



Communication instructions



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 12/01/2017 Rev 1

Professional Analyzers/Controllers for public swimming pools.

Product line ALTICE'O®

Part 3 : Communication instructions (Ref : DOC0357)

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



Risk of injury or accident



Electric hazard



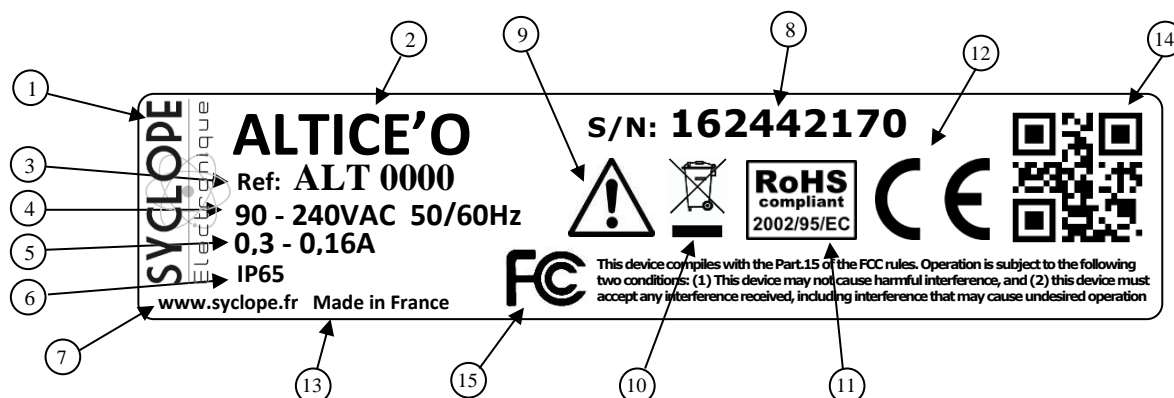
Risk of incorrect operation or damage for the controller



Comment



Recyclable element

1) Labelling and localization of the identification plate

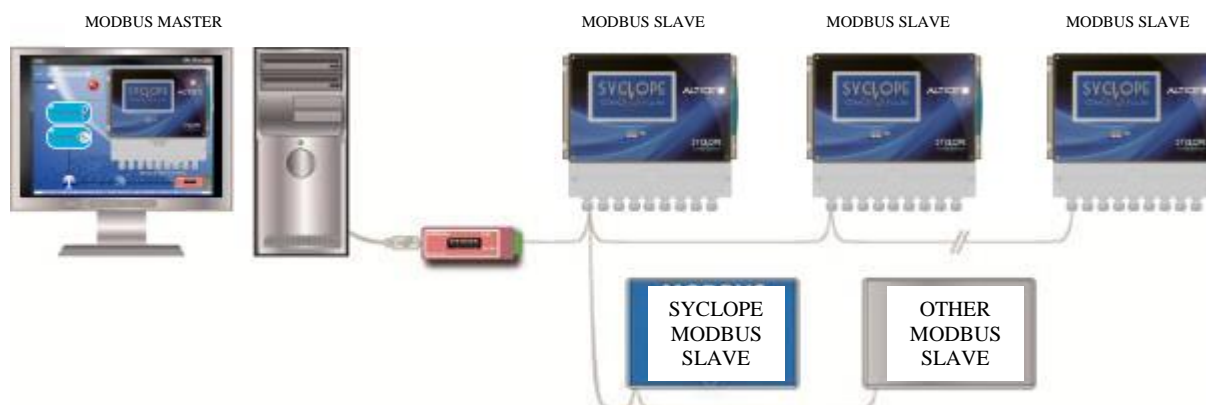
① Label of the manufacturer	⑨ Particular risks. Read the manual
② Model of the product	⑩ Product which can be recycled
③ Reference of the product	⑪ Limitation of dangerous substances
④ Range of power supply	⑫ EC compliance
⑤ Values of the maximum current	⑬ Country of the manufacturer
⑥ Class of protection	⑭ Manufacturer square code
⑦ Identification of the manufacturer	⑮ Conformity with the FCC part 15 Class B
⑧ Serial number	

Identification plate

II. Synoptic of communication

The **SYCLOPE ALTICE'O**® controllers have been created to be connected together to a high tech supervisor in local or distant mode. Many controllers can be connected together in different concepts.

1) Local connection with "AltiCom" maintenance software.



- Connection of one or more **SYCLOPE ALTICE'O**® controllers via the RS485 BUS.

To connect your **SYCLOPE ALTICE'O**® controller to your computer, we offer a USB / RS485 interface module.

Reference	Designation
INF1021	USB 485 converter

2) Connection between SYCLOPE EVASION® controller and OPTILIGHT® probe.

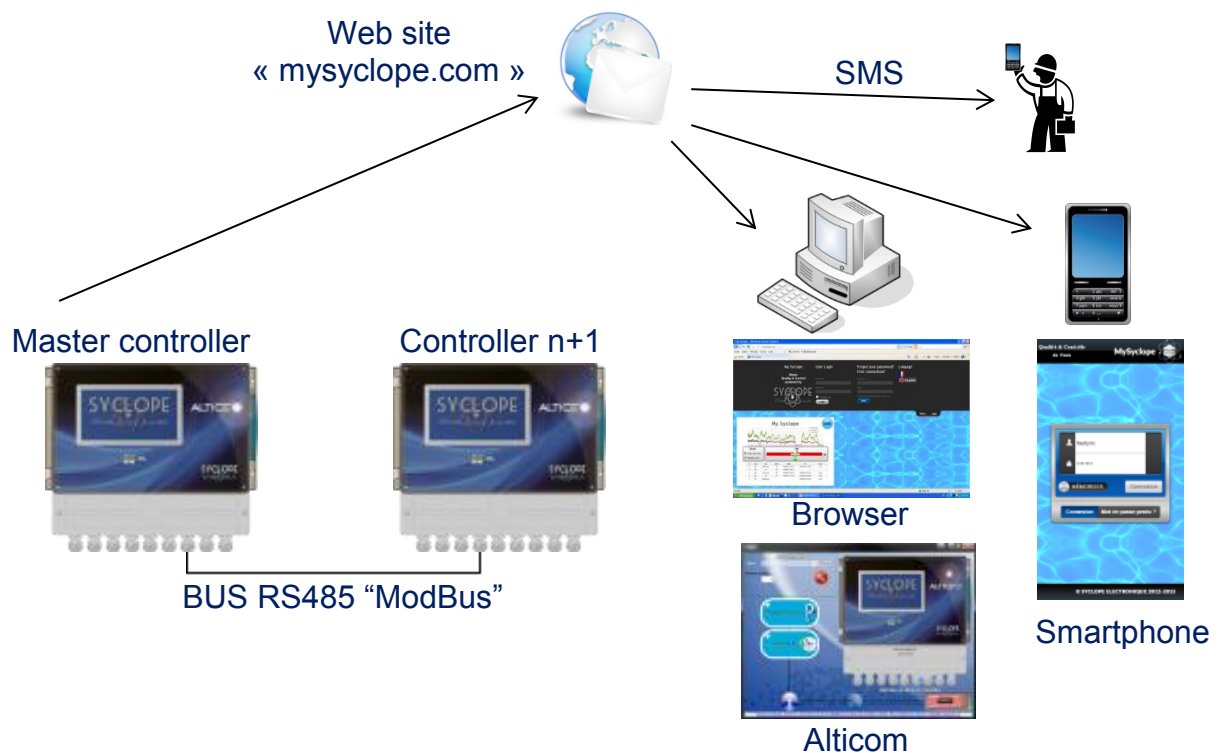


- Connection to the **SYCLOPE ALTICE'O**® and one or two **OPTILIGHT**® probes.



The « master » controller is able to drive one or two Optilight probes through the RS485 bus and to transfer pH and chlorine values to the probe for internal computations to read a real value of cyanuric acid (stabilizing of chlorine).

Reference	Designation
OPL1010	"OPTILIGHT" measuring probe Cyanuric Acid 0-100ppm

3) Remote connection to mysyclope.com

The **SYCLOPE ALTICE'O®** controller No. 1 (MASTER) is connected to the Internet via GPRS / IP / WIFI on mysyclope.com and acts as a gateway to communicate with other systems connected to the RS485 BUS

In order to connect your **SYCLOPE ALTICE'O®** to the Internet we offer several connection KIT.

Reference	Designation
KMD0020	Internal MODEM GSM / GPRS kit with cable and local antenna
KMD0040	Internal Ethernet MODEM Kit
KMD0050	Internal WIFI MODEM with cable and local antenna

4) Connecting ALTICE'O to a PLC equipped with an RS485 port

Refer to the chapter on modbus to configure your controller.

III. Internal Modem Connections

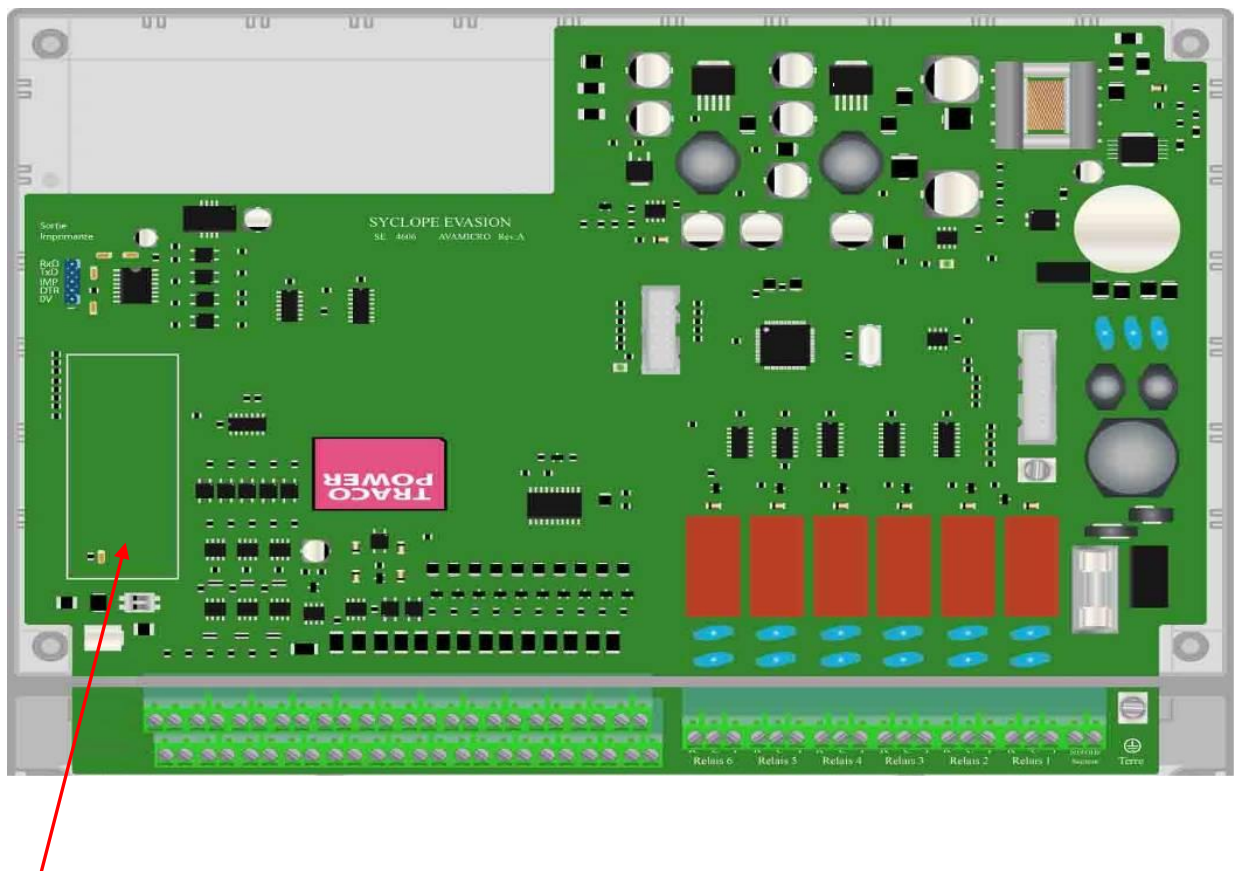
1) Connections of MODEMS GSM, GPRS, Wifi and Ethernet

The **SYCLOPE ALTICE'O®** can receive different types of modem to establish communications with the "mysyclope.com" website.

Depending on the type of modem and the connection to the Internet, the data are transmitted to the "mysyclope.com" site and thus allow real-time management of the operation of the **SYCLOPE ALTICE'O®**. Alert messages can be sent to users via emails or SMS and a history of measurements and alerts is recorded.

2) MODEMS connections on the internal board

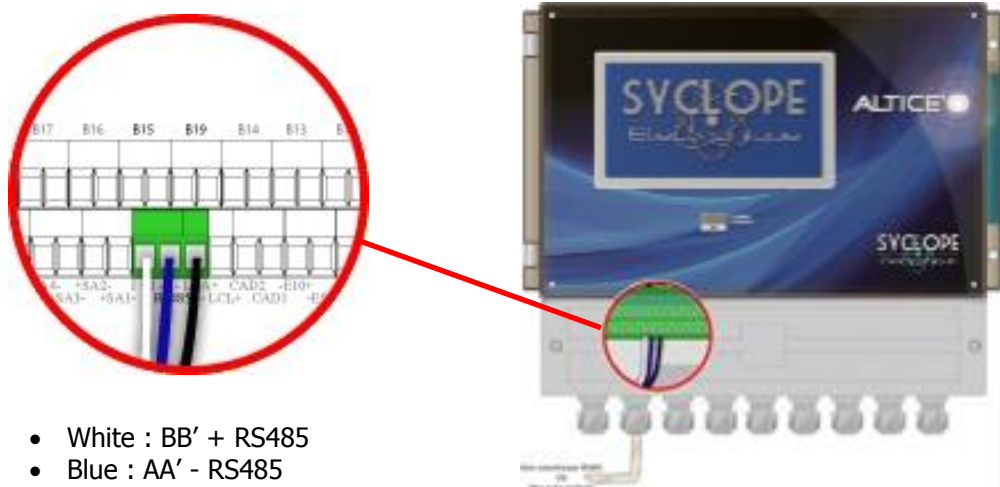
The "Modem Sockets" are sold as an option and must be inserted in the appropriate slot as shown in the diagram below. The wiring is dependent on the type of modem.



Socket Modem location for GSM, Wifi or Ethernet communication.

IV. Wirings

1) Wiring of the internal RS485 port and the PC converter RS485/USB



- White : BB' + RS485
- Blue : AA' - RS485
- Black : Ground -LCL



All units on the bus must be chained together.

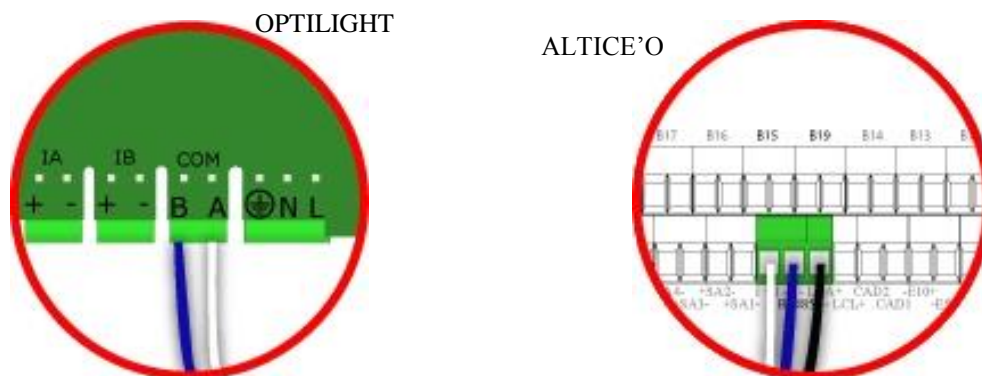


- Blue (Terminal n°3) : AA' RS485
- White (Terminal n°4) : BB' RS485
- Black (Terminal n°5) : Ground RS485

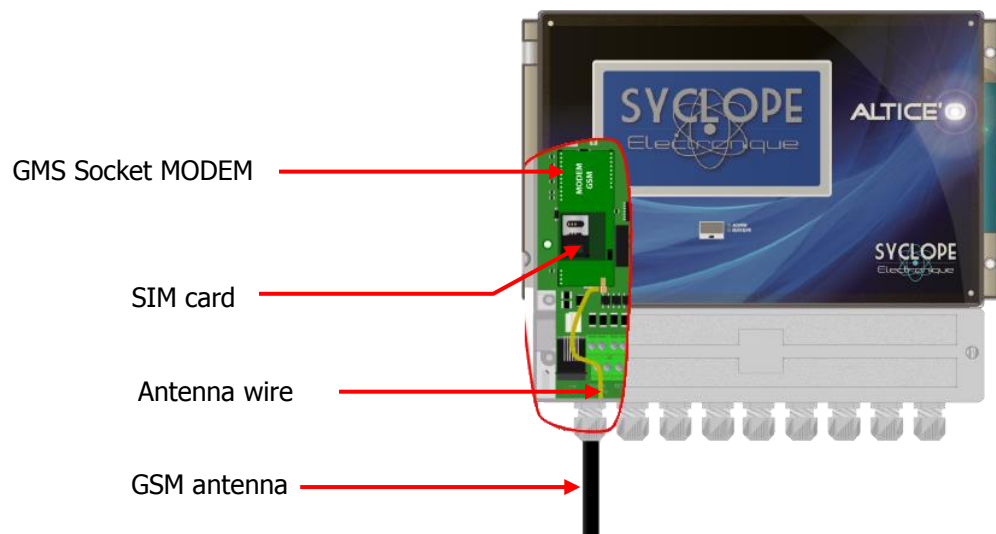


Configuration : All switches are **ON**

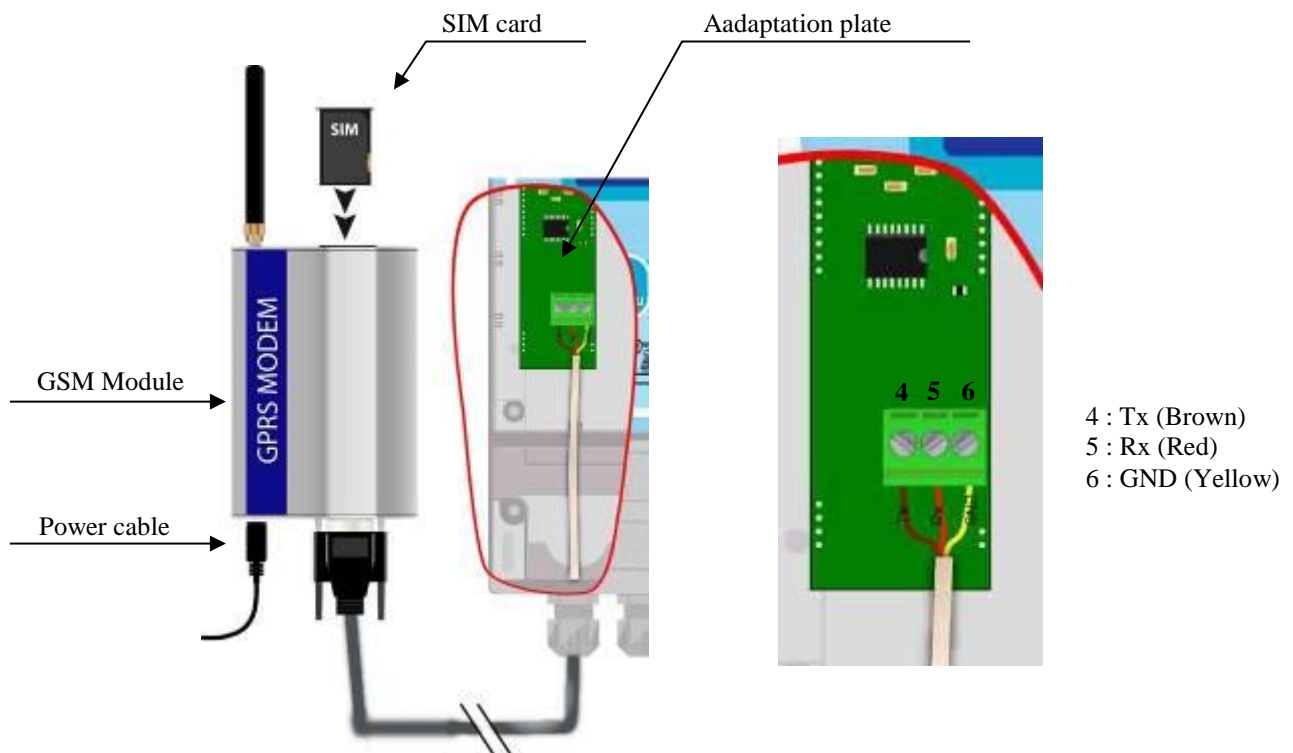
2) Connection ALTICE'O - OPTILIGHT

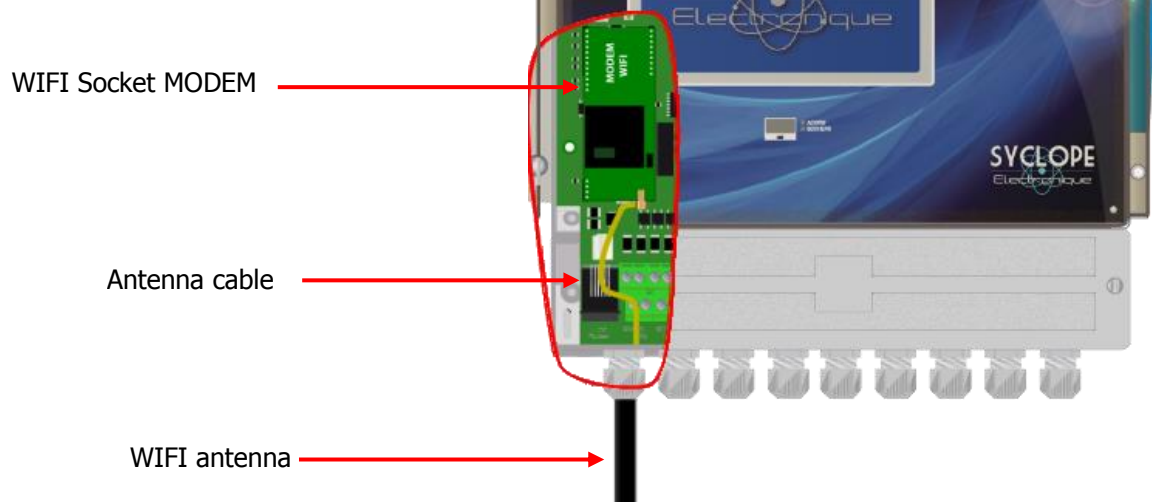
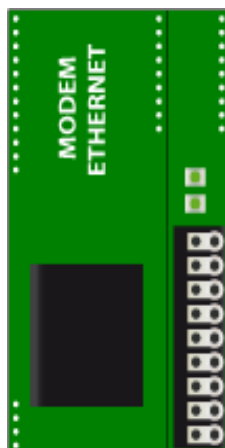
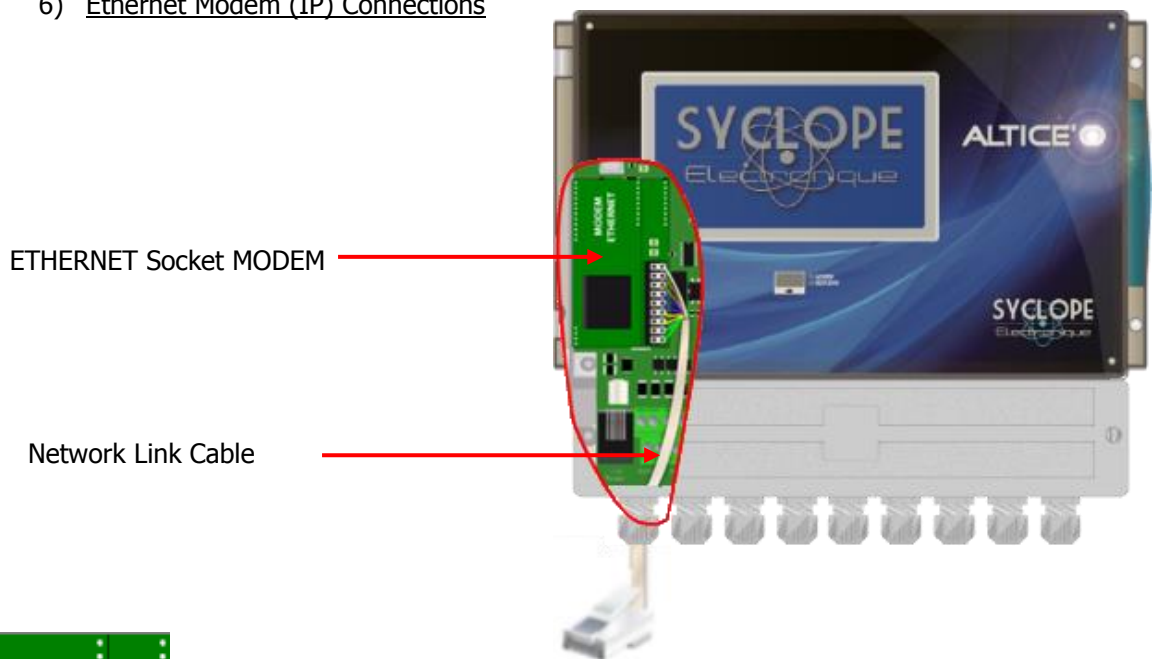


- + RS485 ALTICE'O ⇔ A OPTILIGHT
- - RS485 ALTICE'O ⇔ B OPTILIGHT
- Ground ⇔ - LCL ALTICE'O

3) Connection of the internal GSM Modem

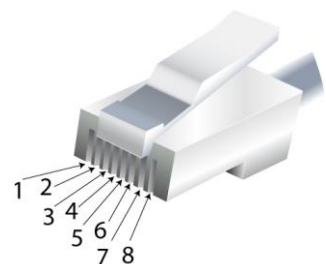
The PIN code of the SIM card must be deactivated.

4) Connection of the external GSM Modem

5) WIFI modem connections6) Ethernet Modem (IP) Connections**Color code EIA 568B**

9: Ground
 8: Brown
 7: Brown / White
 6: Blue
 5: Blue / White
 4: Orange
 3: Orange / White
 2: Green
 1: Green / White

Brown: 8
 Brown / White: 7
 Green: 6
 Blue / White: 5
 Blue: 4
 Green / White: 3
 Orange: 2
 Orange / White: 1



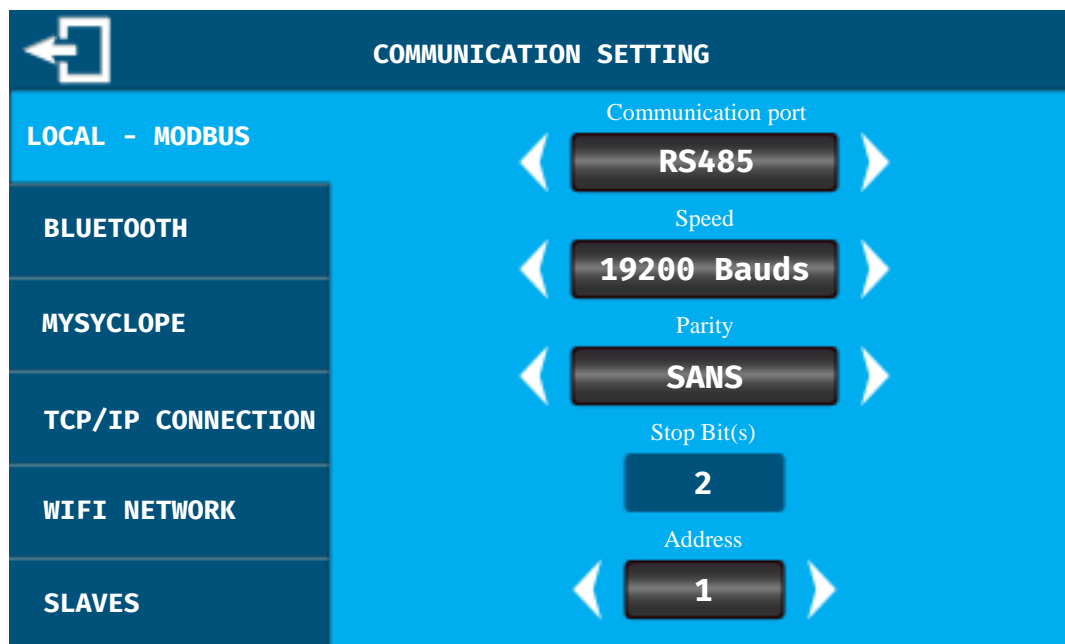
V. Parameter setting SYCLOPE ALTICE'O

1) Communication RS485 on ALTICE'O

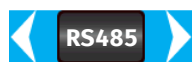
To connect an ALTICE'O to the bus it is necessary to configure the RS485 communication like others systems connected to the same BUS, using the configuration menu of the ALTICE'O.

Press on  and on  to display the next screen.

➤ 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 to suit your needs



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.



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.

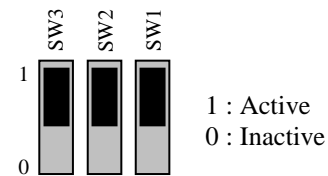


Be careful to respect the **Speed - Parity - Bit (s) of stop** on your interrogation system. The Modbus of the **SYCLOPE ALTICE'O®** regulator is systematically on a 10Bit frame with 8Bits of Data, 1 or 2 Bit (s) of stop according to the chosen parity



Three switches are present on the base board to manage terminations and recall resistors of the RS485 line. By default, the control units are delivered with the switches in position 1.

SW1 > Positive polarization resistor RS485
 SW2 > Negative polarization resistor RS485
 SW3 > Line termination resistor



2) MODEM communication on ALTICE'O

To connect an **SYCLOPE ALTICE'O®** to www.mysyclope.com, it is necessary to configure the modem used to connect to the Internet network.

Press on  and on  to display the next screen.

➤ COMMUNICATION – MYSYCLOPE



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.

- ☐ **Synchronizer the timer of the controller:** When your system is connected, by checking this box, the date and time of your controller will be automatically set by the website as soon as necessary.

➤ COMMUNICATION –TCP/IP CONNECTION

- ☐ **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.

10.10.1.10 **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.

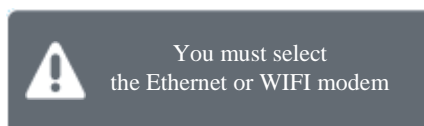
- ☐ **Automatic DNS:** If the local Ethernet network on which the controller is connected automatically distributes the DNS you must check this box. In this case the DNS configurations will be automatic.

8.8.8.8 **Preferred 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.



➤ COMMUNICATION – WIFI NETWORK



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)



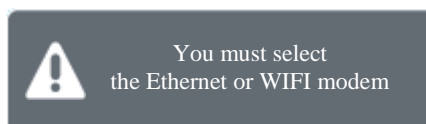
Security: Press left and right arrow keys to select the security mode of your wireless network. Depending on the latter, it will be necessary to enter the corresponding security key.



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.



➤ COMMUNICATION – SLAVES

COMMUNICATION SETTING			
LOCAL - MODBUS	n° 1	Address	Slave type
BLUETOOTH	n° 2	Address	Slave type
MYSYCLOPE	n° 3	Address	Slave type
TCP/IP CONNECTION	n° 4	Address	Slave type
WIFI NETWORK	n° 5	Address	Slave type
SLAVES			

If your **SYCLOPE ALTICE'O®** controller is connected to the www.mysyclope.com 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.



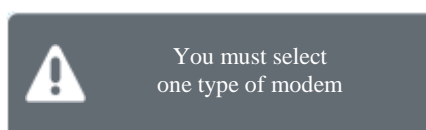
You can program up to 5 different slaves on your controller.



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 www.mysyclope.com website (see chapter XIV paragraph 3), this message will appear and the configuration of this screen will not be allowed.



VI. AltiCom programming software

1) Introduction

The AltiCom software allows the programming and maintenance of **SYCLOPE ALTICE'O®** devices, locally via the RS485 bus, remotely via telephone line and / or via the mysyclope.com website. The software is free in its local communication version and subject to license in the remote version.



Software Setup



Access to various functions of the software



Communication mode selection (Local / Remote)



Get information's from the connected controller

System address

Modbus address of the controller connected to the bus with which you want to communicate

2) Settings

Click on the settings button

Configuration

Communication Software

Local port

Port com: COM5

Speed: 19200

Data bits: 8

Parity: none

Stop bits: 2 stop bit

Test opening port

Over Internet

Internet address: www.mysyclope.com

Port: 18880

User name:

Password:

Test the connection

Cancel Save

Local Port (Connection via RS485 BUS):

- Select the Port Com used on your computer
- Select speed (Same as the device connected to the BUS)
- Select the parity (Same as the device connected to the BUS)

Via internet (Internet connection to a machine connected to mysyclope.com):

- Enter your login details on the website.

3) Connection test

Click on the information button

Version ALTICE'O

ID Number: 14

Name: ALTICE'O

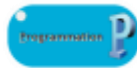
Interface version :1.13A

- COM Module : 01
- EEP Module : 02
- BLE Module : 01

Controller version :1.02A

OK

4) General programming

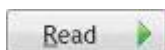


Click on the programming button

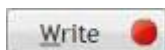
The screenshot shows the Alticom software window with the 'Interface' tab selected. The window contains several configuration sections:

- Analog Inputs 4-20mA:** A list of inputs (E1 to E10) with dropdown menus for sensor types (e.g., Temperature, pH, Free chlorine, Level or CAD, Not Used).
- Scales:** A list of scales (E1 to E10) with dropdown menus for ranges (e.g., -5 à 45 °C, 0 à 14pH, 0 à 10ppm, Digital NO).
- Polarization delay:** A list of delays (E1 to E10) with checkboxes and input fields for delay time (e.g., 0 min, 1 min, 5 min).
- Set point:** A list of set points (E1 to E10) with checkboxes and input fields for values (e.g., 6,0 °C, 0,00 pH, 0,00 ppm).
- Alarms:** A list of alarms (E1 to E10) with checkboxes and input fields for low and high alarm values (e.g., 0,0 °C, 0,00 pH, 0,00 ppm, 5,00 ppm).
- Calibrations:** A list of calibrations (E1 to E10) with input fields for offset and gain (e.g., 0, 100,0%).
- RESET:** A list of reset buttons (E1 to E10) with checkboxes.
- CAD configuration:** A section for configuring CAD1 and CAD2 with dropdown menus for flow rates (e.g., Flow m³/h).
- Delay:** A section for configuring delays (E21, E22) with input fields for delay time (e.g., 0 s).
- Coef. Flow rate (K):** A section for configuring flow rate coefficients (E21, E22) with input fields for values (e.g., 1,00000 Pulses/Liter, 0,00000 Pulses/Liter).
- On/Off threshold:** A section for configuring on/off thresholds (E21, E22) with input fields for values (e.g., 0,0 m³/h).
- Alarms:** A section for configuring low and high alarms (E21, E22) with input fields for values (e.g., 0,0 m³/h).
- Control compensation:** A section for configuring control compensation (E21, E22) with input fields for values (e.g., 0,0 m³/h, 0,0 m³/h).

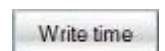
At the bottom of the window, there is a toolbar with buttons: Back, Write time, Read, Write, Load, Save, and a status bar showing 'Controller version : 1.02A'.



To upload the configuration from the connected controller.



To download the new configuration to the connected controller.



To update the real time clock of the connected controller.



To read a file of an old configuration already used and saved.



To save in a file, the actual configuration to upload later.



Programming by the software does not allow the calibration of the measurement probes. The calibration of the probes is retained at each reprogramming.

To voluntarily erase the calibration of a probe, you must select the corresponding reset check box.



Please refer to the standard programming instructions for the functional parameterization of the **SYCLOPE ALTICE'O®**

5) Programming the Communication

The screenshot shows the Alticom software interface with the 'Communication' tab selected. The interface is divided into several sections:

- Local connection:** Port (RS485), Speed (19200 bauds), Parity (None), Number (251).
- Bluetooth connection:** Name (ALTICEO), Pairing code (1234), checkboxes for 'Allow bluetooth connections' and 'Allow programming by bluetooth'.
- Slaves in WEB mode:** A table with columns 'List of slaves', 'Address', and 'Type'. It lists Slave No1 through Slave No5.
- Remote connection:** Modem (ETHERNET MODEM), ANP, PIN (checked Disable).
- System serial number:** 16-25-12345.
- WEB Server:** Server (www.mysyclope.com), Port (18880).
- IP configuration:** Radio buttons for 'Get an IP address automatically' (selected) and 'Use the following IP address:'. Fields for IP address (0.0.0.0), Subnet Mask (255.255.255.0), and Default Gateway (0.0.0.0). Radio buttons for 'No DNS server' and 'Use the following DNS server addresses:'. Fields for Preferred DNS server (8.8.8.8) and Alternate DNS server (8.8.4.4).
- WIFI configuration:** SSID, Speed (Auto), Channel (11), Country code (Code ETSI - Europe), Mode (Infrastructure), Security (Disable), and Key.

At the bottom, there are buttons for 'Back', 'Write time', 'Read', 'Write', 'Load', 'Save', and a 'Controller version : 1.02A' label.

a) Local communication in ModBus RTU

This section shows the 'Local connection' configuration options:

- Port:** RS485
- Speed:** 19200 bauds
- Parity:** None
- Number:** 251

This part makes it possible to modify the port, the speed, the parity as well as the number (ModBus address) of the controller.

These configurations correspond to the "CONFIGURATION - MODBUS" directly accessible on the controller.

WARNING: If you change these options after reprogramming the controller, you will need to change the communication configuration of the "Alticom" software so that you can communicate with the controller again.

b) Communication with website in GPRS mode

Remote connection

Modem:

APN:

PIN: ☒ Disable

System serial number

WEB Server

Server:

Port:

- Enter the APN of your SIMS card

The Access Point Name (APN) depends on your chip card provider.
Do not forget to ask for it to be able to set up your connection.

- The serial number is used as the identifier of the controller on the website

Check the settings:

- Server: www.mysyclope.com
- Port: 18880



The Access Point Name (APN) depends on your chip card provider.
Do not forget to ask to be able to set up your connection.



It is necessary to have a M2M (Machine To Machine) subscription, with a minimum transfer package of 4 MB.



Caution: If you regularly use the "Alticom" software to connect to the regulator via the website, plan a package with a higher transfer capacity.

c) Communication with website in Ethernet mode

Remote connection

Modem:

ANP:

PIN: ☒ Disable

System serial number

WEB Server

Server:

Port:

IP configuration

☒ Get an IP address automatically

☐ Use the following IP address:

IP address :

Subnet Mask:

Default Gateway:

☐ No DNS server

☒ Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

In ETHERNET Mode

- Select DHCP Mode, where you enter IP Address, Subnet Mask, and Gateway.
- Enter the DNS of your internet provider

Check the settings:

- Server: mysyclope.com
- Port: 18880

d) Communication with website in WIFI mode

Remote connection	IP configuration	WIFI configuration
Modem: <input type="text" value="WIFI MODEM"/> ANP: <input type="text"/> PIN: <input checked="" type="checkbox"/> Disable <input type="text"/>	<input checked="" type="radio"/> Get an IP address automatically <input type="radio"/> Use the following IP address: IP address: <input type="text" value="0.0.0.0"/> Subnet Mask: <input type="text" value="255.255.255.0"/> Default Gateway: <input type="text" value="0.0.0.0"/> <input type="radio"/> No DNS server <input checked="" type="radio"/> Use the following DNS server addresses: Preferred DNS server: <input type="text" value="8.8.8.8"/> Alternate DNS server: <input type="text" value="8.8.4.4"/>	SSID: <input type="text"/> Speed: <input type="text" value="Auto"/> Channel: <input type="text" value="11"/> Country code: <input type="text" value="Code ETSI - Europe"/> Mode: <input type="text" value="Infrastructure"/> Security: <input type="text" value="Disable"/> Key: <input type="text"/>
System serial number <input type="text" value="16-25-12345"/>		
WEB Server Server: <input type="text" value="www.mysyclope.com"/> Port: <input type="text" value="18880"/>		

In WIFI Mode

- Select DHCP Mode, where you enter IP Address, Subnet Mask, and Gateway.
- Enter the DNS of your internet provider
- Enter all the parameters of your WIFI connection

Check the settings:

- Server: mysyclope.com
- Port: 18880

e) Controllers linking

It is possible to connect another device of the SYCLOPE product range to the website by using one of the connection modes above, and on the same site connect up to five other devices using the linking function.

The device having the modem is considered the "master", it must then specify the list of "slaves" connected to the RS485 BUS.

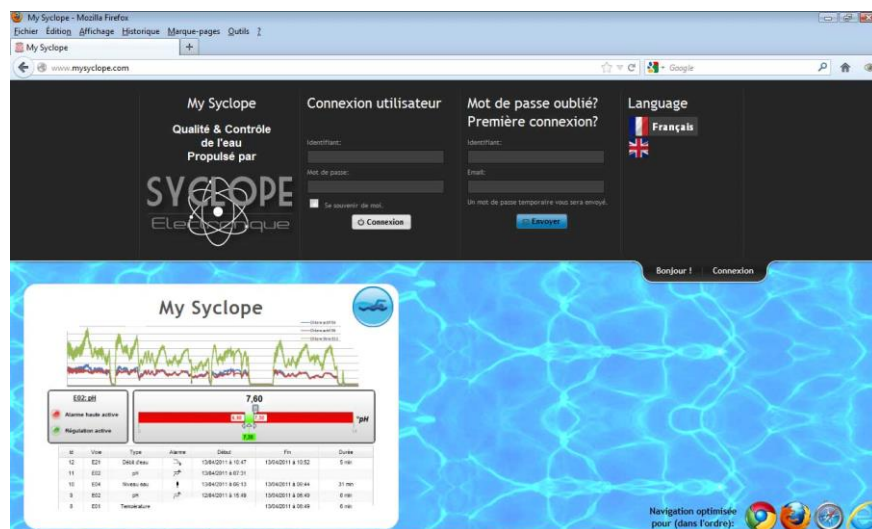
Slaves in WEB mode		
List of slaves	Address	Type
Slave No1		<input type="text"/>
Slave No2		
Slave No3		
Slave No4		
Slave No5		

VII. Access to the website www.mysyclope.com

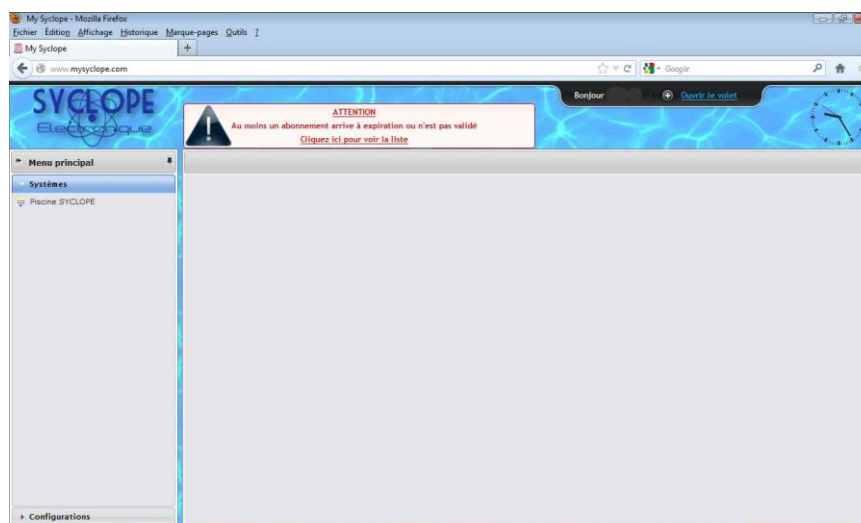
1) Activating your subscription

You must provide some informations to your dealer or to "SYCLOPE Electronique" technical service to activate your connection.

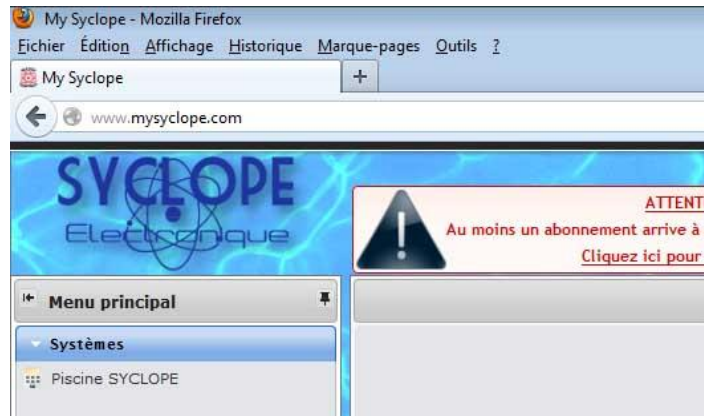
- Record the serial number of the device to be connected.
- Contact your dealer or the SYCLOPE Electronics technical service.
- Give the serial number of the device.
- Give the name of the person in charge of the communication system.
- Give your email address
- The technical service adds your controller on the website, activate your account and gives you your username
- Log in to www.mysyclope.com on your internet browser.



- Enter your username in the field "Username" in the column "Password forgotten or First connection" and enter your email address to receive your password.
- Click on the "Send" button.
- Read your emails.
- Enter your username and password in the column "User connection".



- Click on the "Systems" tab on the left side panel.
- Browse the sites and/or connected devices.



- The data sent by the device are now recorded on the website.

VIII. MODBUS communication registers

1) Convention and reading aid for modbus table

- **Register:** The information in the table corresponds for example to register 4001:
 - o 4xxx "Read Holding register" reading mode 03 function of modbus.
 - o 0001 Sets the ModBus register number and not the registry address.



To set whether your system requires entering the address or the registry, try entering the value 0 as the polling address

- If your system permits it you should use the notation address = Register below - 40001 => 0
- If your system forbids it you should use the notation register = Register below - 40000 => 1

- **Format:**
 - o unsigned integer: Integer of size 16bits (1 register) without sign (value from 0 to 65535)
 - o unsigned long: Integer of size 32bits direction M1M2 (Word 1 - Word 2) (2 registers) without sign (value from 0 to 4294967295)
 - o inverted float: Real of size 32bits inverted direction M2M1 (Word 2 - Word 1) (2 registers) (Positive or negative point value)
- **R/W:**
 - o R: Register readable
 - o W: Register writable
- **Binary state:** Example register 40013 Polarizations in progress:
 - o If the value of the read register is for example = 14

Channel	E20	E19	E18	E17	E16	E15	E14	E13	E12	E11	E10	E9	E8	E7	E6	E5	E4	E3	E2	E1
Binary decoding Value = 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0

It can be concluded that the measurement channels E2, E3 and E4 are in the phase of polarization.

Name	Register	Format	Size	R/W	Description
Hour & Minute	40001	unsigned integer	1	R	Hour 8bits MSB – Minute 8bits LSB
Day	40002	unsigned integer	1	R	Day of the week
Date	40003	unsigned integer	1	R	Date
Month	40004	unsigned integer	1	R	Month
Year	40005	unsigned integer	1	R	Year (00 to 99)
Working flags	40006	unsigned integer	1	R	Bit 0 On/Off - Bit 1 Timer - Bit 2 CAD1 status - Bit 2 CAD2 status
Technical alarms	40007	unsigned long	2	R	Binary values of E1 à E22
High alarms	40009	unsigned long	2	R	Binary values of E1 à E22
Low alarms	40011	unsigned long	2	R	Binary values of E1 à E22
Polarizations active	40013	unsigned long	2	R	Binary values of E1 à E22
Timer active	40015	unsigned long	2	R	Binary values of E1 à E22
Analogue levels	40017	unsigned integer	1	R	Binary values of programmed level entries from E1 to E10
Conditions of analogical entries	40018	unsigned integer	1	R	Binary of working condition of E1 à E10 , E18 et E19
Conditions of computed entries	40019	unsigned integer	1	R	Binary of working condition of E11 à E18
Measurement value of E1	40020	inverted float	2	R	Temperature value
Measurement value of E2	40022	inverted float	2	R	pH value
Measurement value of E3	40024	inverted float	2	R	Xx value (according to programming)
Measurement value of E4	40026	inverted float	2	R	Xx value (according to programming)
Measurement value of E5	40028	inverted float	2	R	Xx value (according to programming)
Measurement value of E6	40030	inverted float	2	R	Xx value (according to programming)
Measurement value of E7	40032	inverted float	2	R	Xx value (according to programming)
Measurement value of E8	40034	inverted float	2	R	Xx value (according to programming)
Measurement value of E9	40036	inverted float	2	R	Xx value (according to programming)
Measurement value of E10	40038	inverted float	2	R	Xx value (according to programming)
Measurement value of flow rate CAD1	40040	inverted float	2	R	Value of flow rate if CAD1 configuration is flow
Measurement value of flow rate CAD2	40042	inverted float	2	R	Value of flow rate if CAD2 configuration is flow
Input current of E1	40044	unsigned integer	1	R	Current value *20 / 734 =value in mA

Input current of E2	40045	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E3	40046	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E4	40047	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E5	40048	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E6	40049	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E7	40050	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E8	40051	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E9	40052	unsigned integer	1	R	Current value *20 / 734 =value in mA
Input current of E10	40053	unsigned integer	1	R	Current value *20 / 734 =value in mA
Valeur courant brut batterie	40054	unsigned integer	1	R	Current value *20 / 734 =value in mA
Computed value of E11	40055	inverted float	2	R	Xx value (according to programming)
Computed value of E12	40057	inverted float	2	R	Xx value (according to programming)
Computed value of E13	40059	inverted float	2	R	Xx value (according to programming)
Computed value of E14	40061	inverted float	2	R	Xx value (according to programming)
Computed value of E15	40063	inverted float	2	R	Xx value (according to programming)
Computed value of E16	40065	inverted float	2	R	Xx value (according to programming)
Computed value of E17	40067	inverted float	2	R	Xx value (according to programming)
Computed value of E18	40069	inverted float	2	R	Xx value (according to programming)
Valeur voie E19	40071	inverted float	2	R	Xx value (according to programming)
Valeur voie E20	40073	inverted float	2	R	Xx value (according to programming)
Percentage of the treatment relay 1	40075	unsigned integer	1	R	Value of treatment in % * 100
...
Percentage of the treatment relay 22	40096	unsigned integer	1	R	Value of treatment in % * 100
Percentage of analog treatment 1	40097	unsigned integer	1	R	Value of treatment in % * 100
...
Percentage of analog treatment 22	40118	unsigned integer	1	R	Value of treatment in % * 100



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