

Installation and Operating Instructions



POOLcontrol®-35-smart

Filter control unit with LAN port

Part no. 310.000.0590



Compatible pumps

230V single-phase pump
(rated current up to 8A)
Speck ECO-Touch-Pro pump
Speck Badu-90-ECO-VS pump
Speck Badu-90-ECO-Motion pump
Pentair IntelliFlo pump
Pentair SuperFlo pump
Zodiac FloPro VS pump
UWE PMM pump

Technical data

Dimensions:	220mm x 285mm x 85mm
Operating voltage:	1/N/PE 230V 50Hz
Power consumption of control unit:	approx.5VA (depends on operating mode)
Switching capacity:	Pump: max. 8A / 1,1 kW (AC3) Heater: max. 3A / 0,4 kW (AC3) dosing system: max. 3A / 0,4 kW (AC3) Auxiliary output: max. 3A / 0,4 kW (AC3)
Degree of protection:	IP 40
Level sensor:	12V Safety extra-low voltage (SELV)
Ambient temperature:	0-40°C
Air humidity:	0-95% non-condensing
Memory card:	Micro SD
Internet port:	LAN

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Function

The **osi** PC-35-smart control unit lets you time the on/off cycles of a filtration pump based on a user-programmable daily or weekly schedule. A 230V single-phase pump or a variable-speed pump may be used as the filtration pump (see wiring diagrams). When using a single phase filtration pump without speed control, an electronic motor protection device protects the pump from overload (current range has continuous adjustment up to 8A).

Backwashing can be performed using a 6-way multiport valve and installed EUROTRONIK-10 controller or using slide valves, and launched either manually or at a specific time or depending on pressure.

The integrated level control is suitable for skimmer pools. For pools with an overflow channel, it is possible to connect an external level control NR-12-TRS-2 or NR-12-TRS-3.

While the filtration pump is running, the swimming pool heater is controlled by the electronic temperature controller. During pauses in filtration, the heating is automatically switched off by the internal interlock. The required water temperature for the swimming pool can be set on the touchscreen display. The heating can also be switched off from here. A live contact (terminal U2) and volt-free floating contacts (terminals 26&27) are available for connecting the heating system. Terminals are provided for connecting an **osi** solar actuator when operating with solar absorbers that carry a direct flow of water from the pool. This control unit is not intended for use with other types of solar collectors. The absorber temperature must not exceed 80°C at the temperature sensor.

Connection terminals for level sensors (either mechanical mini float switch or capacitive skimmer sensor SK-1) allow convenient, automatic control of the water level in the swimming pool. Additional connection terminals enable the connection of a flow monitor or pressure switch and a winding protection contact. This additionally protects the filter pump from damage that could result from operating the filter system without water.

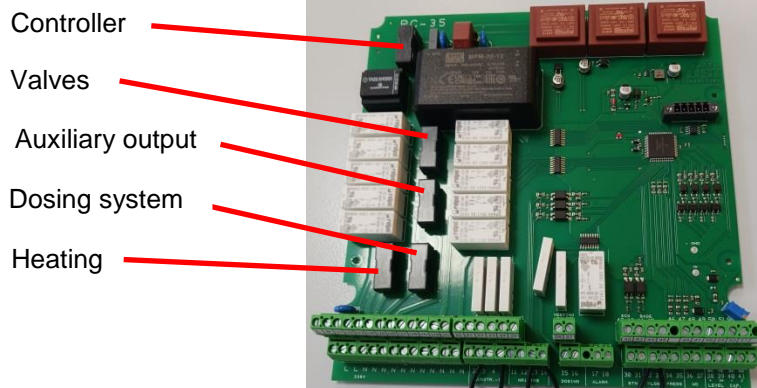
Additional terminal connections enable the connection of additional devices. Terminal U3 (dosing technology) only carries 230V during filter times; outside of filter times it is voltage-free. Terminals 15+16 (dosing technology) are potential-free and can therefore be used individually. During the filter times, the relay contact between terminals 15 and 16 is closed; outside the filter times, this relay contact is open. This contact can be loaded with a voltage of up to a maximum of 230V and a power of up to a maximum of 400W ($\cos \varphi=0.6$).

Terminals 17+18 are potential-free and can be used for fault reporting.

Installation

The swimming pool must be designed and built to prevent consequential damage resulting from a potential technical fault, power failure or a faulty unit.

Fuses



The electronic controller is protected by a 0.5A microfuse located on the printed circuit board inside the control unit. A separate 3.15A microfuse is provided for each of the following outputs: heating, dosing equipment, auxiliary output and valves. The customer must fit mains fuses of maximum rating 16A to provide short-circuit protection for the filtration pump.

Electrical connection

The control unit must be mounted such that it is protected from moisture in accordance with its degree of protection. The ambient temperature must lie between 0° C and + 40° C and should vary as little as possible. The relative humidity at the installation position must not exceed 95% and there must not be any condensation. Avoid exposing the unit to direct heat or sunlight.

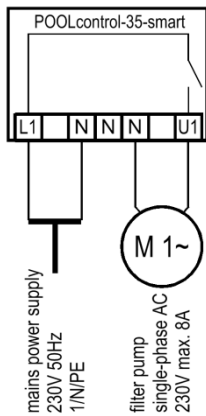
The power supply for the unit must be provided via an all-pole disconnection switch with a minimum contact gap of 3mm and via a residual-current circuit breaker with a fault current I_{FN} of $\leq 30\text{mA}$. When using variable-frequency drives and variable speed pumps, the residual-current circuit breakers stipulated for these devices must be used and the relevant regulations observed. **Always disconnect the unit from the power supply before opening the case. All electrical wiring and calibration and servicing work must be performed solely by an approved electrician. The attached wiring diagrams and all applicable safety regulations must be observed.**

The switching outputs of the PC-35-smart are not intended as a voltage supply for variable frequency drives. Please refer to the relevant wiring diagrams in these operating instructions.

Low-voltage lines

Low-voltage lines must not be laid along with three-phase or AC power cables in the same cable conduit. In general, always avoid routing low-voltage lines close to three-phase or AC power cables.

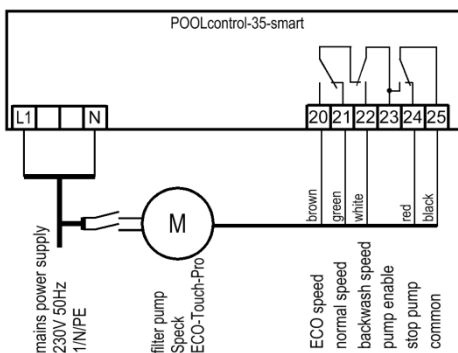
Connecting the power supply for a 230V single-phase pump (without speed control)



If a 230 V pump without speed control is connected, the option **Filter pump - type: 1-phase motor** must be selected in the filter pump configuration menu.

The tripping current of the motor protection must be set to the rated current of the pump (see nameplate).

Connecting the power supply for a Speck ECO-Touch-Pro pump



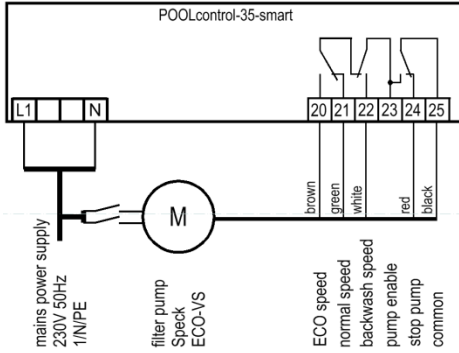
A Speck ECO-Touch-Pro pump can be connected directly to the PC-35-smart unit. Connect the speed controller to terminals 20-25.

The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

Connecting the power supply for a Speck ECO-VS pump



A Speck ECO-VS pump can be connected directly to the PC-35-smart unit. Connect the speed controller to terminals 20-25.

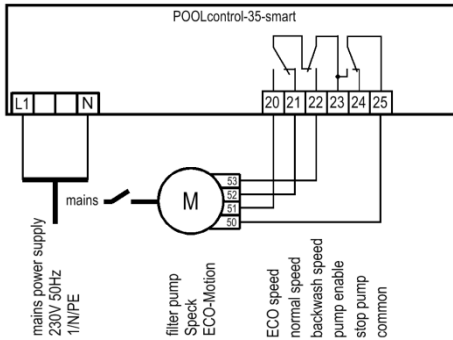
The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

The digital inputs must be set at the pump to "dl" in the pump setup menu.

Connecting the power supply for a Speck Badu-90-ECO-Motion pump



A Speck Badu-90-ECO-Motion pump can be connected directly to the PC-35-smart unit. Connect the speed controller to terminals 20-25.

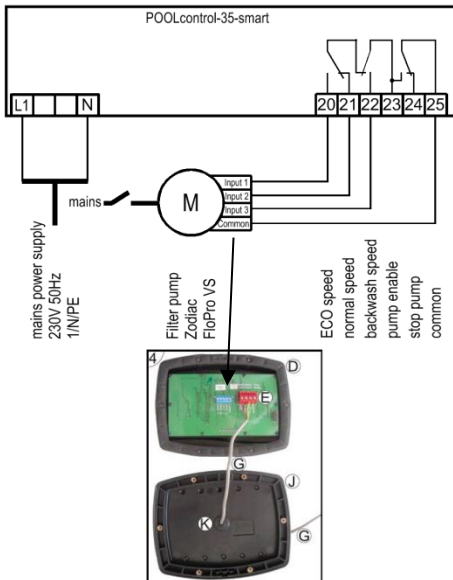
The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

In the Setup menu on the pump, the external control must be enabled for "digital fixed speeds" with the signal type "continuous signal". The speeds required for ECO mode, normal mode and backwash mode must be set for the speeds N1, N2 and N3.

Connecting the power supply for a Zodiac FloPro VS pump



A Zodiac FloPro VS pump can be connected directly to the PC-35-smart unit. Connect the speed controller to terminals 20-25.

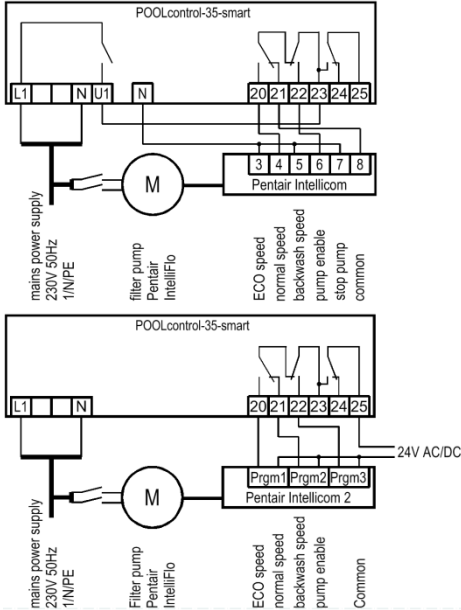
The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

On the pump, the speed controller must be connected to the designated terminals on the back of the user interface. The speeds required for ECO mode (level 1), normal mode (level 2) and backwash mode (level 3) must be assigned to speed levels 1 to 3.

Connecting the power supply for a Pentair IntelliFlo pump



An IntelliFlo pump can be controlled by the PC-35-smart using the Pentair Intellicom controller.

The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

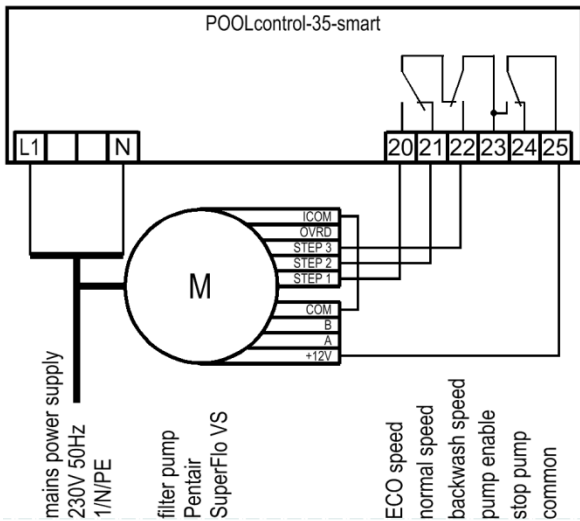
An IntelliFlo pump can also be controlled by the PC-35-smart using the Pentair Intellicom 2 controller.

The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

Connecting the power supply for a Pentair SuperFlo VS pump



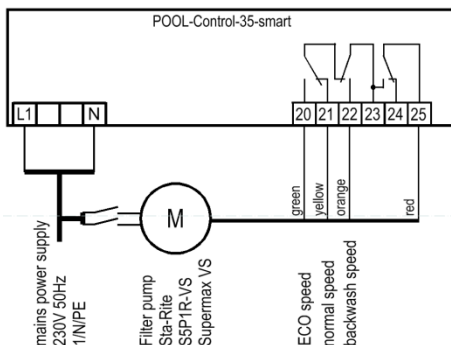
A SuperFlo VS pump can be controlled by the PC-35-smart.

The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

Connecting the power supply for a Sta-Rite Supermax pump



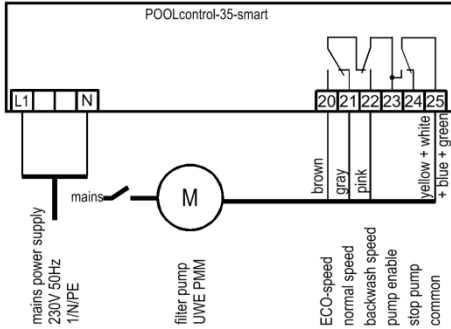
A Sta-Rite Supermax pump can be controlled by the PC-35-smart.

The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

Connecting the power supply for a UWE PMM pump



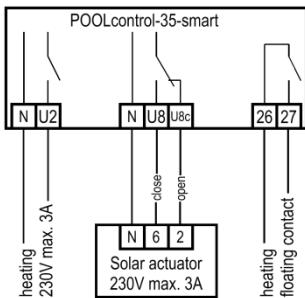
A UWE PMM pump can be controlled by the PC-35-smart.

The mains power supply to the pump must be provided separately, not via the PC-35-smart.

The option **Filter pump - type: variable pump** must be selected for the filter pump in the configuration menu.

Always refer to the operating instructions for the pump.

Connecting the heating system

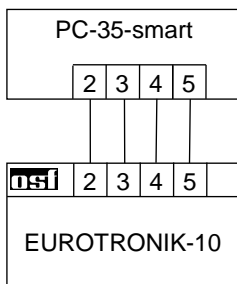


The pool heating can be connected to terminal U2. This output supplies 230V and is rated for a maximum load of 3A.

In addition, a floating contact is provided at terminals 26+27 (e.g. for controlling the boiler).

An **nsi** 230V solar actuator can be connected to terminals U8 and U8c for operating the solar heating. When solar heating is operating, the mains voltage is applied to terminal U8 and no voltage is applied to terminal U8c. When solar heating is not actuated, no voltage is applied to terminal U8 and the mains voltage appears at terminal U8c.

Connecting the EUROTRONIK-10 for backwashing using a 6-way multiport valve

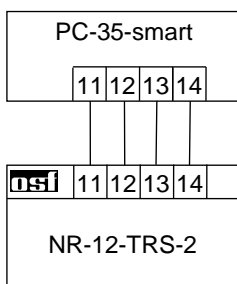


A 4-wire connection (12V Safety Extra Low Voltage) is required for connecting the EUROTRONIK-10. Ensure that the wires are connected to the correct terminal at each end. The EUROTRONIK-10 additionally requires a separate power supply. The backwash times are programmed on the EUROTRONIK-10.

Operating the PC-35-smart without a EUROTRONIK-10 unit

If the PC-35-smart is intended to be operated without a EUROTRONIK-10 unit, terminals 3 and 5 must be connected together (with a link).

Connection of the NR-12-TRS-2 for level control in the collecting vessel

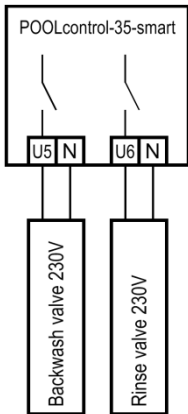


A 4-wire connection (12V safety extra-low voltage) is required to connect the NR-12-TRS-2 (or NR-12-TRS-3). The wires must not be mixed up when connecting. The NR-12-TRS-2 also requires a separate power supply.

Operation of the PC-35-smart without NR-12-TRS-2

If the PC-35-smart is intended to be operated without an NR-12-TRS-2 unit, terminals 13 and 14 must be connected together (with a link).

Connecting the slide valves for backwashing



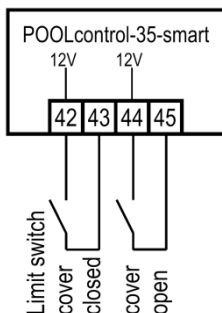
A 230V slide valve for the backwash function can be connected to terminals U5 and N.

A 230V slide valve for the rinsing function can be connected to terminals U6 and N.

Both valves are controlled by the internal backwash controller.

The heating and dosing systems are disabled during the backwash and rinsing operation.

Connecting the cover limit-switches

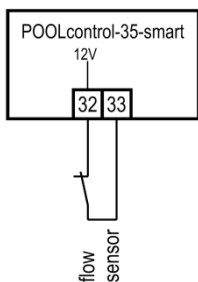


A limit switch for the swimming-pool cover can be connected to terminals 42 and 43. This switch automatically starts ECO mode when the cover is closed.

A swimming pool cover limit switch can be connected to terminals 44 and 45, which can block the operation of the water attractions if the cover is not fully opened.

The terminals carry a safety extra low voltage.

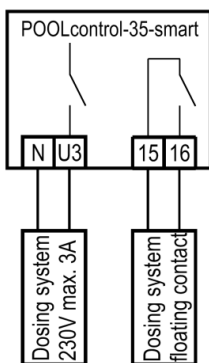
Connecting a flow sensor



A flow sensor or a pressure sensor can be connected between terminals 32 and 33 instead of the factory-fitted link, in order to provide additional protection for the pump against dry-running. During filtration, a certain maximum time (factory set to 10 seconds, adjustment range 5-60 sec) is allowed after the filtration pump starts running before this contact must close. If the contacts do not close in this time, the filtration pump is switched off and the fault indicator light comes on. This contact is not polled during backwashing.

The terminals carry a safety extra low voltage.

Connecting the dosing equipment

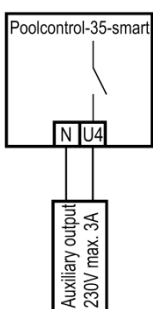


An auxiliary item of equipment running at 230V (e.g. dosing equipment) can be connected to terminal U3. This equipment is switched on together with the filtration pump during filtration.

A volt-free floating relay contact is available between terminals 15 and 16 inside the control unit. This can be used to control additional dosing equipment (contact is closed during filtration).

This contact is rated for a maximum load of 230V/4A.

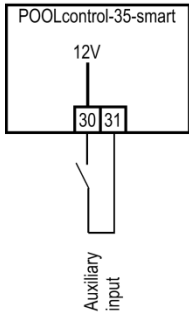
Connection for auxiliary output (attraction)



A 230V additional device (e.g. underwater spotlight) can be connected to terminal U4 and can be switched on and off as desired using a button in the front cover (or in the external control panel).

The symbol for this button can be selected in the menu.

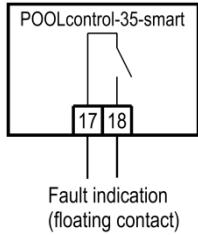
Connection of a button for the auxiliary output



A button (e.g. osf EL button) can be connected to the auxiliary input, terminals 30 and 31, to switch the auxiliary output.

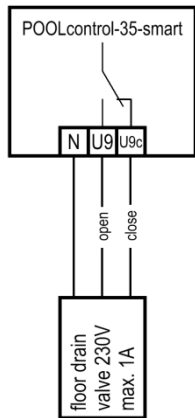
The terminals carry a safety extra low voltage.

Connecting a fault indicator



An external fault indicator can be connected to volt-free floating terminals 17 and 18. This contact is rated for a maximum load of 230V/4A.

Connecting a main drain valve (ECO valve)

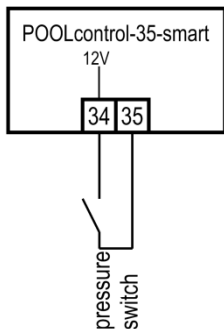


A main drain valve (ECO valve) or a valve for water extraction from the sides of the pool can be connected to terminals U9 and U9c. Connect a 2-way valve to terminals U9 and N. For a 3-way valve, use terminal U9 for "OPEN" and terminal U9c for "CLOSE". This contact is rated for a maximum load of 230V/1A.

For overflow pools with spillway, this valve is opened in ECO mode to minimize evaporation losses.

If this valve is also meant to be opened during backwashing, then the option **Open floor drain during backwashing** must be selected in the configuration menu.

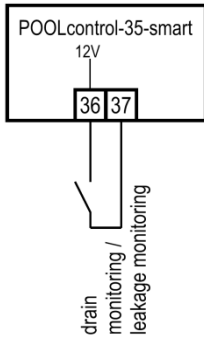
Connecting a pressure switch



A pressure switch fitted in the pressure line or in the gauge port of the central valve can be connected to terminals 34 and 35. The backwash process starts if the floating contact of the pressure switch remains closed for at least 10 seconds.

The terminals carry a safety extra low voltage.

Connecting a leak monitoring / drain-monitoring switch



A water sensor WD-1 can be connected to terminals 36 and 37 for leak monitoring (flooding notification).

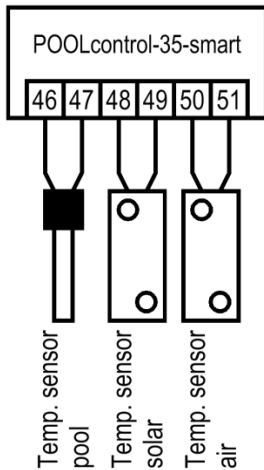
Alternatively, a flow sensor for monitoring the water flow in the drain and triggering an alarm in the event of a fault can be connected between terminals 36 and 37 instead of the factory-fitted link. There are two options available depending on the configuration:.

- Generate a fault indicator if water is flowing while the filter is running;
- Generate a fault indicator if no water is flowing during backwashing.

Time delay: 10 seconds

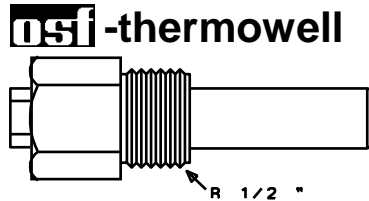
The terminals carry a safety extra low voltage

Temperature sensors



Pool temperature sensor

Connect the swimming-pool temperature sensor to terminals 46 and 47. The temperature sensor is supplied as standard with a cable length of 1.5m. If required, this can be extended to a maximum length of 20m using a twin-core cable (min. cross-section 0.5mm²). Avoid running the sensor lead close to mains cables to prevent potential interference.



Since precise temperature control can only be achieved with good heat transfer between the temperature sensor and swimming pool water, an **OSI** R1/2" thermowell (part no. 320.020.0003) must be fitted in the piping system.

The sensors can be connected either way round (polarity not important).

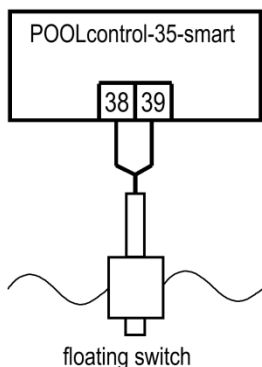
Solar temperature sensor

In addition, a solar temperature sensor (part no. 310.000.0033) can be connected to terminals 48 and 49. The temperature sensor is supplied as standard with a cable length of 20m. If required, this can be extended to a maximum length of 50m using a twin-core cable (min. cross-section 0.5mm²). **Avoid running the sensor lead close to mains cables to prevent potential interference.** The solar temperature sensor should be fitted at the solar collector output in good thermal contact with the returning water flow. The temperature at the installation position for the temperature sensor must not exceed 80°C.

Air temperature sensor

An air temperature sensor can be connected to terminals 50 and 51. This sensor is used for controlling the automatic frost protection function. The solar temperature sensor mentioned above, part number 310.000.0033, is suitable for this job. This temperature sensor is also suitable for installing with an indoor pool. In this case, it shows the room temperature in the display.

Level control for pools with skimmer

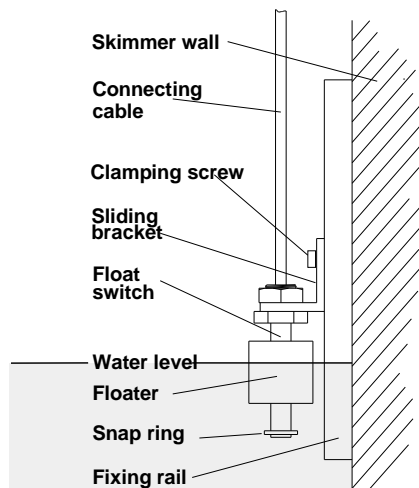


An **US1** mini float switch can be used as the sensor for skimmer pools. The float switch lead can be extended with a cable (2x0.75mm²) of up to 30m in length. Please note that the connection must be absolutely watertight. The float-switch connecting cable must not be laid alongside other current-carrying cables.

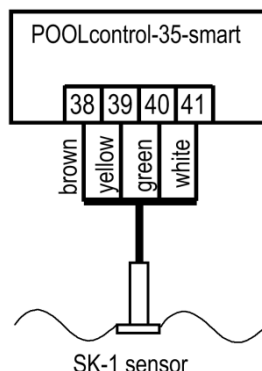
The mini float switch operates with safety extra low voltage (SELV).

In this operating mode a time delay is automatically enabled in conjunction with the mini float switch. This adjustable time delay prevents over-frequent switching as a result of waves moving the pool water. The delay length can be adjusted in the configuration menu.

Fit the mini float switch on the sliding bracket. Then fasten the fixing rail vertically on the skimmer wall at the approximate height required for the water level. You can then set the water level by moving the sliding bracket up and down the rail. Tighten the screw to fasten the sliding bracket in place. All the parts fit easily inside each other so no great force is needed.



Level measurement with capacitive sensor SK-1



Alternatively, a capacitive sensor system SK-1 can be connected as a level sensor. The sensor cable can be extended up to 10m using a shielded, four-core cable (4x0.5). The extension must be waterproof so that no leakage currents can occur due to moisture penetration. The shielding of the extension must be connected to the shielding of the sensor cable (and the green wire). The shielding must not be connected in the control unit.

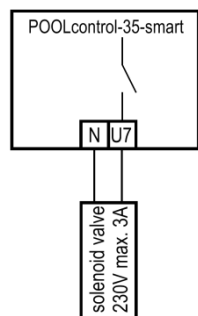
The mini float switch operates with safety extra low voltage (SELV).

In this operating mode a time delay is automatically enabled in conjunction with the mini float switch. This adjustable time delay prevents over-frequent switching as a result of waves moving the pool water. The delay length can be adjusted in the configuration menu.

Use without level control

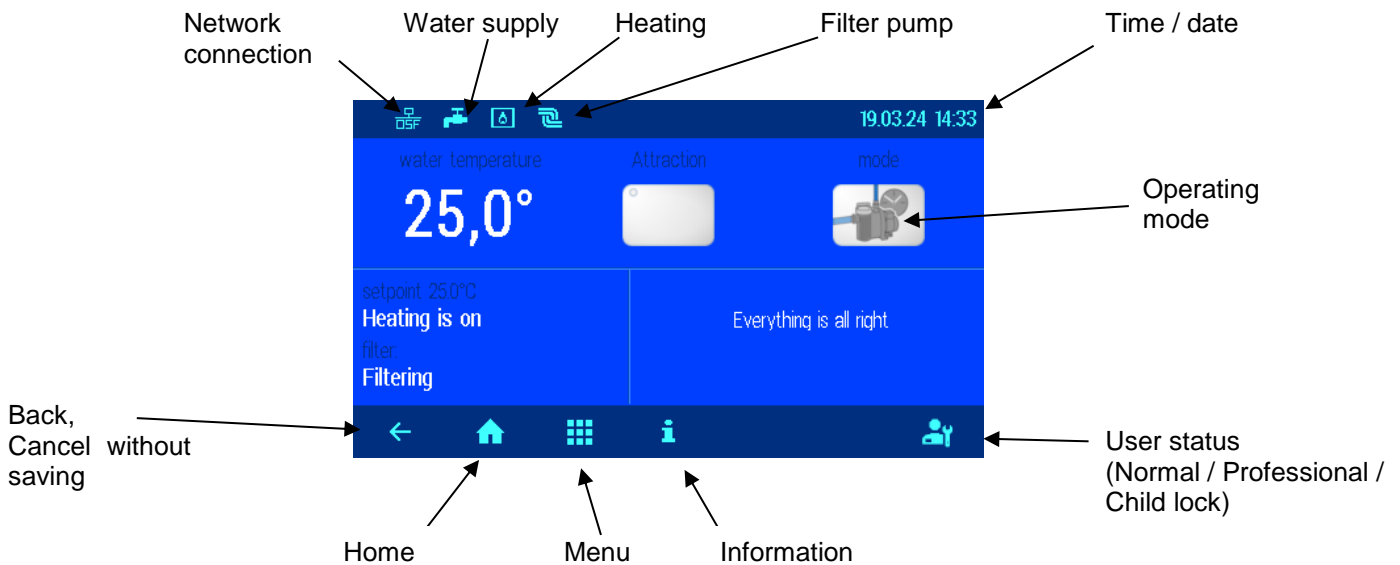
If you do not want to use the built-in level control, you must select the **No level control** option in the configuration menu.

Solenoid valve for topping up the water level



A normally closed solenoid valve must be used for the water intake. This valve must be connected to terminals U7 / N of the control unit. A suitable solenoid valve (R½"), part number 1090005804, is available from the **US1** range.

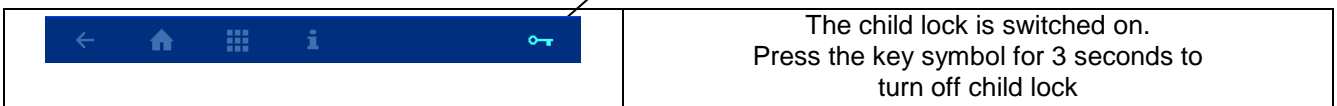
Display



Parental control

The icon on the right in the control bar at the bottom of the screen shows the status of parental controls. Parental controls can be turned on by tapping the status indicator in the bottom right corner of the screen

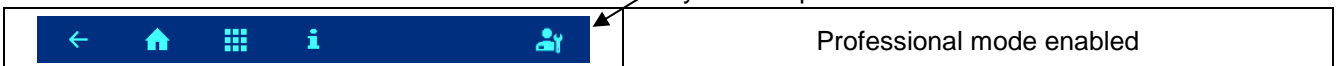
Symbol for parental control



Professional mode (Service engineer level)

The PC-35-smart provides safeguards against unintentional/unwanted adjustment of important operating parameters. Those functions that appear in grey on the display can only be used in professional mode.

Symbol for professional mode



The professional mode can be switched on and off after tapping the user status icon. One hour after you last pressed a button, professional mode switches off automatically.

Switching on the PC-35-smart

When the PC-35-smart is off, the operating light is *red*. To switch on the unit, touch any point on the screen for at least 3 seconds.

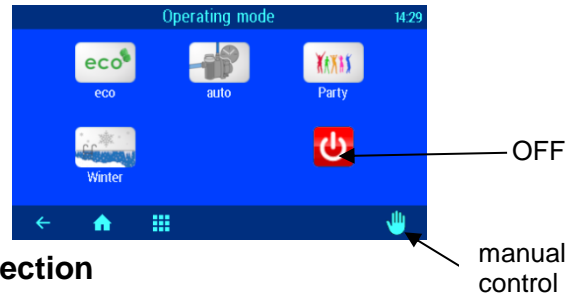
Switching off the PC-35-smart

The button for switching off the control unit is located on the "Operating mode" display page.

Press the "operating mode" button.




Press and hold the power-off button for at least 3 seconds to switch off the PC-35-smart.

When the PC-35-smart is off, the operating light is *red*.



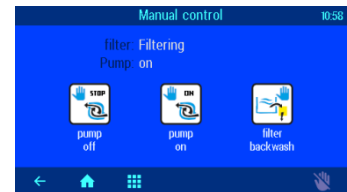
Operating mode selection

Tap the operating mode selector. The following operating modes are available:


	<p>Automatic mode.</p> <p>The filtration system is operated under timer control.</p> <p>It is also possible, however, for the solar controller, backwash system and/or level control system to force the filtration pump (if off) to switch on automatically.</p>
	<p>Eco mode (energy saving mode).</p> <p>Depending on how the PC-35-smart is configured, this mode runs the filtration pump at a lower speed, allows the spillway to run dry or reduces the water temperature.</p>
	<p>Party mode (runs continuously).</p> <p>Switches on the filtration system even though the timer has switched it off.</p> <p>Depending on how the PC-35-smart is configured, Party mode may be timed to switch off again.</p>

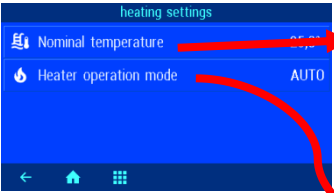

Manual control

After tapping the "Manual control" symbol, the filter pump can be switched on or off manually. Backwashing can also be started manually here.



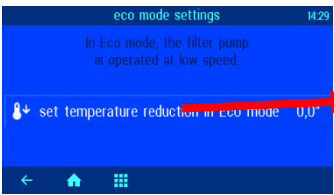
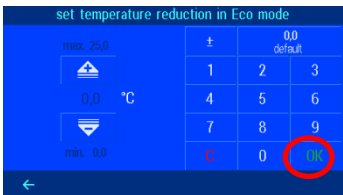
Heater settings

	<p>Tap the "Menu" button</p> 		<p>Tap the "Heating settings" button</p>
---	--	--	--

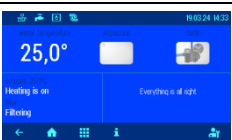


	<h3>Setting the water temperature</h3> <p>Use the screen keypad to set the water temperature you require.</p> <p>Then press the "OK" button to save the temperature.</p> 
	<h3>Switching the heating on/off</h3> <p>Use this button to switch between the operating modes "OFF" and "AUTO" (automatic).</p>

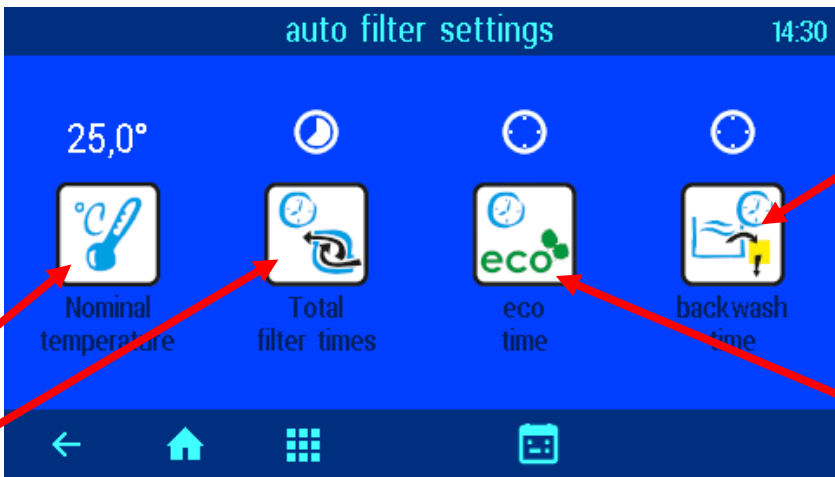
Settings for ECO mode

	Tap the "Menu" button 		Press the "eco mode settings" button
---	--	--	--------------------------------------

	<h4 style="text-align: center;">Temperature reduction in eco mode</h4> <p>Set the desired water temperature using the on-screen keyboard. Then press the "OK" button to save the temperature.</p>	
---	---	---

Settings for the filter system

	Tap the "Menu" button 		Press the "auto filter settings" button
---	--	---	---



Water temperature

Timer for filtration

Timer for backwashing

Timer for eco mode

Automatic – continuous operation – off

Press the "Total filter times" button.

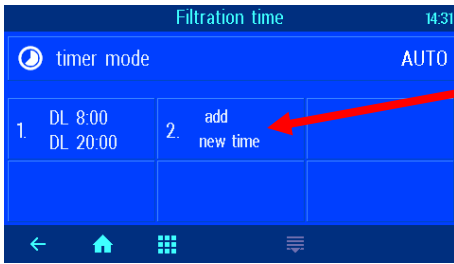


By pressing this button you can switch between the operating modes

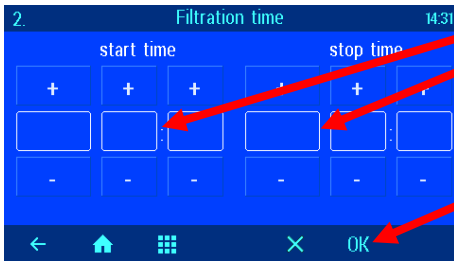
- ON AUTO OFF.
- ON => continuous operation
- AUTO => automatic timer mode
- OFF => pump switched off

Programming the filtration timer

Press the "Total filter times" button.



Press the "add new time" button.



By pressing the corresponding buttons, the day of the week, hour and minute are entered for the switch-on time and the switch-off time.

DL means daily.

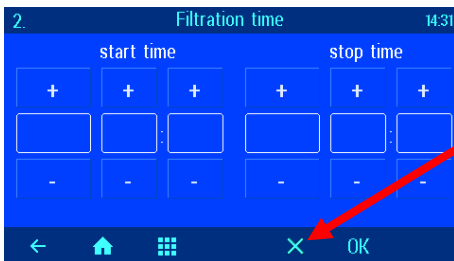
Press the "OK" button to save the switching time!

Deleting a switching time

Press the "Total filter times" button.

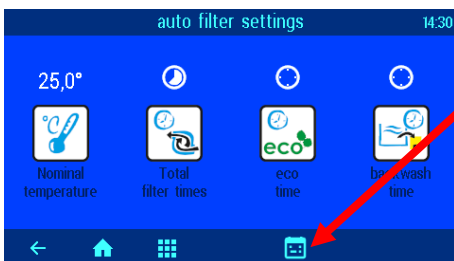


Select desired time

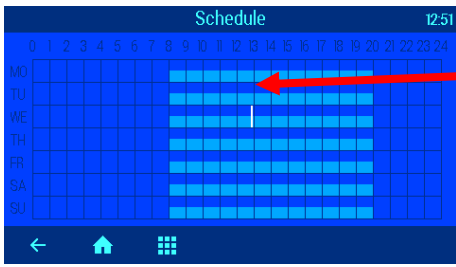


Press the "X" button to delete the switching time.

Checking the switching times

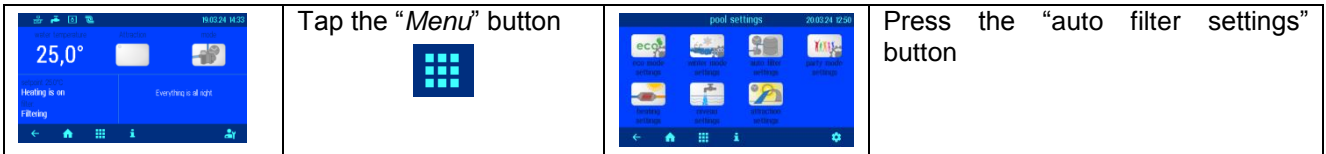


Press the "Schedule" symbol



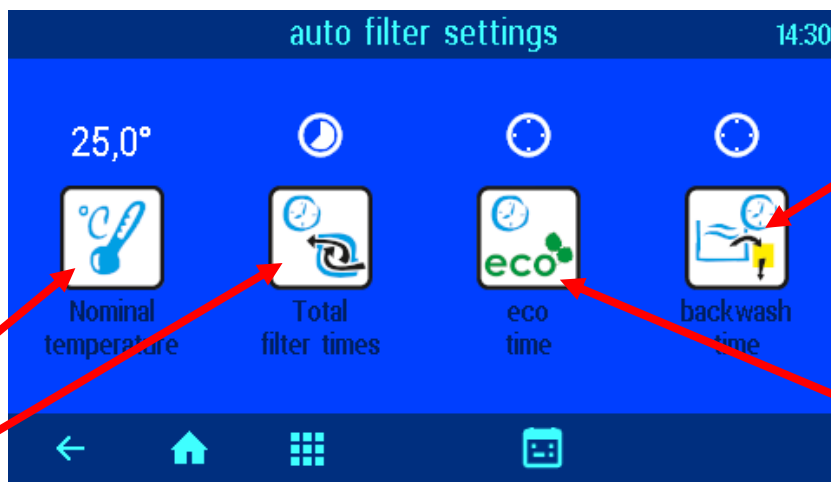
All the programmed switching times are displayed in the table

Setting the ECO filter times



Tap the "Menu" button

Press the "auto filter settings" button



Water temperature

Timer for filtration

Timer for backwashing

Timer for eco mode

Automatic – continuous operation – off

Press the "eco time" button



By pressing this button you can switch between the operating modes ON AUTO OFF.

ON => continuous operation




AUTO => automatic timer mode

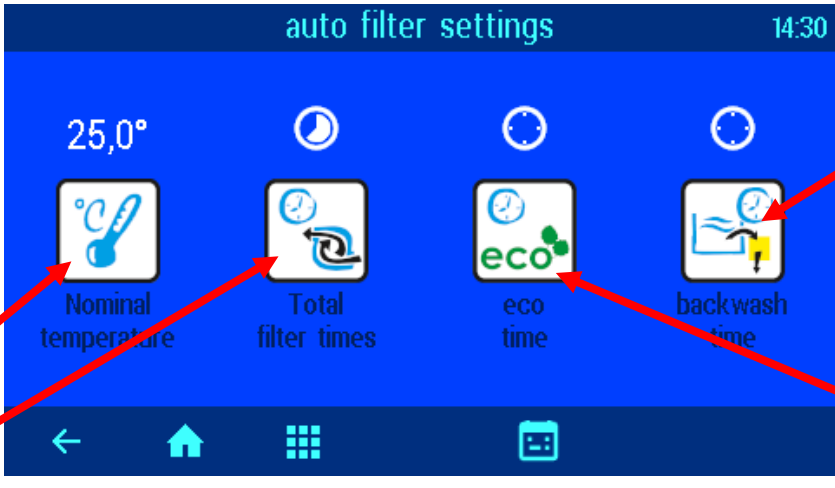
OFF => pump switched off

Editing eco switching times

The programming of the ECO timer corresponds to the programming of the filter pump timer explained above!

Backwashing with slide valves

	<p>Tap the "Menu" button</p> 		<p>Press the "auto filter settings" button</p>
---	--	--	--



Water temperature

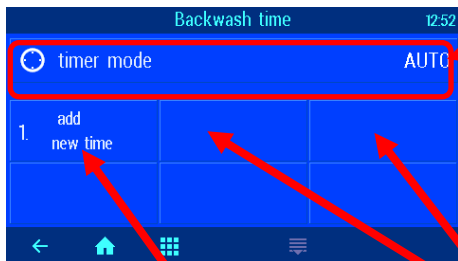
Timer for filtration

Timer for backwashing

Timer for eco mode

Auto - OFF Editing Backwash times

Press the "Backwash time" button



By pressing this button you can switch between the operating modes

AUTO OFF.

AUTO => automatic timer mode

OFF => backwashing switched off

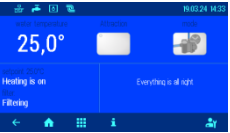

By pressing this button, the day of the week and the time of the backwash are programmed. You can also choose whether the backwashing should take place daily, weekly, bi-weekly, three-weekly or four-weekly.

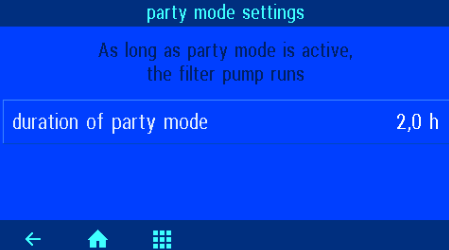
Additional backwash times can be programmed here

The backwash duration is programmed in the service settings.

Party mode settings

In party mode, the swimming pool system is switched on even if the timer has switched off. This means that the filter system can be temporarily switched to continuous operation without changing the programming of the filter timer.

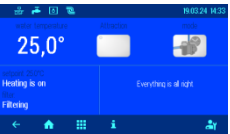

	<p>Press the "Menu" button</p> 		<p>Press the "party mode settings" button</p>
---	--	---	---

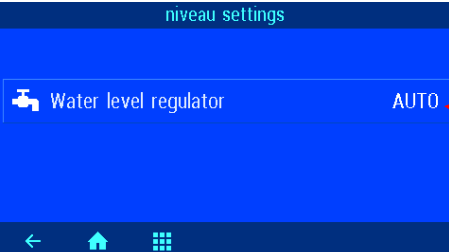


← Set the duration of the party mode operation

Level control settings

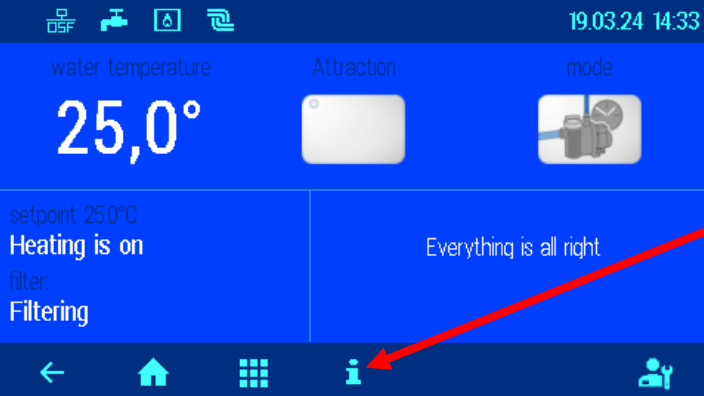
The water level control can be deactivated if automatic water replenishment is not desired.

	<p>Press the "Menu" button</p> 		<p>Press the "niveau settings" button</p>
---	--	---	---



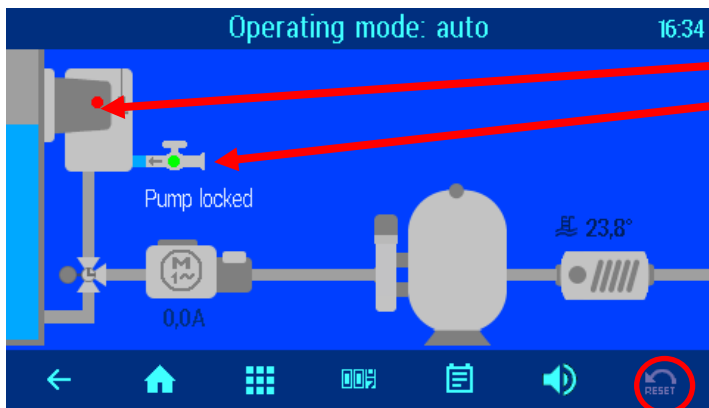
← Set the operating mode of the water level control

Error messages / info page



The operating status of the entire filter system is graphically displayed on the information page with all measured values and possible error messages. The display depends on the respective configuration.

← Press the "i" button



Skimmer
Water inlet

“Pump locked” error message

A fuse on the motherboard may be defective or the external safety circuit may be interrupted

Resetting error messages

By pressing the “Reset” button, error messages can be acknowledged, e.g. after the electronic motor protection has tripped.

Protocol



This screen displays the event log. The PC-35-smart saves all events and changes that have been made to the device.

Operating hours counter



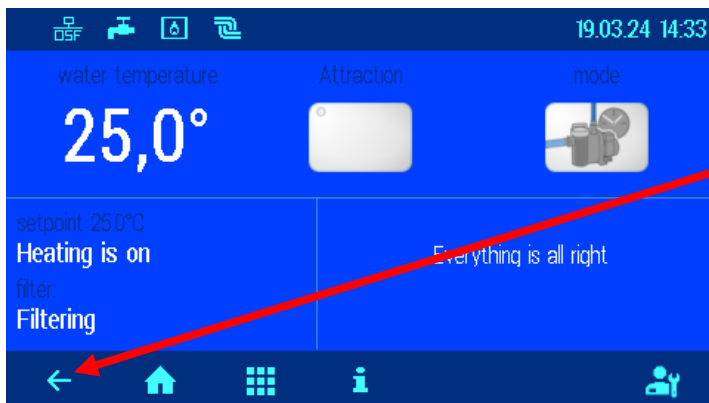
Operating hours of the filter pump and heater, as well as the number of backwashes, error messages, etc. are displayed here.

Acoustic alarm



Pressing this icon activates or deactivates the acoustic alarm

System information page



The system information page displays data that is particularly important for network operation.

Press the “Back” button

IP address

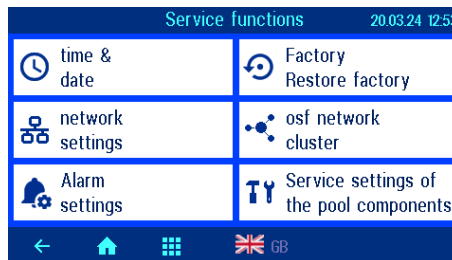
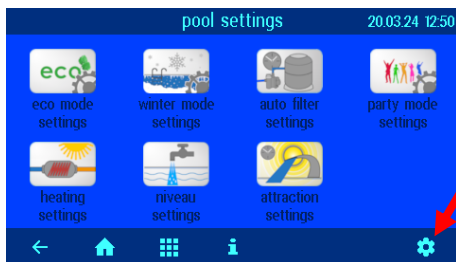
DEVICE ID
ID number for the osf communication server

Software version of each circuit board

About PC-35		
PC-35 smart	POOLcontrol®-35	
Nr.3		
DEVICE ID: v7a1lf	IP = 192.168.123.111	
Smart-Board	ver.10	18. 03. 2024
Power-Board	ver.10	29. 09. 2023
© osf	www.osf.de	Made in Germany

Service settings

By pressing this button in the main menu you switch to the service area. The settings here may only be changed by a trained specialist.

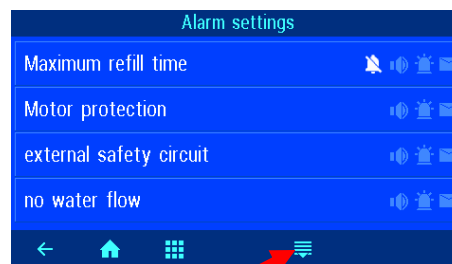


Alarm settings

In this menu you can set which fault indicators are issued as an acoustic alarm, via email or using the floating relay contact. There are 3 menu pages available for potential alarms.

Tap the text for the alarm you want to edit. A window will then open, where you can select how the alarm is implemented.

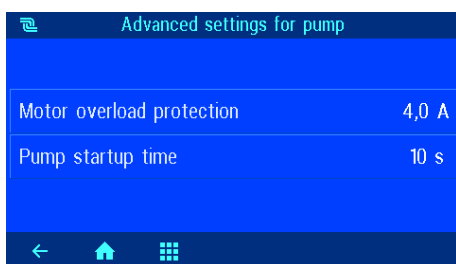
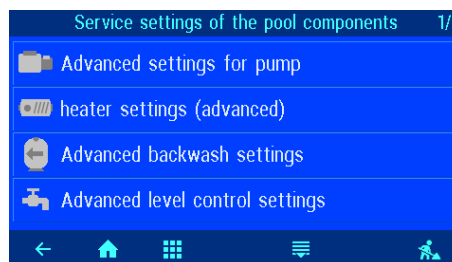
Then press the "OK" button to save the setting.



Scroll to next page

Service settings of the pool components

By pressing the "Service settings for the pool components" button you will access the menu with the extended setting options for the individual components of the pool.

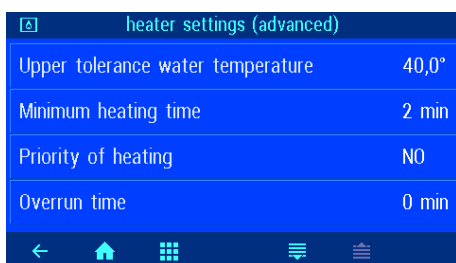


Motor overload protection

The triggering current of the electronic motor protection can be set here for pumps without speed control.

Pump start-up time

Here you can set the maximum time it may take for the flow meter contact (terminals 32-33) to close after the pump is switched on.



Upper tolerance water temperature

Here you can specify the maximum temperature the user can set (e.g. to prevent osmosis damage in polyester pools).

Minimum heating time

The minimum time interval between heating control switching operations can be set here.

Priority of heating

Here you can specify whether the temperature control should have priority over the filter times, so that the filter system is automatically switched on even outside the programmed filter times when heating is required.

Overrun time

Here you can specify how long the filter pump continues running after the heating is switched off in order to remove residual heat from

* solar-heater settings	
Temp. increase solar-heating	5,0°
Solar difference ON	5,0°
Solar difference OFF	0,0°
Minimum solar time	2 min

the heat exchanger.

Temperature increase solar heating

The solar operation temperature increase determines how far the swimming pool water is heated above the set value when the solar heating is in operation in order to store energy for times without solar radiation.

Solar difference ON

In this line you can set the temperature difference between the solar absorber and the swimming pool water at which the solar heating is switched on.

Solar difference OFF

In this line you can set the temperature difference between the solar absorber and the swimming pool water at which the solar heating is switched off again.

Minimum solar time

This button can be used to set the minimum time interval between 2 switching processes of the solar temperature control.

* solar-heater settings	
Priority solar heating	NO
pump capacity for solarheating	medium

Priority solar heating

This button can be used to select whether the solar temperature control should have priority over the programmed filter times. If priority is activated (factory setting), the filter pump can also be switched on by the temperature control outside of the programmed running times.

Pump capacity for solarheating

This button can be used to set the speed level of the filter pump when the solar heater is operating.

* frost protection settings	
air temperature sensor 26,T	
frost protection	ON
air temp. to activate frost prot.	0,0°
frost prot. water temperature	5,0°

Frost protection

The frost protection function can be activated here (requires an air temperature sensor). The frost protection function automatically switches on the filter pump when the air temperature falls below the set limit. If the water temperature falls below the minimum, the heating is also switched on.

Air temperature to activate frost protection

When the air temperature drops below this value, the filter pump is automatically switched on.

Frost protection water temperature

If the water temperature drops below this value, the heating is also switched on.

Temperature correction	
Correction of water temp.	21,1 + 1,9
Correction of solar temp.	20,7 + 1,9
Correction of air temp.	23,0 + 0,0

Correction of the water temperature

The water temperature sensor can be calibrated here.

Correction of the solar temperature

The solar. temperature sensor can be calibrated here.

Correction of the air temperature

The air temperature sensor can be calibrated here.

Advanced backwash settings	
backwash duration	300 s
rinsing duration	30 s
Actuating time slide valves	0 s

Backwash duration

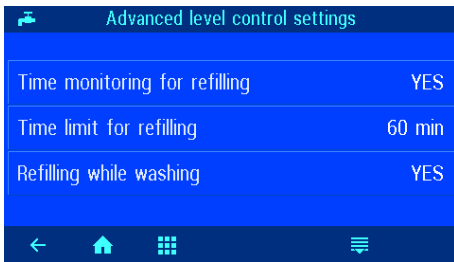
The duration of the backwashing when using slide valves is set here.

Rinsing duration

The duration of the rinsing when using slide valves is set here.

Actuating time slide valves

In this line, when backwashing with slide valves, you can set how long the filter pump is switched off (if necessary) when the valves are moving.



Time monitoring for refilling

In this line you can set whether the automatic top-up is stopped after an adjustable maximum duration for safety reasons in order to avoid overflowing if the water level sensor malfunctions.

Time limit for refilling

In this line you can set the maximum duration of the water top-up that elapses until the time monitoring responds.

Refilling while washing

In this line you can set whether

- when backwashing starts, the water make-up is always switched on in order to compensate for the water loss more quickly,
- the water replenishment is blocked during backwashing in order to avoid pressure losses,
- the water make-up is automatically regulated depending on the water level.



Minimum switching interval for refilling

The minimum time interval between the switching processes of the solenoid valve for water replenishment can be set here.

Opening delay for the solenoid valve

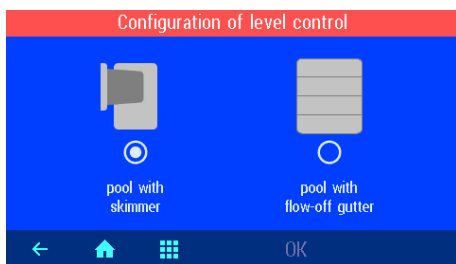
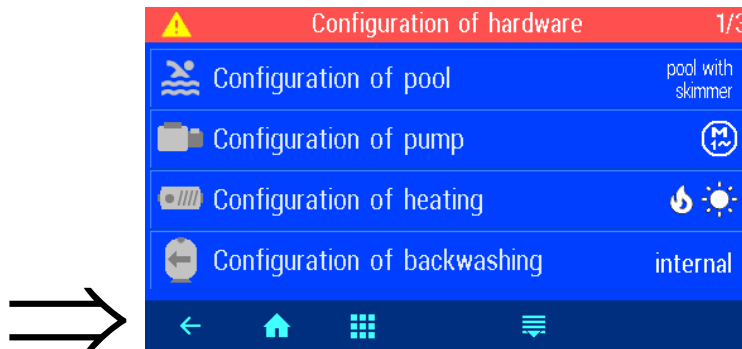
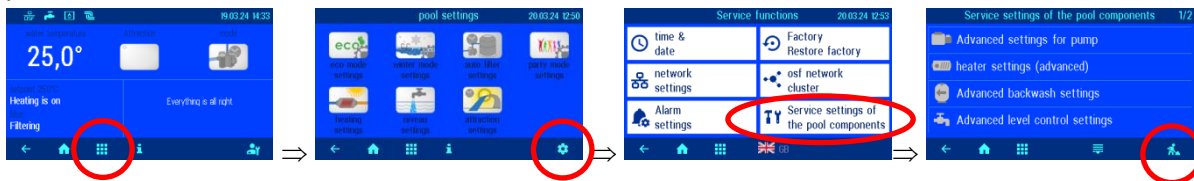
Here you can specify the time after which the solenoid valve is switched on when the level sensor no longer detects water.

Closing delay for the solenoid valve

Here you can specify the time after which the solenoid valve is switched off when the level sensor detects water.

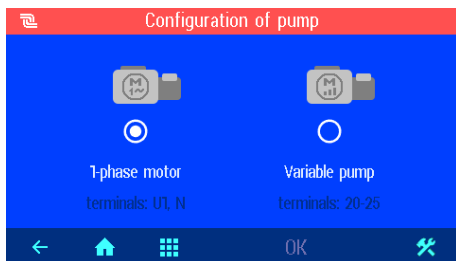
Configuration of the control in professional mode

When commissioning, the control must be configured for the respective swimming pool to ensure proper functionality. To protect the configuration from accidental adjustment, these settings can only be operated in professional mode.



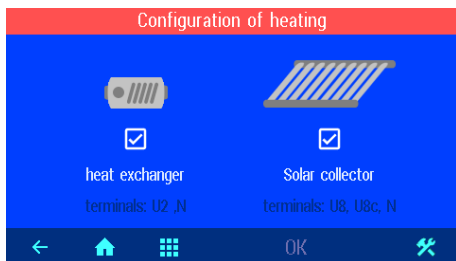
Configuration of pool

You must specify here whether it is a pool with a skimmer or with an overflow channel.



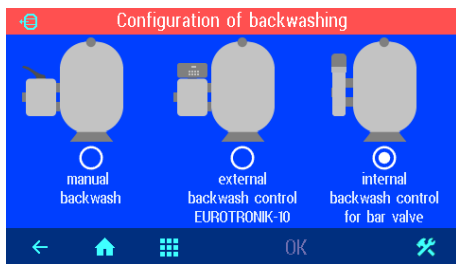
Configuration of pump

You must specify here whether it is an unregulated 230V pump or a pump with speed control.



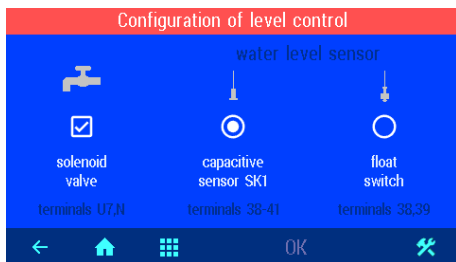
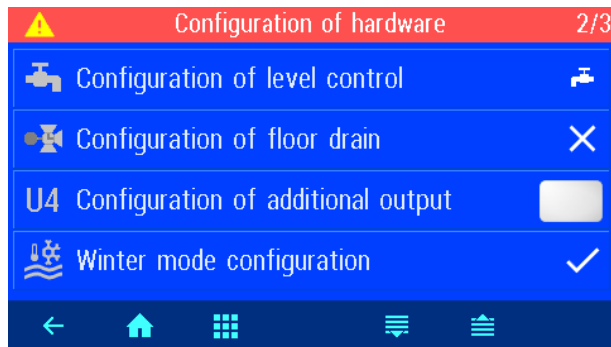
Configuration of heating

You must specify here which heating systems are connected.



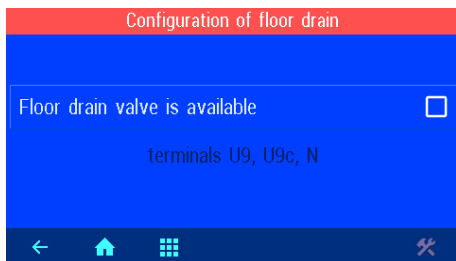
Configuration of backwashing

It must be stated here whether a Eurotronik-10 or slide valves are used for backwashing or whether the backwashing is carried out manually.



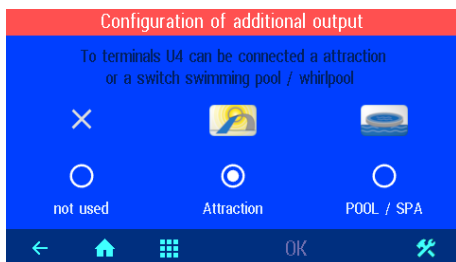
Configuration of level control

Here you must specify whether a solenoid valve for water replenishment is connected. The type of level sensor connected must also be selected.



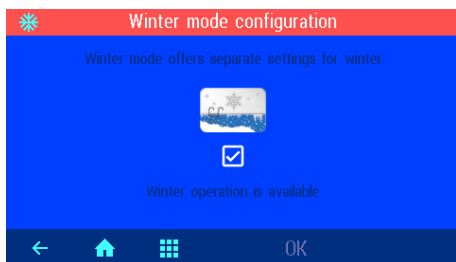
Configuration of floor drain

It must be stated here whether the floor drain valve is controlled by the PC-35.



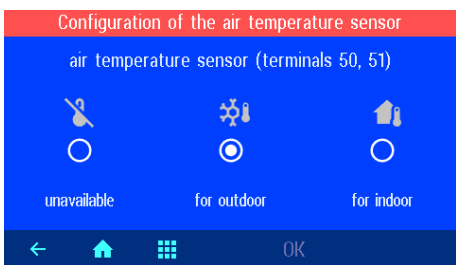
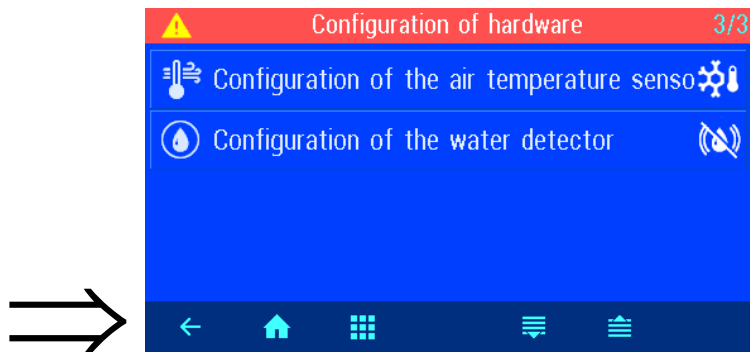
Configuration of the auxiliary output

It must be stated here whether and for what purpose the auxiliary output should be used.



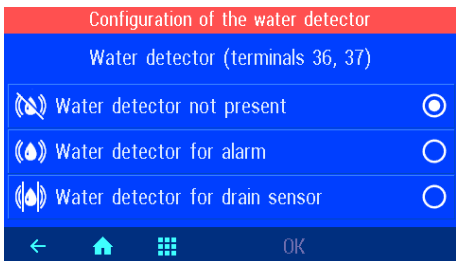
Configuration of winter mode

Here you can set whether the "winter operation" operating mode should be offered in the operating mode menu.



Configuration of the air temperature sensor

Here you can specify whether an air temperature sensor is connected and what it should be used for.

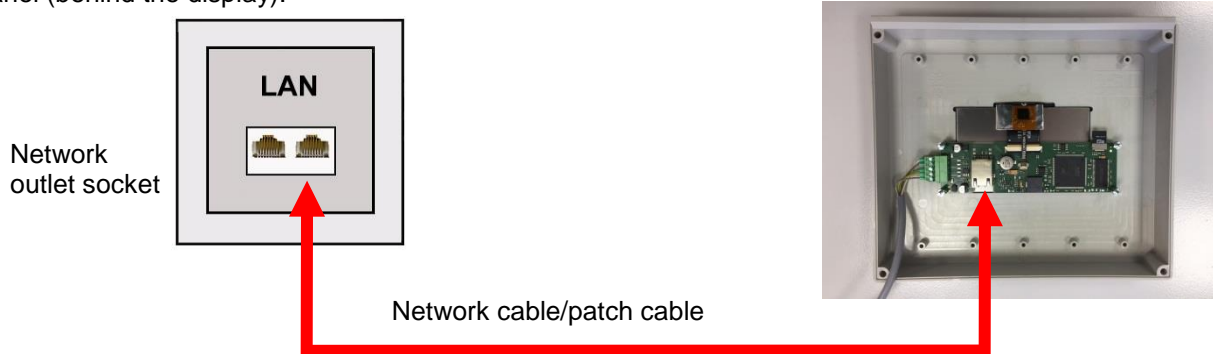


Configuration of the water detector

Here you can specify whether a water detector is connected and what it should be used for.

Internet connection

Access to the Internet is provided via the **osf** communication server. Use a standard patch cable (network cable) to connect the PC-35-smart to the network outlet socket, the Powerline adapter, the Wireless LAN access point or other suitable installation. The LAN socket in the device is located on the back of the front panel (behind the display).



Wait until you have connected the PC-35-smart to an active network socket before switching on the power supply. The **osf** web server in the PC-35-smart then automatically locates the **osf** communication server and registers itself with the server databases.

Testing the internet connection

The connection of the device to the Internet and to the osf communication servers can be easily checked by calling the osf Device Finder. You can reach the device finder at the following address:

<https://osfdevice.de/b/finder/index.php>

or by scanning the QR code adjacent:



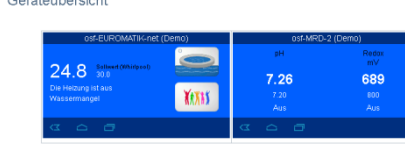


If you enter the device ID of your device in this input field and then click the magnifying glass button, you will be shown a link and a QR code to connect to your device. You can find the device ID on the system information page (see above). If you then follow the link displayed, you will be taken directly to the home page of your device. For convenient access to your device, this home page can also be saved as a web app on mobile phones.

Using the osf communication server

There are four servers available for communication. They each display different information, designed to suit the needs of different user groups.

<p>My pool.osf.de</p>	<p>This server is designed for pool owners. The entire pool system including all web-enabled osf products is displayed on one page on the monitor. The key data for all devices can be retrieved with a single tap of a button.</p>	
------------------------------	--	--

<p>Service.osf.de</p>	<p>This server is designed for pool installers. The top-level page shows all registered pool installations in a clear layout on the monitor. All main parameters and any fault indicators for every customer system are visible at a glance.</p>	
<p>Devices2.osf.de</p>	<p>This server provides the usual technical view for all connected osf devices.</p>	<p>Geräteübersicht</p> 
<p>Devices.osf.de</p>	<p>For the time being it is still possible to use this familiar server, which has been available for many years. For new installations, however, we recommend the “mypool.osf.de” and “service.osf.de” servers, and “devices2.osf.de”</p>	<p>Geräteübersicht</p> 

Communication server for pool owners

You can access this osf communication server at the address mypool.osf.de



You must first register as a new user:

Register

Fields with * are required for registration and must be completed correctly. To complete the registration please confirm on the link in the email you received.

Username:*

First Name:

Last Name:

E-Mail:*

Password:*

Repeat Password:*

language: en

osf-Terms:*



Please confirm the captcha code!

Please accept our [Terms License Agreement](#), [Disclaimer](#) and our [Privacy Policy](#) to continue.

Save Registration

Within a few minutes you should automatically receive an e-mail for confirming your identity. (Check your Spam folder if the e-mail does not arrive). Click the activation link in the e-mail to activate your account.

Registering a new device with the server

Once you have personally registered, you can log in and then register your new device in your user profile. Each web-enabled osf control unit has a DEVICE ID (identification number). This DEVICE ID must be entered in the correct column in order to register the device with the communication server. You can find the DEVICE ID of your device displayed on its system information page (see above). For devices without a display, the ID number appears on an adhesive label. When finished, save the information you have entered.

Imprint Privacy Policy Login user Your devices

Username:

First Name:

Last Name:

E-Mail:

language: de (Deutsch)

Password:

Repeat Password:

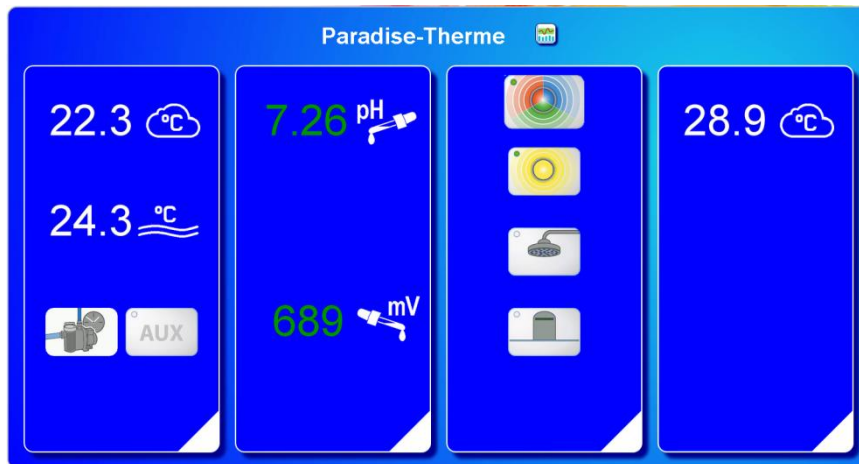
Nr	Object name	ID #1	ID #2	ID #3	ID #4
1					
2					
3					
4					

Submit

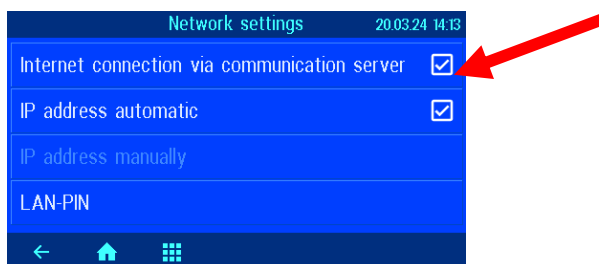
Complete the form

Enter the DEVICE ID

If you press the “Your devices” button, your device is now displayed in your Device panel and can be operated via the communication server:



In order to use the communication server, the option "Internet connection via communication server" must be enabled in the control unit itself (default factory setting):



Communication server for pool installers

You can access this osf communication server at the address service.osf.de



You must first register as a new user:

Within a few minutes you should automatically receive an e-mail for confirming your identity. (Check your Spam folder if the e-mail does not arrive). Click the activation link in the e-mail to activate your account.

Registering a new control unit with the server

Once you have personally registered, you can log in and then register your new device in your user profile. Each web-enabled osf control unit has a DEVICE ID (identification number). This DEVICE ID must be entered in the correct column in order to register the device with the communication server. You can find the DEVICE ID of your device displayed on its system information page (see above). For devices without a display, the ID number appears on an adhesive label. When finished, save the information you have entered.

Imprint Privacy Policy Login user Your devices

Username: _____
 First Name: _____
 Last Name: _____
 E-Mail: _____
 language: de (Deutsch)
 Password: • _____
 Repeat Password: • _____

Nr	Object name	ID #1	ID #2	ID #3	ID #4
1					
2					
3					
4					

Submit

If you press the “Your devices” button, your pool installations are now displayed in your Device panel. This lists the pool installations for all your customers in a table. You can see all the main information at a glance. Fault indicators are highlighted for each pool individually. To display and operate a specific device via the communication server, simply press the associated button for this device:

Connected to the osf communication server

Server connection lost at ...

Customer name

The Paradise-Therme baths contain 4 web-enabled osf devices

Display graphs

Paradise-Therme

Euromatik.net	OSF			23.2 °C	21.6 °C
MRD-2	OSF	7.26 pH	689 mV		0.52 l/min
Color-Control.net	OSF				
Silversteam	OSF			28.1 °C	

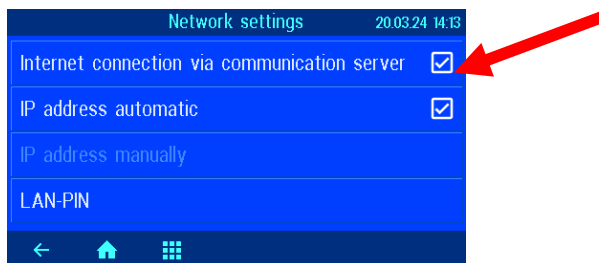
Mustermann, Königstraße

PC-45-exclusiv		27.06.2019 10:06		27.6 °C	27.7 °C
Euromatik.net	OSF			23.2 °C	21.6 °C
MRD-2	OSF	18.03.2019 10:15	7.20 pH 699 mV		0.78 l/min

Kundengerät

PC-40.net	OSF			30.0 °C	
MRD-2	OSF	21.05.2019 03:26	7.23 pH 657 mV		0.00 l/min

In order to use the communication server, the option "Internet connection via communication server" must be enabled in the control unit itself (default factory setting):



Communication server with technical view

You can access this osf communication server at the address devices2.osf.de



You must first register as a new user:

Within a few minutes you should automatically receive an e-mail for confirming your identity. (Check your Spam folder if the e-mail does not arrive). Click the activation link in the e-mail to activate your account.

Registering a new device with the server

Once you have personally registered, you can log in and then register your new device in your user profile. Each web-enabled osf control unit has a DEVICE ID (identification number). This DEVICE ID must be entered in the correct column in order to register the device with the communication server. You can find the DEVICE ID of your device displayed on its system information page (see above). For devices without a display, the ID number appears on an adhesive label. When finished, save the information you have entered.

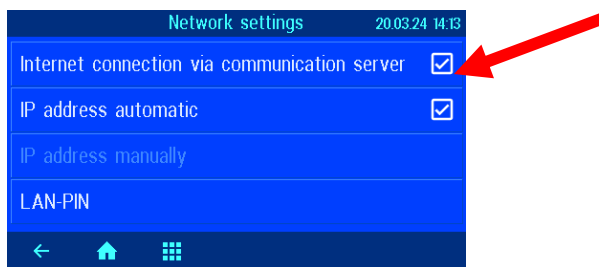
Nr	Object name	ID #1	ID #2	ID #3	ID #4
1					
2					
3					
4					

Submit

Your device is now displayed in your Device panel and can be operated via the communications server:



In order to use the communication server, the option "Internet connection via communication server" must be enabled in the control unit itself (default factory setting):

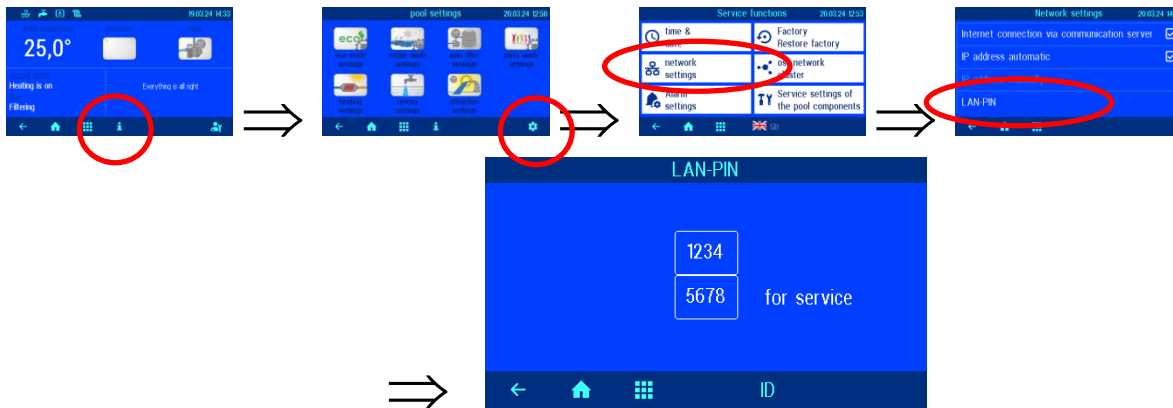


Changing the PIN (password)

The PC-35-smart contains 2-level password protection for access via the LAN. The User PIN lets you operate the control unit and adjust the essential main functions. The Service PIN is needed to perform service functions and to change settings at the Service level. The following PINs are factory-set:

- Benutzer-PIN: 1234
- Service-PIN: 5678

Assigning a new PIN




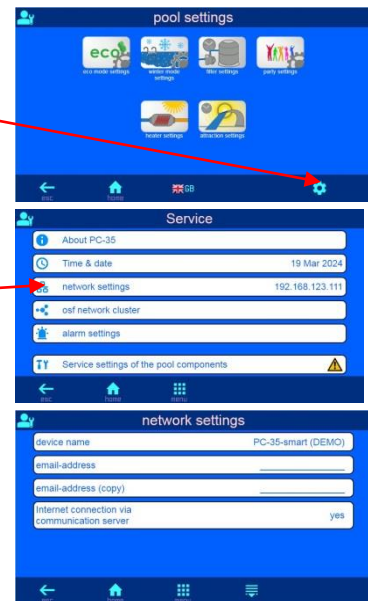
On this page, the PINs for users and services can be changed.

Naming the unit Entering an e-mail address

In order to be able to identify different control units during online access, each osf device has a facility for assigning a name.

The PC-35-smart is able to send any fault indicator messages via e-mail. The control unit must be connected to the Internet for this feature to work. You enter the relevant e-mail addresses (2 maximum) via the WEB interface of the communication server.

1. Log in as usual to the communication server
2. Then log in to the device with the Service PIN
3. In the Home page, press the “*menu*” button
4. In the main menu, press the  button
5. In the Service menu, press the “*Network settings*” button
6. You can enter the name of the unit and the e-mail addresses here



Update

The PC-35-smart has a software update facility. The PC-35-smart must be connected to the Internet for updating to work. You can perform the update via the WEB interface of the communication server.

Checking for updates

You can use this function to check whether an update is available for your device.

1. Log in as usual to the communication server
2. Then log in to the device with the Service PIN
3. In the Home page, press the “esc” button



4. On the info page, press the “Check for Update” button



5. You can now start the download and install the update



Interfacing with building automation systems

The Pool Control-35-smart contains an HTTP web server, which is designed to allow the control unit to be operated using any web browser from any web-enabled terminal.

The HTML pages generated by this web server can also be accessed by a building automation system and can be interpreted for display on EIB visualization devices. For the purpose of controlling the Pool Control-35-smart, the building automation system can generate IP messages, in the same way as they would be generated by a web browser when you click on controls on the HTML pages. In other words, the building automation system must emulate a web browser.

Instead of using directly the predefined HTML pages designed by **tesj** for displaying on web browsers, you (as user) can also design your own control file to obtain the data you require in "custom" form, and save this file on the SD card in the Pool Control-35-smart. This means that the interface to the building automation system is then unaffected by potential design changes to the **tesj** HTML pages.

This control file must be saved as an ASCII text file with the extension ".HTM" in the "HTML" folder on the SD card. The file name must not exceed 8 characters in length. Although it has the "HTM" extension, this file need not necessarily be a valid HTML file, but can be formatted to suit the requirements of the building automation system.

This control file can contain variables in the format "\$\$nnnn", which the web server then replaces with the data that is currently valid. A list of available variables appears at the end of this document.

A control file "ISTWERTE.HTM" containing the following:

```
Water temperature: $$0100 °C
Solar temperature: $$0101 °C
Air temperature: $$0102 °C
$$0015
```

would, on opening "<http://xxx.xxx.xxx.xxx/istwerte.htm>", return the following text for example:

```
Water temperature: 24.3 °C
Solar temperature: 36.8 °C
Air temperature: 22.4 °C
Filter running
```

These control files can also be used selectively to read specific datapoints, e.g. "WTEMP.HTM" containing the following:

```
$$0100
```

returns

```
24.3
```

In order to make changes to data in the control unit from the building automation system, the building automation system must emulate sending an HTML form. This is done by a URL invocation in the form "<http://xxx.xxx.xxx.xxx/modify?nnnn=data>", where nnnn is the number of the variable to be changed, and data represents the data to be stored.

Before the building automation system can change any variables, it must first log in by sending a valid PIN number to the variable 0003:

["http://xxx.xxx.xxx.xxx/modify?0003=dddd"](http://xxx.xxx.xxx.xxx/modify?0003=dddd), where dddd is the user PIN configured in the unit.

Variables can be set after successful login, e.g. set the required temperature to 28°C:

["http://xxx.xxx.xxx.xxx/modify?0110=28.3"](http://xxx.xxx.xxx.xxx/modify?0110=28.3).

Afterwards, the building automation system should log out by writing to the variable 0003 again with any invalid value:

["http://xxx.xxx.xxx.xxx/modify?0003=0000"](http://xxx.xxx.xxx.xxx/modify?0003=0000)

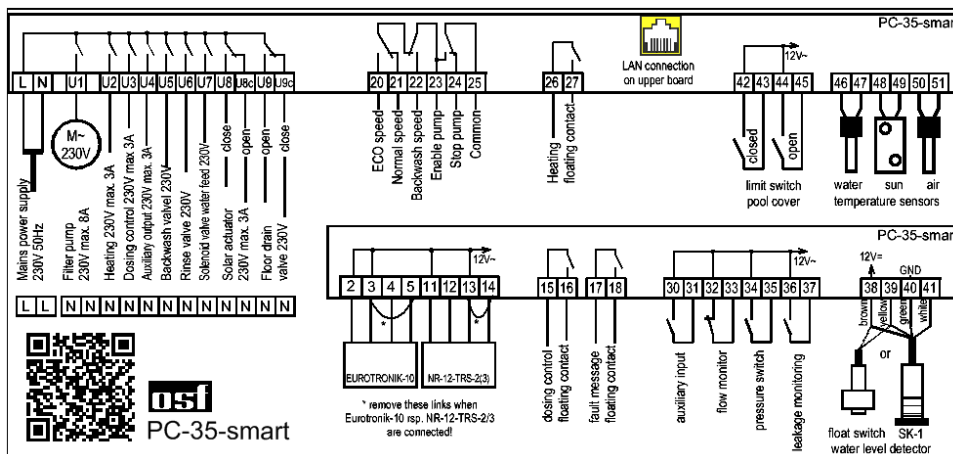
The most important operating data can also be read out in compact JSON format using the predefined "INFOS.JSON" file. This standardized file format can be processed by many control systems.

Example:	Description:
<pre>{ "device": "PC-35-smart", "devnum": "6", "softfw": "28", "wtival": "26.0\u00b0", "wt sval": "25.0\u00b0", "atival": "44.7\u00b0", "cover": {"open": "0", "closed": "0"}, "modest": "1", "pump1st": "0", "language": "de", "acwday": "Donnerstag", "actime": "11:52", "acdate": "22 Apr 2021", "isodat": "2021-04-22T11:52:46+01" }</pre>	<p>device name</p> <p>firmware serial number</p> <p>firmware version</p> <p>current water temperature</p> <p>desired water temperature</p> <p>current air temperature</p> <p>limit switches of the pool cover</p> <p>current operating mode of the pool</p> <p>current speed level of the filter pump</p> <p>language of the web interface</p> <p>current day of the week</p> <p>current time</p> <p>current date</p> <p>time stamp in ISO format</p>

Variables available for communication with the building management system (as of April 15th, 2024):

No.	Name	Read/Write	Format	Value range	Info
0003	user-PIN	W	„#####“	„0000“ - „9999“	Login
0013	Status text heating	R	ASCII text		
0015	Status text filtration	R	ASCII text		
0019	Operating mode filtration	W	ASCII	„i1“ bis „i3“	„i1“: ECO mode „i2“: Auto mode „i3“: Party mode
0026	Backwash filter	W	ASCII	'i'	Start/Stop
0100	Water temperature	R	„##.#“		
0101	Solar temperature	R	„##.#“		
0102	Air temperature	R	„##.#“		
0110	Setpoint water temperature	R/W	„##.#“	„00.1“ - „40.0“	
0123	Frost protection	W	ASCII	'0', '1', 'i'	0: OFF 1: ON i: toggle
9000	Collective fault message	R	'#'	'0' - '1'	'0'=OFF, '1'=ON
9013	Status variable heating	R	'#'	'0' - '3'	'0'=OFF '1'= Heat exchanger '2'= Solar heating
9019	Operating mode filtration	R	'#'	'0' - '3'	'0': OFF '1': ECO '2': AUTO '3': PARTY
9551	Speed filter pump	R	'#'	'0' - '3'	'0': Off '1': Eco '2': Normal '3': Backwash

Wiring diagram



Relax and enjoy your swimming pool!

Further information can be found on the Internet at the following address:

<https://osf.de/download/documents/documents.php?device=PC-35>

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