence of the two buffer solutions!



Stable measuring values are essential for a calibration. Please wait to acknowledge with the OK button until the measuring value has stabilised.

With older electrodes, this may well take up to one minute!

The calibration can be acknowledged at the earliest after the countdown has run down to 0.



At the end of the pH calibration, the measuring results of the pH7 zero point voltage, the pH4 slope voltage and the slope determined from this are displayed in mV/pH. These three values are evaluated and colour-coded accordingly.

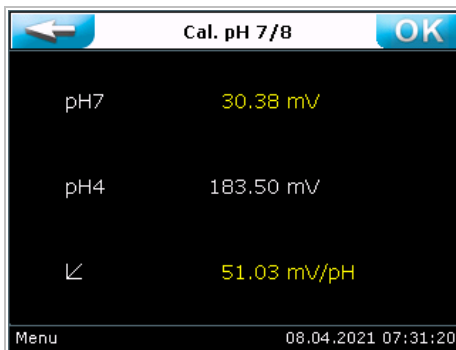
pH7 = for determining the zero point voltage
The optimal zero point voltage is at 0 mV ± 30 mV

pH4 = second buffer solution for determining the slope
The optimal voltage is at 175 mV ± 30 mV

mV/pH = slope
The optimal slope at 20- 25°C is approx. 58 to 59 mV/pH.

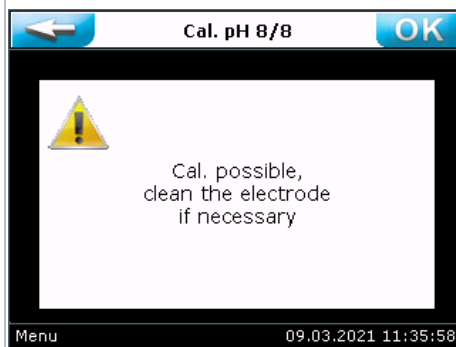


A successful calibration is confirmed. The display value is then calculated on the basis of the newly determined electrode characteristic and displayed.



With a zero point voltage pH7 above ± 61 mV, the value will be shown in yellow.

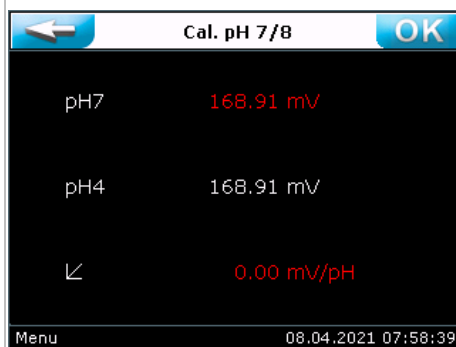
With a slope below 52 mV/pH or above 63 mV/pH, the value will be shown in yellow.



Cleaning notice

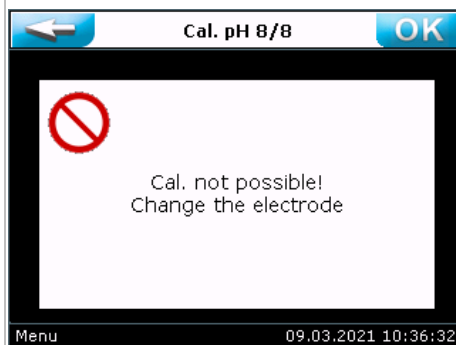
If one or both values are shown in yellow, a cleaning notice is displayed.

If the problem cannot be remedied by using the electrode cleaner, the electrode has aged accordingly and should be replaced as soon as possible.



With a zero point voltage pH7 above ± 91 mV, the value is shown in red.

With a slope below 50 mV/pH or above 65 mV/pH, the value is shown in red.



Error notice

If one or both values are shown in red, the calibration is refused with an error notice. The device continues to control with the values of the most recent successful calibration.

A calibration may fail for the following reasons:

- Electrode defective
- Electrode cable defective
- Adulterated buffer solution



8.2.2.4 Main menu → Calibration → Phenol (manual calibration by means of tablets- or drop-measurement)



The **Phenol red** menu is used to adjust the actual pH-value to a manually conducted reference measurement.

Please pay attention to the characteristics of the phenol red measurement!

Use the **Calibration pH** menu for conducting a more precise calibration.

The calibrations are text-guided with graphic support. The most important steps are explained in brief texts.

Follow the instruction for the individual work steps.



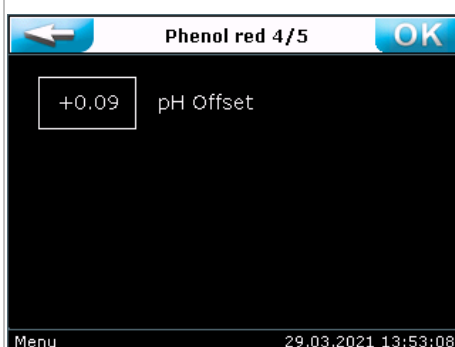
Stable measuring values are essential for a calibration. The calibration can only be acknowledged with the OK button after the countdown has run down to 0.



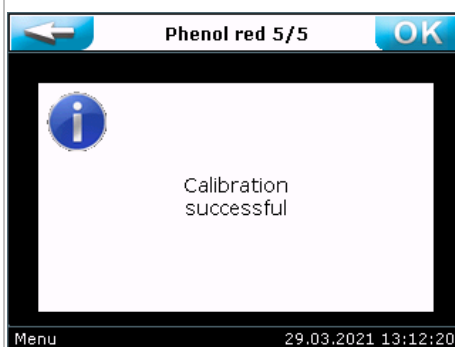
Carry out a phenol red measurement according to the manufacturer's instructions.

Please pay attention to the limited measuring range and other characteristics of the phenol red measurement!

If necessary, enter the value determined by means of a phenol red measurement.



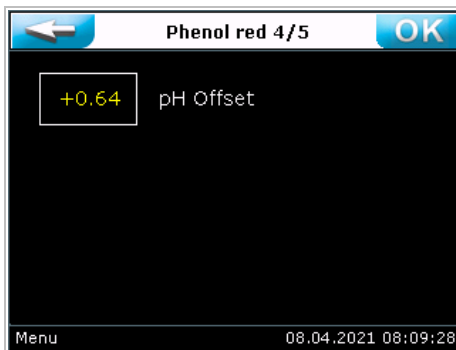
In this step, the change made is shown as an offset.



A successful calibration is confirmed. Subsequently, the display value is recalculated on the basis of the change difference and displayed.



Tip
A successful pH 2-point calibration resets the offset to 0.00.



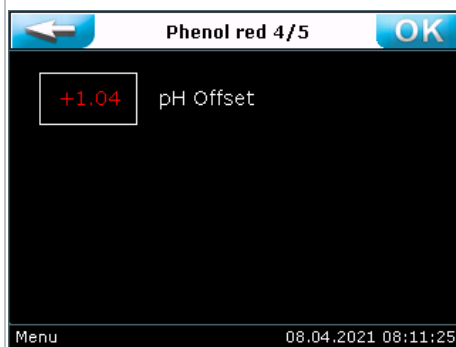
With an offset above ± 0.60 pH, the value is shown in **yellow**.



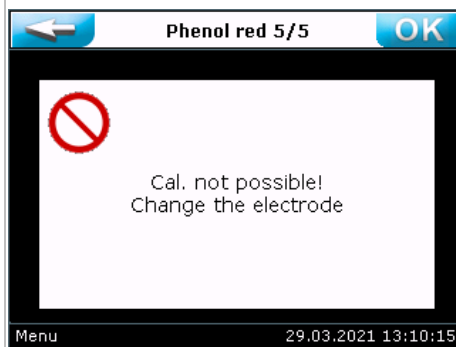
Cleaning notice

If the value is shown in yellow, a cleaning notice is displayed.

If the problem cannot be remedied by using the electrode cleaner, the electrode has aged accordingly and should be replaced as soon as possible.



With an offset above ± 1.00 pH, the value is shown in **red**.



Error notice

If the value is shown in red, the calibration is refused with an error notice. The device continues to control with the values of the most recent successful calibration.

A calibration may fail for the following reasons:

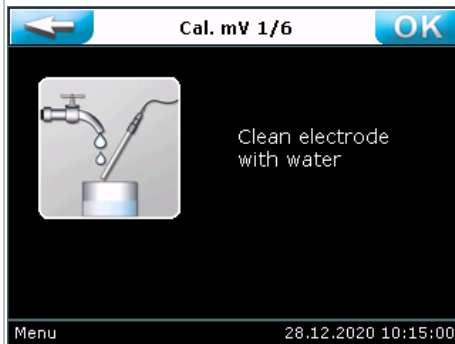
- Measurement outside the phenol red measuring range
- Handling error
- Outdated tablets or drops

	<p>Notice</p> <p>Please pay attention to the characteristics of the phenol red measurement!</p> <ul style="list-style-type: none"> - Limited measuring range photometer pH 6.5 to 8.4 - Limited measuring range POOLTESTER pH 6.8 to 8.2 - Low acid capacity $KS4.3 < 0,7$ mmol/l can result in false pH values ($0,7 \text{ mmol/l} \times 2,8 \approx 2^\circ$ dH carbonate hardness) - Pay attention to salt error > 2 g/l, at approx. 6% NaCl (≈ 60 g/l), correct the result by approx. $-0,2$ pH - > 10 mg/l free chlorine bleaches out the phenol colour indicator
--	--

Tablets	Liquid reagents
<ul style="list-style-type: none"> • Shelf life 5 to 10 years • For photometer → black inscription (not green) • Measuring tolerance up to ± 0.1 	<ul style="list-style-type: none"> • Shelf life one year, at storage temperatures between $+6$ and $+10^\circ\text{C}$ • Reacts with temperature, atmospheric oxygen, solar radiation • Pay attention to drop size • Measuring tolerance up to ± 0.2



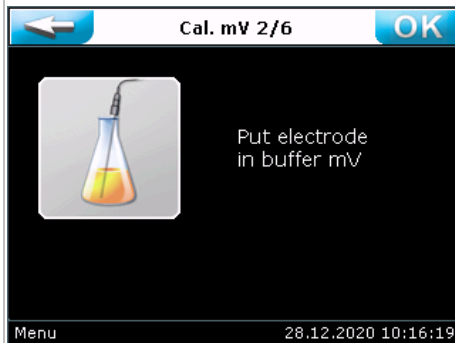
8.2.2.5 Main menu → Calibration → mV Redox



The Calibration **Cal. mV** menu enables a fine-tuning of the redox display.

The calibrations are text-guided with graphic support. The most important steps are explained in brief texts.

Follow the instruction for the individual work steps.



Stable measuring values are essential for a calibration. The calibration can only be acknowledged with the OK button after the countdown has run down to 0.

With older electrodes, this may well take up to one minute!

The redox test solution supplied by WDT supplies a voltage of 468 mV at 25 °C, see bottle label.

When making an adjustment, please pay attention to the test solution's temperature dependence! See label



The set deviation is displayed as offset at the end of the menu.

In case of minor deviations, the calibration is adopted.

Cleaning notice

In case of still tolerable deviations **± 41 mV** (shown in yellow), a cleaning notice is displayed.



If the problem cannot be remedied by using the electrode cleaner, the electrode has aged accordingly and should be replaced as soon as possible.

Error notice

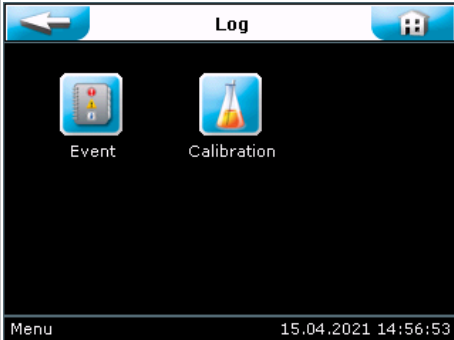
If the calibration is rejected with an error notice **± 61 mV**, the device continues the control using the values from the most recent successful calibration.

The cause of the failed calibration must be investigated!

- Electrode defective
- Electrode cable defective
- Adulterated buffer solution



8.2.3 Main menu → Log




The screenshot shows a menu titled 'Log' with two icons: 'Event' (a calendar icon) and 'Calibration' (a flask icon). At the bottom, it says 'Menu' and '15.04.2021 14:56:53'.

Event Log
Chronological list of the events that have occurred

Calibration Log
Chronological list of the calibrations performed

8.2.3.3 Main menu → Log → Event



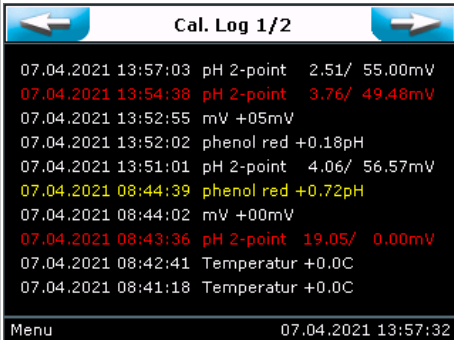
The screenshot shows a list of events with timestamps and descriptions: 'extern off', 'flow low', 'alarm low temperature', 'alarm low mV', 'alarm low pH', 'Power on', 'extern off', 'flow low', 'empty mV', 'empty pH'. At the bottom, it says 'Menu' and '09.03.2021 12:53:51'.

Event Log

The Event Log is used to chronologically list any events, faults and alarms that have occurred.

The ring memory has a storage depth of 50 entries.

8.2.3.4 Main menu → Log → Calibration



The screenshot shows a list of calibrations with timestamps and values: 'pH 2-point 2.51/ 55.00mV', 'pH 2-point 3.76/ 49.48mV', 'mV +05mV', 'phenol red +0.18pH', 'pH 2-point 4.06/ 56.57mV', 'phenol red +0.72pH', 'mV +00mV', 'pH 2-point 19.05/ 0.00mV', 'Temperatur +0.0C', 'Temperatur +0.0C'. At the bottom, it says 'Menu' and '07.04.2021 13:57:32'.

Calibration Log

The Calibration Log is used to log all calibrations that were performed. Based on the electrode assessment, the lines are colour-coded accordingly, listing successful and faulty calibrations.

The ring memory has a storage depth of 20 entries.



9. Maintenance and cleaning

All required maintenance and repair tasks may only be done by properly instructed qualified personnel. Required spare parts should be purchased from your specialist dealer. The use of non-original **WDT spare parts** may void the warranty!

Please pay attention to the safety notices when handling chemicals and wear appropriate protective clothing.



The following maintenance tasks must be carried out.

- Clean the fine filter (OPTIONAL) in case of obvious contamination
- Calibrate the pH electrode in case of a deviation larger than 0.2 pH compared to the phenol red measurement or a successive increase of the free chlorine in the pool water (due to an increasing pH value)
- Calibrate the redox electrode if the measured values for free and combined chlorine increase.
- Replace the dosing valves' valve hoses in each season
- Replace the dosing heads in each season

9.1 Fine filter (OPTIONAL)

A fine filter prevents contamination of the measuring cell. It must be inspected at regular intervals and cleaned as needed. Especially in the spring and fall, outdoor pools may experience a higher level of contamination due to flying seeds and falling leaves. During these times, shorter cleaning intervals must be applied.

<p>Hinweis</p>	<p>Notice</p> <p>A contaminated fine filter may lead to a reduced flow through the measuring cell and to chlorine depletion. This may lead to a reduced redox voltage and subsequently to an increase in the pool's chlorine content.</p>
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9.2 pH and redox electrode

<p>Achtung!</p>	<p>ATTENTION!</p> <p>During any work on the electrodes it must be ensured that neither the electrode's screw plug head nor the plug of the electrode cable are exposed to humidity! Even the smallest amount of humidity in the electrode head may lead to a distortion of the measuring values or even to a failure of the electrode!</p> <p>Both the contacts in the electrode's plug head and on the electrode plug must display a shiny golden colour and may not show any signs of corrosion.</p>
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Redox and pH electrodes are wear parts that are subject to a certain degree of ageing. In the area of swimming pool water treatment, the electrode should be functional for approximately 6 months to 2 years.

One reason for measuring value deviations is the contamination of the diaphragm. These contaminations can usually be removed by means of the included diaphragm cleaner. For this purpose, the glass shaft is submerged in the cleaning solution past the electrode's diaphragm for a few minutes.

<p>Hinweis</p>	<p>Notice</p> <p>After each cleaning or exchange of the electrode, a calibration must be carried out! Do not touch the glass top (sensor part) and the diaphragm with your fingers or with any mechanical cleaning materials.</p>
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9.3 Dosing valves

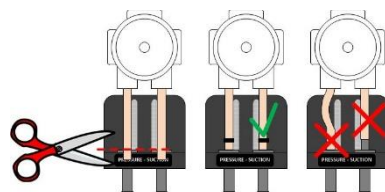
The disinfection dosing valve tends to calcify when chlorine-containing disinfectants are used. The level of calcification depends on the dosed volume, the temperature at the dosing point, the chlorine solution's components and the water's carbonate hardness. The maintenance intervals range from several weeks to multiple months. The calcification in the valve body can be removed with a lime-dissolving acid. As part of the annual maintenance, the rubber gaskets of both dosing valves must be renewed.

9.4 Dosing heads

Expansion tabs



As part of the annual maintenance, the two dosing heads should be replaced. To do so, squeeze the two lateral expansion tabs and pull off the head from the motor shaft toward the front. Remove the two black hose clamps from the hose end and pull the hoses from the hose nipples.



Shorten the hoses of the new dosing heads accordingly and push them onto the hose nipples. Subsequently fix them with the black hose clamps. Then push the dosing head back onto the motor shaft until it snaps into place.

**Caution!**

Contact with chemicals may cause chemical burns or irritation!

Pay attention to the relevant safety measures when working on parts that come into contact with chemicals, such as the dosing head, dosing valve and suction set. Wear appropriate protective clothing.

10. Decommissioning - overwintering - storage

If the device is decommissioned for longer than four weeks, the following tasks should be performed:

- Flush the dosing valves, including the suction sets; for this purpose, remove the suction sets from the chemical containers and place them in a container filled with water. Close the chemical container. Manually start both dosing pumps with the test function. Repeat the process twice to ensure that the chemicals are completely flushed through. In conclusion, pull both dosing heads from the motor shaft.
- The diaphragm of a glass electrode must never dry out; therefore, the protective cover must be filled with a small amount of electrolyte and pushed onto the pH- and redox-electrode's glass shaft. The pH- and redox- electrode is frost-resistant to approx. -15 °C; if the temperature falls below this value, the electrode must be stored in a frost-safe environment!
- If condensation moisture can be expected at the installation site, the device must be supplied with continuous voltage. (technical shaft in the ground)
- If frost can be expected at the installation site, all water-conveying parts such as the measuring cell, the measuring water piping and measuring water lines must be emptied completely. Alternatively, the device may be dismantled from the wall and stored in a frost-safe room.

11. Technical data

Dimensions: approx.		Electrical data:		Dosing performance: Standard SR10		Measuring ranges	
Width:	425 mm	Voltage:	100... 240 V 50-60 Hz	pH regulation	approx. 0.7 l/h	pH	4.0 ... 9.9
Height:	335 mm	Current:	max. 2 A	Disinfection	approx. 1.2 l/h	mV	10 ... 990
Depth:	150 mm	Performance:	10 VA Standby			Temperature °C	- 9.9 ... 50
Weight:	4.3 kg						

Ambient temperature: - 5 °C to + 40 °C

Humidity: 90% non-condensing

12. Change history - POOLKLAR Touch Basic device series

The following list shows the changes that have been made to the device over the years of production.

No changes available since market launch 04/2021

**Notice**

Please pay attention to the changes for future orders of wear or replacement parts and support queries!

Firmware - versions

The following list shows the changes that have been made to the firmware over the years of production.

FW V1.0.0	04/2021 - first version delivered at market launch
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**Notice**

The above listing shows the most important cornerstones of the firmware versions, including the publication date and notices about the reasons for the change.

Please pay attention to this for future support queries!



13. Commissioning protocol - default table



During a "reset", all parameters are reset to the factory setting. After a "reset", all parameters must therefore be checked and readjusted to the pool. We therefore recommend that you enter the optimised, pool-specific parameters in this list.

In addition, the electrodes must be calibrated after a "reset"!

Set menu (settings)	Delivery	Range - setting range	Step	during commissioning	Optimised during operation
Set pH					
- Setpoint	7.00	6.00 ... 8.00	0.05		
- P-range	0.50	0.10 ... 1.00	0.05		
- Alarm high	8.00	4.00 ... 9.90	0.05		
- Alarm low	6.50	4.00 ... 9.90	0.05		
- Time limit	1200	0000 ... 3600 [s]	60		
- pH Stop dosCL	7.50	7.00 ... 8.00	0.05		
Set mV					
- Setpoint	750	500 ... 900	5		
- P-range	100	010 ... 100	5		
- Alarm high	800	400 ... 990	5		
- Alarm low	600	400 ... 990	5		
- Time limit	1200	0000 ... 3600 [s]	60		
Set Output – Dosing performance					
- Zyklus	030	030 ... 600 [s]	10		
- pH 8 sec.	100	30 ... 100 %	5 %		
- mV disinfection 16 sec.	100	30 ... 100 %	5 %		
Set temperature °C					
- Setpoint	28.0	05.0 ... 40.0	0.5		
- Hysteresis	01.0	01.0 ... 05.0	0.5		
- Alarm high	34.0	01.0 ... 45.0	0.5		
- Alarm low	16.0	01.0 ... 45.0	0.5		
- Offset	+0.0	-5.0 ... +5.0	0.5		
Set Delay – Delay					
- 1. Dosing	600	010 ... 990 [s]	10		
- Input	005	001 ... 010 [s]	1		
- Alarm (low- high)	005	001 ... 010 [s]	1		
- Alarm relay	005	000 ... 990 [s]	5		
Set System – Display					
- Backlight	75	25 ... 100 %	5		
- Screensaver	25	10 ... 100 %	5		
- Delay	600	10 ... 990 [s]	10		
System – Language					
	GB	DE – GB			
Service – Output					
	60	10 ... 600 [s]	10		



15. Spare parts list

The spare parts listed in the following are available through your specialist dealer. Please always include the exact product designation and the device serial number with your orders.

 Tipp	Tip Please note that as a rule, the spare parts list only contains replacement parts for the standard devices. Customer-specific or order-specific special articles are not taken into account!	
The code numbers on a blue background denote wear parts. Wear parts are excluded from the 2-year warranty!		
Dosing technology	Code number	Article
	10039	Dosing head SR10 3.0 mm white rollers
	12500	Dosing motor SR10 3.0 mm
	12472	Suction set d16/500 NF with empty switch and non-return valve yellow lid
	12473	Suction set d16/500 NF with empty switch and non-return valve red lid
	28245	Hose bracket POOLKLAR Touch Basic red
	28246	Hose bracket POOLKLAR Touch Basic anthracite
	18860	Valve rubber set 9 x 1.5 - 14 for both dosing valves
	24718	Dosing valve 3/8" - 4 x 1 - Si 9 x 1.5 complete
Flow-through fitting	Code number	
	27867	Measuring cell POOLKLAR Touch Basic (without fittings!)
	28122	Switch body flow monitoring 25 x 8 mm white
	10502	Hose connection- PP 6 x 1 mm
	15077	Hose- PVC 4 x 1 mm (yard goods)
	10435	Hose- PE 6 x 1 mm (yard goods)
	10433	Hose- PTFE 6 x 1 mm (yard goods) optional
	12031	PVC ball valve d20 – 6 x 1 mm (Measuring water withdrawal – recirculation)
Electrodes	Code number	
	10717	pH electrode PG13.5 120 mm
	10718	Redox electrode PG13.5 120 mm
	15945	Electrolyte solution KCl 3 mol/l - 30 ml for overwintering
	10383	Buffer solution pH4 50 ml
	10384	Buffer solution pH7 50 ml
	10385	Redox test solution +468 mV 50 ml
	11962	Electrode cleaner – diaphragm cleaner 50 ml
	11963	distilled water 500 ml
Control unit/ electronics	Code number	Depending on the version → see label and serial number on the electronic circuit board
	Depending on version	I/O- Board – CB36 (Code no. 27552 V1.1)
	Depending on version	Measuring amplifier PKT Basic (Code no. 27866 V1.0)
	Depending on version	Control panel – 3.2" Touch (Code no. 23716)
	Depending on version	Adapter HMI_eDIPTFT32 control panel – 3.2" Touch (Code no. 27865 V1.0)
	28177	pH electrode cable union nut S6 black 60 cm
	28178	Redox electrode cable union nut S6 blue 60 cm
	10489	Measuring water flow switch d6 x 30 mm green "NO contact"
	21839	Main switch 2-pin red IP65
	28559	Battery CB36 - with ready-made connection cable, plug 2-pin
OPTIONS	Code number	
	12023	Ball valve PVC 1/4" IG – 6 x 1 mm (inlet and drain)
	24871	Fine filter 300 µm 1/4" 6 x 1 complete (1/2" design upon request)
	10480	Filter cup transparent - 1/4" filter
	10481	Filter cup gasket - 1/4" filter
	10482	Filter element 300 µm - 1/4" filter
	21531	Temperature sensor 6 x 50 mm, 2 m line length
	12910	Temperature sensor sleeve PVC 1/2" x 60 mm (for external installation)