Programming instructions

Parts of the general documentation

Part 1 : Installation and starting instructions
► Part 2 : Programming instructions

General informations :

SYCLOPE Electronique 2011® Notice of 14/02/2011 Rev 2

Professional Analyzers/Controllers for public swimming pools.
Product line ODISEA®

Part 2 : Programming instructions (Ref : DOC0184)

Editor :

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

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Contents of the documentation

I. Use of the document

Please read this document in its entirety before starting to program your controller device, in order to ensure the safety of the 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 there is a failure to comply with these instructions of this document.

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 to the device

              Comment

              Recyclable element

II. Safety and environmental instructions

The programming you will perform will modify the operation of the controller. For this reason, it is requested to read these instructions carefully before changing the controller configuration. Only authorized personnel with suitable training should program the **SYCLOPE ODISEA®**.

Please:

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

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

Failure to follow these procedures could result in serious injury to users or damage to the device.

1) Use of the equipment

The **SYCLOPE ODISEA®** system has been designed to measure and control pH and chlorine or bromine 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 bad uses.

2) User obligations

The user undertakes not to allow its employees to work with the **SYCLOPE ODISEA®** 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 functionality

I. Description of the human-machine interface

1) Display and control keypad
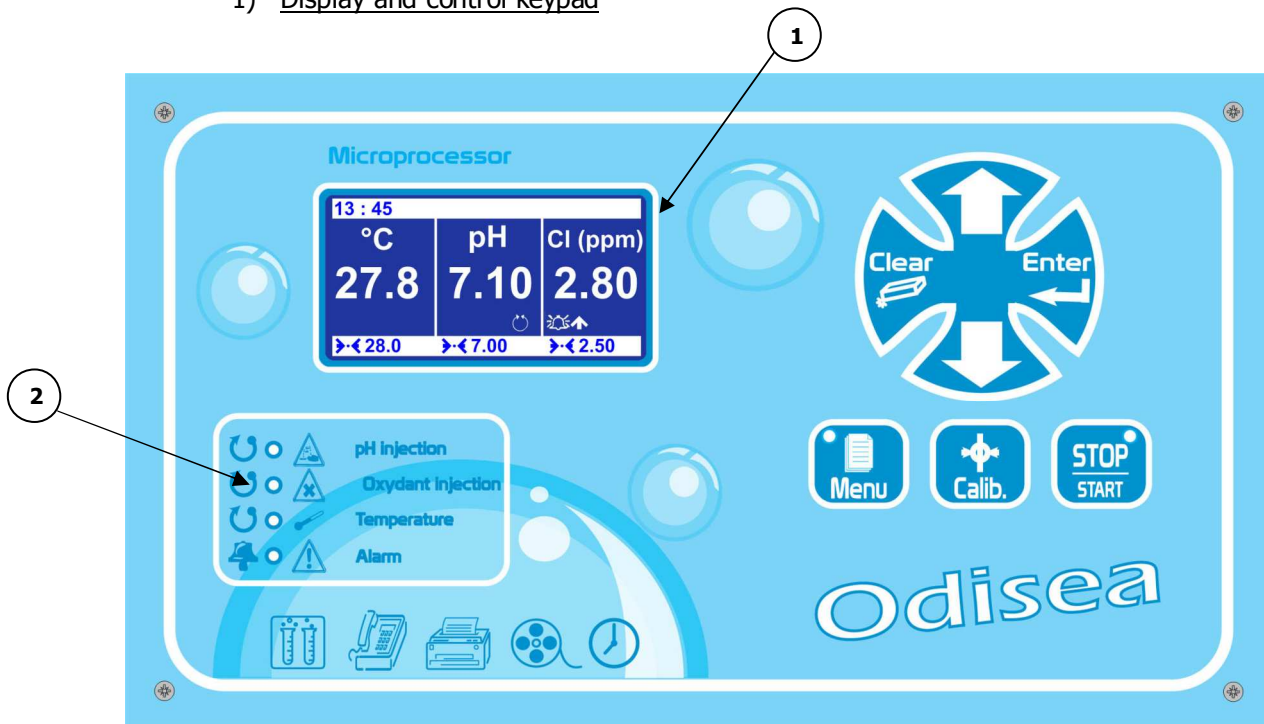
| 1 | Backlit 64x128 display with white text on blue background |

| 2 | Injection and alarm LEDs |

Menu button: provides access to the programming menu (yellow LED)

Calibration button: enables the sensors to be directly calibrated

STOP/START button: switches the regulators on or off (green LED)

Clear button: deletes the settings or moves back in the programming menus

Enter button: confirms the settings or moves forward in the programming menus

Up button: can be used to scroll through the menus and increase values

Down button: can be used to scroll through the menus and reduce values

2)   Internal connections
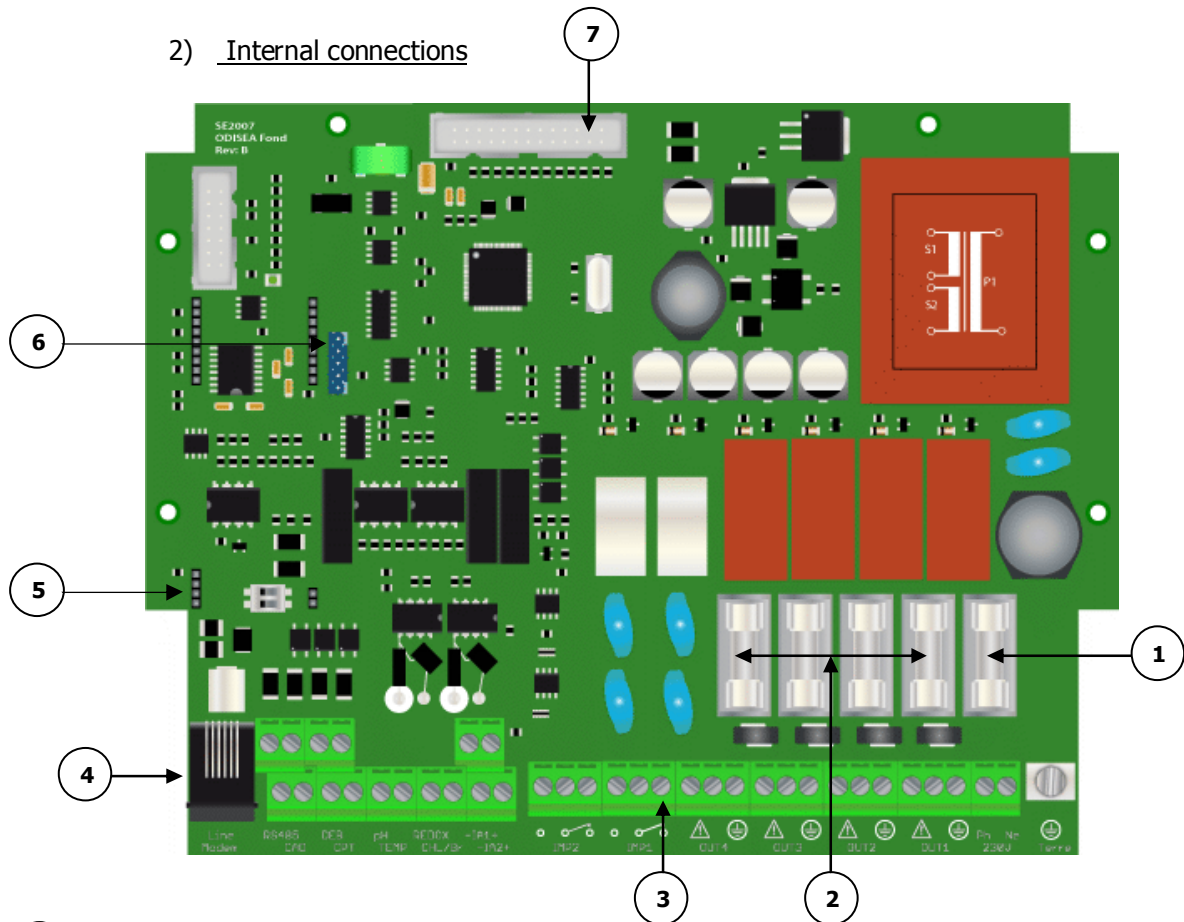
① General protection fuse (glass 5x20 315 mA time-lag fuse)

② Relay protection fuse (glass 5x20 2A time-lag fuse)

③ Connection terminal blocks (see diagram at the bottom of the page)

④ Modem connector

⑤ Location for modem socket (optional)

⑥ Printer connector

⑦ Connector for ribbon cable to the top card

3)   Connection terminal boards
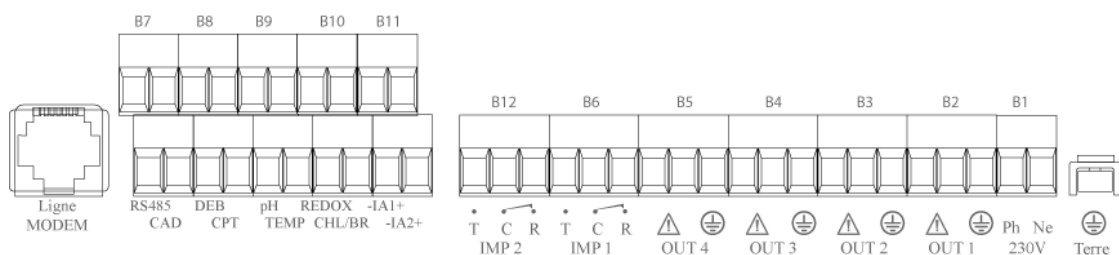
II. Structure and index of the programming menus

1) Menu structure

The programming of the **SYCLOPE ODISEA®** is broken down into three menu levels. It is possible to generate access codes for each level. From the simple user level to the specialist level, the device provides access to increasingly technical settings for the operation of the machine and for the safety of the process and people.

- ➤ User Menu: to follow up measurements and calibration
- ➤ Technician Menu: to modify basic elements such as settings, alarms, etc.
- ➤ Specialist Menu: for complete modification of the machine's configuration

2) Tree structure and programming index

III. User Menu

To access the User Menu, press the button. [Menu] You now have access to user-level adjustments.

```
              User Menu
         ▶ Technician level
           Langue/Language/...
           Set the time
           Displays
           Histories
```
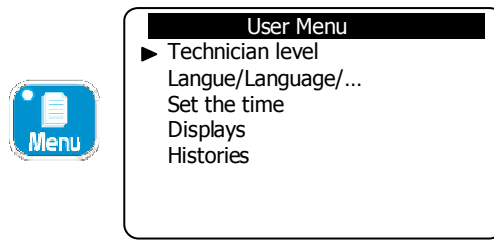
1) Access to technician level

To access the technician menu.

```
              User Menu                              Technician Menu
         ▶ Technician level                      ▶ Specialist level
           Langue/Language/...                     Technician code
           Set the time                            System date
           Displays                                Setting(s)
           Histories                               Calibrations
                                                   General timers
                                                   Analogue outputs
```

If a code is registered:

```
              User Menu                              Technician Menu
         ▶ Technician level
           Langue/Language/...                    Access code : 0 . . .
           Set the time                                     ▲
           Displays
           Histories
```
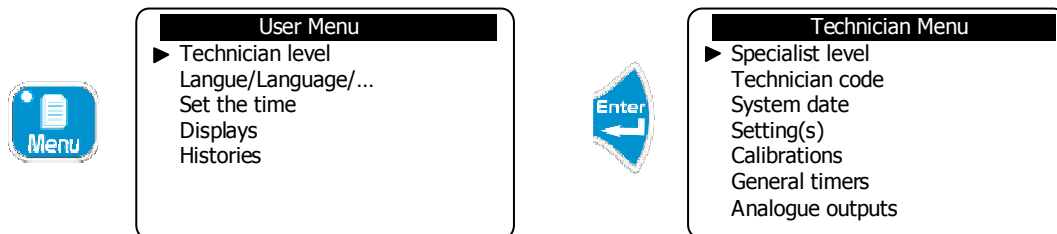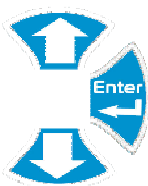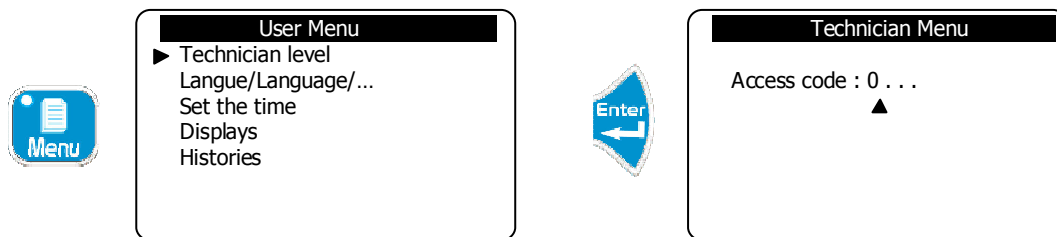
Enter the access code to enter the technician menu

2) Choice of language

```
              User Menu                              User Menu
         ▶ Technician level                          Technician level
           Langue/Language/...                    ▶ Langue/Language/...
           Set the time                             Set the time
           Displays                                 Displays
           Histories                                Histories
```

```
              User Menu                              User Menu
           Langue/Language/...                       Technician level
         ▶ Francais                               ▶ Langue/Language/...
           English                                  Set the time
           Deutsch                                  Displays
           Espanol                                  Histories
           Italiano
           Portuguese
```

3) Time adjustment

```
        User Menu
 ► Technician level
   Langue/Language/...
   Set the time
   Displays
   Histories
```

```
        User Menu
   Technician level
   Langue/Language/...
 ► Set the time
   Displays
   Histories
```

```
        User Menu

   Time ... : 13H45 mn
            ▲
```

Set the correct time

4) Display management

The user can decide to display the desired parameters all together or independently.

```
        User Menu
 ► Technician level
   Langue/Language/...
   Set the time
   Displays
   Histories
```

```
        User Menu
   Technician level
   Langue/Language/...
   Set the time
 ► Displays
   Histories
```

```
        User Menu
   Choice of displays
     ► pH
       Chlorine
       pH/Chlorine
       Flowmeter
```

```
        User Menu
   Technician level
   Langue/Language/...
   Set the time
 ► Displays
   Histories
```
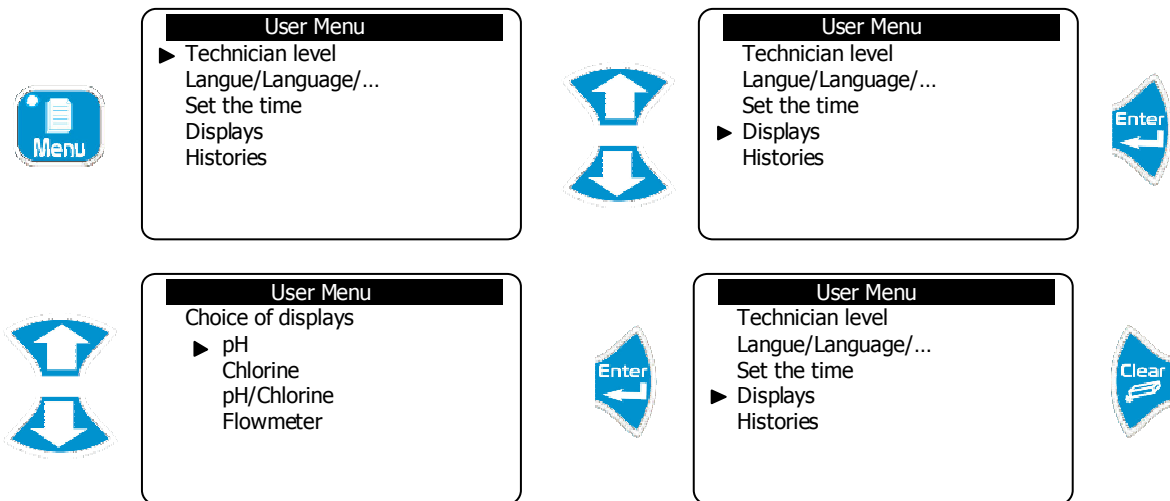
```
 14 :44              ODISEA
    °C          pH        Cl (ppm)

   27.5        7.20        2.70


  ->·<- 28.0   ->·<- 7.40    ->·<- 1.50
```

5) Histories

Traces and records the various events, alarms, measurements that take place with a frequency defined by the user.
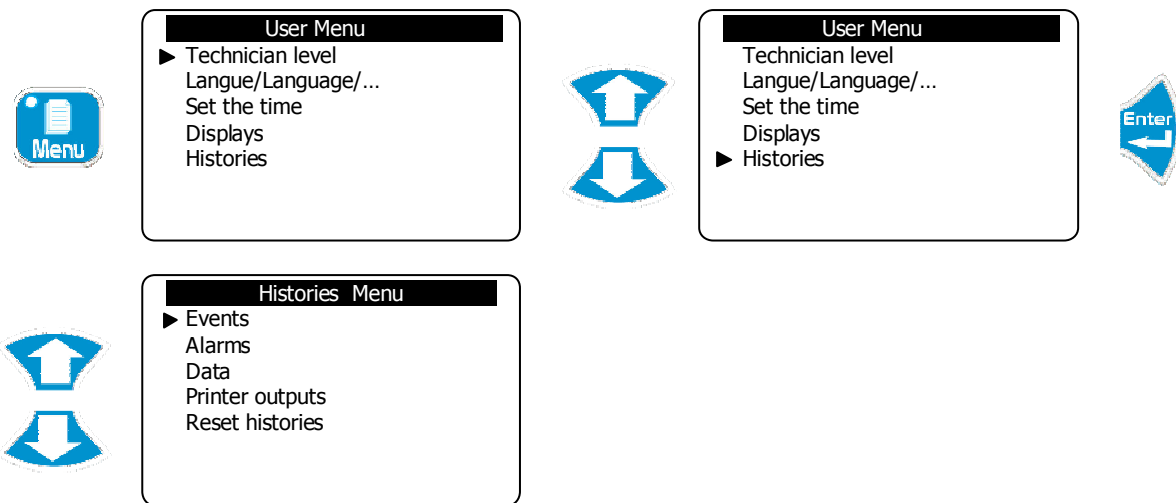
a) Events

Traces events that have occurred, such as activating the treatment, deactivating the treatment, calibrating a parameter, etc …

Press "Up" and "Down" to scroll through the records.
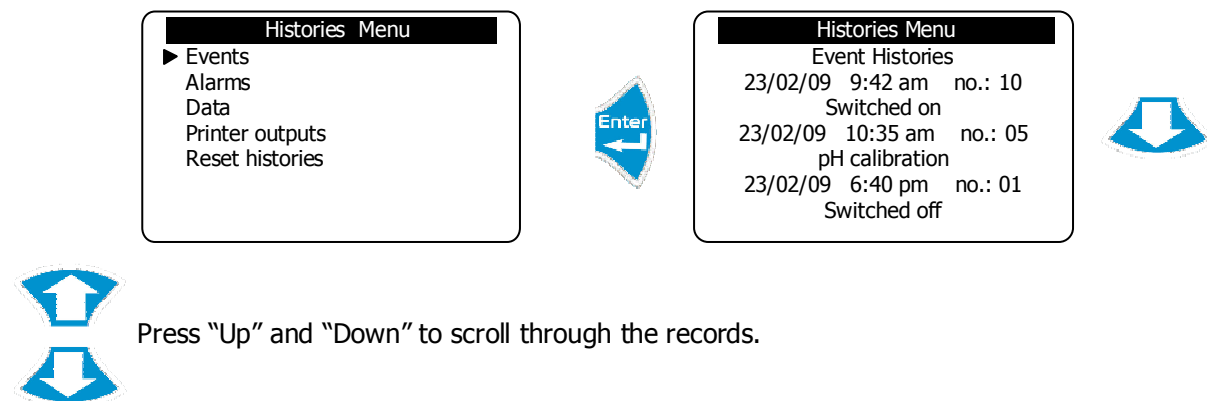
See the table at the final page for the meaning of the event n°: XX

b) Alarms

Traces alarm excesses.

Press "Up" and "Down" to scroll through the records.
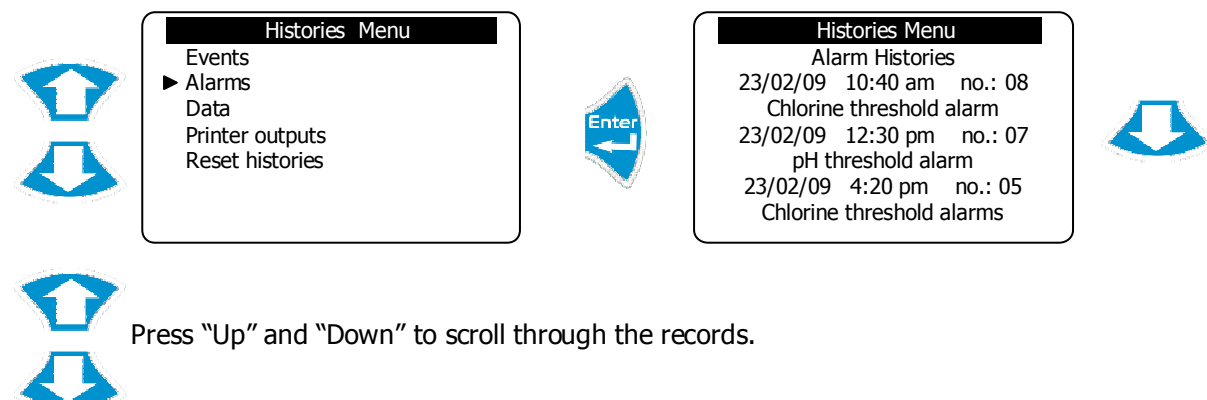
See the table at the final page for the meaning of the alarm n°: XX

c) Data

Traces measurements according to the defined time interval.

Histories Menu
Events
Alarms
► Data
Printer outputs
Reset histories

Histories Menu
Data histories
Date : 23/02/09
°C   pH   mV   Cl
15H27   30.9   7.34... 354 ...2.58
15H37   30.4   7.26... 365 ...2.50
15H47   30.9   7.18... 364 ...2.45
15H57   30.9   7.00... 370 ...2.65

Press "Up" and "Down" to scroll through the records.
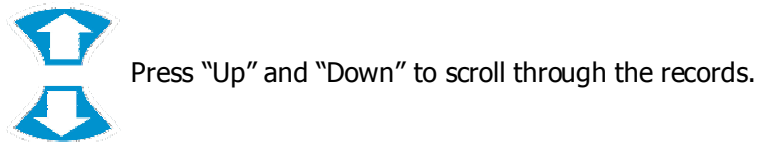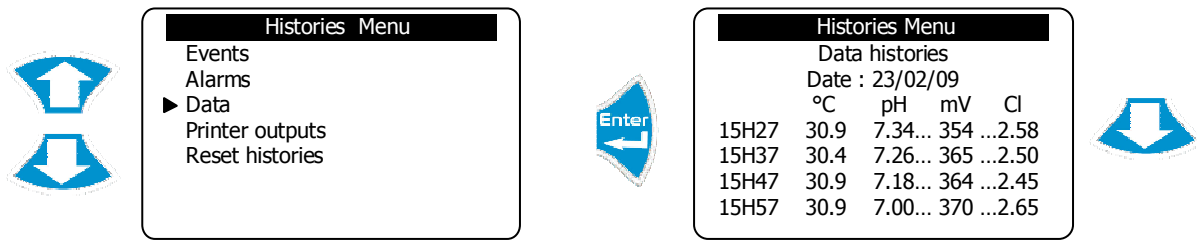
d) Printer output

Allows you to print, in chronological order data collected.

Histories Menu
Events
Alarms
Data
► Printer outputs
Reset histories

Histories Menu
Printer output
Printing in progress...

Press "Up" and "Down" to scroll through the records.
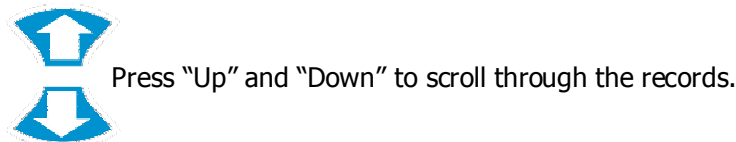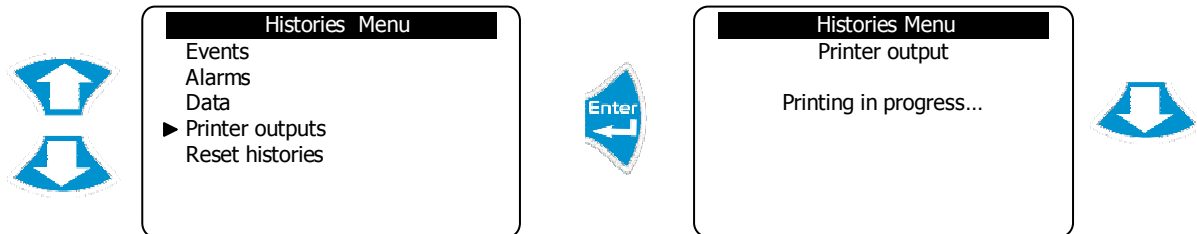
e) Reset Histories

Allows you to delete the selected families of entries.

Histories Menu
Events
Alarms
Data
Printer outputs
► Reset histories

Histories Menu
Printer output
► Reset events
Reset data
Reset alarms

Histories Menu
Printer output
► Reset events
Reset data
Reset alarms
Yes : Enter   No : Esc

The events data are deleted.

Nothing is done.
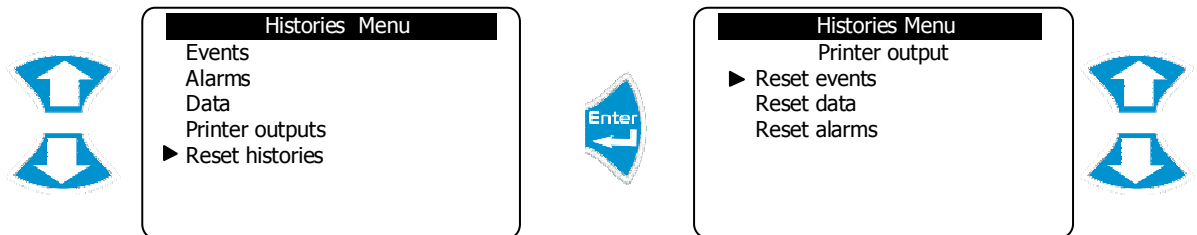
► Do the same to delete the other types of records.

6) Maintenance of the device

This function can be used to perform maintenance of the device. It is possible to simulate all the inputs and outputs of the central unit in order to test their correct operation. This function can only be performed once it has been activated in the Specialist Level.

To unblock the maintenance of the controller:

```
┌──────────────────────────┐          ┌──────────────────────────┐
│      Histories  Menu      │          │      Technician Menu      │
│ ▶ Events                  │          │ ▶ Specialist level        │
│   Alarms                  │          │   Technician code         │
│   Data                    │          │   System date             │
│   Printer outputs         │          │   Setting(s)              │
│   Reset histories         │          │   Calibrations            │
│                           │          │   General timers          │
│                           │          │   Analogue outputs        │
└──────────────────────────┘          └──────────────────────────┘
```

```
┌──────────────────────────┐
│      Specialist Menu      │
│ Access code   : 0 . . .   │
│               ▲           │          Enter the code 1234
│                           │
│                           │
└──────────────────────────┘
```

```
┌──────────────────────────┐          ┌──────────────────────────┐
│      Specialist Menu      │          │      Specialist Menu      │
│ ▶ Factory Code            │          │   Factory Code            │
│   Configurations          │          │   Configurations          │
│   Initializations         │          │ ▶ Initializations         │
│   Version: 3.01           │          │   Version: 3.01           │
│                           │          │                           │
└──────────────────────────┘          └──────────────────────────┘
```

```
┌──────────────────────────┐          ┌──────────────────────────┐
│      Specialist Menu      │          │      Specialist Menu      │
│   Initializations         │          │   Initializations         │
│ ▶ Factory reset           │          │   Factory reset           │
│   Modem                   │          │   Modem                   │
│   Maintenance management  │          │ ▶ Maintenance management  │
│   Device number           │          │   Device number           │
└──────────────────────────┘          └──────────────────────────┘
```

```
┌──────────────────────────┐          ┌──────────────────────────┐
│      Specialist Menu      │          │      Specialist Menu      │
│   Maintenance management  │          │   Initializations         │
│ ▶ Activation...           │          │   Factory reset           │
│   Inactivation...         │          │   Modem                   │
│                           │          │ ▶ Maintenance management  │
│                           │          │   Device number           │
└──────────────────────────┘          └──────────────────────────┘
```

a) LEDs

```
┌──────────────────────────┐          ┌──────────────────────────┐
│        User Menu          │          │        User Menu          │
│ ▶ Technician level        │          │   Technician level        │
│   Langue/Language/…       │          │   Language                │
│   Set the time            │          │   Set the time            │
│   Displays                │          │   Displays                │
│   Histories               │          │   Histories               │
│                           │          │ ▶ Maintenance             │
└──────────────────────────┘          └──────────────────────────┘
```

```
              ┌──────────────────────────┐
              │      System tests        │
              │ ► LEDs                   │
              │   Relays                 │
              │   Analogue outputs       │
              │   Printer                │
              │                          │
              └──────────────────────────┘
```

Enter   Check that the LEDs light up

b) Relays

```
┌──────────────────────────┐        ┌──────────────────────────┐
│        User Menu         │        │        User Menu         │
│ ► Technician level       │        │   Technician level       │
│   Langue/Language/...    │        │   Language               │
│   Set the time           │        │   Set the time           │
│   Displays               │        │   Displays               │
│   Histories              │        │   Histories              │
│                          │        │ ► Maintenance            │
└──────────────────────────┘        └──────────────────────────┘
```

Menu

```
┌──────────────────────────┐        ┌──────────────────────────┐
│      System tests        │        │      System tests        │
│   LEDs                   │        │   Relay test             │
│ ► Relays                 │        │ ► Temperature            │
│   Analogue outputs       │        │   pH                     │
│   Printer                │        │   Oxidiser               │
│                          │        │   Flocculant             │
│                          │        │   Auxiliary 1            │
│                          │        │   Auxiliary 2            │
└──────────────────────────┘        └──────────────────────────┘
```
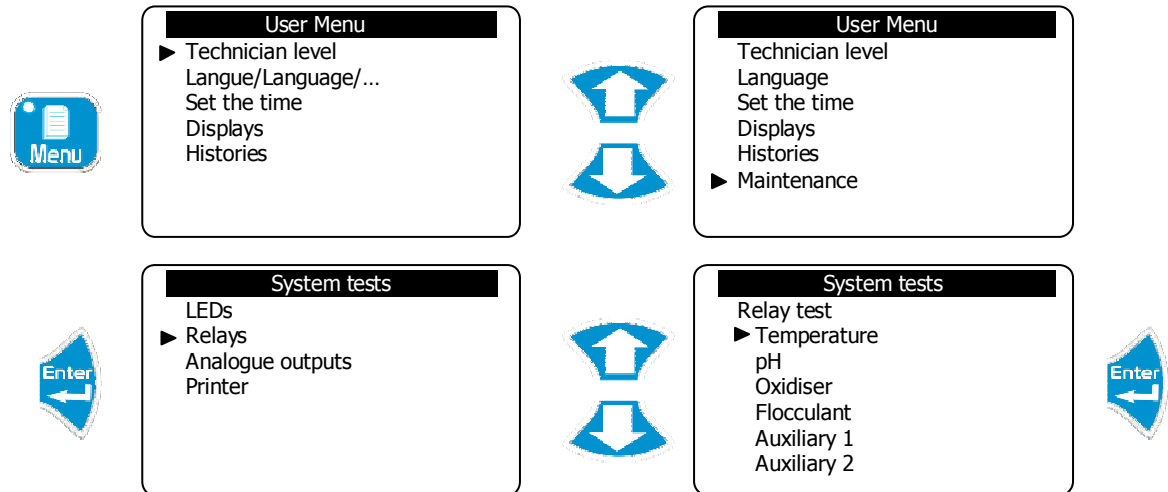
Enter   Check that the relay of output OUT1 is correctly activated

► Repeat this same process to test the other relays.

c) Analogue outputs

```
┌──────────────────────────┐        ┌──────────────────────────┐
│        User Menu         │        │        User Menu         │
│ ► Technician level       │        │   Technician level       │
│   Langue/Language/...    │        │   Language               │
│   Set the time           │        │   Set the time           │
│   Displays               │        │   Displays               │
│   Histories              │        │   Histories              │
│                          │        │ ► Maintenance            │
└──────────────────────────┘        └──────────────────────────┘
```

Menu   Enter

```
┌──────────────────────────┐        ┌──────────────────────────┐
│      System tests        │        │      System tests        │
│   LEDs                   │        │   Analogue outputs       │
│   Relays                 │        │                          │
│ ► Analogue outputs       │        │   Output IA1...: 00.0 mA │
│   Printer                │        │                          │
│                          │        │   Output IA2...: 00.0 mA │
│                          │        │                          │
└──────────────────────────┘        └──────────────────────────┘
```

Enter
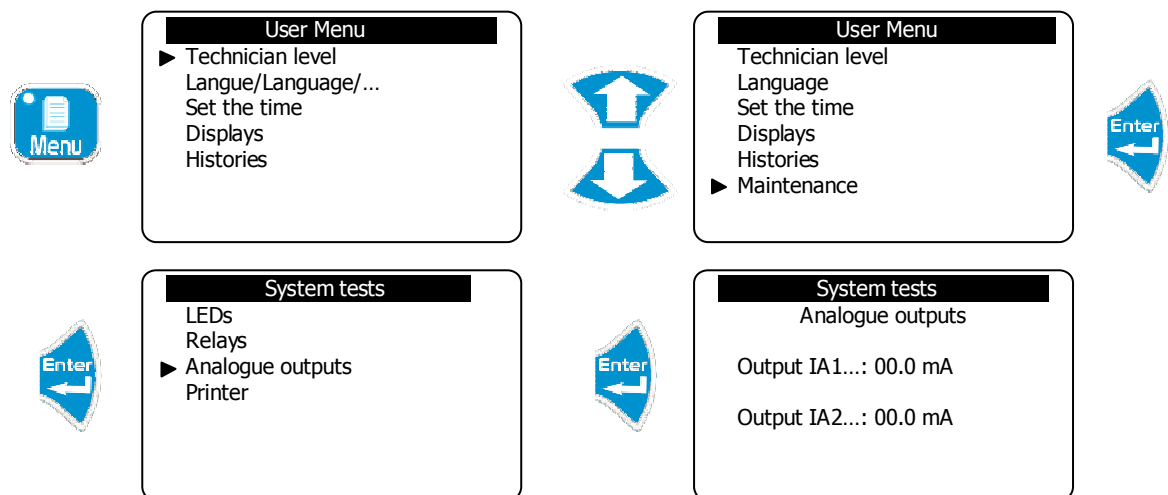
Enter   Set values to simulate the analogue outputs

d) Printer test

User Menu	User Menu
▶ Technician level Langue/Language/… Set the time Displays Histories	Technician level Language Set the time Displays Histories ▶ Maintenance

System tests	System tests
LEDs Relays Analogue outputs ▶ Printer	Printer output Printing in process
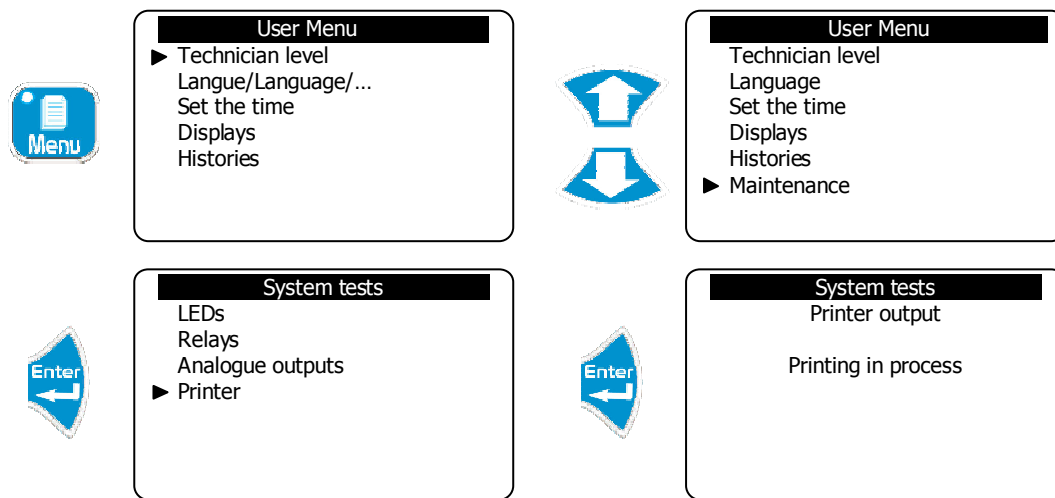
▶ Check that "Printer test" has printed correctly.

IV. Technician Menu

The Technician menu provides access to the modification of all the basic settings for the operation of the treatment, such as:

- ➢ Sensor calibration
- ➢ Regulation settings
- ➢ Technical alarm thresholds
- ➢ System date
- ➢ Analogue output scales
- ➢ Operating timers

1) Specialist menu access

To access the Specialist level

User Menu
▶ Technician level
Langue/Language/…
Set the time
Displays
Histories

Technician Menu
▶ Specialist level
Technician code
System date
Setting(s)
Calibrations
General timers
Analogue outputs

Spécialist Menu

Code d'accès : 0 . . .
▲

Enter the code 1234

Specialist Menu
▶ Factory Code
Configurations
Initialisations
Version: 3.01
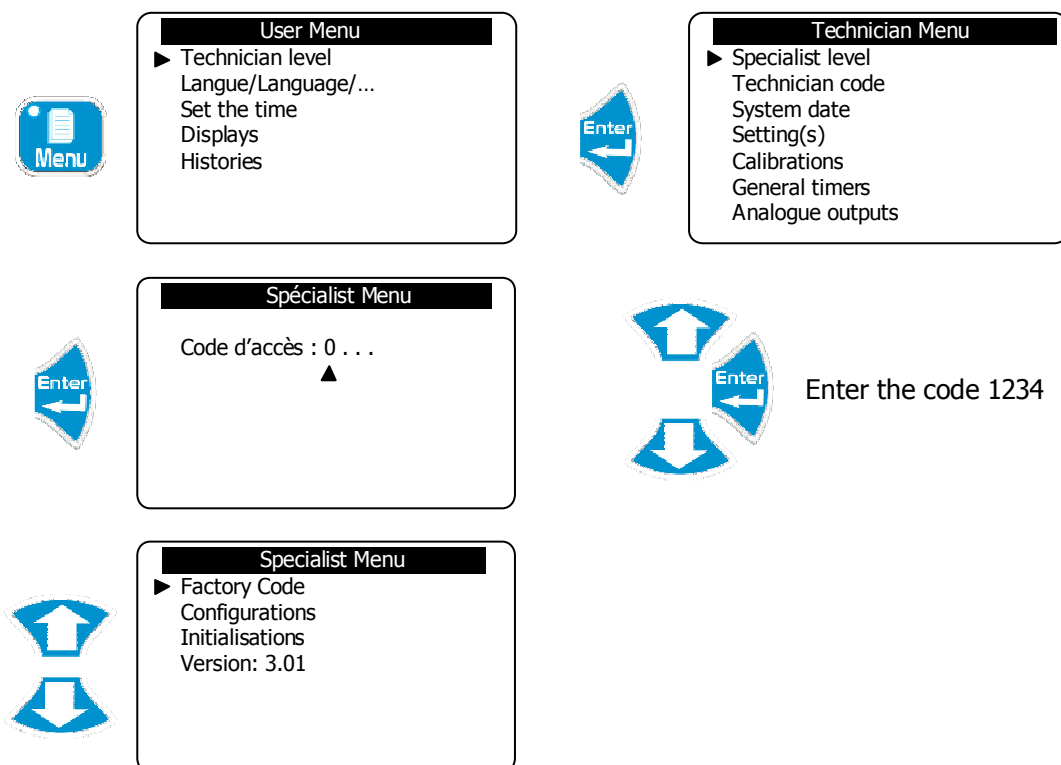
2) Technician Code

To modify the existing Technician code or cancel the function for locking this level with a code.

a) Modification of the code

Allows the existing code to be changed.

User Menu
▶ Technician level
Langue/Language/…
Set the time
Displays
Histories

Technician Menu
▶ Specialist level
Technician code
System date
Setting(s)
Calibrations
General timers
Analogue outputs

```
         Technician Menu                              Technician Menu
         Specialist level
      ▶  Technician code                          New code  : 0 . . .
         System date                                         ▲
         Setting(s)
         Calibrations
         General timers
         Analogue outputs
```

Enter your code to control access to this level

b) Cancellation of the code

Cancels the function to lock this level by a code

```
          User Menu                                 Technician Menu
      ▶  Technician level                       ▶  Specialist level
         Langue/Language/…                          Technician code
         Set the time                               System date
         Displays                                   Setting(s)
         Histories                                  Calibrations
                                                    General timers
                                                    Analogue outputs
```

```
         Technician Menu                             Technician Menu
         Specialist level
      ▶  Technician code                          New code  : 0 . . .
         System date                                         ▲
         Setting(s)
         Calibrations
         General timers
         Analogue outputs
```

Enter the code 0000 to cancel access control for this level.

3) Adjustment of the system date

Allows user to adjust set or adjust date. The system date must be configured correctly in order to manage the operating timers.

```
          User Menu                                 Technician Menu
      ▶  Technician level                       ▶  Specialist level
         Langue/Language/…                          Technician code
         Set the time                               System date
         Displays                                   Setting(s)
         Histories                                  Calibrations
                                                    General timers
                                                    Analogue outputs
```

```
         Technician Menu                             Technician Menu
         Specialist level                              System date
         Technician code
      ▶  System date                             Year  : 09        Month: 02
         Setting(s)                                        ▲
         Calibrations                            Date: 10           Day: 3
         General timers
         Analogue outputs
```

Adjust the system date. For example, the programmed date is Wednesday 10 February 2009

4) Programming a setting point

Allows you to program the setting point for controlling the various parameters.

```
+------------------------------+        +------------------------------+
|          User Menu           |        |       Technician Menu        |
| ▶ Technician level           |        | ▶ Specialist level           |
|   Langue/Language/…          |        |   Technician code            |
|   Set the time               |        |   System date                |
|   Displays                   |        |   Setting(s)                 |
|   Histories                  |        |   Calibrations               |
|                              |        |   General timers             |
|                              |        |   Analogue outputs           |
+------------------------------+        +------------------------------+
```

```
+------------------------------+        +------------------------------+
|       Technician Menu        |        |       Technician Menu        |
|   Specialist level           |        |   General settings           |
|   Technician code            |        | ▶ Temperature                |
|   System date                |        |   pH                         |
| ▶ Setting(s)                 |        |   Rédox                      |
|   Calibrations               |        |   Chlorine                   |
|   General timers             |        |                              |
|   Analogue outputs           |        |                              |
+------------------------------+        +------------------------------+
```

```
+------------------------------+
|       Technician Menu        |
|                              |
|   Temp. regulation           |
|                              |
|   Setting  (°C) : 28.0       |
|              ▲               |
|                              |
+------------------------------+
```
Adjust the setting point

▶ Repeat this process to adjust all the other setting points.

5) Calibration of a measurement parameter

In this menu, you can perform three operations involving the measurements of a sensor.
  ➢ Standard (Gain): to calibrate the sensor with the standard value measured
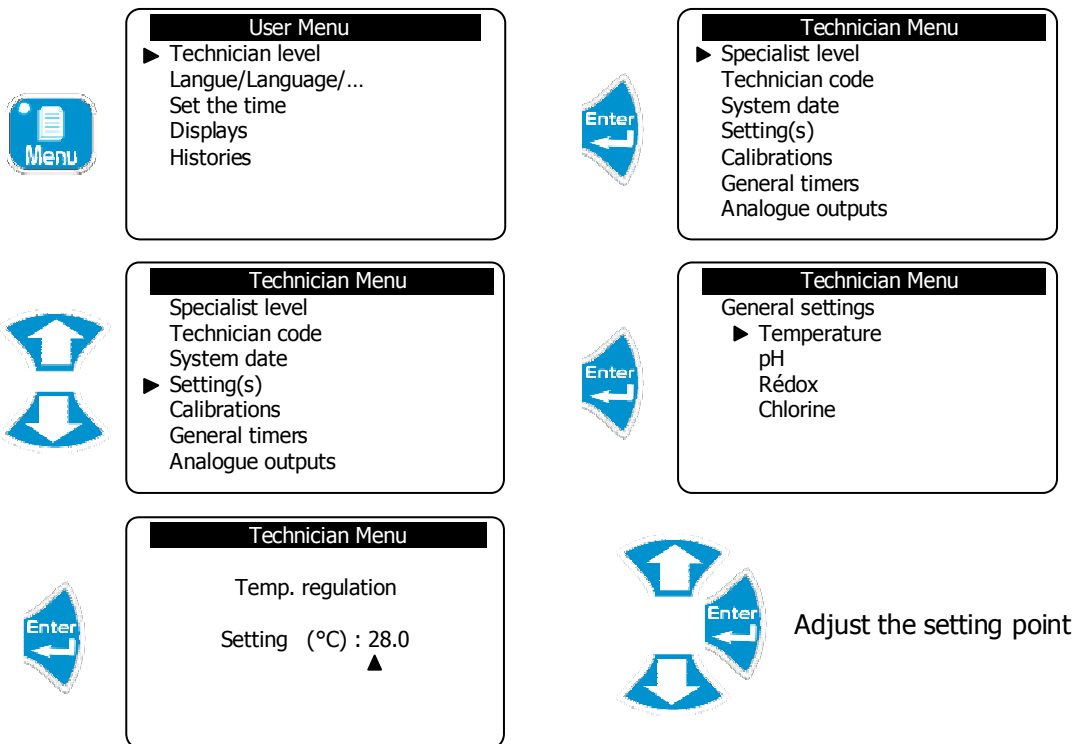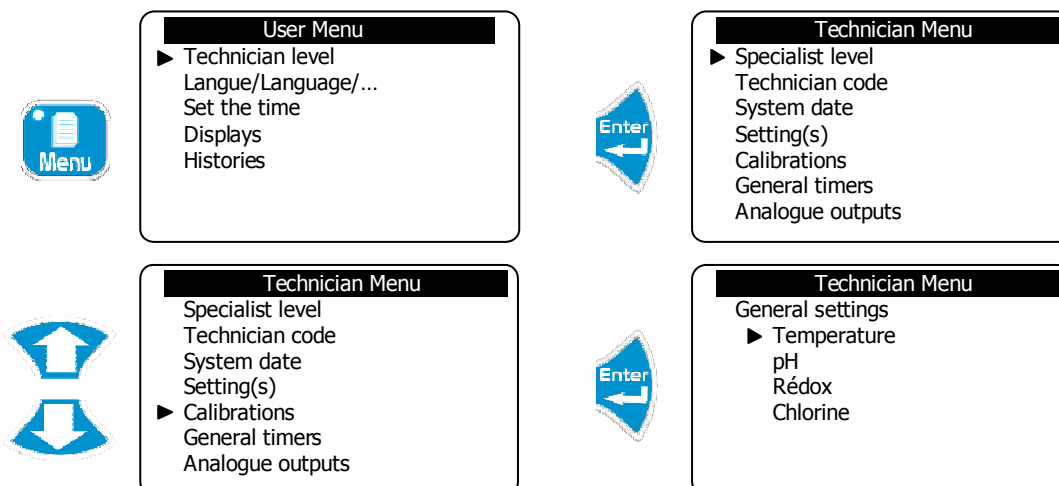 ➢ Zero: to set a sensor to zero when required
  ➢ Delete: to delete the calibration and zero registered and return to the factory value

```
+------------------------------+        +------------------------------+
|          User Menu           |        |       Technician Menu        |
| ▶ Technician level           |        | ▶ Specialist level           |
|   Langue/Language/…          |        |   Technician code            |
|   Set the time               |        |   System date                |
|   Displays                   |        |   Setting(s)                 |
|   Histories                  |        |   Calibrations               |
|                              |        |   General timers             |
|                              |        |   Analogue outputs           |
+------------------------------+        +------------------------------+
```

```
+------------------------------+        +------------------------------+
|       Technician Menu        |        |       Technician Menu        |
|   Specialist level           |        |   General settings           |
|   Technician code            |        | ▶ Temperature                |
|   System date                |        |   pH                         |
|   Setting(s)                 |        |   Rédox                      |
| ▶ Calibrations               |        |   Chlorine                   |
|   General timers             |        |                              |
|   Analogue outputs           |        |                              |
+------------------------------+        +------------------------------+
```

```
         Technician Menu                          Technician Menu
      General settings                          pH calibration
         Temperature                          ▶ pH=7.00
      ▶ pH                                       Gain
         Rédox                                   Factory values
         Chlorine
```

c) To set zero (pH=7)

```
         Technician Menu                          Technician Menu
      pH calibration
      ▶ pH=7.00                                   pH calibration
         Gain
         Factory values                        Standard...: 7.01 pH
                                                        ▲
```

Calibrate the zero by entering the desired value

d) To perform the gain

```
         Technician Menu                          Technician Menu
      pH calibration
         pH=7.00                                   pH calibration
      ▶ Gain
         Factory values                        Standard...: 7.31 pH
                                                        ▲
```
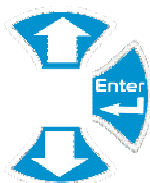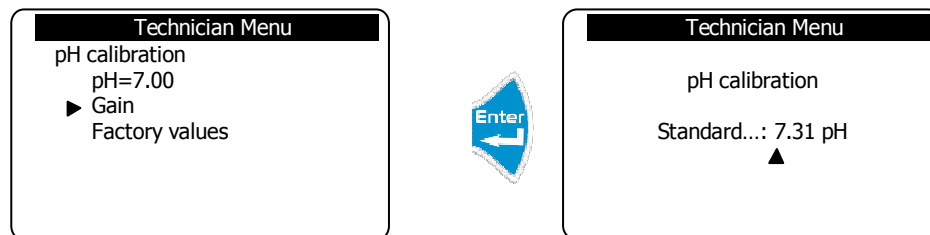
Calibrate the gain by entering the desired value

e) To delete the recorded calibration

```
         Technician Menu                          Technician Menu
      pH calibration                           pH calibration
         pH=7.00                                  pH=7.00
         Gain                                     Gain
      ▶ Factory values                            Factory values

                                               Calib. in process...
```
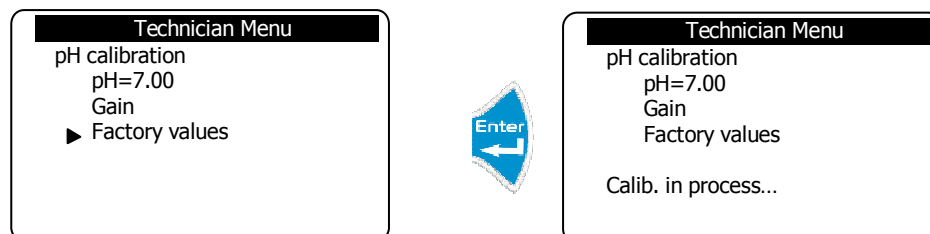
This process allows you to return to the factory value, which is exempt from calibration.

6) <u>Programming of the general timers</u>

Allows programming the various cyclic functions of the controller.

```
┌──────────────────────────┐
│        User Menu         │
│ ▶ Technician level       │
│   Langue/Language/…      │
│   Set the time           │
│   Displays               │
│   Histories              │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│     Technician Menu      │
│ ▶ Specialist level       │
│   Technician code        │
│   System date            │
│   Setting(s)             │
│   Calibrations           │
│   General timers         │
│   Analogue outputs       │
└──────────────────────────┘
```
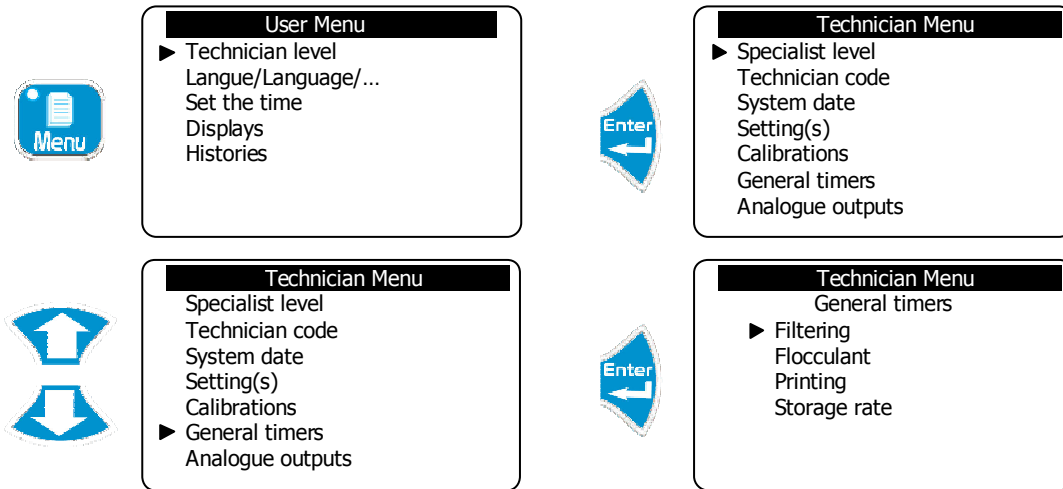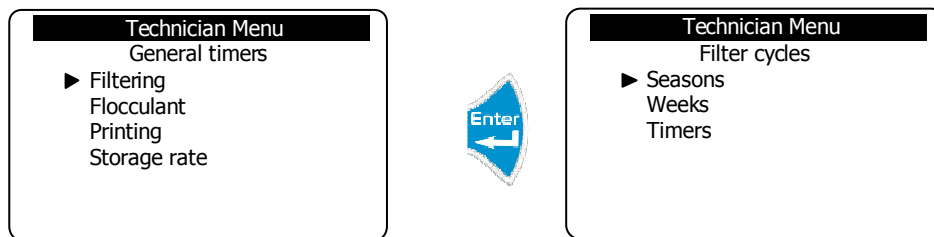
```
┌──────────────────────────┐
│     Technician Menu      │
│   Specialist level       │
│   Technician code        │
│   System date            │
│   Setting(s)             │
│   Calibrations           │
│ ▶ General timers         │
│   Analogue outputs       │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│     Technician Menu      │
│   General timers         │
│ ▶ Filtering              │
│   Flocculant             │
│   Printing               │
│   Storage rate           │
└──────────────────────────┘
```
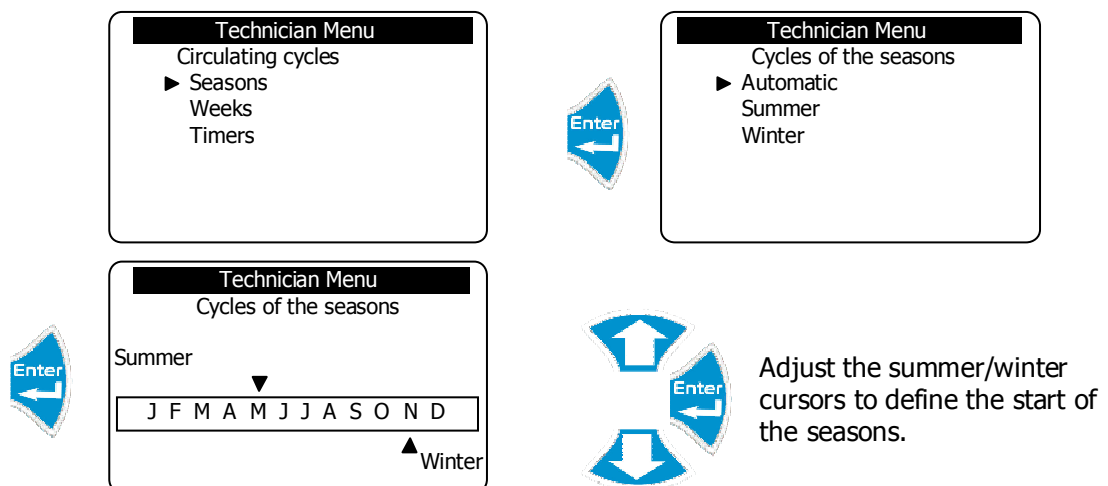
a) Filtering timer

Allows you to control the start-up of the re-circulating motor according to several time intervals, depending on the week or even depending on the season.
For this function to be performed, it is necessary first to activate it in the configuration management of the specialist level (see Chapter VII Paragraph 2: Filter timers).

```
┌──────────────────────────┐
│     Technician Menu      │
│   General timers         │
│ ▶ Filtering              │
│   Flocculant             │
│   Printing               │
│   Storage rate           │
│                          │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│     Technician Menu      │
│   Filter cycles          │
│ ▶ Seasons                │
│   Weeks                  │
│   Timers                 │
│                          │
└──────────────────────────┘
```

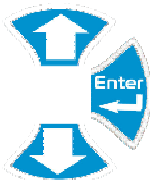➢ Definition of the operating seasons

It is possible to program the controller to operate in the winter, summer or automatic winter/summer.
For this, it is necessary first of all to define the seasons in automatic mode.

```
┌──────────────────────────┐
│     Technician Menu      │
│   Circulating cycles     │
│ ▶ Seasons                │
│   Weeks                  │
│   Timers                 │
│                          │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│     Technician Menu      │
│   Cycles of the seasons  │
│ ▶ Automatic              │
│   Summer                 │
│   Winter                 │
│                          │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│     Technician Menu      │
│   Cycles of the seasons  │
│                          │
│ Summer                   │
│              ▼           │
│   J F M A M J J A S O N D │
│                    ▲     │
│                     Winter│
└──────────────────────────┘
```

Adjust the summer/winter cursors to define the start of the seasons.

► Select automatic mode for filtering to operate in winter and summer mode according to the programmed seasons.
► Select "Summer" mode for filtering to operate only in summer according to the programmed cycle of seasons.
► Select "Winter" mode for filtering to operate only in winter according to the programmed cycle of seasons.

➢ Definition of the number of filtering weeks

It is possible to define the filtering cycles over several weeks with different time intervals. For example, a filtering cycle can take place over 8 weeks with different time intervals for each week.


```
        Technician Menu
          Filter cycles
      Seasons
    ► Weeks
      Timers
```

```
        Technician Menu
          Week cycles

      Current week: 1

      Duration (weeks): 8
                              ▲
```
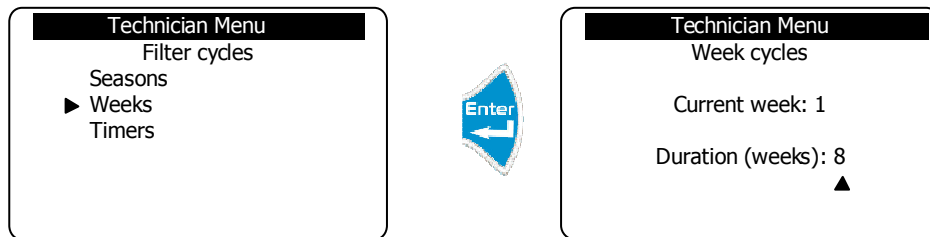
Define the number of filtering weeks

➢ Definition of filtering time intervals by weeks

This is a question of defining the operating time intervals according to the season, week and days of the week. It is possible to set up to 8 timers.

```
        Menu Technicien
         Cycles filtration
      Saisons
      Semaines
    ► Timers
```

```
        Technician Menu
          Season cycles
    ► Summer
      Winter
      Reset timers
```

```
      Timers – Summer –

        Set timer 1
             ▲
   On: 9:00 am        Off: 6:00 pm

     M  T  W  T  F  S  S    S:1
     ▲  ▲  ▲  ▲  ▲
```

Set the operating time interval and the days of the week on which this interval is applicable.

In the example above, timer 1 is set to activate the filtering from 9 am to 6 pm on Monday, Tuesday, Wednesday, Thursday and Friday of week 1.
► Follow this same process to set all the desired timers for the summer season.
► Follow this same process to set all the desired timers for the winter season.
► Activate the "Reset timers" line to delete all the recorded timers.

To control the filter motor, the user must program an available relay of the motor in order to activate the motor (see Chapter VII Paragraph 2: Prog. relays).

b) Flocculant management

Allows management of flocculant injection in various modes.
For this function to be performed, it is necessary first to activate it in the configuration management of the specialist level (see Chapter VII Paragraph 2: Flocculant).
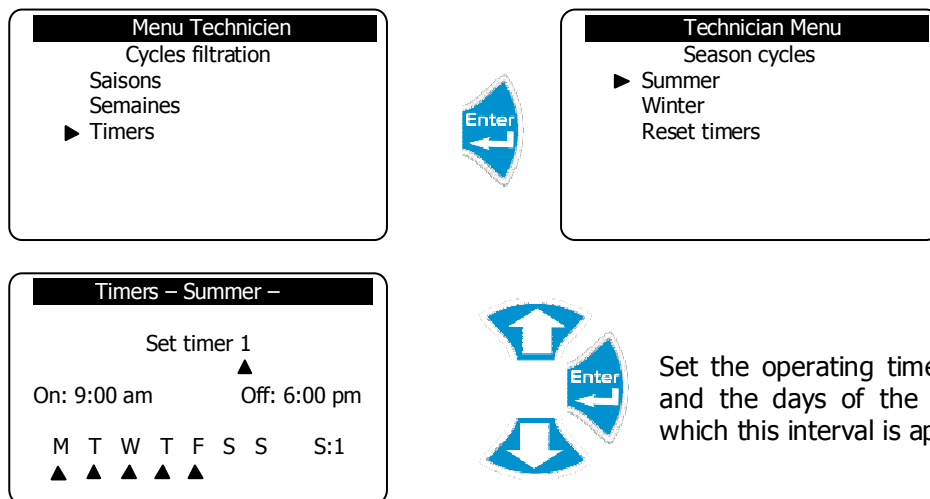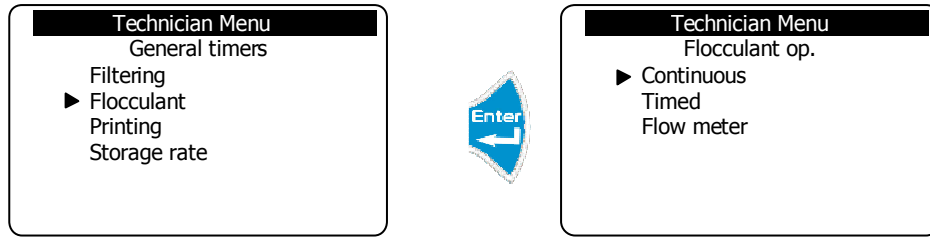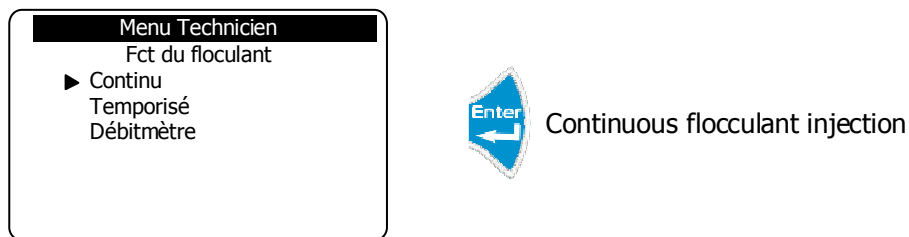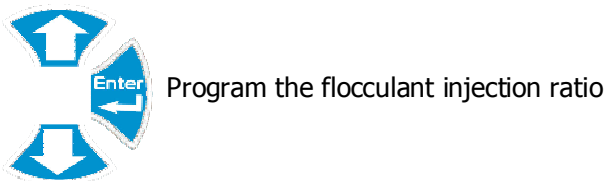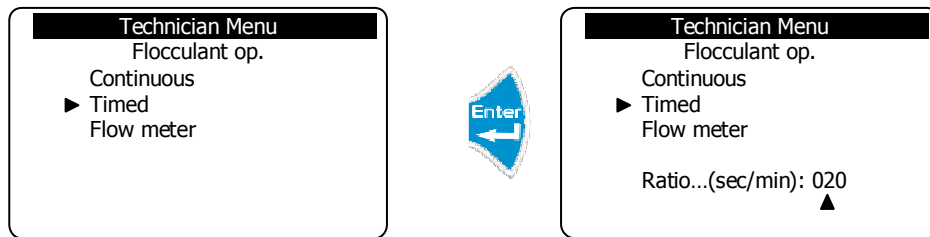
```
┌─────────────────────────┐        ┌─────────────────────────┐
│     Technician Menu      │        │     Technician Menu      │
│      General timers      │        │      Flocculant op.      │
│   Filtering              │        │ ▶ Continuous             │
│ ▶ Flocculant             │        │   Timed                  │
│   Printing               │        │   Flow meter             │
│   Storage rate           │        │                          │
│                          │        │                          │
│                          │        │                          │
└─────────────────────────┘        └─────────────────────────┘
```

> In continuous mode :

```
┌─────────────────────────┐
│     Menu Technicien      │
│     Fct du floculant     │
│ ▶ Continu                │
│   Temporisé              │
│   Débitmètre             │
│                          │
│                          │
│                          │
└─────────────────────────┘
```
Continuous flocculant injection

> In timed mode

```
┌─────────────────────────┐        ┌─────────────────────────┐
│     Technician Menu      │        │     Technician Menu      │
│      Flocculant op.      │        │      Flocculant op.      │
│   Continuous             │        │   Continuous             │
│ ▶ Timed                  │        │ ▶ Timed                  │
│   Flow meter             │        │   Flow meter             │
│                          │        │                          │
│                          │        │   Ratio...(sec/min): 020 │
│                          │        │                       ▲  │
└─────────────────────────┘        └─────────────────────────┘
```

Program the flocculant injection ratio

In the example above, the controller will inject flocculant for 20 seconds and stop injecting for 40 seconds before resuming the cycle.

> In flow meter mode

```
┌─────────────────────────┐        ┌─────────────────────────┐
│     Technician Menu      │        │     Technician Menu      │
│      Flocculant op.      │        │      Flocculant op.      │
│   Continuous             │        │   Continuous             │
│   Timed                  │        │   Timed                  │
│ ▶ Flow meter             │        │ ▶ Flow meter             │
│                          │        │                          │
│                          │        │   No. of pulses  : 050   │
│                          │        │                       ▲  │
└─────────────────────────┘        └─────────────────────────┘
```

Set the number of pulses from the flow meter contact (to be connected to the meter input WM) from which the central unit will inject the flocculant.
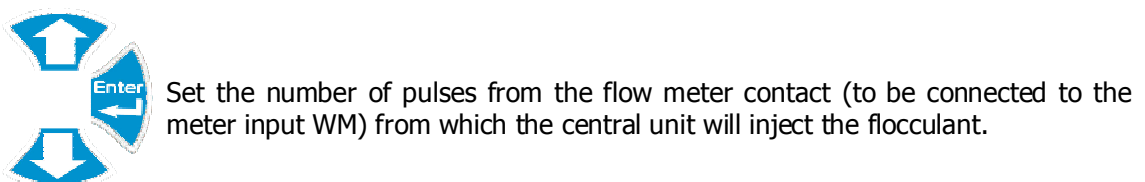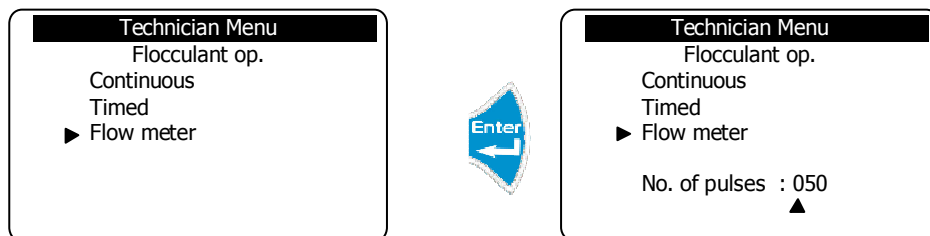
In flow meter mode, the user must first activate the meter input in the configuration management of the specialist level (see Chapter VII Paragraph 2: Meter input)
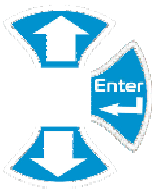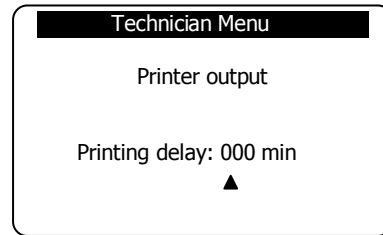
To manage the flocculant, the user must program an available relay of the central unit in order to activate the flocculant pump (see Chapter VII Paragraph 2: Prog. relays).

c) Printing

Allows you to define the printer printing rate.

Technician Menu		Technician Menu
General timers Filtering Flocculant ▶ Printing Storage rate	Enter	Printer output Printing delay: 000 min ▲
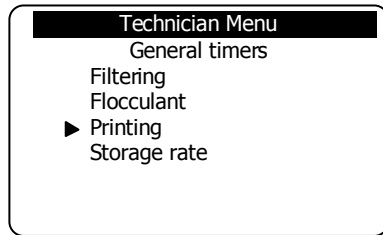
Adjust the printing rate

d) Recording rate

Allows you to define the log recording rate.

Technician Menu		Technician Menu
General timers Filtering Flocculant Printing ▶ Storage rate	Enter	Storage rate Rate........: 030 min ▲
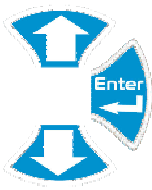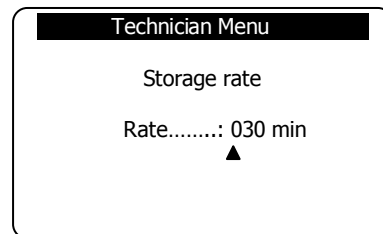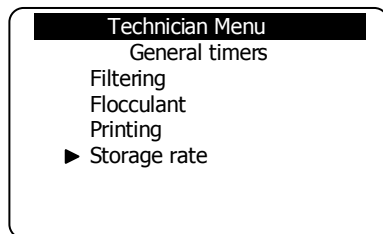
Adjust the recording rate

7) Programming the scale of analogue outputs

Allows you to define the scales (bottom and top) of the analogue outputs.

User Menu		Technician Menu
▶ Technician level Langue/Language/... Set the time Displays Histories	Enter	▶ Specialist level Technician code System date Setting(s) Calibrations General timers Analogue outputs

```
        Technician Menu                              Technician Menu
     Specialist level                             Analogue outputs
     Technician code                                 ► pH
     System date                                       Chlorine
     Setting(s)
     Calibrations
     General timers
     ► Analogue outputs
```

```
        Technician Menu
        Analog. Output IA1
             pH

     Basse…(4 mA) : 06.50
              ▲                        Adjust the scale of the
     Haute…(20 mA) : 8.50              analogue output.
```

► Follow this same process to adjust the other analogue outputs.

8) Programming the alarm thresholds

Allows you to define the alarm thresholds (top and bottom) of the various measurement parameters.

```
         User Menu                                   Technician Menu
     ► Technician level                           ► Specialist level
       Langue/Language/…                            Technician code
       Set the time                                 System date
       Displays                                     Setting(s)
       Histories                                    Calibrations
                                                    General timers
                                                    Analogue outputs
```

```
        Technician Menu                              Technician Menu
       Technician code                              Alarm thresholds
       System date                                  Temperature
       Setting(s)                                 ► pH
       Calibrations                                 Chlorine
       General timers
       Analogue outputs
     ► Alarms
```

```
        Technician Menu
        Alarm thresholds

     Min.…….(pH): 6.80
              ▲                        Adjust the alarm thresholds
     Max.……(pH): 7.90
```

► Follow this same process to adjust the other alarm thresholds.

V. Specialist Menu

The Specialist menu provides access to complete modifications of the machine's configuration:

- ➢ Activation of the various functions (timers, flocculant, meter, etc.)
- ➢ Adjustment operation
- ➢ Relay assignment
- ➢ Analogue output assignment
- ➢ Initializations (factory reset, maintenance management, etc.)

To access the Specialist level

```
┌────────────────────────────┐
│        User Menu           │
│ ▶ Technician level         │
│   Langue/Language/…        │
│   Set the time             │
│   Displays                 │
│   Histories                │
└────────────────────────────┘
```

```
┌────────────────────────────┐
│      Technician Menu       │
│ ▶ Specialist level         │
│   Technician code          │
│   System date              │
│   Setting(s)               │
│   Calibrations             │
│   General timers           │
│   Analogue outputs         │
└────────────────────────────┘
```

```
┌────────────────────────────┐
│      Specialist Menu       │
│                            │
│   Access code: 0 . . .     │
│           ▲                │
│                            │
│                            │
└────────────────────────────┘
```

Enter the code 1234

```
┌────────────────────────────┐
│      Specialist Menu       │
│ ▶ Factory Code             │
│   Configurations           │
│   Initializations          │
│   Version: 3.01            │
│                            │
└────────────────────────────┘
```
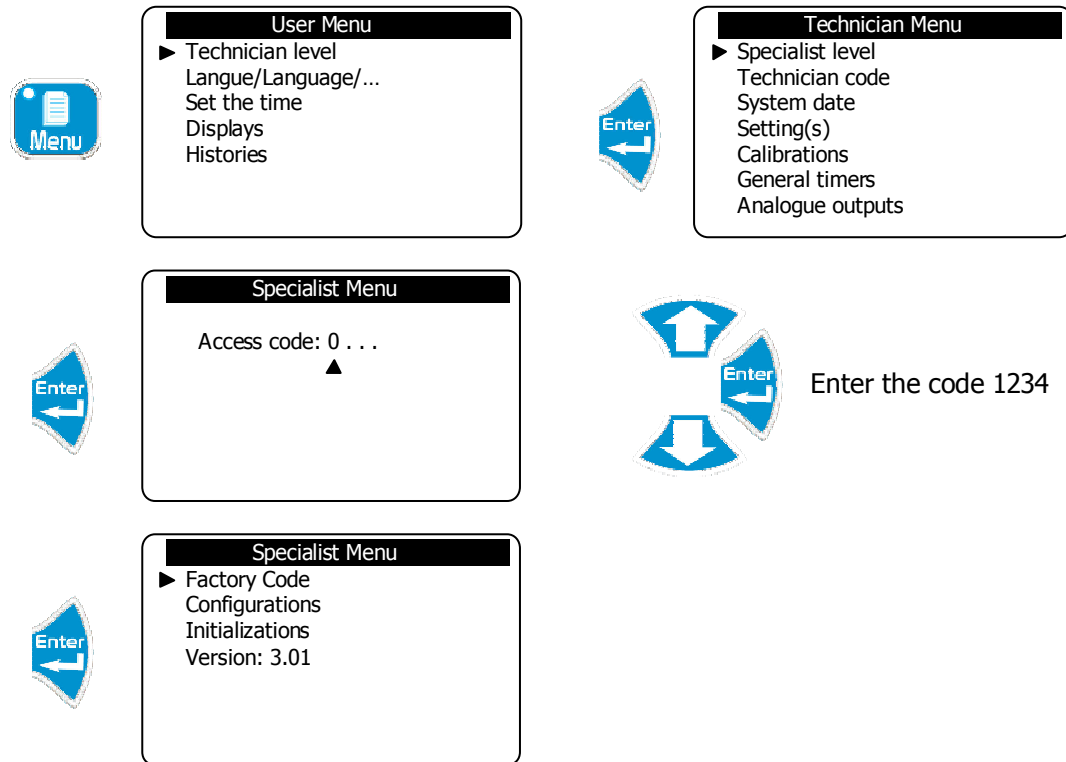
1) <u>Factory code</u>

To modify the existing Factory code or cancel the function for locking this level with a code.

a) Modification of the code

Allows you the existing code to be changed.
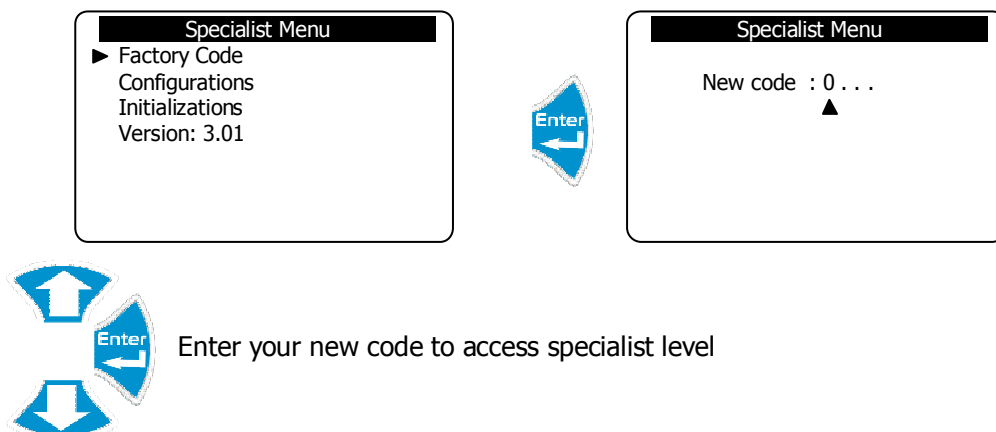
```
┌────────────────────────────┐
│      Specialist Menu       │
│ ▶ Factory Code             │
│   Configurations           │
│   Initializations          │
│   Version: 3.01            │
│                            │
└────────────────────────────┘
```

```
┌────────────────────────────┐
│      Specialist Menu       │
│                            │
│   New code  : 0 . . .      │
│           ▲                │
│                            │
└────────────────────────────┘
```

Enter your new code to access specialist level

b) Cancellation of the code

Cancels the function to lock this level by a code.

```
+-------------------------+        +-------------------------+
|     Specialist Menu     |        |     Specialist Menu     |
| ► Factory Code          |        |                         |
|   Configurations        |        |   New code  : 0 . . .   |
|   Initializations       |        |           ▲             |
|   Version: 3.01         |        |                         |
|                         |        |                         |
|                         |        |                         |
+-------------------------+        +-------------------------+
```

Enter the code 0000 to cancel access control for this level.
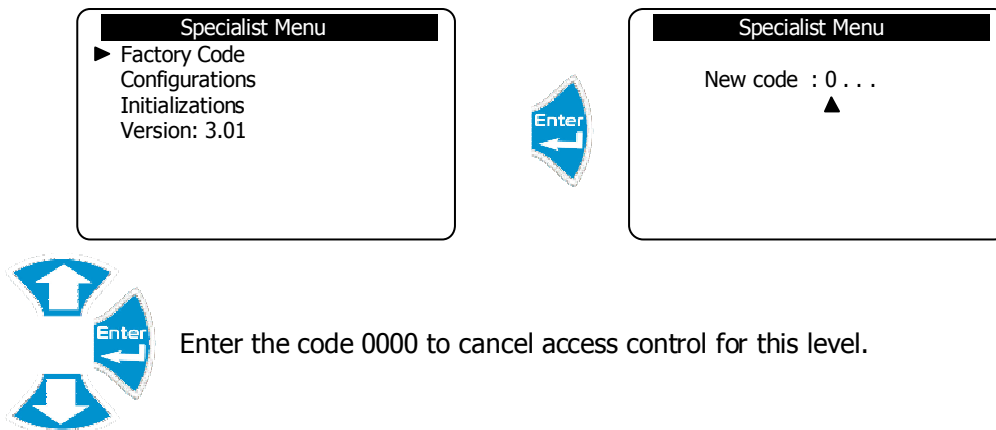
2) Configurations

Allows you to change the machine configuration.

```
+-------------------------+        +-------------------------+
|     Specialist Menu     |        |     Specialist Menu     |
|   Factory Code          |        |   Configurations        |
| ► Configurations        |        | ► Filter timers         |
|   Initializations       |        |   Flocculant            |
|   Version: 3.01         |        |   Meter input           |
|                         |        |   Flow switch           |
|                         |        |   Adjustment operation  |
|                         |        |   Prog. relays          |
+-------------------------+        +-------------------------+
```
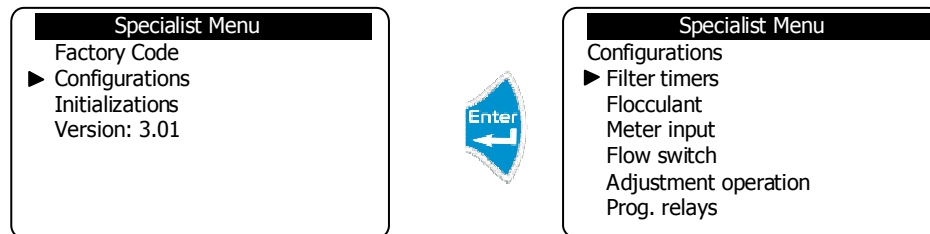
a) Timers filtration

Allows you to activate the filter timer function

```
+-------------------------+        +-------------------------+
|     Specialist Menu     |        |     Specialist Menu     |
|   Configurations        |        |   Filter control        |
| ► Filter timers         |        | ► Activation...         |
|   Flocculant            |        |   Inactivation...       |
|   Meter input           |        |                         |
|   Flow switch           |        |                         |
|   Adjustment operation  |        |                         |
|   Prog. relays          |        |                         |
+-------------------------+        +-------------------------+
```
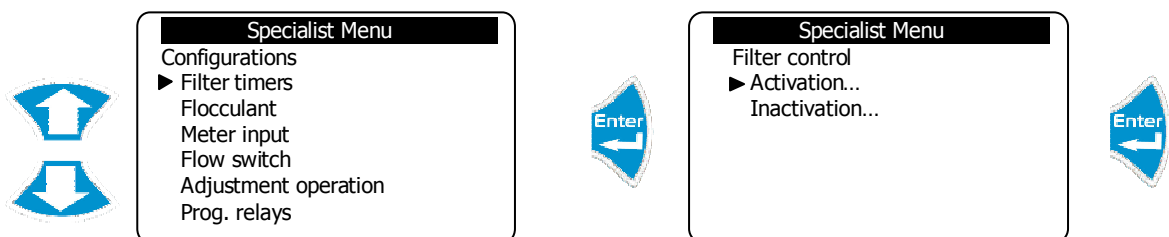
The function to control the filtering motor is now activated.

b) Flocculant

Allows you to activate the flocculant management function.

```
+-------------------------+        +-------------------------+
|     Specialist Menu     |        |     Specialist Menu     |
|   Configurations        |        |   Flocculant control    |
|   Filter timers         |        | ► Activation...         |
| ► Flocculant            |        |   Inactivation...       |
|   Meter input           |        |                         |
|   Flow switch           |        |                         |
|   Adjustment operation  |        |                         |
|   Prog. relays          |        |                         |
+-------------------------+        +-------------------------+
```
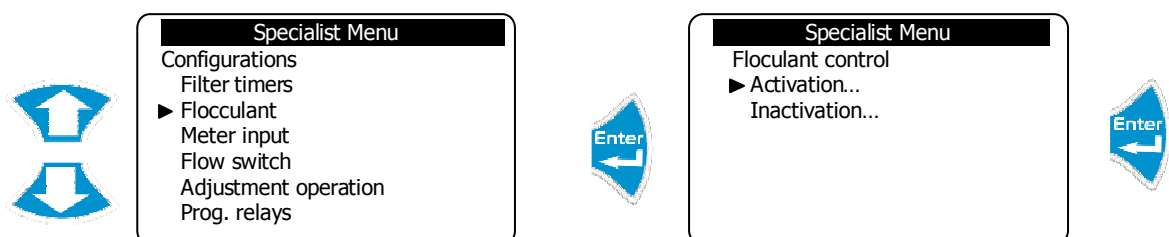
Flocculant management is now active.

c)   Metering input

Enables activation of the meter input (CPT)

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│      Specialist Menu        │        │      Specialist Menu        │
│ Configurations              │        │ Flow meter control          │
│   Filter timers             │        │ ► Activation...             │
│   Flocculant                │        │   Inactivation...           │
│ ► Meter input               │        │                             │
│   Flow switch               │        │                             │
│   Adjustment operation      │        │                             │
│   Prog. relays              │        │                             │
└─────────────────────────────┘        └─────────────────────────────┘
```
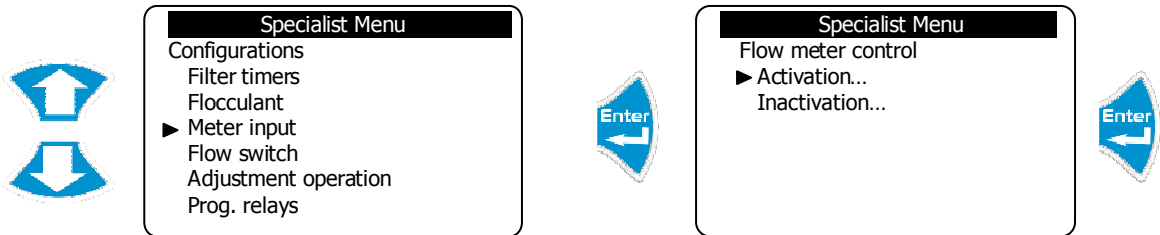
The metering function is now active.

d)   Flow switch (flow detector)

Permet l'activation de l'entrée de détection de débit (DEB)

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│      Specialist Menu        │        │      Specialist Menu        │
│ Configurations              │        │ Flow switch control         │
│   Filter timers             │        │ ► Activation...             │
│   Flocculant                │        │   Inactivation...           │
│   Meter input               │        │                             │
│ ► Flow switch               │        │                             │
│   Adjustment operation      │        │                             │
│   Prog. relays              │        │                             │
└─────────────────────────────┘        └─────────────────────────────┘
```
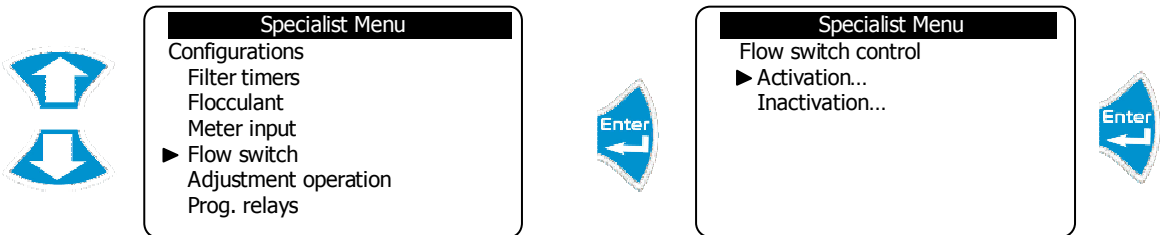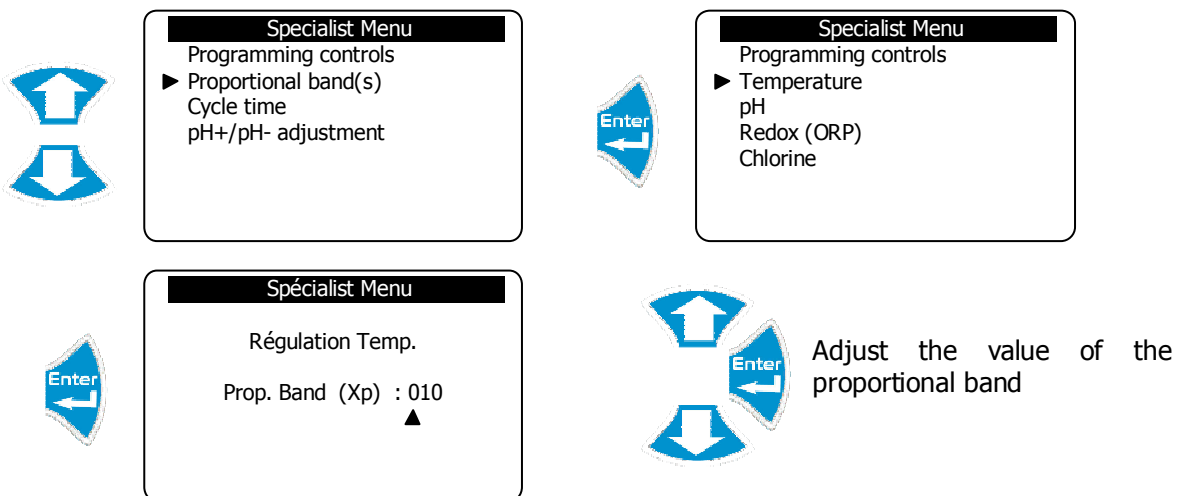
The flow-detection function is now active.

e)   Programming controls

Allows you to change the adjustment of each control parameter.

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│      Specialist Menu        │        │      Specialist Menu        │
│ Configurations              │        │ Programming controls        │
│   Filter timers             │        │ ► Proportional band(s)      │
│   Flocculant                │        │   Cycle time                │
│   Meter input               │        │   pH+/pH- adjustment        │
│   Flow switch               │        │                             │
│ ► Prog. controls            │        │                             │
│   Prog. relays              │        │                             │
└─────────────────────────────┘        └─────────────────────────────┘
```
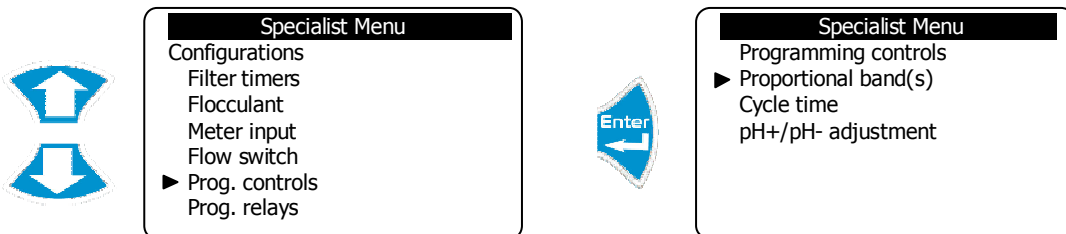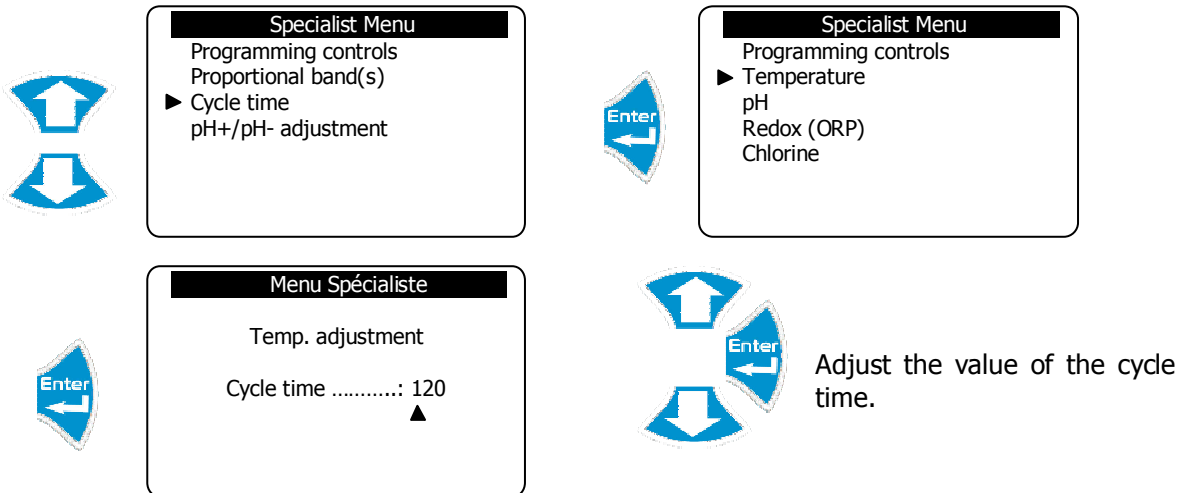
➢   Adjustment of the proportional band

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│      Specialist Menu        │        │      Specialist Menu        │
│ Programming controls        │        │ Programming controls        │
│ ► Proportional band(s)      │        │ ► Temperature               │
│   Cycle time                │        │   pH                        │
│   pH+/pH- adjustment        │        │   Redox (ORP)               │
│                             │        │   Chlorine                  │
│                             │        │                             │
└─────────────────────────────┘        └─────────────────────────────┘
```

```
┌─────────────────────────────┐
│      Spécialist Menu        │
│                             │
│   Régulation Temp.          │
│                             │        Adjust   the   value   of   the
│   Prop. Band  (Xp)  : 010   │        proportional band
│                  ▲          │
│                             │
└─────────────────────────────┘
```

►   Follow this same process to adjust the other parameters.

➢ Adjustment of the cycle time

```
┌──────────────────────────┐
│       Specialist Menu      │
│   Programming controls     │
│   Proportional band(s)     │
│ ▶ Cycle time               │
│   pH+/pH- adjustment       │
│                            │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│       Specialist Menu      │
│   Programming controls     │
│ ▶ Temperature              │
│   pH                       │
│   Redox (ORP)              │
│   Chlorine                 │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│       Menu Spécialiste     │
│                            │
│      Temp. adjustment      │
│                            │
│   Cycle time ...........: 120 │
│              ▲             │
│                            │
└──────────────────────────┘
```

Adjust the value of the cycle time.

► Follow this same process to adjust the other parameters.

➢ Definition of the direction of pH adjustment

```
┌──────────────────────────┐
│       Specialist Menu      │
│   Programming controls     │
│   Proportional band(s)     │
│   Cycle time               │
│ ▶ pH+/pH- adjustment       │
│                            │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│       Specialist Menu      │
│   pH adjustment direction  │
│ ▶ pH adjustment −          │
│   pH adjustment +          │
│                            │
│                            │
└──────────────────────────┘
```

Choose the required adjustment direction.
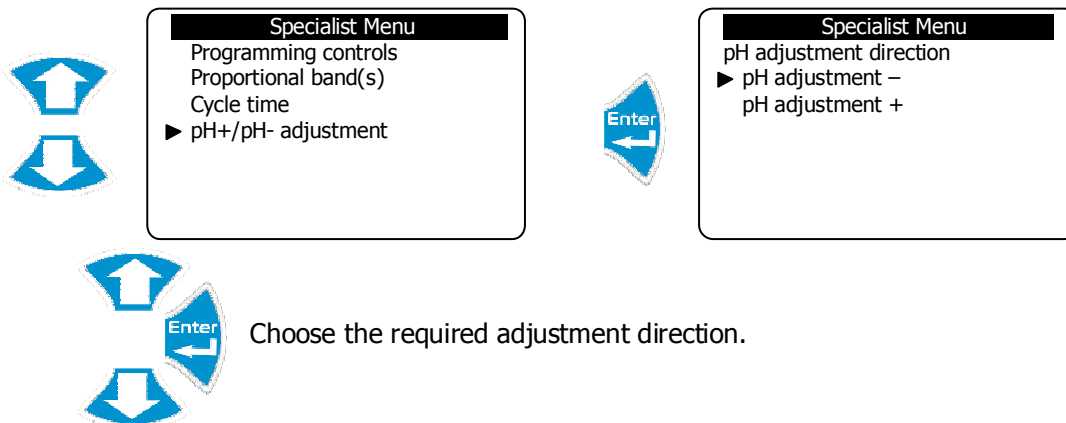
f) Relay assignment

Allows you to assign the available relays to manage other functions such as:

➢ General alarms
➢ Measurement alarms
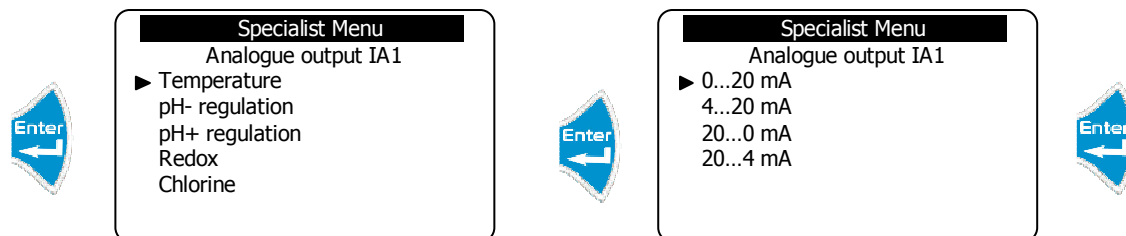➢ Filter timers
➢ Reverse pH direction

```
┌──────────────────────────┐
│       Specialist Menu      │
│  Configurations            │
│    Filter timers           │
│    Flocculant              │
│    Meter input             │
│    Flow switch             │
│    Prog. controls          │
│ ▶ Prog. relays             │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│       Specialist Menu      │
│  Relay assignment          │
│ ▶ Relay 4                  │
│    Imp1 relay              │
│    Imp2 relay              │
│                            │
│                            │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│       Specialist Menu      │
│  Relay 4 powered           │
│ ▶ None                     │
│    Filter timers           │
│    Reverse pH adjustment   │
│    General alarms          │
│    Temp. alarms            │
│    pH alarms               │
└──────────────────────────┘
```

```
┌──────────────────────────┐
│       Specialist Menu      │
│  Relay 4 powered           │
│    General alarms          │
│    Temp. alarms            │
│    pH alarms               │
│    Redox alarms            │
│    Chlorine alarms         │
│ ▶ Flocculant               │
└──────────────────────────┘
```

► Select "None" to not use the selected relay
► Select "Filter timers" to control the filter motor
► Select "Reverse pH adjustment" to control the injection of pH+ (if you chose pH- in the relay configuration)
► Select "General alarms" to activate an alarm relay
► Select "pH alarms" to activate an alarm relay
► Select "Chlorine alarms" to activate an alarm relay
► Select "Flocculant" to control the injection of flocculant.

g)   Definition of the analogue output mode

Allows you to configure the analogue outputs as an adjustment output or a data transfer.

Specialist Menu
Configurations
 Flocculant
 Meter input
 Flow switch
 Adjustment operation
 Prog. relays
► Analogue outputs

Specialist Menu
Analogue outputs
► Output IA1
 Output IA2

Specialist Menu
Analogue outputs
► None
 Regulation
 Transfer

Specialist Menu
Analogue outputs. IA1
 None
► Regulation
 Transfer
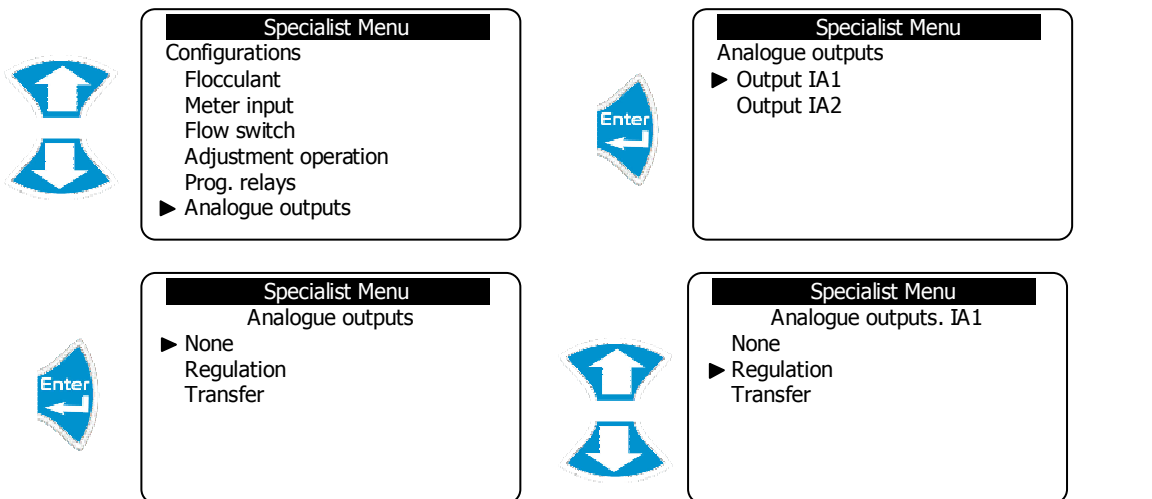
► Select "None" to not use the selected analogue output
► Select "Adjustment" to control an injection pump
► Select "Data transfer" to forward the current to a central unit

Specialist Menu
Analogue output IA1
► Temperature
 pH- regulation
 pH+ regulation
 Redox
 Chlorine

Specialist Menu
Analogue output IA1
► 0...20 mA
 4...20 mA
 20...0 mA
 20...4 mA

► Follow this same process to program the other analogue outputs

3)   Initializations

Allows you to reset the machine, activate the modem, define the case number for communication and activate machine maintenance.

Specialist Menu
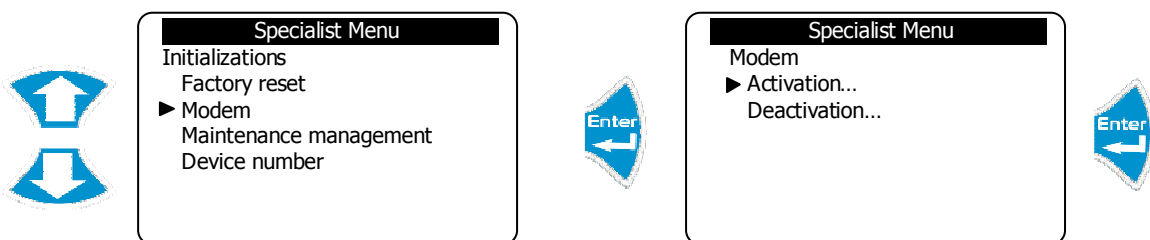Factory Code
Configurations
► Initializations
 Version: 3.01

Specialist Menu
Initializations
► Factory reset
 Modem
 Maintenance management
 Device number
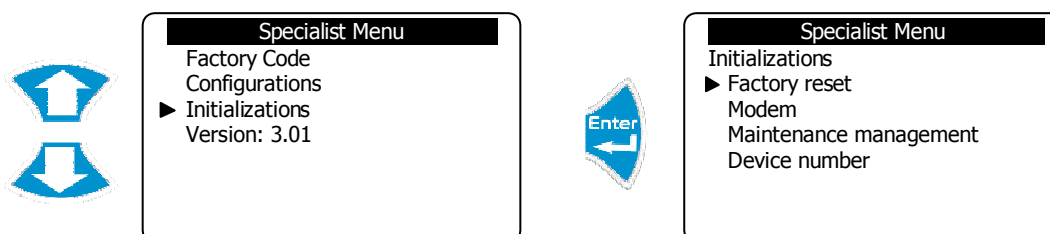
a) Factory reset

Allows you to return the central unit to its basic factory configuration. All settings made by the user will then be deleted.

```
      Specialist Menu
  Initializations
► Factory reset
  Modem
  Maintenance management
  Device number
```

```
      Specialist Menu

  Reset Memory?

  If yes, Enter !
```
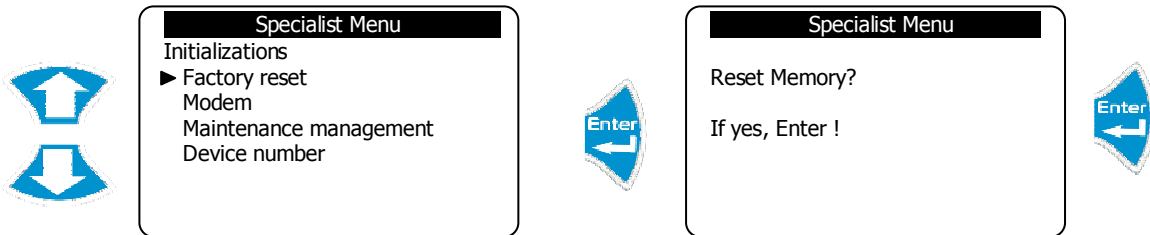
The reset has been performed !

b) Modem activation

Allows you to activate modem communication.

```
      Specialist Menu
  Initializations
  Factory reset
► Modem
  Maintenance management
  Device number
```

```
      Specialist Menu
  Modem
► Activation...
  Deactivation...
```

Modem communication is now active.

c) Maintenance management activation

Allows you to activate the controller maintenance management.

```
      Specialist Menu
  Initializations
  Factory reset
  Modem
► Maintenance management
  Device number
```

```
      Specialist Menu
  Maintenance management
► Activation...
  Inactivation...
```
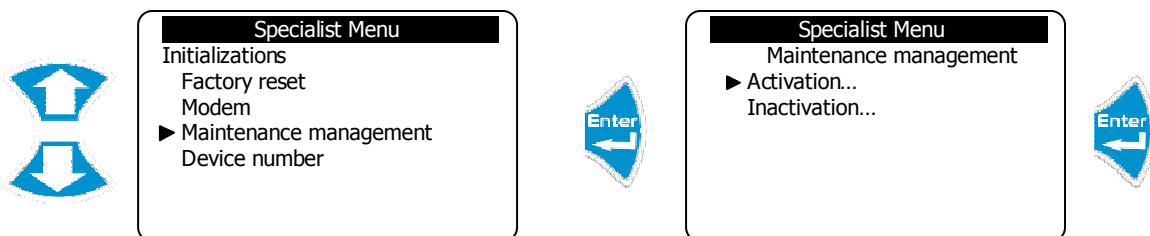
Maintenance management is now active.

d) Device number

Allows you to identify the device unit in order to establish communication.

```
      Specialist Menu
  Initializations
  Factory reset
  Modem
  Maintenance management
► Device number
```

```
      Specialist Menu

►      Identification

      Number: 0 0 0
              ▲
```
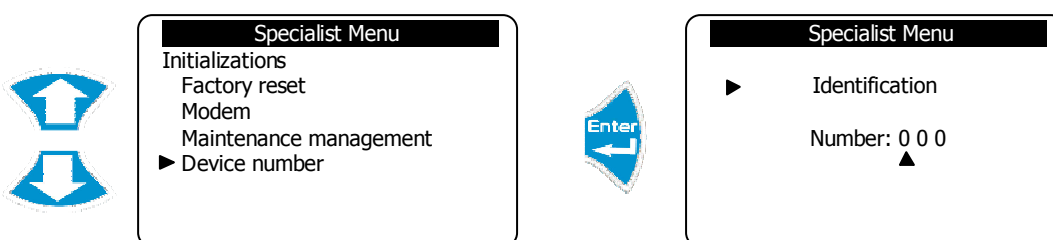
Configure the device unit identifier number

VI. Table of events and alarms histories

Table of events :

n°	Message displayed	Meaning
00	Service on	Starting controls (Start key)
01	Service off	Stop controls (Stop key)
02	Stop from ext. entry	External break for controls
03	Stop from flow switch	Flow switch break for controls (No water circulation)
04	Temperature Calibration	Calibration of the temperature sensor
05	Calibration pH	Calibration of the pH sensor
06	Redox (ORP) calibration	Calibration of the Redox (ORP) sensor
07	Chlorine calibration	Calibration of the Chlorine sensor
08	Bromine calibration	Calibration of the Bromine sensor
09	Flow switch calibration	Calibration of the flow switch sensor
10	Powering	Powering of the controller

Table of alarms :

n°	Message displayed	Meaning
00	Temperature default	Measuring in error or sensor missing
01	pH sensor default	Measuring in error or sensor missing
02	ORP sensor default	Measuring in error or sensor missing
03	Chlorine sensor default	Measuring in error or sensor missing
04	Bromine sensor default	Measuring in error or sensor missing
05	Alarm threshold Temperature	Abroad thresholds set
06	Alarm threshold pH	Abroad thresholds set
07	Alarm threshold Redox (ORP)	Abroad thresholds set
08	Alarm threshold Chlorine	Abroad thresholds set
09	Alarm threshold Bromine	Abroad thresholds set