Installation, starting and programming instructions

Part of the general documentation

▶ Part 1: Installation, starting and programming instructions
   Part 2: Communication instructions

General information:

SYCLOPE Electronique 2019-2020® Manual of 27/03/2020   Rev 2.0

Analysers/Controllers for swimming pools.
Product line TERE'O Touch®

Installation, starting and programming instructions

Editor:

SYCLOPE Electronique S.A.S.
Z.I. Aéropole pyrénées
Rue du Bruscos
64 230 SAUVAGNON - France –
Tel: (33) 05 59 33 70 36
Fax: (33) 05 59 33 70 37
Email: syclope@syclope.fr
Internet: http://www.syclope.fr

© 2019-2020 by SYCLOPE Electronique S.A.S.
Subject to modification

Summary

I.   Generality

1) Scope

SYCLOPE TERE'O Touch® analyser/controller you have purchased is a high-tech electronic device. It was designed and created carefully for your enjoyment and your peace of action.

Its remarkable faculty to adapt to different swimming pool structures allows it to settle in all difficult environments where mastery of water treatment is most decisive.

With 1 Temperature, 1 pH and 1 chlorine or bromine inputs, 1 circulation control input and 2 tank level inputs, **SYCLOPE TERE'O Touch®** is equipped with cyclically controlled proportional control functions transmitted through 2 dosing pumps for the control of pH minus or pH plus, chlorine or bromine.

Thanks to HYDRO TOUCH ease of use, their user-friendliness and their remarkable technicality, you will fully enjoy its many possibilities and will be assured of a perfect control and perfect monitoring of your pool water quality.

You will find in the instructions that follow, all the information needed for the installation, use and maintenance of your new equipment.
  ➢ Packaging
  ➢ Installation
  ➢ Basic equipment
  ➢ Specifications
  ➢ Commissioning instructions
  ➢ Safety instructions

If you need more information or if you encounter problems that not have been specified in this guide, please quickly contact your retailer or SYCLOPE Electronique S.A. sales department, either at the agency or office in your area, or at technical/quality service at our head office. We will do our best to help you and make you enjoy our advice and our knowledge in the field of measurement and treatment of pools water.

Contact: Service-technique@syclope.fr

2) <u>FCC conformity</u>

The **SYCLOPE TERE'O Touch®** controller complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference (2) this device must accept any interference received, including interference that may cause undesired operation FCC Regulations state that unauthorized changes or modifications to this equipment may void the user's authority to operate it.
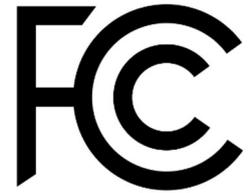
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect this equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Remark: To ensure compliance with the FCC regulations on electromagnetic interference for a class B device, use cables properly shielded and connected to the ground as recommended in this manual. The use of a cable that is not properly shielded or earthed for risk of violating the FCC rules.

3) Use of the document

Please read carefully the entire document before starting the installation and the commissioning of the controller device, in order to ensure the safety of swimmers, users and equipment's.

The information provided in this document must be strictly observed. **SYCLOPE Electronique S.A.S.** declines all responsibility in cases where failure to comply with the instructions of this documents.

The following symbols and pictograms will be used to facilitate reading and understanding of these instructions.

●   Information

►   Action to do

➢   Element of a list or enumeration

4) Symbols and signs

Identification of a continuous voltage or current

Identification of an alternative voltage or current

Protective ground

Functional ground

Risk of injury or accident. Identifies a warning concerning a potentially dangerous risk. The documentation must be consulted by the user with each time the symbol is notified. If the instructions are not respected, this presents risks of death, physical injuries or property damages.

Electric hazard. Identifies a warning statement relative to a mortal electric danger. If the instructions are not strictly respected, this implies an inevitable risk of physical injuries or death.

Risk of incorrect operation or damage for the device

Comment or particular information.

Recyclable element

5) Storage and transport

It is important to store and to transport the **SYCLOPE ODI TOUCH** controller in its original packaging in order to minimize risk of damage.
Furthermore, the package must be stored in an environment that is protected against humidity and exposure to chemical products.

Environmental conditions for transport and storage:

Temperature: -10 °C to 70 °C
Air humidity: Maximum of 90% with no condensation

6) Packaging

The device is delivered without power cable.

Caps of the box are pre-drilled and fitted with corresponding cable glands conform to the maintenance of IP65 protection. Cables used must be adapted to them in order to respect the protection index.
Shielded cables for connecting pH and ORP electrodes are not supplied.

The controller is delivered with:
  ✓ **SYCLOPE TERE'O Touch®** central analyser/controller
  ✓ Installation, starting and programming instructions
  ✓ Communication programming instructions (Option)

7) Warranty

The warranty is provided according to the terms of our general conditions of sale and delivery as long as the following conditions are met:

  ➢ Use of the equipment according to the instructions of this notice
  ➢ No modifications of the equipment which may modify its behaviour and no incorrect manipulation
  ➢ Respect for the electrical safety conditions

Consumable material is no longer covered by warranty as soon as it's put into service.

II. Safety and environmental instructions

Please:

> ➢ Read this manual carefully before the unpacking, the installing or the commissioning of this equipment

> ➢ Take into account all the hazards and of recommended precautionary measures

The failure to respect these procedures can result in serious injury to users or damaging the device.

1) Use of the equipment

SYCLOPE TERE'O Touch® controllers has been designed to measure and control pH, Chlorine, Bromine (BCDMH) using appropriate sensors and actuator controls within the scope of use described in this manual.

All other uses are considered to be non-conforming and must therefore be forbidden. SYCLOPE Electronique S.A.S. will not be responsible in any case for any damage that result from such uses.

2) User obligations

The user undertakes not to allow its employees to work with the **SYCLOPE TERE'O Touch®** controller described in this manual unless they:

> ➢ Are aware of the fundamental instructions relating to work safety and prevention of accidents

> ➢ Are trained in the use of the device and its environment

> ➢ Have read and understood these instructions, warnings and manipulation rules

3) Risk prevention

The installation and connection of the **SYCLOPE TERE'O Touch®** controller should be only performed by specialized personnel and qualified for this task.
The installation must comply with the current safety standards and instructions!

Before opening the controller or manipulate the relay outputs, always remember to switch-off the primary power supply!
Never open the controller when it is powered on!
Maintenance operations and repairs should be only performed by trained and specialized personnel!

Take care when choosing the location for installing the controller!
SYCLOPE TERE'O Touch® controller should not be installed in a hazardous environment and should be protected against splashing with water or chemical products. It should be installed in a dry, well-ventilated and isolated location.

Make sure that the chemical sensors used with this controller correspond well to the chemicals used. Refer to the individual technical note of each sensor. Chemistry of water is very complex, in case of doubt, contact immediately our engineering service or your approved installer/reseller.

SYCLOPE TERE'O Touch XL® Installation, starting, and programming instructions

Chemical sensors are sensitive elements using consumable parts. They must be supervised, maintained and calibrated regularly using specific calibrator systems not-provided with this equipment. In the event of defect, a surplus possible hazard of chemical injections can be noted. In the doubt, a service contract must be taken near your reseller/installer or failing this near our engineering services. Contact your approved installer/reseller or our business service for more information.

4) <u>Identification and localization of the nameplate</u>
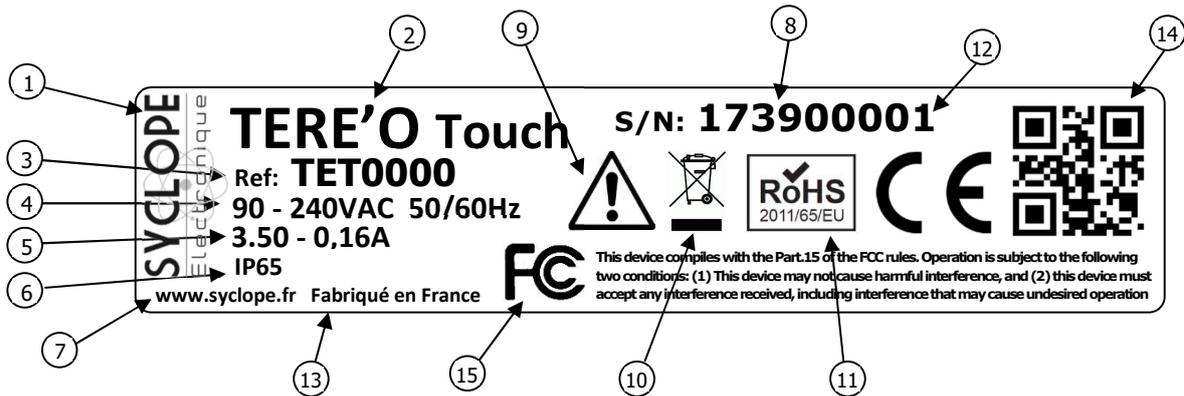
①	Manufacturer's label	⑨	Particular risk. Read the manual
②	Model of the product	⑩	Product which can be recycled
③	Reference of the product	⑪	Limitation of dangerous substance
④	Range of power supply	⑫	CE approved
⑤	Values of maximum current	⑬	Country of manufacture
⑥	Class of protection	⑭	Manufacturer square code
⑦	Identification of the manufacturer	⑮	FCC part 15 Class B approved
⑧	Serial number		

Nameplate
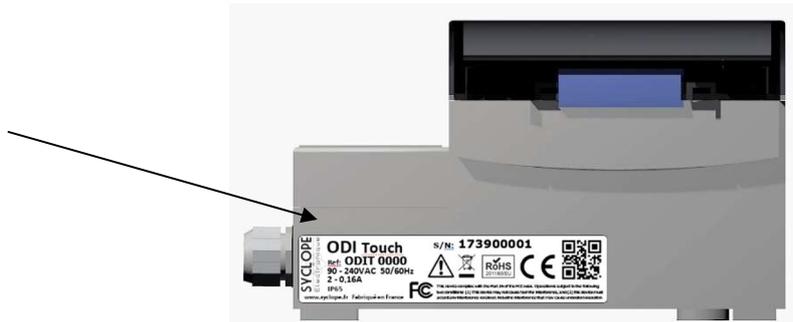
5) Disposal and conformity

The recyclable packaging of the **SYCLOPE TERE'O Touch®** equipment must be disposed of according to current regulations.

Elements such as paper, cardboard, plastic or any other recyclable elements must be taken to a suitable sorting center.

According to European directive 2012/19/EC, this symbol means that as of 4 July 2012 electrical appliances cannot be thrown out together with household or industrial waste. According to current regulations, consumers within the European Union are required,   as of this date, to return their used devices to the manufacturer, who will take care of disposing them at no extra expense.

According to European directive 2011/65/EC, this symbol means that the **SYCLOPE TERE'O Touch®** controller is designed in compliance with the restrictions on hazardous substances.

According to low-voltage directive (2014/35/UE) and the electromagnetic compatibility directive (2014/30/UE), this symbol means that the device has been designed in compliance with the previously cited directives.

In accordance with part 15 of the FCC regulation (Federal communications commission), this symbol indicates that the device was tested and approved under the respect and the conditions of the limits for a Class B digital device.

III. Technical characteristics and functions

1) Technical characteristics

Main features		
Type	**Specification(s)**	**Marker(s)**
Consumption	12 W Max (Without connected dosing accessories)	-
Power supply requirements	90-240VAC 50/60Hz	-
Electrical protection	Fuse 160 mA. Reset by power interruption	F4
Operating temperature (°C)	-5 °C to 45 °C (23 °F to 113 °F)	-
Case material	ABS or Polycarbonate (USA and Canada)	-
Dimensions of the case	Length: 213 mm (8.4 inches) Width: 185 mm (7.3 inches) Height: 118 mm (4.6 inches)	-
Case weight	1.1 kg	-
Display	4.3-inch colour LCD screen Resistive touch	-
Environment		
Storage temperature	-10 °C to 70 °C (10 °F to 158 °F)	-
Humidity	Max. 90% without condensation	-
Protection rating	IP 65	-
Product certification	CE	-
Electromagnetic compatibility	Class B disruption tests comply with EN61326-1 Class B disruption tests comply with EN61326-2-6 Class B disruption tests comply with EN55011 Harmonics tests comply with EN61000-3-2 Harmonics tests comply with EN61000-3-3 Immunity tests comply with EN61000-4-2 Immunity tests comply with EN61000-4-3 Immunity test EN61000-4-4 Immunity tests comply with EN61000-4-5 Immunity tests comply with EN61000-4-6 Immunity tests comply with EN61000-4-8 Immunity tests comply with EN61000-4-11	-
Standard	EN 61000 Electromagnetic compatibility (CEM) EN 61326 Electrical measuring, control and laboratory equipment for a standard environment (class B home use)	-
Entrées		
Measurement inputs	1 potentiometric input (pH)	POT
	1 4…20mA isolated input Tension 24VDC (temperature)	IN1
	1 4…20mA isolated input Tension 24VDC (chlorine/Bromine)	IN2
Level inputs	1 Tank level contact input (pH)	K1
	1 Tank level contact input (Chlorine/Bromine)	K2
Water circulation input	1 water circulation contact input	Aux
Sorties		
Outputs relay	2 power relay output - Max. 3.15A / 250 VAC - Transient current Max 15A <1ms	P3 et P4
	2 ON/OFF relay output	P1 et P2
REF	Reference 24V output for power supply to external measurement converters or flow sensors.	VREF
	Reference 12V output.	PWR
Port de communication		
RS485	1 RS485 communication port compatible protocol type Modbus RTU	
Protection des sorties de dosage		
Internal fuse	Glass fuse 5x20mm 3.15A 250V time delay	FUSE1

2) Main functions

Main functions		
Function	**Specification(s)**	**Note(s)**
Regulation mode	P.I.D	Injection time calculated in % 1800 s relay injection cycle time
	All or nothing	
Type of actuators	Power relay outputs	Width modulation control
Direction of regulation	Up or down	
Alarms	Low and high alarms	Expressed in actual measurement value High and low threshold control
Controlling	Flowrate control	Controlling injection to control water circulation
	Tank level	Controlling injection to control the level of product to be injected
Configuration	Choice of standard configuration	Automatic machine setup
Maintenance	Maintenance assistance	Control of regulatory device

3) Parameters and measurement scales

Measures and regulation		
Parameters	**Measuring scale**	**Accuracy**
T°C	-5 to 45°C	± 0,5 %
pH	0 to 14 pH	± 0,5 %
Free chlorine	0 to 2 ppm	± 0,5 %
	0 to 5 ppm	± 0,5 %
	0 to 10 ppm	± 0,5 %
Bromine	0 to 2 ppm	± 0,5 %
	0 to 5 ppm	± 0,5 %
	0 to 10 ppm	± 0,5 %

IV. **Installation and connections**

1) Installation conditions

To guarantee the user safety and to ensure correct operation of your **SYCLOPE TERE'O Touch®**, please observe the following installation instructions:

➢ Install the controller in a dry location
➢ The controller must be protected against rain, frost and direct sunlight
➢ The room temperature must range between 0°C and 50°C, with no condensation
➢ Choose an installation location free from vibration, on a suitable support and with no deformation

If these instructions are not observed:

➢ The controller risks to be damaged
➢ The measurements can be disrupted
➢ The warranty is not applicable!

2) Wall installation of the device

Prior to installing the devices and connections of cables, pipes and fittings, cut power supplies! The IP65 protection class is guaranteed only if the closure caps of the **SYCLOPE TERE'O Touch®** are closed and the wires correspond to the diameter of the cable gland.

► Drill 3 holes ⌀ 5 mm in accordance with the drilling plan below:
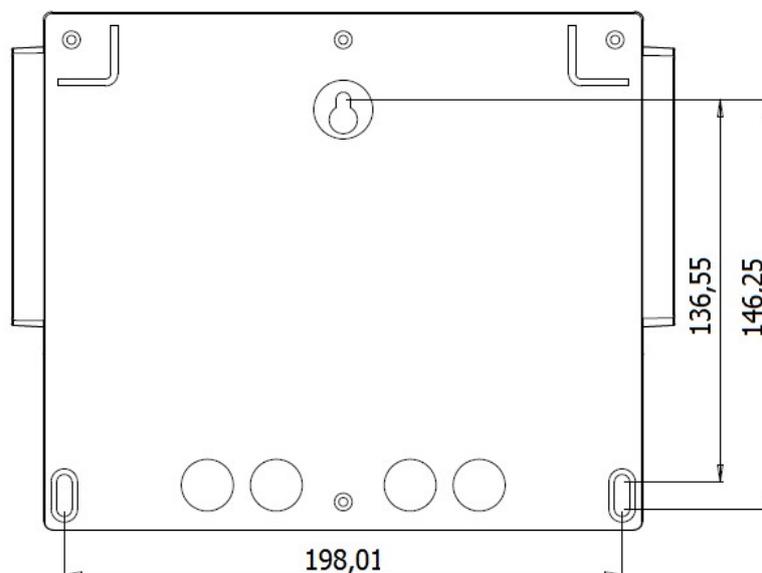
► Introduce the 5mm dowels using a hammer
► Fix the top screw first without tightening it completely
► Place the lower screws and tighten them
► Tighten the upper screw
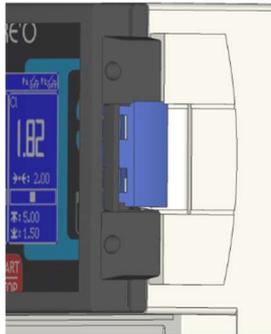► Make sure the housing is stable and level

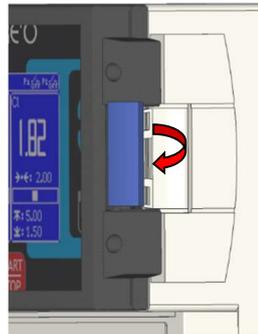### 3) Open / Close transparent door

⚠️ In order to guarantee IP65 class, the transparent door must absolutely be closed after use while ensuring the quality of the closure seal.

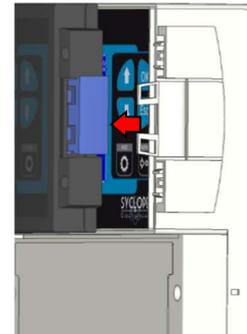The case has a closing system with automatic locking as soon as its handling is carried out correctly.

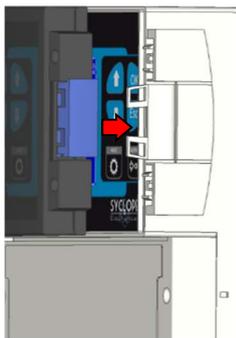To open the transparent door:

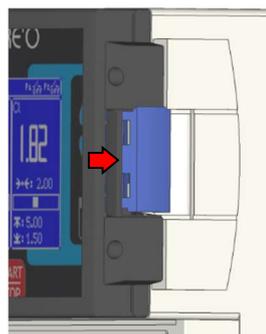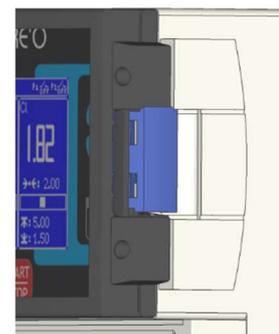| Door locked … | Lift the lock and pull towards the front of the device | Door opened! |

To close and lock the transparent door:

| Put your fingers behind the lock, and bring the door with your thumb … | With the palm of your hand, press on the transparent door and tighten with your hand to lock | Door locked! |

4) Open / Close the terminal cover

⚠️ In order to guarantee IP65 class, the terminal cover must absolutely be closed after use while ensuring the quality of the closure seal.

Use an appropriate screwdriver to unscrew the 2 fixing screws and open the terminal cover.
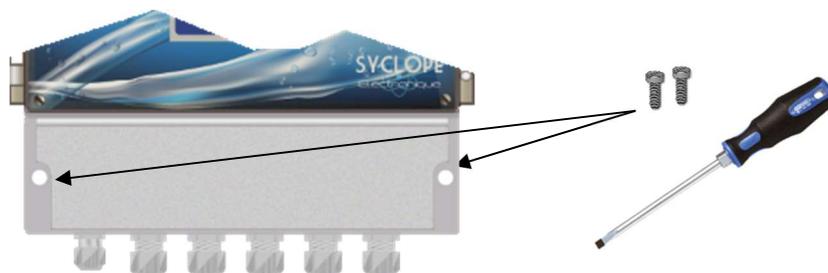
5) Electrical connection

Electrical installations must be carried out in accordance with the standards in force and by authorized personnel!
A 30-mA differential circuit breaker must be installed!
A 10A circuit breaker must be installed near the device and easily accessible in order to cut the primary supply. It must be marked as the cut-off circuit of the device.
Before making the connections, cut off the power supplies!

Preferably use single-strand cables
Otherwise, it is essential to use a crimped cable ends to ensure that no strand can come into contact with neighbouring cables!
Secure the wire connections on the terminal blocks using a cable tie.

SYCLOPE TERE'O Touch® must be slaved to the filtration of the swimming pool using digital input.

Internal protection:

SYCLOPE ODI Touch ® is protected by one resettable fuse 160 mA and by a varistor against overvoltage of 275V.

The self-powered power relay outputs **P3** and **P4** are protected by a glass fuse, 5x20mm of 3.15A 250V.

Reference	Name
FUS1016	Glass fuse time delay 3,15A 5x20

If the fuse is destroyed, check that the card isn't burnt. If this is the case, imperatively change the complete card.
If the varistor is destroyed, please return the device to our technical support for expertise.

6) Changing the internal fuse of P3 and P4 outputs

Cut off the power supply, before changing the fuse!

Always use a fuse identical to the original one. Don't replace with a higher intensity!

- ➢ Cut off the power supply
- ➢ Open the transparent door and unscrew the 4 front screws using an appropriate screwdriver.
- ➢ Carefully disconnect the connection flat cable connecting the bottom card and the upper part of the device

- ➢ Locate the fuse to be changed on the lower PCB
- ➢ Remove the protective cap
- ➢ Change the fuse and replace the protective cap

Glass fuse time delay 3.15A 5x20mm
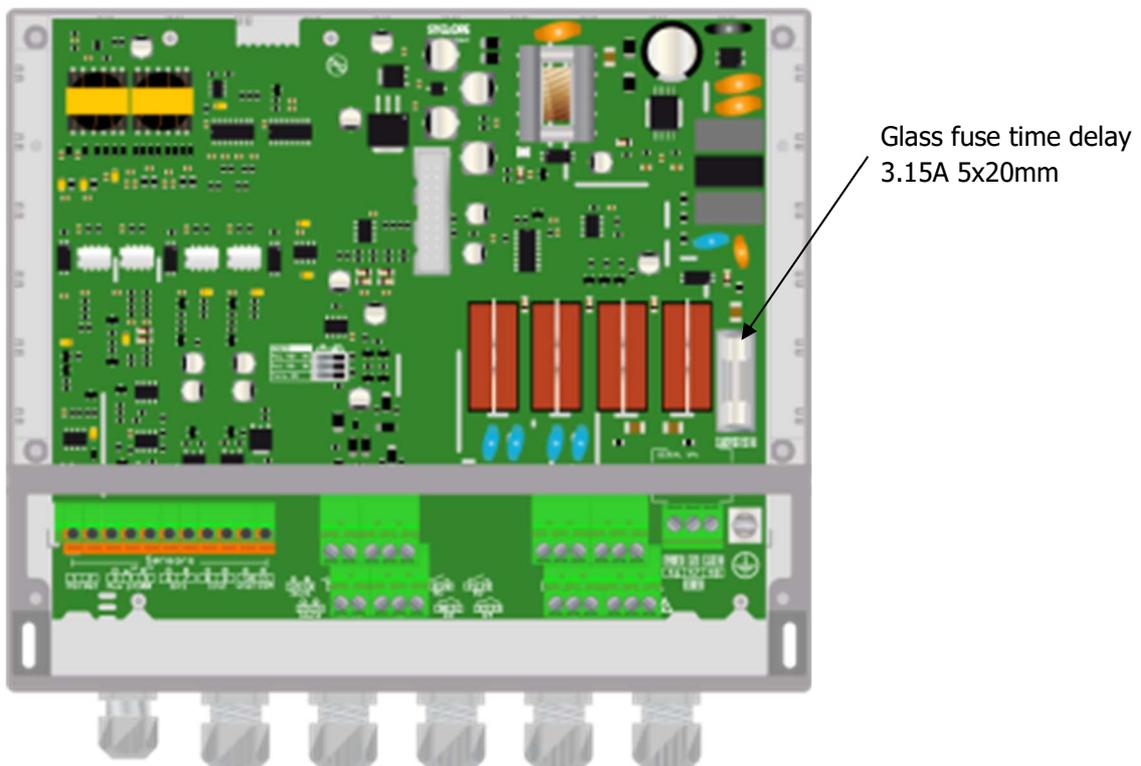
- ➢ Reconnect the flat cable between the cards and reassemble the front panel using the 4 fixing screws. Don't overtighten because the screws are fixed in the plastic case.

⚠ Reconnect the flat cable and replace the front panel before switch On.

7) Primary power connection

SYCLOPE TERE'O Touch® has a switch-mode power supply. It can be powered by an alternating voltage between 90V and 240V 50/60Hz.
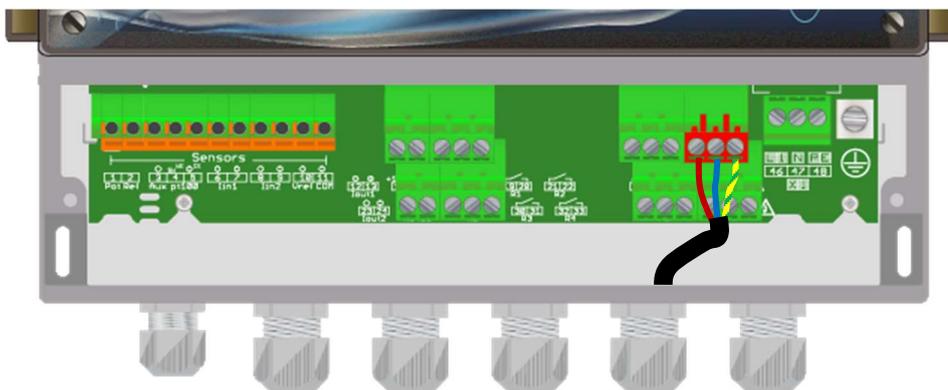
► Use a 3-point 1.5 mm^2 to wire the power supply
► Strip the 3 wires on 7mm
► Pass the 3-point cable through a cable gland
► Connect the phase on L1 and the neutral on the N of the main terminal block X1
► Connect the earth on the PL1 stud using an M4 eyelet terminal
► Tighten the cable gland to seal

Your **SYCLOPE TERE'O Touch®** doesn't have a power switch. So, it's directly supplied when it's connected to the mains.

8) Connections of control outputs

● Self-powered relays outputs connection pH P3

The self-powered relays outputs P3 (Primary supply voltage = voltage available on P3) used for pH parameter regulation.

► Strip the 3 wires of the power cable of the dosing device on 7mm
► Pass the 3-point cable through a cable gland
► Connect the phase on **L1 (37)** and the neutral on **N (38)** of the P3 mains terminal block
► Connect the earth on **PE (39)** of the P3 mains terminal block
► Tighten the cable gland to seal

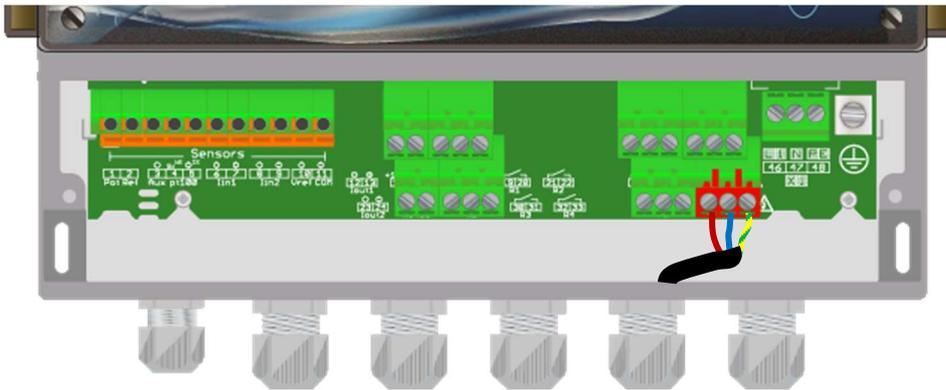● Self-powered relays outputs connection Chlorine/Bromine P4

The self-powered relays outputs P4 (Primary supply voltage = voltage available on P4) used for chlorine/bromine parameter regulation.

► Strip the 3 wires of the power cable of the dosing device on 7mm
► Pass the 3-point cable through a cable gland
► Connect the phase on **L1 (43)** and the neutral on **N (44)** of the P4 mains terminal block
► Connect the earth on **PE (45)** of the P4 mains terminal block
► Tighten the cable gland to seal

9) Potential-free relay connections (P2)

The potential-free relay outputs can be used as alarm relays, regulation or be controlled in Timer mode as required.
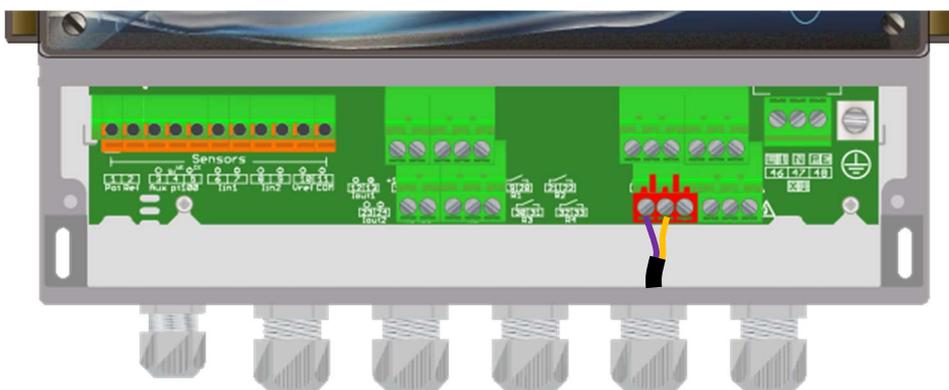
▶ Use a 2-wire cable with a section appropriate for the voltage and current.
▶ Remove the protective sheath.
▶ Strip wires on 7mm.
▶ Pass the cable through a cable gland.
▶ Connect a cable on the midpoint **COMMON (41)** of the terminal block
▶ Connect the second cable on the **WORK (40)** of the terminal block or on the **REST (42)** depending on the function to be performed.
▶ Tighten the cable gland to seal.

10) Potential-free relay connections (P1)

The potential-free relay outputs can be used as regulation for pH.
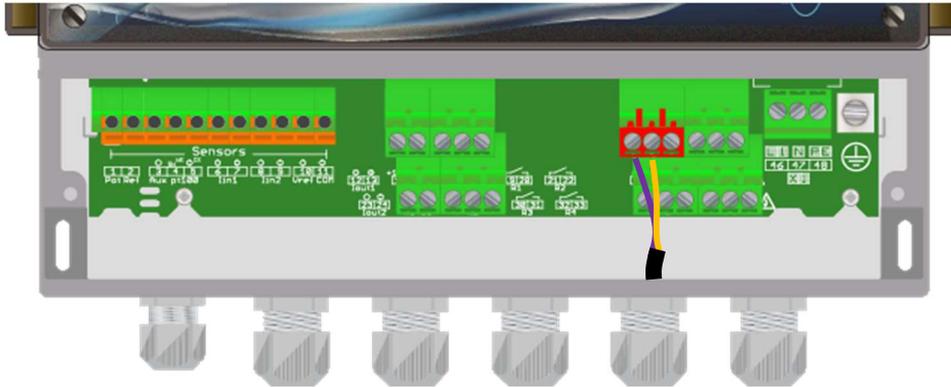
▶ Use a 2-wire cable with a section appropriate for the voltage and current.
▶ Remove the protective sheath.
▶ Strip wires on 7mm.
▶ Pass the cable through a cable gland.
▶ Connect a cable on the midpoint **COMMON (35)** of the terminal block
▶ Connect the second cable on the **WORK (34)** of the terminal block or on the **REST (36)** depending on the function to be performed.
▶ Tighten the cable gland to seal.

11) <u>Measurement inputs connections</u>

TERE'O Touch® has three inputs:
  ➢ POT: Input connection for pH sensor.
  ➢ In1: Isolated 4-20mA input for temperature measurement.
  ➢ In2: Isolated 4-20mA input for chlorine or bromine measurement.

a) pH input

  ▶ Use a coaxial shielded cable supplied with your sensor.
  ▶ Connect the core of the cable to the **Pot (1)** connection.
  ▶ Connect the shield on the **Ref (2)** connection**.**
  ▶ Tighten the cable gland to seal.

In some cases, the pH output can be in BNC version outside the case
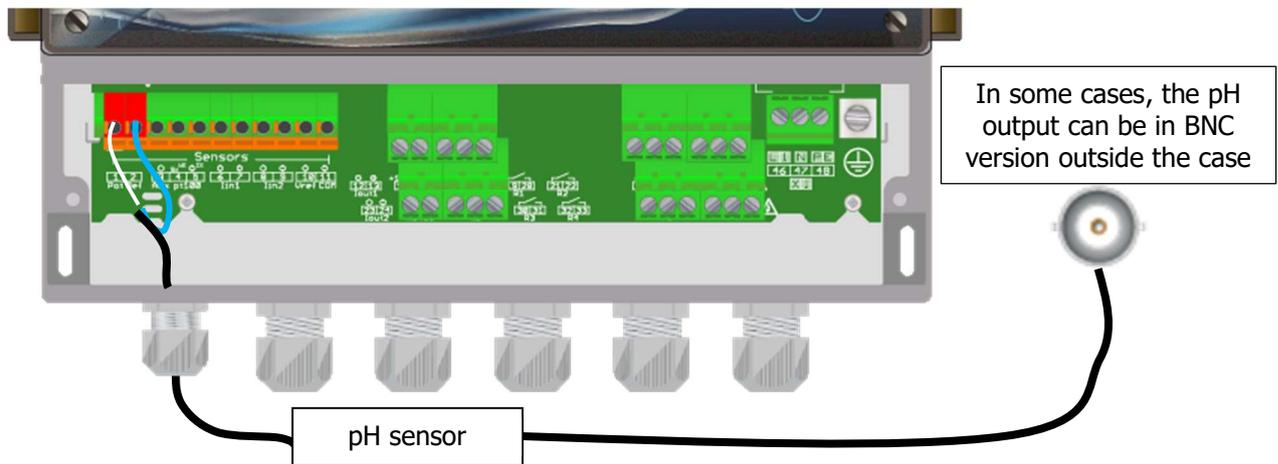
pH sensor

b) Temperature sensor

  ▶ Preferably use a two-strand cable.
  ▶ Wire a strand on **Iin1(+) (6)**.
  ▶ Wire the other strand on **Iin1(-) (7).**
  ▶ Tighten the cable gland to seal.
  ▶ NOTE: The temperature sensor Syclope is not polarized.

Temperature sensor
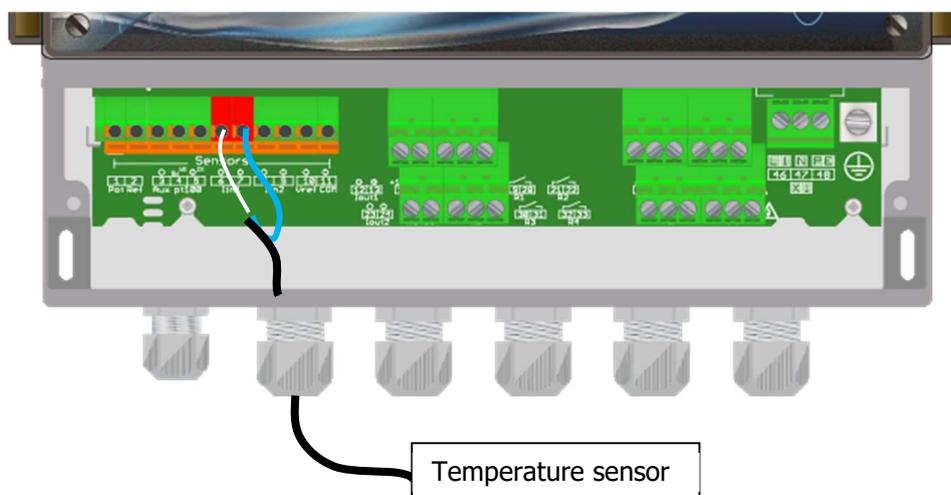
c) Chlorine or Bromine input

▶ Preferably use a two-strand cable.
▶ Wire a strand on **Iin2(+) (8)**.
▶ Wire the other strand on **Iin2(-) (9).**
▶ Tighten the cable gland to seal.
▶ NOTE: Be careful to respect the polarity of the sensor.

Chlorine / Bromine sensor
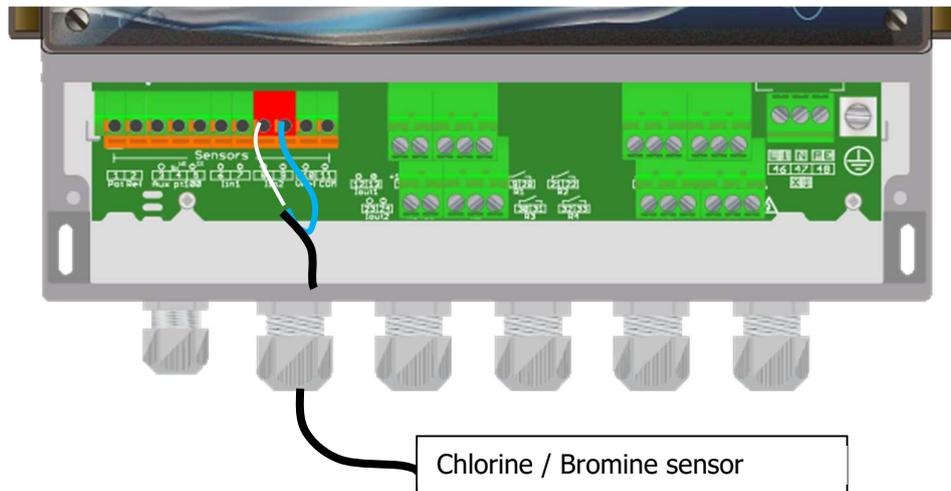
d) Power input

When necessary, it's possible to use chlorine or bromine sensor requiring external power.

▶ Preferably use a two-strand cable.
▶ Connect the (+) strand to the **Vref (10)**.
▶ Connect the (-) strand to the **Com (11).**
▶ Tighten the cable gland to seal.

Power channel Iin2

12) Remote control input or flow switch connection

SYCLOPE TERE'O Touch® controller has a remote-control input or dry contact flow switch control that performs a stop function of the regulators.

⚠️ For safety reasons, it's imperative to enslve your **SYCLOPE TERE'O Touch®** to contact with the filter engine or a flow detection system to avoid overdose incidents.

   a)   Version with contact control all or nothing:

In the case of an all or nothing contact system (controlled by the filter motor or a flow sensor), the following electrical diagram must be made.
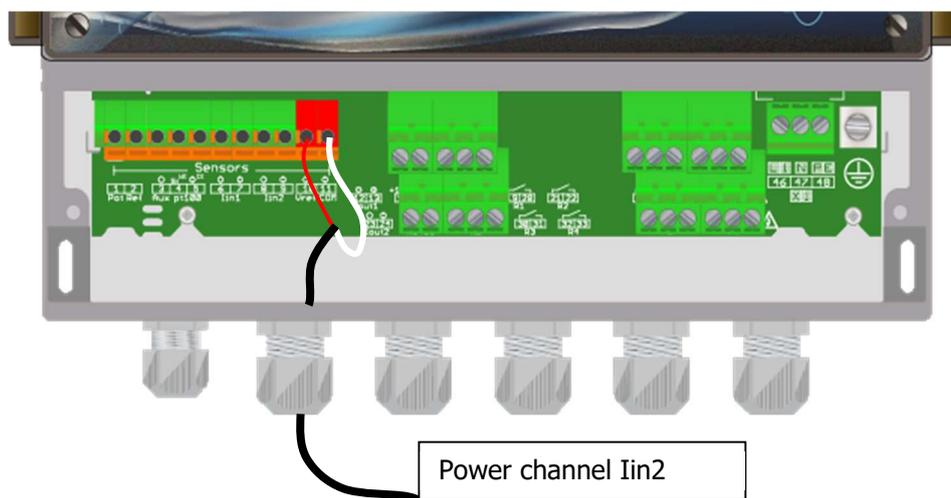
   ▶ Preferably use a two-strand cable.
   ▶ Wire a strand on **Aux (sw) (4)**.
   ▶ Wire the other strand on **Aux (-) (5).**
   ▶ Tighten the cable gland to seal.
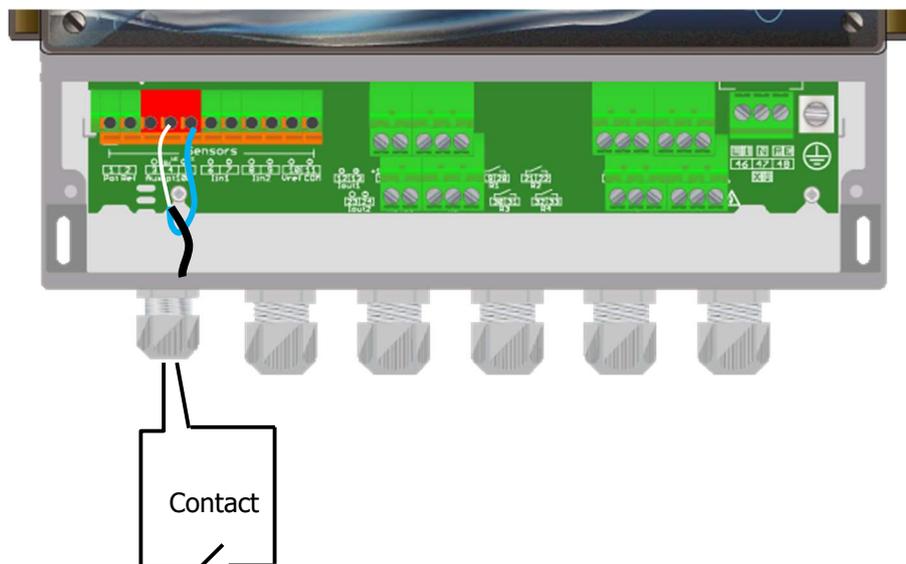
ℹ️ Your **SYCLOPE TERE'O Touch®** has a software configuration of the direction of contact. You can use either a NO or NC contact and select the type by programming.

   b)   Version with NPN inductive detector:

If an inductive type detector is used, connect it as follows:

   ▶ Remove the protective sheath.
   ▶ Strip the wires on 7mm.
   ▶ Pass the cable through the cable gland.
   ▶ Connect the brown power strand to **Aux + (3).**
   ▶ Connect the blue power strand to **Aux - (5).**
   ▶ Connect the black contact strand to **Aux sw (4)**
   ▶ Tighten the cable gland to seal.

Connections :
Brown : **Aux + (3)**
Blue : **Aux - (5)**
Black : **Aux sw (4**)

The inductive detector provided by SYCLOPE Electronique is of type NPN with 3 wires.

13) Tank bottom connections

SYCLOPE TERE'O Touch® has two tank bottom inputs associated with the two dosing parameters. It's possible to control the dosing function at the bottom of the tank bottom input so as to cut the injection when the tank is empty.
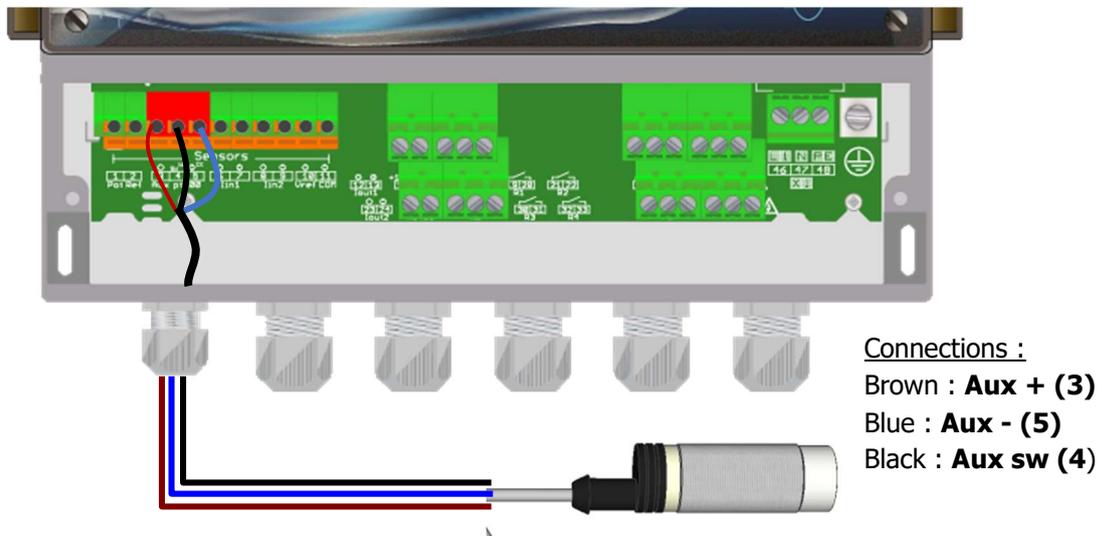
Your **SYCLOPE TERE'O Touch**® has a software configuration of the direction of contact. You can use either a NO or NC contact and select the type by programming.

Note that tank level management is not enabled by default. Refer to the programming part of the manual to enable tank level management on pH input and/or chlorine/bromine input!

a) Ph input tank level (K1):

▶ Preferably use a two-strand cable.
▶ Connect one sensor strand to the **K1 (+) (16)**.
▶ Connect the other sensor strand to the **K1(sw) (17).**
▶ Tighten the cable gland to seal.

Contact

SYCLOPE TERE'O Touch XL® Installation, starting, and programming instructions
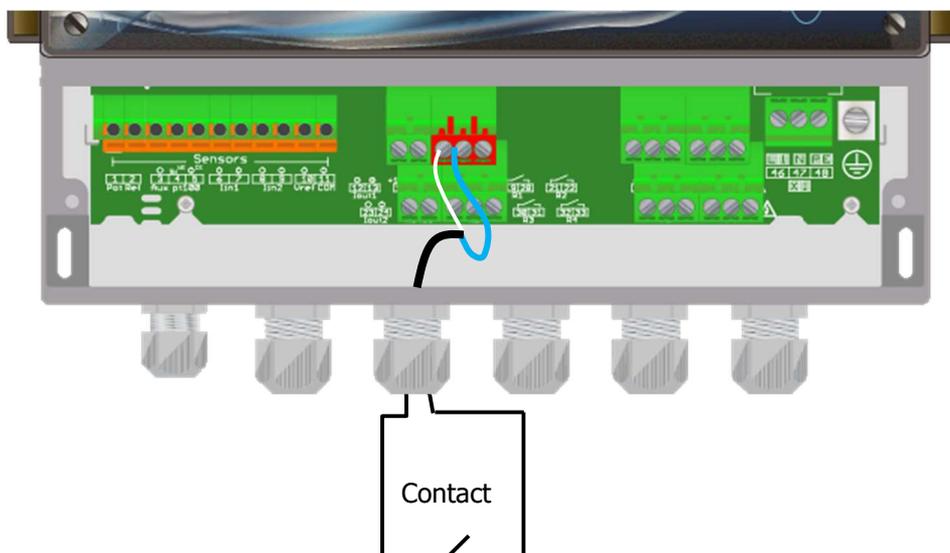
b) Chlorine/bromine input tank level (K2):

▶ Preferably use a two-strand cable.
▶ Connect one sensor strand to the **K2 (+) (27)**.
▶ Connect the other sensor strand to the **K2(sw) (28).**
▶ Tighten the cable gland to seal.

Contact
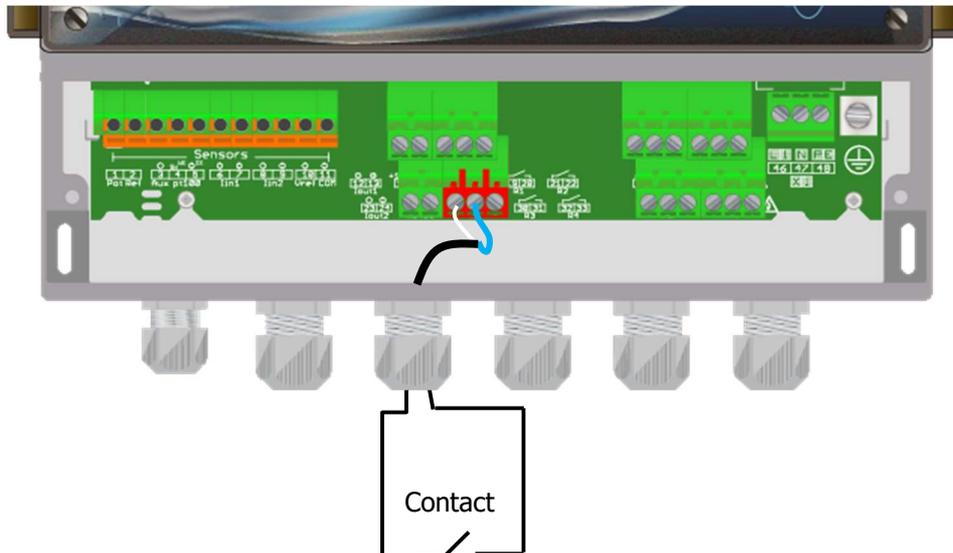
14) Bus RS485 communication connection

SYCLOPE TERE'O Touch® has an RS485 communication port for linking a desktop computer equipped with a 485 port and a communication software to record measurement value, alarms and different states of the controller.

a) Connection to USB port of the computer

▶ Use a 3 points cable.
▶ Strip the wires for 7 mm
▶ Pass the cable through a cable gland.
▶ Wire AA' (n° 3) of the converter to **RS485** (A) **(25)** terminal**.**
▶ Wire BB' (n° 4) of the converter to **RS485** (B) **(26)** terminal**.**
▶ Wire C (n° 5) of the converter to **PWR** (C) **(15)** terminal**.**
▶ Tighten the cable gland to ensure tightness.
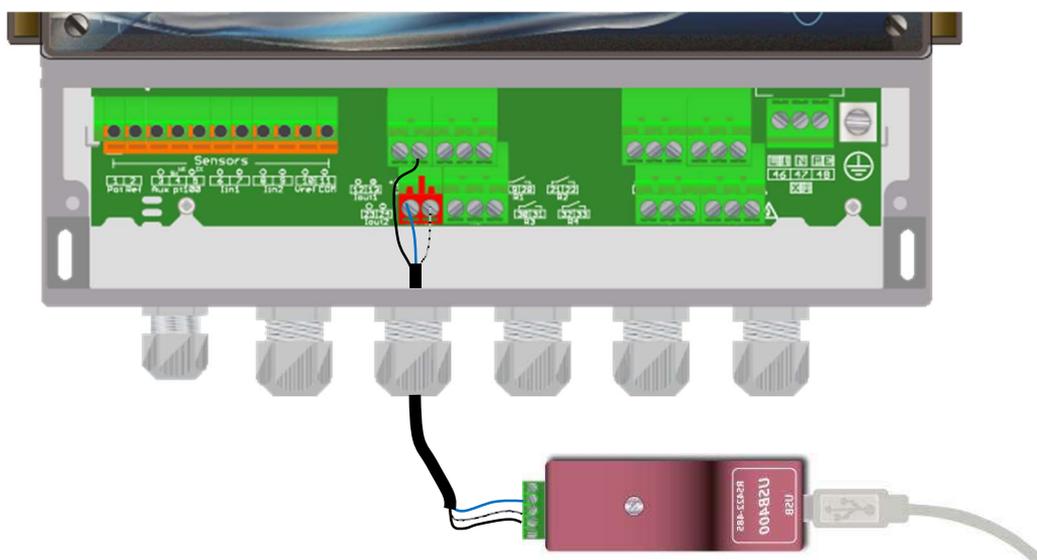
- Blue (Terminal block n°3): AA' RS485
- White (Terminal block n°4): BB' RS485
- Black (Terminal block n°5): GND RS485

Configuration: All switches on **"ON"**

Please, contact us for more information on these products.

 Respect the connection polarities of the bus.

We suggest using a USB/RS485 interface module to connect the **SYCLOPE TERE'O Touch®** controller to your computer. Please consult the instructions of this converter for the connection.

Reference	Name
INF1021	USB => 485 Converter

 The controllers can be chained by respecting the order of the cables (putting in parallel).

b) Polarization and termination of the RS485 bus

The bus can be polarized from your device if needed. To do this you have to switch both micro-switches on the electronic card Pol. RS + (A) and Pol. RS- (B) on the ON position.

If your device is the last of the line on the RS485 bus you can switch the Term switch. RS ON to enable line termination.
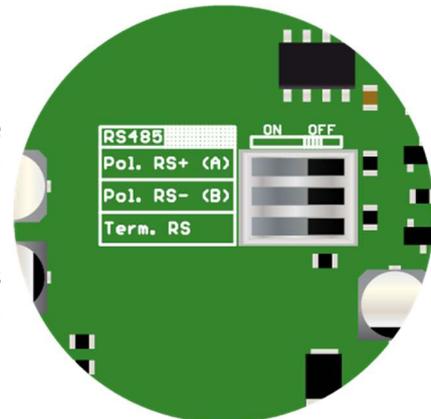
 For safety reasons, it is imperative to cut the power supply of your **SYCLOPE TERE'O Touch®** device before opening the case to switch the micro-switches!

V. General use

The **SYCLOPE TERE'O Touch**® controller is intended to measurement and to control parameters for water treatment of swimming pools. The installation of **SYCLOPE TERE'O Touch®** equipment is based on the principle of measuring and regulating the filtration circuit.

This type of installation is recommended in the event of single swimming pool where filtration circuit is independent.

- Water is sampled after the recirculating pumps and before the filter entry. (If using, before flocculent injection circuit).
- The sensors installed into the measuring chamber receive water to be analysed and send the values to the controller.
- According to the setting points fixed by the user, the controller sends proportional orders to the pumps installed into the main intake line of the swimming pool.
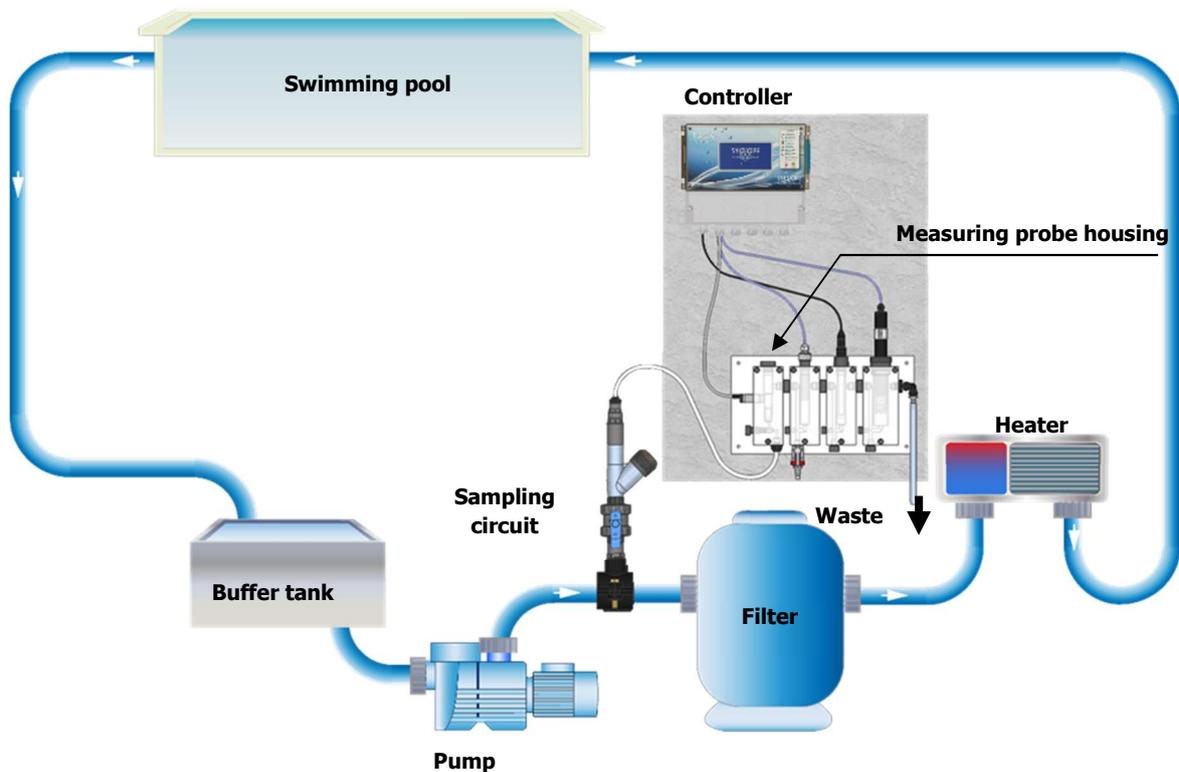
VI. Commissioning

You have just carried out electrical connections, you have installed sensors and you have connected dosing equipment, you are thus ready to carry out the startup of your **SYCLOPE TERE'O Touch®** controller.

Apply the power supply on the controller
Check if no visual problem appears, if the controller is well lit and if the other equipment's of the installation are not disturbed.

SYCLOPE TERE'O Touch® controller does not launch automatically the chemistry treatments. The user is the main master for launching the controller after checking the good programming according the needs.

SYCLOPE TERE'O Touch® is full programmable. During the power up, the present parameters are fixed and all regulation processes are inactive.

SYCLOPE TERE'O Touch® controller is delivered with standard programming. It is advisable for the user to modify this programming if it does not correspond to the needs. To modify the programming of the controller, please refer to the following chapter.

VII. Programming the controller

TERE'O Touch® controllers are equipped with a touch-sensitive colour graphic display, so all programming actions are performed by pressing the display. The technology of the touch screen is resistive type, it is necessary to make a firm pressure on the screen to validate the keys.

Ensure the good programming of the **TERE'O Touch®** controller before starting regulations! An excess of chemical products can cause harmful actions on the human health and the environment.

1) Principal display

The display is made by a backlit 4.3-inch colour graphic display separate into three main parts:

The upper panel

The left panel for pH measurement

The right panel for chlorine or bromine measurement.

a) The upper panel

Programmable Flow-Switch input   Active

Programmable Flow-Switch input   Inactive

Non-programmed Flow-Switch input

Time

No temperature sensor

Temperature display   28.2°c

Relay not programmed

Relay programmed but inactive

Relay programmed and active

No USB key connected

USB key connected

No modem installed

GSM modem installed

WIFI modem installed

Ethernet modem installed

On / Off control button

System in operation   System stopped

Pressing on this area of the screen stop or start your controller

b) Display of a measurement channel

Type of measure

Alarms notifications
Active polarization

Maintenance or calibration of sensor required

Tank empty

Maximum daily dosing time exceeded

Measured value & unit

Value above the scale

Value below the scale

Value not displayable
(Technical alarm)

pH

7.20

← • → 7.20

Programmed setpoint

Dosing status
Dosage stopped

Dosage in pause

Daily overdose level

↑ 7.80
↓ 6.80

P3: ⌐•—

Display of active alarm

- Technical

- High

- Low

Alarm thresholds
↑ High alarm threshold
↓ Low alarm threshold

Fuse number & state
P3: Dosing relay number
⌐•— Fuse OK
〰〰 Fuse KO

SYCLOPE TERE'O Touch XL® Installation, starting, and programming instructions

c)   Touch zone of a measurement channel

Cancel the polarization time

Direct calibration of the channel

Reset the daily dosing time

Change the control setpoint

Change the high alarm threshold

Change the low alarm threshold
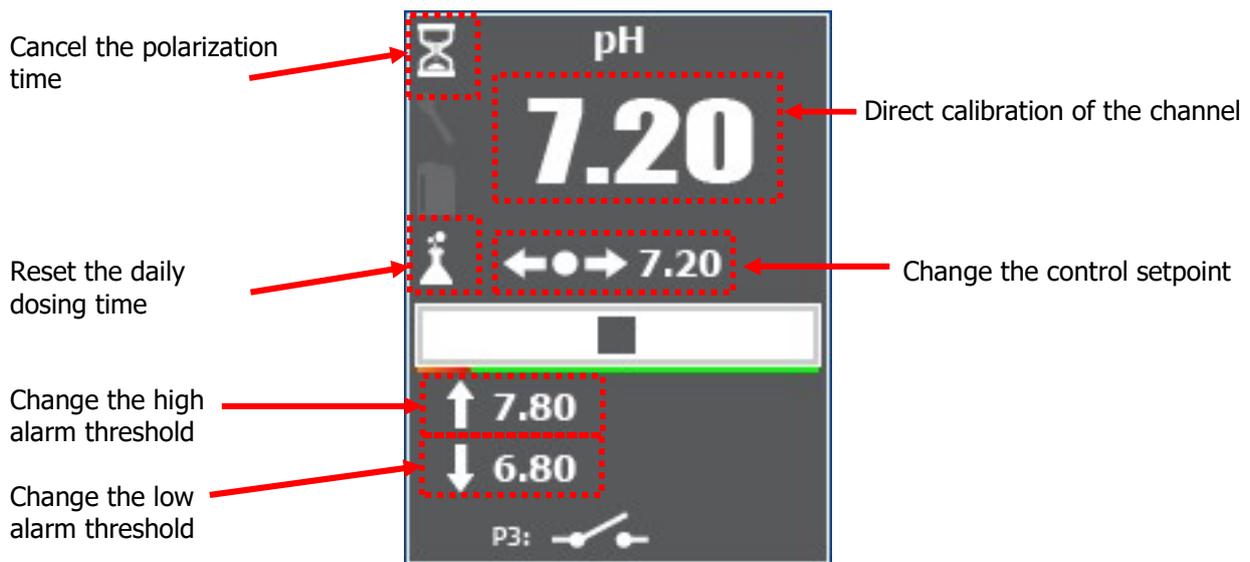
Polarization hourglass:
- On Fixed: Programmed delay - waiting for countdown (faulty sensor or Flow Switch circulation in default)
- On Flashing: Delay in countdown
- Off: No timer or delay completed
NOTE: The fixed ON state is only available from software version 3.04.

Warning direct calibration is only possible if the system is in START mode.

If the User Password (See. § VI.3.b « *Language, Time et code* ») is enabled then you will be asked to do so before any request for modification of instructions or alarm (high or low). This is valid from version 4.02.

d)   The bottom menu

The bottom menu is displayed when the "Menu" key is pressed, and gives access to the User menu, depending on the START / STOP state of the controller. The "pump" keys can be greyed out.

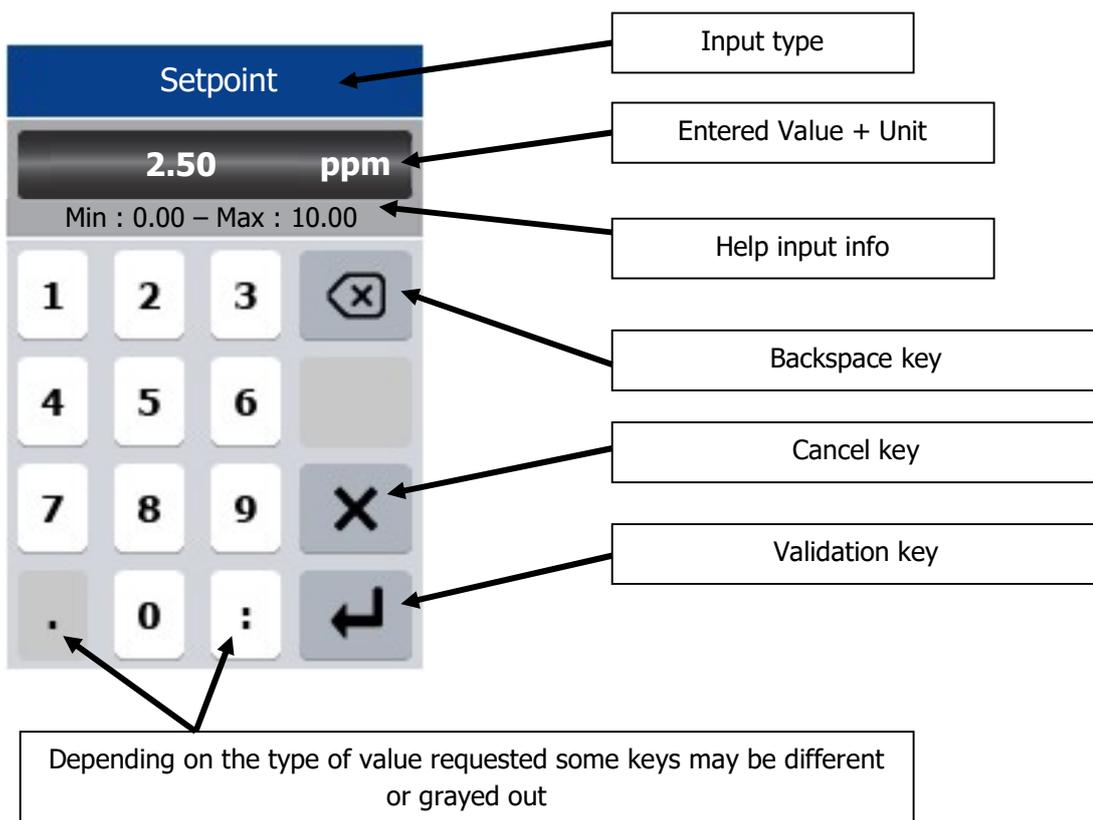| **Channel 1**		**Channel 2**	
User Menu Access	Force Pump State	Force Pump State	User Menu Access

2) Input mode

The controller has several input modes depending on the type, list, numeric or alphanumeric.

a) Mode « List »

When a programming element proposes a list of choices, this type will be displayed with two arrows and a central indication area of the selected element.

Scroll down the list

Display the active element

Scroll up the list
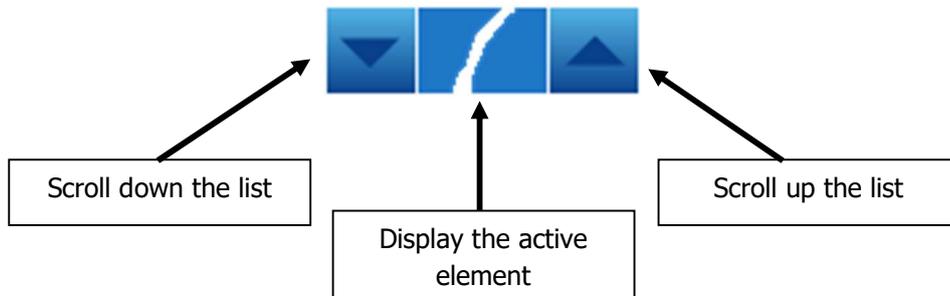
b) Mode « numeric »

When a programming element is numeric, a numeric keypad appears when typing.

Input type

Entered Value + Unit

Setpoint

2.50   ppm

Min : 0.00 – Max : 10.00

Help input info

Backspace key

Cancel key

Validation key

Depending on the type of value requested some keys may be different or grayed out

In the case of an input error or out-of-range value, the "Min - Max" indication area will be highlighted in red.

c) Mode « Alphanumeric »

When a programming element is alphanumeric keypad appears when typing.
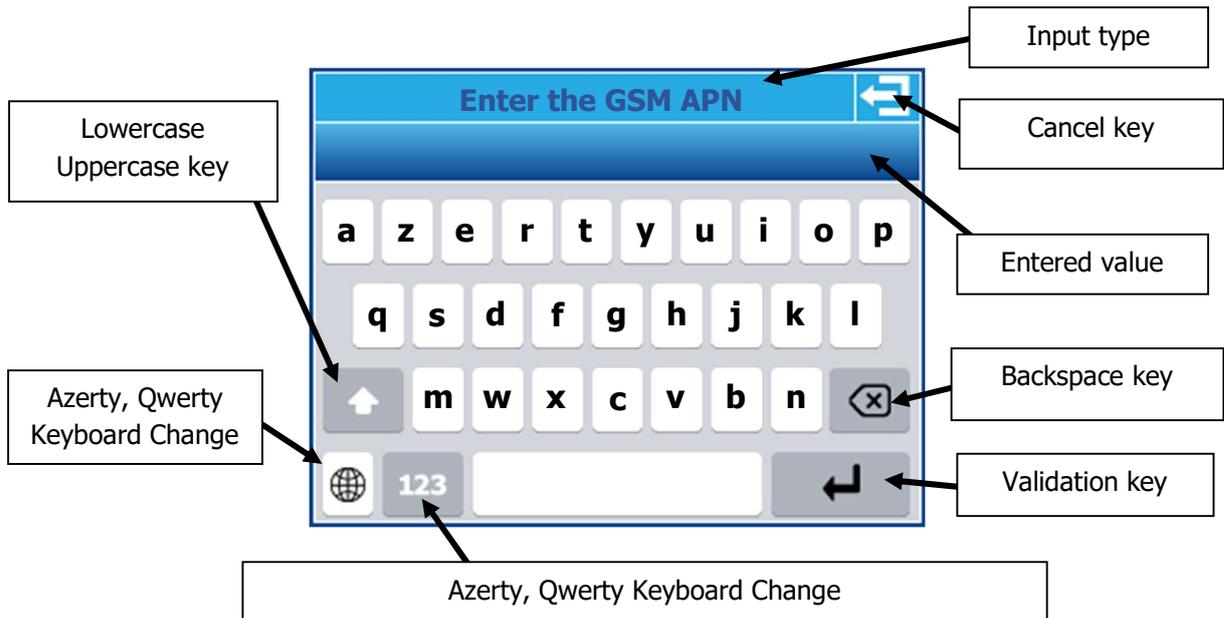
Press on ⬆ toggle in uppercase, a second press locks the keyboard in uppercase ⬆

ℹ To display the accented characters you must hold the corresponding unaccented character key pressed to bring up the list of characters, move your finger from left to right and release on the desired character.

è é ê ë ē ĕ ė ę ě

a z e r t y u i o p
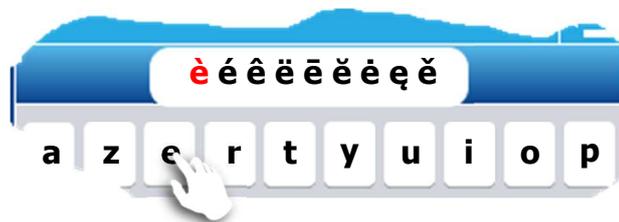
Numeric keypad

Special characters keyboard

Character pad display key

Press on 1|2 to toggle the display of special characters 1|2

3) Programming menu « Installer »

The installer programming menu allows the general programming of your **TERE'O Touch®** controller.

To open the programming menu, press the menu button for 3 seconds. When the message "INSTALLER" appears, you can release the button.

When the "MENU" button is released, the general programming screen appears. You must then, depending on the need, choose the programming to be done.

> If the Installer Password (cf. § VI.3.b « *Language, Time et code* ») is enabled then you will be asked to do so before you can access the INSTALLER menu. When prompted for a password, you can enter « 0000 » to access the service window.
> This is valid from version 4.02.

Lower version at 4.02   **Upper** version at 4.02

> The programming screen closes automatically after 60 seconds without action.

a) Language and time

This paragraph is valid for versions **LOWER** than 4.02.

Pressing the « Language – Time » button opens the programming window.

➢ **Change language:**
Use the buttons on both side of the selection area to scroll through the languages in one direction or the other.

➢ **Change Time:**
Press the time to open the keyboard. Time is in 00h-24h format

➢ **Change Date:**
Press the date to open the keyboard. Date is in dd/mm/yy format

The validation of the changes is done only when you leave the screen by pressing the return key at the top left.
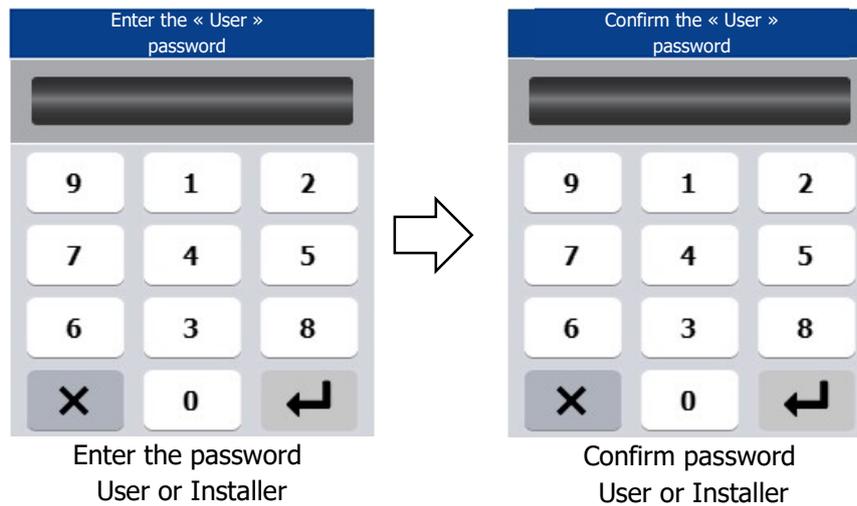
b) Language, Time and Code

This paragraph is valid for versions **SUPERIOR** to 4.02.

Pressing the « Language - Time - Code » button opens the programming window.

> ➢ **Change language, time or date:**
>   See previous paragraph.

> ➢ **User:**
>   Enable or disable the User menu lock with a Password.

> ➢ **Installer:**
>   Enable or disable the Installer menu lock with a Password.

When you decide to put a User or Installer password follow the following steps:

Enter the « User » password	Confirm the « User » password
9 1 2	9 1 2
7 4 5	7 4 5
6 3 8	6 3 8
✕ 0 ↵	✕ 0 ↵
Enter the password User or Installer	Confirm password User or Installer

For security reasons the number layout is done randomly and changes every opening of the password keyboard.

In case you want to remove the password lock from the User or Installer menu you will be asked to enter the password.

The validation of the changes is done only when you leave the screen by pressing the return key at the top right.

Lock symbol:

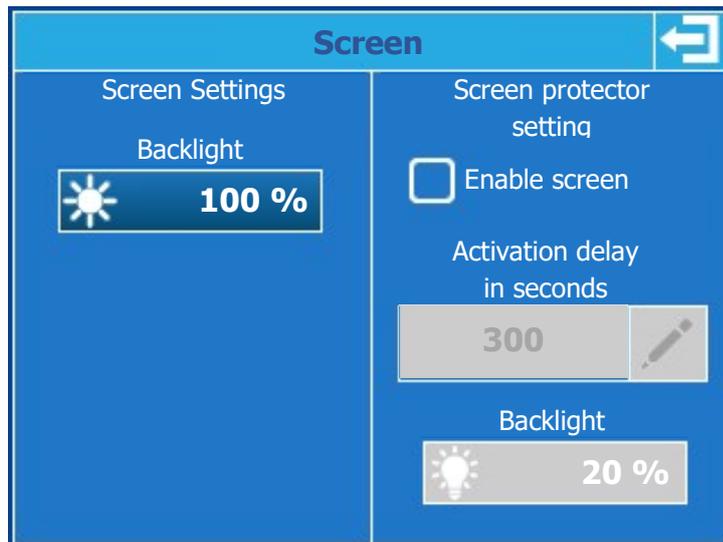Enable / Disable Password Lockout

| User | Installer |

Password lock disable.

Password lock active.

c) Screen

Pressing the « Screen » button opens the programming window.

The brightness, contrast and backlight settings are made by moving the adjustment slider from left to right while pressing and holding it.

➢ **Change backlight:**
Press the button to open the cursor window, then move the cursor from left to right to make your adjustment.

➢ **Enable screen protect:**
Check or uncheck the box to change its state. When the box is checked the screen, protection is active and you can change the delay and the backlight level.

➢ **Change the activation time of the screen protector:**
Press the button to open the numeric entry keypad.

➢ **Change the backlight in « screen protection » mode:**
Press the button to open the cursor window, then move the cursor from left to right to make your adjustment.

The screen protection activation time corresponds to the time during which there will be no press on the screen.

d) Dosing relay

Pressing the « Dosing relay » button opens the programming window.

> **Choice of pH dosing relay:**
>   You can either use the 220V P3 self-powered relay to drive the dosing pump power supply or the P1 CRT relay to drive the pause contact.

> **Enable power:**
>   If you have chosen the CRT relay to drive the dosing pump, selecting this option the P3 relay can be used to drive the pump power supply.

> **Choice of Chlorine dosing relay:**
>   You can either use the 220V P4 self-powered relay to drive the dosing pump power supply or the P2 CRT relay to drive the pause contact.

> **Enable power:**
>   If you have chosen the CRT relay to drive the dosing pump, selecting this option the P4 relay can be used to drive the pump power supply.

When P3 and P4 relays are programmed as Power Supply are enabled when your regulator is ON.

e) Contact & Relay

Pressing the « Contact & Relay » button opens the programming window.

Contact & Relay

Flow-Switch setting	Output relay setting
◯ **Not used**	◉ **Not used**
◯ **Active - NO**	◯ **Active on timer**
◉ **Active - NC**	◯ **Active on alarm**
Activation delay in seconds	
5 ✎	

➢ **Change the flow contact:**
If you are using a water flow-switch contact, you must select the operating mode by pressing the desired mode (Normally Open - Normally Closed).
If the contact is active you can then enter its activation delay (delay take in account when is state change).

➢ **Change the contact activation delay:**
Press the button to open the numeric entry keypad.

➢ **Change the relay configuration:**
If you want to use the third relay output either alarm or timer you have to select the desired mode.
In the timer version, a timer adjustment button appears to access the relay's time setting.

🕐 **Timer**

➢ **Timer screen:**

Timer

☐ **One timer for the entire week**						
Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.

Start time			End time	
00 : 00 ✎	T1	**00 : 00** ✎		
00 : 00 ✎	T2	**00 : 00** ✎		
00 : 00 ✎	T3	**00 : 00** ✎		

➢ **One timer for the entire week:**
By checking this box, you can then program three timers that will happen every day of the week.

➢ **Day of the week selection:**
If you use different timers depending on the days of the week, you have to select day after day and set for each day the start and end times.

➢ **Hours setting:**
If you use different timers depending on the days of the week, you have to select day after day and set for each day the start and end times.

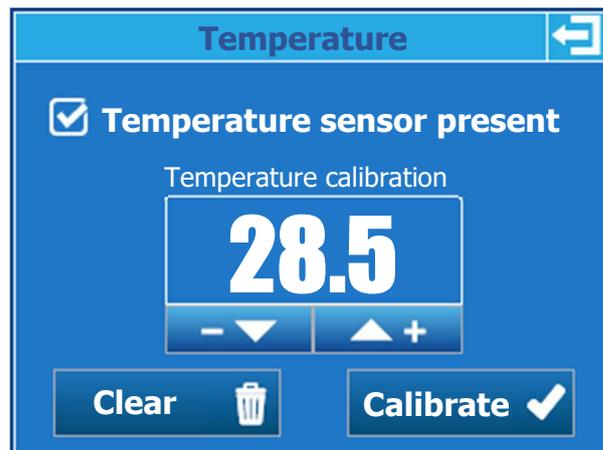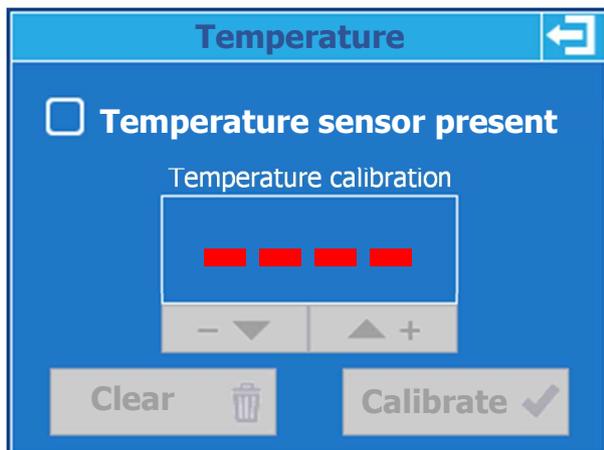**When the entry is invalid the time-slot is displayed in red**

| 08 : 00 | 🖊 | T1 | 00 : 00 | 🖊 |

When the entry is valid the time-slot is displayed in green

| 08 : 00 | 🖊 | T1 | 12 : 00 | 🖊 |

ℹ️ The hours must be entered in 00h-24h format.

f) Temperature

Pressing the « Temperature » button opens the programming window.

Temperature

☐ **Temperature sensor present**

Temperature calibration

▬ ▬ ▬ ▬

– ▼ | ▲ +

Clear 🗑 | Calibrate ✔

Temperature

☑ **Temperature sensor present**

Temperature calibration

28.5

– ▼ | ▲ +

Clear 🗑 | Calibrate ✔

➢ **Temperature sensor:**
By checking this box, the temperature measurement input is activated. The measured value will be displayed on the main screen.

➢ **Temperature sensor calibration:**
Once the sensor is activated you can calibrate it by changing the displayed value (read by the sensor) and the actual value you are measuring. To do this, use the + and - arrows to increase or decrease the value.
- Press the calibrate button to save your changes.
- Press the Clear button to erase a saved calibration.

g) Communications

Pressing the « Communication » button opens the programming window.

MODBUS section (Local communication RS485 port)

➢ **Change MODBUS speed:**
   Use the buttons on either side of the selection area to scroll through the different speeds in one direction or the other (300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200).

➢ **Change MODBUS parity:**
   Use the buttons on either side of the selection box to scroll through the different parities in one direction or the other (None, Even, Odd).

➢ **Stop bit(s) information:**
   This part is not modifiable and is automatically configured according to the choice of parity that is made.
   - 2 for a communication without parity.
   - 1 for communication with even or odd parity.

➢ **Change MODBUS address:**
   Press the button to open the numeric keypad and enter the new address.

Section MODEM (Communication avec site web mysyclope)

> **Change Modem type:**
> Use the buttons on either side of the selection area to scroll through the different parities (NO, GSM, Ethernet, WIFI) in one direction or the other.
> Depending on the type of modem selected, the shaded areas below become accessible in configuration.

MODEM Type	MODEM Type	MODEM Type
▼ **GSM** ▲	▼ **Ethernet** ▲	▼ **WIFI** ▲
APN SIM card GSM module	APN carte SIM module GSM	APN carte SIM module GSM
m2minternet ✎	✎	✎
Mysyclope setting ▶	**Mysyclope setting** ▶	**Mysyclope setting** ▶
IP setting ▶	**IP setting** ▶	**IP setting** ▶
WIFI setting ▶	WIFI setting ▶	**WIFI setting** ▶

> **Change SIM card APN in GSM mode:**
> Press the button to open the keypad and enter the APN corresponding to your m2m GSM card provider. The maximum size is 30 characters.

> **MYSYCLOPE configuration**

Mysyclope	⬅
Server Address	
www.mysyclope.com ✎	
TCP port	
18880 ✎	
Reomote code	
1234 ✎	
☐ **Synchronize date and time**	

> **Change server address:**
> Press the button to open the keyboard and enter the address of the mysyclope server. The maximum size is 30 characters.

> **Change TCP port:**
> Press the button to open the numeric keypad and enter the TCP port of the mysyclope server.

> **Change remote code:**
> Press the button to open the numeric keypad and enter the new remote code.

> **Synchronize la date and timer:**
> When your system is connected, by ticking this box, the controller will be set automatically by the website as soon as necessary.

> ➢ **Ethernet configuration**

> ➢ **DHCP Active:**
> If the local Ethernet network on which the controller is connected has a DHCP that automatically distributes IP addresses, you must check this box. In this case the IP, Mask and Gateway configurations will be automatic.

> ➢ **IP address:**
> Address your controller on your local Ethernet network. Press the input box to open the numeric keypad and enter the IP provided by your IT manager.

> ➢ **Mask & Gateway:**
> Same as previous.

> ➢ **DNS Automatic:**
> If the local Ethernet network on which the controller is connected is automatically distributing DNS you must check this box. In this case the DNS configurations will be automatic.

> ➢ **Prefered DNS:**
> DNS server address. Press the input box to open the numeric keypad and enter the IP provided by your IT manager.

> ➢ **Auxillary DNS:**
> Same as previous.

➢ **WIFI configuration**

➢ **SSID:**
Name of the WIFI network you want to connect to. To change it, press the enter button to open the alpha numeric keypad and enter the name of your network .

➢ **Country code:**
Press the arrows to change the code to your country.
ETSI = Europe

➢ **Mode:**
Press the arrows to change the network mode.
- **Infra.** = Network on which multiple elements can connect.
- **Ad-Hoc =** Network on which only the regulator will be connected.

➢ **Security:**
Press the arrows to select the security mode of your WIFI network. Depending on the latter, you will have to enter the corresponding security key.

➢ **Security key:**
If the network is secure and you have selected the security type in the previous step, tap the entry box to open the alpha numeric keypad and enter the security key for your network.

h) Maintenance

Pressing the « Maintenance » button opens the programming window.

> **POT measurement inputs:**
>   This input corresponds to the pH measurement input. The raw measurement value (in mV) can be read, the pH value corresponding to the adjusted measurement of the calibration. The Offset and Gain information correspond to the calibration of the sensor (0mV & 100% correspond to an uncalibrated sensor).

> **IN1 measurement inputs:**
>   This input corresponds to the measurement input of the temperature. You can read the raw measurement value (in mA), the value of the temperature corresponding to the adjusted calibration measurement. The Offset and Gain information correspond to the calibration of the sensor (0mA & 100% correspond to an uncalibrated sensor).

> **IN2 measurement inputs:**
>   This input corresponds to the measurement input of Chlorine or Bromine. The gross measurement value (in mA), the value of Chlorine or Bromine corresponding to the adjusted measurement of the calibration can be read. The Offset and Gain information correspond to the calibration of the sensor (0mA & 100% correspond to an uncalibrated sensor).

> **K1 Dry contact input:**
>   This entry corresponds to the entry dedicated to the tank level pH channel.
> Depending on the configuration of the input you can see its status and type of configuration.

> **K2 Dry contact input:**
>   This entry corresponds to the entry dedicated to the tank level chlorine/Bromine channel. Depending on the configuration of the input you can see its status and type of configuration.
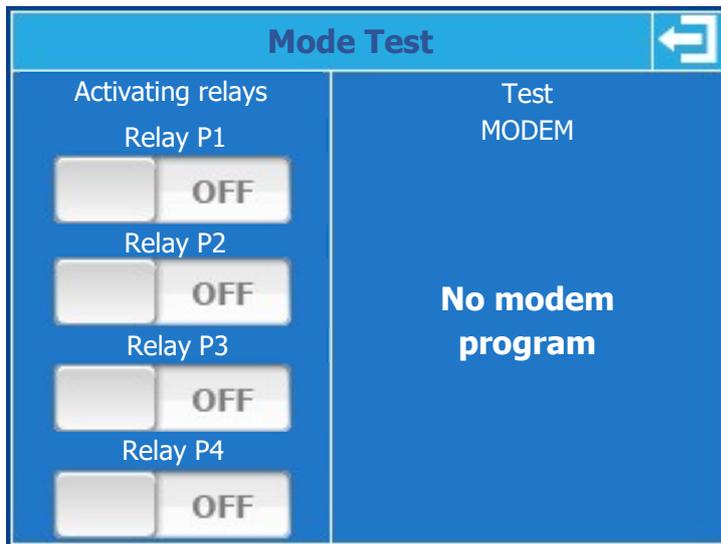
> **FLW Dry contact input:**
>   This input corresponds to the entrance dedicated to the flow of water in the measuring chamber. Depending on the configuration of the input you can see its status and type of configuration.

This screen is constantly updated.

i) <u>Test Mode</u>

Pressing the « Test Mode » button opens the programming window.

Mode Test	
Activating relays	**Test MODEM**
Relay P1	
OFF	
Relay P2	
OFF	**No modem program**
Relay P3	
OFF	
Relay P4	
OFF	

➢ **Activating relays:**
　　　It is possible to activate the relays one by one and to force their state to test the wiring, to do this simply press the corresponding relay button.

Inactive relay　　　　　　**Active relay**

OFF　　　　　　ON

➢ **Modem test:**
　　　Depending on the presence or absence of a Modem (GSM, Ethernet, WIFI), it is possible to know the status and type of modem installed.

➢ **GSM Modem:**
- PIN code messages
  - **Searching...:** Waiting for the Modem module answer.
  - **Error:** No answer from the modem, check the hardware connection of the module.
  - **PIN requested:** A PIN is needed.
  - **PUK requested:** A PUK is needed.
  - **PIN2 requested:** A PIN2 is needed.
  - **PUK2 requested:** A PUK2 is needed.
  - **OK:** Correct answer expected by the system.

The SIM card must not have a programmed PIN. In case of error message of the type "code required" please disable the code of your card.

- Network status messages
  - **Searching ...:** Waiting for the Modem module answer.
  - **Error:** No answer from the modem, check the hardware connection of the module.
  - **Refuse:** Network access problem, check your APN and contact the SIM card provider.
  - **Connected:** Correct answer expected by the system.

- Signal level messages
  - **Searching …:** Waiting for the Modem module answer.
  - **Error:** No answer from the modem, check the hardware connection of the module.
  - **Low:** No sufficient level to make the connection.
  - **Medium, Good, Excellent:** Correct answer expected by the system.

- ➤ **Ethernet Modem:**
  - State messages
    - **Searching…:** Waiting for the Modem module answer.
    - **Error:** No answer from the modem, check the hardware connection of the module.
    - **Waiting:** Waiting for network connection.
    - **Negotiation:** Connection in progress.
    - **Authentication:** Connection in progress.
    - **Disconnecting:** Disconnecting in progress.
    - **Disconnected:** System not connected, check your TCPIP configuration
    - **Connected:** Correct answer expected by the system.

  - IP messages
    - **Searching…:** Waiting for the Modem module answer.
    - **Error:** No answer from the modem, check the hardware connection of the module.
    - **xxx.xxx.xxx.xxx:** Current IP of your controller, a value other than 0.0.0.0 is correct.

- ➤ **WIFI Modem:**
  - State messages
    - **Searching…:** Waiting for the Modem module answer.
    - **Error:** No answer from the modem, check the hardware connection of the module.
    - **Waiting:** Waiting for network connection.
    - **Negotiation:** Connection in progress.
    - **Authentication:** Connection in progress.
    - **Disconnecting:** Disconnecting in progress.
    - **Disconnected:** System not connected, check your TCPIP & WIFI configuration
    - **Connected:** Correct answer expected by the system.

  - IP messages
    - **Searching…:** Waiting for the Modem module answer.
    - **Error:** No answer from the modem, check the hardware connection of the module.
   - **xxx.xxx.xxx.xxx:** Current IP of your controller, a value other than 0.0.0.0 is correct.

  - Signal level messages
    - **Searching…:** Waiting for the Modem module answer.
    - **Error:** No answer from the modem, check the hardware connection of the module.
    - **Low:** No sufficient level to make the connection.
    - **Medium, Good, Excellent:** Correct answer expected by the system.

j) Initialization

Pressing the « Initialization » button opens the programming window.
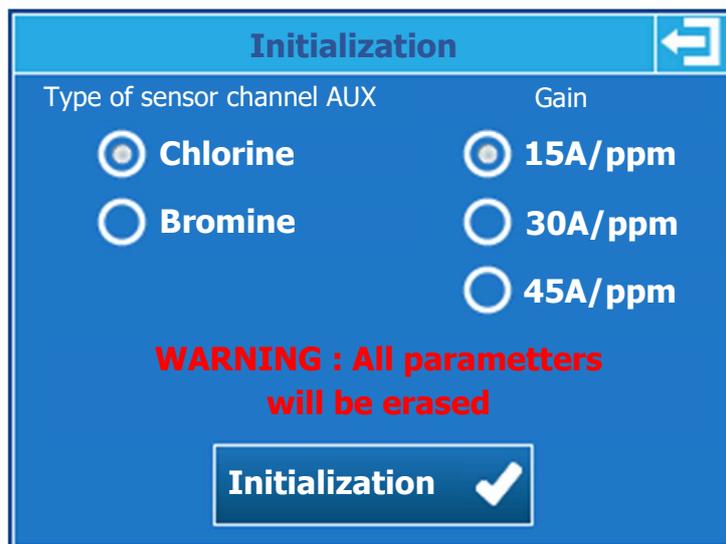
> **Type of sensor channel IN2:**
> Select the desired type of sensor.

> **Scale:**
> Select the sensor scale.

> **Initialization button:**
> When you press the button a confirmation window opens to confirm your choice.
> WARNING all settings and configurations will be reset to factory Version.

> **Yes button:**
> Confirm the reset of the controller with the selected parameters.

> **NO button:**
> Cancel controller reset.

VIII. Parameter setting

The user programming menu allows the programming of each measuring channel of your **SYCLOPE TERE'O Touch®**.

To open the programming menu, press the menu button. When the "USER" message appears, you can release the button.
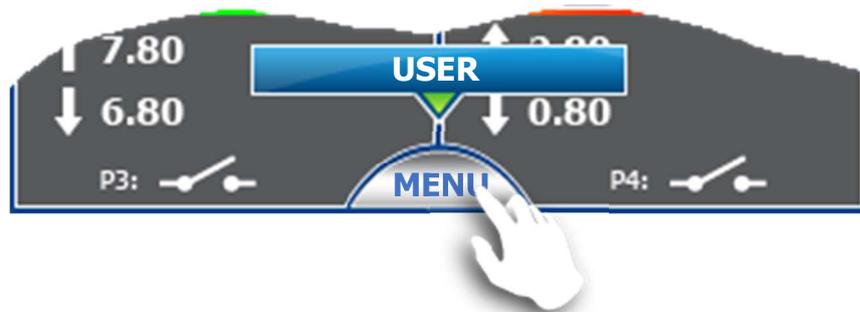
The channel selection menu to be programmed opens, you must choose the channel you want to configure by pressing the left button for the pH channel and right for the Chlorine / Bromine channel.

The programming menu of the chosen channel opens (here pH), gives access to the functions of parameter settings of the channel.

If the Installer Password (cf. § VI.3.b « *Language, Time et code* ») is enabled then you will be asked to do so before you can access the INSTALLER menu.
This is valid from version 4.02.

The programming screen closes automatically after 60 seconds without action.

During the programming or while the menu is open the channel is put in pause and the dosing is stopped.

1) Tank level

Pressing the « Tank level » button opens the programming window.

**Settings
pH channel**

Tank level

Selecting mode

○ **Not used**

○ **Active - NO**

◉ **Active - NC**

Stop dosing on tank low

☐ **Active**

➢ **Program the tank level:**
If you are installing a tank level contact, it is necessary to set its operating mode by pressing the corresponding mode.

➢ **Stop dosing on tank low:**
If this box is checked the dosage will be stopped when the bottom of the tank is detected.
In the case where your regulator is connected on the mysyclope site you can choose not to stop the dosing and to send you an alarm email from the site.

Stop dosing option is not displayed if « Not used » mode is selected.

a) Alarms

Pressing the « Alarms » button opens the programming window.

**Settings
pH channel**

Alarms

High alarm

8.50 ✎

Low alarm

6.50 ✎

Stop dosing on alarm

☐ **Active**

➢ **Change low & high alarm:**
Press the button corresponding to the value to be modified to open the numeric keypad and enter the new alarm threshold.
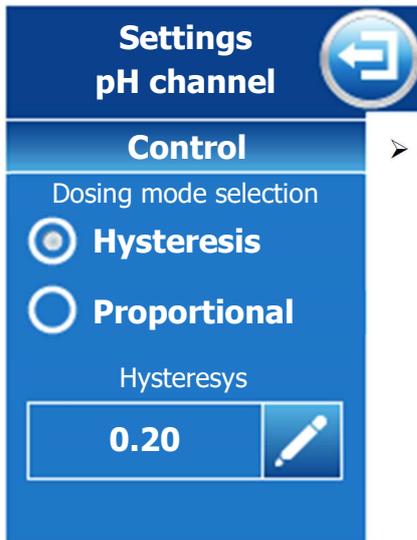
➢ **Stop dosing on alarm:**
If this checkbox is checked the dosage will be stopped when an alarm is active.

Alarms are active only when your controller is in START mode and the polarization timer is not active.

2) Control

Pressing the « Control » button opens the programming window.

**Settings
pH channel**

Control

Dosing mode selection

⦿ **Hysteresis**

◯ **Proportional**
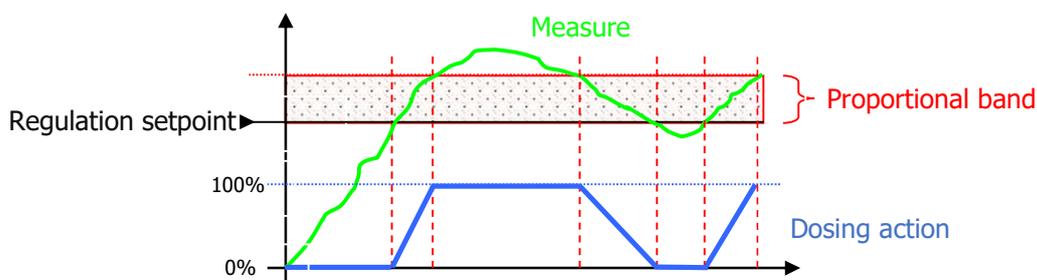
Hysteresys

0.20

➢ **Change dosing mode:**
- The proportional mode allows to regulate according to a linear calculation, the control of dosage is calculated only from the component « Proportional ».

- The hysteresis mode is an ON / OFF type control. The hysteresis value is the difference between the set point and the measuring point where the actuator will be activated.
  When the measured value is higher than the high point, the actuator that allows the value to be reduced is activated.
  When the measured value is lower than the low point, the actuator for increasing the measured value is activated.
  Between the set point and the high or low point, the previously activated actuator remains on.

➢ **Enter the hysteresis or proportional value:**
  Press the enter button to open the numeric keypad and enter the new one the new value.

When the dosing direction of the pH channel is configured in downstream mode.

➢ In proportional mode, when the error (setpoint - measurement) is equal to the proportional band, the control requirement is 100%, by reducing the value of the proportional band, you increase the dosing control for the same measurement value.

➢ In hysteresis mode, as soon as the error (setpoint - measurement) is greater than the hysteresis value, the regulation requirement is 100%.
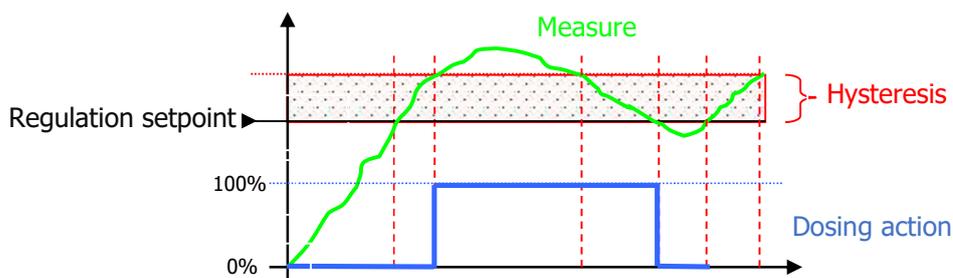
When the dosing direction of the pH channel is configured in upstream mode.

➢ In proportional mode, when the error (setpoint - measurement) is equal to the proportional band, the control requirement is 100%, by reducing the value of the proportional band, you increase the dosing control for the same measurement value.
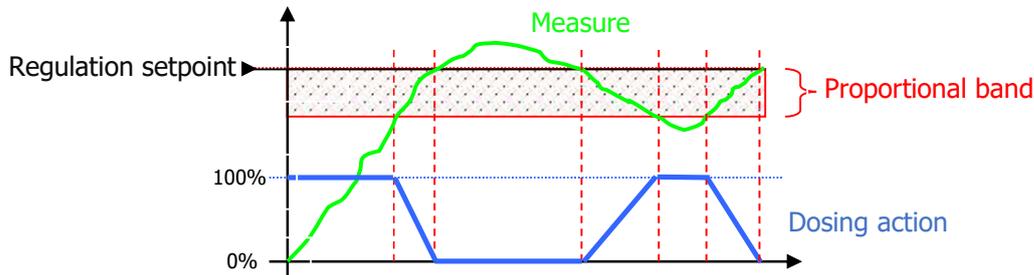

➢ In hysteresis mode, as soon as the error (setpoint - measurement) is greater than the hysteresis value, the regulation requirement is 100%.
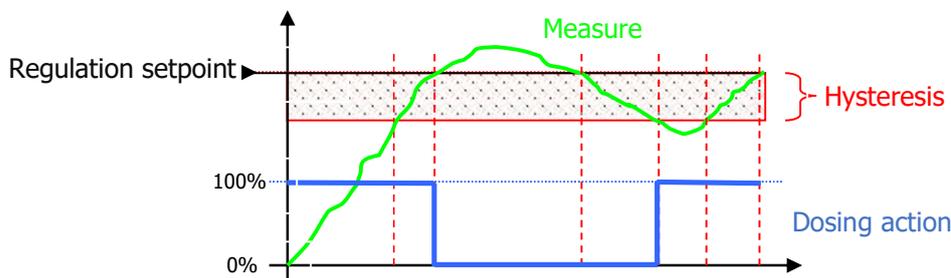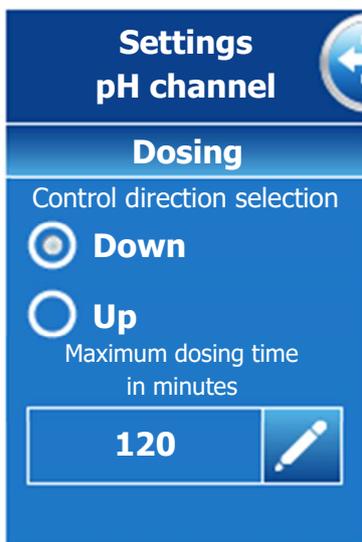

3) Dosing

Pressing the « Dosing » button opens the programming window.

➢ **Change dosing direction:**
Here you can choose the dosing direction depending on the type of treatment and the type of product injected.

➢ **Maximum dosing time:**
This button is used to enter a maximum operating time of the pump over a period of 24 hours. This max time is configurable between 0 and 1440 minutes.
If the time of use of the pump exceeds this duration, in a period of 24 hours the dosing stops and it will resume only after the intervention of the user who will have to cancel this alarm.
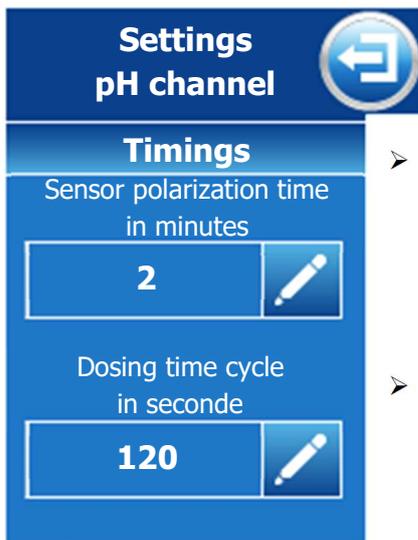At the end of 24 hours without exceeding the time, the latter is reset automatically

By setting 0 as the maximum dosing time, the time counting function is deactivated.

4) Timings

Pressing the « Timings » button opens the programming window.

**Settings
pH channel**

Timings

Sensor polarization time
in minutes

2

Dosing time cycle
in seconde

120

➢ **Sensor polarization time:**
    This button is used to enter a sensor start delay between 0 and 480 minutes. During this time the alarms and dosing will not be active. This delay is activated when the regulator is turned on or when the flow detected by the Flow-Switch is restored if it is installed.

➢ **Dosing time cycle:**
    This button is used to set the cycle time of the dosing pump. This time is adjustable from 10 to 1800s. This time corresponds to the reaction time of the basin between the injection of product and the measurement of the product.

By setting 0 for the polarization time of the sensor, the function is deactivated and the sensor will be active immediately.

5) Calibration

Calibrations are determining operations for good working of the controller and best treatment of the swimming pool!

A bad calibration could be dangerous for your health and your swimming pool.
It can cause corrosions and destruction of the swimming pool parts.
In any doubt about the procedure, contact our after-sale service!

A bad setting point could cause excessive consumptions of calories and harm the environment!

Before carrying out the calibration of pH, Chlorine or Bromine measurements must be performed with special equipment using chemical reagents.

This operation does not require the stop the recirculating pumps nor the removing sensors from the measuring cell.

The chemical reagents for pH, Chlorine or Bromine measurements are not provided with the controller.
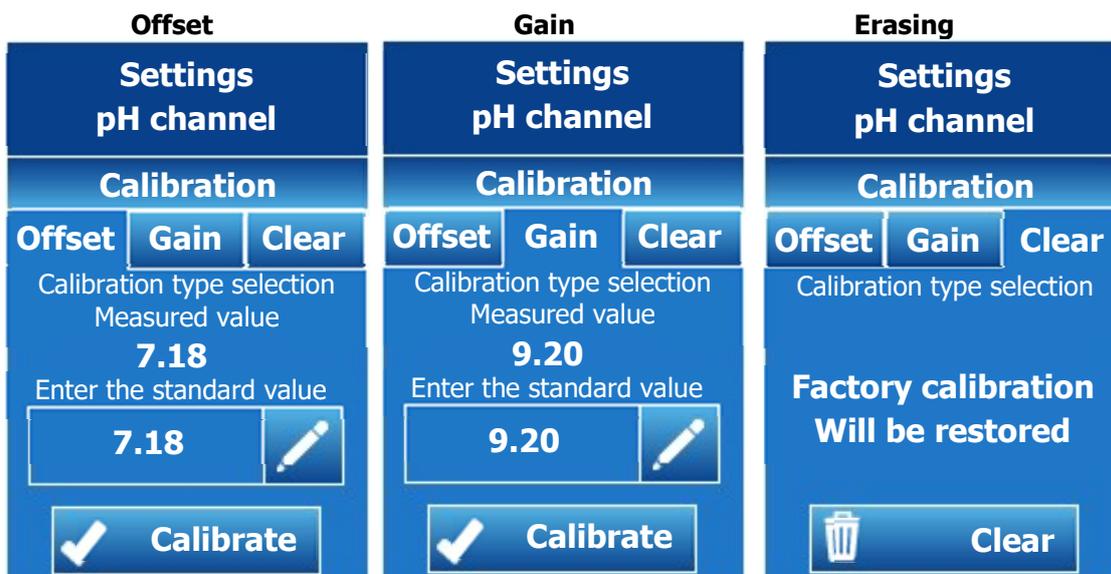
To proceed an automatic calibration:
➢ Recirculating circuit must work since several minutes
➢ Displayed value must be stable
➢ Dosing pumps must be stopped
➢ Sensor must not be defective or disconnected

a) pH

Pressing the « Calibration » button opens the programming window.

Offset	Gain	Erasing
Settings pH channel	**Settings pH channel**	**Settings pH channel**
Calibration	**Calibration**	**Calibration**
Offset Gain Clear	Offset **Gain** Clear	Offset Gain **Clear**
Calibration type selection Measured value **7.18** Enter the standard value **7.18** ✏	Calibration type selection Measured value **9.20** Enter the standard value **9.20** ✏	Calibration type selection **Factory calibration Will be restored**
✔ **Calibrate**	✔ **Calibrate**	🗑 **Clear**

Calibration principle is identical for pH measurement or chlorine measurement.

- To calibrate the pH in 1 point on a photometer reading, use the **Offset** tab**.**
- If the calibration is done at pH7 we will use the **Offset** tab**.**
- If the calibration is done at pH4 or 9 we will use the **Gain** tab**.**

- To calibrate the chlorine in 1 point on a reading photometer we will use the **Gain** tab**.**
- Offset tab of chlorine is very rarely used unless requested by an experienced technician.

- To return to the "factory" version, use the **Clear** tab**.**

➢ Offset or pH7 calibration

Offset   Select the Offset tab.

✏   Press the key to open the input keyboard of the new near pH 7.

✔ **Calibrate**   Press calibrate to validate the entry.
- In case of correct calibration "Calibration OK" is displayed in green
- In case of calibration error "Error Calibration" is displayed in red

➢ Gain or pH4 calibration

Gain   Select the Gain tab.

✏   Press the key to open the input keyboard of the new near pH 4.

Calibrate   Press calibrate to validate the entry.
- In case of correct calibration "Calibration OK" is displayed in green
- In case of calibration error "Error Calibration" is displayed in red

➢ Reset to factory calibration

Clear   Select the Erase tab.

Clear   Press Clear.
- "Calibration OK" information is displayed in green to confirm the deletion.

Warning: this operation is irreversible. Once confirmed by the Clear key, your calibration parameters for this parameter will be lost.

b) Chlorine/Bromine

Pressing the « Calibration » button opens the programming window.

Offset	Gain	Erasing
Settings Chlorine channel	**Settings Chlorine channel**	**Settings Chlorine channel**
Calibration	**Calibration**	**Calibration**
Offset | Gain | Clear	Offset | Gain | Clear	Offset | Gain | Clear
Calibration type selection Measured value	Calibration type selection Measured value	Calibration type selection
0.04	**1.50**	
Enter the standard value	Enter the standard value	**Factory calibration Will be restored**
0.04	**1.50**	
✔ **Calibrate**	✔ **Calibrate**	🗑 **Clear**

Before calibrating the chlorine measurement of the CU / PT probe, make sure that:
- The pH is stabilized at its nominal operating value of your installation
- The Chlorine or Bromine is also stabilized at the nominal operating value of your installation.

➢ Zero calibration of the sensor
- As a general rule, you don't have to calibrate the zero of your chlorine sensor, unless requested and special procedure seen with the Syclope technical service

➢   Gain calibration of sensor

Gain   Select the Gain tab.

Press the key to open the new keypad.

Calibrate   Press calibrate to validate the entry.
-    In case of correct calibration "Calibration OK" is displayed in green
-    In case of calibration error "Error Calibration" is displayed in red

➢   Reset to factory calibration

Clear   Select the Erase tab.

Clear   Press Clear.
- "Calibration OK" information is displayed in green to confirm the deletion

Warning: this operation is irreversible. Once confirmed by the Clear key, your calibration parameters for this parameter will be lost.

IX.   Maintenance

The device is maintenance free.

Repairs can only be carried out by qualified technicians and must be carried out in our SAUVAGNON factory.

For any problem on your device or for treatment advice, do not hesitate to contact our after sales services.