

# **Programming instructions**



Reference: ALT0000 Rev: 1

## Parts of the general documentation

Part 1: Installation and starting instructions

▶ Part 2: Programming instructions

Part 3: Programming communication instructions

#### **General information:**

**SYCLOPE Electronique 2017**® Manual of the 09/01/2017 Rev 1s

Professional Analyzers/Controllers for public swimming pools.  $\textbf{Product line ALTICE'O}^{ @ }$ 

Part 2: Programming instructions (Ref : DOC0356)

Editor:



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Subject to modification

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#### I. Use of the document

Please read this entire document before starting to install, adjust or commission your controller device, in order to ensure the safety of swimmers, users and equipment.

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 is observed.

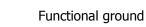
The following symbols and pictograms will be used to facilitate reading and understanding of these instructions.

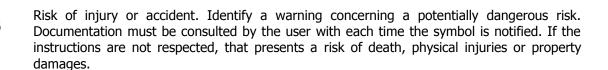
- Information
- Action to be taken
- Item of a list or catalogue
  - 1) Symbols and signs

Identification of a continue voltage or current

Identification of an alternative voltage or current







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

Risk of incorrect operation or damage for the device.

Comment or particular information.

Recyclable element











General information Page 6/56

#### 2) FCC conformity

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received including interference that may cause undesired operation.

Instructions to Users: This equipment complies with the requirements of FCC (Federal Communication Commission) equipment provided that the following conditions are met.



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 to correct the interference by one or more of the following measures:

- Reorient or relocate receiving antenna,
- Increase the separation between the device and receiver,
- Connect the device 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 or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Remark:** In order to maintain compliance with the limits of a Class B digital device, use a recommended shielded cable when connected to this device as describe in the present notice. Using a bad cable or a cable not connected to the ground voids the user's authority, which is granted by the Federal Communications Commission, to operate this equipment.

#### II. Safety and environmental instructions

## Please:

- Read conscientiously the present notice before unpacking, installing and servicing the present controller.
- > Take care of all risks and servicing before any use.

No respect of these instructions can cause damages to the users, the technical personal and the integrity of the controller.

#### 1) Use of the controller

The **SYCLOPE** <u>ALTICE'O</u>® system has been designed to measure and regulate temperature, pH, Redox potential, chlorine (or bromine), Ozone, PHMB, flow, Turbidity and Conductivity by means of sensors and controls of suitable actuators in the context of the possible uses described in this manual.



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



Any use of sensors or interfaces not in conformity to the features defined in this manual must also be proscribed.

#### 2) <u>User obligations</u>

The user undertakes not to allow its employees to work with the **SYCLOPE ALTICE'O®** equipment 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 ALTICE'O®** equipment should only be performed by personnel specialized and qualified for this task.

The installation must comply with current safety standards and instructions!



Before switching the controller on or manipulating the relay outputs, remember always to cut off the primary power supply!

Never open the controller when it is powered on!

Maintenance operations and repairs should only be performed by trained, specialized personnel!



Take care when choosing the location for installing the equipment according to the environment!

The **SYCLOPE ALTICE'O**® electronic box 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 location, isolated



Except for the relay outputs, all connections inputs/outputs must be connected to very low safety voltages. In general, these voltages are provided by the controller and does not exceed 15V continuous.

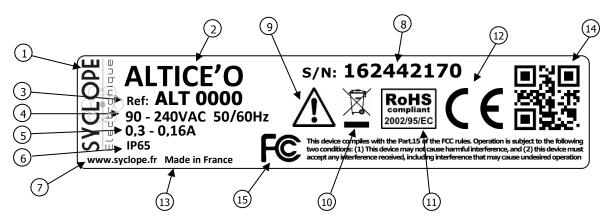


Make sure that the chemical sensors used with this device correspond well to the chemicals used. Refer to the individual technical note of each sensor. Chemistry of water is very complex, in case of doubt, contact immediately our engineering service or your approved installer/reseller.



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>Labelling and localization of the identification plate</u>



Label of the manufacturer	Particular risks. Read the manual
2 Model of the product	10) Product which can be recycled
Reference of the product	11) Limitation of dangerous substances
Range of power supply	(12) EC compliance
5 Values of the maximum current	(13) Country of the manufacturer
6 Class of protection	(14) Manufacturer square code
7 Identification of the manufacturer	(15) Conformity with the FCC part 15 Class B
8 Serial number	



## 5) Disposal and conformity

The recyclable packaging of the **SYCLOPE ALTICE'O**® 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 2002/96/EC, this symbol means that as of 12 August 2005 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.



Collecting and recycling of the internal batteries: According to the European directive 2006/66/CE, this symbol indicates that until September, 26<sup>th</sup> 2006, used batteries, accumulators and waste materials using dangerous heavy metals as lead (pb), cadmium(Cd) or mercury (Hg) must be collected separately by the manufacturer or by an accredited agency.



According to European directive 2002/95/EC, this symbol means that the **SYCLOPE ALTICE'O**® controller is designed in compliance with the restrictions on hazardous substances



According to low-voltage directive (2006/95/EC) and the electromagnetic compatibility directive (2004/108/EC), 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.

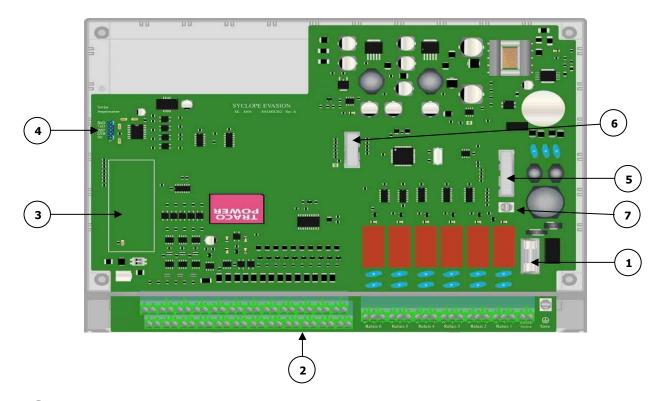
## III. Recall to the human-machine interface of the SYCLOPE ALTICE'O®

## 1) Display



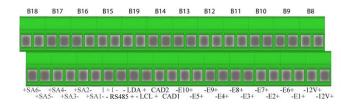
- Color screen 800x480 7 " Tactile
- (2) USB Key
- The **SYCLOPE ALTICE'O**® controller does not have control keys, the programming and navigation of the menus is carried out by pressing the screen.

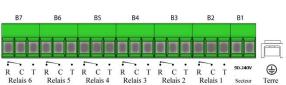
## 2) Internal connections



- General protection fuse (glass 5x20 315 mA time-lag fuse)
- 2 Connection terminal blocks (see diagram at the bottom of the page)
- 3 Location for WIFI/GSM/Ethernet socket modem (optional)
- 4 Printer connector port
- Front face Connector 1
- **6** Front face Connector 2
- 7 Ground terminal M4x6 screw with anti-loosening washer

## 3) Connection terminal boards



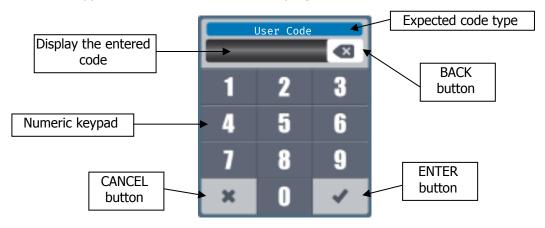


## IV. General information about the programming interface

The **SYCLOPE ALTICE'O**® controller has a 7 " touch screen. All commands are made by pressing the screen on the zones provided for this purpose.

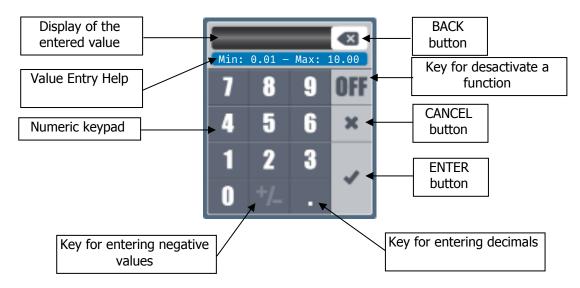
## 1) Installer or User code entry screen

This screen will appear if a user or installer code is programmed.



## 2) <u>Input screen for a numerical value</u>

This screen will appear when entering a numeric value.



- Depending on the values to be entered some keys may be grayed out because not used for the expected value.
- If you reach the maximum length allowed, the entire keypad will automatically de grayed.
- If the value entered is out of range, when validation the input help area will be displayed in red to alert you of the input error.
- The "OFF" key allows to disable a value, for example, to disable an alarm threshold.

## 3) Alphanumeric keyboard



a) Button « Shift »

This button switches the keyboard from lowercase to uppercase and vice versa. When this key is pressed, it automatically rewinds after pressing an alphanumeric key.



Button released and inactive => press



button pressed and active



Button not available in this keyboard configuration

## b) Button « Caps Lock »

This button switches the lowercase keyboard to uppercase and maintains it in uppercase. In this position the "Shift" key allows a temporary change from uppercase to lowercase.



Button released and inactive => press



button pressed and active



Button not available in this keyboard configuration

#### c) Button « Keyboard type »

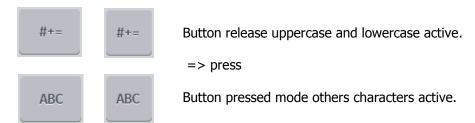
This button is used to change the keyboard type. Each language has its corresponding keyboard, AZERTY, QUERTY, QUERTZ, HEBREU ... It is however possible to display the keyboards of other languages by pressing the key below.



Button released => press to change keyboard type.

#### d) Button « other characters »

This button switches the keyboard to symbols or other characters not available in the lowercase and uppercase.



#### e) Button « Back »

This button deletes the last entered character.



Press to erase the last character.

## f) Button « Enter »

This button closes the keypad by saving the changes.



Press to close and save.

## g) Button « Cancel »

This button closes the keyboard without saving the changes.



Press to close without saving.

#### h) Special case of access to accented character keys

To access accented characters, keep the corresponding character pressed for more than 2 seconds to display the available character list. This list closes automatically when any character is pressed.

Example: Press 2 seconds on the lower "a".



All keys with this symbol at the top left have additional characters accessible by pressing 2 seconds on.

## 4) Main input element

a) Input button



Press to open the numeric entry screen.

b) Action button



Press it to perform the action corresponding to the displayed text.

#### c) Checkbox

You must press it to toggle its state.



Unchecked, function is disabled.



Checked, the function is enabled



Grayed, function is not available in this configuration

## d) List



You must press the next key to scan the list from the beginning to the end, or the previous key for the reverse direction.



In some cases, the keys may be grayed out and therefore inactive.

#### e) Button Cancel



On the programming screens, it is possible to cancel the current modification before exiting the screen.



Cancel button inactive and unavailable, corresponds to the opening of a screen before any modifications.

#### f) Confirmation message

Depending on the actions, some of them will request and display a confirmation message. You must then validate the operation by pressing YES or cancel by pressing NO.

#### Sample:



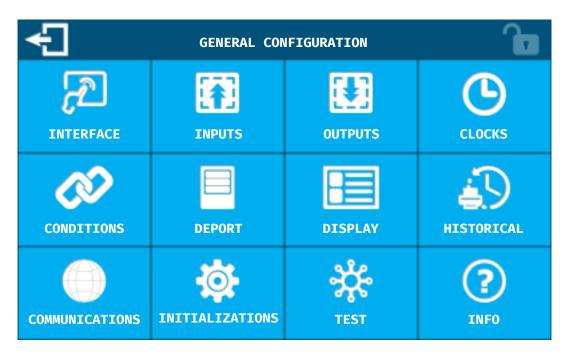
## V. Programming Main Screen

To open the programming screen, press the key

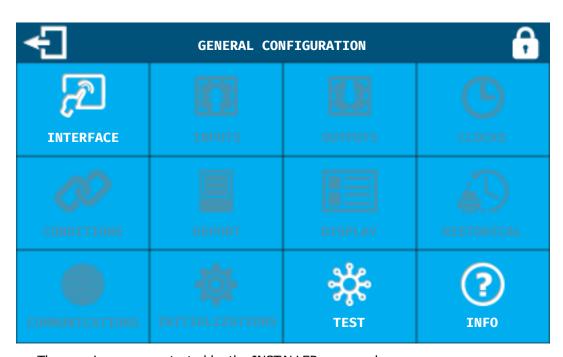


on the main display screen.

1) Programming screen without codes programmed in the controller



2) <u>Code-protected programming screen</u>



The gray icons are protected by the INSTALLER password.



If the installer code is disabled, but the user code is active, the user code will be requested to unlock access to the programming. In the case where both codes are programmed only the installer code unlocks access to programming.



Press the padlock in the top left to open the password entry window.

You must enter the installer code four digits and then validate to unlock access to all the programming of the controller.



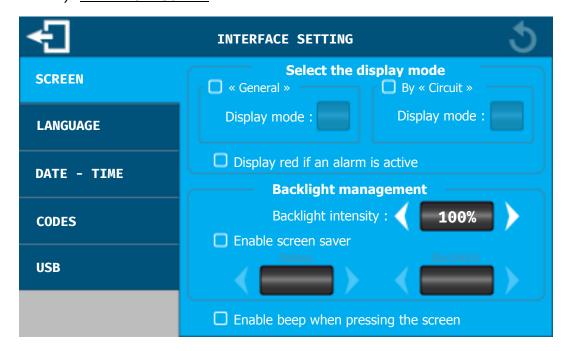
## VI. "INTERFACE" programming screen



The interface button is not protected by the lock code and allows you to change only a few display parameters as well as the USB menu.

Press to display the next screen.

## 1) INTERFACE - SCREEN



## Selecting the display mode

Selects the parameters to be displayed on the main screen and their order. There are two display modes:

- **General:** This mode allows a single display of several measurement channels.
- **By circuits:** This mode allows you to create several different displays, each with a different name (Circuit Name).

You must check the box corresponding to the chosen mode to activate it to be able to choose the display mode.



**Small thumbnails:** This type allow to display 8 channels by screen with principal information's only.



**Large thumbnails:** This type allow to display 4 channels by screen with more details.

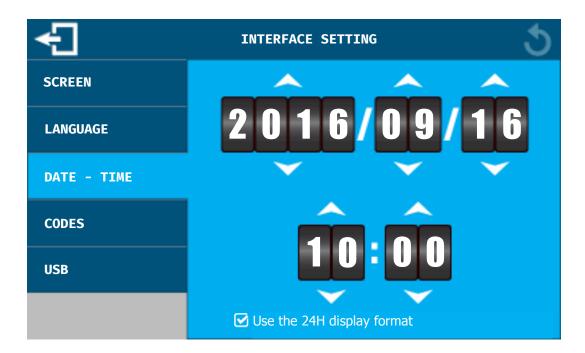
- **Show channels in red if an alarm is active:** By checking this box the thumbnails of the channels in alarms will be displayed on a red background.
  - Backlight management
- 90% Backlight Intensity:
  - **Backlight Intensity:** Reduces the intensity of the backlight depending on the need.
  - **Enable Screen saver:** By checking this box the protection function of the screen will be activated, it is then possible to select the parameters of this screen.
  - **Delay:** Delay before activating the screen protection. This time corresponds to the consecutive time without any action on the screen.
  - Backlight: Backlight level that will be active at the end of the screen saver activation delay.
  - When the screen protection is active, you must press the screen to exit the mode. Warning this press on the screen, even if it's on an "active" area, will only terminate the screen saver without any action.
    - Beep on screen press
  - **Enable beep when pressing the screen:** Uncheck this box to disable the beep from the screen each time you press an "active" area.

#### 2) INTERFACE - LANGUE



Selects the display language by pressing the language wanted.

## 3) INTERFACE - DATE-TIME



#### > Select date



**Change date:** Use arrows below and above each part of the date to set it.

#### Select time



Change time: Use arrows below and above each part of the time to set it.



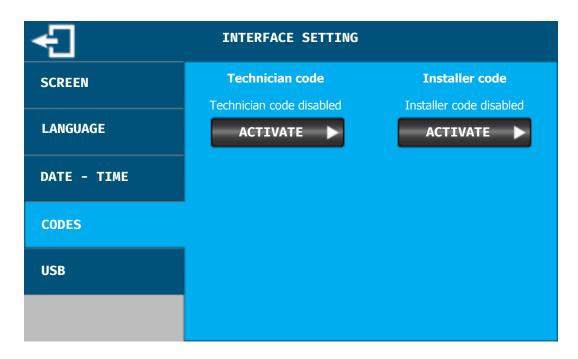
**Use the 24H display format:** Uncheck this box to display the time in 12H AM / PM format.



The time update of the controller will be effective when closing the screen, exiting the programming or by changing the programming page.

If the programming screen closes by itself when the waiting time is exceeded, the time will not be saved.

## 4) INTERFACE - CODES



#### > Technician code

This code is used to protect the controller from any operating changes. It is required when changing any operating parameter (setpoint, alarm threshold etc.)



**Activation:** This button open the password input windows, you must enter the new password and confirm it.



**Disable:** This button open the password input windows, you must enter the current password to disable it.

## Installer code

This code is used to protect the controller from any programming changes.



**Activation:** This button open the password input windows, you must enter the new password and confirm it.



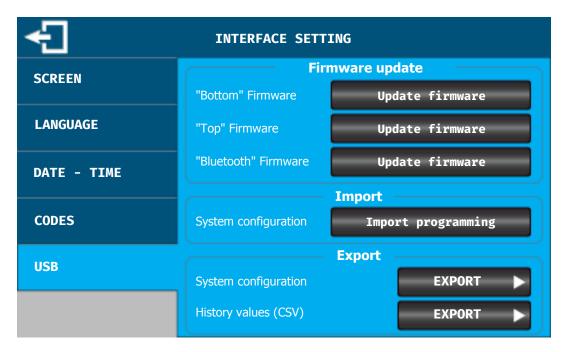
**Disable:** This button open the password input windows, you must enter the current password to disable it.



If you lose a password, please contact the SYCLOPE Electronique technical service with the serial number of your controller (displayed on the INFO screen).

An unlock password corresponding to your controller can be provided.

## 5) INTERFACE - USB



This screen allows to update the software of the **SYCLOPE ALTICE'O**® controller, to import or export the complete configuration and to export the graphic history in CSV format

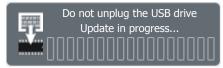
#### Update firmware

If an update of one of the software is present on the USB key, the programming button appears, and you must press it to start programming.

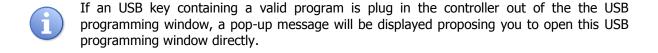
When updating, a confirmation message is displayed, you must press yes to confirm the update.



Once the confirmation is done, the progress window appears during the programming time.



At the end of programming the controller will restart.



## > System configuration

- Import: It is possible to make a complete programming of the regulator from a file
  of the USB key. This file can come from another SYCLOPE ALTICE'O<sup>®</sup> controller or
  generated by the SYCLOPE ALTICOM<sup>®</sup> software
- **Export:** This button saves your current controller configuration on a USB stick for safety, or for use in another controller SYCLOPE ALTICOM®

## History values (CSV)

Graphic history data can be exported to memory. The values, setpoint, high alarm and low alarm will be exported for each channel in different files in CSV format.

The values are time-stamped and save according to the time interval set in the graphic history parameters of each channel.

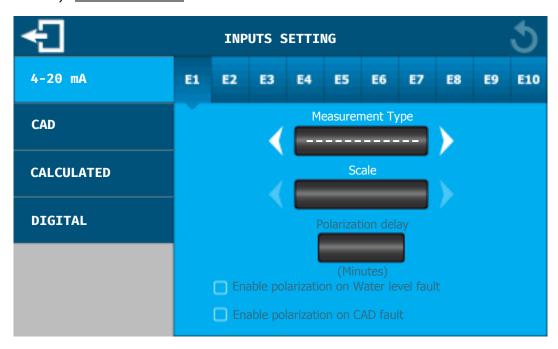
## VII. Programming screen "INPUTS"



The button allows you to configure the analog, digital, calculations inputs.

Press on this button to display the next screen.

#### 1) INPUTS - 4-20 mA



The upper band is used to select the analog channel to be programmed.

Press the desired channel to set it.





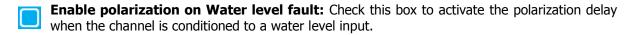
**Measurement Type:** Use the arrows to select the parameter.



**Scale:** Use the arrows to select the scale of the parameter. The scale may be different depending on the parameter.



**Polarization delay:** This delay in minutes, allows to delay the operation of the metering system of the channel after the start of the controller or a technical alarm.



**Enable polarization on CAD fault:** Check this box to activate the polarization delay when the channel is conditioned to a CAD input.

## > Special case of the "Water level" configuration

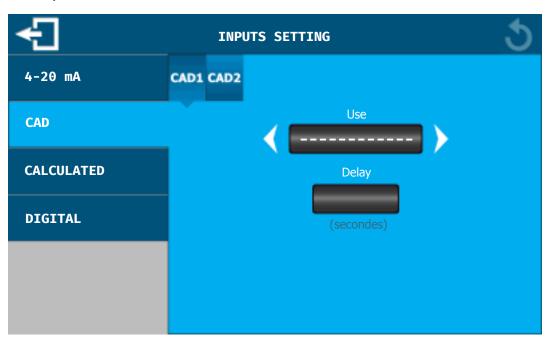
If you configure an input in water level mode, you will need to choose one configuration from the following detection modes:

- **Digital NO:** For detection performed from an NO contact (Normally open).
  - o High threshold: 13 mA
  - Low threshold: 8 mA
- **Digital NC:** For detection performed from an NC contact (Normally close).
  - o High threshold: 8 mA
  - Low threshold: 13 mA
- Analog NO: For detection performed from an NO contact (Normally open).
  - o High threshold: 13 mA
  - Low threshold: 8 mA
  - o Active technical alarm: <3.8mA
- **Analog NC:** For detection performed from an NC contact (Normally close).
  - $\circ$  High threshold: 8 mA
  - o Low threshold: 13 mA
  - Active technical alarm: <3.8mA</li>
  - > Special case of the "Tank level" configuration

If you configure an input in Tank level mode, you will need to choose one configuration from the following detection modes:

- **Digital NO:** For detection perform from a NO (Normally open) tank level switch connected in serial with a 1Kohms resistor.
  - b Low threshold: < 6 mA</p>
- **Digital NC:** For detection perform from a NC (Normally close) tank level switch connected in serial with a 1Kohms resistor.
  - Low threshold: > 6mA
- Analog NO: For detection from 4-20mA tank level.
  - Low threshold: Adjustable in % of full scale of the level (0% = 4mA, 100% = 20mA)
  - Active technical alarm: <3.8mA</li>
- Analog NC: For detection from 4-20mA tank level.
  - Low threshold: Adjustable in % of full scale of the level (100% = 4mA, 0% = 20mA)
  - o Active technical alarm: <3.8mA

## 2) INPUTS - CAD



The upper band is used to select the CAD channel to be programmed. Press the desired channel to set it.





**Use:** Use left and right arrows to select the mode of the input.

- **Closed:** For detection from NC contact (normally closed).
- **Open:** For detection from NO contact (normally open).
- **Pulse:** For detection performed from pulse contact.
- **Flow rate (I/h):** For a detection from a pulse water flow meter and a measurement display in liter/hour.
- **Flow rate (m3/h):** For a detection from a pulse water flow meter and a measurement display in cubic meter/hour.
- 0FF

**Delay:** This value in seconds corresponds to the activation time of the function.

Special case of the configuration "Flow rate (I/h)" & "Flow rate m3/h)"

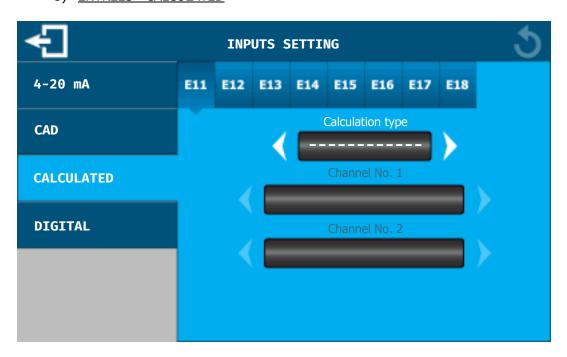
When selecting one of these two functions, enter the K factor of the flow meter. The "Coef. Flow "is the weight of the pulse.





**WARNING:** The K factor is always in Pulse/Liter, regardless of the flow configuration (I/h or m3/h).

3) ENTREES - CALCULATED



The upper band is used to select the calculated channel to be programmed.

Press the desired channel to set it.





**Calculation type:** Use left and right arrows to select the calculation.



**Channel No. 1:** Use left and right arrows to select the first channel to use for the calculation.



**Channel No. 2:** Use left and right arrows to select the second channel to use for calculation.



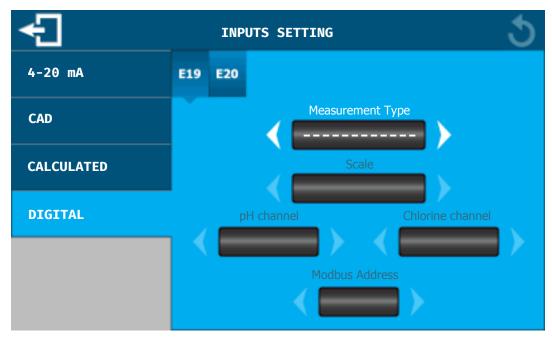
Channels 1 & 2 are selectable according to the calculation type, and only channels already programmed and compatible are selectable.

List of chemical calculations that the **SYCLOPE ALTICE'0®** regulator can make:

	Calculation	Channel No. 1		Channel No. 2
	pH/T°C	рН	&	Temperature
$\triangleright$	Active Cl.	рН	&	Free Cl.
$\triangleright$	Free Cl.	рН	&	Active Cl.
$\triangleright$	Combined C	. Total Cl.	&	Free Cl.
$\triangleright$	Active Br.	рН	&	Free Br.
$\triangleright$	Fee Br.	рН	&	Active Br.

## 4) ENTREES - DIGITAL

Allows to connect two cyanuric acid measurement probes (Stabilizer) via the RS485 bus to the **SYCLOPE ALTICE'O**<sup>®</sup>.



The upper band is used to select the digital channel to be programmed.

Press the desired channel to set it.





**Measurement Type:** Use left and right arrows to select the parameter.

**Scale:** Use left and right arrows to select the scale of the parameter, the scale is only used to display the values.



**pH channel:** Use left and right arrows to select the pH parameter to use.



**Chlorine channel:** Use left and right arrows to select the chlorine parameter to use.



**Modbus address:** Use left and right arrows to select the Modbus address of the probe.



- The communication uses the MODBUS configuration (see Chapter XIV, paragraph 1).
- PH and chlorine parameters are optional. If they are not transmitted to the probe, the probe uses default values.



In this configuration, the **SYCLOPE ALTICE'O**® controller becomes Master on the RS485 bus and regularly polls the sensor(s). In this case, only one device must be master on the **BUS** .



In the case of a multi-device configuration connected by Modem, the sensor (s) must be connected to the **SYCLOPE ALTICE'O** $^{\otimes}$  with the modem.

## VIII. "OUTPUTS" programming screen



The button is used to configure the relay and 4-20mA outputs.

Press on this button to display the next screen.

#### 1) OUTPUTS - RELAY INTERNAL



The upper band is used to select the relay output to be programmed.

Press the desired relay to set it.





**Measurement channel:** Use left and right arrows to select the channel to which the relay will be assigned.



**Function:** Once the channel is selected, use left and right arrows to select the relay function (Control, Alarm, etc.).

a) Control function

> "All or None (AON)" type



**Direction:** Up or down dosing

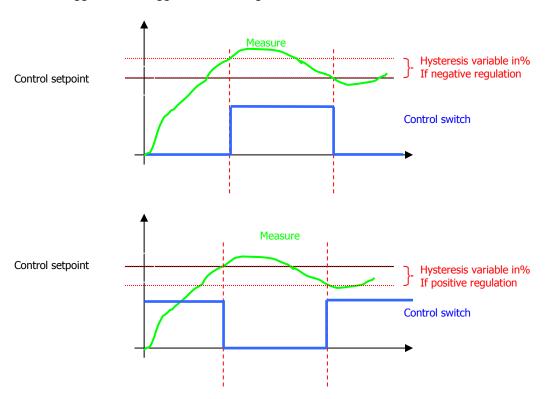
Type: Press left and right arrows to change the control mode.

Hysteresis: Low and High Variable Proportion Around the Set Point.



#### > Hysteresis:

This is the low and high variable proportion around the setpoint for which the A.O.N trigger or not trigger the metering devices.

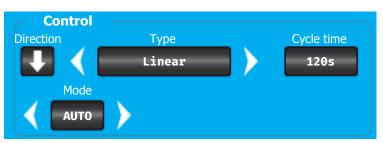


"Linear" type (PWM)

**Direction:** Up or down dosing mode.

Type: Press left and right arrows to change the control mode.

**Cycle time:** Duration of a complete treatment cycle.

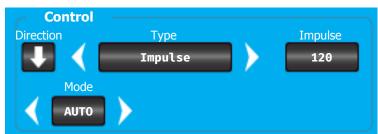


"Impulse" type (PFM)

**Direction:** Up or down dosing mode.

Type: Press left and right arrows to change the control mode.

**Impulse:** Number of strokes per minute for pulse frequency control.



> "3 Points" type

**Direction:** Up or down dosing mode.

Type: Press left and right arrows to change the control mode.

**Cycle time:** Time required for the complete opening of the valve.



AUTO

**Mode:** Change of control mode, automatic, Proportional (P), Proportional / Integral (P.I), Proportional / Integral / Derivative (P.I.D).

**Prop. (P):** Zone around the set point for which the control is linear (Proportional band).

**Int. (I):** Calculation of the average value of the deviations, conditioned by the integration time (integral).

Mode Prop. (P)

10%

Mode Prop. (P)

Int. (I)

10%

10%

Prop. (P)

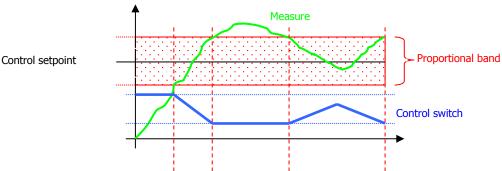
10%

**Der. (D):** Calculation of a sudden variation in the measurement, conditioned by the derivation time (derivative).



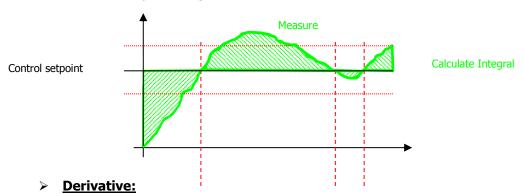
#### Proportional band:

This is the area around the set point for which the control is linear.

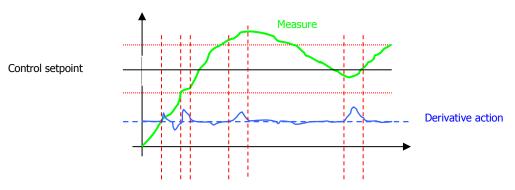


#### Integral:

It is the calculation of the average value of the positive or negative deviations conditioned by the integration time.



It is the calculation of a positive or negative sudden variation of the measurement, conditioned by the derivation time.





For a 3 point type programming, the controller will automatically assign the next relay of the one initially programmed to perform the 3 points function. The assignment of this new relay will erase the previous programming. Then it will be necessary to assign the erased parameter to another relay. For this reason the last relay can not be programmed in 3 points mode.



The values expressed in the sample are only indicative. These values must be programmed by an authorized technician and according to the needs of the site.

#### b) Alarms function



**Delay time to activation:** Time delay in seconds between the occurrence of the alarm and activation of the relay.



**Delay time to desactivation:** Time delay in seconds between the disappearance of the alarm and the release of the relay.



**Low alarm, high alarm, technical alarm:** By checking these boxes you can select the type of alarm that will be taken into account for relay switching.

#### c) Recopy function

This function is only available for some input. The CAD inputs and clock configurations can used this function to copy or reverse the state of the input throught a relay.

**Direction:** Press left and right arrows to change the copy mode, which can be either identical or reversed.



#### 2) OUTPUTS - RELAY EXTENSION 1

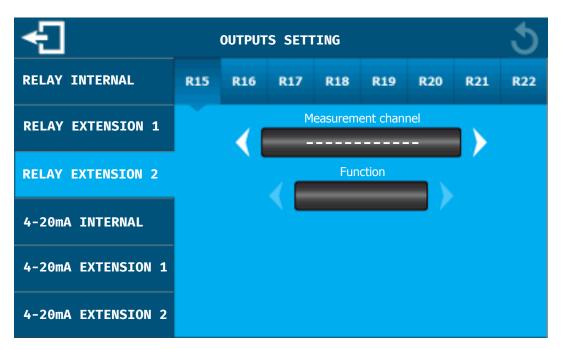


Refer to the previous section (RELAY INTERNAL) for the relay settings for extension module No. 1.



For external relays, the impulse control function is not available and can not be programmed.

## 3) OUTPUTS - RELAY EXTENSION 2

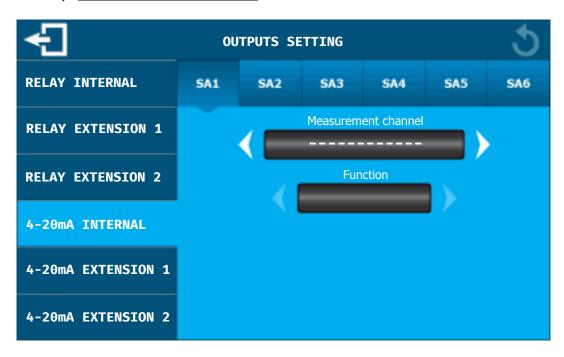


Refer to the previous section (RELAY INTERNAL) for the relay settings for extension module No. 2.

1

For external relays, the impulse control function is not available and can not be programmed.

## 4) OUTPUTS- 4-20mA INTERNAL



The upper band is used to select the 4-20ma output to be programmed.

Press the desired output to set it.





**Measurement channel:** Use left and right arrows to select the channel to which the analogue output will be assigned.

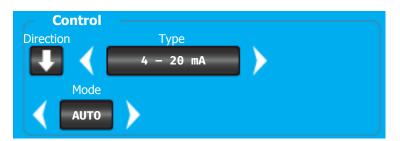


**Function:** Once the channel is selected, use left and right arrows to select the 4-20mA output function (Control, Transfer).

a) Control function

**Direction:** Up or down dosing mode.

Type: Press left and right arrows to change the scale of the 4-20mA output (0-20mA - 4-20mA - 20-0mA - 20-4mA).

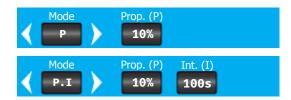




**Mode:** Change of control mode, automatic, Proportional (P), Proportional / Integral (P.I), Proportional / Integral / Derivative (P.I.D).

**Prop. (P):** Zone around the set point for which the control is linear (Proportional band).

**Int. (I):** Calculation of the average value of the deviations, conditioned by the integration time (integral).



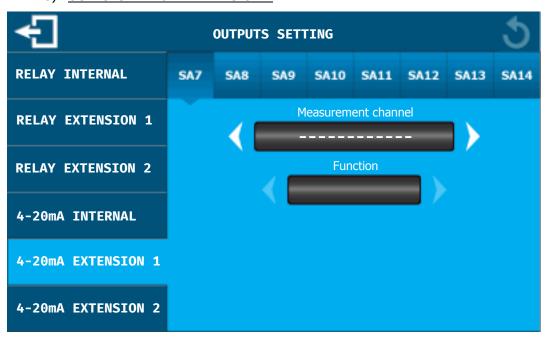
**Der. (D):** Calculation of a sudden variation in the measurement, conditioned by the derivation time (derivative).





The values expressed in the sample are only indicative. These values must be programmed by an authorized technician and according to the needs of the site.

#### 5) OUTPUTS – 4-20mA EXTENSION 1



Refer to the previous section (4-20mA INTERNAL) for the 4-20mA settings for extension module No. 1.

## 6) OUTPUTS – 4-20mA EXTENSION 2



Refer to the previous section (4-20mA INTERNAL) for the 4-20mA settings for extension module No. 2.

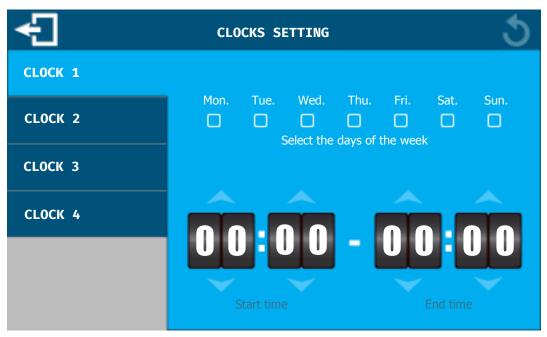
## IX. "CLOCKS" programming screen



The button allows you to configure the system clocks.

Press on this button to display the next screen.

## 1) CLOCKS - CLOCK 1



**Select days of the week:** By pressing these boxes you can choose the days of the week where the time range will be active.



**Start time:** Use arrows below and above each part of the start time to set it.

**End time:** Use arrows below and above each part of the end time to set it.



The programmed clock can be assigned to a relay output (see chapter XIII paragraph 1c) or to a measuring channel (see chapter X paragraph 3).

## 2) CLOCKS - CLOCK 2

Refer to the previous section (CLOCK 1) for clock setting number 2.

## 3) CLOCKS - CLOCK 3

Refer to the previous section (CLOCK 1) for clock setting number 3.

#### 4) CLOCKS - CLOCK 4

Refer to the previous section (CLOCK 1) for clock setting number 4.

## X. "CONDITIONS" programming screen



The button allows to configure the remote control between the measurement channels and the inputs type level, tank level, CAD, flow rate and clocks.

Press on this button to display the next screen.

## 1) CONDITIONS – 4-20mA INPUTS



Depending on the configuration of the **SYCLOPE ALTICE'O**® controller inputs, some check boxes are enabled.

**Horizontal channel numbering:** This part represents the active channels in measurement (eg pH, chlorine etc.).

**Vertical channel numbering:** This part represents the channels set in Water level or tank level. These channels will control the dosing of the measured channels selected.

**Example:** In this case, the channels E1, E2 and E3 are configured in T ° C, pH, chlorine. Channel E4 is configured as a Water Level.

The channel E2 and E3 are therefore slaved to the channel E4 which will disabled the dosing when there is a water level defect.



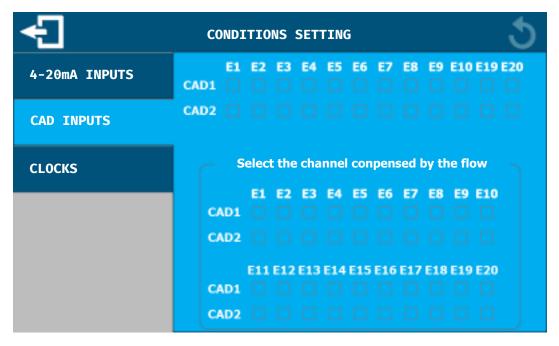


Only Water level and Tank level channels can be slave by measuring channels.



If calculated channels are programmed they will be control by the channels used for the calculation.

# 2) CONDITIONS - ENTRÉES CAD



Depending on the configuration of the **SYCLOPE ALTICE'O**® controller inputs, some checkboxes are enabled.

**Horizontal channel numbering:** This part represents the active channels in measurement (eg pH, chlorine etc.).

**Vertical CAD numbering:** This part represents the two CADs of the controller whatever theirs configurations. In the case of the flow mode you will have to check the corresponding box if you want to stop dosing when low flow threshold is reached.

## > Special case of flow compensation

When one or both of the two CAD channels are configured in flow, it is possible to control the dosing power to the flow rate measured by the CAD inputs.

In this case, the checkboxes will be enable and you can check the boxes corresponding to the control you want to carry out.

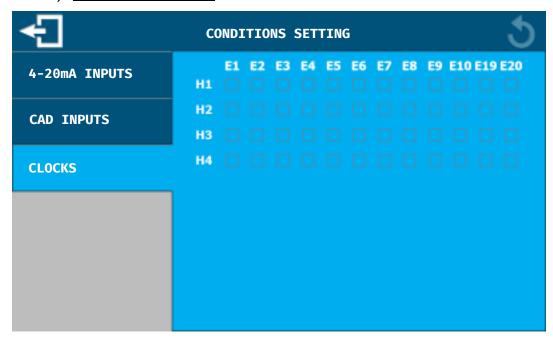


Adjustment of the compensation levels is carried out in the main display "Detail view" of the flow channel.



The low flow shut-off threshold is set in the "Detail View" main display of the flow channel.

## 3) CONDITIONS - CLOCKS



Depending on the configuration of the **SYCLOPE ALTICE'O**® controller CLOCKS, some of the checkboxes are enable. The principle is the same as before, you must check the boxes of the channels that you want to slave to one or several clocks.



When a channel is slaved to a clock, the dosing will only be active during the programmed time slot.

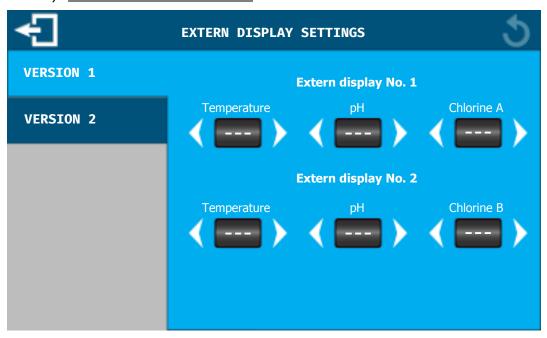
## XI. "EXT. DISPLAY" programming screen



The button is used to configure the extern display connected to the controller.

Press on this button to display the next screen.

#### 1) EXTERN DISPLAY – VERSION 1





The "Version 1" or "Old generation" extern displays correspond to the COMPACT range product display manufactured before 2011. It is possible to define 2 ones:

- Temperature pH Chlorine A
- Temperature pH Chlorine B



**Temperature:** Press left and right arrows to select the channel to use.



**pH:** Press left and right arrows to select the channel to use.

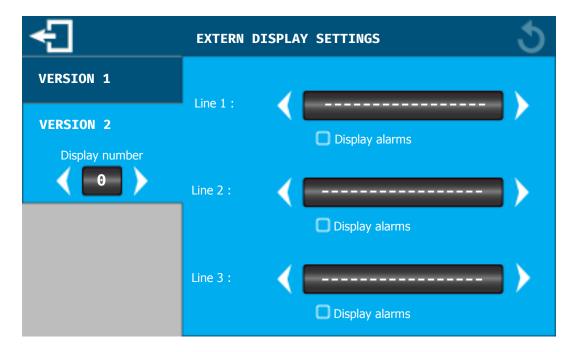


**Chlorine A / B:** Press left and right arrows to select the channel to use.



You must have set the channels before you can select them.

### 2) EXTERN DISPLAY - VERSION 2





The "Version 2" or "New generation" extern display correspond to the display produced after 2011. It is possible to define 6 from address 0 to address 5. For each channel transmitted, it is possible to visualize or not the channel alarm information.



Display number: Press left and right arrows to select the number (address) of the remote display you wish to program.



Line 1, Line 2, Line 3: Press left and right arrows to select the channel to be used to display on the corresponding line of the remote display.



**Display alarms:** By checking this box, the alarms will be transmitted on the remote display. A message -AL- will be display.

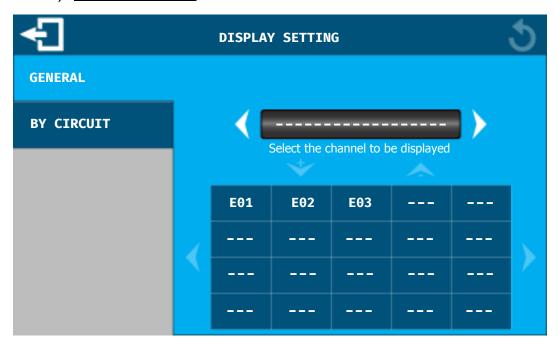
## XII. "DISPLAY" programming screen



The button allows to configure the channels to be displayed on the general screen as well as a configuration in "circuit" display mode.

Press on this button to display the next screen.

### 1) DISPLAY - GENERAL



The general display shows all programmed channels on the same display. When a channel is programmed, it is added automatically at the end of the list of the general display screen. You can move, delete or add channels on this screen.

#### To add channel



**Select the channel to be displayed:** Press left and right arrows to select the channel to be added to the main screen.



**Add channel:** Once the channel has been selected, press add arrow to add the channel to the list.

## > To move or delete channel



**Select channel:** To select the channel, press the desired channel in the list of channels displayed.

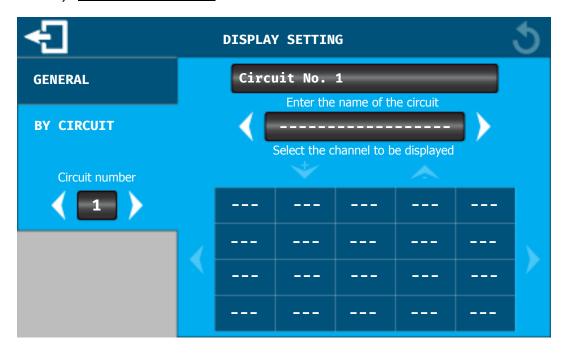


**Remove channel:** Once the channel has been selected, press the remove arrow to remove the channel from the main display.



**Move channel:** Change the display order. Once the channel is selected, press the left arrow to move the channel to the beginning of the list, or press the right arrow to move it to the end of the list.

## 2) DISPLAY – BY CIRCUIT



The circuit display allows to make groups of channels to differentiate the displays. It is also possible to enter name of the group.



**Circuit number:** Press left and right arrows to select the circuit number to be programmed. The channels are displayed as soon as at least 1 channel is added to the list.



**Cicuit name:** Press the input field to open the alphanumeric keypad and enter the desired name.



**Select the channel to be displayed:** Press left and right arrows to select the channel to be added to the main screen.



**Add channel:** Once the channel has been selected, press add arrow to add the channel to the list.

### > To move or delete channel



**Select channel:** To select the channel, press the desired channel in the list of channels displayed.



**Remove channel:** Once the channel has been selected, press the remove arrow to remove the channel from the main display.



**Move channel:** Change the display order. Once the channel is selected, press the left arrow to move the channel to the beginning of the list, or press the right arrow to move it to the end of the list.



It is possible to define up to 8 different circuits or display groups.

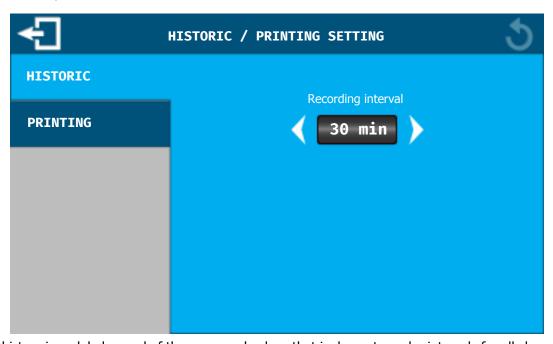
## XIII. "HISTORY / PRINT" programming screen



The button allows you to configure the recording history as well as the channels to be transferred to the printer output.

Press on this button to display the next screen.

## 1) HISTORIC/PRINTING - HYSTORIC



The history is a global record of the measured values that is done at regular intervals for all channels.



**Recorcing interval:** Press left and right arrows to select the desired interval in minutes.

## 2) <u>HISTORIC/PRINTING – HYSTORIC</u>



Printing allows the measurement values to be printed on the RS232 port at regular intervals.



**Speed:** Press left and right arrows to change the print speed according to your printer.



**Interval:** Press left and right arrows to change the print interval in minutes. In the **OFF** position, the print function is disabled.



**Select the channel to print:** Press left and right arrows to select the channel you want to print.



**Add channel:** Once the channel has been selected, press add arrow to add the channel to the list.

#### > To move or delete channel



**Select channel:** To select the channel, press the desired channel in the list of channels displayed.



**Remove channel:** Once the channel has been selected, press the remove arrow to remove the channel from the main display.



**Move channel:** Change the display order. Once the channel is selected, press the left arrow to move the channel to the beginning of the list, or press the right arrow to move it to the end of the list.

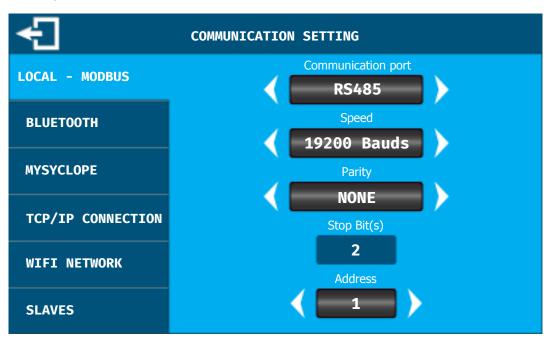
## XIV. "COMMUNICATION" programming screen



The button is used to configure all communication modes of the controller.

Press on this button to display the next screen.

## 1) COMMUNICATION - LOCAL - MODBUS



The "local" communication corresponds to the RS485 / RS232 (internal) output of your **SYCLOPE ALTICE'O**® controller. Here you can change the port communication settings.

**Communcation port:** Press left and right arrows to select the physical output of your controller on which the master is connected.

Speed: Press left and right arrows to change the communication speed on the bus.

NONE Parity: Press left and right arrows to select the parity of the data exchange.

**Stop Bit(s):** Information about the configuration of the data frame. This part is not modifiable and depends on the selected parity.

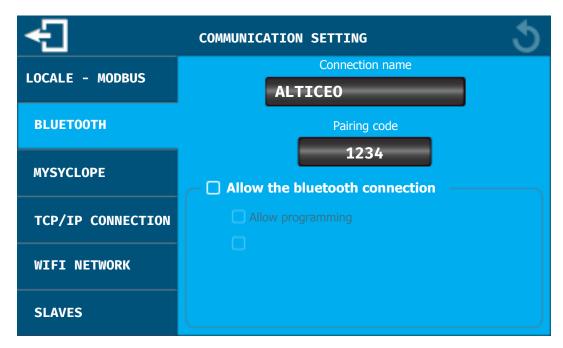
Address: Use the arrows to select the Modbus address of your SYCLOPE ALTICE'O® controller.

Be careful to respect the **Speed - Parity - Bit (s) of stop** on your interrogation system. The Modbus of the **SYCLOPE ALTICE'O**® regulator is systematically on a 10Bit frame with 8Bits of Data, 1 or 2 Bit (s) of stop according to the chosen parity

Refer to the Part III: Communication Notice for more information on the Modbus of your **SYCLOPE ALTICE'O**® controller.

### 2) COMMUNICATION – BLUETOOTH

1234



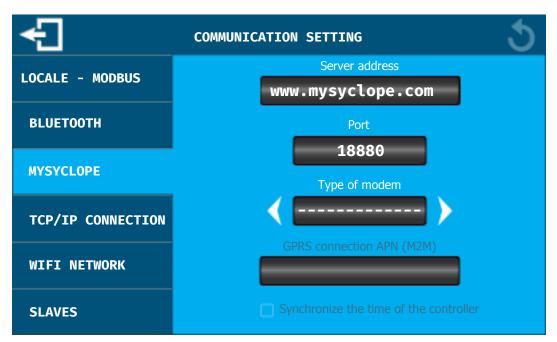
Your **SYCLOPE ALTICE'O**® controller can be connected in Bluetooth with mobile devices such as tablets or smartphones equipped with the SYSBLUE application. This application can be downloaded from the PlayStore® for ANDROID®.

Connection name: This name will be broadcast by the controller to be able to be identified on your portable device. Press the input field to open the alphanumeric keypad and enter the desired name.

**Pairing code:** Code requested when connecting. Press the input area to open the alpha numeric keypad and enter the desired code.

- **Allow the Bluetooth connection:** By checking this box the controller will broadcast the previously programmed name in order to connect.
- **Allow programming:** By checking this box, you will be able to modify the settings of your controller remotely with the mobile application.

## 3) COMMUNICATION - MYSYCLOPE



Your **SYCLOPE ALTICE'O**® controller can be connected to the <u>www.mysyclope.com</u> website, which allows you to monitor your controller remotely.



**Server address:** Website address. This address is set by default and there is no need to change it except on request of the SYCLOPE Electronique support. To change it, press the input field to open the alphanumeric keypad and enter the address you will have received.



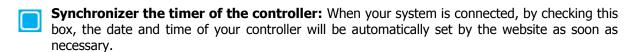
**Port:** This port is set by default and there is no need to change it except on request of the SYCLOPE Electronique support. To change it, press the input field to open the numeric keypad and enter the port you will have received.



**Type of modem:** Depending on the communication option you have chosen, you must select the corresponding modem. Press left and right arrows to select the GSM modem - ETHERNET - WIFI.



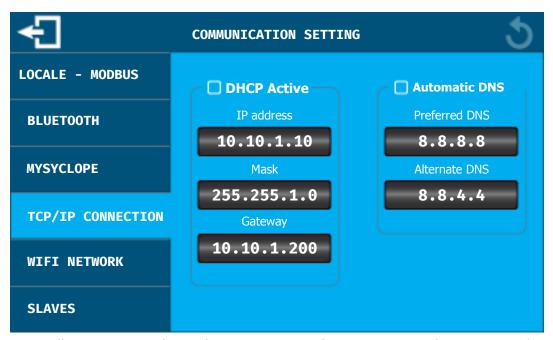
**GSM connection APN (M2M):** If your connection option is GSM type, you must enter the APN code provided by your telephony provider. Touch the input area to open the numeric keypad and enter the APN of your smart card.





Refer to the Notice Part III: Communication Notice, for more information.

## 4) COMMUNICATION - TCP/IP CONNECTION



This screen allows you to configure the TCPIP settings for connection to the <a href="www.mysyclope.com">www.mysyclope.com</a> website, in case your connection uses an ETHERNET or WIFI modem.

**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 configurations of IP, Mask and Gateway will be automatic.

**IP address:** Controller address on your Ethernet LAN. Press the entry area to open the numeric keypad and enter the IP provided by your IT manager.

255.255.1.0 **Mask:** Same principle as above.

10.10.1.200 **Gateway:** Same principle as above.

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

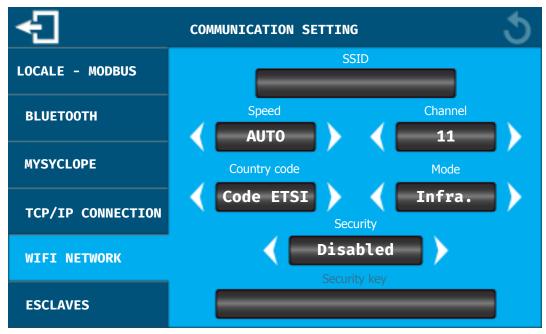
**Prefered DNS:** DNS server address. Press the entry area to open the numeric keypad and enter the IP provided by your IT manager.

8.8.4.4 Alternate DNS: Same principle as above.

If you have not selected the modem correctly (see chapter XIV, paragraph 3), this message will appear and the configuration of this screen will not be allowed.



## 5) COMMUNICATION - WIFI NETWORK



This screen allows you to configure the WIFI settings for connection to the <a href="https://www.mysyclope.com">www.mysyclope.com</a> website, if your connection uses a WIFI modem

SSID

**SSID:** Name of the wifi network to which you want to connect. To change it, press the input field to open the alphanumeric keypad and enter the name of your network.



**Speed:** Press left and right arrows to change the communication speed over the wireless network. This value is not to be modified in most of cases.



**Channel:** Press left and right arrows to change the communication channel on the wifi network. This value is not to be modified in most of cases.



**Country code:** Press left and right arrows to change the code according to your country.

ETSI = Europe



**Mode:** Press left and right arrows to change the network mode.

**Infra.** = Infrastructure (Network on which multiple elements can connect)

**Ad-Hoc** = (Network on which only the controller will be connected)



**Security:** Press left and right arrow keys to select the security mode of your wireless network. Depending on the latter, it will be necessary to enter the corresponding security key.



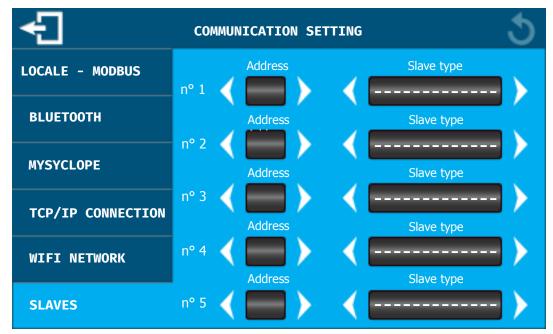
**Security key:** If the network is secure and you have selected the security type in the previous step, press the entry field to open the alphanumeric keypad and enter the security key of your network



If you have not correctly selected the WIFI modem (see Chapter XIV, paragraph 3), this message will appear and the configuration of this screen will not be allowed.



## 6) COMMUNICATION - SLAVES



If your **SYCLOPE ALTICE'O**® controller is connected to the <a href="www.mysyclope.com">www.mysyclope.com</a> website, it can be used as master and transfer the data from other SYCLOPE Electronics controllers if they are connected to the RS485 output. You must then enter the addresses and the type of device connected on the bus so that your controller will interrogate them to transmit the data on the website.



**Address:** Press left and right arrows to program the modbus address of the slave that is connected on the bus.



**Slave type:** Press left and right arrows to select the type of connected slave. **Controller** = Other controller of the brand SYCLOPE Electronics with modbus function

**Ultrafiltration** = Ultrafiltration system of the brand SYCLOPE Electronique.



You can program up to 5 different slaves on your controller.



Be sure to observe the **Speed and Parity** of the RS485 bus between your controller and the slaves. The same programming must be done on all elements with each a different address.



In case you do not activate the connection on the <a href="www.mysyclope.com">www.mysyclope.com</a> website (see chapter XIV paragraph 3), this message will appear and the configuration of this screen will not be allowed.

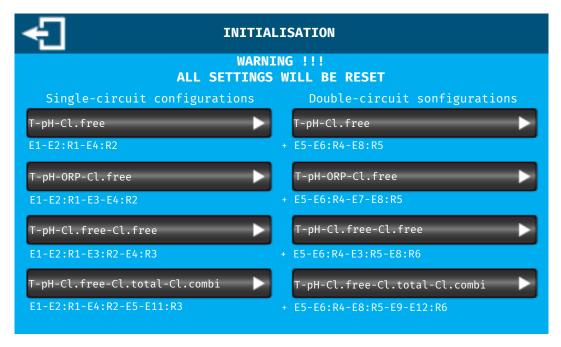


## XV. "INITIALIZATION" programming screen



The button is used to load a predefined configuration at the factory and to reconfigure the entire machine.

Press on this button to display the next screen.



This screen allows you to make a "quick configuration" of your **SYCLOPE ALTICE'O**® controller. It is possible to choose from 8 different programs 4 single circuit and 4 double circuit

▶ Press the button corresponding to the automatic configuration according to the needs of the site.

The controller automatically restart according to the selected mode, the start-up screen appears a few seconds before returning to the main display.



You can find the details of each configuration with the corresponding wiring in Part I: Chapter XI configuration of the **SYCLOPE ALTICE'O**<sup>®</sup>.



Caution, when using this function, all the recorded data will be reset according to the new configuration chosen and your system will return to the default configuration on all the settings parameters.



After pressing one of the buttons and before reprogramming the controller completely, a final confirmation will be requested.



## XVI. "MODE TEST" programming screen



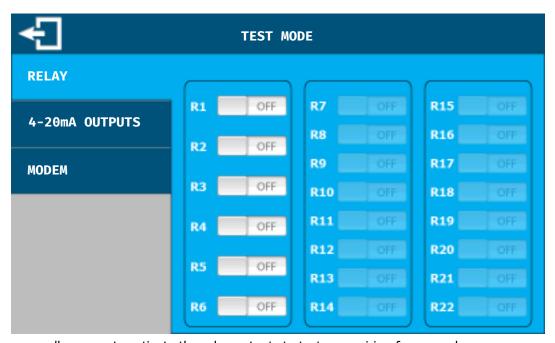
The button opens the test menu of the controller.

Press on this button to display the next screen.



Activating the TEST mode will set the controller to "BREAK" mode for the duration of the test if the controller is ON.

#### 1) TEST - RELAY



This screen allows you to activate the relay outputs to test your wiring for example.



Switching on or off the relays will activate the devices connected. Take all necessary precautions to prevent accidents.



Pulse controls are not reproduced. A single pulse will therefore be generated by switching on the corresponding relay.



The "3-way" equipment will be operated in opening or closing. At the end of the test, the procedure of initialization of the "3-way" equipment will be activated automatically in order to put then in total close position.



When this screen is closed, all the relay outputs will be reset to the "rest" position!



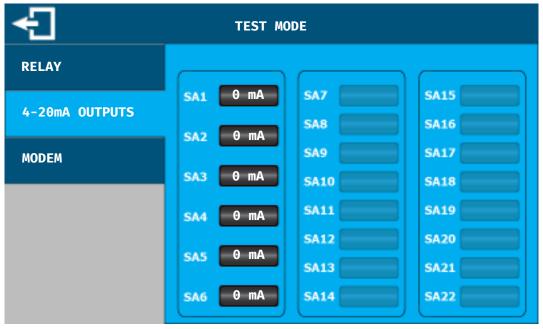
**Rx:** Press the button to activate the corresponding relay output, press again to disable the relay output.



The relays from 7 to 14 can only be accessed if at least one of the extention relays module number 1 is set.

Relays from 15 to 22 can only be accessed if at least one of the extention relays module number 2 is set.

## 2) TEST - 4-20mA OUTPUTS



This screen allows you to operate the 4-20mA outputs to test your wiring for example.



Activation of the analog outputs can result in the control of the dosing elements or the generation of analog signals from a centralized technical management (GTC). Take all necessary precautions to prevent accidents.



When this screen is closed, all the analog outputs will be reset to the "rest" position, ie "0mA" for outputs in 0 ... 20mA, "4mA" for those in 4 ... 20mA and " 20mA "for those in 20 ... 0mA and 20 ... 4mA!



**SAx:** To change the 4-20mA value of an output, press the input field to open the numeric keypad and enter the desired value in mA.



The analog outputs from 7 to 14 can only be accessed if at least one of the extention analogue module number 1 is set.

The analog outputs from 15 to 22 can only be accessed if at least one of the extention analogue module number 2 is set.

### 3) TEST - MODEM



This screen allows you to view the status of the modem and validate the network connection.



If you do not activate the connection on the www.mysyclope.com website (see chapter XIV, paragraph 3), this message will appear and the modem test function will not be available.



## a) Testing the GPRS modem





## PIN code messages

- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **PIN required:** A PIN code is required.
- 4. **PUK required:** A PUK code is required.
- 5. **PIN2 required:** A PIN2 code is required.
- 6. **PUK2 required:** A PUK2 code is required.
- 7. **OK:** Correct answer expected by the system.



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

#### Network Status messages

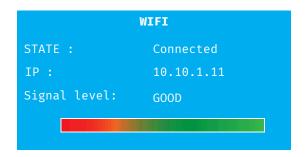
- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **Refused:** Network access problem, check your APN and contact the provider of the SIM card.
- 4. **Connected:** Correct answer expected by the system.

#### Signal level messages

- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **Low:** No sufficient level to make the connection.
- 4. **Medium, Good, Excellent:** Correct answer expected by the system.

### b) Testing the WIFI modem





### **STATE Messages**

- 1. **Searching...:** Waiting for modem answer.
- 2. Error: No modem answer, check the modem connection.3. Idle: Waiting for network connection.
- 4. **Dialing:** Connection in progress.
- 5. **Authenticating:** Connection in progress.
- 6. **Disconnecting:** Connection in progress.
- 7. **Disconnected:** System not connected, check your TCPIP & WIFI configuration
- 8. **Connected:** Correct answer expected by the system.

### <u>IP messages</u>

- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **xxx.xxx.xxx**: IP of your controller, a value other than 0.0.0.0 is correct.

#### Wifi Signal level messages

- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **Low:** No sufficient level to make the connection.
- 4. **Medium, Good, Excellent:** Correct answer expected by the system.

### c) Test du modem ETHERNET

ETHERNET		
STATE :	Searching	
IP:	Searching	

ETHERNET		
STATE :	Connected	
IP:	10.10.1.10	

## STATE Messages

- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **Idle:** Waiting for network connection.
- 4. **Dialing:** Connection in progress.
- 5. **Authenticating:** Connection in progress.
- 6. **Disconnecting:** Connection in progress.
- 7. **Disconnected:** System not connected, check your TCPIP & WIFI configuration
- 8. **Connected:** Correct answer expected by the system.

#### IP messages

- 1. **Searching...:** Waiting for modem answer.
- 2. **Error:** No modem answer, check the modem connection.
- 3. **xxx.xxx.xxx**: IP of your controller, a value other than 0.0.0.0 is correct.

## XVII. "INFOS" programming screen



The button opens the display screen on firmware versions of the controller.

Press on this button to display the next screen.

<b>₹</b>	STEM INFORMATIONS
Carriel number :	457500004
Serial number :	164500001
Application ID :	ALTICEO
Interface version :	1.01A
- COM module :	01
- EEP module :	01
- BLE module :	01
Controller version :	1.01A

This window allows you to know the firmware version information of your controller. This information will be useful in case of communication with the technical service SYCLOPE Electronique.

The first field corresponds to the serial number of your controller, identical to the one on the label outside the case.

Human/Machine programming interface	Page 55/56
NOTES	
,	
Programming instructions for <b>SYCLOPE ALT</b>	ICE'O®



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