Smartpond®

Filtertechnolgie für Aquakultur und Teiche

PROLINE Filter Control PLUS

OPERATION MANUAL

Type designation

Designation of Product:	Smartpond © PLUS steering 300 W
Type identification:	FC-PRO-PLUS- 300
Manufacturer:	Smartpond Friedrichsfehnerstrasse 21 26188 Edewecht Tel.: +49 (0)4486 930027 Mail: info@smartpond-filter.de

Important:

Please read these instructions for use carefully and keep them for future reference on. To read She the warning and safety instructions carefully. Check She Her system daily.

Updates the Instructions for use receive She under

www.smartpond-filter.de

FW 01.10

Table of contents

Used Symbols and signal words

	***DANGER!*** warning before immediate danger to life. ***WARNING!*** warning before more possible Danger to life and/or serious irreversible injuries. ***CAUTION!*** warning from possible middle and/or minor injuries.
	***DANGER!*** Hints observe, around Property damage to avoid.
	***A NOTICE!*** Further information information for the use of the device!
	***WARNING!*** warning before Danger through electrical Blow.

General safety instructions

The Smartpond © PLUS control is an electronic measuring and control unit to which sensors and actuators can be connected.

Since this is an electronic product with a 230 V mains voltage, as with all electrical devices usual requirements must be met. The device can only be used with 230 VAC (50Hz) Supply voltage operated become. The Device and all connected cables must before humidity and wetness protected and operate. It is at the relocation all Cable and cables Make sure that this does not cause any safety-relevant impairments such as tripping hazards. For many areas of application, it is protected by a residual current circuit breaker with one tripping current < 30 ma required. Inform Please refer to this.

The Device must before Overheating through direct Sunlight protected built-in and may only be operated at an ambient temperature between 0°C and +40°C. Only the connecting devices intended for this purpose (e.g. sensors or actuators) may be connected. The Smartpond © PLUS control may not be modified, except for extensions or software updates from Smartpond ©. It is forbidden to open the device or penetrate the inside of the housing in any way, as mains voltage is present there. Only use original Smartpond © or expansion, replacement or accessory parts supplied or approved by Smartpond © .

If the device's power cord is damaged, it must be replaced by the manufacturer or its customer service or a similarly qualified person to avoid hazards.

This device can be used by children aged 8 years and over and by people with reduced physical, sensory or mental capabilities or lack of experience, if they are supervised or have been instructed in the safe use of the device and who understand the resulting dangers. Children may do not play with the device. Cleaning and user maintenance must not be carried out by children without supervision.

Please keep these instructions for use as a reference. Subject to technical and visual changes as well as printing errors.

ACHTUNG: Vor der Durchführung von Wartungsarbeiten alle Geräte im Wasser ausschalten oder Netzstecker ziehen.

Intended Use

The Smartpond © PLUS control is a control, measuring and regulation unit for use in industrial fish farming and keeping systems.

The Smartpond © PLUS control can be used to control the outputs (control outputs: 24 V DC PWM, 0-10 V, 4-20 mA and power outputs: 230 V AC) to switch or regulate according to different functions. The functions include, for example, control based on time or sensor readings. The Smartpond © PLUS control is also used to control Smartpond © band filter systems. The integrated WLAN module allows the Smartpond © PLUS control to be integrated into an existing WLAN network, so that the Smartpond © PLUS control can also be operated with the software available for this purpose (Smartpond © App).

Description of services

Every Smartpond © PLUS control can switch and regulate its outputs depending on sensor measured values. The outputs can also be activated by specifying fixed times or intervals. Other functions include, for example, activation depending on another output or activation in the event of an alarm message.

Specifying alarm threshold values makes it possible to trigger an alarm if sensor readings are exceeded or exceeded. This activates, for example, alarm outputs or informs the user about the Smartpond © app.

Furthermore, the Smartpond© PLUS control can be used as a Smartpond © Band filter control can be used. Belt filters remove suspended particles from liquids by allowing the liquid to flow through a filter fabric and particles stick to the filter fabric (mechanical solids separation). The Main task from Filter controls is the triggering of cleaning process, at the best in Dependency of degree of pollution of the filter fabric. The Smartpond© PLUS control detects the degree of contamination of the filter fabric based on water level measurements with the level or water level sensor EPS integrated in the filter. If the water level falls below (gravity system, sensor in filter chamber) or exceeds (pumped system, sensor in antechamber) a threshold value, the transport of the belt and the cleaning of the fabric are initiated by spray nozzles. Many parameters such as flushing water level, emergency stop water level (dry running protection), etc. can be individually adjusted. Just by connecting one Water level sensor is the pollution-dependent cleaning possible. Becomes on the connection of sensors waived, so is a timed operation mode possible. However, in this case, some functions such as emergency shutdown of the pumps if the water level is too low are no longer possible. In the time-controlled operating mode there are many individual ones Cleaning parameters adjustable, as well as the Determination one Cleaning interval possible.

The connection of 230 V Pressure pumps for cleaning of the filter fabric and the connection of a 230 V Circulation pump is provided and is also necessary to use the full range of functions (e.g. emergency shutdown of the pump). It is important to ensure that the power consumption **the connected 230 v consumer on 1800s W (Power outlet OUT 1), 660 W (Power outlet OUT 2) and up 920W (Socket OUT 3) is limited. Any socket is against Overcurrent individually secured** . Should consumer How e.g pump with one If higher power consumption is connected, an adapter module (Power Switch PWS-24-230 when connected to the actuator outputs or Power Switch SC230-230 when connected to the 230 V sockets) is required.

Full performance can only be achieved in Can be used in conjunction with the respective additional products such as sensors and actuators.

Installation

scope of delivery

- 1 x Smartpond© PLUS steering with 2.7 m power connection cable
- 1 x Wall mount set
- 1 x Replacement fuse set existing out of 3 Fine fuses 2 AT, 4 AT, 8th AT
- 1 x User Manual

Notice

Please ensure that the packaging is undamage and has not been opened prior to commissioning and that all items specified in the scope of delivery are present. If you Defects, Damage or the Miss from included included positions notice, report She this please immediately within 14 days. Later ones Complaints to defects, the already before the Installation
developed are, can not more assumed become.

Attachment and Fastening

Choose you a Installation location for the Smartpond© PLUS Steering, the dry and before more direct Sunlight is protected. It is on a clean one Leadership for everyone Cable to regard, so that no Security threat e.g through "Trip hazards" or caused by water ingress into electrical components such as plugs can. To Fastening the Smartpond© PLUS steering is one Wall mount in scope of delivery contain. screws She the Wall tabs with the supplied Screw screws (3.0 x 10 mm) into the holes provided on the back of the Smartpond© PLUS control (illustration 1). screws She afterward the Smartpond© PLUS Control on the intended location (e.g. on a wall).

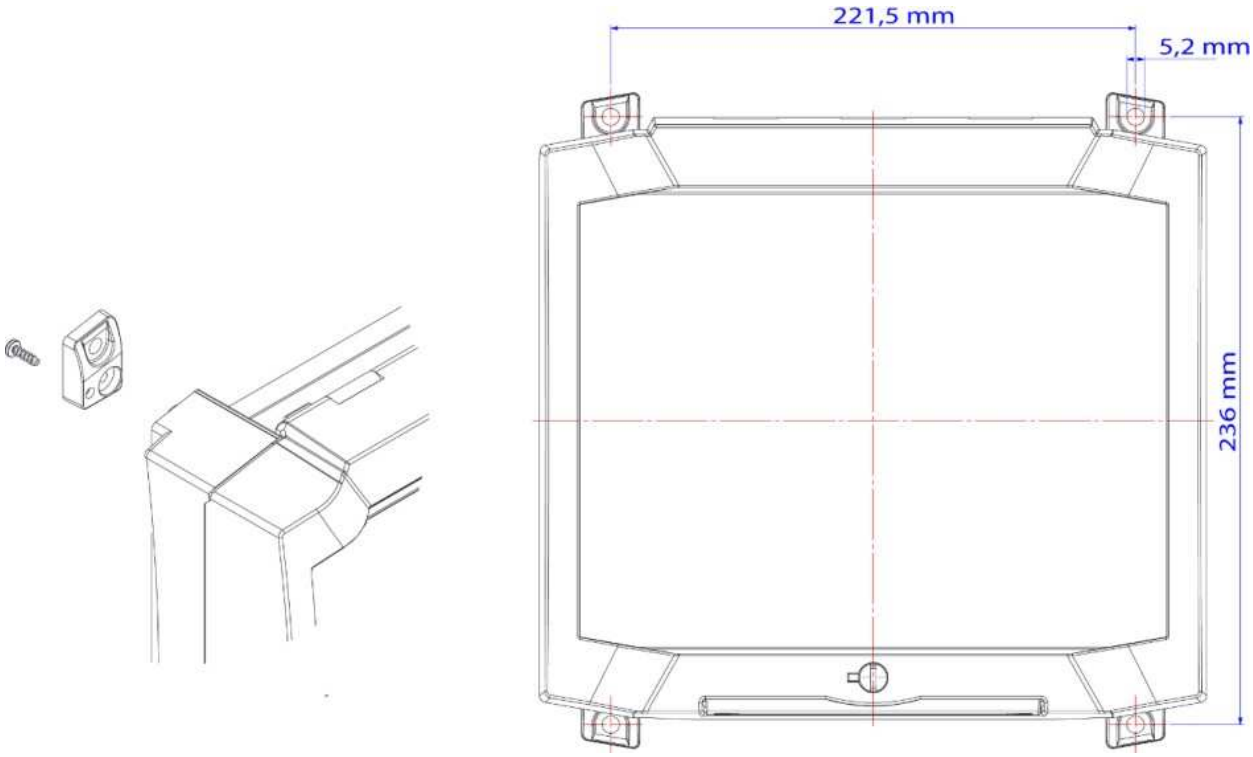


Illustration 1: Dimensions the drilling to Fastening the Smartpond© PLUS Steering. Hold She around the Device a Distance from at least 15 cm free.

Illustration 3: Sensor connections and Actuator outputs the Smartpond © PLUS.

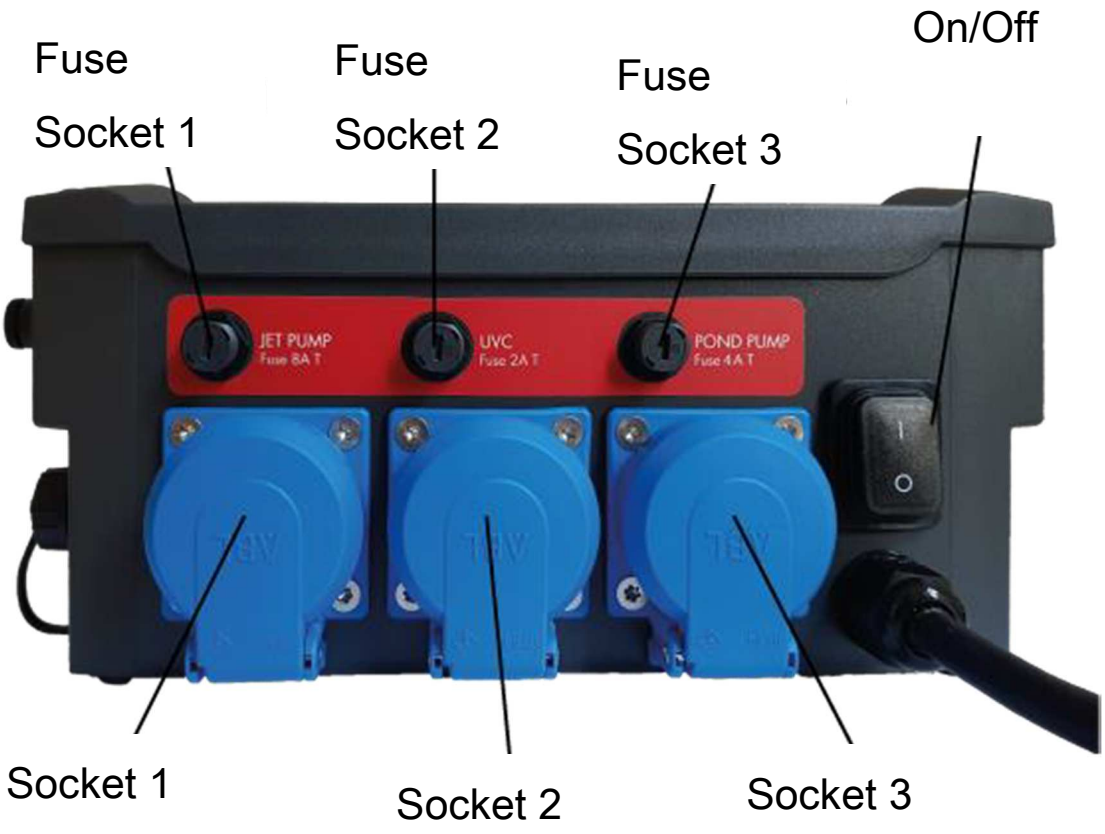


Illustration 2: Opinion the Smartpond © PLUS from below.

Cabling, installation and Installation

If the Smartpond © PLUS control is properly attached, then insert the plug of the power connection cable of the Smartpond © PLUS control into a suitable (IPx4), individually fused Power outlet at. Switch She the Smartpond © PLUS steering but first **NOT ON YET** . The next steps include wiring your control and commissioning.

The Smartpond© PLUS steering as Band filter control

If the Smartpond© PLUS control is to be used as **a filter control** , proceed as follows:

1. **Level probe / Water level sensor install**

The optimum location for the EPS water level sensor or the PS level probe (PS-300-MA) for filter control is where it is possible to check the function of the circulation pump. In gravity systems, this is usually behind the filter belt or in the filter chamber, while in pumped systems it is in front of the filter belt or in the antechamber of the filter. Care should be taken to ensure that the level probe is secured submerged and is not placed deeper than 2.5 m under water. Also make sure that the level probe is not exposed to direct flow. Please observe the instructions in the operating manual of the respective sensor and filter. Connect the water level sensor EPS for the filter control to the slot SENSOR 1 (see figure 2). If your filters has two screw-in level sensors (EPS-250-MA), connect the sensor in the filter chamber to the SENSOR 1 slot and the sensor in the antechamber to the SENSOR 2 slot (for water refilling or differential cleaning).

2. **Connection of Lid switch**

Connect the lid switch to the SENSOR 3 slot. To use the lid switch function, select the „Lid switch“ item in the Menu / Filter settings / Extras EBF“.

Please note that the lid switch is not an emergency shut-off according to

EN ISO 13850:2015-10.

3. **Connection of filter motor**

Connect the plug of the Motor cable with the high-power output **slot OUT 3 (MOTOR)** .

4. **Connection the dishwashing and circulation pump**

If the pumps are properly installed in your system, then also conscientiously route the cables to your Smartpond© PLUS Controller. Before connecting to the control unit, check the technical data of the pumps to see whether they are suitable for connection to the are suitable for the control. Plug the connector for the rinsing or spray pump (for cleaning your filter, max. 1800W) into the 230 V AC slot **“230 V OUT 1”.** Insert the plug for the circulation pumps into the 230 V AC slot **"230 V OUT 3"** (Picture 3). If you are using a UVC lamp, the function on the 230 V AC slot is **“230 V OUT 2”** by default.

In order to operate the continuous belt filter properly, the belt motor must be connected as well as the Rinse pump necessary. The Connection the Level probe as well as the circulation pump are necessary, around the full Scope of services the

Smartpond © PLUS control can be used as a filter control. If the level sensor is not connected, the endless band filter can **be operated via a timer control** . If the circulation pump is not connected to the designated slot on the Smartpond © PLUS control, the emergency shutdown function of the pump is deactivated. When attaching all sensors (such as the level probe), make sure that the sensor and that Cable no other components (e.g. drum) can interfere.

Since every self-cleaning filter consumes water during cleaning, it is essential for smooth operation that sufficient water is added! Always add enough water, either manually or automatically, so that the water level in your system (basin, pond, etc.) is constant!

For an automatic refilling of your system we recommend to install a second level probe in the basin/pond or in the prechamber in combination with the solenoid valve M12.

5. **system begin in the Operation mode: Filter control**

Make sure that the power plug of the Smartpond© PLUS control is connected to a power outlet and turn on the Smartpond© PLUS control with the On/Off switch.

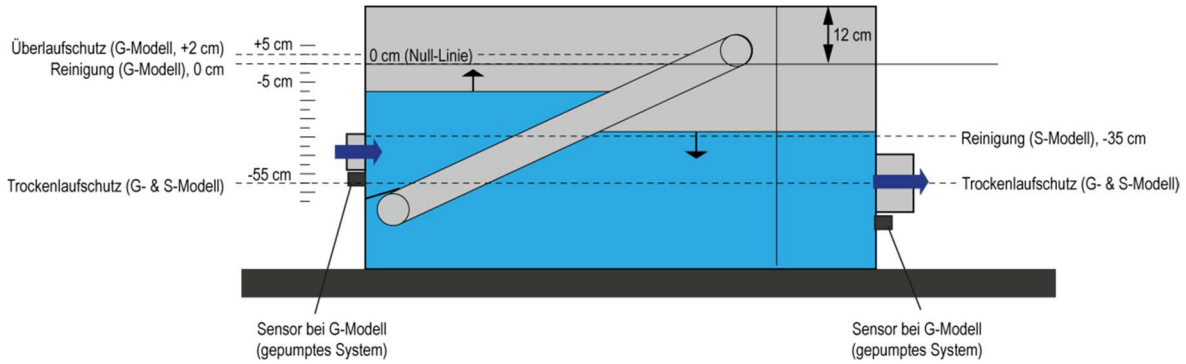
If your system is a pumped system and the filter sensor is located upstream of the belt, please select “Pumped System” as the filter mode in the filter settings. If the filter sensor is in the filter chamber or your filter is a gravity system, select “Gravity System”here.

Also select the correct type of water level sensor. If you have a level sensor PS, select under **Sensors/ Filter sensors/ Sensor type** the measuring range

“Level sensor 3 m" out of while at the use the Screw-in level sensors EPS “Level sensor 2.5 m" selected become must. Give She in the ***menu / Sensors / slot 1 / Position*** the location of the sensor (prechamber or filter). Repeat if you use a second sensor for filter control.

Illustration 4: mark of maximum water level = Zero line.

Are all Water levels correctly and is the water level in the filter on Height the zero line, the level probe still needs to be referenced. To do this, select ***Sensors / Reference sensor in the menu*** and confirm that the “ **Sensor reference point** ” is set (sensor measurement value = zero).



For a optimal Cleaning company place She for the following Filter types please the following values:

		EBF PROLINE 500	EBF PROLINE 800	EBF PROLINE 1200	EBF PROLINE HF150	EBF PROLINE HF200
Gravity system	Rinse water level	-35cm	-35cm	-35cm	-35cm	-35cm
	Dry running protection	-55cm	-55cm	-55cm	-55cm	-55cm
Pumped system	Rinse water level	0 cm	0 cm	0 cm	0 cm	0 cm
	Dry running protection	-55cm	-55cm	-55cm	+2 cm	+2 cm
	Overflow protection	+2 cm	+2 cm	+2 cm	+2 cm	+2 cm
	Cleaning time	12 s	12 s	12 s	21 s	21 s

Perform a cleaning cycle manually by pressing the **"CLEAN FILTER"** button and check the cleaning.
Now your system is configured and in operation.

In order to achieve the best cleaning results and to achieve efficient and resource-saving operation, you can adjust even more settings to optimally suit your filter and your system. You can find out more about this in the "Operation" chapter.

The Smartpond© PLUS steering as Sensor control

The cabling varies depending on the intended use. Basically you should proceed as follows :

1. Sensors and Actors at the Location attach.
2. Cable from the sensors to the Smartpond © PLUS control place and the Plug Connect the " **SENSOR "** to the respective sockets by screwing them in (remove the protective cap first).
3. Switch on the Smartpond © PLUS control and make the desired settings.
4. *Optional:* Connect She the Smartpond © PLUS steering with existing WLAN (see chapter: WLAN configuration).
5. Now plug the desired actuators and 230 V consumers into the respective sockets one after the other and check the function of the output in each case.

Well is Her System ready for use.

Application example: Oxygen control

In this example, the oxygen sensor O2S is plugged into slot **SENSOR 1** . A normally open solenoid valve (type: MVO-M7-SC) is plugged into the actuator slot **OUT 1** ("currentless "opened". deliberately selected so that in the event In the event of a power failure, the valve is open and the oxygen supply is guaranteed.)

The desired Oxygen concentration is above 95% and if 100% saturation reached the oxygen addition should be stopped. Now select the actuator output in the menu (**MENU / Outputs / Slot 1**) and set the following points:

- **Function** : **sensor regulation** – a new Submenu appears, if She with BACK Go back one level in the menu.
- In dem Submenu " **Sensor Regulation** " must She so the following Points set:
  - Mode: break time active
  - Control parameters: O2 % as
  - sensor Slot: 1
  - Switch-on value: 95%
  - Switch-off value: 100%
  - Max. Duration: 00:05:00 (the Valve is Max. 5 min open)
  - Break time: 00:01:00 (after Sequence the Max. Length of time becomes for 1 min the valve closed)
- In dem Submenu " **Output signal** " choose She please the following:
  - Polarity: Low Active (the output turns off when the oxygen saturation falls below 95%. This opens the solenoid valve .)

Now all the necessary settings have been set and the function is ready for use. Test the function, for example by immersing the O2S oxygen sensor in 0% oxygen solution.

Installation quick start Guide Filter control

1. Fasten She the Smartpond © PLUS Control on one protected place.
2. Mount the screw-in level probe in either the rear filter chamber (gravity-operated mode of operation) or pre-chamber of the filter (pumped mode of operation) and connect the cable to the **SENSOR 1 slot** .
3. Connect She the Motor cable with **OUT 3** . Put She the Spray pump (=filter pump) into the **230 V OUT 1 socket** , the circulation pump into the **230 V OUT 2 socket** . Connect the lid switch of your filter to **SENSOR 3** .
4. Switch She the Smartpond © PLUS Control On.
5. Place She in the **MENU** under dem Point ***filter Settings*** the matching Settings for your filter.
6. ***Menu / Sensors / Slot 1,*** select the position and type of the sensor .
7. ***Menu / Sockets,*** select the correct functions for the sockets (Power outlet 1 = filter pump, Power outlet 3 = circulation pump). With the **STOP button** allows you to immediately interrupt all functions.
8. water level in the filter on Height the zero line bring and Reference level sensor : ***Sensors / sensor 1 / sensor reference*** (Sensor reading = Zero).
9. Lead She one Filter cleaning through (Button **CLEAN FILTER**).
10. Check She the water level in yours Pond system.

Please note that in filter mode, the water level always refers to the **referenced / reative** (i.e. set to zero) water level, while the alarm settings always use the absolute water level (i.e. the actual water depth (e.g. +22 cm).

Installation quick start Guide Sensor control

1. Mount the Smartpond© PLUS Control in a protected location.
2. Attach the desired sensor to its location and connect the cable to one of the **SENSOR** slots.
3. Switch on the Smartpond© PLUS Control.
4. Select the output to which the actuator will be connected from the **Outputs menu** or the **Sockets menu** and select the appropriate function. To control according to sensor readings, this is **“Sensor control”**.
5. Set the desired parameter and test the output by plugging the cable of the actuator into the desired output.

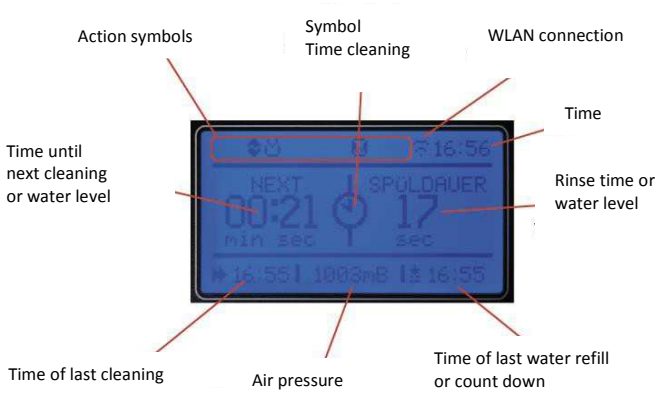
Tip: The „Continuous On“function can be used to check whether the actuator is working.

Service

Display and Symbols

The display unit shows the user important information about settingsm, the current operating status and the parameters measured in real time.

In the top first row of the display, you will find various action icons, which provide the user with a quick overview of currently executed work processes and /or selected modes of the filter unit.



Picture 5: The display of the AQUACULTURE|CONTROL

The Action icons show the following Features or. conditions at:

	Alarm active
	Break, can with STOP To get picked up
	keylock active
	circulation pump turned on
	Filter cleaning
	WIRELESS INTERNET ACCESS: No Reception
	WIRELESS INTERNET ACCESS available, but no Internet access
	WIRELESS INTERNET ACCESS: With Network connected
	WIRELESS INTERNET ACCESS: Configuration mode active
	WIRELESS INTERNET ACCESS: Update available

Key description

The Smartpond© PLUS control unit is operated using the keys on the front of the unit. By pressing the **MENU** key you can now make the necessary settings. To do this, select the corresponding menu item with the arrow keys ↑ and ↓ and confirm your selection with **OK.** The BACK key **always** takes you back one menu level, while **HOME** takes you back to the start screen.

In the HOME view inforation about the operating status of the filter sensor measured values or states of the outputs are displayed. With the arrow key ← and → you change the display from filter state to the respective sensors of the slots. With the keys
↓ and ↑ you switch between the display of the sensors and the outputs.

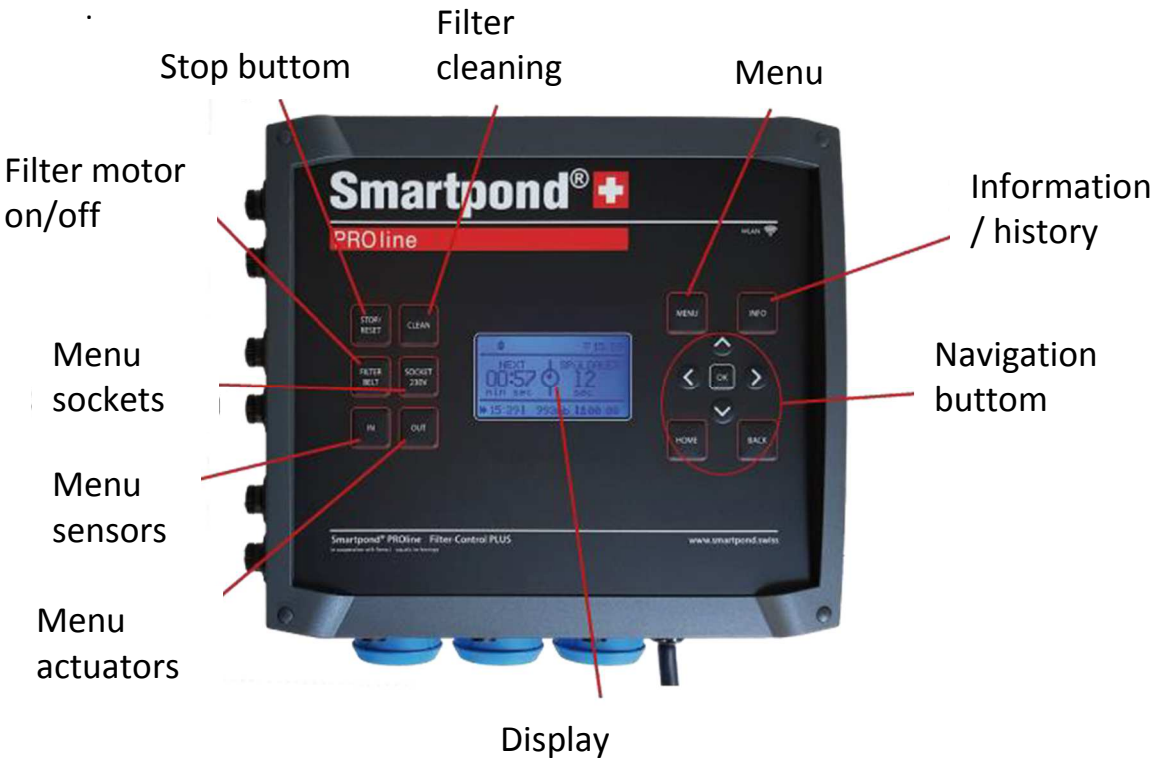


Illustration 6: Keypad the Smartpond © PLUS Steering.

Arrow keys: Use the arrow keys to move around the menu. To open a menu selection, press the OK key.

OK: Press OK to confirm your selection.

BACK: Press the BACK key to go back one level in the menu tree.

HOME: Pressing the Home button takes you out of the menu and into the normal view.

MENU: Pressing the menu button opens the menu. You can make your settings here.

INFO: Pressing the Info key displays the past actions (history) including the time. With the arrow keys 🡐 and 🡒 you can switch to different views (graphical display of the recorded measured values, WLAN info, system info). With the keys 🡓 and 🡑 you can change the time scale of the X-axis (e.g. 1 hour, 1 day.

MENU + HOME: By pressing the two buttons **MENU** and **HOME at the same time** the keys are locked. Unlocking occurs when both buttons are pressed and the set pin code is entered. When delivered, this is 0000.

STOP/RESET: With the **STOP** button you can cancel all actions immediately and the control is in pause mode. By pressing the **STOP** button again becomes the Break lifted. With the **STOP** button can She also switch outputs defined as " *circulation pump* " on and off.

CLEAN: By briefly pressing the CLEAN button, the filter is cleaned for one cycle. If you stay on the button for longer than 3 s, intensive cleaning will start.

FILTER BELT: Pressing this button activates the filter motor. If the button is released again, the movement stops.

SOCKET 230V: Through Press this button reached man direct into the menu under **Sockets** and can the Change settings .

IN: With Press the **IN** button opens itself the menu ***Sensors*** .

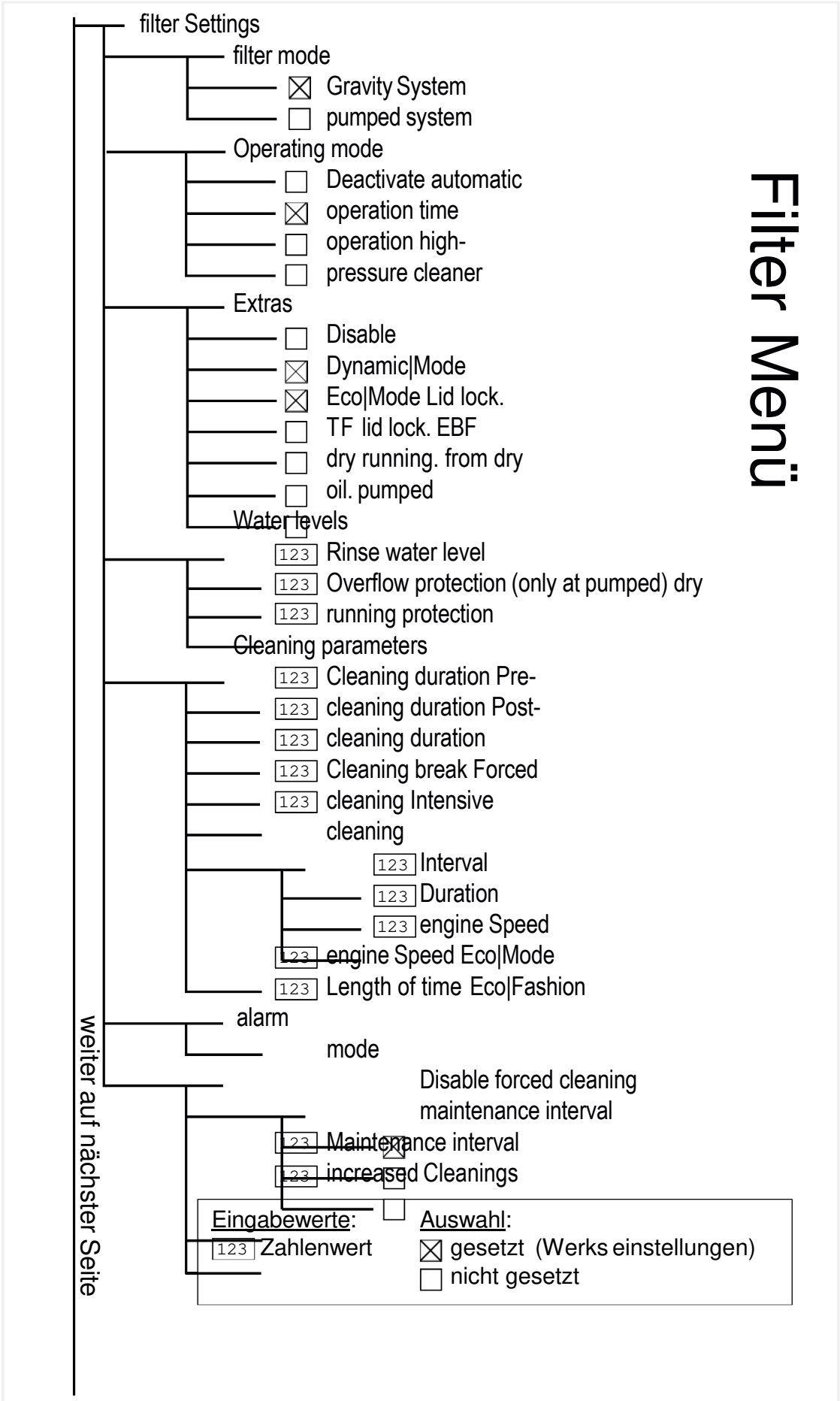
OUT: With this button can She the Settings the actuator slots **OUT** make.

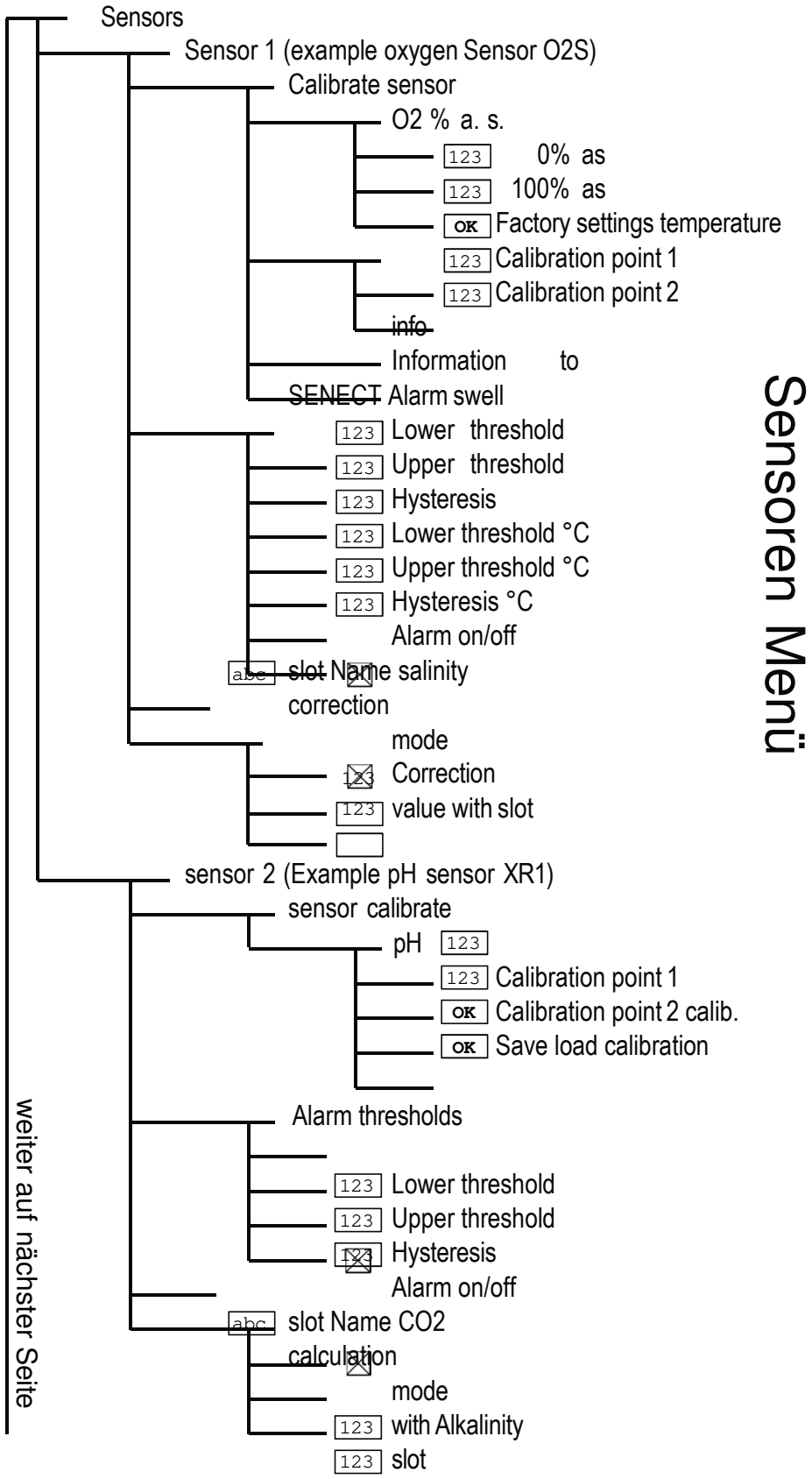
Table 1: Explanations to the entries of history.

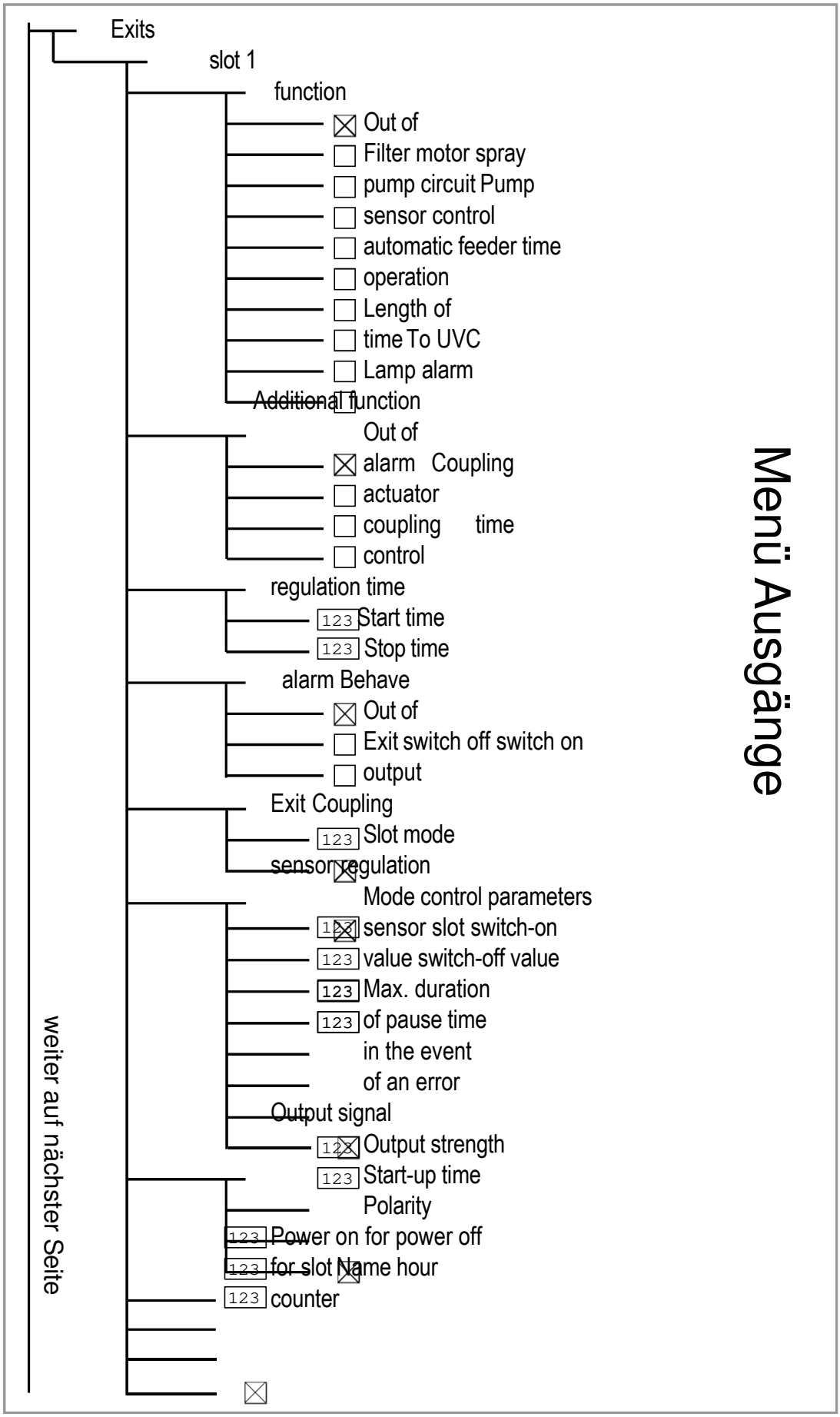
Short name	Description
Hand cleaning	cleaning through Keystroke triggered
system begin	Turn on the steering
Man. pump out of	pump became through Keystroke switched off
Man. pump a	pump became through Keystroke turned on
Break deact.	Break became disabled (e.g Dry running protection confirmed)
Break active	Break is active (e.g Stop button confirmed)
Reset Dryl.	Dry running protection became acknowledged
Man. Water.	Water replenishment because of from Keystroke started
Dry oil protection	Dry running protection activated
Automobile. cleaning	Through sensor triggered cleaning
Forced cleaning	Through sensor triggered Forced cleaning
Time purification	cleaning because of of expiration the Time
End Water supply	End the Water supply
timer Water supply	beginning the Water supply (controlled through timer Tabel)
sensor Waterz.	beginning the Water supply (controlled through Sensor measurement values)
cancellation Clean.	cancellation one cleaning
Interv. Waterz	beginning the Water supply (controlled through interval Input)
Lid open	Lid switch shows Open
Lid closed	Lid switch closed
Intensive Pure.	Intensive cleaning became carried out
drive Error 1	Mistake: No Electricity at the engine measurable
drive Error 2	Mistake: To higher Electricity at the engine measured
drive Error 3	Mistake: Short circuit at the Motor output
Short name	**Description**
Cancellation Waterz.	cancellation the Water make-up
Time reg. A	Exit because of from Time regulation turned on
Time reg. Out of	Exit because of from Time regulation switched off
Sen. Gov. A	Exit because of from Sensor control turned on
Sen.Reg.Aus	Exit because of from Sensor control switched off
feeding	Automatic feeder active
alarm a	alarm turned on
alarm out of	alarm switched off
sensor Error	Mistake at sensor
sensor alarm	alarm because of from Sensor reading
sensor OK	sensor after Mistake again in Order

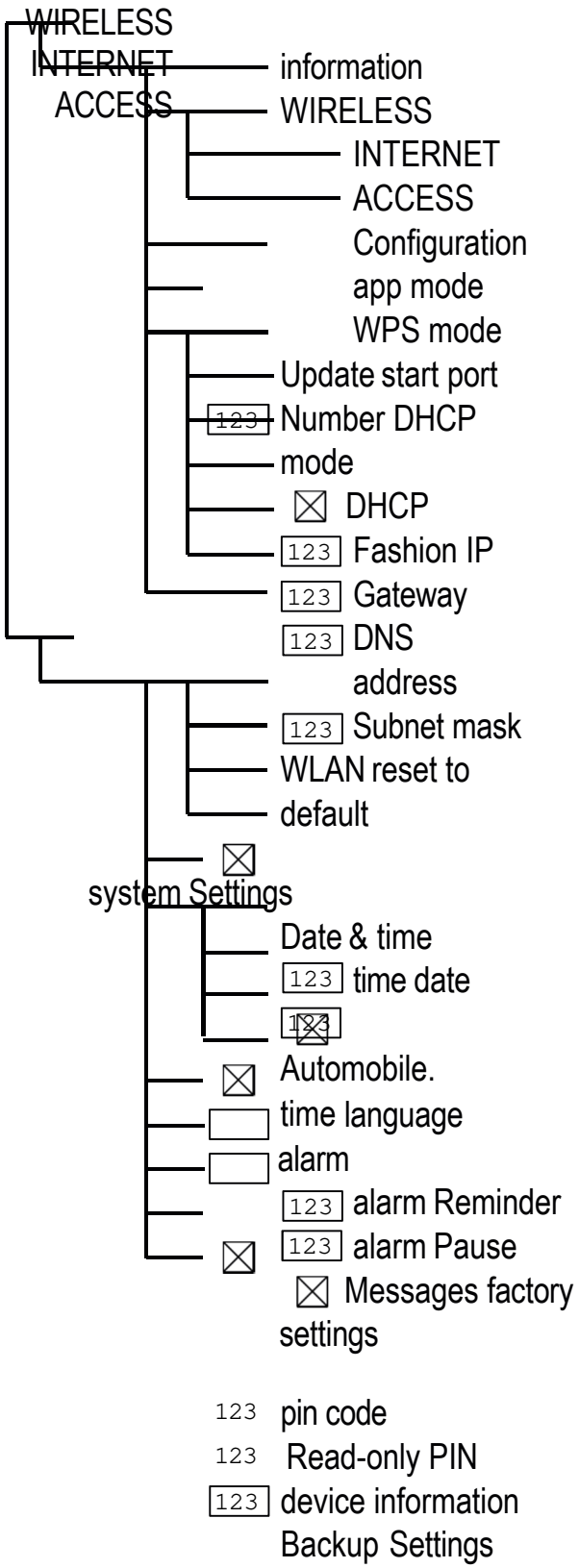
The menu

All settings and Parameters are over the Menu adjustable. The The menu is structured as shown on the following page. Please note that some items in the menu are dynamic and are only visible with certain presets.


Filter Menü
filter Settings
filter mode
☒ Gravity System
☐ pumped system
Operating mode
☐ Deactivate automatic
☒ operation time
☐ operation high-
☐ pressure cleaner
Extras
☐ Disable
☒ Dynamic|Mode
☒ Eco|Mode Lid lock.
☐ TF lid lock. EBF
☐ dry running. from dry
☐ oil. pumped
Water levels
123 Rinse water level
123 Overflow protection (only at pumped) dry
123 running protection
Cleaning parameters
123 Cleaning duration Pre-
123 cleaning duration Post-
123 cleaning duration
123 Cleaning break Forced
123 cleaning Intensive
cleaning
123 Interval
123 Duration
123 engine Speed
123 engine Speed Eco|Mode
123 Length of time Eco|Fashion
alarm
mode
Disable forced cleaning
maintenance interval
123 Maintenance interval
123 increased Cleanings
weiter auf nächster Seite
Eingabewerte:
123 Zahlenwert
Auswahl:
☒ gesetzt (Werks einstellungen)
☐ nicht gesetzt


Sensoren Menü
Sensors
Sensor 1 (example oxygen Sensor O2S)
Calibrate sensor
O2 % a. s.
123 0% as
123 100% as
OK Factory settings temperature
123 Calibration point 1
123 Calibration point 2
info
Information to
SENECT Alarm swell
123 Lower threshold
123 Upper threshold
123 Hysteresis
123 Lower threshold °C
123 Upper threshold °C
123 Hysteresis °C
Alarm on/off
abc slot Name salinity
correction
mode
123 Correction
123 value with slot
sensor 2 (Example pH sensor XR1)
sensor calibrate
pH 123
123 Calibration point 1
OK Calibration point 2 calib.
OK Save load calibration
Alarm thresholds
123 Lower threshold
123 Upper threshold
123 Hysteresis
Alarm on/off
abc slot Name CO2
calculation
mode
123 with Alkalinity
123 slot
weiter auf nächster Seite


Menü Ausgänge
Exits
slot 1
function
Out of
Filter motor spray
pump circuit Pump
sensor control
automatic feeder time
operation
Length of
time To UVC
Lamp alarm
Additional function
Out of
alarm Coupling
actuator
coupling time
control
regulation time
123 Start time
123 Stop time
alarm Behave
Out of
Exit switch off switch on
output
Exit Coupling
123 Slot mode
sensor regulation
Mode control parameters
123 sensor slot switch-on
123 value switch-off value
123 Max. duration
123 of pause time
in the event
of an error
Output signal
123 Output strength
123 Start-up time
Polarity
123 Power on for power off
123 for slot Name hour
123 counter
weiter auf nächster Seite



WIRELESS INTERNET ACCESS menu

system menu

filter menu

- **Filter settings**

In this one menu can all for the Filter operation necessary Settings make.

- **filter mode**

Select here whether it is a filter in gravity mode (filter sensor behind the Filter fabric Installed) or a pumped system (Filter sensor before dem Filter fabric installed).

- **Operating mode**

You don’t want the Smartpond © PLUS steering not as Filter control use, choose Click here to “ Deactivate ”.
Use the Smartpond © PLUS steering however to Control your Endless belt filter, you can choose here whether the cleaning is triggered by sensor readings (automatic mode) or solely based on a time control (time mode).
In addition you can here with Point " High pressure cleaner " a manual program Start with the filter motor running at reduced speed to clean the filter fabric with a high-pressure cleaner. No “normal” cleaning will then take place. Please observe She after the manual cleaning again in the Operating mode
“ Automatic operation ” or “ Time operation ” to change.

- **Extras**

This menu item contains various extra functions, the submenu of which only appears if they are selected here.

- **Dynamic|Mode**

The Dynamic|Mode is used in systems with fluctuating water levels to only clean the drum filter according to the degree of contamination. For this purpose, a dynamic flushing level is determined.

You can activate and deactivate this function here. We recommend activating Dynamic|Mode in systems with fluctuating water levels.

- **Eco|Fashion**

Eco|Mode is used to clean your drum filter in a water-saving manner. This function should be deactivated for the Smartpond © band filters. When the water level drops or rises (gravity or pumped operating mode), the rotation of the drum is partially rotated so that the entire filter fabric is used. before one cleaning carried out becomes. In this one Menu item can She Activate or deactivate Eco|Mode.

- **Lid switch TF**

If the lid is opened and the switch opens its contact, cleaning in progress is immediately interrupted and a connected UVC lamp (this must be defined as a UVC lamp in **the sockets menu**) goes out.

Please note that the “lid switch” function is not a safety device, rather around one Comfort function acts. At Open of Filters and work inside the filter, all electrical devices must be switched off.

- **Cover switch EBF**

The EBF cover switch function differs from the TF cover switch in that **only** the UVC lamp is switched off but the filter operation continues. Select this option if you are operating a Smartpond © endless band filter.

- **Dry running switch out of**

The dry-running protection – i.e. switching off the "circulation pump" slot if the measured water level is too low – can be deactivated here.

- **Dryl. pumped**

If the filter is operated with pumping, the dry-running protection becomes active when the measured water level in the filter falls below a defined value. In addition, the overflow protection water level can now be set in the "Water levels / overflow protection" submenu (see below).

- **Water levels**

All adjustable water level-related parameters are system-specific. This means that individual settings are optimal for each filter version or pond system. In this menu item you can change the various values and thus find the optimal settings for your system.

- **Rinse water level**

The flushing water level refers to the water level above or below which cleaning is triggered (depending on the position of the water level sensor). At the flush water level acts it itself always around one difference for the Sensor zero point (please refer Reference sensor). **Exception:** when using 2 water level sensors, which are defined as antechamber and filter sensor, the difference between the two measured values is used as the flushing water level. In addition, cleaning is triggered when the water level in the antechamber has risen by 7 cm absolute in order to prevent the water from overflowing into the dirt channel or the bypass.

- **Overflow protection (only in the pumped mode)**

A maximum value can be specified here, if this value is exceeded the circulation pump switched off becomes and a alarm triggered becomes. This can e.g the Prevent the filter from overflowing in the event of a failure (such as a spray pump failure and a resulting reduction in filter flow capacity).

- **Dry running protection**

Under dry running protection, you can set the water level at which the circulation pump switches off and cleaning is no longer carried out. If the water level reaches this level, it can be assumed that there is a fault in the circulation system (e.g. too little water, parts of the filter are defective) and the pumps are switched off for their own protection. An automatic attempt is made several times to restart the system, with the water level and its changes being precisely evaluated. If the Water levels again in the normal Area are, changes the Smartpond© PLUS control automatically returns to normal operation.

- **Cleaning parameters**

In this one Menu item can all for the cleaning relevant parameter set become.

- **Cleaning time**

The cleaning duration refers to the duration of a cleaning cycle. Set the cleaning duration so that the belt runs so far during cleaning that the filter cake is completely cleaned.

- **Pre-cleaning duration**

With the Pre-cleaning function becomes a Time window Are defined, the for one premature The flushing pump is activated before the tape transport begins. This serves to create a film of water in the drainage channel so that dirt particles do not stick there and are removed cleanly. Negative entries here mean that the spray pump only becomes active after the filter motor has started.

- **Post-cleaning time**

Around the dirt after Tape transport from the gutter to wash off, can man a post-cleaning time indicate. The Rinse pump is then for the specified Time active, after the tape transport has ended.

- **Cleaning break**

The cleaning pause defines the minimum time interval between two flushes. This ensures that even in sluggish systems where the water levels in the system only change slowly, cleaning is only active when it is needed. This also prevents excessive cleaning, which can be particularly important when the water level in the system is low. However, if the cleaning water level falls significantly below, so becomes the cleaning break bypassed and it becomes rinsed, around a To prevent the water level from falling below the emergency stop level.

- **Forced cleaning**

The time at which the filter should be cleaned regularly, even if there is no contamination the sensor recognized became, leaves itself with the Forced cleaning set. Give She Here you can see the time after which the filter should clean at the latest.

- **Intensively clean. Int.**

Since the filter fabric can become stubbornly clogged over time due to biological growth and also lime deposits, intensive cleaning is carried out at regular intervals. The belt is moved more slowly and the cleaning time is extended.

- **interval**

By entering the interval you can determine after how many normal cleanings an intensive cleaning should take place.

- **Length of time**

The duration determines how long the intensive cleaning should last. It should be noted that due to one reduced tape running speed, the Length of time longer be should as at a normal cleaning.

- **engine speed**

In order to achieve a better cleaning effect, the motor speed is reduced during **intensive cleaning .** In this menu item you can adjust the speed from 20% (slow) to 100% (fast).

- **Motor speed**

In this menu item, the belt running speed for **normal cleaning** and forced cleaning of your filter is set. You can select the speed between 20% (slow) and 100% (fast). The slower the belt runs, the more intensively the filter fabric is cleaned, but also more water is used. If you make changes here, please make sure that you also adjust the rinsing time.

- **Eco|Fashion**

If Eco|Mode is activated, you can set the duration of the partial rotation here (drum filter operation).

- **alarm**

Normally an alarm is only sent in the event of dry running protection. But you can also in the Cases one Forced cleaning (if the water level despite one cleaning The dry running protection water level does not fall lower than the flushing water level specified

reached, a forced cleaning takes place) or upon reaching one You will receive an alarm message after the specified number of cleanings (maintenance interval).

Select “Maintenance Interval” and enter a number of cleanings for which you would like an alarm message. For example, you can be notified every 20,000 cleanings to perform an inspection on the filter.

Sensors menu

The menu for the sensors depends on the respective sensor type. Please follow the instructions in the operating instructions for the respective sensor.

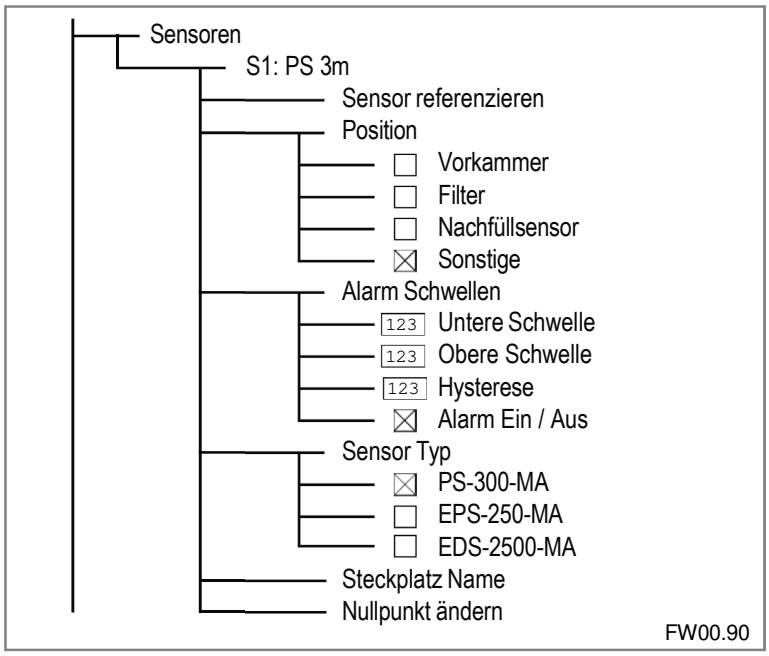
- **Sensors (Shortcut: button IN)**

Around the Settings the connected Sensors to change or the Sensors To calibrate/reference, select the respective sensor in this menu item.

The sensor slot, sensor type and, if applicable, the sensor name assigned by the user are displayed here per line.

Example: **`S1: P.S 3m Pelvis2`**

- **S1: PS 3m** (example: level probe PS-300-MA at slot 1, depending on the sensor, different submenus may be available here)



- **Reference sensor**

If all water levels in your system are correct, you can set the water level measurement of the selected sensor to “zero” in this menu item.

- **position**

The position of sensors decides above whose Function. Choose She “ **filters** ”, if She want to use the water level sensor for filter cleaning behind the filter (or in the filter chamber). Select “ **Prechamber** ” if the sensor is positioned in the prechamber is and also to Filter control used become should. Choose She
“ **Refill sensor** ” if the sensor is to be used for water level control (refilling). Or select “ **Other** ” if you do not want any of these functions to be associated with the sensor.

- **Alarm thresholds**

If an alarm is to be triggered when a sensor measurement value is exceeded or exceeded, you can enter the thresholds in this menu item. The hysteresis refers to the tolerance value, within whose at Fluctuations no again alarm Posted become should. If you want to turn off the alarm, you can set it under “Alarm On/Off”.

- **sensor Type**

Select the type of your sensor here, e.g. the PS-300-MA level probe or the EPS-250-MA screw-in level sensor.

- **Slot name**

She can dem sensor also a Max. 8 digits names forgive, the for the Example in the Smartpond © app appears.

- **zero point change**

If e.g the sensor to refill used becomes, but the pool or Pond still are not full and therefore the reference water level (zero) has not yet been reached, you can change this manually here.

- **S2: O2S Surname (Example oxygen sensor O2S)**

- **sensor calibrate**

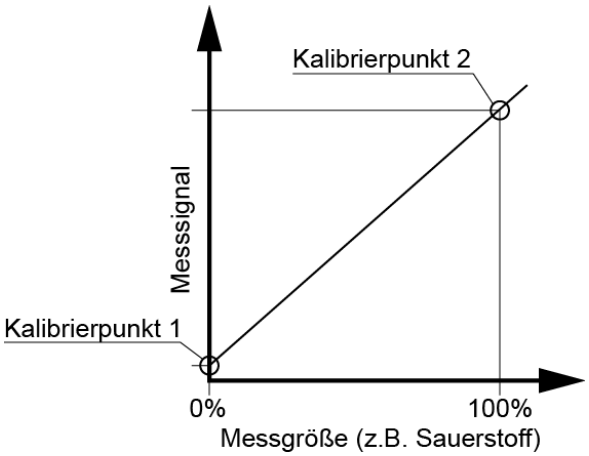
Each sensor should be calibrated regularly to obtain correct readings. In this You can use the oxygen measurement menu item as well as temperature measurement Calibrate the O2S oxygen sensor.

Choose She For this out of, which parameter She calibrate want (O2 % as [as stands for “air saturation”] to calibrate the oxygen signal or temperature to calibrate the O2S temperature sensor).

Now you can either perform a one-point calibration (e.g. in air) or a two-point calibration (air and 0% oxygen solution).

The upper calibration point (100% saturation) is calibrated by holding the sensor in water vapor saturated air and selecting “100% as”.

You can also set the second (low) calibration point with “0% as” by immersing it in 0% oxygen solution.



In the menu under **Info** you can see the serial number of the sensor (SN), the measurement signal at the lower calibration point (C0), the signal at the upper calibration point (C1) and the operating mode used (e.g. the control unit used).

Should Her sensor a Mistake exhibit,
You can send the error data directly from the control to SENECT (sensor supplier) to solve the problem. To do this, select **Info to SENECT** in the calibration menu.

Under **default settings** can She Calibration data manually input.

- **Alarm thresholds**

If an alarm is to be triggered when a sensor measurement value is exceeded or exceeded, you can enter the thresholds in this menu item. The hysteresis refers to the tolerance value, within whose at Fluctuations no again alarm Posted become should.

In this one Menu item can She the Alerting also deactivate.

- **slot Surname**

She can dem sensor also a Max. 8 digits names forgive, the one for Example in the Smartpond © app appears.

- **Salinity correction**

Since the oxygen saturation concentration depends on the salt content, the Smartpond © Controls the Possibility the correction at. Is a Conductivity sensor (CON2 or CON50) connected to the control, the measured value of this sensor can be used for correction (**mode** : corrected by sensor). Alternatively, a fixed correction value can also be used the Salinity specified become (**Mode** : from the Fixed value cor.). This Value is entered as electrical conductivity (µS / cm) under **correction value** .

menu Exits and Sockets

- **Exits / Sockets**

With the Smartpond © PLUS control you can use the actuator outputs (OUT 1 to OUT 6) as well as the three Sockets (230 V OUT 1 until 230 v OUT3) free with a function prove. The actuator outputs OUT are intended for connecting low-voltage consumers with a maximum of 24 V DC or for outputting control signals (4-20 mA or 0-10 V).

At the end of each line there is a symbol that represents the current state of the output:

Output switched on

Output switched off

- **slot 1 (until 6)**
  - **function**

Choose She here the function of slot ever after connected Actor out of. You can choose from:

1. Out of
2. Filter engine
3. Spray pump
4. circulation pump
5. sensor regulation
6. Automatic feeder
7. Time operation
8. Length of time at
9. UVC lamp
10. alarm

Description the Actuator main functions

- **filter engine**

Will be the filter function engine selected, so is the Actuator active when the motor of Filter is controlled. The output signal corresponds to that set in the motor speed Value. Over the Additional function "Frequency converter" becomes the signal above 0-10 v

and 4-20 ma issued, while the 24 v DC Output line the frequency converter turns on and off.

- **Spray pump**

If the actuator is defined as a spray pump, the actuator is active when the Filter spray pump should be controlled.

- **Circulation pump**

With the circulation pump function, the control takes place according to the regulation of the circulation pump. The output can be switched on and off with the STOP/RESET button and is integrated into the emergency shutdown mechanism.

- **Sensor control**

After Selection the function " **Sensor Regulation** " appears the same name Submenu item. Here you can set the desired **control parameters** (e.g. oxygen saturation, temperature, etc.) as well as the associated settings (**sensor slot** , **switch-on** and **switch-off limits** , **maximum control duration** , **pause time** and the behavior **"in the event of an error"**) .

If you set the switch-on value lower than the switch-off value, the control becomes active, for example when the water level falls below the switch-on value. If the water level rises above the switch-off value again, the control stops. If both values are swapped, the control is also opposite, as is the case for pumping out a pump sump, for example necessary be can. The Max. Duration of regulation as well as the break time serve as protective measures.

Example: Regulation of the oxygen content:

In this example, the aim is to regulate the oxygen content to a value of over 90% using a solenoid valve that is open when de-energized. First you have to set the

"Output signal", set the "Polarity" to "Low active" (see page 41), as this is a normally open solenoid valve. In the second step, activate the function

"Sensor control" function on the output to which the solenoid valve is connected. In the menu

"Sensor control" menu, select "O2 % a.s." as the control parameter. Select the sensor to be used for control as the "Slot". The switch-on value is 90% and the switch-off value is 95%. Please set a plausible value for the protective measures

- **Automatic feeder**

You have for a Exit the function “automatic feeder” chosen can you make here the appropriate settings.

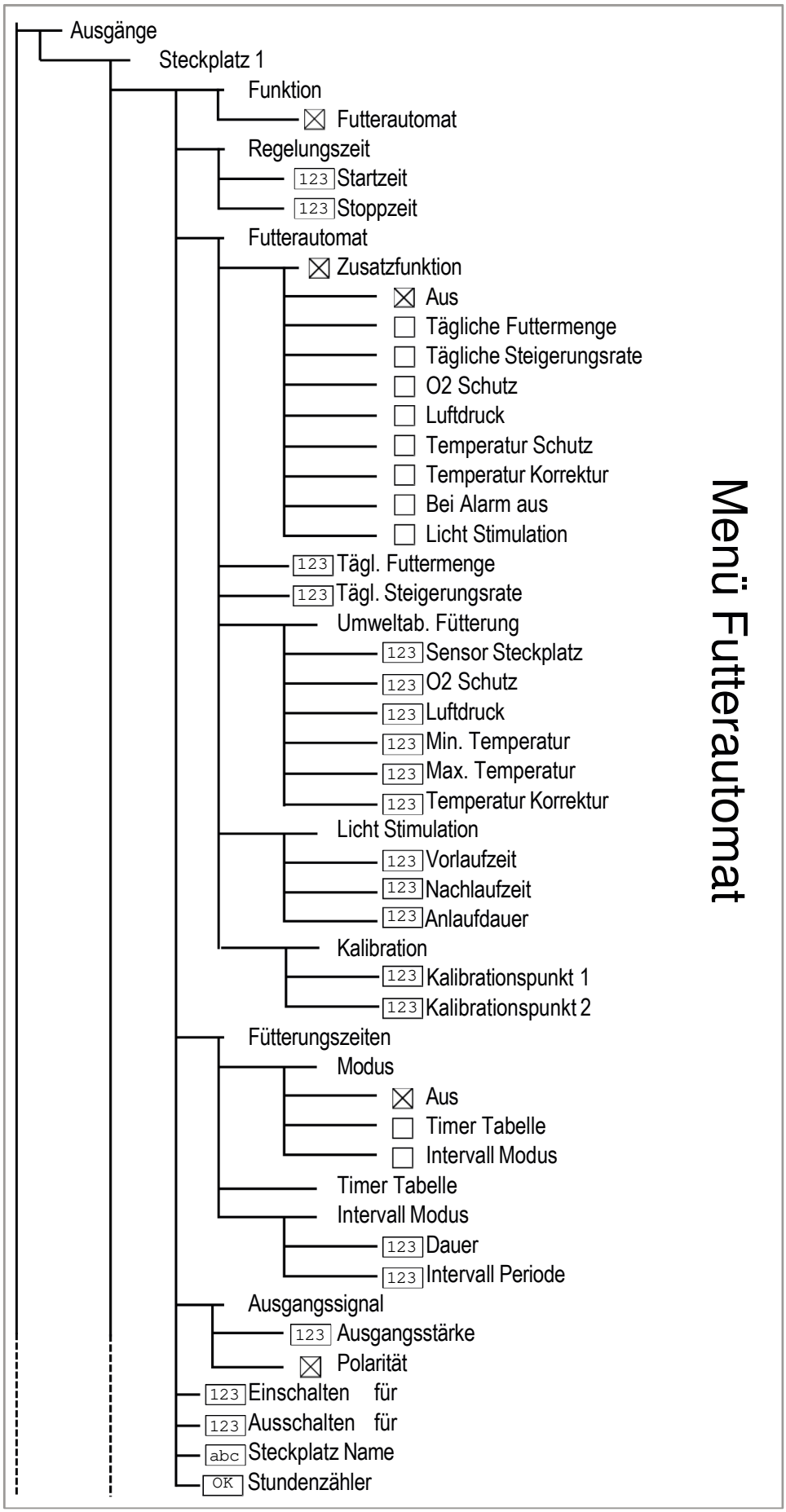
Quick start Guide: Automatic feeder set

To have an automatic feeder the Smartpond © To use PLUS control, do as follows follows:

1. Menu, Exit Automatic feeder **: Function: Automatic feeder**
2. **regulation time** establish: e.g from 7:00 until 8:00 p.m Clock
3. **Feeding times** establish:
    a. **interval Mode** : give She here at, in which one interval for How long should be fed (example: duration: 20 s, interval period: 30 min).
    b. Alternatively: at certain times (use the timer table for this, example: 10 a.m., 20 s duration, 12 p.m., 30 s duration, etc.)

In the newly appeared **automatic feeder submenu** you can use additional functions and the Feeders calibrate. The calibration is necessary, around Additional functions to use, the itself on the Amount of feed relate (Daily amount of feed, Daily increase rate, temperature correction).

More information to the respective Additional functions find She in this one Chapter.


Ausgänge
Steckplatz 1
Funktion
☒ Futterautomat
Regelungszeit
123 Startzeit
123 Stoppzeit
Futterautomat
☒ Zusatzfunktion
☒ Aus
☐ Tägliche Futtermenge
☐ Tägliche Steigerungsrate
☐ O2 Schutz
☐ Luftdruck
☐ Temperatur Schutz
☐ Temperatur Korrektur
☐ Bei Alarm aus
☐ Licht Stimulation
123 Tägl. Futtermenge
123 Tägl. Steigerungsrate
Umweltab. Fütterung
123 Sensor Steckplatz
123 O2 Schutz
123 Luftdruck
123 Min. Temperatur
123 Max. Temperatur
123 Temperatur Korrektur
Licht Stimulation
123 Vorlaufzeit
123 Nachlaufzeit
123 Anlaufdauer
Kalibration
123 Kalibrationspunkt 1
123 Kalibrationspunkt 2
Fütterungszeiten
Modus
☒ Aus
☐ Timer Tabelle
☐ Intervall Modus
Timer Tabelle
Intervall Modus
123 Dauer
123 Intervall Periode
Ausgangssignal
123 Ausgangsstärke
☒ Polarität
123 Einschalten für
123 Ausschalten für
abc Steckplatz Name
OK Stundenzähler
Menü Futterautomat

control time should determine the (daily) time window in which feeding should take place. To do this, enter the start and stop times.

the respective **feeding times** in the Feeding Times section. Here you can either feed at a fixed interval (e.g. every hour for 15 s) or at a fixed interval times (e.g around 10:00, 11:00 and 3:00 p.m for respectively 5 s). This steering is Analogous to the function of the time control (page 39) and also described in more detail there.

In the Menu item " **automatic feeder** ", expect She more **Additional functions** . Through Selection the additional functions appear then the respective Menu sub-items. Please observe that for many of these functions the feeder must first be calibrated. The menu item

" **Calibration** " appears dynamic, if the matching Features are selected .

The Additional functions the Automatic feeder control are:

1. **Daily amount of food**

Give the maximum daily Amount of feed in g at one Reference temperature from 16°C on and the Automatic feeder Splits itself the total quantity even on the chosen feeding times .

Here is consciously one medium temperature chosen, around the claims possible many species to be met.

2. **Daily increase rate**

The daily increase rate in % indicates how much the daily amount of food increases per day.

3. **O2 Protection**

If the oxygen level is too low, the food is often not eaten. Therefore, in this menu item you can enter the oxygen content below which feeding should not take place.

If this is selected, the settings can be adjusted in the " **Environmentally dependent feeding** " menu item. Please also select the appropriate sensor slot of the O 2 sensor from whose values this link should be made.

4. **Air pressure**

Analogous to stopping feeding if the oxygen level is too low, air pressure can also be used. The specific value can be set under " **Environmentally dependent feeding ".**

5. **temperature Protection**

The situation is similar with temperature. Here you can select whether feeding should not take place below or above two temperature values (“ **environmentally dependent feeding** ”).

6. **Temperature correction**

If you want to adjust the amount of food to the water temperature, you can switch on the automatic adjustment using the temperature correction.

As a data basis, you must enter the feeding amount in kg per 100 kg fish weight (or%) for the different temperatures under **environmentally dependent feeding / temperature correction .** You will normally receive exactly this information from your feed supplier in the relevant data sheets.

7. **At alarm out of**

Should at one alarm in the system the feeding suspend, activate this one Point.

8. **Light stimulation**

If you use the SENECT brood feeder, you can switch on the integrated LED lamp before feeding (**lead time**) and only a certain time after feeding (**follow-up time**) again turn off. Should the Light slow dimmed become you can specify this with the **start-up duration** .

This function serves to better Conditioning the Fish, so that fewer feed get lost .

9. **calibration**

To calibrate the feeder, select the menu item “ **Calibration / Calibration point 1** ”. Collect the feed dispensed in 5 s, weigh it and enter the weighed feed amount. Repeat for the second calibration point (10 s). The calculated feed mass also appears when the feeding time is specified.

Tip: If before everyone feeding oxygen admit want, so choose She the Exit the sensor control (i.e. the output of the solenoid valve or aerator) and select “time operation” as an additional function. Under Time mode, set the “Output coupling” mode a, so that She here then the slot after regulated become should (so the feeder slot), you can set the pre- and post-run time.

The other menu sub-items (output signal, switch on for, switch off for, slot name, hour counter) are identical to those of the other output functions.

- **Time operation**

The Settings to Timing control can above three different Methods can be carried out - either via fixedly defined times (timer table), via selected time intervals between activation (interval mode) or depending on another time-controlled output (e.g. O_2 add before feeding). In addition, it is possible to set the start and Stop time (Regulation time of output) daily to change (Daylight Mode) around
e.g at the Control from LEDs a annual cycle to simulate.

- **Timer table**

In the timer table you can set the start time and the duration of the respective activation. By confirming the menu item “new entry” new entries can be created. Her Entries become automatically chronologically orderly. A entry can She delete by She with the Arrow keys 🡅 and 🡇 the desired entry choose and this one then press the arrow key 🡆 remove from the list.

- **interval**

Activation can also be controlled at intervals. First, the **duration** of the individual active phases (e.g. switch on for 5 minutes) is specified. The interval time determines the time between the start times of the intervals (e.g. for 1 hour, the water top-up is started at 0:00, 1:00, 2:00, etc.).

- **Exit Coupling**

If the output is to be switched depending on the time of another slot, select as mode "Exit coupling” out of and place She under new In the submenu that appears, select the slot according to which the timing of this output should take place. With the lead time you determine how long before the other slot is switched on this output should be activated. The follow-up time works in a similar way.

- **Daylight mode**

If the output is to be activated daily for a certain period of time longer or shorter, you can set in daylight mode how long the control time (start and stop time) should be extended (positive value e.g. + 1 minute per day) or shortened (negative) per day value, e.g. -2 minutes per day). The daylight mode **only** refers on the control time of the output.

- **Length of time at**

Duration as the function . You can also use the other settings such as extra functions.

- **UVC lamp**

If “UVC lamp” is selected as the function, the functionality of the “Continuous on” mode is similar with the additional function, that at Open of filter lid (Lid switch necessary) the UVC lamp is switched off.

With this function, fault messages from UVC lamps can also be registered and trigger an alarm. To do this, the UVC lamp must detect the interference signal via a potential-free closer at the steering forward (Actuator cable AK-OE-5M-SC necessary). Details For connection information, please refer to the operating instructions for the actuator cable.

- **alarm**

With the “Alarm” function, a warning lamp (e.g. VIS-LED warning lamp) can be installed at the actuator slot. connected become. Also one Warning lamp included acoustic alarm is available directly from Smartpond © (warning lamp VIS-LED-AK).

Description the Additional functions

With this one Menu item can the slot with one additional function Mistake. Depending on the function selected, ***a different submenu appears*** . The following submenu items can appear:

If you select **“Alarm coupling”**, this slot will be switched off, for example, if an alarm is triggered, for example by falling below a water level. In the dynamic **Alarm Behavior menu item** , you can use “Switch on actuator” or “Switch off actuator” to select whether the actuator should be switched on or off in the event of an alarm. With “Off” you deactivate the alarm coupling.

By selecting the **“Output coupling”** the output is activated depending on another output. Please note that the Output Coupling menu item now appears, in which you can make further settings. Under “Slot” you can select which other actuator you want to link this output to while She in the Point "Mode" decide can, How itself the Exit behave should, e.g
"Out of if out of".

“time control” can also be added as an additional function. You can do this either using a “timer table”. times define or Intervals program or but the Exit in Dependency

of other exit (Exit coupling) temporally offset steer. Choose therefor the slot and determine the lead and follow-up time.

Is the slot as "Filter Engine" Are defined, can man above the Additional function **“Frequency converter”** switch on the control via the 4-20 mA as well as the activation via +24 V DC. In this case, the frequency converter is used to operate AC motors (e.g 230 v AC or 400 v AC) the full Range of functions achieved by regulating the motor speed. You can request suitable frequency converters for your motor from Smartpond © .

Description the further Settings the Exits

- **regulation time**

With the control time you specify when the control is active. For example, by selecting a time from 7:00 a.m. start time to 7:00 p.m. stop time, you can prevent activation at night. If both times are at 0:00, the control is continuously active.

The regulation time can above one Time function continuously around a adjustable Value can be changed per day (see daylight mode on page 39)

- **Output signal**

In the **“Output strength” selection point** you can specify the signal strength for many functions upon activation issue should. This does not apply to functions that independently regulate the signal strength, such as the Filter Motor function.

With the %-Specification can She the relative Value of output signal set, which appears on all electrical outputs (24 V DC PWM, 0-10 V DC, 4-20 mA). Comply with this 100% e.g. 24 V DC, 10V and 20mA, while 50% one 50% reduction the power via pulse width modulation (PWM). 24V DC output, 5 V am Signal output and 12 mA at the current output mean.

If a 24 v DC consumer connect, inform She itself, if this Consumer (e.g. motor) is designed for dimming via PWM.

About the regulation of the output signal you can also use actuators such as pumps with **4-20 mA** or **0-10** Use **V input.** A connection diagram is included with every actuator cable ordered (type: AK-EI-5M-SC).

With the **start-up time** you determine the time of the linear rise, i.e. the time that the output takes needed around on the maximum Output signal to come. This can for example, used to control light.

The **polarity** gives before, if in the activated Condition Tension issue should (*Active high*) How it e.g at one de-energized closed magnetic valve to Water make-up usual is, or if always Tension issue should and in the active Condition the Tension interrupted become

should (*Active low*), as is the case, for example, with solenoid valves that are open without current for oxygen supply.

- **Turn on for**

Also if no function is selected, can She the slot for one particular Activate time. To do this, select “Power on for” and specify the time for which the slot should be activated.

- **Turn off for**

Want She the Exit for one particular Time deactivate, give She here the Time at, for the the slot disabled become should. This can e.g sensible be, if the feeding should be paused while working on the system.

- **slot Surname**

You can also give the slot a name of up to 8 characters, which will then appear in the Smartpond © app.

- **Hour counter**

The operating hours, i.e. the time during which the output is activated, are shown in the display of the respective output. You can set this value to 0 in the “Hour counter” menu item.

menu WIRELESS INTERNET ACCESS

- **info**

Here can She information above the WiFi connection Of their Smartpond © PLUS View controls .

SSID : WIRELESS INTERNET ACCESS Network names

Signal : Strength of the connection (the connection strength should generally be between -20 dB (strong) and -70 dB (weaker))

IP : IP address the control

MAC : MAC address the steering

- **WLAN configuration**

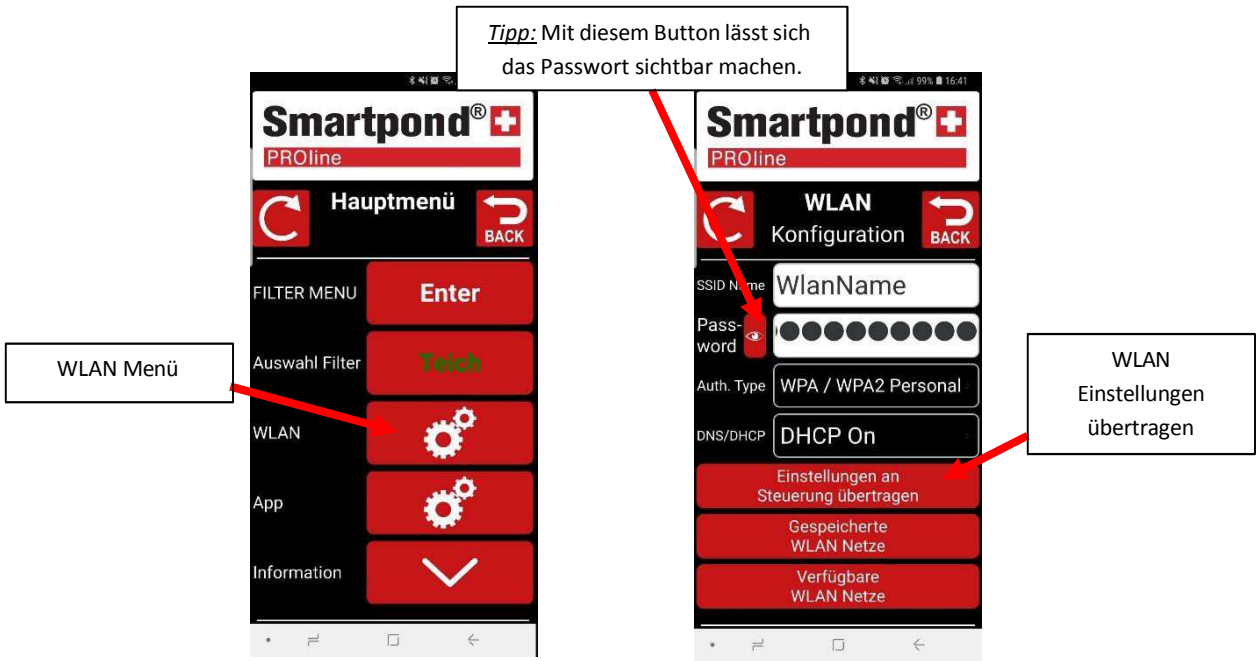
Note: Remote access via dynamic DNS and port sharing is only possible with an Internet connection with an IPv4 address. For DS-Lite connections are more Devices (e.g FIP box from fixed-ip.net) necessary, around the Remote access to realize.

Want She Her Smartpond © PLUS steering in a existing WiFi network integrate, you need a Windows (7 and higher), Android or iOS-capable device dem the **Smartpond © app** is installed.

the Smartpond © app from the Google Playstore® or the Apple App Store®. Hold She the names Yours WiFi network (SSID Surname) as well as the WiFi password ready.

WiFi connection the steering produce (App Mode)

1. © PLUS control, select “WLAN” / “WLAN configuration” in the menu out of and confirm She the begin of Configuration mode with "Yes". The Smartpond © PLUS control now works as an access point or hot spot so that you can easily adjust the WLAN settings using your smartphone/tablet or PC .
2. Choose on your smartphone or tablet select the network “SENECT_AP” in the WLAN settings. You are then directly connected to the Smartpond © PLUS control.
3. Open She the Smartpond © app and choose She the “ **WLAN** ” button out of.
4. Choose She the WiFi network out of, with steering want to connect and give the associated one WiFi password. Choose also



Select the authentication type (usually WEP2) and the DNS/DHCP settings (usually ON) and press “Transfer settings to controller”. The control now shows “Data received” on the display. Connect to network”. The WLAN settings are now transferred to the Smartpond © PLUS control.

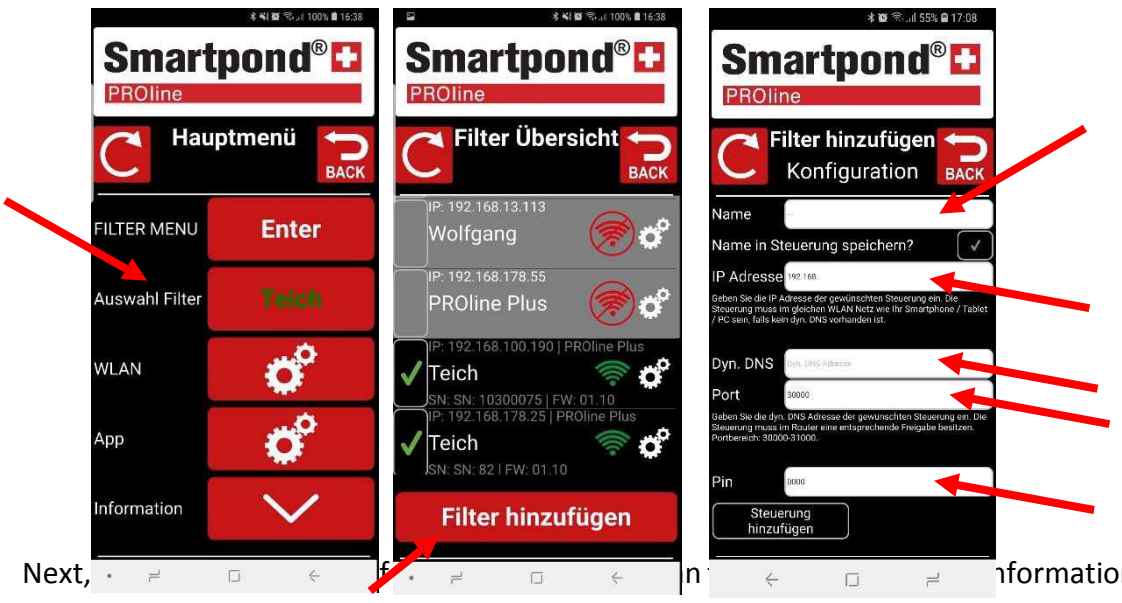
5. Use the WLAN symbol to the left of the time to check the connection of the Smartpond © PLUS control to the WLAN network and the connection strength.

WiFi connection the steering produce (WPS Mode)

Features routers above one WPS Function, so can above Press the WPS button (Type. Longer than 3 s) on the router and select **Menu / WLAN / WLAN configuration / WPS** mode direct Connection between routers and Of their steering manufactured become, at the the necessary WLAN settings can be transferred directly. Please note that the router only stays in WPS for 2 minutes.

steering in app incorporate

1. In the settings, select “Selection Filter” to add a new device (controller) to your app’s list
2. Give She so the steering a free selectable **names** . If She the Hook
   If you set “Save name in controller?”, this name will be used as the device name.



3. Next, f n nformation (shortcut: INFO, ← , ←).
4. If you want to set up access to the control from outside (Dynamic DNS required), enter the DynDNS address of your router here (see example on the next pages). This can usually only be done after successful setup in your router (see below).

5. Also enter the correct PIN code (0000 when delivered). If you only want to give this device (smartphone, tablet, PC) read permission, give it She here please the Read only pin code a (Menu/System Settings/Read-only PIN CODE).
6. With **Add Control,** the app establishes the connection to the control and you can now also view the values via the end device.

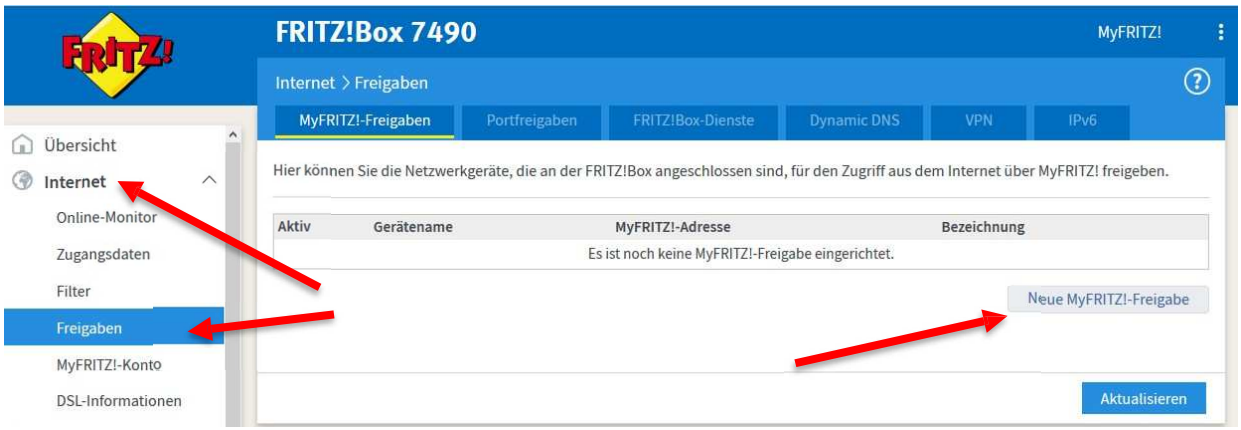
With the Smartpond © app also **access outside Yours own WiFi network** (full internet capability), you need to set up a DynDNS connection. This varies from router to router, but basically the following 3 steps are necessary:

1. Activate DynDNS account (e.g. register and activate at MyFritz! or DynDNS.org)
2. steering with port in the routers enable (port forwarding)
3. Port number and DynDNS address the steering above the Smartpond © app communicate.

Since this varies depending on the router used, this will now be described as an example for a Fritz!Box:

DynDNS account activate and unlock:

1. Enter “fritz.box” in the address bar of your browser to access your router’s settings. Log in with your password.
2. If their Fritz!Box still no “MyFritz! account” created have, judge She this one first a (Menu item "Internet" → “MyFritz! account”) and activate She the Account.
3. In the Fritz!Box, in the “Internet” menu item, open the “Shares” submenu and click on “New MyFritz! Share”.



4. The following Settings do:
    a. Network device: The Device (the Smartpond © Steering) choose, which should be activated

b. Application: "Other Application" choose

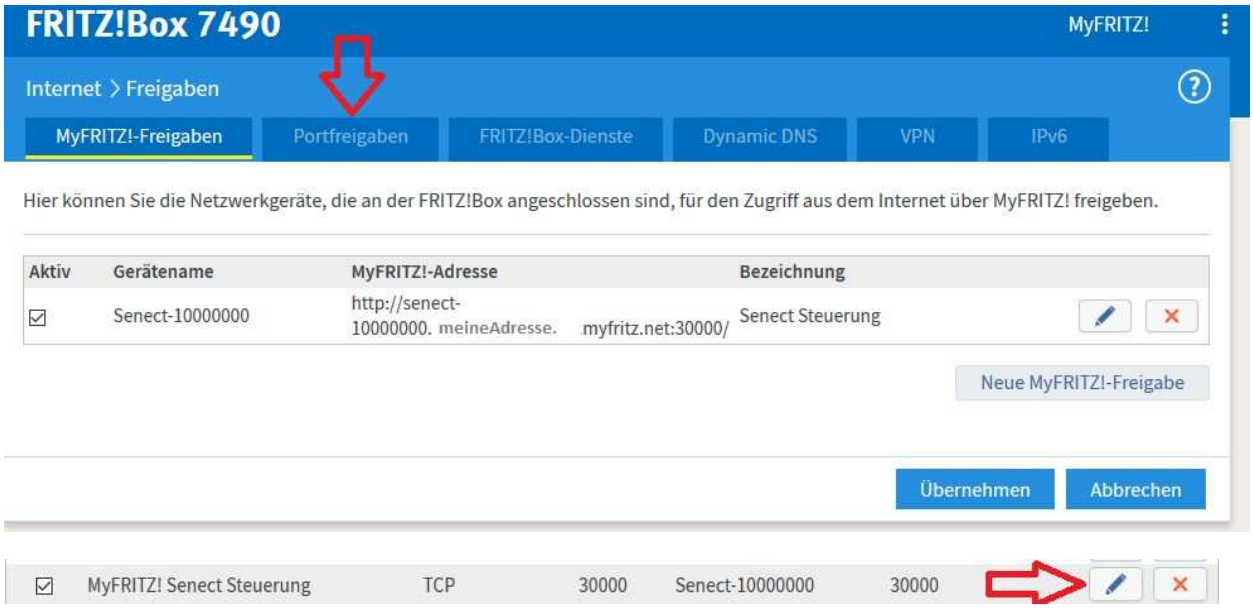
c. Designation: An own names choose

d. Scheme: “http://”

e. Port: port the Steering. By default: 30000. The port can in the control in the menu item “WLAN → Port number” can be changed.

Release port

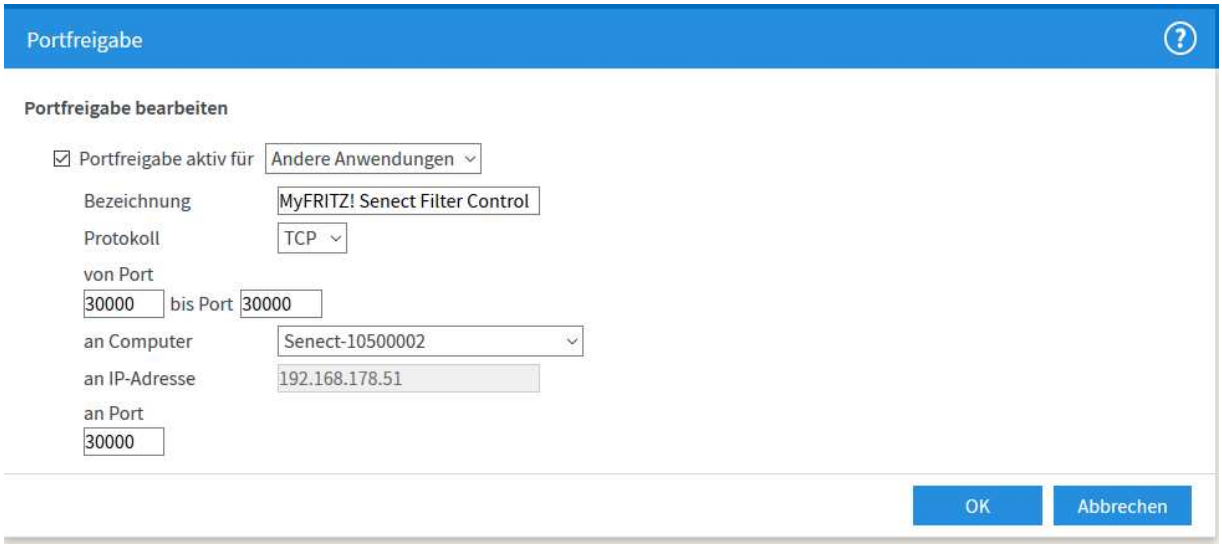
5. Well must still the port the Release changed become. For this on the Click “Port Sharing” and then click “Edit”:



6. Check She the Settings:

a. Are always the same Port numbers registered?

b. Corresponds the displayed IP address the IP address the Steering?



Are all Settings correctly, save She the Settings with OK.

DynDNS address the steering to transfer

If already the steering with the app tied together have, can by clicking on the Hook (Left) the Connection interrupt and the symbol

"Settings" appears again. Do you still have the controls not Connected to the app, click on "+" at the top right.

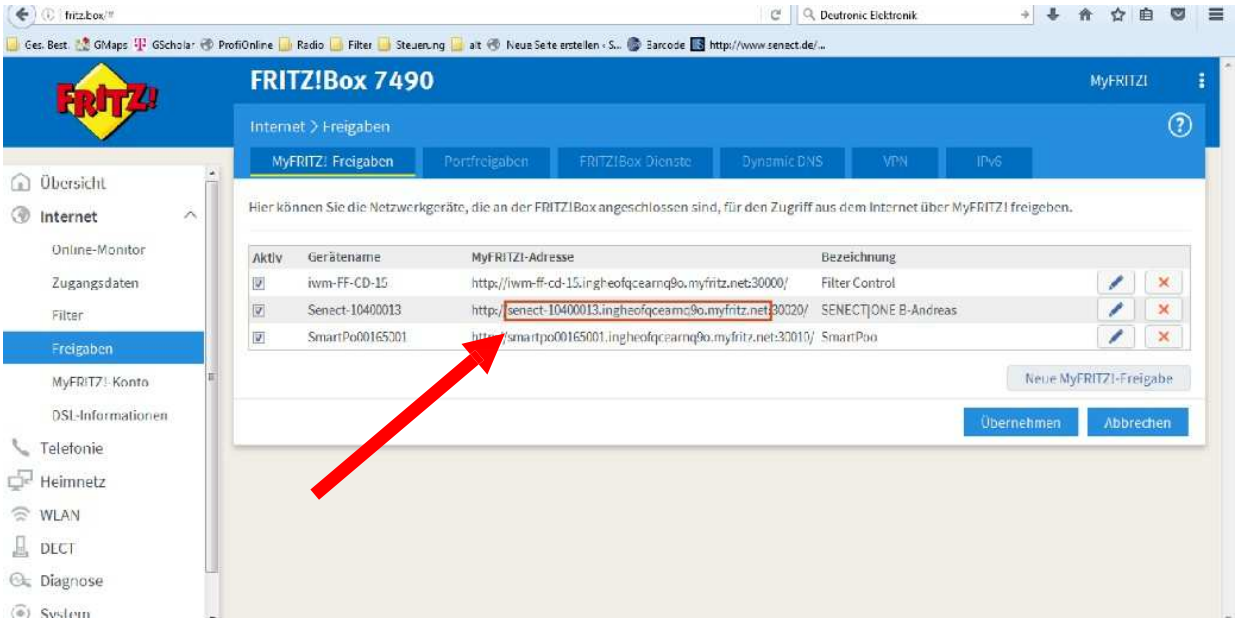


Illustration 7: At the DynDNS address is only the medium Part relevant (so e.g without "http://" and ":30020").

Now enter the address of your access as you did in “DynDNS”. You can find this in the settings of your Fritz!Box (see Figure 7). Confirm this with “ Add control”.

Check so in Of their Smartpond © app the Connection – also if not connected to your WiFi (e.g. via mobile data).

- **Update start**

If the update symbol appears in the action bar, a new update is available for your control. The update will be downloaded automatically if you have an internet connection, but will not yet be installed. Click on “Start update” to install the new firmware. **Do not** switch on the control when doing this out of!

- **port number**

Especially if you manage several Smartpond © controllers in a WiFi network, you need different ports. Here you can set the port number of the controller.

- **DHCP**

In this menu item you can switch the use of DHCP on and off and if necessary the necessitate Settings make. She can here the following Change settings :

- IP address
- Gateway
- DNS
- Subnet mask

- **Reset WiFi**

If you want to delete the saved WLAN settings, select “Reset WLAN” and confirm the query with “Yes”. Please note that the saved WiFi settings only here deleted become can and at “Reset “To factory settings” in the System Settings menu cannot be deleted.

menu system Settings

- **Date & time**

In this menu item you can select the time and date. The Smartpond© PLUS control has an internal battery so that even in the event of a power failure, the most important data is saved and the clock continues to run.

If you have an internet connection, your Smartpond© PLUS control will synchronize with an internet time server. You can do this under “Car. Time” can also be deactivated.

- **Language**

As Language can German or English to be chosen .

- **alarm**

The following Alarm settings stand Them here central to Disposal:

- **Alarm reminder:**

In the event of an alarm, you can be notified via push notification and email. To resend this notification regularly - as long as the alarm still exists - select the repeat period here, e.g. every 15 minutes.

- **Pause alarm**

If alarm for one particular Time suspend want, e.g if maintenance work is carried out, you can select the time for which the alarm is paused in this menu item.

- **News**

It gives many Events, the alarm trigger can. Here can She choose, at what events you want to be alerted to, e.g. feeding.

- **default settings**

Should the default settings the performed Changes overwrite, can do this in this menu item.

- **pin code**

In this one Menu entry can the 4-stellingen Numeric code indicate, which to Unlocking the Smartpond© PLUS steering necessary is. Note She Get your pin code and keep it safe.

This PIN also authorizes **full access to settings and actions** via the Smartpond © app.

- **Read only pin code**

If you have access with Smartpond © Want to set up an app that allows the user **to only see the data** To receive and alerts, but not to change any settings, please select a number sequence that differs from the “normal” PIN and use it to integrate the device into the app.

- **Devices Info**

The version number of the software and the serial number can be displayed with this menu item.

- **Backup settings**

In order to quickly switch between different settings or to save settings, these can be saved as a backup. All parameters set in the control are saved. You can save up to 3 different entries here and also give them names.

To save settings, first select the storage location (e.g. Backup 1). Under " **Surname** " can this one Settings a individual names forgive (e.g
"Plant", "Summer"). Confirm " **Settings save** " with " **Yes** ". Around the saved settings again to load, choose " **Settings load** " and confirm this with " **Yes** ".

Expansion options for the Smartpond © PLUS steering

All expansion options listed here are not included in the scope of delivery of the Smartpond© PLUS control. A detailed list and further information about expansion options can be found on the website www.smartpond- filter.de . Examples are given here some extensions presented. Please note the respective instructions for use of the extensions.

Connection from Sensors

The Smartpond © PLUS control can measure many water quality parameters by connecting Smartpond © sensors. If an actuator is also switched in addition to the respective sensor becomes, can the respective parameter regulated become. A more typical the application is the control of dissolved oxygen. For this purpose, the oxygen sensor O2S is used, for example, with an O2 M7 solenoid valve to introduce gaseous oxygen into the fish breeding tanks through air vents.

Connection one solenoid valve to Water make-up

In order to keep the water level in the pond or pool constant and therefore the filter hydraulically optimal to operate, The Smartpond© PLUS control can be used in combination with a level probe (PS-300-MA or EPS-250-MA) in the pond / basin / antechamber and one

Solenoid valve M12 (MVW-M12-SC) can be used. To do this, connect the level probe to the SENSOR 2 slot and the solenoid valve to the OUT 2 slot.

Connection further Level probes

In order to increase the reliability of the filter system and take water level changes in the system into account, we recommend using a second level probe/screw-in level sensor in the filter.

If the first level probe is in the rear filter chamber, the second level sensor must be installed in the antechamber. If the first sensor is in the antechamber, so must the second Level sensor in the rear Filter chamber Installed become.

By using two level sensors, the **water level difference** between the two sensors is used to detect the degree of contamination of the filter fabric. This makes the system less susceptible to water level fluctuations in the pond system and reduces the water consumption of the system.

Troubleshooting: What do if…

… the Report appears “Lid switch open"

In this case, either the lid is actually open or the cable is not connected. If your filter does not have a lid switch integrated, you can deactivate this function in the menu (Filter Settings / Lid Switch).

… the Measurements the Level probe strong vary:

If this is the case, it is usually because the water level probe is being flown against and therefore not only measures the water level, but also the flow. Please select an area with as little flow as possible (e.g. in the corners of the filter chamber) for the location of your level probe.

…it to long term Changes in the measurements the Level probe comes:

If the water level measurement changes in the range of 5 to 15 cm over several days, this is the case it probably, that the capillary the Level probe squeezed became. In this one case can not more to one Pressure equalization with the the atmosphere come and the fluctuations in Air pressure become on the Measurement of water level transmitted. Changes itself the level dependent on of air pressure, so check She please, if the Cable the Level probe is squashed and loosen the pressure points if necessary.

…the cleaning after shorter Time cancels:

Is this the Case, is it probably, that the Overcurrent protection addresses and for this reason cleaning is interrupted. This is indicated in the history (**INFO button**) by the entry “Drive Error” recognizable. The Smartpond© PLUS Control measures at everyone cleaning the Electricity, which is needed to operate the filter motor. If this current is too high, the Smartpond© PLUS control interrupts cleaning and thus protects against damage. Check the filter motor and also the drum or filter belt to determine the possible cause of this error.

Technical Data

Housing dimensions	260 x 228 x 127 mm
Cable length	2.7 m
Mains voltage	230 v AC / 50 Hz
Output power 24 v DC	In total Max. 280 W
Output power 230 v AC	230 v OUT 1 (spray pump) Max. 1800s W 230 V OUT 2 (UVC / Motor) max. 450 W 230 V OUT 3 (circulation pump) Max. 900W
Power consumption *	< 18 W
Temperature range	0°C up to +40°C
Protection class	IP 54
Data transfer	2.5 GHz WIRELESS INTERNET ACCESS, Remote access via Dynamic DNS, port forwarding and IPv4

* The Power consumption relates itself on the power consumption the Smartpond© PLUS Control without connected consumers.

information to appropriate disposal

Your device will be in packaging when delivered. Please dispose of these properly.

At the end of its life, do not dispose of the product normally household waste. Inquire itself above the Possibilities one professional Disposal. Alternatively Smartpond, Friedrichsfehnerstrasse 21, 26188 Edewecht also takes care of disposal. To do this, you can send your product to us by post or bring it directly to us.

Within the meaning of Section 6 Paragraph 1 Sentence 1, Section 17 Paragraph 1 and ElektroG in conjunction with the mortgage notice of Federal Environment Agency v. July 6, 2005 are Smartpond®Filter and whose accessories are registered under the number listed below:

WEEE reg. no. EN 70085990

Warranty

When receiving your product, please check the completeness and function of all parts supplied. If you still have any complaints, please contact us please Your Specialist dealer immediately. P l e a s e d e s c r i b e Issue possible Exactly, so that he Them as soon as possible one Solution offer can. The

following information is essential for proper processing:

1. Purchase date and Dealer
2. Accurate Mistake- or description of the defect
3. your contact details

It apply the general Terms and Conditions, the on the Website www.smartpond filter.de can be viewed. The device comes with a 1-year manufacturer's warranty and a 2-year warranty.