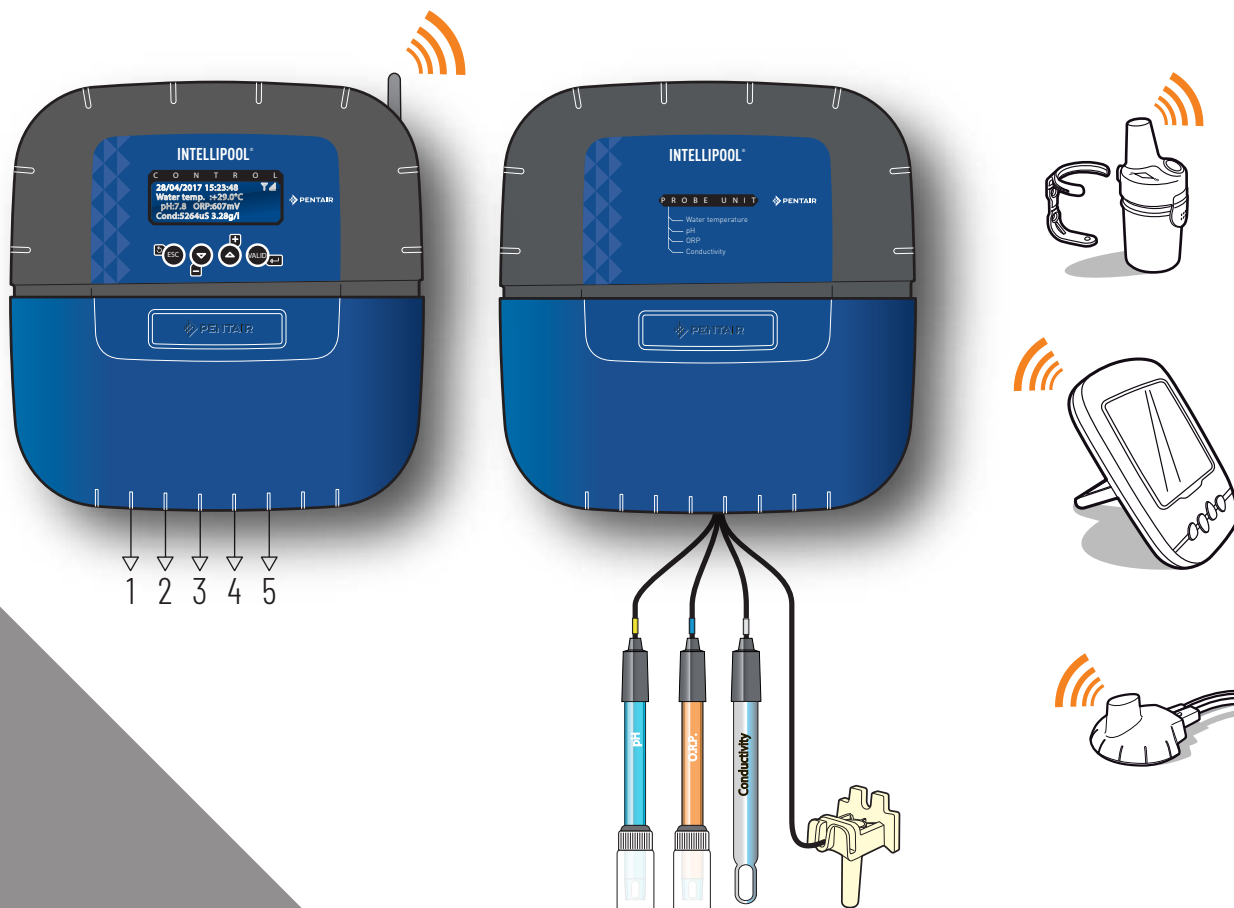


INTELLIPOOL

AUTOMATION



INTP-1010B

INSTALLATION AND USER GUIDE

IMPORTANT SAFETY INSTRUCTIONS,
READ AND FOLLOW ALL OF THE INSTRUCTIONS,
KEEP THESE INSTRUCTIONS



A label with your confidential codes is affixed to the first page of the cover.

This unique number (ID key) will be requested on creation of your free account (at www.intellipool.eu)
An internet connection is required to access the remote management account.

Pentair thanks you for placing your trust in the company and purchasing an INTELLIPOOL®, the set for water analysis and its off-board display environment, and remote monitoring of your pool via the INTELLIPOOL® application from Pentair available in the App store and Play store. The INTELLIPOOL® probe unit will permit you to learn about the main parameters which regulate the life of your pool and the INTELLIPOOL® Control Center will automatically regulate your pool and permit you to control it remotely via the internet relay. Please carefully read this user manual to fully benefit from all of the functions of INTELLIPOOL®. Store it carefully so that it can be consulted at any time.



Declaration of conformity

Directives – Harmonised standards

Pentair International Sarl – Avenue de Sévelin 18 – 1004 Lausanne – Switzerland

We declare, under our own responsibility, that the product meets the directives

SAFETY EN 62368-1:2014
EMC EN 61326-1: EN 301 489-3
EMF EN 62311
RADIO EN 300 220-2

INTELLIPOOL (+ PARTS)	PART NUMBERS:		
INTP-1010B	SB-SE-PRO-002C	SB-SE-TEC-003A	SB-CO-DIV-008B
	SB-SE-PER-003C	SB-SE-BBX-001B	SB-SE-DOM-002A

Other normative documents

Authorised person for technical documentation

Pentair International S.a.r.l
Avenue de Sévelin 18
1004 Lausanne – Switzerland

Lausanne, 01/04/2019

Guillaume Goussé
European Vice President of Operations



Product specifications: INTP-1010B model

Operating temperature: 0 to 40 °C

Maximum operating altitude: 2,000 m

Control Center + Probe Unit (internal use): IP 64

Internet relay (internal use): IP 20

Operating hygrometry: 40% AT 75 °C

Weight (excluding sensors): 3.5 kg

Radio relay (external use): IP 65

Power supply: 230 V ~, 50 Hz

Internal display (internal use): IP 40

Internet relay supply specifications: 230 V/DC Jack 5.5/2.1 mm (external - negative): VELO5US060-EU-JA

Input : 100-240 V~50/60 Hz 0.18 A

Output : 6.0 V= 0.83 A max.



Waste treatment of electronic devices at the end of their service life:

The crossed-out bin placed on the main parts which make up the product indicates that it must not be disposed of with household waste. It must be returned to an appropriate collection point for electronic device recycling (information available from the local household waste collection service). This product contains potentially dangerous substances which may have adverse effects on the environment and human health.

Customer Support: PISA, ITALY (8:30 A.M. to 4:30 P.M.) CET

website: www.pentairpooleurope.com

- Warranty (excluding sensors and consumables): 2 years

© 2019 Pentair International LLC, All rights reserved

- The document is subject to change without notice

Trademarks and disclaimers: IntelliPool® and Pentair® are trademarks and/or registered trademarks of Pentair and/or its affiliated companies. Unless indicated otherwise, names and brands of others that may be used in this document are not used to indicate an affiliation or endorsement between the owners of these names and brands and Pentair. Those names and brands may be the trademarks or the registered trademarks of these parties, or others.

IMPORTANT SAFETY GUIDELINES, READ AND FOLLOW ALL OF THE INSTRUCTIONS, KEEP THESE INSTRUCTIONS



GENERAL POINTS

- **DANGER** - INSTALLERS, POOL SPECIALISTS AND OWNERS MUST CAREFULLY READ THESE WARNINGS AND ALL INSTRUCTIONS BEFORE USING THIS PRODUCT.

- **WARNING** - Most countries regulate the construction, installation and operation of public swimming pools and spas, and the construction of residential pools and spas. It is important to comply with these regulations, many of which directly regulate the installation and use of this product. Consult your local building and health codes for more information.

- **CAUTION** - This installation and user guide contains important information on the installation, operation and safety of this product. This guide should be provided to the owner and/or user of this product.

INSTALLATION

- **DANGER** - RISK OF ELECTRIC SHOCK or electrocution

- **BEFORE WORKING ON THIS DEVICE** - Always cut the supply to the device at the circuit-breaker before maintenance. Failure to do this may lead to death or serious injury to service staff, pool users or others, due to an electric shock.

- **DANGER** - SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS PRODUCT IS NOT INSTALLED AND USED CORRECTLY.

- **WARNING** - Before installing this product, read and follow the warnings and instructions of this guide. Failing to follow these warnings and instructions may lead to serious injuries, death or material damage. Refer to www.pentairpooleurope.com for more information linked to this product.

- **WARNING** - Connect the device to a differential interrupter. If this system is used to control the underwater lighting devices, a differential interrupter must be installed upstream of these devices. Conductors downstream of the differential interrupter shall not occupy conduits, junction boxes or enclosures containing other conductors, except if the conductors are also protected by a differential interrupter. Refer to valid local codes for more details.

- **WARNING** - This product must be installed by an authorised or certified electrician or a qualified swimming pool professional. All of the applicable installation codes and local regulations must also be respected. Poor installation will create an electrical hazard which could result in serious injury or the death of pool users, installers or others due to electric shocks, and may also cause damage to property.

- **DANGER** - DISCONNECT THE SUPPLY CONNECTIONS BEFORE WORKING ON THIS DEVICE; ELECTRICAL POWER MAY BE SUPPLIED TO THE RELAY TERMINALS FROM OTHER SOURCES.

- **CAUTION** - **CHEMICAL BURN HAZARD:** Make sure all pumps are switched off at the main circuit breakers at the domestic distribution board before drilling into any pipes. Set rules for all handling related to electrical aspects, water and chemical products. Group the supply pumps and chemical product tanks in a safe and secured area.

- **CAUTION** - Do not use this product to control an automatic swimming pool cover. There is a risk that swimmers could become trapped under the cover.

- **CAUTION** - Devices which are not intended for use in single-family dwellings may require additional safety equipment to comply with local regulations.

- **WARNING** - Except for remote controls, install components at a minimum of at least 1.5 m (5 feet) from the inside wall of the pool or spa.

- **WARNING** - This product is intended for use in swimming pool applications only.

- **CAUTION** - A sufficient equipotential connection (min. 4.5 mm² recommended), in accordance with local regulations, is obligatory for all metal components of the swimming pool, including the pool pump. This is necessary for the electrical safety as well as reduction of the corrosion risk.

USE

- **DANGER** - DO NOT LET CHILDREN OPERATE THIS EQUIPMENT.

- **CAUTION** - Strictly respect the safety and handling procedures from the acid manufacturers, including protective measures for hands, body and eyes during transferring and using acid. Follow the prescribed safety precautions for handling muriatic acid intended for checking the water pH. Muriatic acid may cause serious physical harm and may damage the swimming pool equipment. Extra care must be taken when installing, maintaining and operating the acid pump feed systems. Acid is dangerous to handle and should be properly contained, transported, poured, stored and dispensed.

- **CAUTION** - Check the pH and sanitizer levels of the water before using the pool and make sure the filtration device is not obstructed.

- **CAUTION** - Periodically use an independent pH and chlorine testing kit to ensure that the pH and chlorine is at a safe level. If the pH and Oxidation Reduction Potential (ORP) or conductivity probes are broken, depleted or dirty with oils, lotions, or other contaminants, they can report inaccurate results to the system causing incorrect water chemistry, which could harm people or equipment.

- **CAUTION** - Consult the device display daily to ensure there are no alarm messages.

- **DANGER** - Water temperatures greater than 37.7° C (100° F) are a health hazard. Prolonged immersion in hot water may induce hyperthermia. Hyperthermia occurs when the internal body temperature exceeds the normal temperature of 37° C (98.6° F) by several degrees. Hyperthermia may produce the following effects: (1) Unawareness of impending danger. (2) Failure to perceive heat. (3) Failure to recognise the need to leave the spa. (4) Physical inability to leave the spa. (5) Harm to the foetus in pregnant women. (6) Unconsciousness leading to the risk of drowning. The use of alcohol, drugs or medicine is a factor which increases the risk of hypothermia in hot tubs and spas.

- **WARNING** - When mixing acid with water, ALWAYS ADD THE ACID TO THE WATER. Never add water to the acid. When adding a chemical product to the swimming pool, carefully follow the manufacturer instructions.

- **DANGER** - DO NOT MIX SODIUM HYPOCHLORITE AND MURIATIC ACID.

- **DANGER** - Keep standard solutions away from children, ensure that the bottles are securely closed, store them in a dry and ventilated location and do not let them freeze. The pH 4 calibration solution is acidic.

- **DANGER** - Batteries may contain dangerous substances. They should not be thrown into the bin, opened, thrown into fire or recharged, as there is a risk of explosion. Dispose of the batteries in accordance with the manufacturer instructions. There is a risk of explosion if the battery is replaced by an incorrect type of battery. Handle a leaking battery with gloves. Remove the batteries if the device is not used for an extended period of time.

- **DANGER** - The remote control contains a CR2032 button battery. Do not ingest the battery. In the case of ingestion, the battery or button accumulator may cause severe internal burns which can be fatal within just 2 hours. Store new and used batteries out of the reach of children. If the battery compartment does not close in a safe manner, stop using the product and keep it out of the reach of children. If you suspect that a battery has been ingested or introduced into any part of the body, seek a medical opinion immediately.

- **DANGER** - UV index information is supplied for information only and depends on the orientation and exposure of the radio relays.

For more information, we advise you to consult your dermatologist to inform you of the risks linked to your skin type.

Summary

PRESENTATION

> IntelliPool® characteristics	p 3
> Content of packaging	p 4
> General operation	p 5
> IntelliFlo® default settings	p 5

INSTALLATION

> Internet relays	p 6
> Probe Unit	p 7
> Control Center	p 9
> Electrical connections	p 10
> Radio relays	p 15
> Control Center menus	p 17
> Create an account at www.IntelliPool.eu	p 23

USE

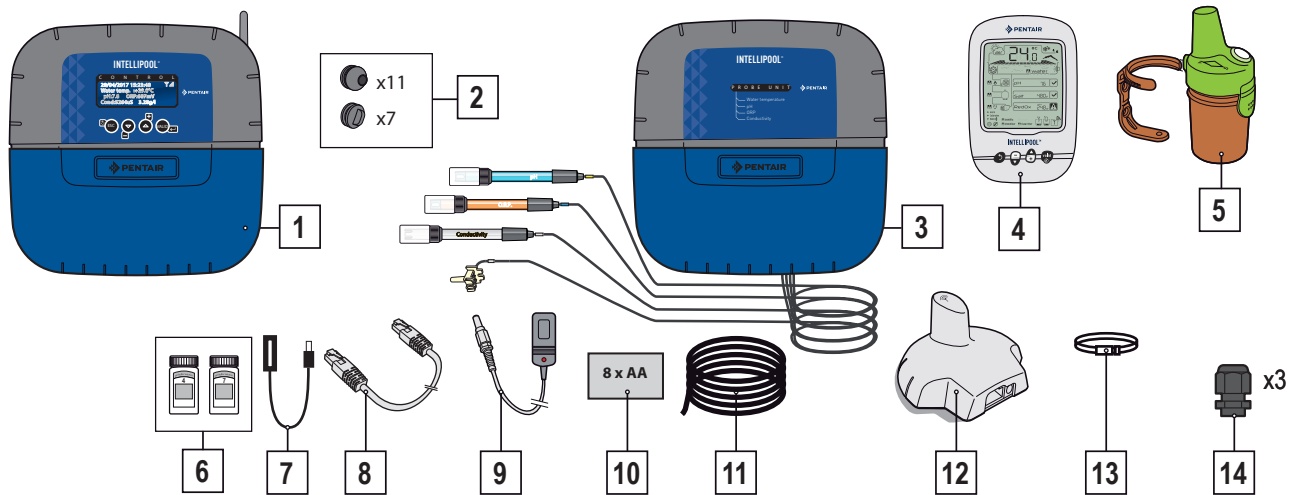
> www.intellipool.eu menus	p 24
> Reading messages on the indoor display	p 29

OPTIONS & MAINTENANCE

> Adding a second radio relay	p 33
> Re-programming the original indoor display	p 34
> Adding a supplementary display	p 34
> Calibration of a pH sensor	p 37
> Calibration of a RedOx/ORP sensor	p 38
> Correction of values from the IntelliPool account	p 40
> Probe Unit: How to update the internal firmware	p 41
> Control Center: How to update the internal firmware	p 42
> Probe Unit: cleaning of pH and ORP probes	p 43
> Spare parts	p 44

Content of Packaging

- | | |
|--|--|
| 1 - Control Center | 2 - Seals for electrical connections |
| 3 - Probe unit (and its 4 probes supplied separately) | 4 - Internal display |
| 5 - Radio relay | 7 - Female USB cable/mini USB (Probe Unit update) |
| 6 - pH calibration solutions | 9 - power supply of the internet relay (110 V/230 V compatible) |
| 8 - RJ45 cable | 11 - IntelliComm communication cable® |
| 10 - 8 x AA ProCell batteries (resistant to +70 °C) | 13 - Webbed strip, 50/70 mm diameter, for the temperature sensor |
| 12 - Internet relay | |
| 14 - 3 strain relief bushings, 12 mm diam., for pH/ORP/Conduct. probes | |



Introduction

Your new IntelliPool® system will provide fully automated management to your pool system. It controls and manages the water quality and permits remote access to all the comfort functions of your pool for you and/or your professional. The result is a safer pool.

IntelliPool® will also be able to make substantial savings in terms of operation of your pool. Its unique control of IntelliFlo®, a variable speed pump, assures the lowest possible consumption of power while maintaining the water quality with optimal filtration. These savings can be as much as 90%. Automatic control also reduces the use of chemical products and makes it possible to extend the life of a salt chlorinator.

IntelliPool® will also be able to adapt the filtration, disinfection and other functions while the pool is covered.

The increased convenience of using your pool will be the aspect of IntelliPool® that you appreciate the most. The lights, heating and filtration can be checked anywhere, at any time, by using any smartphone, computer or tablet. Automatic backwash is possible by using a specific valve on the filter.

IntelliPool® uses precision and control sensors. Please follow the recommendations described in this manual and use professional help to install your system.

The only thing now is to install your pool and enjoy it!

IntelliPool® functions

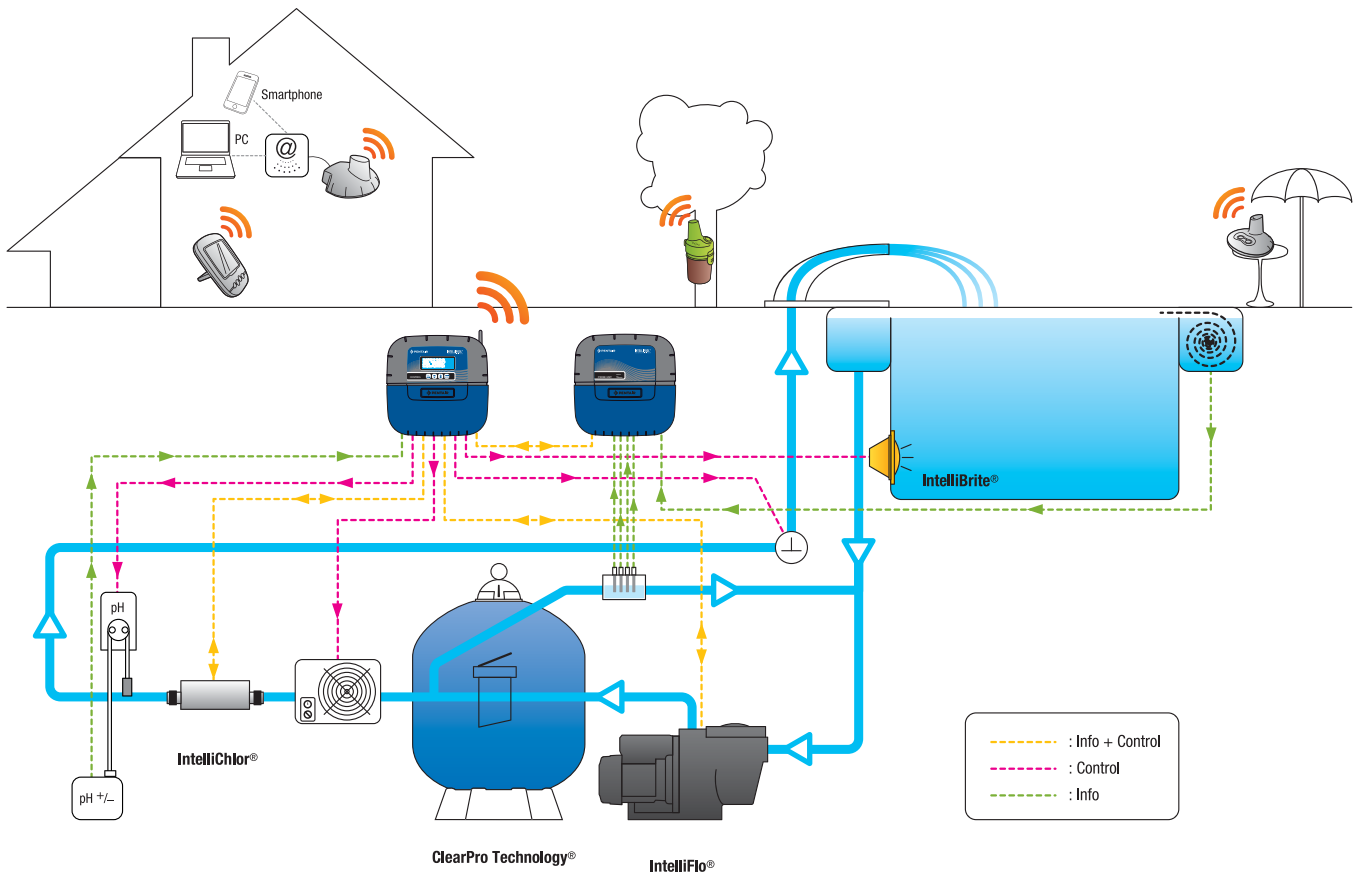
IntelliPool® manages the variation speed of IntelliFlo® according to: Water temperature/Position of the pool cover/Specific functions (waterfalls, heating, IntelliChlor®)

- Optimisation of the IntelliFlo® rotation speed
- Modes: Automatic/ON/OFF/Schedule
- Disinfection based on the RedOx (ORP) measurement
- pH monitoring and dosing (pH + or pH-) including empty tank information
- Measurement of the conductivity to communicate the salt concentration
- Control of heating and setting of the temperature
- Lighting ON/OFF, clock mode and selection of IntelliBrite® colours
- Auxiliary outlet:
 - Automatic backwash (with push/pull valve) - accessory function (with a second pump or a 3-way valve) -
 - ON/OFF mode, clock

All these characteristics can be accessed directly from IntelliPool® or from a smartphone/tablet

General operation

The PROBE UNIT, located in the technical room, collects information on the water quality and communicates this to the CONTROL CENTRE. The CONTROL CENTRE is also located in the technical room and activates different equipment in the pool. For IntelliFlo® and IntelliChlor®, this information is sent via a RS485 bus. In this way, IntelliPool® also collects information and comments from IntelliPool® and IntelliChlor®. By using a wireless proprietary protocol at the centre of the control, it sends and receives information and controls from the other system component. The INTERNET RELAY permits remote access to a system, using a PC, tablet or smartphone. The INTERNAL DISPLAY informs the pool owner of the main pool parameters while the REMOTE CONTROL permits the lights and water feature to be activated in terms of pool aspects. The RADIO RELAY assures radio communications between the elements, while collecting the temperature of the ambient air. In this configuration, the system has all necessary elements to assure proper functioning of the pool.



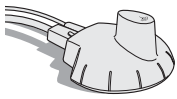
Specific settings for the VSD drive and VSF IntelliFlo

The IntelliFlo® VS and VF pumps do not require specific settings.

However, for IntelliFlo® VSD, be sure to:

- Disable the freezing prevention function in the pump
- Set the minimum and maximum speeds at the same values as in the IntelliPool® menu to manually obtain similar protection during functioning of the pump.
- Determine if you would like the priming function to be activated. Consult the VSD and VSF manual for this function. When it is activated on the pump, the pre-programmed priming becomes active. Note that this can lead to unintended results with some equipment.

Please note: IntelliPool® will also control the pump keypad; stopping the pump from the keypad is not possible when IntelliPool® is active. Use IntelliPool® or in an emergency, actuate the main power interrupter to stop the pump.

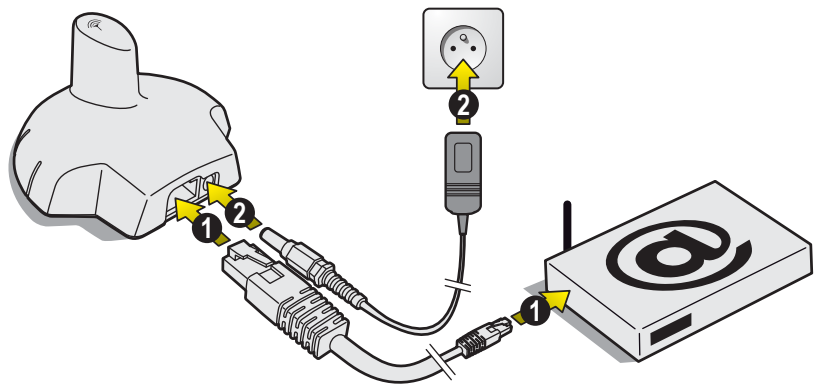



Internet relay - your pool is accessible 24h/day at www.intellipool.eu

The internet relay makes it possible to remain in contact with the installation via the internet (even if the home computer is switched off). Whatever your type of computer (PC or MAC), you have access to real time data and can also work on the settings and commands. Simply connect the internet relay to your internet "box" and connection to the Pentair server is automatic. By following the instructions, and after creating your free account at www.intellipool.eu, you can connect to your installation in a few minutes.

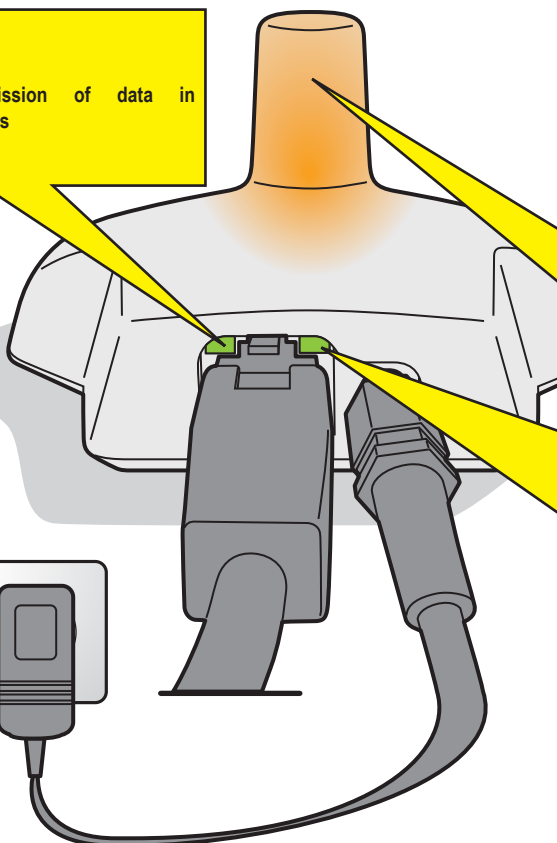
1 - Connect one end of the supplied Ethernet cable to the Ethernet port of your internet relay. Then connect the other end of the Ethernet cable to a free Ethernet port of your box or ADSL modem. The supplied Ethernet cable can be replaced by an equivalent cable with a maximum length of 100 m. If you do not have a free Ethernet port on your "box" or ADSL modem, we advise you to obtain an Ethernet switch to permanently connect your installation. 2 - Power the internet relay by connecting it only to the supplied mains supply.




The internet relay is automatically configured, provided the DHCP server of your internet "box" is activated (in the vast majority of cases, the DHCP server is activated by default on installation of your internet "box"). This function can be accessed via the management menu of your internet "box", refer to your internet access supplier for more details. Check that the internet relay works properly with the LED on the device (see the illustration below).







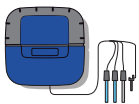


Transmission of data in progress



-  - Not lit = not connected to the server
> Check the power supply, connection of the Ethernet cable and the internet connection.
-  - Lit = connected to the server
-  - Flashing = sending data in progress

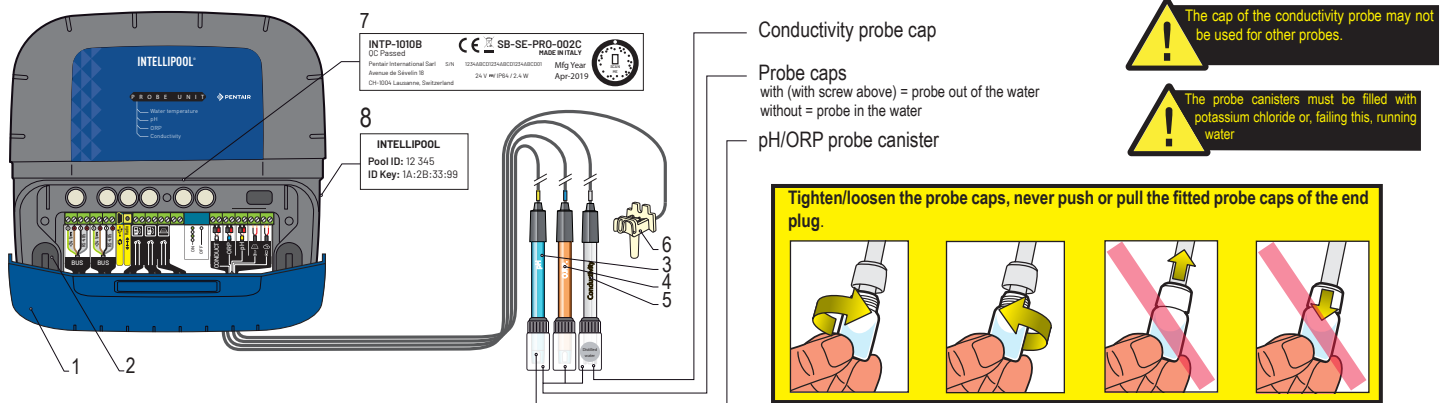
-  - Off = Initialisation fault or no supply
> Check the connection of the 230-V supply.
-  - Slow blinking = no network
> Check the connection of the Ethernet cable and check the internet connection.
-  - Quick flashing = DHCP resolution in progress
> Takes less than a second. If the flashing continues, check the activation of the DHCP in the management interface of your internet "box"
-  - Light is permanently lit = network connection
> The internet relay is connected to the network.



Probe Unit

The Probe Unit, via its probes, measures the pH, ORP (RedOx), conductivity and water temperature. This information is sent to the Control Center. The length of cables is voluntarily limited to 50 cm to ensure good probe reading precision.

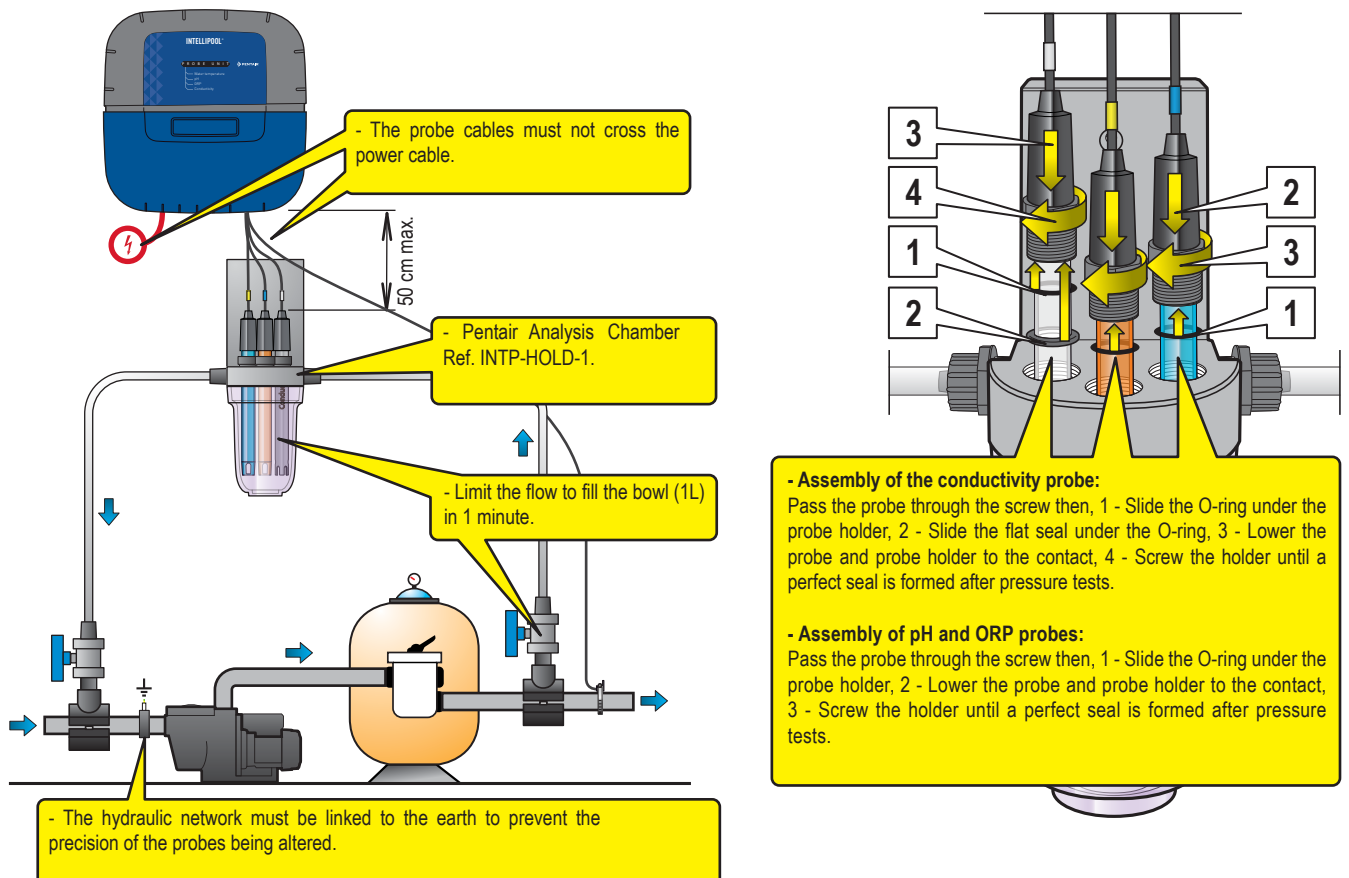
- | | |
|--|---|
| 1: Elastomer cover (Watertight protection) | 2: Screw cover (protection against entry of vapours) |
| 3: pH probe (0.5 m cable length) | 4: ORP probe (0.5 m cable length) |
| 5: Conductivity probe (0.5 m cable length) | 6: Water temperature probe (2 m cable length) |
| 7: Identification tag | 8: Pool ID label, access codes to an internet account |



Installation and connection of probes

The Probe Unit must be installed close to the by-pass (the pH, ORP and Conductivity probes have 50 cm long cables)

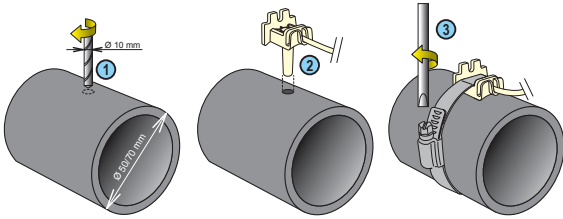
- 1 - In the analysis chamber (recommended, Pentair ref. XXX), install the pH, RedOx and Conductivity probes in accordance with the diagram below. The glass conductivity probe uses the gasket and the O-ring to ensure a perfect seal. The ORP and pH probes only use the O-ring.
- 2 - Install the temperature sensor outside of the analysis chamber (see the next page).
- 3 - Pass the cables through the white strain relief bushing, connect the cables in accordance with the markings, screw the strain relief bushing (see the next page).



Installation of the water temperature probe

INTELLIPOOL is supplied with a temperature probe which is suitable for water. It is possible to mount a second temperature probe for the air temperature used to manage the frost protection process of heated technical rooms.

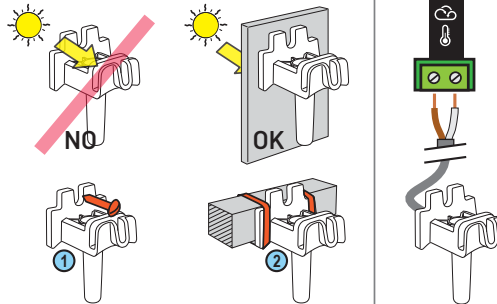
The temperature probe can be installed outside the bypass in front of the filter of the pump or in front of the filter inlet in order to improve the reading precision. 1 - Pierce the PVC pipe to a diameter of 10 mm (3/8 inch). 2 - Remove the shavings and check that the O-ring is present under the probe, place the probe in the hole. 3 - Place the metal clamp in the groove and tighten.



INSTALLATION OF THE AIR TEMPERATURE PROBE (OPTION)

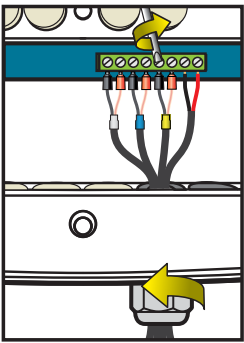
- If the air temperature probe is connected, it automatically becomes the reference value for the management of the anti-freeze protection. The air temperature probe is placed outdoors, away from direct sunlight so that the measurement is not distorted. It can be easily moved due to its 6 m long cable.

1 – Mount it to a wall by screwing OR 2 – Mount it on a horizontal bar of a grate with a cable tie.



If an air temperature probe is connected, the air temperature information from the radio relay will no longer be used.

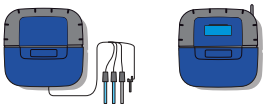
Installation of pH/ORP/Conduct. probes



- 1 - Completely unscrew the strain relief bushing: be careful and do not let the black, flexible seal fall.
- 2 - Pass the cables through the nut and strain relief bushing
- 3 - Connect each lug according to the indicator under each terminal block
- 4 - Tighten using a 2.5 mm/0.5-0.6 Nm slotted screwdriver
- 5 - Securely re-tighten the strain relief bushing by hand

The service life of the probes (depending on the conditions of use) is around 2 years for the pH probe, 5 years for the RedOx probe and a lifetime for the conductivity and temperature probes. Only Pentair probes are compatible and guarantee proper functioning of the IntelliPool®.

TO ISOLATE THE BYPASS, CLOSING THE TWO VALVES BEFORE CHANGING A PROBE IS MANDATORY TO PREVENT ANY RISK OF FLOODING.



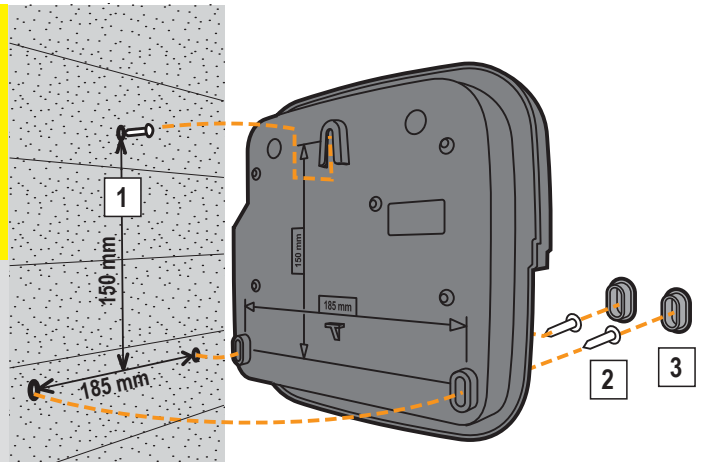
Mount the Control Center/Probe Unit to a wall



- This device is intended to be used inside, installed in a technical room which cannot be accessed by children.
- Set the device at a height lower than 2 m using three screws (4 to 5 mm diameter) in appropriate plugs for the type of support and fix the device vertically on a clean support which is able to bear a minimum vertical load of 5 kg.

Make three holes, with plugs, following the below dimensions.

- 1 - Place the upper screw and hang the device.
- 2 - Place the 2 lower screws.
- 3 - Add the 2 lower screw covers to ensure a full seal.



Placement of the Probe Unit and Control Center

The Probe Unit must be located close to the probe assembly bypass.

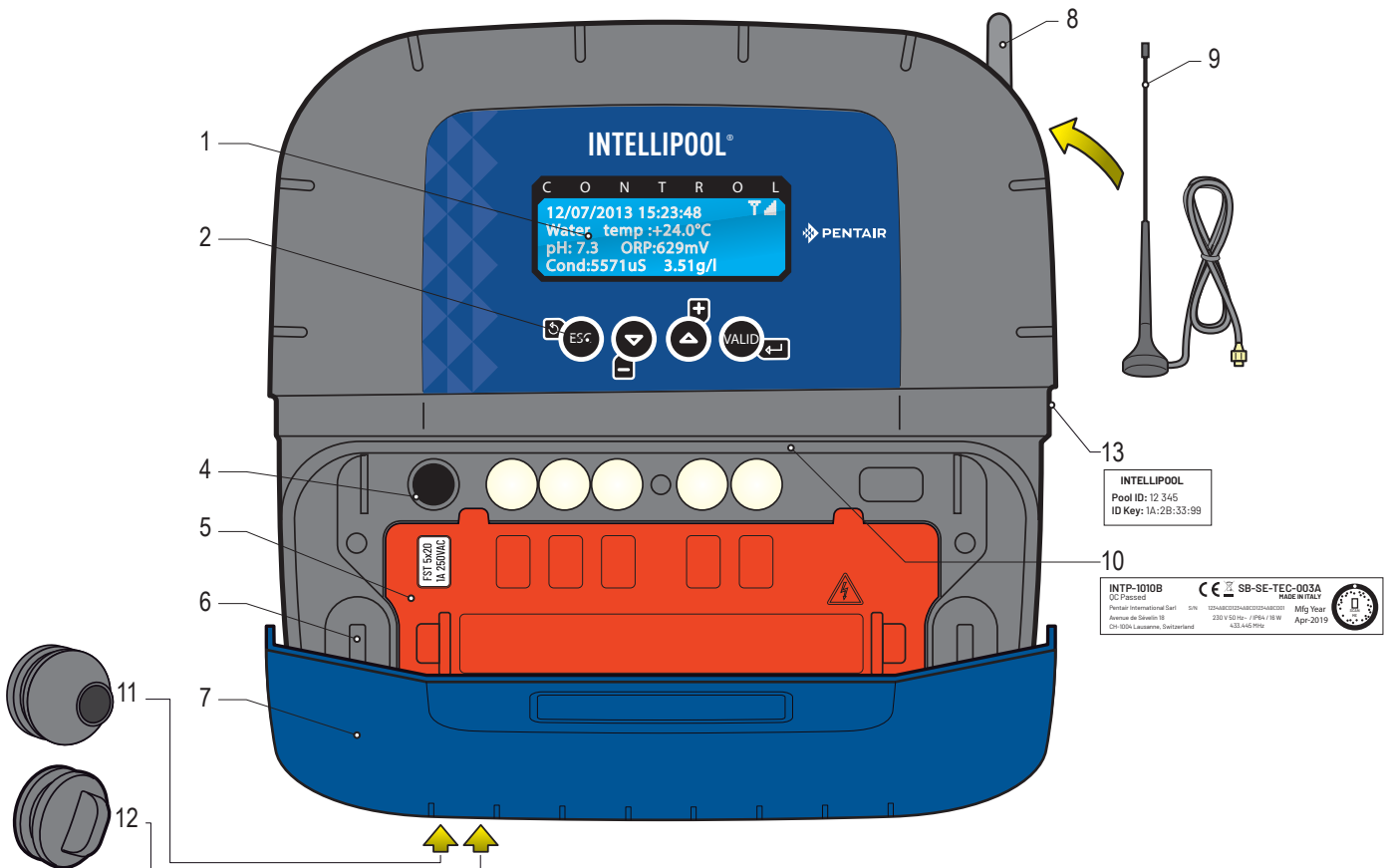
The Control Center must be located next to the electrical cabinet and its keypad must be accessible to easily perform settings.



Control Center

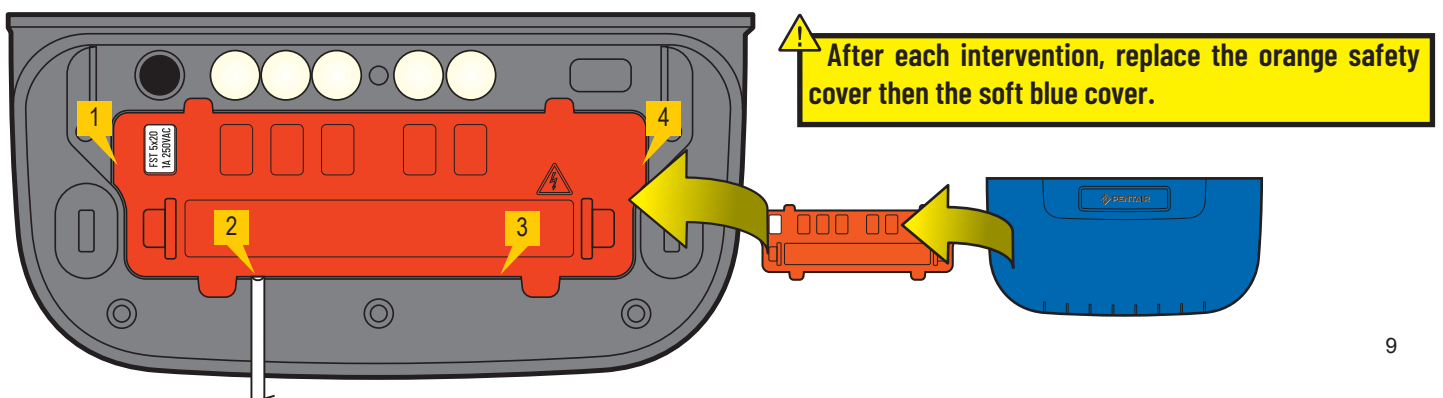
It is the brain of the system. SOLEO calculates automatically and controls the operating time of each piece of the equipment. It receives the orders via remote control or via internet and launches the lighting of the concerned device. The activity is stored in internal memory for 64 days (can be consulted by the user).

- | | |
|--|---|
| 1: Backlit screen (4 x 20 characters) | 2: Buttons (navigation menu) |
| 4: Fuse holder (1 A) | 5: Connector cover (can be unclipped with a screwdriver) |
| 6: Rubber cover (Watertight protection) | 7: Rubber cover (Watertight protection) |
| 8: Screw cover (protection against entry of vapours) | 9: Radio antenna |
| 10: Identification tag | 11: Cable grommet compatible for cables of diameters 7 mm to 10 mm, to be mounted with the supplied silicon lubricant. Avoid any vapour entering the housing. |
| | 12: End plug to be assembled if an outlet is unused. Avoid any vapour entering the housing. |
| | 13: Pool ID label, access codes to an internet account |



Disassembly of the orange cover of the Control Center

To respect the current electrical standards, a safety cover which cannot be unclipped without a tool is positioned above the connectors which guide the voltage.
> Place a flat screwdriver on the flat part of clips 2 and 3, while keeping pressure on the cover to unclip it.

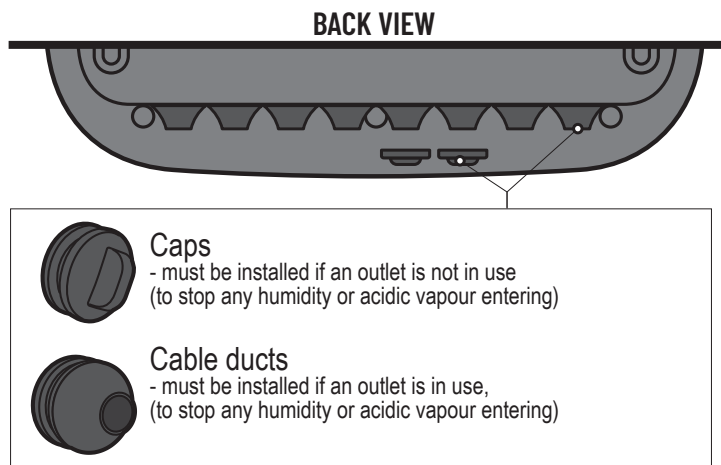
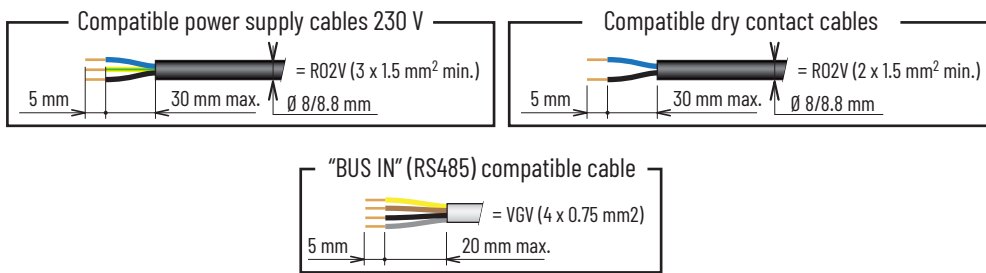
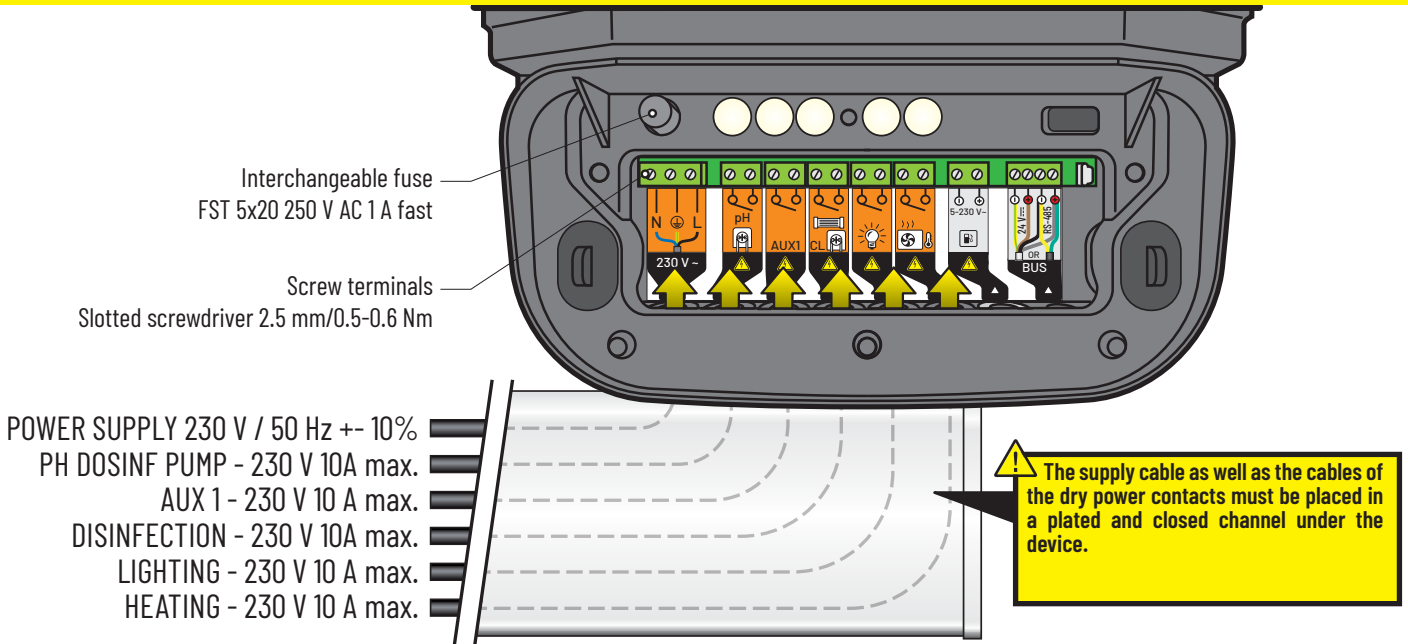




Control Center

Hygiene of Control Center electrical connections

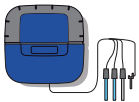
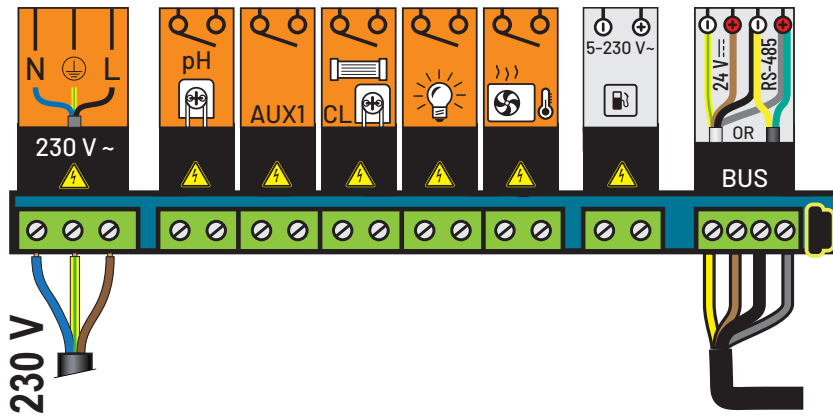
- The device must be installed by a qualified technician according to valid local regulation
- This device is permanently connected.
- The power supply to the device is cut by its interrupter, which must be close and must remain accessible at all times.
- The device needs to be connected to the earth and its power supply needs to be protected by 16A 30 mA differential protection. This protection must be cut before any intervention on the device.
- Overvoltage category II (2,500 V peak) electrical device. If necessary, place overvoltage protection equipment before the device.
- The device must be placed close to the electrical cabinet to aid connections (3 m max.).





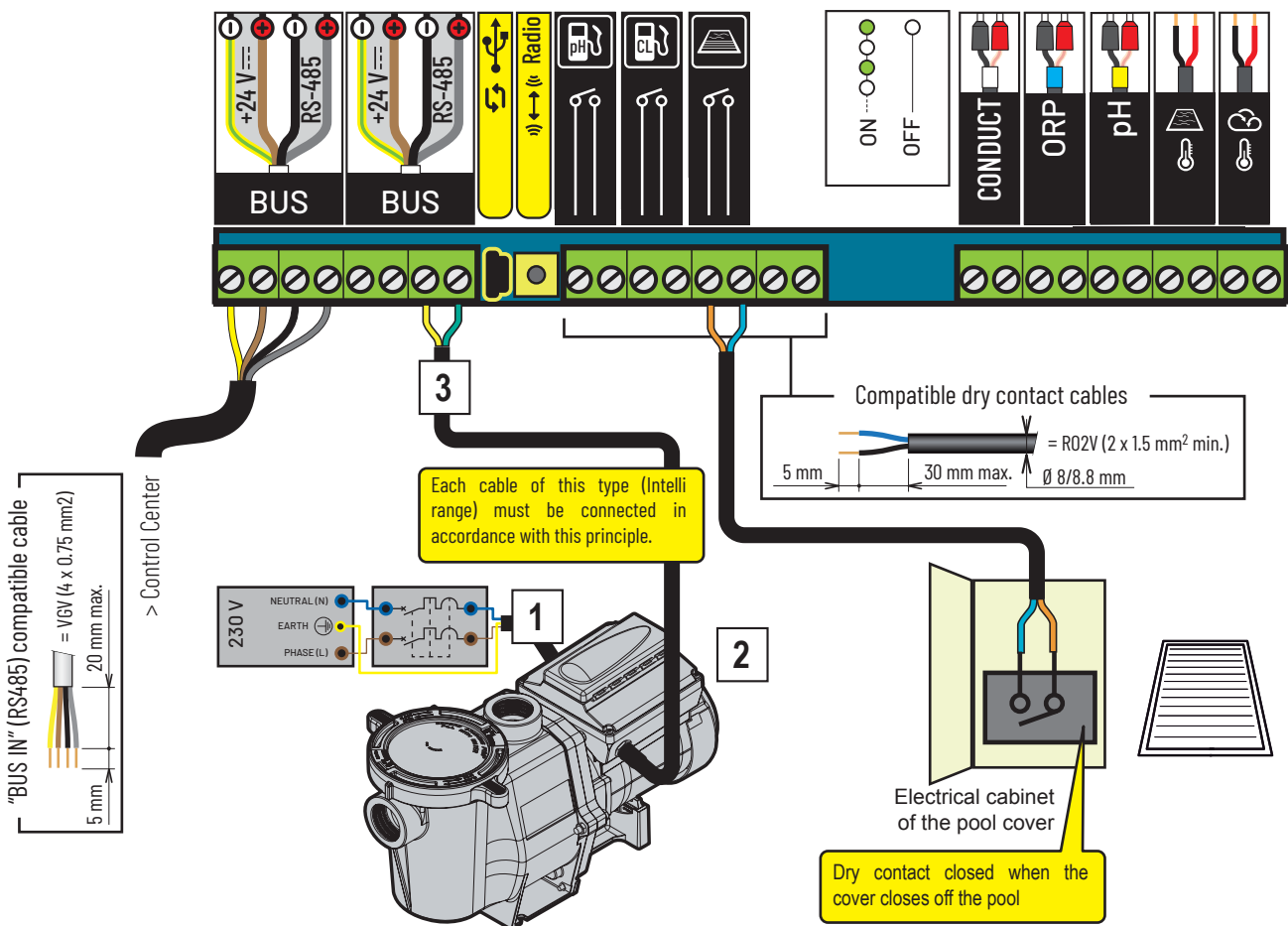
230-V connection and Probe Unit on the Control Center

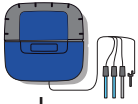
The Control Center must be placed close to the electrical cabinet to aid connections (3 m max.).
 Connect the 230 V. **Connect the 230 V only at the end of connections.**
 Connect the BUS cable to the data and power points of the Control Center, on the Probe Unit.



Connections from the Probe Unit to the Control Center and from the pool cover

- 1 - Connect the 230 V.
- 2 - Connect the IntelliFlo ref 350122/10 m length cable supplied with IntelliPool®.
- 3 - Connect the green cable to Datas+ and connect the yellow cable to Datas-. Cables connected to RS-485 must remain within the building.

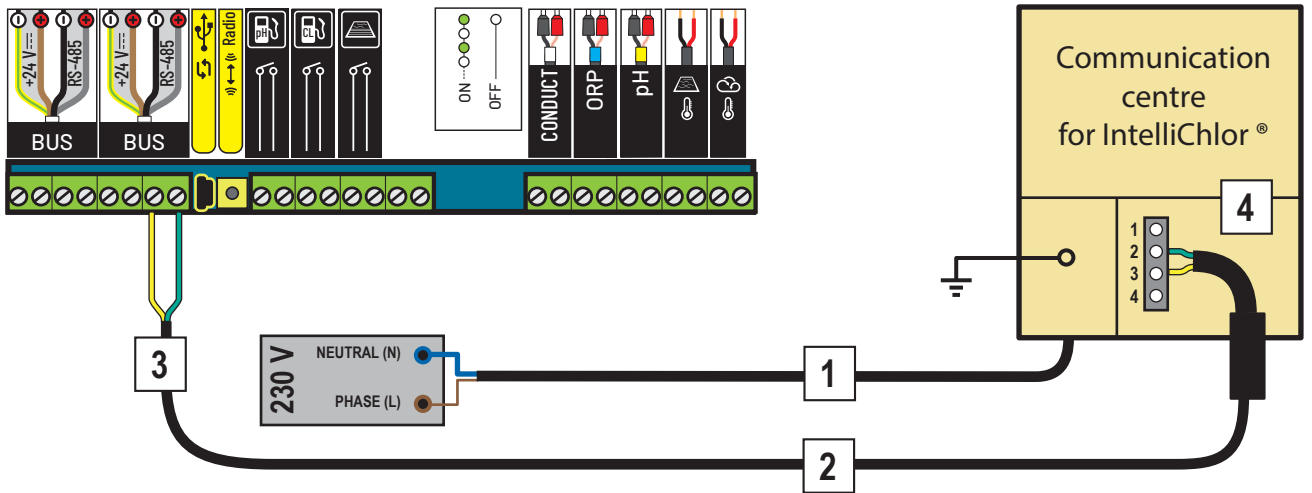




Connection of a disinfection system to the Probe Unit

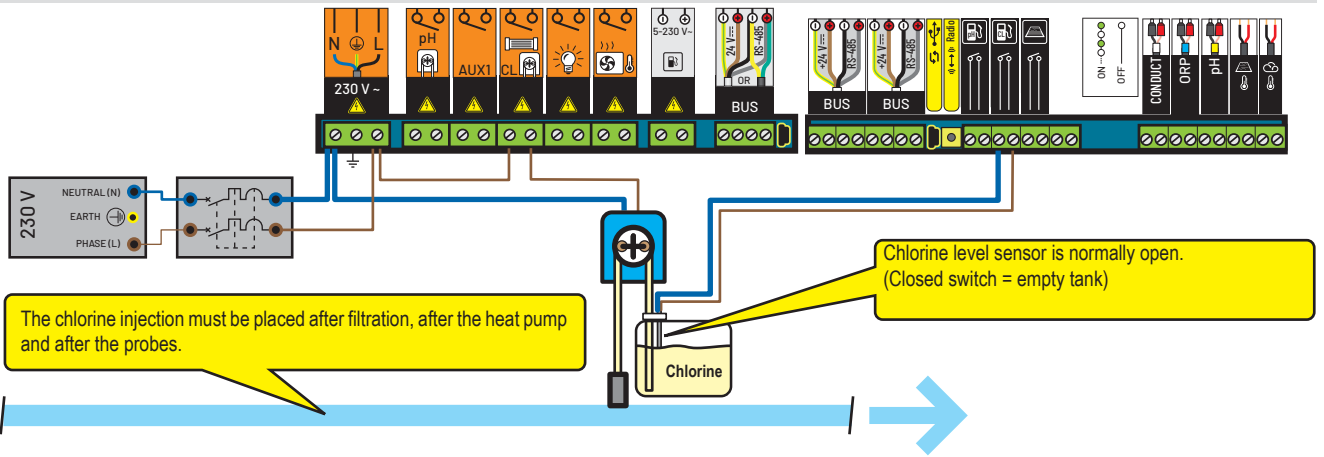
Connection of an IntelliChlor salt chlorinator

- 1 - Connect the 230 V.
- 2 - Connect the IntelliFlo ref 350122/15-m cable supplied with IntelliPool®.
- 3 - Connect the green cable to Datas+ and connect the yellow cable to Datas-.
- 4 - Connect the green strand on terminal 2 and the yellow strand on terminal 3 of the IntelliChlor® Power Centre.



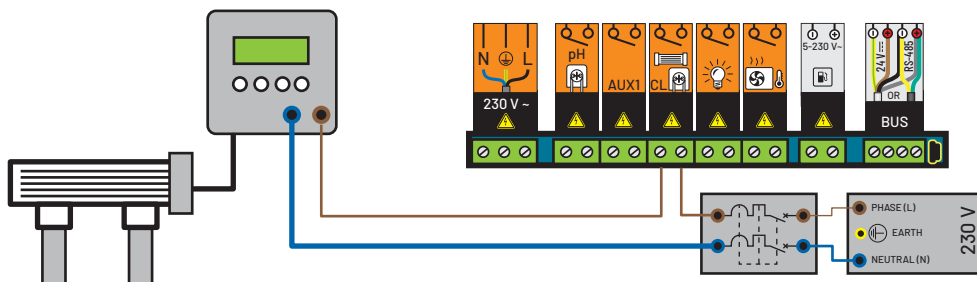
Connection of a liquid chlorine pump

- 1 - Connect the chlorine pump and the pH corrector level sensor as described below. Select "other" in the Settings/Install/Other menu, see p18.



Connection to a conventional salt chlorinator

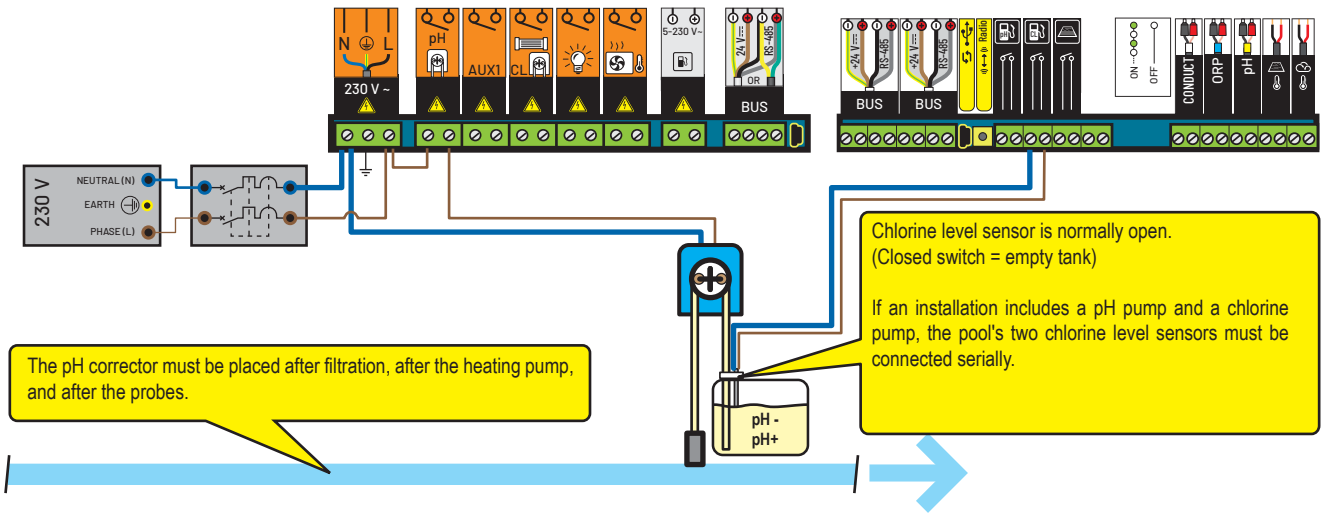
- 1 - Connect a conventional electrolyser as described below.





Connection of a pH pump to the Control Center

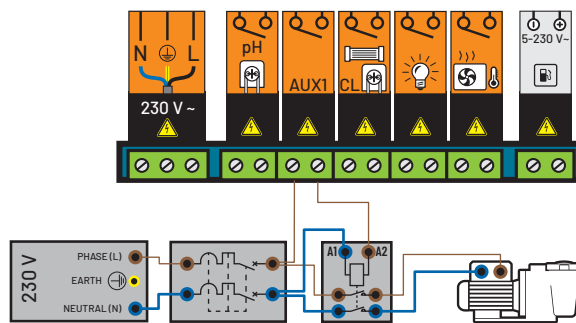
1 - Connect pH pump and the pH corrector level sensor as described below.



AUX1 connection (fountain or NAC or waterfall or garden lighting, etc.)

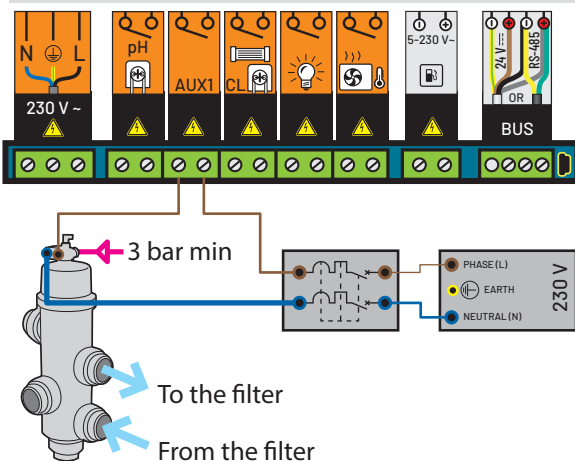
Connection of the accessory pump to the Control Center

1 - Connect a second pump to the AUX1 outlet as described below.



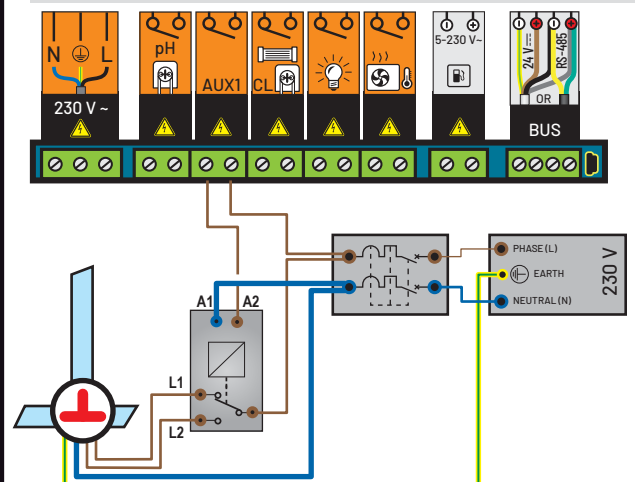
Connection of a push/pull pneumatic valve (automatic backwash) to the Control Center

1 - Connect the pneumatic valve as described below.



Connection of a 3-way valve to the Control Center

1 - Connect the 3-way valve as described below.

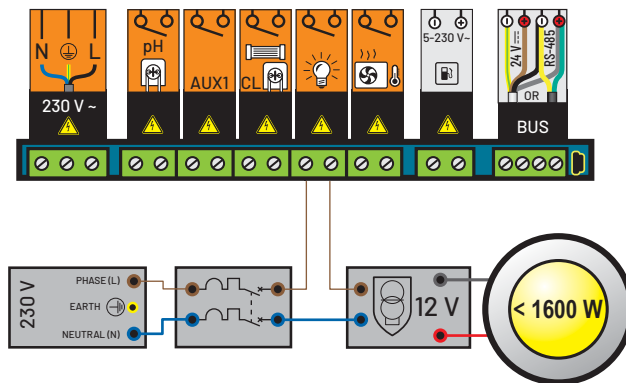




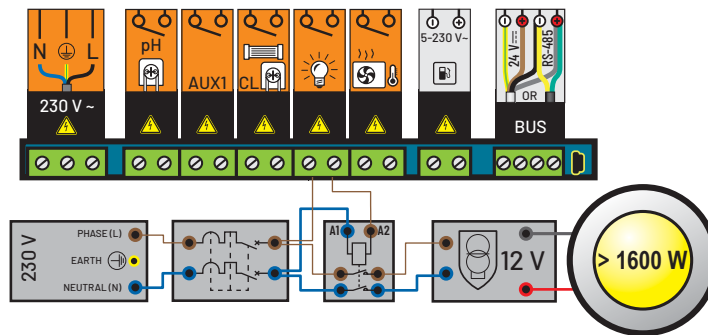
Connection of the lighting to the Control Center

1 - Connect the lighting in accordance with the power as described below

Total power of lighting is lower than 1,600 W



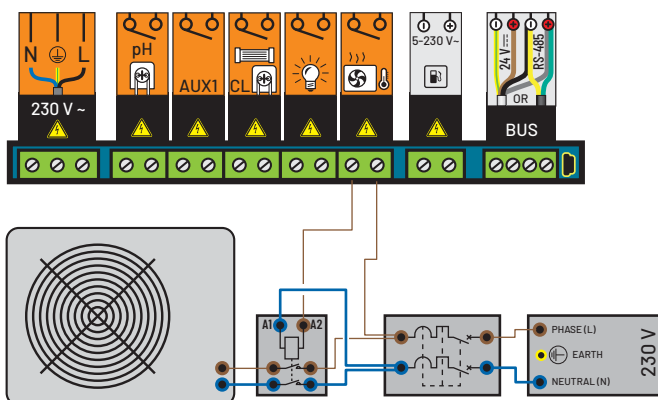
Total power of lighting exceeds 1,600 W



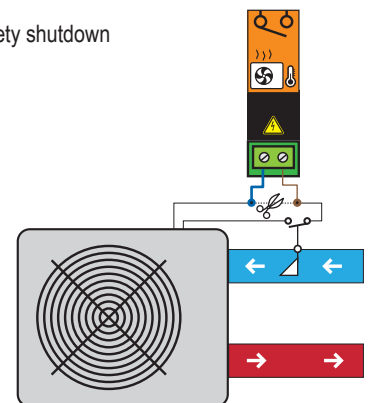
Connection of the heating pump to the Control Center

Connection of the power command of the PAC

1 - Connect the heating pump as described below or by wiring the flow switch in series.
Ensure that the heating pump is equipped with protection against overheating!



Cabling via the safety shutdown
(flow switch)

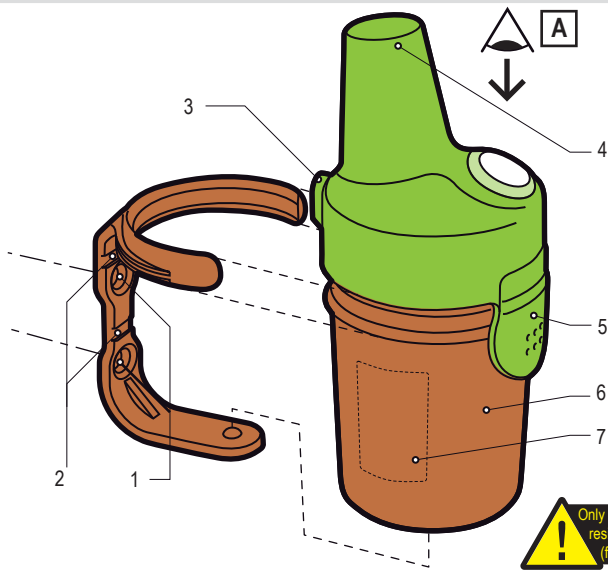




Radio relay

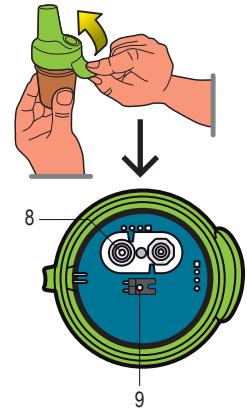
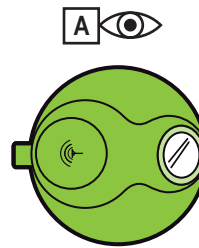
This element is necessary to relay the radio waves between the technical room and the home. It also measures the external temperature. With its forms and natural colours designed for outdoors, it can be placed in the garden (in a vegetable bed or on its clip, screwed to a wall). The battery autonomy is around 1 year. If there is a large distance or a garden with a great deal of elevation, one or several radio relays can be added (see p33).

- 1: Wall clip fixing holes
- 2: Wall clip trap grooves
- 3: Air temperature sensor
- 4: Radio antenna
- 5: Battery access tab
- 6: Tub
- 7 : Identification tag (internal)
- 8: Battery holder contacts
- 9: Jump position
- 9A: The air temperature is transmitted
- 9B: The air temperature is not transmitted (necessary for adding a second radio relay, see p31).



SB-SE-PER-003C MADE IN ITALY
4 x LR6 / IP65
433.445 MHz
FARNER International LLC
Av. de Soudun 18, CH-1024
LAUSANNE, Switzerland

! Only use high-quality alkaline batteries resistant to temperatures above +70 ° C (for example PROCELL Duracell)

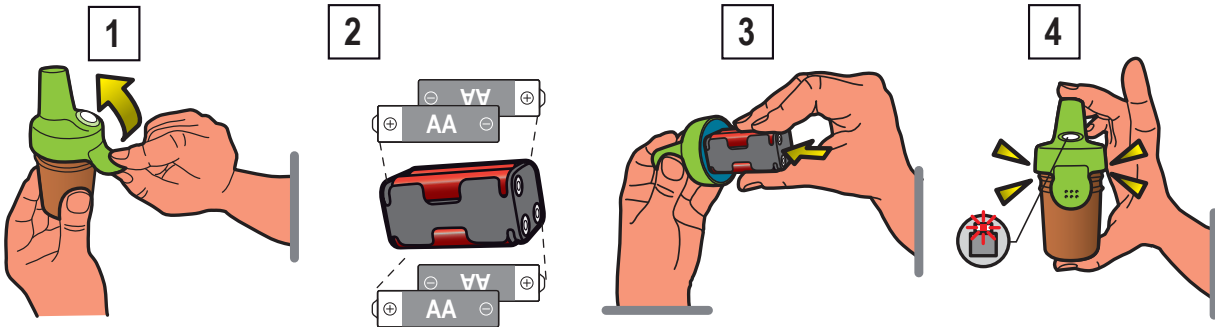




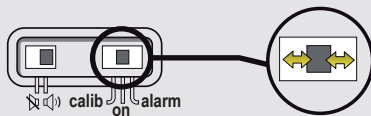
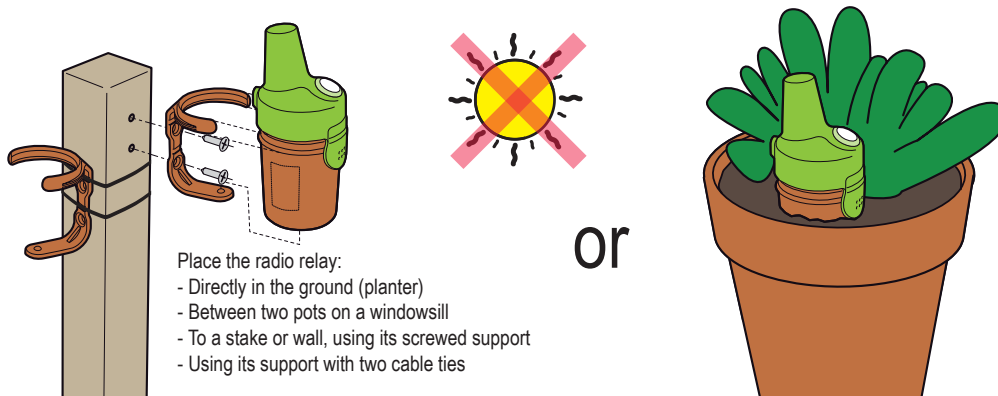
Radio relay

The radio relay may be exposed to very high temperatures. Using high-quality alkaline batteries resistant to temperatures up to +70 °C (for example DURACELL PROCELL) is necessary.

- 1 - Remove the pot by pulling on the tab
- 2 - Install the 4 AA batteries (supplied)
- 3 - Re-connect the battery support
- 4 - The red LED flashes. Replace the cover.



The radio relay assures the link between the technical room (Control Center) and the house (indoor display and internet relay). It must be placed vertically (on a wall, post) and far away from any metallic objects (iron fence, zinc gutter) and must not be directly exposed to the sun to ensure reliable measurement of the air temperature. Perform tests (read the radio signal strength on screen, move the CALIB switch at the back of the indoor display to update information) before permanently affixing it. If there is a very large distance between the pool and the house, a supplementary radio relay can be added (as an option).



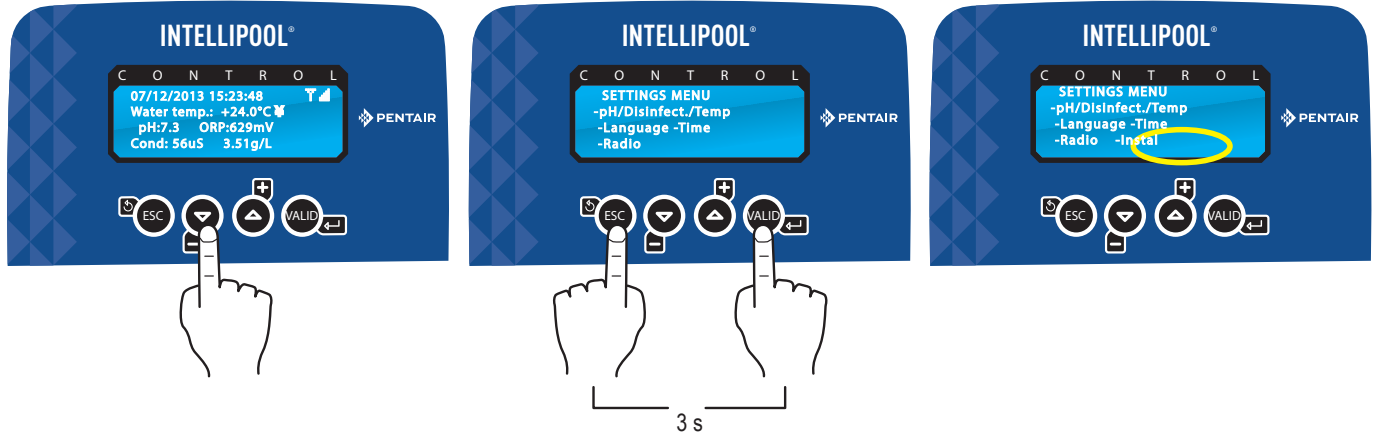
“Refreshing” the display of data by positioning the switch on “CALIB” then changing it back to “ON” (at the back of the display) makes it possible to see - after 10 seconds - the radio force signal on each positioning test of the radio relay.



Installation, restricted access to some specific settings

The settings which can only be accessed by the "Install" hidden menu are listed in ***Bold Italic***.

1: In the Settings menu, press simultaneously on **ESC** & **ENTER** for 3 seconds. The sub-menu *Install menu* appears at the bottom right of the screen (automatically disappears after 120 minutes).



Menu Settings

- pH/Disinfect./Temp
 - pH
 - Auto/Off
 - ***pH+/pH- define***
 - Setpoint
 - ***Priming***
 - Disinfectant
 - Auto/Off
 - Setpoint
 - ***Priming***
 - Temperature
 - Auto/Off
 - Setpoint
- Units (language and °F/°C selection)
- Time
- Radio
 - Register equipment
 - Register remote control
 - Reset remote control
- Menu Lighting
 - Manual / Program / Off
 - Colour: 0
 - Schedule settings
- Filtration menu
 - Auto /On / Off / Program
 - Shock
 - Filtration setting
 - Cleaning
 - Filtration operation time slot
- Menu Aux1 (invisible if AUX1 is programmed as backwash auto)
 - Manual / Horloge / Off
 - Timer: 10'
 - Program settings

Install menu

- ***Electrolyser/Other***
- ***Filtration***
 - ***Anti-freezing: + 3 °C***
 - ***Eco= (Standard -30%)***
 - ***Turbo= (Standard +30%)***
- ***pH***
 - ***Injection time: 15 sec***
 - ***Temperature min.: 16 °C***
 - ***Daily volume, max.: 0.2 L***
- ***Disinfect.***
 - ***Injection time: 15 sec***
 - ***Temperature min.: 14 °C***
 - ***Volume days Max: 0.5 L***
- ***Aux1***
 - ***Robot mode: No***
 - ***Backwash mode: YES***
 - ***Backwash duration: 10 sec***
- ***Default values***

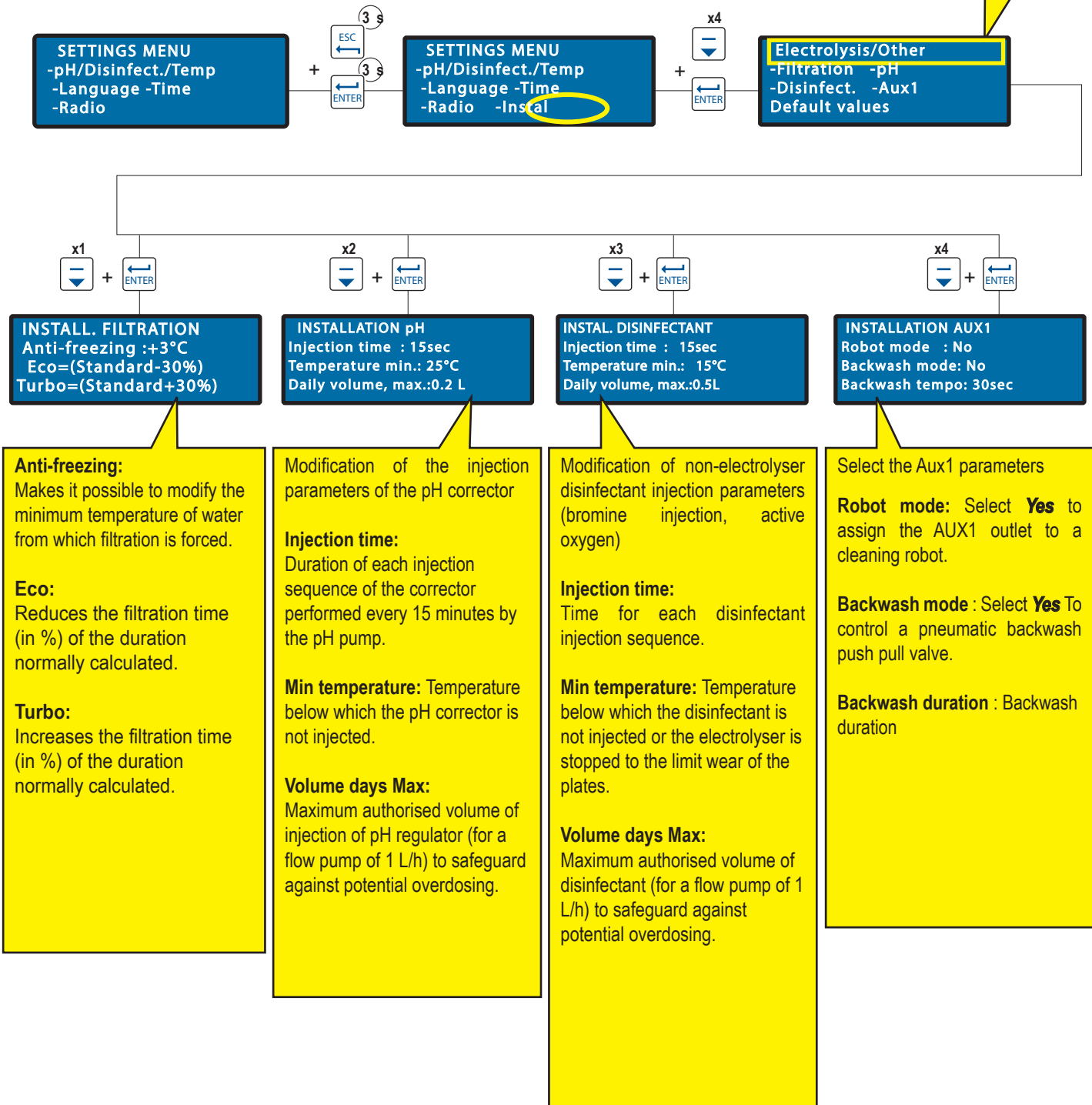
The settings of the rotation speeds of the IntelliFlo can be accessed via the *IntelliFlo menu* at www.intellipool.eu



Special settings (restricted)

This menu enables the installer to customise the settings in accordance with the particularities of an installation. Modifying these parameters may have critical consequences for the pool. We advise you to have the modified settings checked by a professional. Access the SETTINGS MENU and simultaneously press **ESC** & **ENTER** for 3 seconds. The sub-menu *Install menu* appears in the corner at the bottom right of the screen (automatically disappears after 120 minutes).

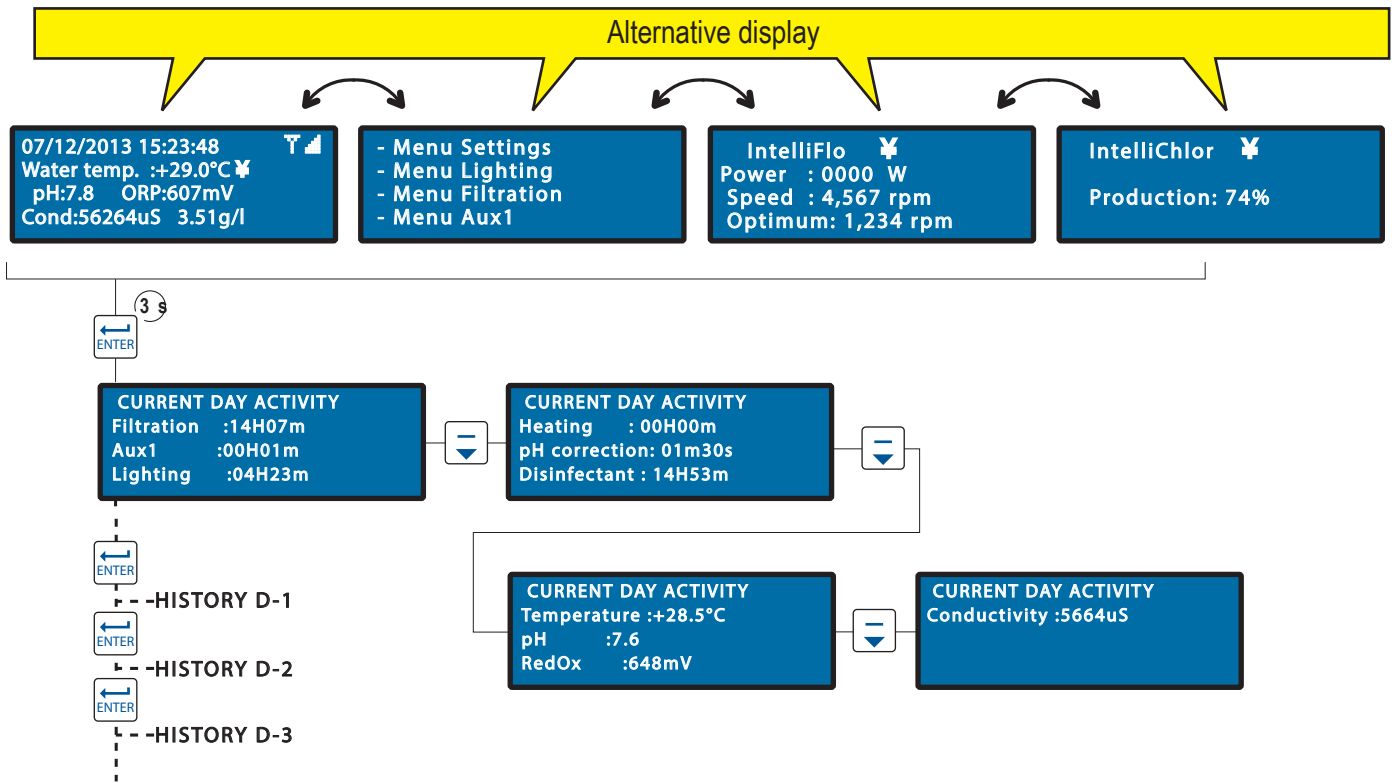
Electrolysis/Other : Selects the type of disinfectant chosen. **Other** Corresponds to a treatment by dosing pump (bromine, chlorine, active oxygen, etc.)





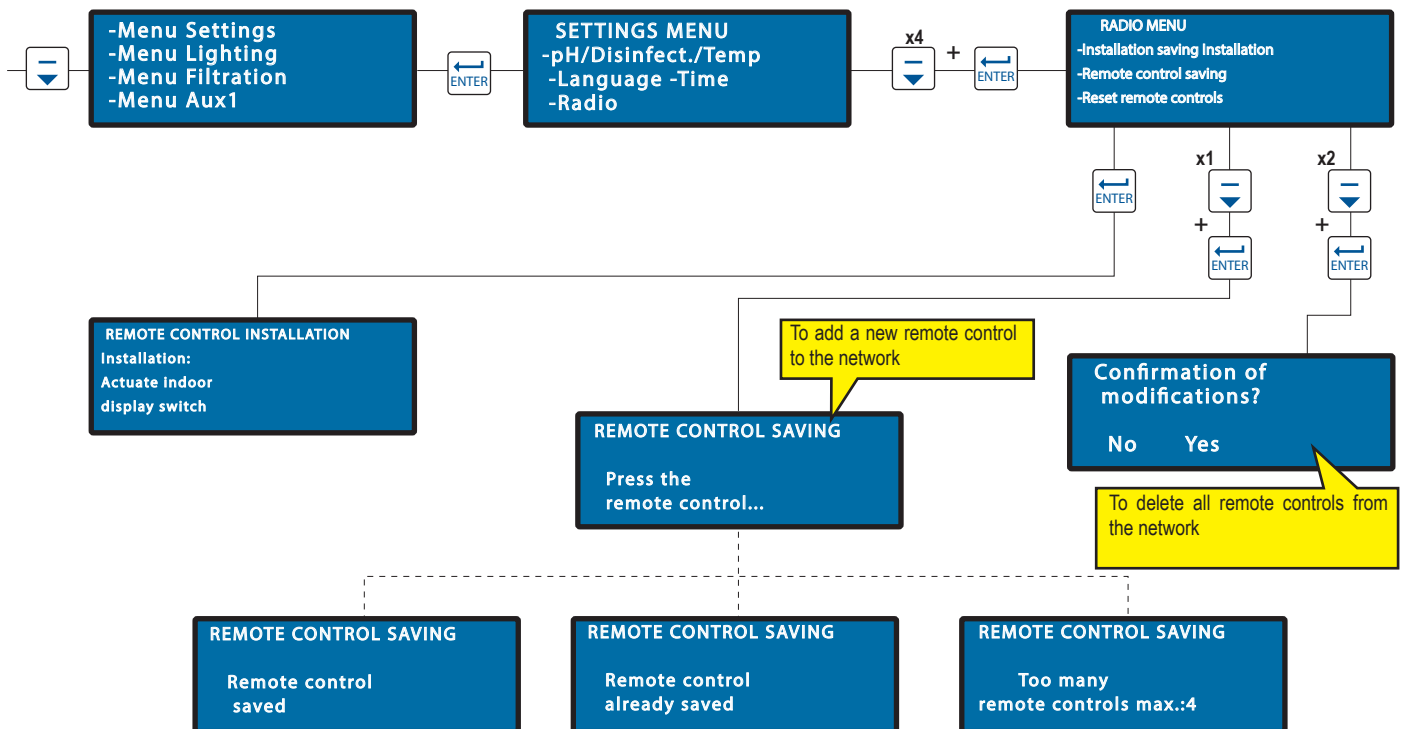
Statuses/current values/activity from previous days

This menu displays the current values and values from the previous 64 days of each of the parameters and the operating duration of each connected element (daily average).



Radio menus

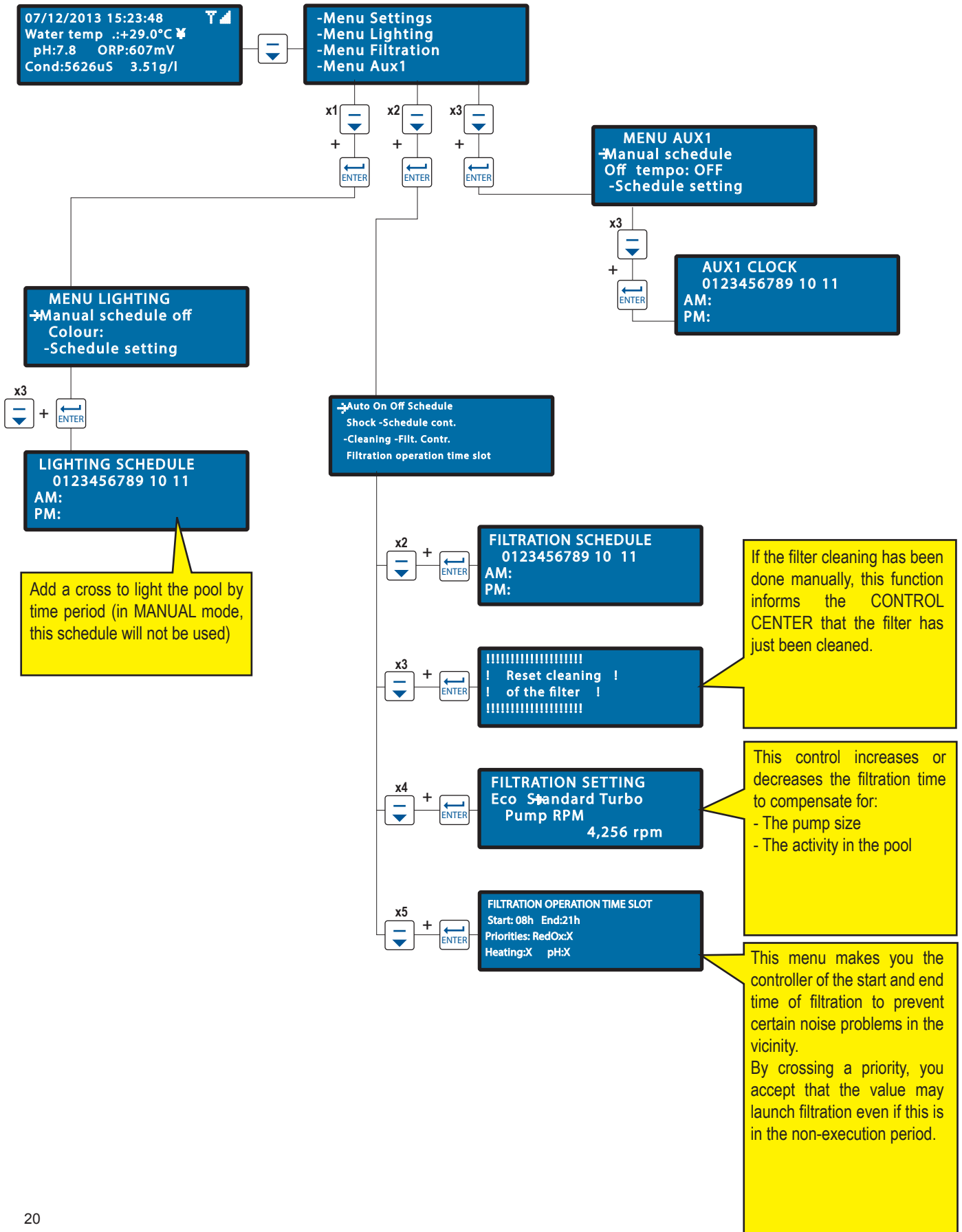
Meaning of the different RADIO menus





Lighting/filtration/AUX1 menus

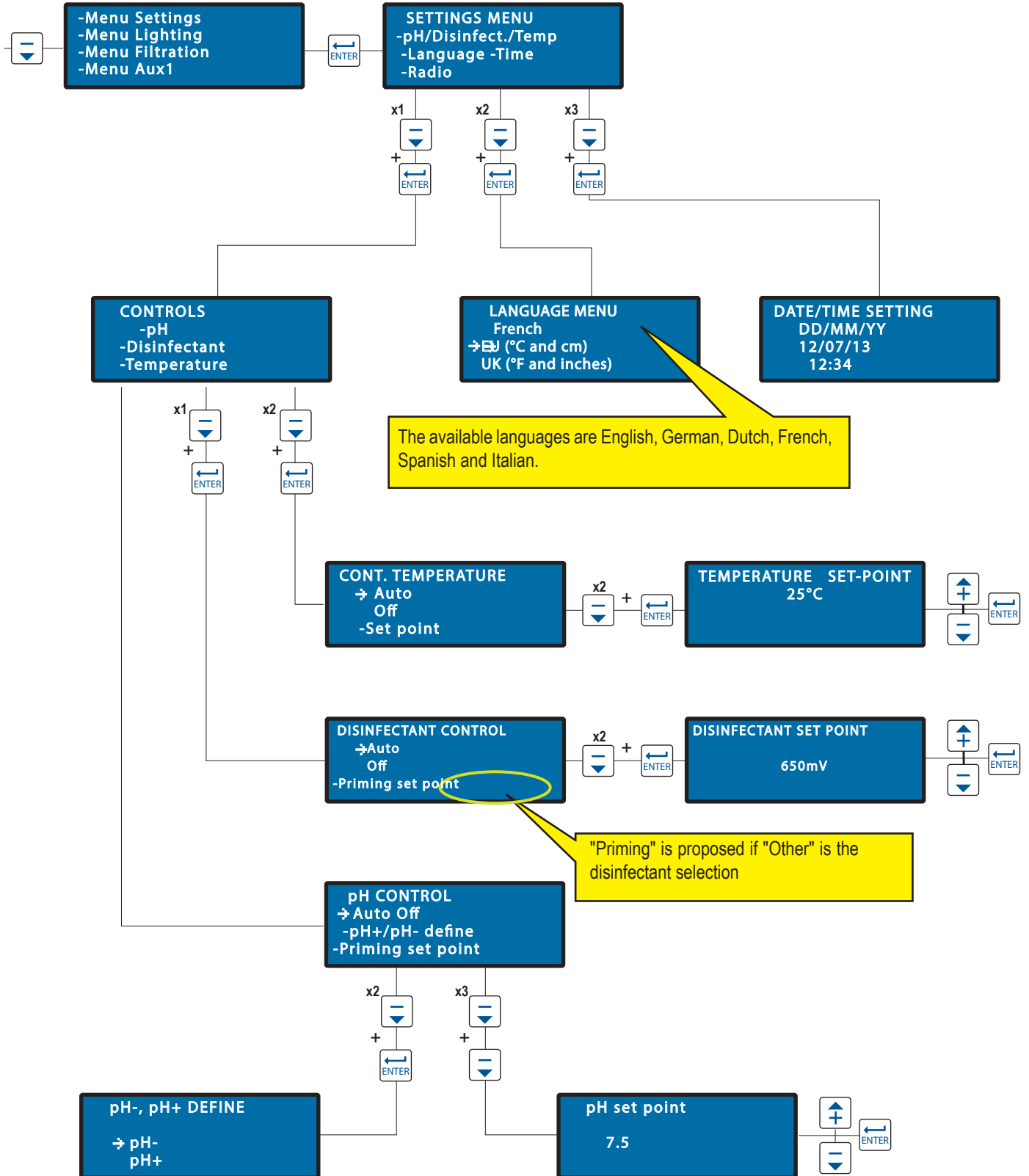
Menus for controlling filtration, lighting and AUX1.





pH/disinfectant/set point temperature /language/time menu

IntelliPool® is factory pre-set to the recommended Pentair value. These parameters can be modified.



English



Alert messages

Meaning of alert messages.

!!!!!!!!!!!!!!!!!!!!
! Lighting set !
! to Off in the menu !
!!!!!!!!!!!!!!!!!!!!

You are trying to launch the lighting but the recorded position is OFF in the Menu Lighting

!!!!!!!!!!!!!!!!!!!!
! pH regulation !
! problem !
!!!!!!!!!!!!!!!!!!!!

The Control Center needs to use more pH corrector than authorised in the max. daily volume menu (factory setting 0.5 L/day). > Check the level of pH corrector in the tank.

!!!!!!!!!!!!!!!!!!!!
! Radio connection !
! problem !
!!!!!!!!!!!!!!!!!!!!

The Control Center is no longer connected to the radio network.
> Check the antenna of the Control Center and the status of the radio relay (position, batteries).

!!!!!!!!!!!!!!!!!!!!
! RedOx regulation !
! problem !
!!!!!!!!!!!!!!!!!!!!

The Control Center needs to use more disinfectant than authorised in the max. daily volume menu (factory setting 0.5 L/day).
> Check the level of disinfectant in the tank.

!!!!!!!!!!!!!!!!!!!!
! BUS connection !
! problem !
!!!!!!!!!!!!!!!!!!!!

Check the connection between the Probe Unit and the Control Center.

!!!!!!!!!!!!!!!!!!!!
! Probe !
! control !
!!!!!!!!!!!!!!!!!!!!

Calibrate the pH probe.

!!!!!!!!!!!!!!!!!!!!
! Anti-freezing mode !
! active !
!!!!!!!!!!!!!!!!!!!!

Anti-freezing mode is active.
This message is for information only.

!!!!!!!!!!!!!!!!!!!!
! Time/Date !
! problem !
!!!!!!!!!!!!!!!!!!!!

Internal schedule faulty.
> Contact your dealer.

!!!!!!!!!!!!!!!!!!!!
! Reset cleaning !
! of the filter !
!!!!!!!!!!!!!!!!!!!!

The filter must be cleaned
> Perform backwashing

!!!!!!!!!!!!!!!!!!!!
! Product tank !
!pH corrector tank empty !
!!!!!!!!!!!!!!!!!!!!

pH corrector tank empty
> Fill the tank with pH corrector.

!!!!!!!!!!!!!!!!!!!!
! Product tank !
!RedOx correct. empty !
!!!!!!!!!!!!!!!!!!!!

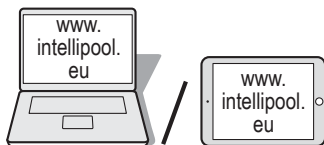
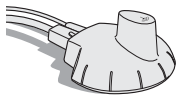
Liquid chlorine tank is empty
> Fill the tank with liquid chlorine.

!!!!!!!!!!!!!!!!!!!!
! Product tank !
!pH corrector tank empty !
!!!!!!!!!!!!!!!!!!!!

+

!!!!!!!!!!!!!!!!!!!!
! Product tank !
!RedOx correct. empty !
!!!!!!!!!!!!!!!!!!!!

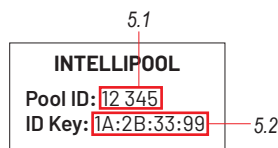
Empty pH regulator or liquid chlorine tank.
> Fill the connected tank.



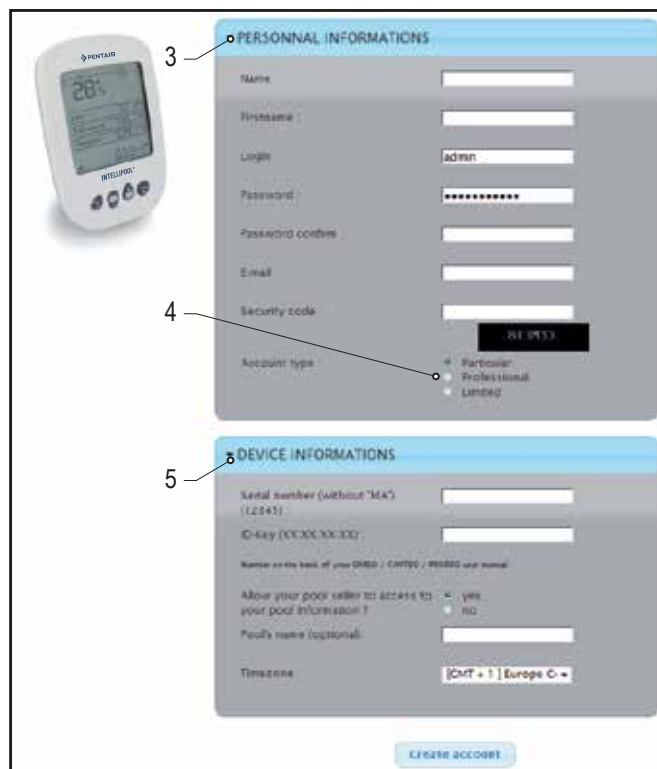
Creation and connection of an account

Allows remote access to your installation

- 1 - Connect to www.intellipool.eu
- 2 - Click *Create an account*
- 3 - Complete the *PERSONAL INFORMATION* fields
- 4 - Account type: *Individual I* is reserved for the owner of the pool with limited access to the main functions, *Professional account* is reserved for manufacturers/maintenance services.
- 5 - Complete the *INSTALLATION INFORMATION* fields :
 - 5.1 - Pool ID: The Pool ID number is on the side of the Probe Unit and the Control Center. It is a five-digit number. Do not use the serial number of the internet relay or the indoor display.
 - 5.2 - ID Key: This is a unique security code which certifies the device. It is on the same label.
- 6 - Click on Create the account. The account has been created.
- 7 - To access your system, enter the login and password that you have created and click "connect"

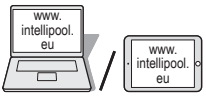


At www.intellipool.eu, create an account by completing the required fields



English

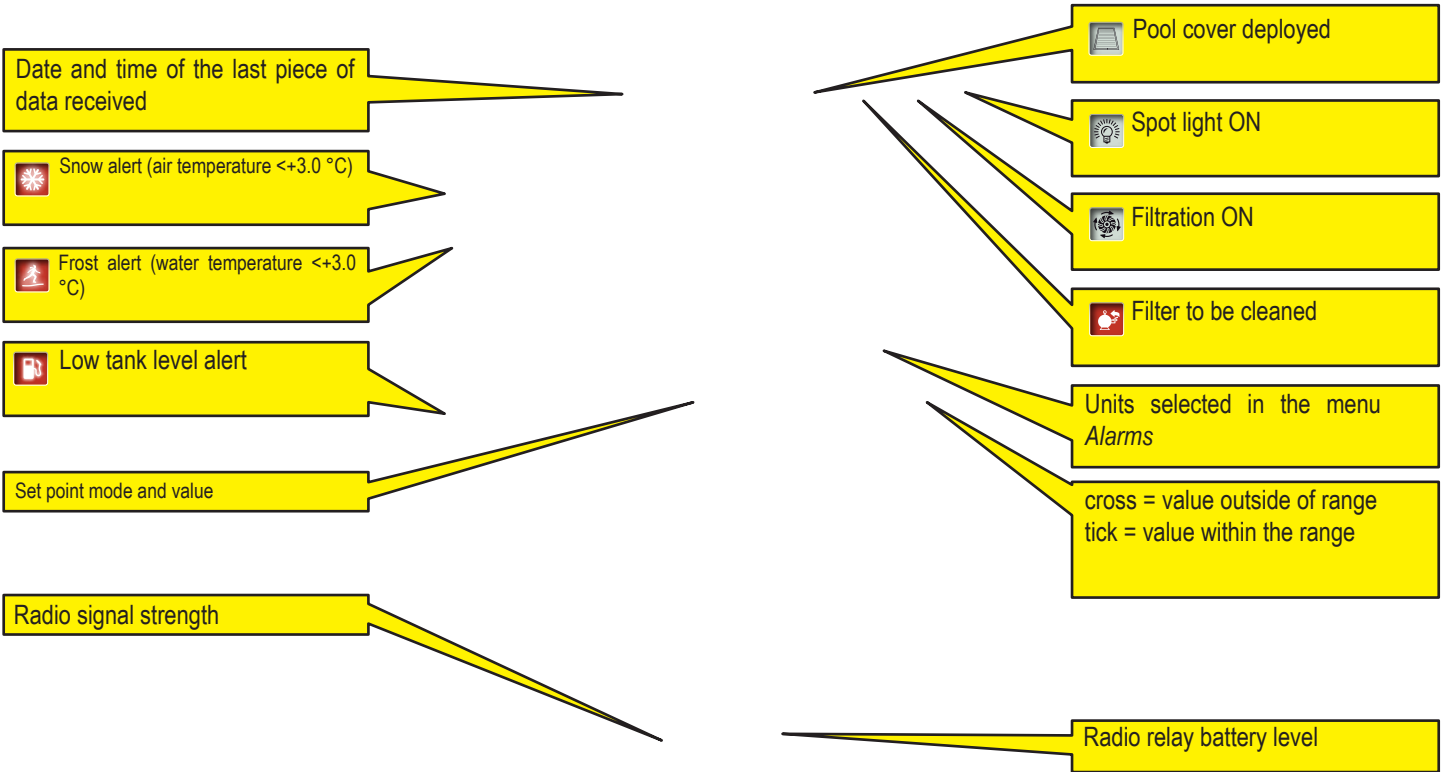
Choice of account	Account BASIC	Account OWNER	Account POOLBUILDER
Reading of information: (pH, RedOx, Temp, etc.)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Comfort command: heating pump, lighting and if a 4x extension is connected, only the "Aux" outlets are accessible	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Setting the schedules: filtration, pH or RedOx priorities, etc.	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Fixing the set point values: pH, water temperature	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Assigning set point parameters: Injection time, pump volume, etc.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Setting installation parameters: type of disinfectant, pH+ or pH-, etc.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>



Menus at www.intellipool.eu

Summary menu

The summary menu is the main menu. It is a dashboard which displays all the parameters of the current situation



Command menu

The command menu is used to launch a piece of equipment or to set the mode.

The Command menu interface shows the following controls:

- Controls: 45000** (with a close button)
- Choice of connected operating equipment** (info icon)
- Filtration:** OFF, ON, HORL., AUTO, CHOC, ECO, NORMAL, TURBO
- Lighting:** OFF, SCHEDULE, MANUAL
- Aux 1: Backwash**
- Filter clean:** Launch
- Heating:** AUTO, OFF
- pH regulation:** OFF, AUTO
- ORP regulation:** OFF, AUTO
- Solar heating:** AUTO, OFF
- Save modifications** (button)

Callouts provide additional information:

- The Program settings can be accessed in the Set Point menu
- The SHOCK function triggers 24 hours of forced filtration and electrolysis. This function can be useful after the pool has been used by many visitors
- AUX1 proposes OFF/ SCHEDULE/MANUAL if the backwash is not connected to AUX1.

Set point menu

This menu makes it possible to fix all the set points of the connected equipment. Some parameters can only be accessed according to the type of account

Set points: 45000

Synchronise time (Callout: Set the Control Center to the time of the computer)

Pool information Volume: 28 m³ (Callout: Heating pump value to be achieved in AUTO mode in the menu *Commands*.)

Heating Setpoint value: 24 °C (Callout: pH value to be achieved in AUTO mode in the menu *Commands*)

AUX 1: BackWash Function choice: backwash

pH regulation Assignment feature: 7.3 (Callout: - The selection between pH- and pH+ is directly accessible at the Control Center. - This selection is not accessible from a private account.)
 pH corrector type: pH- (Callout: RedOx value to be achieved in AUTO mode in the menu *Commands*.)
 Injection time: 20 s
 Maximum volume: 0.3 L/d
 Threshold: 0.3 °C

RedOx sterilisation Setpoint value: 700 mV (Callout: Anti-freezing value.)
 Disinfectant type: Chlorinator (Callout: This setting makes it possible to limit the time window of filtration to ensure that it does not function at inappropriate times (noise problems at night in terms of neighbours, for example).)
 Threshold: 15 °C

Filtration Frost protection: 3 °C (Callout: A priority makes it possible to control filtration within the authorised time window (because this equipment needs to function when the filtration is in operation and within the normal time period, this equipment is not authorised to control filtration).)
 Frost protection linked to the air T°:
 Economy mode: 30 %
 Turbo mode: 30 %
 Wash time: 1m 30s
 Filter rinse time: 30 sec
 Filtration duration before alert: 2 h

Daily timer programming (Callout: These schedule settings are only used if the filtration is set to schedule mode in the menu *Commands*.)

Authorisation for pump to function in automatic mode: Start time: 7 h, End time: Aut

pH priority: ORP priority: Heating priority: (Callout: These schedule settings are only used if the lighting is set to schedule mode in the menu *Commands*.)

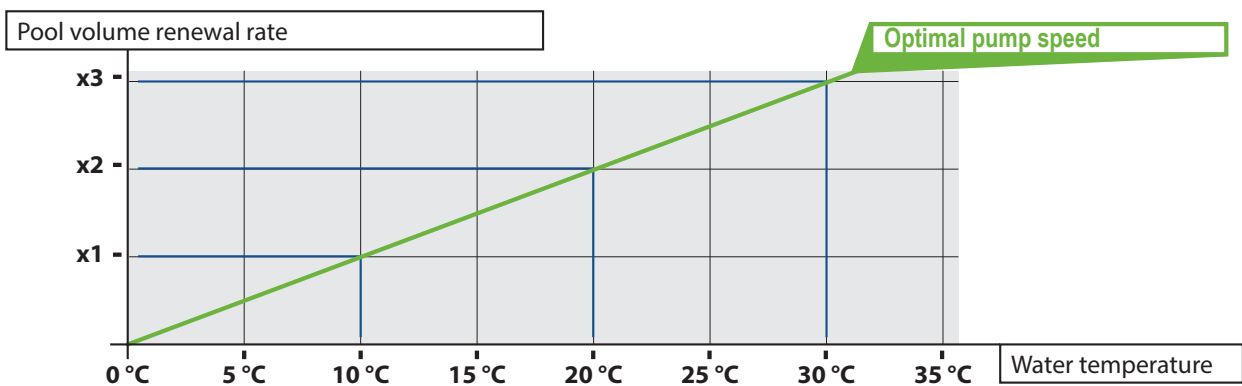
Lighting Choice of the colour: Caribbean Mode (Callout: It may take up to 15 minutes for the application of any modification made on the internet to be seen on the installation.)
 Prevent the operation of the lighting with the roller shutter:

Daily timer programming

Save modifications

The display depends on the type of equipment connected and the options selected

: cannot be accessed from a private account *Individual I*



IntelliFlo® menu

IntelliPool® permits you to obtain the most efficient and economical use of your IntelliFlo® pump. The system can work with any type of IntelliFlo® pump equipped with a variable frequency VS, VF or VSD reader.

Before setting the speed in the menu in IntelliPool®, we advise you to launch an operational test with the aim of establishing the most functional speed settings. You can do this before the actual installation or by disconnecting the IntelliFlo® communication cable. In this way, you can use the pump keypad to quickly change speeds on the pump. Consult your manual for a more precise explanation of the way to change the speeds on your IntelliFlo® pump. IntelliFlo® VF clients need to use the “ste speed” button.)

The screenshot shows the IntelliFlo menu for a 45000 pump. It includes settings for IntelliFlo speed range (Min: 1,200 rpm, Max: 3,000 rpm), Chlorinator filtration speed (Min: 1,300 rpm), Heating filtration speed (Min: 3,000 rpm), Open cover speed (Min: 2,400 rpm), Aux1 filtration speed (Set point: 2,400 rpm), Auxiliary filtration speed (Aux 2, 3, and 4 set points: 2,400 rpm), and Filtration speed of filter clean (Set point: 2,600 rpm, Duration: 0m 10s). A warning section titled 'IntelliFlo - Warning' shows a row of buttons 1 through 8, with button 2 highlighted in red and containing the text '#2: DRIVE TEMPERATURE WARNING'. A 'Save modifications' button is at the bottom.

Comments on the alarms in progress are displayed (pass the mouse over the alarm concerned).

Minimum speed: Find the minimum speed which is capable of generating sufficient flows in the pool. IntelliPool® will not work at a speed slower than this. The lower this speed, the more you will save on energy.

Maximum speed: this is usually the speed required for backwashing. The pump will not work at higher speeds than this to prevent the equipment from being damaged.

Heating pump: Your heating pump requires a minimum flow rate; select a speed at which the heat pump can function. You can adjust the speed until the heating pump compressor is activated. Set the speed 5% higher;

Salt chlorinator: A minimum flow must be set. Determine the necessary triggering speed of your electrolyser and set it at a value above 5%.

Aux. speeds: for the auxiliary speeds, 3 options are possible (can be selected from the drop-down menu)

1. *No change:* The pump continues at the normal filtration speed while the Aux function is activated. (Example: garden lighting)
2. *OFF:* The pump stops when the Aux outlet is active (for example robotic cleaning)
3. *Setting a specific speed:* The pump turns at a specific speed while the aux function is active (for example: fountain).

Automatic cleaning valve: If the Aux function is configured as an automatic backwash valve, the specific BW (backwash) speed and the time can be set in this section.

With these parameters in place, IntelliFlo® will run at the most economical setting as a minimum, but will increase its speed only when this is required for the specified functions.

IntelliChlor® menu

This menu makes it possible to adjust the operating duration of IntelliChlor® if a pool cover is present and to learn of the type of warning

The screenshot shows the IntelliChlor menu for a 45000 pump. It features a 'Running duration cover closed' setting set to '0h 15min /day' and a 'Save modifications' button. A warning section titled 'IntelliChlor - Warning' shows a row of buttons 1 through 8, with button 2 highlighted in red and containing the text '#2: LOW SALT'. A 'Save modifications' button is also present at the bottom.

Limited operating function of the electrolyser if the pool cover is present

Comments on the alarms in progress are displayed (pass the mouse over the alarm concerned).

Email and alarm menus

These two menus make it possible to configure different alarms which may differ from the indoor display alarms. The alarm values also determine the display of the ticks and the crosses in the SUMMARY and HISTORY menus.

Green = active configuration
Grey = inactive configuration

The selected configuration has a blue background.

Technics concerns alerts for internal technical information (filtration command impossible, filter cleaning necessary, pH corrector tank empty, disinfectant tank empty, calibration of the probe necessary, check the communication cable, etc.)

Reset = default email alarm values:
Water temperature: Min=+3.0 °C Max=+40.0 °C
pH: Min=7.1 Max=8.4
Conductivity: Min=2.5 g/l Max=5.5 g/l
RedOx: Min=500 Max=800

History menu

The history menu is a powerful tool that allows you to analyse and compare data from your installation. In many situations, this tool will permit a professional to resolve problems without needing to visit the site. The data is available for 10 years.

The screenshot displays the Pentair history menu interface. At the top, it shows the device SN: 45001 and navigation controls for Day, Month, and Year, with a date of 13/09/2015 16h00. A timeline at the top shows days 1 through 30. Below this, various parameters are listed with their current values and historical data for 09/2015. Callouts highlight specific features: 'Expansion/shrinkage of the graphic window' points to the Water T° graph; 'Cursor can be moved by 1 hour/1 day/1 month segments.' points to the timeline; 'Analysis of data by day/month/year' points to the date selection controls; 'Navigation index date' points to the date display; and 'Adjustment of graph scale' points to the vertical axis of the pH graph.

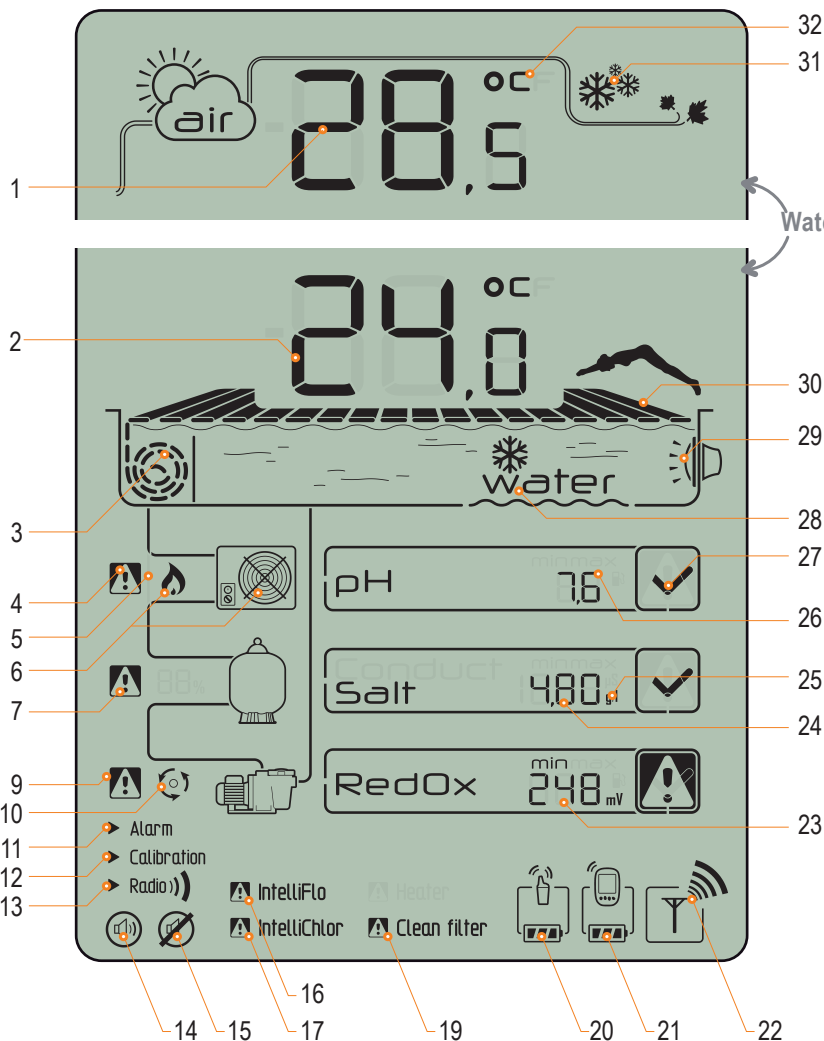
Parameter	Current Value	Historical Data (09/2015)
Air T°	+19.0 °C	Avg: +18.1 °C, Max: +27.5 °C, Min: +10.2 °C
Water T°	+20.7 °C	Max: +25.4 °C, Avg: +19.8 °C, Min: +10.3 °C
Heating	0h00min	
pH	7.2	Max: 7.5, Avg: 7.2, Min: 6.9
pH regulation	0h03min00s	
Conductivity	2.8 g/L	Avg: 2.7 g/L, Max: 2.9 g/L, Min: 2.4 g/L
ORP	802 mV	Avg: 784 mV, Max: 817 mV, Min: 713 mV
Crude ORP (RedOx)	-- mV	Avg: -- mV, Max: -- mV, Min: -- mV
ORP (RedOx) reg.	0h00min00s	
Filtration	24h00min	
Lighting	00min	
Filtration speed	732 rpm	Avg: 1700 rpm, Max: 3000 rpm, Min: 0 rpm
Filtration Capacity	430 Watt/h	Avg: 415 Watt/h, Max: 1832 Watt/h, Min: 0 Watt/h



Indoor display

The remote indoor display provides information on all the parameters (updates every 15 minutes) of the water quality and comfort. Intended for internal use, pre-programmed alerts make it possible to check the chemical balance of the water at a glance without needing to perform cumbersome analyses at the edge of the tank. Moving the signal may cause a loss of signal. If it remains out of range for more than 1 hour, all the information is deleted. The remote display can be placed on its tripod or fastened to a wall (after testing the signal range)

- | | |
|--|---|
| 1: Air temperature (°C or °F) | 2: Water temperature (°C or °F) |
| 3: Pool cover rolled | 4: Heating alert |
| 5: Operation without heat | 6: Heating running |
| 7: Sand filter alert | 8: N/A |
| 9: IntelliFlo® alert | 10: IntelliFlo® running |
| 11: Alarm mode | 12: Calibration mode |
| 13: Radio mode | 14: Acoustic alarm ON |
| 15: Acoustic alarm OFF | 16: IntelliFlo® alert |
| 17: IntelliChlor® alert | 18: N/A |
| 19: Filter cleaning requested | 20: Indoor display batteries level |
| 21: Batteries level | 22: Radio force signal |
| 23: Value of RedOx in mV | 24: Salt concentration (g / l) or conductivity (µS) value |
| 25: Auto-adaptable units (g / l) or (µS) | 26: pH value |
| 27: Tick for a correct value | 28: Water temperature alert (<+3 °C) |
| 29: Spot light ON | 30: Pool cover closed (closed pool) |
| 31: Risk of snow | 32: Temperature unit (°C or °F). |



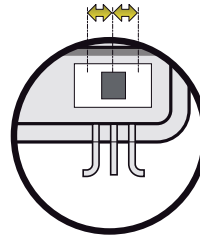
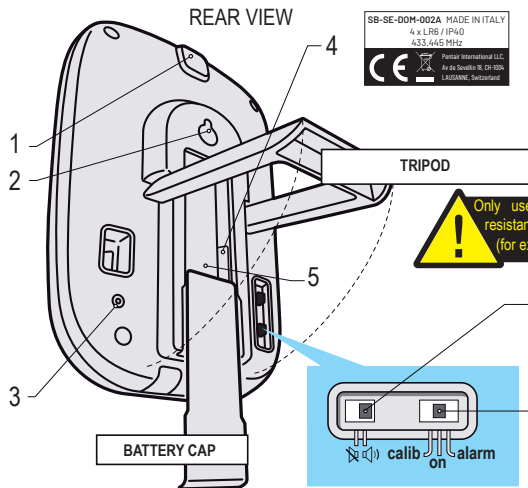
Water/air alternating display



- 1 = Escape**
Goes back to the previous step without taking modifications into account
- 2 = Downward movement/decrementation**
- Navigation downwards in drop-down menus or decrementation of values in numerical spaces
- 3 = Upward movement/incrementation**
- Navigation upwards in drop-down menus or incrementation of values in numerical spaces
- 4 = Validation**
- Makes it possible to access the displayed parameter or approves the modifications and returns to the previous menu



Internal display



REFRESHING OF VALUES

One full cycle (ON > CALIB > ON or ON > ALARM > ON) "refreshes" the values on the screen after 20 seconds

Mode on:

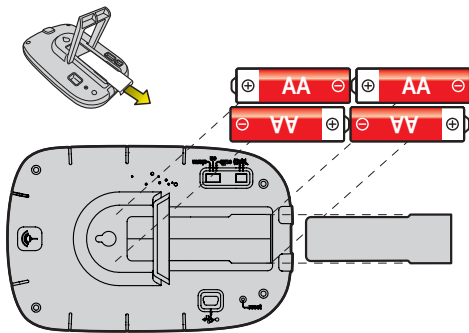
- Functioning of the device

Calibration mode:

- Calibration of pH and ORP probes
- Calibration of water temperature
- Selection of units

alarm mode:

- Customisation of alarm values



INTERNAL DISPLAY - installation of batteries (4xLR6 - 1.5 V)

> Raise the tripod then remove the battery cover

> Insert new alkaline batteries (4xAA - 1.5 V), respecting the polarity indicated on the battery holder.

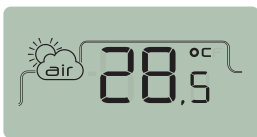
> Check the battery power level of the indoor display on the screen and replace the battery cover.

Note: - Changing the batteries does not erase the alarm value customisation.

The display is intended for internal use. Do not expose to sun or rain. Exposure to sunlight (UV) or rain may cause irreversible damage.

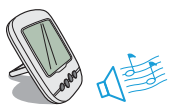


Temperatures



The indoor display alternates between showing the air temperature (in °C or °F, see p34) followed by a sun and cloud and the water temperature accompanied by a diver.

Note: direct exposure of the radio relay to sun rays interferes with measurement of the air temperature. If the installation includes two radio relays, it is the one which has the jumper set to ON which will provide this value, see p13. In case of divergence between the displayed temperature value and the reference value supplied by a standard instrument, this difference can be addressed, see p34.



Detection of risk of snow



This pictogram displays when the temperature measured on the radio relay is lower than +3 °C (37.4 °F).



Risk of ice formation

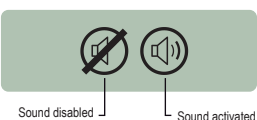
The "Water" message displays if the water temperature is below +3 °C (37.4 °F). There is a risk of ice formation; intervention is necessary to avoid damage to the pool and to the hydraulic installation. If the filtration is connected, the Control Unit will automatically launch filtration. In the case of a heated technical room, the alert threshold can be voluntarily shifted by +3 °C in the Control Center/Settings/Install/Filtration menu.

Mode in progress



Alarm and calibration correspond to the position of the switch at the back of the indoor display. RADIO indicates that the set is in radio learning mode on the IntelliPool network.

Activation/deactivation of sound



On the indoor display, a sound alert for the different alarms as well as a discreet beep button are available. This pictogram illustrates the activation and deactivation of the sound which can be accessed by a switch located on the back.

Battery level



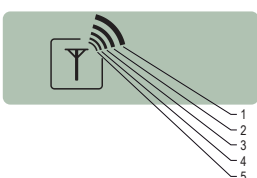
- The battery level displayed under the pictogram represents each element concerned.
- The battery service life is greater than 1 year, but may vary depending on weather conditions and use.

> As soon as the level is at "low batteries", the batteries should be changed.



1 : Batteries are full 2 : Batteries are OK 3 : Batteries are low 4 : Batteries are very low

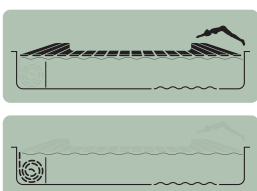
Radio signal strength



The radio range of the IntelliPool network depends on the geographical installation of the radio relay and the indoor display (a long distance, a pool which is raised in relation to the house and the presence of a perimeter wall are detrimental), the house material (reinforced concrete and a metallic building are detrimental) and the radio relay support (a metal stake or galvanised rainwater downpipe are detrimental). If the network signal remains too low or non-existent after tests of different positioning configurations of the radio relay, place a second radio relay between the technical room and the indoor display to optimise the signal strength (perform tests before fixing the elements). Adding an element to the radio network means that it will be subject to the learning process (see p 31).

1 : Very high 2 : High 3 : Average 4 : Low 5 : Very low

Pool cover position



For pools equipped with a pool cover and after connection to the Control Center, the position (cover rolled/closed is displayed).



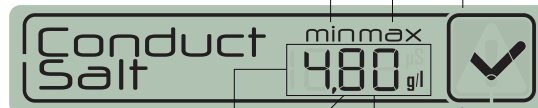
Conductivity/Salt concentration

Ability of the water to permit passage of an electrical current; the conductivity is proportional to the concentration of dissolved minerals (which partially come from water treatment products). The μS value reveals "the age of your pool's water". The conductivity unit (μS or g/l) is selected by the calibration mode/unit change (see p34). If the display uses μS as a measurement unit and the value exceeds 1,999 μS , it will automatically switch to g/l. In France, water from the faucet generally has a conductivity of between 300 and 500 μS . 400 μS corresponds to 0.25 g/l.

The conductivity has reached the maximum alarm value ^{max}
(Factory setting at 50 μS / 0.03 g/l,
can be modified via the alarm menu, see p. 33)

The conductivity has reached the minimum alarm value ^{min}
(Factory setting at 1,200 μS / 0.75 g/l,
can be modified via the alarm menu, see p. 33)

✓ Conductivity complies with the
alarm set point values
(Factory settings 50 μS to 1,200 μS)



Conductivity value measured
(Display limited from 0 to 1,999 μS , 19.90 g/l)

Lo

Hi

⚠ Conductivity is outside of alarm
alarm set point values
(Min. or max. indicate if the value
is too low or too high)

Conductivity in a salt chlorination tank (in g/l)

- > Conductivity is too low (according to the type of electrolyser): add salt up to the value indicated by your electrolyser.
- > Conductivity is too high (according to the type of electrolyser): replace the pool water (emptying and filling) until the desired value is obtained

Conductivity in a pool without salt chlorination (in $\mu\text{S}/\text{cm}$)

- > The conductivity is too high (> 1,200 μS , default alarm value can be modified): replace the pool water (empty and refill) until a value below 1,200 μS is obtained. Water conductivity above 1,200 μS is called "buffered", treatments become ineffective.

ORP RedOx: Oxidation-Reduction Potential

Disinfectant concentration level (chlorine, bromine, active oxygen, etc.) present in the pool. Keeping within 650 mV and 750 mV is recommended for this 'disinfection power' measurement. The oxidation reduction potential indicates the oxidiser quality present in the water. It is the result of the disinfectant quantity/pollution quantity ratio.



The RedOx has reached the maximum alarm value ^{max}
(Factory setting 800 mV, can be modified via the alarm menu see p. 33)

The RedOx has reached the minimum alarm value ^{min}
(Factory setting 550 mV, can be modified via the alarm menu see p. 33)

✓ RedOx complies with the alarm
alarm set point values
(Factory setting 550 to 800)



RedOx value measured in mV
(Display limited between 0 and 999)

Lo

Hi

⚠ RedOx is outside of the
alarm set point values
(Min. or max. indicate if the value
is too low or too high)

**A RedOx WHICH IS TOO HIGH IRRITATES SKIN AND MAY DAMAGE PARTS OF YOUR POOL.
A RedOx WHICH IS TOO LOW MAY BE A HYGIENE HAZARD**

> Ensure that:

- The probe bottle has been removed from the RedOx probe
- The RedOx probe is not dirty

> **Manual control:** > Add the disinfectant (chlorine, bromine, active oxygen, etc.) until the desired value is reached.

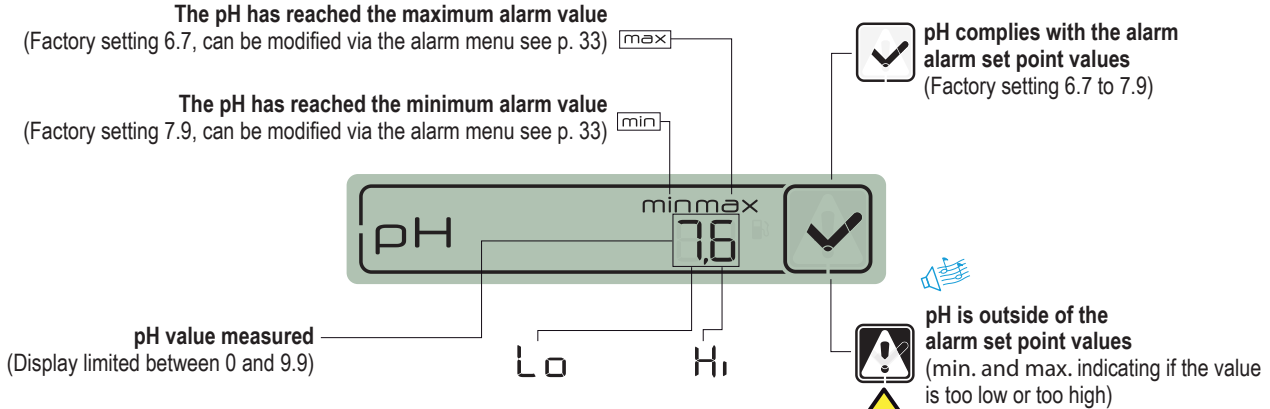
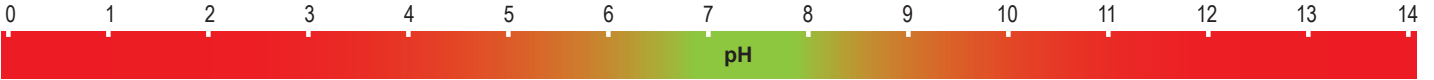
> **Automatic control:** > Check the correct operation of the material with your poolbuilder.



pH value

The pH is a scale (without any units) measuring the acidity (0 to 7) or the alkalinity (7 to 14) of the pool. The pH is the concentration of the hydrogen ions. For a swimming pool, the ideal pH which is generally advised is close to 7.3 (to be confirmed by your swimming pool supplier according to your installation).

The precision of the pH measurement is very closely associated with regular pH probe maintenance. We advise you to check the probe for any dirt present regularly and to calibrate it before the summer season (see p. 33). The factory set points of the upper and lower pH alarms are 6.7 and 7.9. These values can be modified via alarm mode (see p. 33).



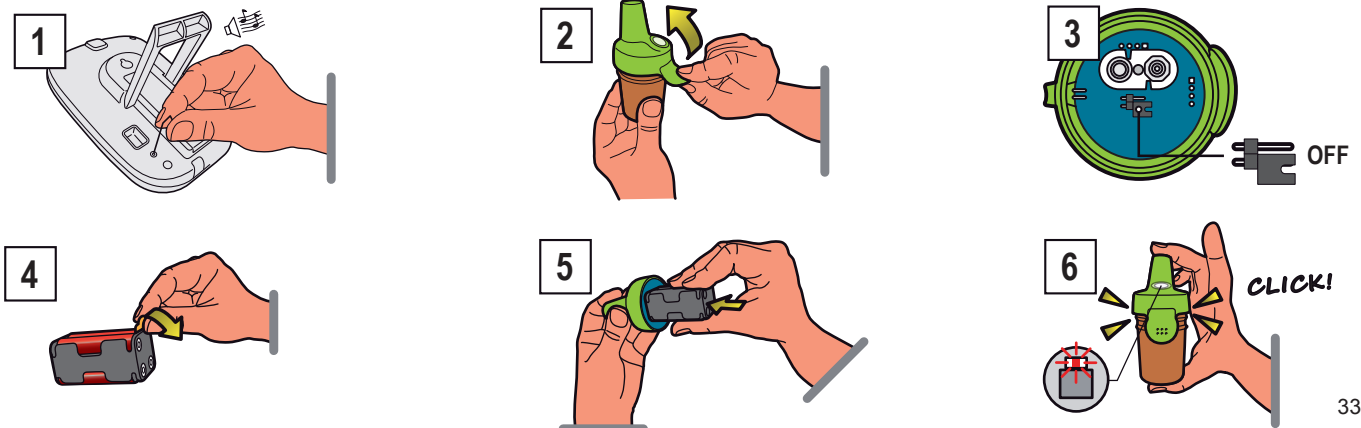
⚠ A TOO HIGH OR LOW pH IRRITATES SKIN
> **Ensure that:**
- The probe bottle has been removed from the pH probe
- The pH probe was calibrated less than 6 months ago (see p35)
- The pH probe is not dirty
> **Manual control:** Add "pH-" or "pH+" product according to the type of pH deviation.
> **Automatic control:** Check the correct operation of the material.

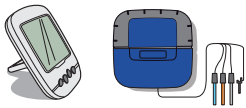


Adding a new radio relay

This RADIO mode makes it possible to add a second radio relay to compensate for difficult situations in terms of radio range (elevation, very long distances, etc.)

- 1 - Briefly push RESET (0.5 sec) with a paper clip at the back of the indoor display. *note: Pressing for a long time (>4 sec until the beep) resets the alarm values.* > The display then shows "radio".
- 2 - Remove the tub by pulling on the tab.
- 3 - > Place the jumper in OFF position to prevent the temp. ext. values of relay radio No. 1 from being distorted.
- 4 - Remove the insulating film from the batteries
- 5 - Reconnect the battery unit
- 6 - The red led flashes > Replace the tub

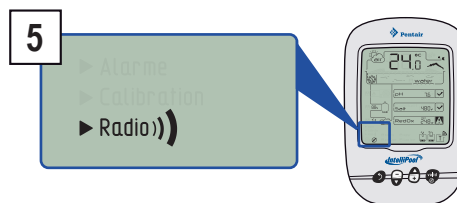
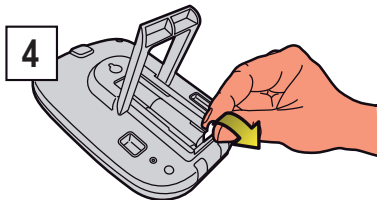
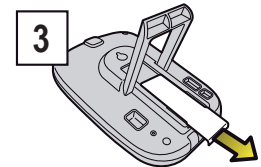
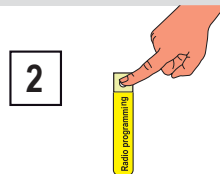
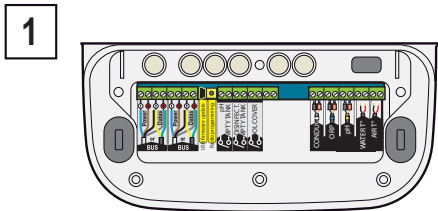




Re-learning of the original indoor display

The elements which constitute a set are paired with a unique radio code which prevents any risk of interference with other IntelliPool units (in the vicinity, several pools close together) as a factory setting.

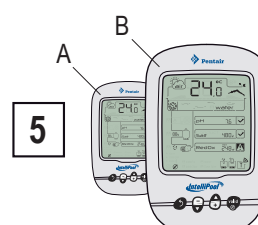
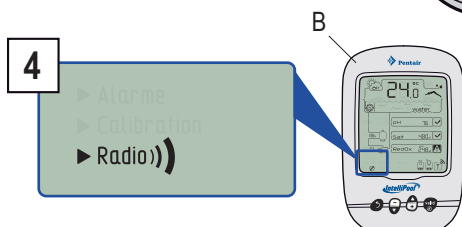
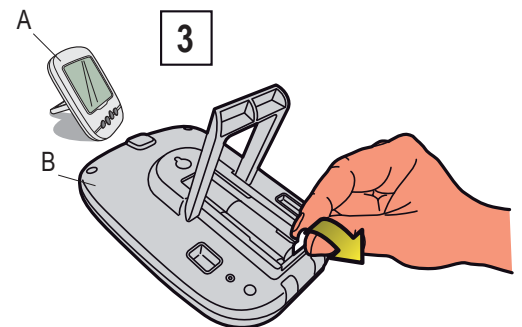
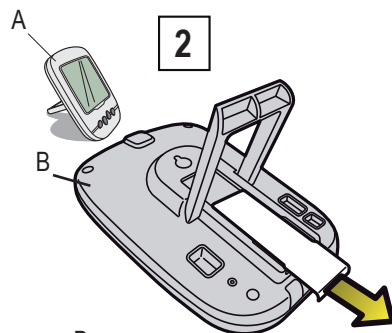
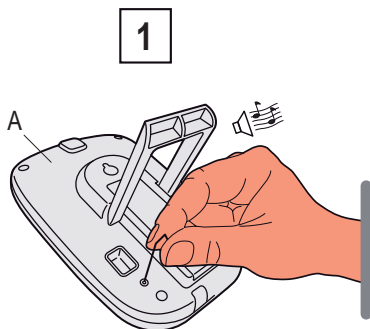
- 1 - Remove the flexible blue cover of the PROBE UNIT
- 2 - Press "radio programming". > The yellow LED lights up, the UNIT PROBE then emits a radio learning code for 5 minutes. Note: the start-up of the remote display activates the recognition/automatic programming of a radio code.
- 3 - Remove the battery hatch
- 4 - Remove the insulating film
- 5 - The indoor display changes to radio learning mode > the indoor display shows the values. > Replace the battery hatch



Adding an indoor display

This RADIO mode makes it possible to add a second indoor display to set up a second source for reading your pool information.

- 1 - Briefly press RESET (0.5 sec) on the original display "A" (this displays "radio"). Note: press on plus for 4 sec until the alarm beep triggers reinitialisation of the values.
- 2 - Remove the battery hatch of the new display "B".
- 3 - Remove the insulation film of the battery of the new display "B".
- 4 - The new display "B" changes into radio programming mode.
- 5 - The new display "B" shows the same values as the original display. Replace the battery hatch. Note: If the original remote display alarm values have been adapted, they must be manually re-modified in the new display to be identical.





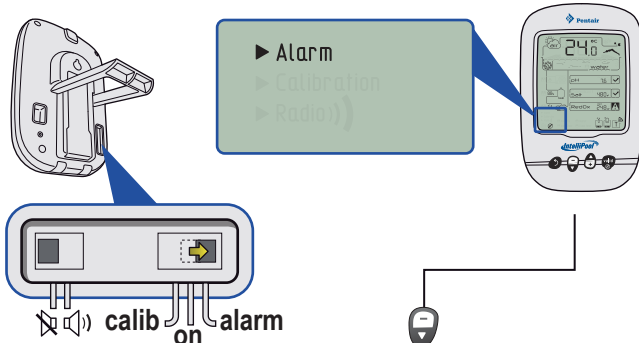
ALARM MODE - Modification of the alarm set point values

This mode makes it possible to modify the set point value of:

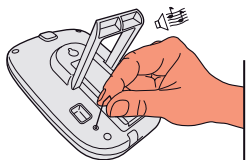
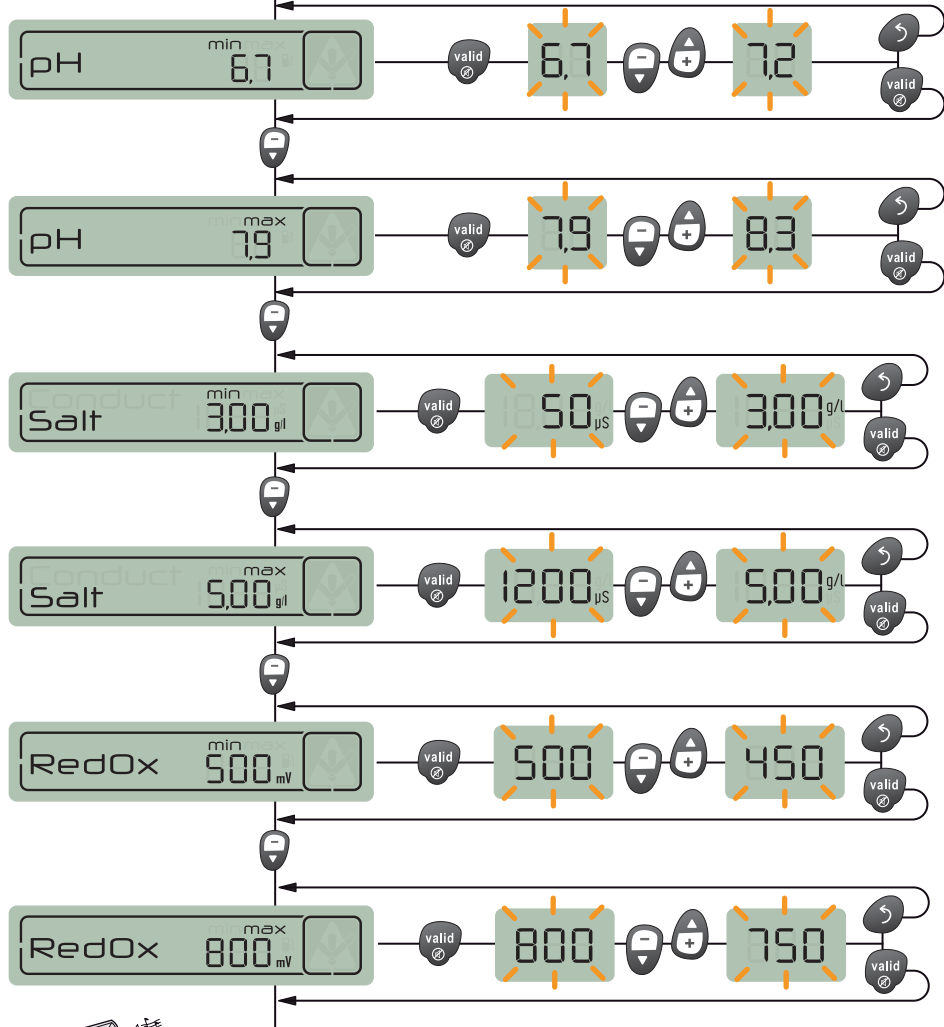
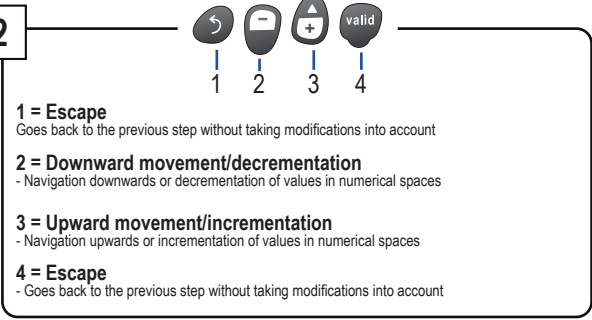
- The upper pH alarm (factory setting 7.9)
- The lower pH alarm (factory setting 6.7)
- The upper conductivity alarm (factory setting 1,200 μ S)
- The lower conductivity alarm (factory setting 50 μ S)
- The upper RedOx alarm (factory setting 800 mV)
- The lower RedOx alarm (factory setting 500 mV)

- 1 - Put the switch in Calib mode (on the back of the indoor display). The values are saved when the batteries are changed.
- 2 - Follow the procedure.
- 3 - When the modifications are approved, put the switch back in ON mode.

1



2



To restore all the factory values of the device, push and hold a paper clip at the back of the indoor display (4 sec). The operation is validated by a long beep.

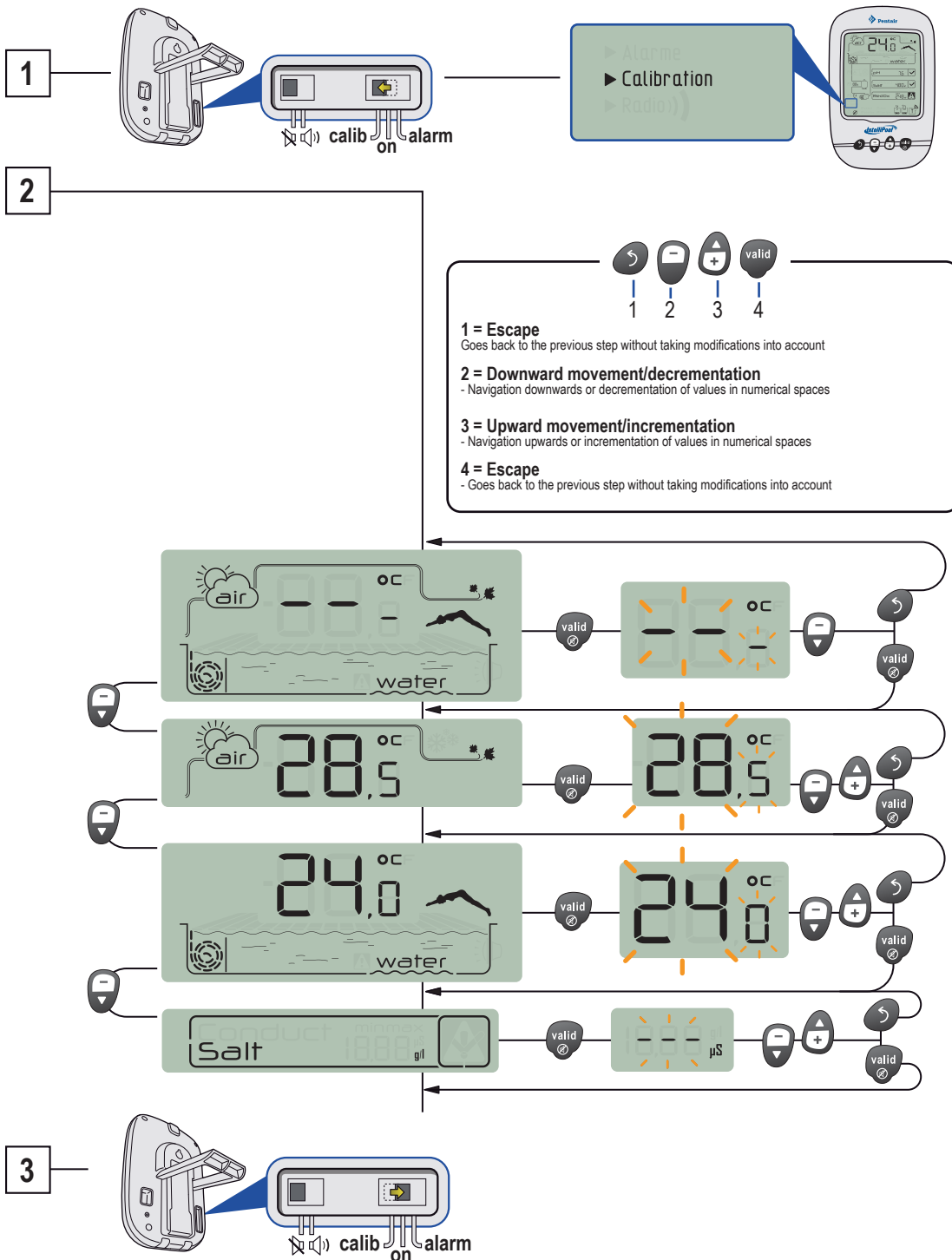


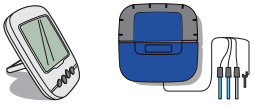
CALIB MODE - Change of units & voluntary correction of values

Despite calibration of the measurement sensors, a value may be out of step with another measurement marker (usual thermometer, etc.). For this, you have the option of voluntarily correcting certain values and/or air and water temperature units (pre-set in the factory at °C) and the conductivity (pre-set in the factory in µS).

- 1 - Put the switch in Calib. mode (on the back of the indoor display)
- 2 - Follow the procedure.
- 3 - When the modifications are approved, put the switch back in ON mode.

This correction only influences the indoor display, not the values read on the Intellipool.eu server





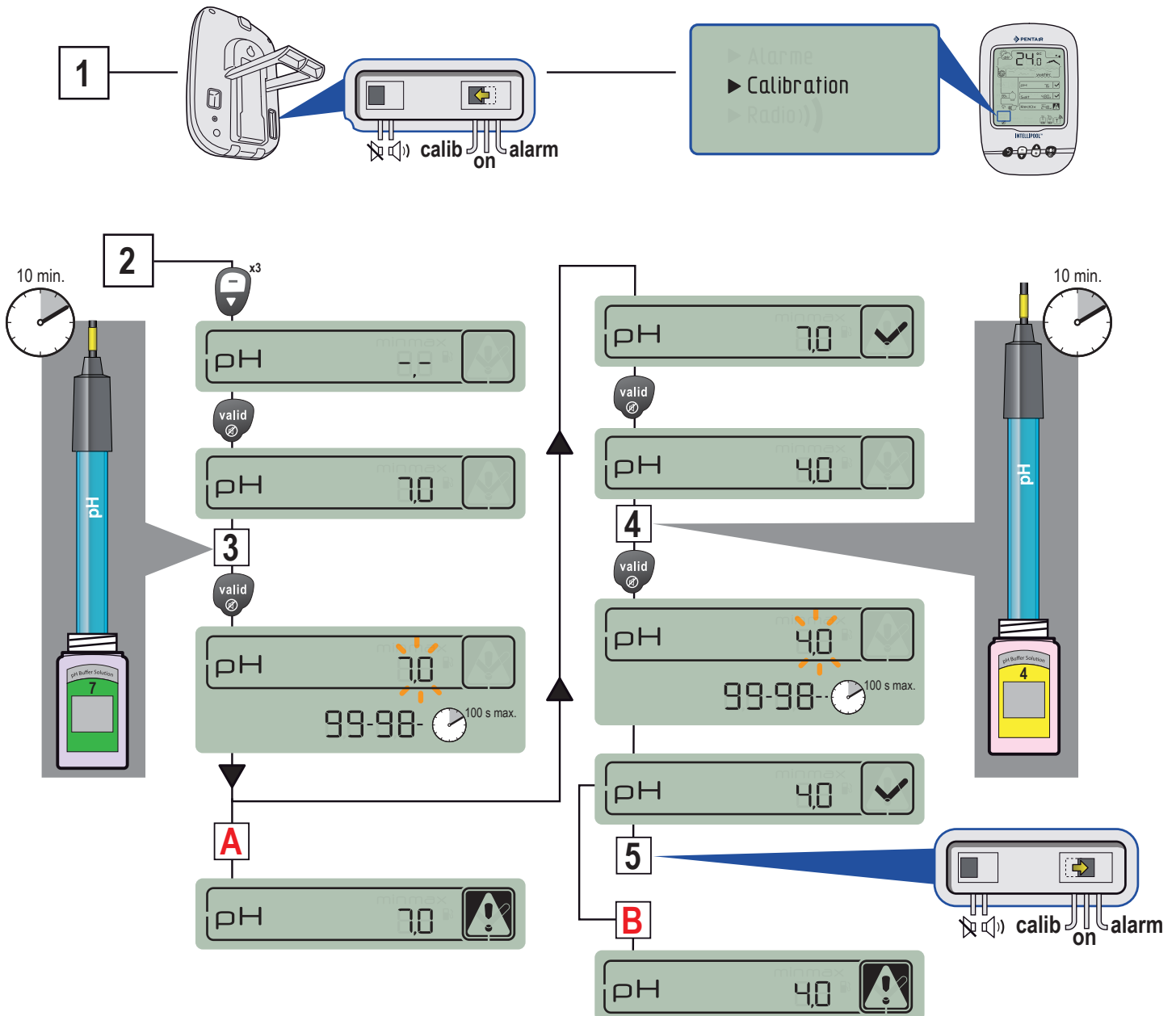
CALIB MODE - Calibration of a pH sensor

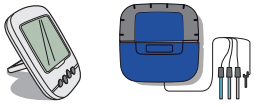
Due to its nature, a pH probe needs to be regularly re-calibrated (ideally before the season). If this has been forgotten, a "probe check" message will appear on the screen of the Control Center. Its service life is approximately 2 years.

For this operation, equip yourself with the pH probe, some DOMOK and the supplied pH4 and pH7 calibration bottles.

Since the pH depends on the temperature, this procedure needs to be performed in the shade (25 °C/77 °F).

- 1 - Put the switch in Calib. mode (on the back of the indoor display)
 - 2 - Follow the procedure
 - 3 - Dip the end of the pH probe into the pH 7 calibration solution bottle for a minimum of 10 min. A 99-sec countdown is launched.
- A - PROCEDURE FAILED:** > Check that the pH 7.0 solution is in contact with the probe for the duration of the procedure
- 4 - Dip the end of the pH probe in the pH 4 calibration solution bottle for a minimum of 10 min. A 99-sec countdown is launched.
 - 5 - The operation has been successful. > Put the switch back in ON mode
- B - PROCEDURE FAILED:** > Check that the pH 4.0 solution is in contact with the probe for the duration of the procedure.

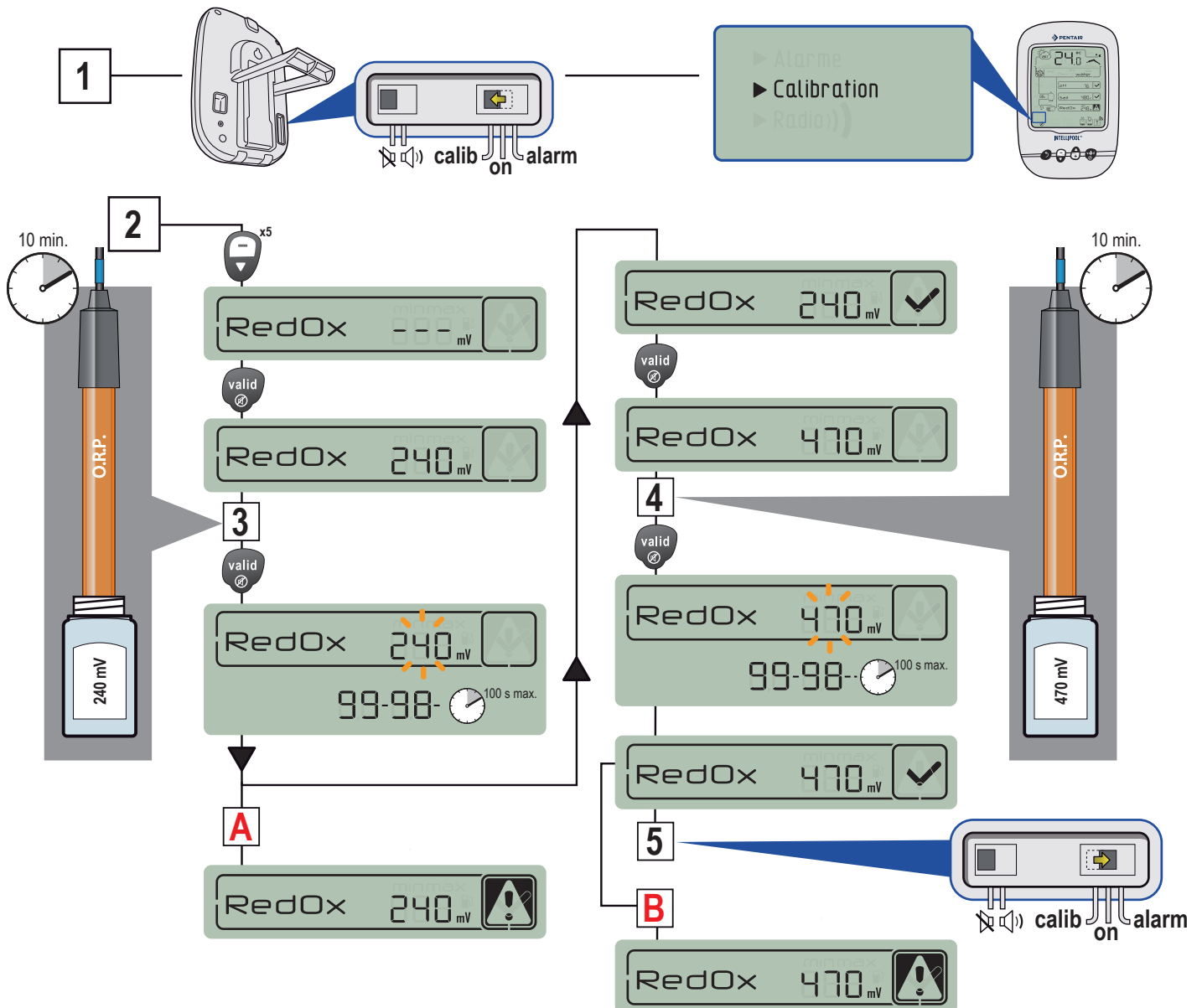




CALIB MODE - Calibration of a RedOx probe

The RedOx probe can be re-calibrated. By nature, a RedOx probe only drifts a little and only needs to be re-calibrated in exceptional cases. This is why RedOx calibration solutions are not supplied and their storage is not allowed to exceed 2 years. The service life of a RedOx probe is approximately 5 years. For this operation, equip yourself with the RedOx (ORP) probe, the indoor display and 240-mV and 470-mV calibration bottles. This procedure needs to be performed in the shade (25 °C/77 °F).

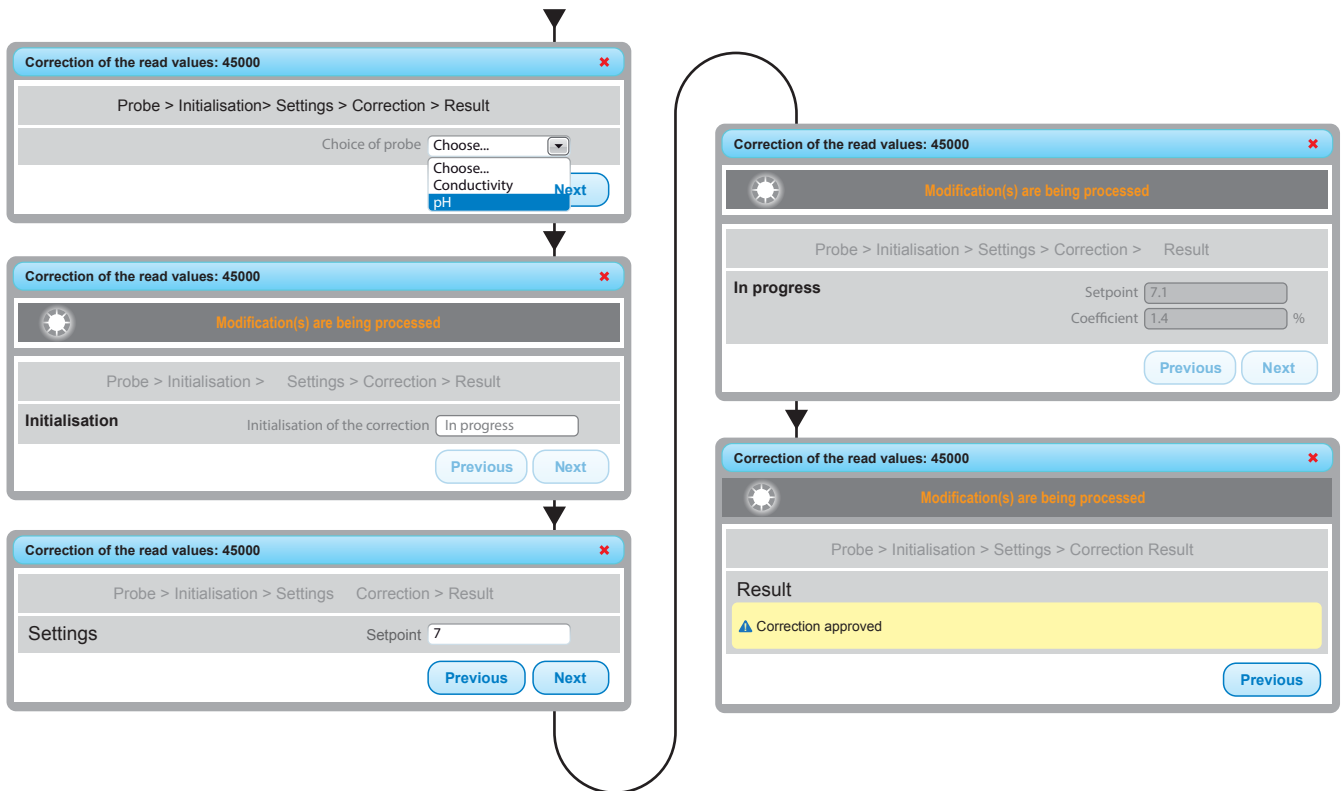
- 1 - Put the switch in Calib mode (on the back of the indoor display).
 - 2 - Follow the procedure
 - 3 - Dip the end of the RedOx probe in the 240-mV calibration solution bottle for a minimum of 10 min.
- A - PROCEDURE FAILED:** > Check that the RedOx 240-mV solution is in contact with the probe for the duration of the procedure
> The probe no longer works (needs to be replaced).
- 4 - Dip the end of the RedOx probe into the 470-mV calibration solution bottle for a minimum of 10 min.
 - 5 - The operation has been successful. > Put the switch back in ON mode
- B - PROCEDURE FAILED:** > Check that the RedOx 470-mV solution is in contact with the probe for the duration of the procedure
> The probe no longer works (needs to be replaced)

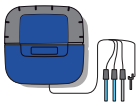


Correction of values from the IntelliPool account

Despite calibration of the measurement sensors, a value may be out of step with another measurement marker (usual thermometer, etc.). For this, you have the option of voluntarily correcting certain values and/or air and water temperature units (pre-set in the factory at °C) and the conductivity (pre-set in the factory in μS).

- 1 - Put the switch in Calib. mode (on the back of the indoor display)
- 2 - Follow the procedure.
- 3 - When the modifications are approved, put the switch back in ON mode.





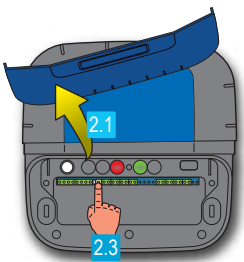
Probe Unit: How to update the internal firmware

The Probe Unit can be updated or reflashed.

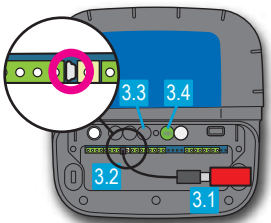
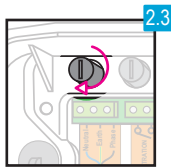
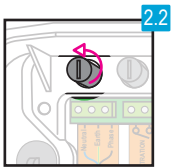
This procedure is reserved for qualified professionals with good IT knowledge



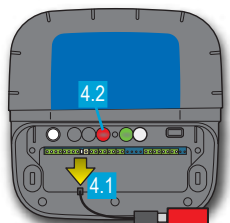
- 1.1 - Unzip the MAESTRO Probe UnitXXX.zip file to obtain the Pxxxo.bin. file.
- 1.2 - Copy the Pxxxo.bin file to the main folder of the USB stick formatted to FAT 16 or FAT 32.



- 2.1 - Remove the flexible blue cover of the Control Center and the Probe Unit.
- 2.2 - Cut the supply of the Control Center via the 1-A 230-V fuse using a flat screwdriver to unscrew the fuse holder (half turn), wait 5 sec.
- 2.3 - On the Probe Unit, press and hold the "radio learning" button, then on the Control Center, re-connect the supply (screw the 1A fuse back in), the red and green LEDs flash.



- 3.1 - Connect the USB stick to the end of the USB cable
- 3.2 - Connect the USB cable to the mini USB connector of the MAESTRO Probe Unit.
- 3.3 - The red LED goes out.
- 3.4 - Wait for the green LED to remain lit for 5 sec.



- 4.1 - Unplug the USB stick
- 4.2 - The red LED flashes for 40 sec then goes out.
- 4.3 - The green LED continues to flash



Control Center: How to update the internal firmware

The Control Center can be updated or reflashed. This procedure is reserved for qualified professionals with good IT knowledge. The update file is available at Intellipool.eu/téléchargement.

1 - Preparation of the PC

- Make sure to have a surface to place the laptop on.
- Installing this program will ensure that the PC can send the required file via USB

- 1.1 Unzip the file MAJ_Intellipool_Vx_xx.zip
- 1.2 Double click on USBXpressInstaller.exe
- 1.3 In the *Silicon Laboratories USBXpress Device Driver Installer* window, click **Install**
- 1.4 In the *Success* window which has opened, click **OK**

1.3

1.4

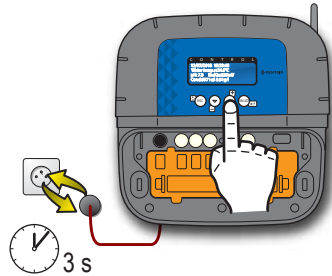
2 - Re-programming mode

- To read the version number of the Control Center, simply cut the electrical power supply and quickly look at the bottom right of the screen during powering on. The display is in the form x.xx or xxx. The minimum version compatible for this operation is 3.51.

2.1 - Press
Press the
Up/+ button



2.2 - Cut for 3 sec. then re-supply
the power while keeping the button pressed



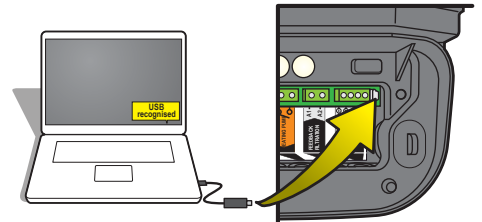
2.3
- Press
the **Up/+ button**
for 3 more sec.



2.4
- Then release.



2.5 Remove the orange cover of the Control Center
2.6 Connect the USB/mini USB cable
between the PC and Control Center
2.7 The PC displays **USB recognised**



2.8 Double click *USBBootloader.exe* from the archive *MAJ_xxxxxx_Vx_xx.zip*

2.9 Click *Open*

2.10 Click *Browse...*

2.11 Open *ControlCenter_3_5_5_MAJ.hex*



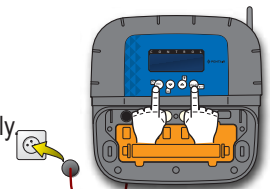
2.12 Click *Download*

2.13 In the USB Bootloader window,
click **OK**

2.14 Cut the supply for a min. of 3 sec



2.15 Press **Esc** and **Valid**
and simultaneously
reconnect the power supply



2.16 As soon as it lights, for 2 sec.
check the version number



Version No. which is going to be programmed

3 - Loading of the latest menu texts

- The menu texts evolve as the functions change. Updating the internal text file makes full use of the functions possible.

3.0 On the PC, open the Control Center file (visible as USB media)

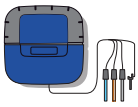
3.1 Open the file *Texts* from the archive *MAJ_xxxxxx_Vx_xx.zip*

3.2 Copy the file content *Texts* from the archive *MAJ_xxxxxx_Vx_xx.zip* in the file of the Control Center.

As the new .TXT files have the same name, they will overwrite the old ones (click OK for the overwrite request).




The update is finished. Disconnect the mini USB cable from the Control Center.

- In FILTRATION AUTO mode, it is normal that the filtration does not start again immediately. It will restart on the next full hour.



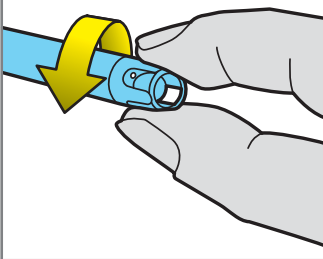

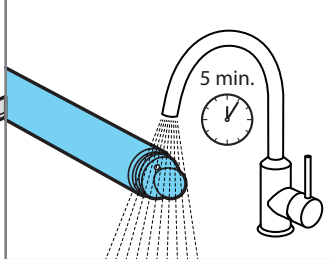
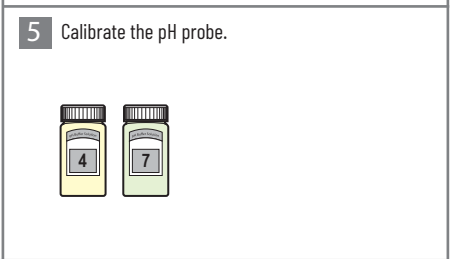
Probe Unit: Cleaning of the pH or ORP probe.

Deposition of scale or suspended elements in the pool may occur. The probes are fragile measuring parts, they need to be carefully cleaned. In particular, do not scratch the platinised surfaces of the electrodes of the conductivity probe.

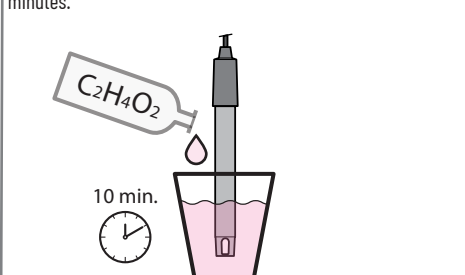
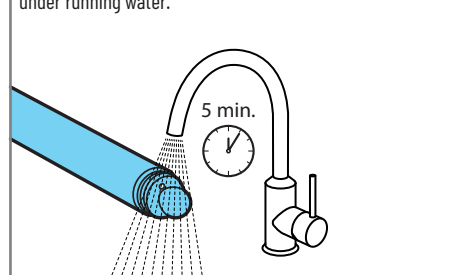

   - Protective glasses and gloves must be worn for these cleaning operations.

Physical cleaning of the probe if there is an object present in the protective cage:

Depending on the probe environment, organisms may grow and disrupt the measurement. It then becomes necessary to physically clean the end of the probe (pH or ORP).

<p>1 Carefully unscrew the cage by hand</p> 	<p>2 Using a toothbrush which has been dipped into white vinegar, gently brush the end of the probe until the foreign substance is fully removed.</p> 	<p>3 Rinse the end of the probe for 5 minutes generously under running water.</p> 	<p>4 Carefully tighten the protective cage.</p> <p>5 Calibrate the pH probe.</p> 
---	--	---	--

Chemical cleaning of the probe (no element is present in the protective cage):

<p>1 Dip the end of the probe into white vinegar for at least 10 minutes.</p> 	<p>2 Rinse the end of the probe for 5 minutes generously under running water.</p> 	<p>3 Calibrate the pH probe.</p> 
---	---	---

Precautions and maintenance

Since the radio relay is placed outside, the appearance of deposit marks is completely normal. The indoor display is intended exclusively for internal use. Exposure to sunlight (UV) or rain may cause irreversible damage.

- > Do not subject the devices to impact, forces, dust, excessive temperature or humidity - changes which can alter the operation of the device or limit its service life.
- > Do not submerge the devices in water.
- > Clean the exterior with a microfibre or soft cloth. Do not use solvents, abrasives or acid.

Spare parts

The original spare parts required to maintain your Pentair device are available from your dealer.
USE OF PARTS OTHER THAN GENIUS PENTAIR PARTS INVALIDATES THE WARRANTY.



PENTAIR INTERNATIONAL LLC,

Ave. de Sevellin 18, CH-1004 - LAUSANNE, Switzerland

Copyright - Limited licence: except as specifically permitted herein, no portion of the content of this document may be reproduced in any form or by any means without the prior written permission of Pentair International SRL.