MeteoR2

Multifunction swimming pool control box

Technical information sheet

Réf : PF10Y500 / PF10Y501

Table of Contents

Avertissement

Read these instructions carefully before installing, commissioning and using this product.

1. Pack contents

- 1 multifunction control box MeteoR2

- 1 temperature sensor with Ø50mm ½" fixing collar

- 1 "BRiO®" 4 way radio-frequency remote control

- 1 bag containing

    – 6 screws and 6 wall plugs (power supply box + wall mount for the remote control)

    – Wall mount for the remote control unit

- Technical manual (this document)

2. Technical specifications

Power supply voltage	SINGLE PHASED 230V~ AC 50/60Hz		
Power consumption	20W (control electronics + contactors)		
Dimensions:	Box: 350 x 290 x 150mm / Box: 395 x 300 x 162mm		
Weight	Reference number	Control box alone	Complete box
	PF10Y500	4.5kg	5.4kg
	PF10Y501	6.3kg	7.2kg
Installation	Wall fasteners (4 screws/wall plugs supplied)		
Protection factor	IP-44		
Floodlight power supply	PF10Y500	12V 100VA	
	PF10Y501	12V 300VA	
Radio-frequency remote control	4 channels 433.92MHz		
Maximum current:	Filter pump	0.3A<In<12.0A	

Booster pump (Auxiliary 1)	0.3A<In<12.0A
Filtering + booster pump	1.3A<In<16.0A
Socket (Auxiliary2)	5.0A maximum
Filling solenoid	1.0A maximum
Treatment / Auxiliary (Auxiliary 1)	5.0A maximum
Heating	Dry contact (25A max)
Total	16.0A max

3. Description

3.1. Presentation of the **MeteoR2**

The new generation of MeteoR2 control box retains the ease of use and installation of the first **MeteoR** while bringing new features designed to allow the end user to control the pool more easily. Discover how to remotely control the pool, our Bluetooth smartphone app, but also options that can be used to further centralise controls using a single appliance.

Smart multifunction swimming pool control box

• Filtering

— PROG (Clock), AUTO (operates depending on water temperature)

— Monitoring of the current consumed by the pump.

• Lighting

— Electronic programming clock

— Monochrome

— Colour:

• Toggle switch (micro-power cuts)

• Brio RC®

• Brio RC+®

- Auxiliary 1 with electronic programming clock, a choice of: (Only 1 possible function)

    – Auxiliary coupled to the filtering or not

    – Booster pump

    – Heating

    – Treatment (electrolysis control)

- Power socket on the side of the appliance (Auxiliary 2)

    – Coupled to the filtering or not

- Level regulation (option)

    – KIT-NIV: Floater (pool skimmer) + 230V solenoid (PF10K006 V02)

    – KIT-NIV BT: 4 floater channel + 230V solenoid (PF10K009)

3.2. Filtering management

It is possible for the **MeteoR2** to calculate ideal filtering time every day (AUTO mode) by simply choosing the start-up time. If you prefer to control the pump operating times, it is also possible (in PROG mode) to programme 3 fixed filtering time slots (= clock).

3.2.1. Pump current monitoring

The **MeteoR2** has a built-in current consumption measurement system for the pump (or pumps if there is a booster pump). There are several monitoring options available:

- No current monitoring

- Low intensity monitoring (I < 0.75 In for 2 minutes) only (unpriming, running with no water, etc.)

- Over-intensity monitoring (I > 1.25 In for 2 minutes) only (shaft jammed, etc.)

- Full monitoring (low and high intensity)

The pump is calibrated automatically and managed by the **MeteoR2**. In this way, a single control box model can be used to protect different pump powers without having to change circuit-breaker calibres. The pump's power consumption must be between 0.3 and 12A.

3.2.2. Filtering heat regulation (AUTO mode)

As water temperature varies during the season, filtering times must be adjusted. This daily pump operation adjustment depending on the temperature is carried out automatically by the **MeteoR2** in AUTO filtering mode.

Heat regulated filtering calculation method:

- If the pool temperature is higher than 25°C: daily duration = P1 + d

- If the pool temperature is less than 25°C: daily duration = P1 - d/2

where d = |pool T°C - 25°C| and P1 = daily filtering time for the P1 programme

This calculation method makes it possible to adjust daily filtering times in AUTO mode. If you think that the daily filtering time is not enough, it can be extended by increasing the time in the P1 programme. Or, if you think that the daily filtering time is too much, it can be reduced by lowering the time in the P1 programme.

Example of calculated filtering time in AUTO mode;

Pool water temperature	10°C	15°C	20	25	30	35
Filtering time in AUTO mode / P1 = 10h 8h to 18:00	02:30	5h	07:30	10h	15h	20h
Filtering time in AUTO mode / P1 = 14h 8h to 22:00	06:30	9h	11:30	14h	19h	24h
Filtering time in AUTO mode / P1 = 5h 8h to 13:00	2h	2h (min. duration)	02:30	5h	10h	15h

The start time (pump powered on) can be configured, it is the first P1 programme time. The stop time will depend on the calculated time and any eventual pump stoppages (not enough water, etc.).

3.2.3. Anti-freeze monitoring

The **MeteoR2** has a built-in anti-freeze system (can be disabled). It is enabled in AUTO or PROG mode and its threshold can be configured between +1 and +2°C.

- Below this threshold (If T° < Freezing T°), filtering will be regularly started (10 minutes every hour) to prevent the water from having time to freeze by making it flow.

- This freeze protection mode stops as soon as the pool temperature exceeds the set threshold (as soon as T° > freezing T° + 1).

- If the pool temperature drops below 0°C, the pump runs continuously.

Freeze protection monitoring is not active in OFF mode (pump stopped).

3.3. Auxiliary outputs

There are two auxiliary outputs available on the **MeteoR2**. The first exits to a contactor and is used to control either:

- Water treatment (in this case the output is coupled to the filter pump)

- Or a booster pump (in this case the output is coupled to the filter pump and the pump current is monitored)

- Or heating (in this case the output is coupled to the filter pump and depends on a temperature set point set in the **MeteoR2**)

- Any auxiliary, whether coupled to the filter pump or not

In all configurations, an electronic clock built into the **MeteoR2** is used to programme the operating times for this auxiliary output.

When the auxiliary is configured for "Treatment", it also possible to have an "Auto" mode: In which case the daily operating time is calculated automatically by the **MeteoR2**.

The second auxiliary output is on the electric socket located on the side of the **MeteoR2**. It can be coupled to the filter pump or not.

3.4. Cover closure management

The **MeteoR2** can be used to connect a dry contact from the automatic cover control box. It is then informed of the closure of the pool cover. Indeed, daily filtering times

(and eventually treatment times) can be reduced if the pool is protected from UVs, wind, etc. If the cover is closed, the **MeteoR2** will react as follows:

- If auxiliary 1 is configured for "Water treatment", and the TREATMENT mode is PROG or AUTO, then the time programmed to activate this output is divided by 4.

- If the filtering is used in AUTO mode, the filtering time is divided by 2.

3.5. Lighting management

The **MeteoR 2** can be used to control most lighting. Several operating modes are available depending on whether the pool is fitted with monochrome floodlights (simple ON/OFF) or multicoloured floodlights (Micro power cuts or compatible with BRiO RC® / BRiO RC+®).

The BRiO RC+® protocol allows a more intuitive control of the LED floodlights installed in the pool (direct colour / sequence selection, smartphone control, etc.) and requires the installed floodlights to be compatible with BRiO RC+®. Check the documentation for your floodlights.

Whatever the type of lighting, the **MeteoR 2** also has a built-in electronic clock to manage pool lighting.

A 4-channel radio-frequency remote control and its wall mount are provided to remotely control the floodlights. It can be used to control your colour floodlight colours / sequences or the powering on of your white floodlights.

There is also an automatic (AUTO) mode available to turn on lighting at dusk for a 4 hour period. (Dusk is only estimated theoretically using the date, it can therefore vary from one day to the next)

3.5.1. Compatible floodlights

3.5.1.1. T. Switch mode

Most colour floodlights for pools are compatible with the "Toggle switch" control mode. This consists in creating a short power cut to change colours / programmes.

3.5.1.2. RC mode

All CCEI floodlights are compatible with the RC control mode.

3.5.1.3. RC+ mode

All CCEI floodlights manufactured after February 2016 are compatible with the RC + control mode. Here is the list:

Floodlight	Reference number
BRIO Eolia WEX30	PF10R200 / **V05** (and higher)
BRIO Eolia WEX60	PF10R104 / **V05** (and higher)
BRIO Eolia WEX100	PF10R005 / **V06** (and higher)
BRIO Gaïa GAX30	PK10R102 / **V03** (and higher)
Mini BRIO X15	PK10R303 / **V02** (and higher)
BRIO ZX30	PK10R007 / **V03** (and higher)
BRIO ZX60	PK10R008 / **V02** (and higher)
BRIO ZX100	PK10R009 / **V02** (and higher)
BRIO Stella WPX30	PF10R410 / **V04** (and higher)

3.6. "Level regulation" Option

The **MeteoR2** includes level regulation. Three kits are available as options to complete your installation;

- Floater only (no topping up, only low water safety) (ref SF140008).

- NIV KIT (ref PF10K006/V02) for pools fitted with skimmers, it contains

    - A floater with a positioning and fixing system,

    - A solenoid and a fuse connection kit.

- NIV BT KIT (ref PF10K009) for overflow pools, it contains

    - A channel with 4 floaters, a positioning and fixing system,

    - A solenoid and a fuse connection kit.

Level regulation can be configured using the following options:

- Low water safety = pump shutdown + topping up (Ref. PF10K006/V02 or SF140008)

- Topping up = topping up only (PF10K006/V02)

- Overflow (regulation for the buffer pool) (PF10K009)

3.7. "Zen'iT" option (remote control)

	The Zen'iT control box is the "must have" option for your MeteoR2. Offset using a cable (maximum 1000m), it is used to control all your appliance features. All the menus are identical to the control box menus. Its "mirror" design and rounded corners make it possible to install it in a living area (lounge, pool-house, patio). It must be installed in a place that is sheltered from rain and splashing. Up to 3 Zen'iT control boxes can be installed on a MeteoR2.

3.7.1. IOS / Android application

The Zen'iT control box also has a bluetooth gateway (Bluetooth Low Energy). Using this feature, you can control all your MeteoR2 functions from your smartphone.

3.8. "Extra inputs" Option

An extension box (ref PF10Y511) can be used to add

- a remote forced start-up input (normally open, dry contact)

- a pump stop input (normally closed, dry contact)

3.9. Electric protection - Power supply

⚠️ **Caution**

The control box includes a protection device for the filtering pump which monitors consumed power, but does not include short-circuit protection or ground fault protection devices. It is essential to ensure that the correct protective systems are installed upstream of the control box!

The MeteoR2 power supply line must be protected by

- A short-circuit protection of a sufficient calibre (maximum 16A) (sum of the equipment connected to the MeteoR2).

- A 30mA ground fault protection with a cut-off power superior to the short circuit protection calibre.

Control box ref. PF10Y002 is perfectly suited to guarantee the electric protection for the MeteoR2 and the equipment connected to it.

4. Installation

4.1. Control box mounting

The control box is fixed to the wall using the 4 included screws and wall plugs.

4.2. Remote control holder installation

The remote control holder is fixed to the wall using the 2 included screws and wall plugs.

4.3. Temperature sensor

The temperature sensor is moulded inside a part that screws directly onto a ½" fixing collar. A Ø 50mm collar is included with the accessories.

1. Install the fixing collar on the discharge piping after having previously drilled it to Ø 20 ± 5mm.

2. Screw the sensor into the fixing collar. (use Teflon tape to make sure it is watertight)

3. Connect the sensor to the control box (see next page)
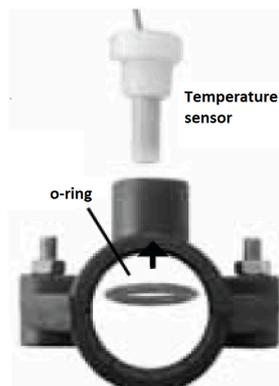
4.4. Connection to electricity

⚠️ **Avertissement**

Installation of this project involves a hazard of electric shocks. We strongly recommend you contract a professional installer. Incorrect installation puts you in danger and may irreversibly damage the product and the equipment connected to it.

💡 **Tip**

For safety reasons and in compliance with the NF C15-100 standard, the MeteoR2 control box must be installed
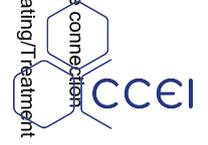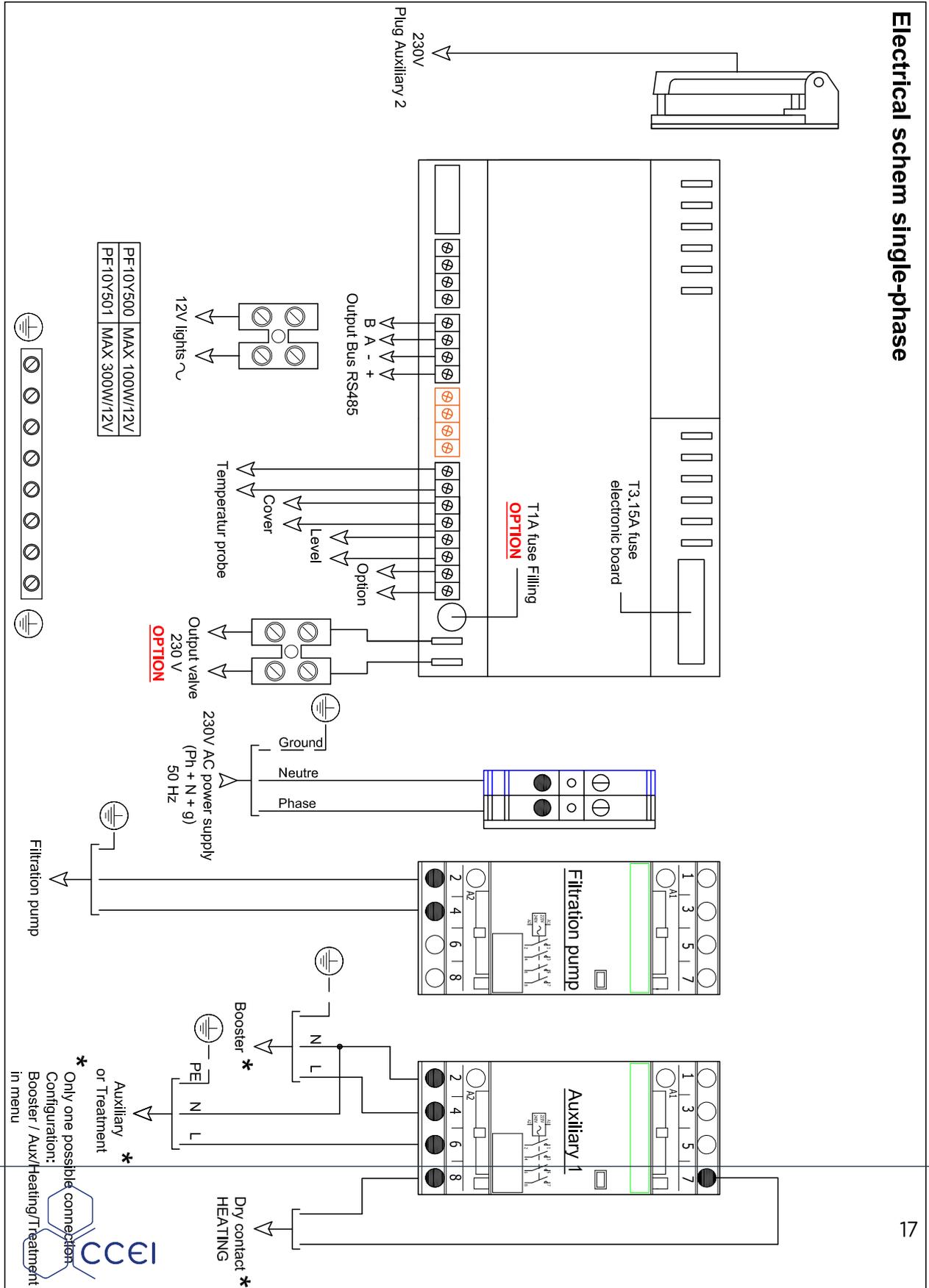
- either at 3.50 m from the pool edge. This distance takes into account the distance around obstacles. If the box MeteoR2 is installed behind a wall, this will then be the distance required to complete the loop and connect to the box.

- or in an in-ground space immediately next to the swimming pool. In this case the space must be accessible via a hatch which requires a tool to open it.

The MeteoR control box

- must not be directly installed outdoors, it must be sheltered from rain, cleaning or watering spray, and UVs (sunlight).

- is resistant to light spray *but must not be installed in a floodable area.*

- must be fitted on a level and stable support and fixed to the wall using the supplied anchors and screws.

To keep it watertight, it is essential to check that the seal is correctly positioned when closing the cover, and to tighten the 2 screws on the front face every time the box is accessed.

CCEI

Electrical schem single-phase

230V
Plug Auxiliary 2

12V lights

Output Bus RS485
B A - +

| PF10Y500 | MAX 100W/12V |
| PF10Y501 | MAX 300W/12V |

Temperatur probe
Cover
Level
Option

T1A fuse Filling
OPTION

T3.15A fuse
electronic board

Output valve
230 V
OPTION

230V AC power supply
(Ph + N + g)
50 Hz

Ground
Neutre
Phase

Filtration pump
Filtration pump

Booster

Auxiliary 1

Auxiliary
or Treatment

* Only one possible connection
Configuration:
Booster / Aux/Heating/Treatment
in menu

*

Dry contact
HEATING *

CCEI

4.4.1. Electricity supply

The connection is to the two connection terminals and the earth bar. The MeteoR2 must have a **230V single phased 50Hz** power supply protected by a 30mA ground fault protection, which supplies sufficient intensity. There must also be a short-circuit protection (max. 16A) on the control box power supply line. The power supply cable size must be suitable and adapted to the total length and the elements connected to the MeteoR2 .

⚠️ **Caution**

The control box includes a protection device for the filtration pump which monitors the power consumed, but it does not include short-circuit protection or differential protection devices. It is essential to ensure that the correct protective systems are installed upstream of the cabinet!

Control box ref. PF10Y002 is perfectly suited to guarantee the electric protection for the MeteoR2 and the equipment connected to it.
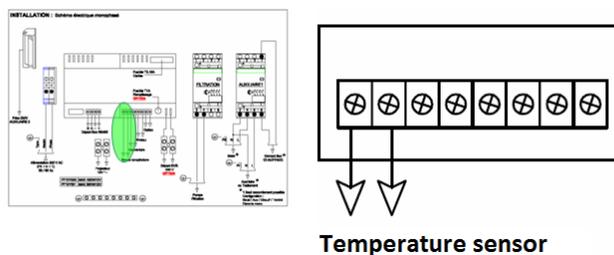

230V AC power supply
(Ph+N+G)
50Hz

💡 **Tip**
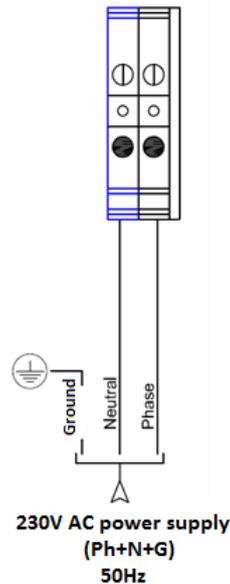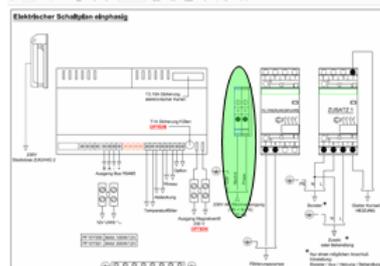
Use the earth bar at the bottom of the control box to connect it.

4.4.2. Temperature sensor

The temperature sensor is connected to the unpluggable terminal block located directly on the module. Pass its wire through the small cable gland provided.

Temperature sensor

⚠️ **Warning**

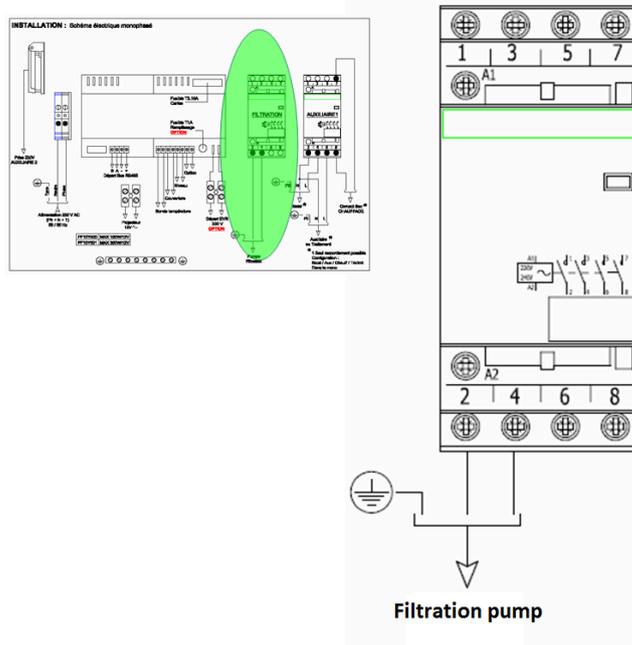Use a flat tipped screwdriver of a size adapted to the terminal block! (max. 2.5mm)

4.4.3. Filter pump

The filtering pump is connected under the first contactor (the left side one).

ℹ️ **Important**

Check it is correctly tightened before powering on.

Filtration pump

💡 Tip

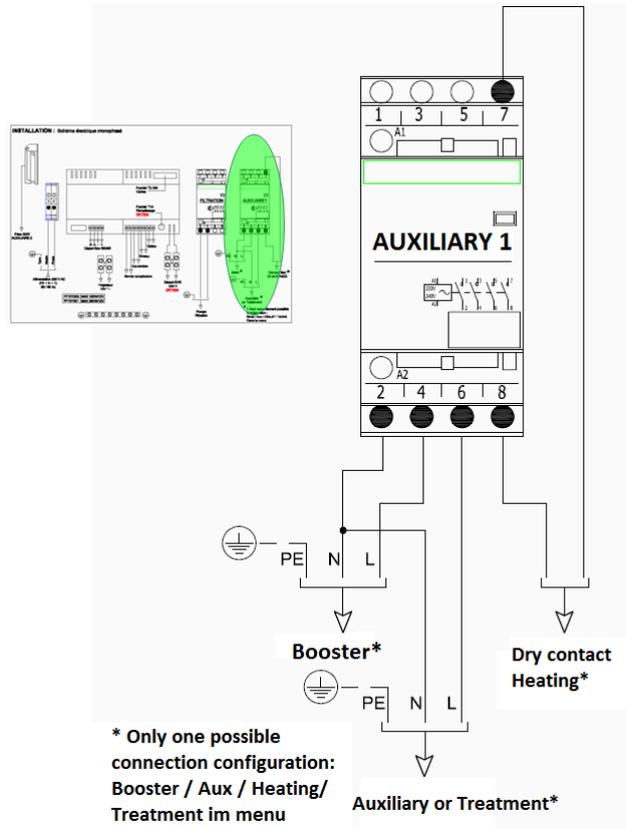Use the earth bar at the bottom of the control box to connect it.

4.4.4. Auxiliary 1

Auxiliary 1 (brush, heating, treatment, auxiliary 1) is connected to the second contactor (the one on the right).

ℹ️ Important

The electric connection differs depending on how Auxiliary 1 is used (brush, heating, treatment or auxiliary). Follow the instructions below to the letter.

Booster*

**Dry contact
Heating***

***** Only one possible
connection configuration:
Booster / Aux / Heating/
Treatment im menu**

Auxiliary or Treatment*

💡

Use the earth bar at the bottom of the control box to connect it.

4.4.5. Auxiliary 2 (Power socket)

Auxiliary 2 is the power socket on the side of the control appliance. It is a standard European 2P+E socket. The maximum power available on this socket is 1000W. There is a 5A fuse in the control box to protect this output.

230V Socket
AUXILIARY 2
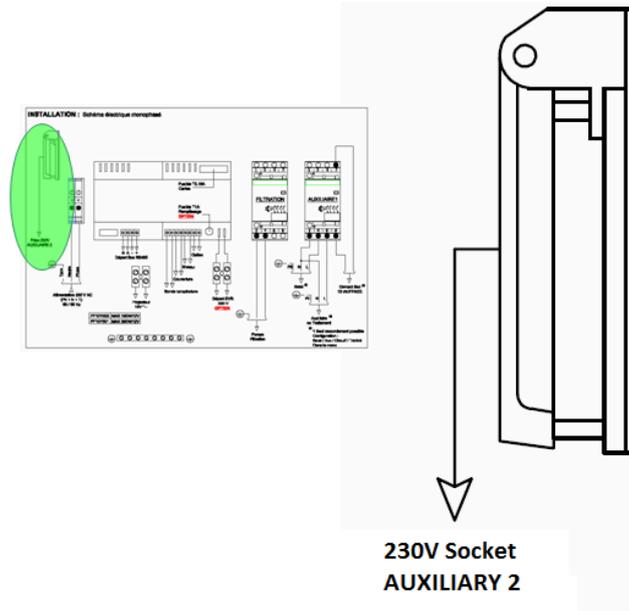
4.4.6. Floodlights

Depending on the MeteoR2 reference, there are 2 possible connections:

PF10Y501	12V 100VA
PF10Y502	12V 300VA

The connection is made to a 2-point "screw" type terminal block.
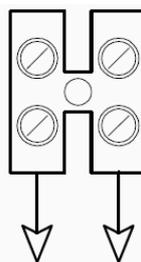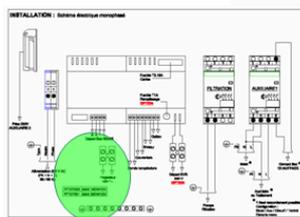
Light
12V AC

PF10Y500	MAX 100W/12V
PF10Y501	MAX 300W/12V

4.4.7. Cover contact

For pools with an automatic cover, filtering times, and even water treatment times if connected (Auxiliary 1), must be reduced when the cover is closed. Indeed, in this situation the water is sheltered from UVs and most pollutants, so the need is significantly less. Most covers are fitted with a limit switch that the MeteoR2 can be connected to so that it can adjust its operation.

This contact must be open when the cover is open, and closed when the cover is over the pool.

Use the cable passage at the bottom of the control box and connect the two contact wires directly to the module (see photo below).

⚠️ **Warning**

*The cover contact must imperatively be a <u>dry</u> contact with no electric potential. No other wires (coupling for other devices, etc.) must be connected at the same location. A connection error can seriously damage the device and will void the guarantee.
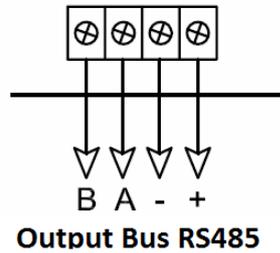

Cover
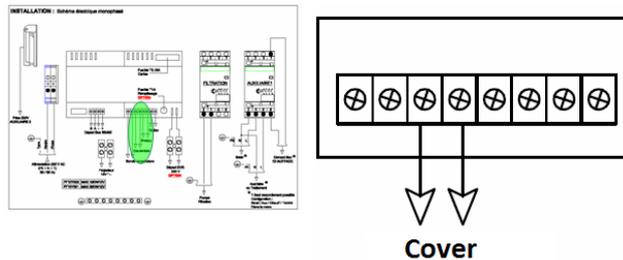
⚠️ **Warning**

Use a flat tipped screwdriver of a size adapted to the terminal block! (max. 2.5mm)

4.4.8. Offset Zen'iT control box

The Zen'iT control box is connected to the unpluggable terminal block located directly on the module. Pass its wire through a supplied cable gland (see photo below)..
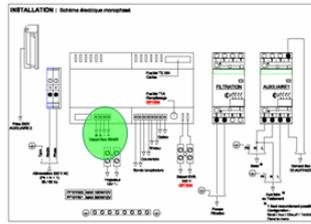
Output Bus RS485

⚠

4.4.9. Level regulation

The floater (or channel for overflow pools) is connected to the unpluggable terminal block located directly on the module. Pass its wire through a supplied cable gland.

The top-up solenoid is connected to the lugs at the bottom right of the module. The kit includes two wires with female lugs, as well as cable glands and a round fuse to be installed next to it. (see photo below).

T1A fuse filling
OPTION

Level

Output valve 230V
OPTION

⚠

4.4.10. Forced operation (MF) / Pump stop (IP) extension control box

The MF / IP (PF10HY511) extension control box is connected to the unpluggable termi-
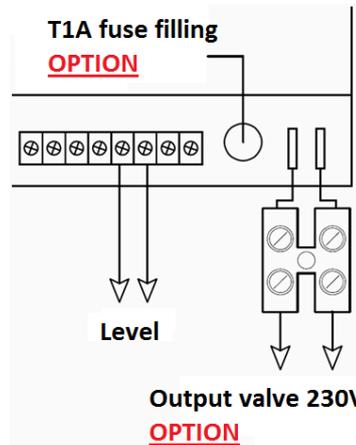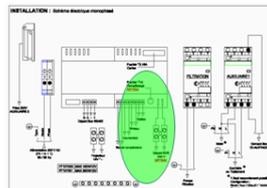nal block located directly on the module. Pass its wire through a supplied cable gland.
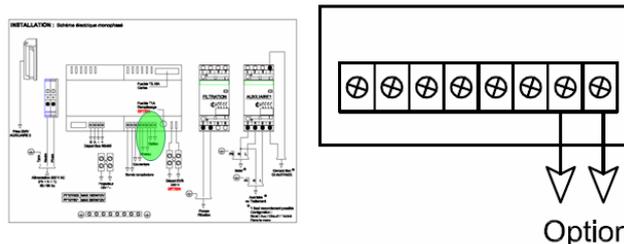
⚠	**Warning** Use a flat tipped screwdriver of a size adapted to the terminal block! (max. 2.5mm)

5. Operation

5.1. Interface presentation

The interface has a multi-function liquid crystal display with two 16 character lines, 4 keys and 7 status indicators;

Component	Description
Key ⌃	"UP / PLUS" Used to increment values or to scroll to the top of setting or programme lists
Key ⌄	"DOWN / MINUS" Used to decrease values or to scroll down to the bottom of setting or programme lists
Key ✓	"VALIDATION / OK" Used to validate a programme selection
Key ✗	"RETURN / CANCEL" Used to go back, cancel current updates without validating them

Component	Description
Indicator lamp 🔲	FILTERING output active.
Indicator lamp 🔲	LIGHTING output active.
Indicator lamp 🔲	TOP-UP output active.
Indicator lamp 🔲	AUXILIARY 1 output active. (Auxiliary, Treatment, Heating or Booster pump depending on the configuration).
Indicator lamp 🔲	AUXILIARY 2 output active. (Power socket on the side of the appliance).
Indicator lamp 🔲	"COVER CLOSED": This indicator lights when the cover closure detection input has been activated (the pool cover is closed). • If the filtering is in AUTO mode, the filtering time is divided by 2. (see FILTERING MENU section). There is no impact in ON or PROG mode. • If the auxiliary is configured as TREATMENT and its operating mode is PROG, the operating time is divided by 4. There is no impact in ON mode.
Indicator lamp ⚠	"FAULT" This indicator lights **continuously** when a fault is detected, or **flashes** for a simple warning. Refer to the screen display for more information about the fault in question.

5.2. Use

The system is switched on using the luminous switch on the front. The screen displays the following home message:

Meteor-2

Pool Controller

followed by the display of:

Display No

1

To scroll through the menus, use the ⌃ and ⌄.

To access a menu, press the ⌄.

To update a variable, press the ⌄ key until it flashes. Once the variable has started flashing, set the value using the ⌃ and ⌄. To validate the new variable value, press the ⌄. Finally, to go back without updating the variable, press the ⊗.

After a few seconds, the system status is displayed on the screen (see below)

5.2.1. System status

The default screen (screen saver) gives information on the MeteoR2 function statuses by alternating between filtering and auxiliary function messages;

`25.0°C    10:10`	On the left is the water temperature, and on the right the current time.

`Filtr. Prog.`
 	
`Auxil. Prog.`
	The second line alternates information about filtering and auxiliary 1 (Auxiliary, Treatment, Heating or Booster pump depending on the configuration). Error messages may be displayed on this second line (see below).

Depending on the system status, the following symbols are shown on the screen;

Symbol	Meaning
	Topping up in progress The "top-up solenoid" output is activated.
	Output active. (Filtering, Aux1, Aux2 depending on the displayed screen)
	Freeze protection active. The temperature is lower than the freeze protection temperature set on the menu. The pump is activated for 10 minutes per hour if the temperature is above freezing and permanently if it is below freezing. The symbol flashes when the pump is running and remains on the rest of the time.
	HEATING output active (if auxiliary 1 is configured as HEATING).
	Pump disabled. Filtering cannot be activated (Water level too low, IP input, etc.)
	Forced operation. Filtering is forced (Freeze protection, MF input, etc.)
	Temperature low. As the current temperature is lower than the minimum temperature (12°C) in AUTO mode, filtering will be activated regularly (freeze protection monitoring). This is not a fault. The symbol flashes when the pump is running (30 minutes every 4 hours) and remains on the rest of the time. If auxiliary 1 is configured as Treatment and if the mode is PROG or AUTO, then the treatment output is fully stopped.

5.2.2. Messages

Alternating with the status screen (screen saver) described above, the MeteoR2 gives the user information to help prevent possible anomalies or to troubleshoot a possible fault. Messages are then displayed alternating with the device status:

Message	Description	Solution
`T° sensor defect`	Water temperature measurement error	Check the temperature sensor connection.
`SUPERVISOR`	This message is displayed briefly when entering supervisor mode.	
`RS485 defect`	Internal control box error, communication problem between the display board and the base (power module).	
`Current >>`	Pump excess intensity detected. The control box must be powered off to cancel the fault, or OFF Mode must be selected on the Filtering menu. Check that the pump is not defective or jammed.	
`Current <<`	Pump insufficient intensity detected. The control box must be powered off to cancel the fault, or OFF Mode must be selected on the Filtering menu. Check that the pump is not running out of the water.	
`Pump calibration`	The pump needs to be calibrated. As current monitoring is enabled, the MeteoR2 needs to record the pump's nominal current. To calibrate, press the ⊘. Calibration is automatic (the pump is activated for a few dozen seconds and is then stopped).	

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5.2.3. Menus

Using the ⊙ and ⊙ keys, it is possible to scroll through the screens to access the following menus;

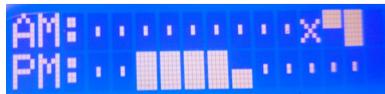| Screen	Function
CONFIGURATION MENU	Used to access the filtering function settings.
CONFIGURATION MENU	Used to access the lighting function settings.
CONFIGURATION TREATMENT / AUXILIARY	Used to access the auxiliary 1 settings. The menu name changes depending on the appliance's output configuration. (setting in supervisor mode - see 5.4.3)
CONFIGURATION MENU	This menu gives access to the appliance's general settings.
FILTRATION 0:01 (2:00) alternating with 000006:01	FILTERING STATUS: This screen shows the filtering daily operating time counter (0:01 in the example) with, in brackets, the scheduled daily operating time (either programmed or calculated). Alternating with this screen, the filtering hour counter (000006:01 in the example), for the number of hours since the appliance was commissioned.
AM:..........X. PM:............	Graphic clock. See details below.
LIGHTING Blue Program. alternating with Prog 21:00->23:00	LIGHTING STATUS: This screen displays the lighting operating mode (Off/On/Prog/AUTO) followed by the currently selected colour or sequence if it is on and if the lighting is configured for BRiO RC+®. If the mode is PROG, the programmed times alternate with the current colour.
Auxiliary 1 Prog ->	AUXILIARY 1 STATUS:

Screen	Function

alternating with
 	
`8:00 -> 18:00`
 	
or (if configured for heating):
 	
`HEATING`
 	
`18.0°C (28.0°C)`
	• Treatment / Auxiliary / Booster pump : This screen displays its operating mode (Off/On/Prog + Auto if treatment) alternating with the programmed times if the mode is PROG or AUTO. An "arrow" symbol is displayed if the output is active. (The output can be set to ON but not be active, for example if it is coupled to filtering)
	
	• Heating: This screen displays the current pool water temperature with the set point temperature in brackets. A "heating" symbol is displayed if the output is active.
	
	In Auto or Prog mode, the scheduled operating times are displayed alternately. The end time displayed in Auto mode is the end time calculated by the appliance depending on the temperature.
	
	⚠ **Warning**
	
	In Auto mode, the calculation is only made during scheduled operating times.

`Socket (Aux2)`
 	
`On     ->`
	AUXILIARY 2 STATUS (power socket on the side of the appliance). On or Off. An "arrow" symbol is displayed if the output is active. (The output can be set to ON but not be active, for example if it is coupled to filtering)

`07/01/2016`
 	
`10:10    25.0°C`
	Displays the current date and time, as well as the pool temperature.

`Level Control`
 	
`Level OK / Safety stopped`
 	
alternating with
 	
`Top-up 000:00`
	LEVEL STATUS: This screen displays the level regulation status alternating with the top-up totalising counter (000:00 in the example). An "arrow" symbol is displayed if the top-up output (solenoid) is active.

5.2.4. Graphic clock

A graphic clock is used to show the filter pump operating time slots. The first line (AM) is for the morning, the second (PM) for the afternoon. Each half-day is split into twelve hours, each character representing an hour. The characters correspond to the following operating times, for each hour;

Symbol	Meaning
	Current time. This cross flashes alternatively with one of the following symbols;
	Time without any filtering operation.
	The pump should run in the first half hour of this hour.
	The pump should run in the second half hour of this hour.
	The pump should run throughout this hour.

For example, for programme P1=10:30 -> 12:00 and P2=14:00->18:30 (Current time 9:10);

5.2.5. FILTERING MENU

This menu gives access to the filtering function settings.

Screen	Function
MENU AUTO	Use to select the filtering mode (see below).
Filtration P1 10:00 -> 18:00	Used to enter the times for the P1 filtering time slot. • In PROG mode, filtering will run between these two times. • In AUTO mode, filtering will start at the start time (10 o'clock in the example).

Screen	Function

`Filtration P2`
 	
`18:30 -> 20:00`
	Used to enter the times for the P2 filtering time slot. In PROG mode, filtering will run between these two times.
	
	--:-- is used to disable the time slot.

`Filtration P3`
 	
`--:-- -> --:--`
	Used to enter the times for the P3 filtering time slot. This is not displayed if the P2 filtering time slot is disabled (--:--)
	
	• In PROG mode, filtering will run between these two times.

`Pump calibration`
 	
`Start`
	This screen is only displayed if pump current monitoring has been activated and is used to calibrate the pump current.

`Anti Frost`
 	
`1.0°C`
	This menu is used to select the temperature below which freeze protection is activated (0, 1 or 2°C). "Off" is used to completely disable freeze protection.

The different possible filtering modes are the following:

• OFF: Filtering is not controlled by the MeteoR2.

• ON: Filtering is in override mode, 24h/24h

• PROG: Filtering will be triggered using the settings for the 3 filtering time slots P1 to P3.

• AUTO: Filtering will be triggered at the start time scheduled for the P1 time slot, for a duration calculated automatically depending on the water temperature.
Heat regulated filtering calculation method:

– If the pool temperature is higher than 25°C: daily duration = P1 + d

– If the pool temperature is less than 25°C: daily duration = P1 - d/2
where d = |pool T°C - 25°C| and P1 = daily filtering time for the P1 programme
Example of calculated filtering time in AUTO mode;

Pool water temperature	10°C	15°C	20	25	30	35
Filtering time in AUTO mode / P1 = 10h 8h to 18:00	02:30	5h	07:30	10h	15h	20h
Filtering time in AUTO mode / P1 = 14h 8h to 22:00	06:30	9h	11:30	14h	19h	24h
Filtering time in AUTO mode / P1 = 5h 8h to 13:00	2h	2h (min. duration)	02:30	5h	10h	15h

5.2.6. LIGHTING MENU

This menu gives access to the lighting function settings.

Screen	Function
MENU Off	• OFF: Lighting is off • ON: Lighting is on 24 hours per day. • PROG: Lighting will be triggered depending on the time slot settings below. • AUTO: Lighting will be triggered at dusk for a peri-od of 4 hours (see 3.5. Lighting management)
Lighting Prog 20:00 -> 23:00	Used to enter the lighting time slot when PROG mode is selected.
Blue Light	This screen is only displayed if the lighting has been configured to "BRiO RC+" mode, and is used to select the floodlight colour or sequences.
MENU Brightness: 100%	This screen is only displayed if the lighting has been configured to "BRiO RC+" mode, and is used to select the lighting power (25, 50, 75 or 100%)..
MENU Speed Seqce 100%	This screen is only displayed if the lighting has been configured to "BRiO RC+" mode, and is used to se-lect the speed at which the floodlight sequences are scrolled through. (25, 50 or 100%)

5.2.7. AUXILIARY MENU

This menu gives access to the auxiliary function settings. Depending on the selected operating mode for the auxiliary output, the name of this menu changes (Auxiliary / Treatment / Heating / Booster pump).

Screen	Function

AUXILIARY
 	
Off
	Used to select the auxiliary 1 output operating mode.
	
	• OFF: The output is off
	
	• ON: The output is activated. (If the output is configured as
	
	   – treatment or booster pump, the output activates when the filtering is running.
	
	   – as heating, the output activates when filtering is running and the temperature is lower than the set point below.
	
	   – in treatment mode, an AUTO mode is available to automatically calculate the ideal operating time for an electrolysis unit for example
	
	• PROG: The output will be triggered depending on the conditions above and according to the time slot rules below.
	
	• AUTO (only if AUX 1 configured as **Treatment**): Daily treatment is heat regulated (see below)

Auxil. program. Treatmnt program. 10:00 -> 18:00	In PROG mode, this is used to set the output operating time slot. In AUTO mode (only if AUX 1 is configured as **Treatment**), the start time is used to start the heat regulated cycle (the end time is calculated, see below)
Heating setpoint 28.0°C	This screen is only displayed if the auxiliary is configured as "Heating" mode and is used to select the temperature set point below which the output will be activated.

Screen	Function
Heating Priority Yes/No	This screen is only displayed if the auxiliary is config-ured as "Heating" and is used to select the heating priority function. • Off: The heating can only be activated if filtering is running • On: Filtering is forced to run if heating is needed (if the pool temperature falls below the above set point)

Tip

Only if AUX 1 configured as **Treatment**: In PROG or AUTO mode, if the temperature

is less than 12°C the treatment output is completely stopped. The [symbol] symbol

is then displayed.

5.2.7.1. Heat regulated treatment time (AUTO mode)

Tip

This operating mode is only available if the AUX 1 output is configured to TREAT-MENT mode (see supervisor menu).

As water temperature varies during the season, treatment times must be adjusted. This daily treatment output adjustment depending on the temperature is carried out automatically by the **MeteoR2** in AUTO treatment mode.

Warning

The calculation is only made during the operating time slots (visible on the Treat-ment status screen).

Heat regulated treatment calculation method:

• If the pool temperature is higher than 25°C: daily duration = PT + d

• If the pool temperature is less than 25°C: daily duration = PT - d/2

where d = |pool T°C - 25°C| and PT = daily treatment time set in the "Ttmt. Prog".

This calculation method makes it possible to adjust daily treatment times in AUTO mode. If you think that the daily treatment time is not enough, it can be extended by increasing the time in the "Ttmt. Prog" programme. Or, if you think that the daily treatment time is too much, it can be reduced by lowering the time.

Example of calculated treatment time in AUTO mode;

Pool water temperature	10°C	15°C	20	25	30	35
Time in AUTO mode / PT = 10h 8h to 18:00	0h*	5h	07:30	10h	15h	20h
Time in AUTO mode / PT = 14h 8h to 22:00	0h*	9h	11:30	14h	19h	24h
Time in AUTO mode / PT = 5h 8h to 13:00	0h*	0h30 (min. duration)	02:30	5h	10h	15h

*The treatment output is fully stopped when the temperature drops below 12°C - The symbol is

then displayed.

The start time (treatment powered on) can be configured, it is the first time in the "Ttmt. Prog" programme. The stop time will depend on the calculated time and any eventual pump stoppages (not enough water, etc.).

5.2.8. CONFIGURATION MENU

This menu gives access to the device's general settings.

Screen	Function
Clock setting 10:10	Used to set the time on the device.
Date setting 07/01/2016	Used to set the date on the device.
Language English	Used to choose the language for the appliance (Français, Deutsch, English, Nederlands or Portuguese, Spanish, Italian)

5.3. Supervisor menus

5.3.1. Access to the Supervisor menus

Some of the functions on the device are reserved for use by installers or the persons in charge of maintaining the device. To access the supervisor menus,

1. Power off the appliance using the ON/OFF button on the control box,

2. Wait for about 30 seconds,

3. Press the ✔ and ✖ keys and keep them pressed,

4. Power the appliance back on using the ON/OFF button on the control box and release the keys,

5. You will see

   Meteor-2

   SUPERVISOR

   displays, confirming supervisor mode.

It is also possible to enter supervisor mode during the first quarter hour after powering on, by keeping these 2 same keys pressed for 5 seconds on the appliance's screen saver / status screen.

5.3.2. System status (supervisor)

The following additional system status screens are available in supervisor mode;

Screen	Function

`METEOR-2`
 	
`Firmware A/B vX.Y`
	Displays the versions of the programmes loaded into your control box. The display alternates between "Firmware A", which gives the display card programme version, and "Firmware B", which gives the base programme version (power module)

`MENU`
 	
`F 0.0A  (4.5A)`
	FILTERING STATUS: In addition to the filtering daily and hour counters described previously, this screen also displays the value of the current measured by the appliance with the pump's calibrated value in brackets (4.5A in the example). There is an F when only filtering is running, or FB if the booster pump is running.

5.3.3. MENU CONFIGURATION (supervisor)

The following additional configuration screens are available in supervisor mode;

Screen	Function

`Log`
 	
`Event`
	This screen is used to access the following data:
	
	• #1 cx --/--/---- : Date of the last event:
	
	    – c4: Filter pump current too weak
	
	    – c5: Filter pump current too strong
	
	    – c6: Low water level
	
	• #2 c1 --/--/---- : Commissioning date (1 hour after first commissioning).
	
	• #3 c3 --/--/---- : Date freeze protection was last activated

`Type of light`
 	
`Brio RC+`
	This screen is used to select the type of floodlights installed:
	
	• Mono: Monochrome lighting.

Screen	Function
	• T. Switch: Used to control most colour changes using micro power cuts (Toggle Switch). • Brio RC: Used to control CCEI lighting compatible with BRIO RC. • Brio RC+: Used to control CCEI lighting compatible with BRIO RC+.
AUX 1 function Auxil.	This screen is used to select the type of auxiliary output: • Auxil. : Auxiliary • Ttmt: Treatment / electrolysis • Heat. : Heating • Boost. : Booster pump
Heating/ Frost Yes / No	If auxiliary 1 is configured as HEATING mode, this screen is used to activate it when the control box is in freeze protection mode.
Level Control Fill	This screen is used to select the type of level regulation: • None: No level regulation. • Top-up : Top-up only; corresponds to KIT-NIV ref PF10K006/V02. • Overfl. : Overflow regulation (channel); corresponds to KIT-NIV4 ref PF10K009. • Safety: Pump stop + automatic top-up; corresponds to KIT-FLOT ref SF140008.
AUX 1 controlled Yes / No	This screen is used to configure whether the "auxiliary 1" output is coupled to filtering or not. This option can only be set to "No" if auxiliary 1 is configured as "Auxil." (the Auxiliary 1 output is always coupled if configured as treatment, heating or booster pump).

Screen	Function
DST Auto Yes / No	This screen is used to automatically configure changes to Daylight Saving Time. • Yes: Automatic switch to summer time is enabled. • No: Automatic switch to summer time is disabled.
Aux 2 controlled Yes / No	This screen is used to configure whether the "auxiliary 2" output (power socket) is coupled to filtering or not. • Yes: The auxiliary 2 output will only be activated if filtering is running. • No: The auxiliary 2 output can be activated independently of filtering.
Remote control 0011	This screen is used to configure the remote control code. When interferences hinder the appliance's operation (for example if there are severalMeteoR2 in the neighbourhood) it may be necessary to select different codes for each appliance. See below.
Display no 1	This screen is used to provide the display address for the future extension of the system (remote display, Zen'iT, etc.). Leave this setting on "1" on the control box!
Pump protection <Imin >Imax	This screen is used to configure the type of pump current monitoring; • None: No pump current monitoring. • > Imax: Only excess intensity is monitored. • < Imin: Only under intensity is monitored. • < Imin > Imax: Full monitoring (excess and under intensity).
Reset Confirm reset?	This screen is used to reset all the control box settings.

Screen	Function
	Important This resets all the settings to their default factory value. Your device will need to be reconfigured.

5.3.4. Remote control code

There are 10 switches inside the remote control unit (under the battery cover) which are used to set the code.

The code displayed on the "Remote control" menu must correspond to the positions of switches n°5 to 8.

- A "0" corresponds to the "OFF" switch position

- A "1" corresponds to the "ON" switch position

The other switches must always stay in the same position. In total, there are 16 possible codes.

Code	Display	Positions of the switches
By default: 0001**0011**10	`0011`	
Example n°1: 0001**1010**10	`1010`	
Example n°2: 0001**0101**10	`0101`	

5.3.5. Exiting the supervisor menu

Supervisor mode is exited automatically after a few minutes, or by turning the device off and then back on again after having waited about thirty seconds using the ON/OFF button.

6. Start up

Once the electric connections have been made, you must configure your MeteoR2.

1. Go to the supervisor menu

2. Set the options depending on the installation configuration

   • Type of auxiliary 1 (Auxiliary, Heating, Booster pump or Treatment)

   • Type of lighting / type of level regulation (if the option is installed) / Current monitoring mode

3. Set the date / time

4. Calibrate the pump (if monitoring has been enabled)

5. Select the time slots for the different MeteoR2 functions.