AN1244
AN1274

Control box

User and Installation Manual

WARNING

FOR YOUR SECURITY – Product installation must be performed by a qualified and authorized technician who has been trained to swimming pool equipment installation. Before installing this product, please read the whole user manual and follow all instructions paying particular attention to warnings that may prevent product failure or other material damages. Any improper installation or usage of the control box will make the warranty void.

An improper installation or usage may create an undesired electrical danger which could cause material or personnel damages.

KEEP THIS MANUAL FOR FUTURE REFERENCE

DOCUMENT VERSION

DATE	VERSION	REFERENCED PRODUCTS
08/2020	01	AN1244A/AN1274A

Section 1. **Important security instructions**

WARNING

Swimming pool can represent a major danger for your children. Drowning can happen very suddenly and quickly. You must actively surveyany children using the swimming pool even if they can swim. Physical presence of an adult person is mandatory when a pool is open.

WARNING

Please check carefully that none and no object is inside the swimming pool before and while operating the cover.

WARNING

Keep away from children any device that may operate the cover (key, remotes, etc) .
Cover operation must me done by an adult person.

PLEASE FOLLOW CAREFULLY ALL INSTRUCTIONS

Section 2. **Technical specifications**

This control box is compatible with following motors:

AN1244: PL3210, PL1218, DL3010 and DL1318

AN1274: PL6010, PL3218, PL7710, DL6010, DL7710 and DL3018

- « Pulse mode » or « Hold mode » can be selected independently on both directions (open/close).
- Overload detection in case of motor slow down during cover operation
- Security Loop (for emergency stop or alarms coming from sensors)
- Auxiliary Relay (for electrolyser or pump management)
- One-digit display for alarm notification and troubleshooting.

CHARACTERISTICS	AN1244	AND1274	Unit
Power feed tension	230	230	V AC
Frequency	50	50	Hz
Monophasic AC Network	L/N/PE	L/N/PE	
Maximum power	210	360	VA
Zero load tension	30	30	V DC
Maximum load current	10	15	A
Dimension (HxLxP)	291x241x87	291x241x88	mm
Weight	3,5	4,7	kg
Waterproof class	IP50	IP50	
Operation temperature range	0 to 50	de 0 to 50	°C
Admissible humidity	0 to 85	de 0 to 85	%

Installation

WARNING

FOR YOUR SECURITY – Installation must be performed by an authorized and trained technician following NF-C 18-510 or EN 50110-1.

Definition of a qualified installation technician as per NF C 18-510: « professional having a proven technical culture, knowledge and experience and training in electricity allowing him to analyse electrical risks thus avoiding related dangers ».

1.1. Control box physical installation

Installation must be made in compliance with electrical norms valid in each specific country; in France norm NF-C 15-100 or in Europe norm HD 384-7-702 must be applied. More in general, please refer to local equivalent regulations.

Control box must be installed in a technical room and not exposed to ice or very cold weather. The place must be protected from rain and from direct sun exposure; it must be placed far from heat sources and from water.

It must be installed at the right height from floor, ideally between 1.2 and 1.5-meter, vertical position, cable glands towards the floor; wall must be flat enough to bear the weight of the control box.

Control box positioning and drilling:

1. Mark on the wall the four positions corresponding to the four external holes in the corners of the box; you can use the drilling position template paper which is included with the package.

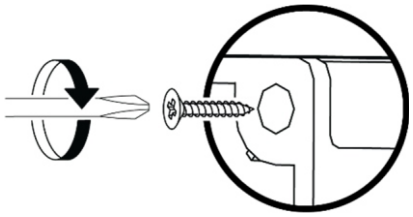


Fig.1 – External holes position

WARNING : Not respecting this recommendation will make the warranty void.

2. Drill four holes on the mounting wall surface.
3. Insert four plastic anchors nylon polyamide (M6x30) tightly inside the holes.
4. Screw the control box onto the wall (screw – VBA TF 4x30 INOX A4)

1.2. Control device installation

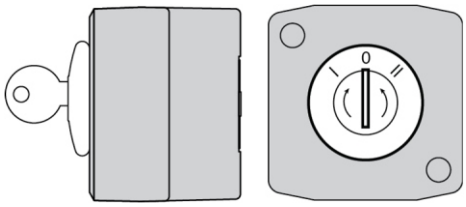
1.2.1. Three positions key switch

1.2.1.1. Key switch characteristics:

Key switch must respect to local electrical security standards and regulations.

Electrical symbol for key switch	

Key switch must be IP65 waterproof in order to allow an outdoor installation, close to the pool.



Example of limit switch

The key switch must have a good quality and must prevent any possible false contacts that may degrade its normal operation.

1.2.1.2. Direction identification on the key switch

Positions and rotation directions must be clearly identified on the key switch and must remain understand all along cover pool lifetime.

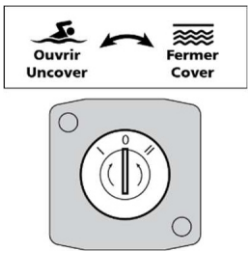


Fig.3 – Example of identification

1.2.1.3. Key switch localisation:

Key switch must be physically placed in a way that user can have full view ont the pool in order to verify the absence of people or obstacles during cover closing phase.

Key switch must be installed high enough to keep it away from children in order to avoid that they may operate the cover without the presence of an adult person.

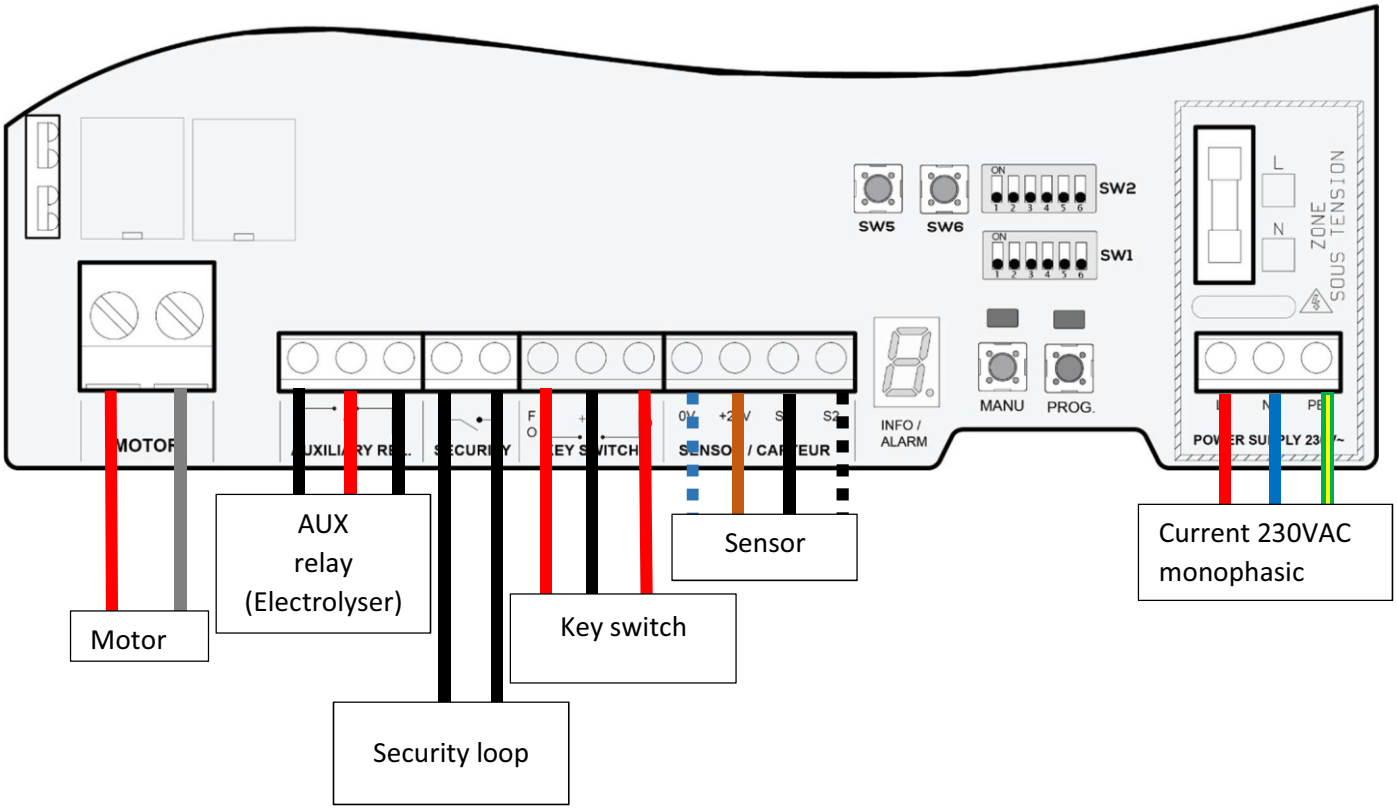
1.2.1.4. Key switch maintenance:

Key switch is an essential security device. For this reason, it must be replaced whenever a minimum defect appears.

Section 3. **Electrical cable wiring**

WARNING

All electrical connections have to be made with DC power OFF.



WARNING

FOR YOUR SECURITY – Installation must be performed by an authorized and trained technician following NF-C 18-510 or HD 384-7-702 in Europe.

2.1. **Generalities**

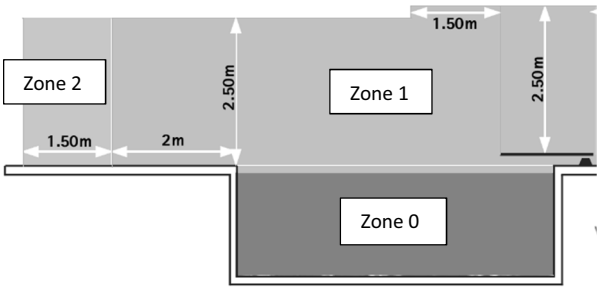
Verify that wires don't present any defect or non-conformity.

Cables must be protected so that nobody can be wrenched or crushed.

With respect to electrical norms, a yellow/green cable can be used only for ground connection.

Do not forget to screw cable glands when wiring is done; this guarantees correct waterproof level.

NOTE: submerged cable can't be repaired nor being connected to others inside « zone 0 ».



2.2. 230VAC AC monophasic cable:

An electrical separation device must be settled upstream the control box. It must be easily reachable and found and should be locked in open position. The device can be a disconnecting switch for 6 A current minimum orany other system that can be connected in an optimal security scenario and in compliance with local regulation.

Note 1: Installation responsible must select the device according to external constraints (humidity).

Note 2: Power supply of the box must be protected according to the earth link scheme (grounding) in compliance with local regulation.

Note3: For TT operating conditions, the circuit must be protected upstream by a bipolar differential circuit breaker with a sensitivity of 30 mA, 6 A intensity and a type C trigger curve.

Use a cable H07 VV-F with a cross section of at least 1.5 mm² with 2 wires + ground.

Guide the cable through the provided cable gland.

2.3. Three positions key switch

Use a three-wire cable 1.5 mm2, type H07 VV-F for connecting to the board.

Pass the cable through a cable gland.

Connect the key switch to the KEY SWITCH terminal block on the board.

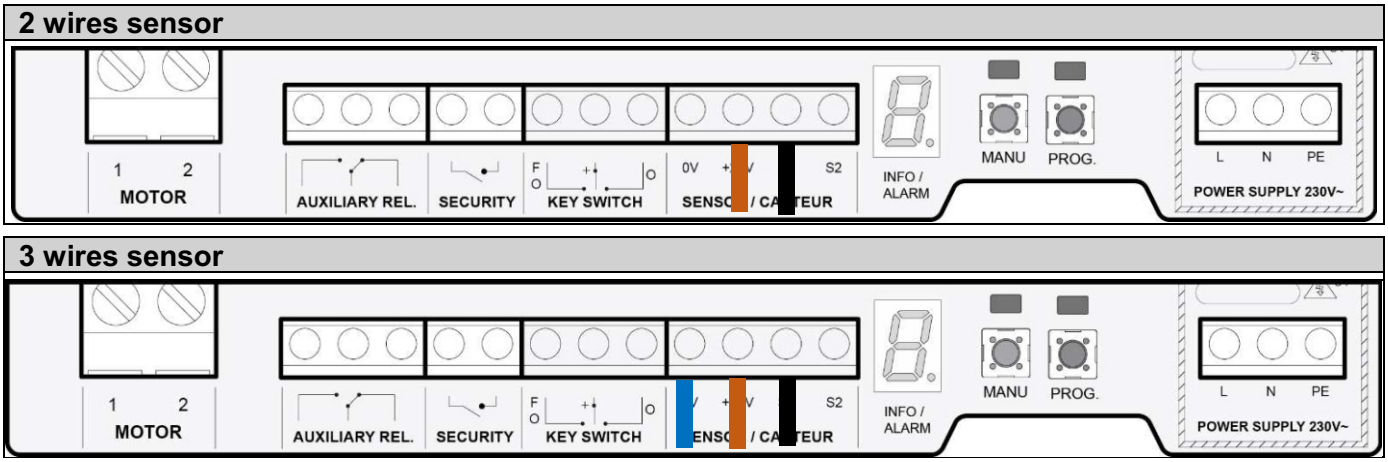
Respect marked references « F C » (F closing) and « O » (Opening) shown on the board and on the switch.

Connect key switch common input to « + » on control board.

2.4. Sensor:

- Use a cable with two wires 1 mm^2 - type H07VV-F
- Respect cable colours correspondence between motor cable and « SENSOR/CAPTEUR » terminal block, as per below table.

Board	Motor wire	Notes
0V	Blue	Only for three wires sensors
+24V	Brown	
S1	Black	



- Pass the cable through a cable gland.

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Checking correct sensor cabling:

Green LED « S1» displays sensor signal.

Motor stopped: led off or on (not blinking).

Motor running with correct sensor cable wiring: led flashes with regular frequency.

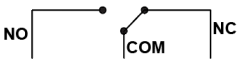
Motor running with wrong sensor cable wiring or sensor defect: led off or on (not blinking).

- When sensor has malfunctions (both in Automatic or Programming mode) motor stops and INFO / ALARM one digital display will show error «E4»; wiring and sensor status have to be checked.

2.5. Auxiliary relay:

(for external device management; e.g. electrolyser or pump)

Dry contact 3A 30VDC, with common (COM) and contacts normally closed (NC) / normally open (NO).



AUXILIARY REL.

Mode	Pool cover position		Etat du relais	Led « AUX »
Automatic	Completely open		(NO)	
	Moving		(NC)	
	Completely closed		(NC)	
Manual	**Depending on motor rotation direction**	**Open direction**	(NO)	
		Close direction	(NC)	

To be connected to AUXILIARY REL terminal block.

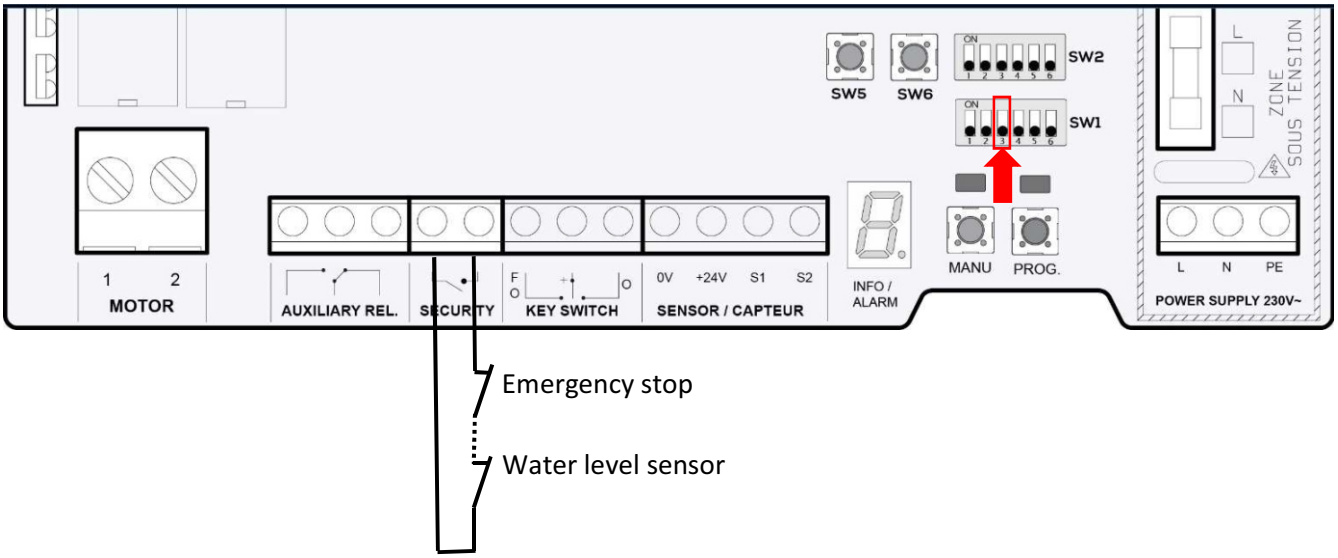
2.6. Security loop:

This security loop is designed to connect one or more (serial connection) devices or sensor which may stop motor movement in case of critical or abnormal situation. Example of possible devices: water level sensor, emergency stop button, etc.

The connected device has to be equipped with a dry contact which is normally closed when inactive and open in case of alarm condition; this circuit opening will activate security loop and stop or prevent motor movement.

To be connected to SECURITY terminal block.

This function is activated by moving to « **ON** » the dip-switch - **3** - of « **SW1** ».



2.7. Motor:

Use for connection one cable 2 wires type HO7 RN-F,4 mm² section (minimum) and up to 10mm² depending on the distance between motor and control box.

Motor cable colours: red and grey wires.

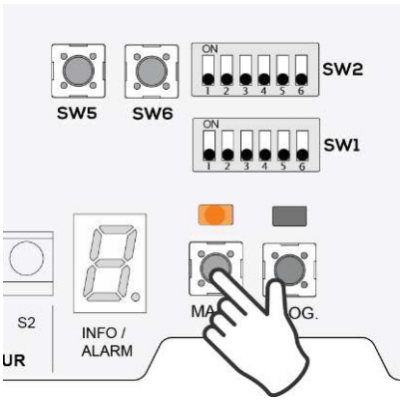
To be connected to MOTOR terminal block (positions1 et 2)

Pass the cable through a cable gland.

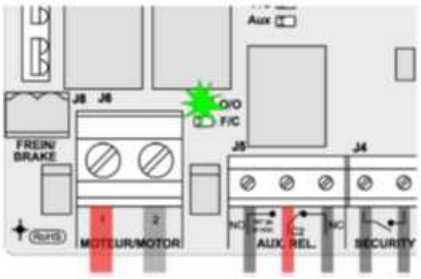
2.8. Cabling verification:

Press button « MANU » to enter in FORCED mode (see chapter 3.6) and verify that motor rotation sensor is coherent with three position key switch settings.

ATTENTION: in FORCED mode sensor signal is not taken inot account ; it is therefore possible to move the cover even outside its normal working range thus damaging the cover. Please use this mode with a lot of caution and always keeping eyes and direct control on the pool.



In case cover moves in the wrong direction and if contact switch is correctly cabled, reverse grey and red motor wire connections.

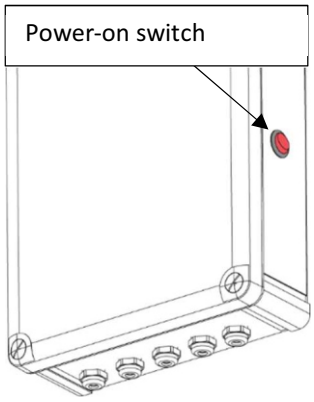


When opening, O/O green led blinks.

When closing, F/C green led blinks.

Section 4. Control box configuration and programming

3.1. General information



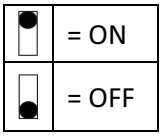
To power-on the control box, press the red switch on the side and put on position « I »

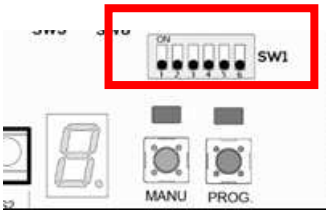
The switch will light up and the board run its start-up sequence. During board initialization procedure you'll see code «  » blinking on INFO/ALARM display for a few seconds.

Control box has been conceived and sized in order to work continuously up to 10 minutes maximum. Beyond this time try to let the board at rest for half an hour to allow components cooling down.

Temperature working range is between 0°C and 50°C max.

3.2. Micro-switches programming





Micro-switches « SW1 »

	OFF	ON
1	Contact held to open	Open with one pulse
2	Contact held to open	Close with one pulse (Not compliant with NF P90-308 and forbidden in France)
3	Safety loop disabled	Safety loop active
4	Available	
5	Available	Available
6	Available	Available

3.3. **INFO/ALARM Display**

	Blinking	Start-up procedure ongoing.
	Fix	Automatic Mode.
	Blinking	Unused.
	Fix	Unused.
	Blinking	Limit switch programming to be done
	Fix	Unused.
	Blinking	Unused.
	Fix	Safety loop open.
	Blinking	Sensor defect.
	Fix	Sensor power supply problem
	Blinking	Maximum motor load exceeded.
	Fix	Fuse « F1 » to be replaced.
	Blinking	Important Archimede force.
	Fix	Excessive Archimede force.
	Blinking	Unused
	Fix	Overload
	Blinking	Control board over-heated.
	Fix	Software problem.
	Blinking	Electronic board defect.
	Fix	Power feed defect.

3.4. **Programming mode** (to be used by qualified personnel)

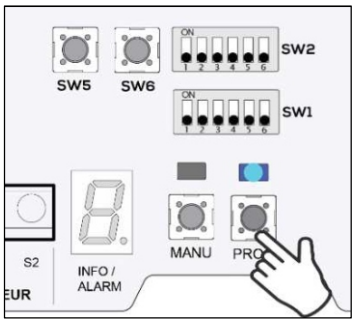
This mode allows limit switch programming thus fixing pool cover working cycle and distance to run.

Programming procedure:

1. Move and set the cover to the correct open position (pool completely open) (*use MANU mode if necessary*).

⚠	This position will be recorded as zero; make a careful choice of this position avoiding winding too much the cover. Please refer to cover supplier's installation prescriptions.

2. Push on « PROG. » button – A blue LED lights up.
3. Move your cover with the key switch and bring it to position « completely closed".
4. Press « PROG. » button again to terminate programming sequence. Blue LED is off. Control box enters in « Automatic" mode and INFO/ALARM display will show « 0 ».



3.5. **Automatic mode**

⚠	**WARNING**
Always keep your eyes and survey while moving the cover.	

This mode allows a normal usage of the cover with automatic stop when limit switch is reached.

In this mode, cover can be controlled by different devices (key switch, hand remote, smartphone, etc…)

Cover is automatically stopped at limit switch position thanks to the previous programming phase. As said in the previous chapter, this mode is activated when programming sequence has been executed successfully.

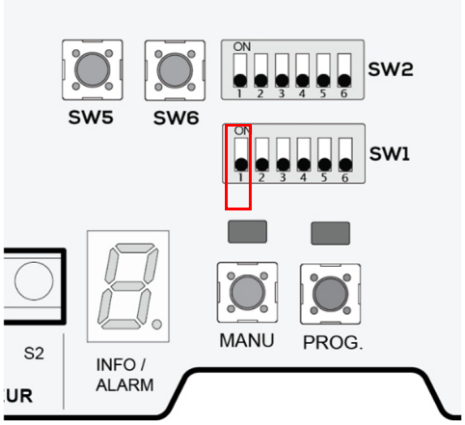
In this case INFO/ALARM display shows « 0 ».

When the cover is one of the two limit position, control box prevents the activation in one of to rotation sense. If cover is fully open and operator try to further open it, motor will not move. Vice versa for closing position and closing direction.

3.5.1. Pulse mode on opening for control devices

Pulse mode allows the user to activate pool opening with just a short pulse of control device instead than holding continuously the command during motor movement.

This function is obtained for opening by activating dip-switch « 1 » of **« SW1 »** to « **ON** ».



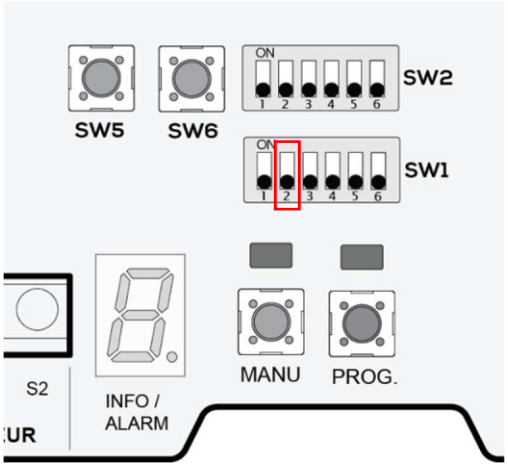
This function is inactive when control box is in « MANUAL » or « PROGRAMMATION » even if the dip-switch is set to ON.

3.5.2. Pulse mode on opening for control devices

WARNING
This function is not compliant with norm NF P90-308 and is forbidden in France.

Pulse mode allows the user to activate pool closing with just a short pulse of control device instead than holding continuously the command during motor movement.

This function is obtained for opening by activating dip-switch 2 – of **« SW 1** » to « **ON** ».



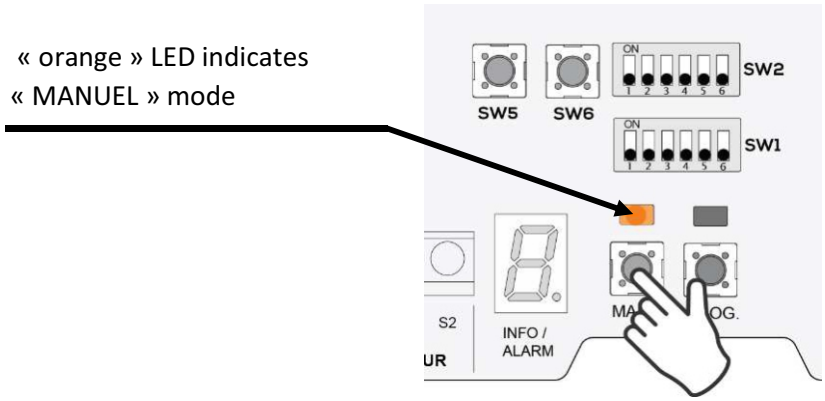
This function is inactive when control box is in « MANUAL » or « PROGRAMMATION » even if the dip-switch is set to ON.

3.6. **MANUAL Mode** (to be used by qualified personnel only)

Manual mode allows moving the cover even beyond cover limit positions; sensor signal is not considered any more.

Activating MANUAL mode erases any previous parameter programmed; in particular limit switch positions will need to be re-programmed if user wants to go back to AUTOMATIC mode.

This mode can be activated pressing « MANU » button as shown below; an orange LED just above the button will light up to confirm mode transition.



Operator will be allowed to move the cover using one of the available control devices.

⚠	The user has to pay the maximum attention in order not to damage the cover. In MANUAL mode the control is completely manual so no automatic stop or overload check is done.

Exiting « MANUAL » mode can be done only programming again limit switch position. (see also « PROGRAMMATION » mode).

Section 5. **Defects and alarms**

4.1 Security loop

This security loops allows connecting one or more devices that can stop the motor in case of abnormal condition or alarm (water level low, emergency stop, etc.)

Security loop can be activated with micro-switch 3 on « **SW1**».

External device has to be equipped with a contact normally closed which opens in case of abnormal condition, thus blocking the motor.

In this case, INFO/ALARM display will show « 3 » fix

4.2 Sensor defect

Note: When sensor is correctly working the green LED « S1 » will blink regularly.

In case sensor breaks,

- INFO/ALARM display will show « 4 » blinking.
- Green LED « S1 » may stay off or on fix.

Note: In fact when motor is stop, LED S1 can be light on or off depending on motor's angular position.

This alarm raises also during opening and closing phase after 3 seconds without any signal received from sensor. In this case please verify sensor connections on terminal block.

This manual cannot be activated when in « MANUAL » mode.

4.3 Sensor power supply problem

INFO/ALARM display will show « 4 » fix.

In this case please verify sensor connections on terminal block.
If alarm persists even disconnecting completely sensor cable, please contact our service team.

4.4 Maximum motor load exceeded

INFO/ALARM display will show « 5 » blinking.

In this case motor stops. Verify pool cover status and eventually call your cover's supplier if problem persists.

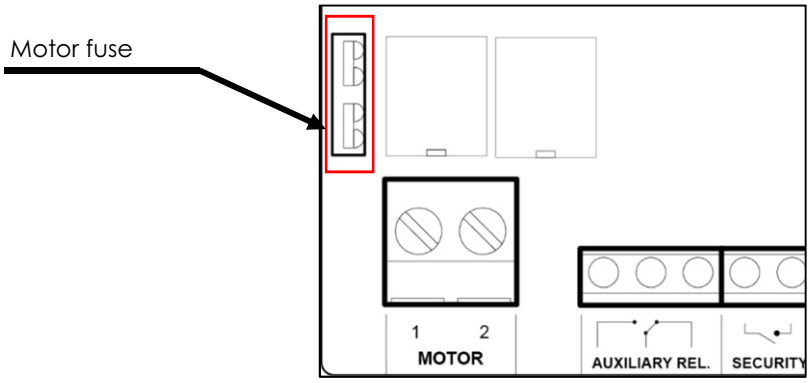
Push on « **SW5** » to acknowledge this alarm or wait for 5 seconds before restarting the motor.

4.5 Fuse fault

INFO/ALARM display will show « 5 » fix.

Verify pool cover status and cabling before restarting the motor.

In case of defect, changer motor fuse



4.6 Important Archimede force

INFO/ALARM display will show « 6 » blinking.

Push on « **SW5** » to acknowledge this alarm.

4.7 Excessive Archimede force

INFO/ALARM display will show « 6 » fix.

Activate micro-switch **3** - of « **SW2** » on **ON** (deep immersion activated).

Push on « **SW5** » to acknowledge this alarm.

4.8 Control board over-heated

INFO/ALARM display will show «  » blinking.

In this case control box will not work as long as temperature will get back to normal working range.

4.9 Software defect

INFO/ALARM display will show «  » fix.

In this case switch off completely the control board, wait 5 seconds and power it up again. If alarm persists contact our service team

4.10 Electronic board defect

INFO/ALARM display will show «  » blinking.

This alarm informs about a major hardware problem on the board. Motor activation is inhibited. Please send back the board for analysis and eventual repair.

4.11 Power feed defect

INFO/ALARM display will show «  » fix.

In this case switch off completely the control board, wait 5 seconds and power it up again. If alarm persists contact our service team.

Section 6. **Intervention** (to be done by qualified personnel only)

WARNING

Important: when main power switch is on position « O » (no backlight), all board is out of tension **except for the area marked « SOUS TENSION ».**

WARNING

Before any intervention on the control box, cut main power supply and wait at least 15 seconds to allow proper discharge of condensators.

WARNING

In case of board major fault before starting intervention on cables and wiring disconnect the separation device upstream in order to work in a completely safe way.

Section 7. **Maintenance**

Control box doesn't need special maintenance. User is invited to check periodically the status of control devices, especially for remotes. Replace any control device when they show signs of malfunctions.

This is valid only for private pools. In case of commercial pools, maintenance protocol may be stricter and must be in accordance with local regulations.

Section 8. **Warranty application**

Warranty is applicable only for normal usage corresponding to a maximum continuous usage of **10 minutes**. Beyond this time please wait half an hour for cooling board components.

Warranty is not applicable in the following cases:

Replacements of components done by the user.
Incorrect installation not following this guide prescriptions.
Installation not compliant with legal norms.
External devices not entertained and provoking consequent problems on the board.
Fault linked to storm or electric over tensions.
Fault linked to water projections or usage in wet environment.
Any abnormal usage of this and related pool equipment.