

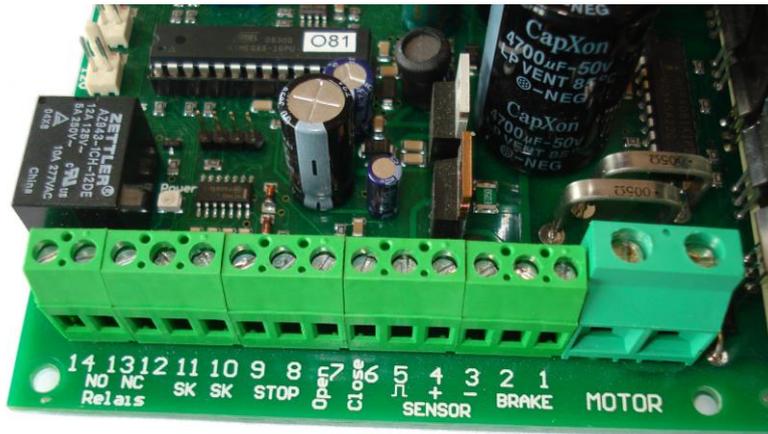
USER MANUAL



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1. Input/Output connectors



Motor	Motor output PWM 0-30VDC	
Motor		
1. Brake (+) 2. Brake (-)	Brake output 24VDC	
3. Sensor (-) 4. Sensor (+) 5. Sensor (Signal)	Encoder supply 12VDC (Always-ON supply)	
6. Close	Close cover (Normally open contact)	
7. Open	Open cover (Normally open contact)	
8. Stop	Stop cover (Normally closed contact)	
9. Stop	Common (GND)	
10. SK 11. SK	Additional safety contact (Normally closed)	
12. NC 13. C 14. NO	NC contact (Closed when the cover is on the pool) Common NO contact (Open when the cover is on the pool)	

2. 2-pin connectors

Inputs

1. Single button control (open, stop, close, stop, open, stop, etc...)
2. « Settings » mode (see next chapters)

Outputs

A	12VDC when in error
A (left pin)	12VDC (steady)
A (right pin)	GND when in error
B	12VDC when in fully open position
B (left pin)	12VDC (steady)
B (right pin)	GND when in fully open position
12V	12VDC (steady)
12V (left pin)	12VDC
12V (right pin)	GND

WARNING: Maximum 200mA on each output!



3. Operation guide

Standard functions

Pool cover open:	Press "OPEN" button for 2 seconds
or	Close contact between connectors "7" and "9" for 2 seconds
or	Short the pins of the white connector "1" (see chapter 2)
Pool cover close:	Press "CLOSE" button for 2 seconds
or	Close contact between connectors "6" and "9" for 2 seconds
or	Short the pins of the white connector "1" (see chapter 2)
Pool cover stop:	Press "OPEN" or "CLOSE" button briefly (when running)
or	Open contact between "8" et "9"
or	Open contact between "10" et "11"
or	Short the pins of the white connector "1" (see chapter 2)

"Programming" mode

1. Turn the control panel ON.
2. Push the "PROG" button for 4 seconds.
 - The green "PROG" diode turns on.
 - The orange "OPEN" diode and the orange "CLOSE" diode start blinking.
3. Use the remote key switch or the OPEN and CLOSE buttons on the circuit board or on the control panel keypad to operate the cover until it reaches the OPEN position.
 - The green "OPEN" or "CLOSE" button turns on, indicating the direction in which the cover is operated.
4. Confirm the "OPEN" position by pressing simultaneously the "PROG" and "OPEN" buttons for 1 second.
 - The orange "OPEN" diode turns on.
5. Use the remote key switch or the OPEN and CLOSE buttons on the circuit board or on the control panel keypad to operate the cover until it reaches the CLOSE position.
 - The green "OPEN" or "CLOSE" button turns on, indicating the direction in which the cover is operated.
6. Confirm the "CLOSED" position by pressing simultaneously the "PROG" and "CLOSE" buttons for 1 second.
 - The orange "CLOSE" diode turns on.
 - The green "PROG" diode turns off, indicating we left the programming mode.

NOTE: Choosing to program the "CLOSED" position before the "OPEN" position makes no difference.

"Settings" Mode

Entering the "settings" mode

1. Turn the control panel off and wait for all the LEDs on the circuit board to turn off.
2. Short the 2 pins of the white connector marked "2"
3. Turn the control panel on
4. Stop shorting the connector pins
5. Proceed with the change of the settings (see hereafter)
6. Turn the control panel off and wait for all the LEDs on the circuit board to turn off.
7. Turn the control panel on

Setting the function of the integrated relay

Pressing the "OPEN" button changes the integrated relay function by cycling through the following options:

Orange "OPEN" LED

- "Closed" limit switch (Default setting)
- The relay is energized as soon as the cover is not completely closed.

Green "OPEN" LED

- "Open" limit switch
- The relay is energized when the cover is completely open.

Orange "CLOSE" LED

- Cover in operation
- The relay is energized when the cover is opening or closing.

Activating/Deactivating the limit of time for programming/operating the cover

Pressing the "PROG" button activates/deactivates the limit of time for programming/operating the cover.

Green "PROG" LED

- Limit activated (Default setting)
- Programming time limited to ~15min
- Operation time limited to ~10min

Red "PROG/ERROR" LED

- Limit deactivated
- No programming time limit
- No operation time limit

4. AFNOR safety norm

AFNOR safety norms require holding the close command (key switch, button, keypad) throughout the closing operation.

DIP switch 1:

OFF: AFNOR Activated
ON: AFNOR Deactivated

NOTE: In both position, the opening of the cover can be triggered by holding the open command (key switch, button, keypad) for two seconds.

5. Motor settings

Motor model	DIP Switch 2	DIP Switch 3	DIP Switch 4
MTS30SL (2008 and after)	ON	ON	ON
MTS60SL	OFF	ON	OFF
LOGIC 250	ON	OFF	OFF
LOGIC 500	OFF	ON	OFF
HYBRID 300	OFF	ON	OFF
HYBRID 600	OFF	ON	OFF

6. Errors and troubleshooting

Errors can be separated in three categories depending the moment they appear:

- at power on
- during the cover operation (or programming)

A. Errors appearing at power on

As soon as the circuit board is powered, the software scans all inputs to check they are at rest (pushbuttons on the board itself, touchpad connected to the ribbon connector, any device connected to the 6 to 11 connectors.

All inputs must be at rest during the 5 seconds following the start-up of the circuit board.

Ex.: If you press the "PROG" button as soon as you switch the power on, without waiting for 5 seconds, the circuit board will show an error without entering the programming mode.

A specific error code is linked to each input

Errors linked to pushbuttons on the circuit board or touchpad connected via the ribbon cable connector

The green "CLOSE" LED starts blinking (Red "PROG/ERROR" LED off !)

- "OPEN" button (on the board) pressed during the start-up phase
or
"OPEN" input (ribbon cable connector) active during the start-up phase.

The green "PROG" LED starts blinking (Red "PROG/ERROR" LED off !)

- "CLOSE" button (on the board) pressed during the start-up phase.
or
"CLOSE" input (ribbon cable connector) active during the start-up phase.

The red "PROG/ERROR" LED starts blinking

- "PROG" button (on the board) pressed during the start-up phase.
or
"PROG" input (ribbon cable connector) active during the start-up phase.

If one of these errors appears without touching any button during the start-up phase:

1. Switch the power off
2. If present, disconnect the ribbon cable from the board
3. Switch the power back on.

- If it works without the ribbon cable connected, replace the touchpanel.
→ If it still does not work, replace the circuit board.

Errors linked to external devices connected through the 6 to 11 connectors

The orange "OPEN" LED starts blinking (Red "PROG/ERROR" LED off !)

→ External "CLOSE" input active during the start-up phase.

The green "OPEN" LED starts blinking (Red "PROG/ERROR" LED off !)

→ External "OPEN" input active during the start-up phase.

The orange "CLOSE" LED starts blinking (Red "PROG/ERROR" LED off !)

→ External "STOP" input active during the start-up phase.

(Open contact between 8 and 9 or open contact between 10 and 11)

If one of these errors appears without touching any button during the start-up phase:

1. Switch the power off
2. Disconnect wires from connectors 6 to 11
3. Put a link between 10 and 11
4. Put a link between 8 and 9
5. Switch the power back on

→ If it works, verify the wiring of your external control system.

Remember:

NC contacts between 8&9 and 10&11

NO contacts between 6&9 and 7&9

→ If it still does not work, replace the circuit board.

B. Errors appearing during normal operation

During normal operation, the cover might stop with the circuit board showing an error. In this case, the red "ERROR" LED starts blinking and one of the 5 other LEDs on the top of the board is on.

"OPEN" orange LED

→ No encoder signal

"OPEN" green LED

→ 10 minutes operation time limit reached

"CLOSE" orange LED

→ Maximum motor temperature reached

"CLOSE" green LED

→ Maximum circuit board temperature reached

"PROG" green LED

→ Maximum motor current reached

No encoder signal



The motor starts, accelerates, then stops after 5 seconds and the circuit board shows a "no encoder signal" error.

1. Verify that the software version you are using is compatible with the connected motor and that the microswitches settings are correct.
2. Verify the wiring of the encoder
3. Try connecting the motor (and the integrated encoder) directly to the circuit board in order to verify the error does not come from a damaged cable between the plant room and the junction box.

After pressing the appropriate button or operating the appropriate control, the motor does not turn and the circuit board shows a "no encoder signal" error.

1. Verify the motor wiring (1 & 2)
2. Try connecting the motor (and the integrated encoder) directly to the circuit board in order to verify the error does not come from a damaged cable between the plant room and the junction box.

The cover stops while opening / closing and the circuit board shows a "no encoder signal" error.

1. Verify that the software version you are using is compatible with the connected motor and that the microswitches settings are correct.
2. Verify the wiring of the encoder
3. Check if the motor seems to have difficulties to keep winding / unwinding the cover at constant speed.

10 minutes operation time limit



The cover stops while opening / closing and the circuit board shows a "10 minutes operation time limit reached" error.

1. If you opened/closed the cover two or more times in a row, stop playing and wait 10 minutes. The error will reset automatically and you will be able to operate the cover again.
During normal operation, the cover is not supposed to be opened / closed continuously.
2. If your swimming pool length is above normal and your cover takes more than 10 minutes to close, time limits must be deactivated. To do so, please refer to Chapter 5 and "Settings" mode paragraph.

Maximum motor temperature reached



The cover stops while opening / closing and the circuit board shows a " Maximum motor temperature reached " error.

1. If you opened/closed the cover two or more times in a row, stop playing and wait 10 minutes. The error will reset automatically and you will be able to operate the cover again.
During normal operation, the cover is not supposed to be opened / closed continuously.
2. This error is very unusual. Should it appear frequently, consider replacing the circuit board.

Maximum circuit board temperature reached



The cover stops while opening / closing and the circuit board shows a "Maximum circuit board temperature reached" error.

1. Cautiously touch the circuit board heatsink (Large black aluminium part on the right side of the board)
2. If the heatsink is cold, the temperature sensor on the circuit board is defect. Replace the circuit board.
3. If the heatsink is warm:
 - a. the motor draws a lot of current (Logic 600, MTS60) and has been used continuously during an abnormally long period of time.
 - b. the control panel is installed in a particularly warm environment.
 - c. the circuit board is defect

Maximum motor current reached



As soon as the Open or close controls are operated, the circuit board shows a "Maximum motor current reached" error.

1. Verify that the software version you are using is compatible with the connected motor and that the microswitches settings are correct.
2. Verify that there is no direct short between the motor wires.
3. Verify that the motor brake is correctly connected to the circuit board (MTS60SL and all Logic motors)
4. Check that the brake unlocks properly (you should hear a distinctive "clac" in the motor at the moment the brake unlocks).
5. Check that the motor is not blocked in any way.

The cover stops while opening and the circuit board shows a "Maximum motor current reached" error.

1. Verify that the software version you are using is compatible with the connected motor and that the microswitches settings are correct.
2. Check that the cover and the spindle are not blocked in any way.
3. If the error appears during first use, check that the motor has enough power for your pool. (watch the depth!)

The cover stops while closing and the circuit board shows a "Maximum motor current reached" error.

1. Verify that the software version you are using is compatible with the connected motor and that the microswitches settings are correct.
2. Check that the cover and the spindle are not blocked in any way.