panda
POOL PRODUCTS

DELUXE

INSTALLATION MANUAL

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1. SAFETY

The warning and hazard symbols described below must be understood in order to carry out a safe and adequate installation.

GENERAL WARNINGS

Before installation, please read the following instructions carefully. Failure to comply with the described safety measures could cause: material damage, serious bodily injury and even death

1.1. SYMBOLS AND MEANINGS

DANGER

It indicates a situation of imminent danger that, if not avoided, will result in serious injury and even death.

WARNING

It indicates a situation of imminent danger that, if not avoided, can result in serious injuries.

CAUTION

It indicates a potential hazardous situation that, if not avoided, will result in minor injuries.

 **DANGER** .	Risk of electric shock Poor installation can create an electrical hazard and can cause serious injuries to pool users. Read and follow the instructions to avoid any accidents.
 **WARNING** .	Before installing the LED lamp, you must read and follow all the warnings described in this manual.
 **WARNING** .	**Important** This manual contains information on the installation, operation and safe use of this product.
 **WARNING**	1.- The LED lamp must operate completely submerged and properly connected to the transformer. 2.- For these models, the operating voltages work with 12V AC or 12V DC depending on the model; another voltage may damage it.

2. INSTALLATION AND OPERATION

These LED lamps are designed to be installed in concrete pools.

Maximum submergence:	1 - 5 meters
Maximum operating temperature:	-20°C ˜ 38°C

2.1. INSTALLATION

Then perform the following steps for a successful installation:

1. Make sure that the pool where the LED lamp will be installed complies with what is necessary to make a correct installation. An electrician and/or qualified personnel will be able to evaluate existing risks in the installation to be corrected and carry out the installation of the new lamps

2. Check that there is a method for completely disconnecting the power supply in the pool's electrical circuit. This is done through the use of a main switch and a ground fault switch.

3. Remember that this series of lamps are powered through a control transformer (sold separately), it is important to verify that the power, supply voltage and output are within the product specifications and in accordance with the installation requirement

Please follow the installation diagrams shown in Figures 1A and 1B (for nicheless lamps) and Figures 2A and 2B (for lamps with niche).

5. The lamp and all electrical components of the pool must be connected to a power source that provides SELV (Safety Extra Low Voltage) or VLSV (Very Low Security Voltage) for proper operation.

MODELS:

DLX-9-C-7W-12A, DLX-9-B-12W-12A, DLX-9-C-12W-12A, DLX-9-C-18W-12A and DLX-9-C-25W-12A

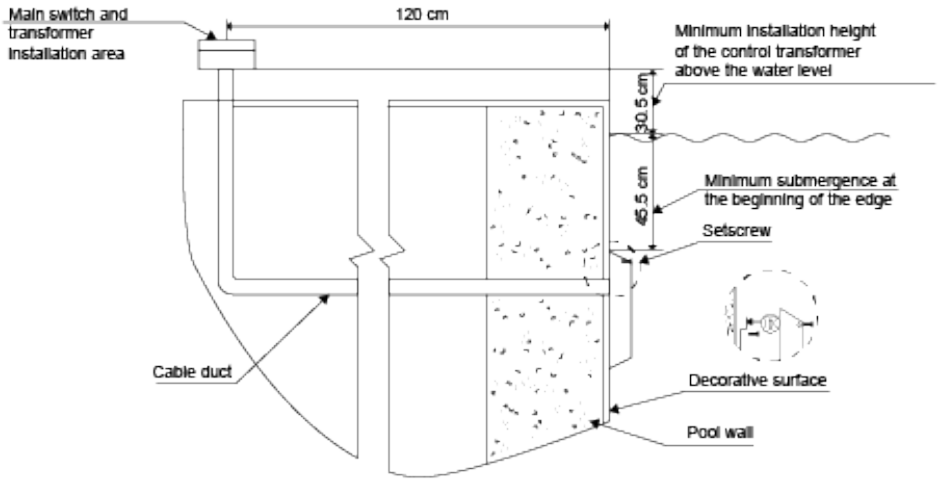


Figure 1A. Lamp without niche

MODELS:
DLX-3-B-10W-12D and DLX-3-C-18W-12D

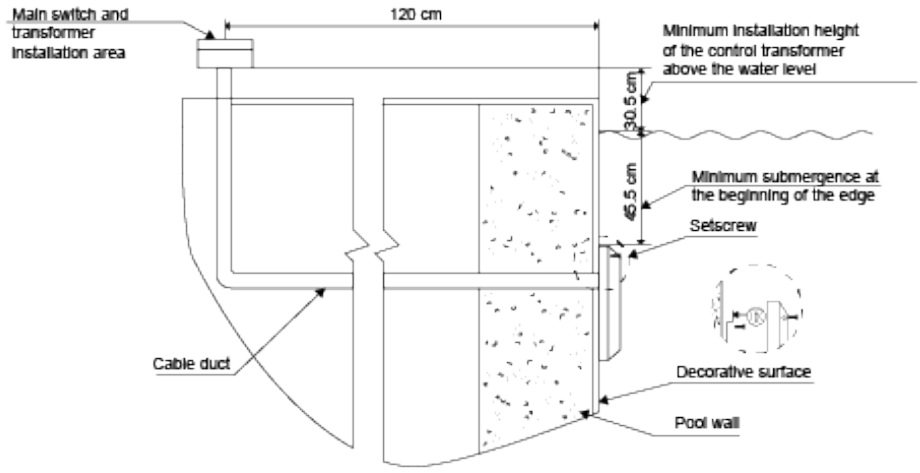


Figure 1B. Lamp without niche

MODELS WITHOUT A NICHE

6. The mounting bracket must be properly installed so that the top edge of the LED lamp is below 45 cm from the water surface of the pool, but not more than 5 meters deep.

MODEL WITH NICHE

7. The niche must be installed so that the top edge of the LED lamp is below 45 cm from the surface of the pool water, but not more than 5 meters deep.

The lamp must be properly grounded to an independent ground separate from the main power network (refer to specific models).

MODELS:
DLX-10N-B-18W-12A, DLX-10N-C-35W-12D, DLX-10N-C-35W-12A and DLX-10N-B-50W-12A

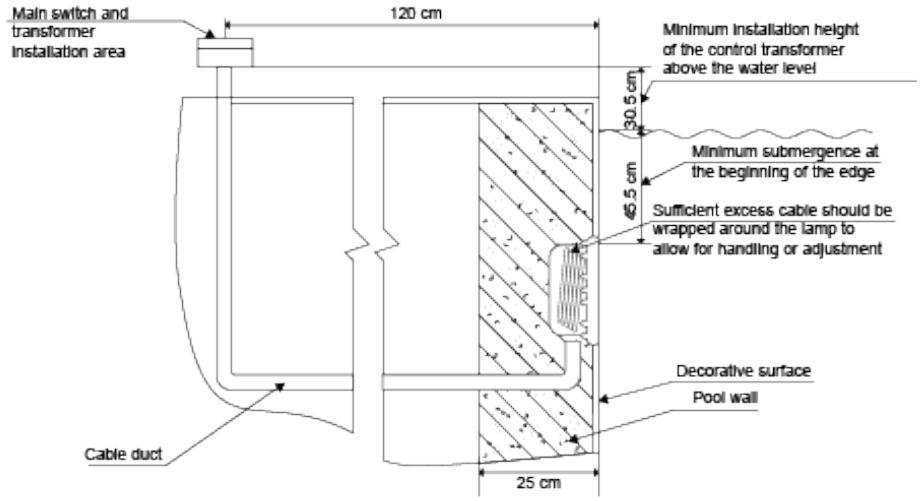


Figure 2A. Lamp with niche

MODEL:
DLX-2N-B-3W-12A

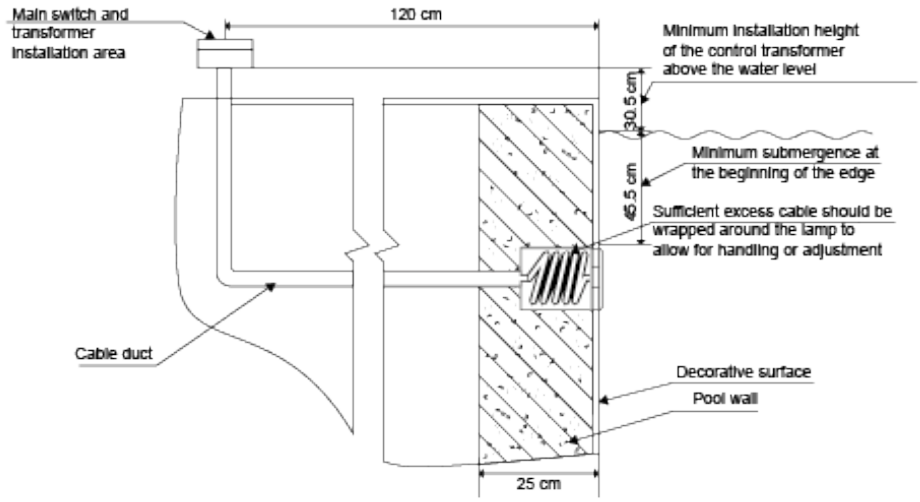
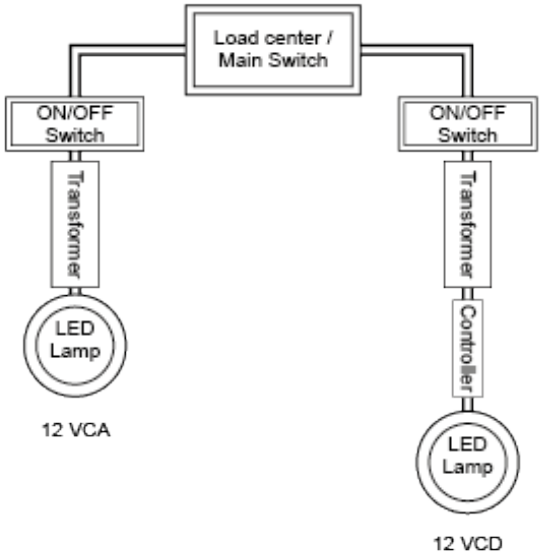


Figure 2A. Lamp with niche

CAUTION
Before starting up, please check the electrical connections again.

ILLUSTRATION SHOWING THE LOCATION OF ELECTRICAL COMPONENTS

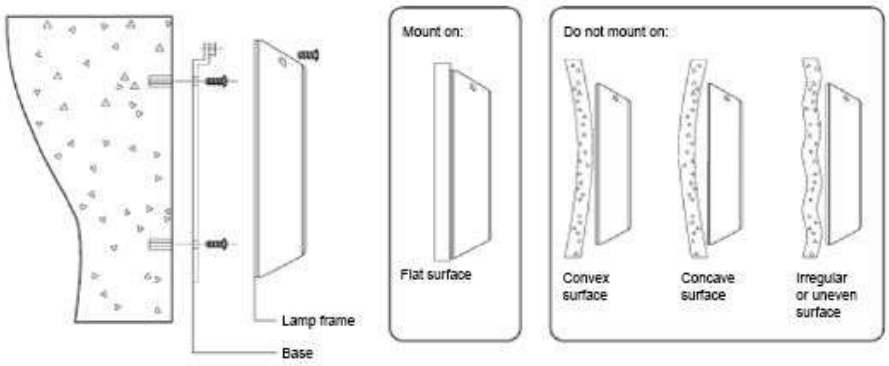


CAUTION
The distance between the transformer and the LED lamps must not exceed 30 meters.

3. LAMP ASSEMBLY

STEPS TO FOLLOW FOR WALL MOUNTING THE LAMP WITHOUT A NICHE.

1.- The lamp must be installed on a vertical wall, respecting the specifications shown in figure 3.



2.- If the surface of the pool is finished, you should check when installing the LED lamp that is flush with the concrete to avoid leaks.

WARNING

The area where the mounting base will be installed must be flat flush with the lamp to ensure a perfect fit between the lamp and the pool wall.

3.-Remember that the power cable running through the conduit to the control transformer must be at least 120 cm away from the lamp. A sufficient length of cable should be coiled near the LED lamp to allow handling outside the water in case of maintenance or repair.

4.- Cut the insulating cover of the LED lamp cable that reaches the control transformer, leaving at least 15 cm of cable to make the connections.

5.- Remove the insulating cover from the lamp cables to leave the connection lines free and make an installation on the terminals of the transformer. Be careful not to damage the cable when cutting.

6.- Connect the corresponding cables to the control transformer, the cables of the alternating lamp have no polarity so they can be connected in any way. In direct current LED lamps, if they must be connected in pole order, positive (red cable) and negative (black cable)

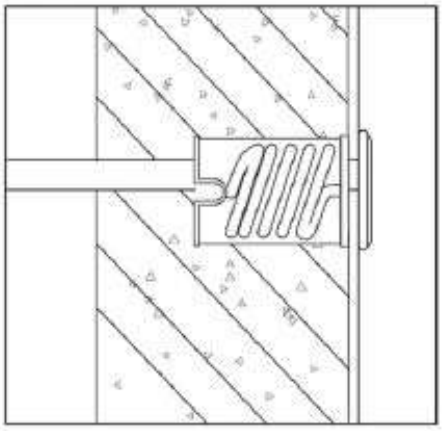
DANGER

Never turn on the LED lamp for more than 60 seconds if it is not completely submerged. Without total submergence, the LED lamp will heat up, which can cause injury to the users, installer, or damage to the equipment itself. The lamp is designed to always work underwater as it uses it to cool its internal components.

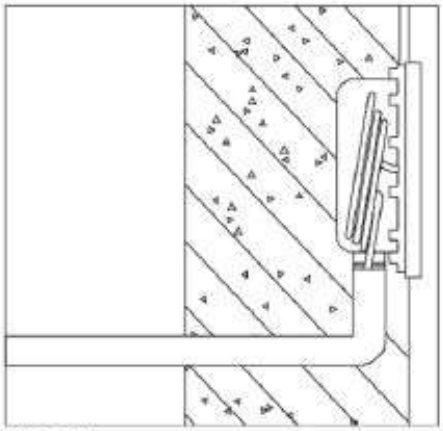
7. Fill the pool until the LED lamp is completely submerged before turning on the lamp.

8. The lamp's power cable cannot be replaced. If the cable is damaged, the entire lamp must be replaced.

STEPS TO FOLLOW TO ASSEMBLE THE LAMP WITH NICHE.



MODEL:
DLX-2N-B-3W-12A



MODEL:
DLX-10N-B-18W-12A
DLX-10N-C-35W-12D,
DLX-10N-C-35W-12A
DLX-10N-B-50W-12A

1.- Leave enough space in the pool to cement the niche, respecting the diagram in figure 2A and 2B described above (see models).

2. Secure the cable firmly inside the niche to prevent water leakage.

3. Remember that the power cable, routed through the conduit to the control transformer, must be at least 120 cm away from the lamp. A sufficient length of cable should be left coiled with the LED lamp to allow handling outside the water in case of any repair.

4. Strip the insulation from the LED lamp cable that reaches the control transformer, leaving at least 15 cm of wire exposed for making the connections.

5. Remove the insulation from the lamp wires to expose the connection lines and complete the installation at the transformer terminals. Be careful not to damage the wire when cutting.

6. Connect the corresponding wires to the control transformer. The lamp wires for alternating current have no polarity, so they can be connected in any way. For direct current LED lamps, they must be connected according to polarity: positive (red wire) and negative (black wire).

DANGER
Never turn on the LED lamp for more than 60 seconds if it is not fully submerged. Without full submersion, the LED lamp will heat up, which may cause injury to users or installers, or damage to the equipment itself. The lamp is designed to always operate underwater, as it uses the water to cool its internal components.

7. Mount the lamp in its niche and secure it with the fixing screw.

WARNING
You must use the included fixing screw for the correct installation of the lamp.

8. Fill the pool until the LED lamp is completely submerged before turning on the LED lamp.

9. The lamp's power cable cannot be replaced. If the cable is damaged, the entire LED lamp must be replaced.

REPLACEMENT OF A LAMP IN THE POOL

DANGER
Always disconnect the power supply to the pool lamp before performing any repairs. Failure to do so may cause injury.

Turn off the main electrical switch and verify that there is no voltage output to the control transformer that powers the LED lamp.

Remove the fixing screw from the lamp to release it from its base or niche.

3. Disconnect the lamp wires from the control transformer and pull the cable through the conduit to completely remove the LED lamp (attach a rope, wire, or cable strong enough to serve as a guide to the end of the lamp’s power cable for the next step).

Thread the cable of the new LED lamp to be installed through the conduit towards the control transformer using the guide. Install the replacement LED lamp as indicated in the "INSTALLATION" step.

4. CONTROL TRANSFORMERS AND STATIC ELECTRIC CONVERTER

The control transformer and the static electric converter (sold separately) are essential to be able to turn on the LED lamps.

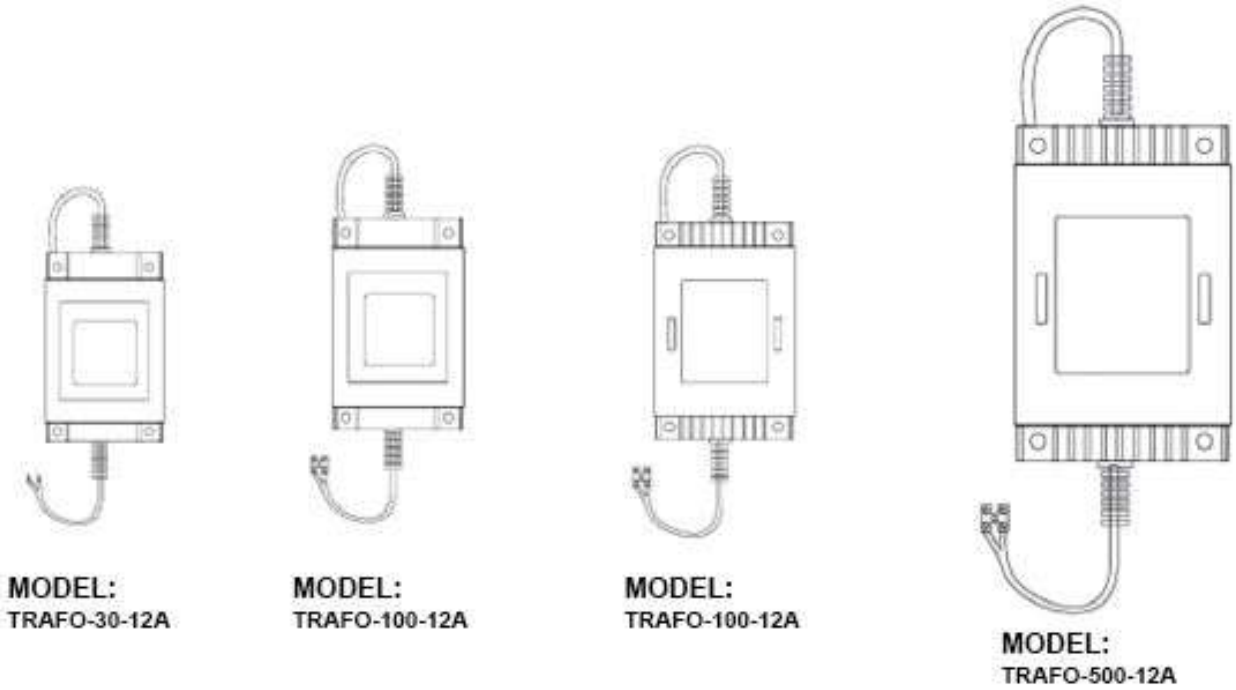
There are two options available depending on your project:

Alternating current transformers

2.- Static electric converter

4.1. ALTERNATING CURRENT TRANSFORMERS

The alternating current transformers are categorized into 4 models according to their power: 30 W, 100 W, 300 W, and 500 W. They have a connection panel for powering the lamps to be used (the maximum number of lamps you can install will directly depend on the transformer's power divided by the power of the lamps to be installed).



CAUTION

The transformer must be installed by an electrician and/or qualified personnel.

The transformer must be installed in an environment free of moisture or any flammable elements or materials.

Specifications:

CODE	POWER	INPUT VOLTAGE	OUTPUT VOLTAGE	CONNECTION
TRAFO-30-12A	30	127 VCA	12 VCA	TWO-TERMINAL CONNECTION PANEL
TRAFO-100-12A	100			
TRAFO-300-12A	300			
TRAFO-500-12A	500			

For alternating current transformers, the connection terminals have no polarity, so the order of connecting the lamp wires does not matter.

4.1.1. OPERATION:

CAUTION

Note: Remember that transformers, both direct and alternating current, must have a switch that ensures complete disconnection.

1. To turn on the LED lamps, you must activate (close) the main switch.

2. In color models, it is possible to make all the lamps light up in the same color; this operation is known as SYNCHRONIZATION. To carry out this process, all the lamps to be synchronized must be turned on and off three times, making sure that no more than two seconds pass between each off and on cycle. After this, the lamps must be powered off for 10 seconds. Once this time has passed, turn on the main switch, and the lamps will be synchronized, displaying the same color. If synchronization is not achieved, repeat this step.

3. Color change: assuming all the lamps are now synchronized, it is only necessary to turn the main switch off and on within less than two seconds for the lamps to change following the color and show sequence (shown later). This also applies when there is only one lamp.

4. To turn off the LED lamps, you must switch off the main switch.

#	MODE	#	MODE
1	Static blue	9	Quick change Red/Red-Green/Green
2	Static red	10	Quick change Green/Green-Blue/Blue
3	Static green	11	Quick change Blue/Red-Blue/Red
4	Static purple	12	Gradual change between Red-Green / Green-Blue / Red-Blue
5	Static cyan	13	Slow flashes Red/Green/Blue
6	Static yellow	14	Slow flashes Red/Blue/Green
7	Static white	15	Fast 7-color change
8	Gradual change between Green/Red/Blue	16	Gradual change between Red/Green/Blue

5. STATIC ELECTRIC CONVERTER

It is available in a 500W model. It features a connection panel for powering the LED lamps (the maximum number of lamps that can be installed will directly depend on the converter's power divided by the power of the lamps to be installed). Remember that in many cases, it will be necessary to connect a controller with remote control (which will be described later) before connecting the lamps.

CODE	POWER	INPUT VOLTAGE	OUTPUT VOLTAGE	CONNECTION
TRAFO-500-12D	500 W	127 Vca / 220 Vca	12 Vcc	PANEL WITH 3 CHANNELS WITH POSITIVE AND NEGATIVE TERMINALS (+ and -)

The connection terminal does have polarity, so it is important to follow the correct order when connecting the lamp wires.

6. DIRECT CURRENT OPERATION WITH REMOTE CONTROL:

All color lamps that operate on direct current require the use of a controller, as it is not possible to connect the color lamp directly to the converter. The controller, as its name suggests, regulates the voltage flow to the lamps. With the help of the included remote control, it allows users to manage: power on and off, color change, brightness, lighting speed, and show mode.

CAUTION
Note: Remember that both direct and alternating current converters must have a switch that ensures complete disconnection.

6.1. CONTROLLER WITH REMOTE CONTROL (DIRECT CURRENT)

The direct current controller with remote control is available in one model with a power rating of 180W. It features a connection for the LED lamps to be used (the maximum number of lamps depends on the controller's power capacity, 180W).

Specifications:

CODE	POWER	INPUT VOLTAGE	OUTPUT VOLTAGE
CTRL-180-12D	180	12 VCD	12 VCD

CAUTION
The converter must be installed by an electrician and/or qualified personnel.

The converter must be installed in a moisture-free environment.

The converter powers the controller through the terminals marked V+ and V-. To connect the lamp to the controller, follow the following connection sequence:

CONTROLLER	LAMP
BORNE "+"	BLACK CABLE
BORNE "R"	RED CABLE
BORNE "G"	GREEN CABLE
BORNE "B"	BLUE CABLE

7. OPERATION:

1. To turn on the LED lamps, you must activate the main switch.

2. In color models, it is possible to make all the lamps light up in the same color; this operation is known as synchronization. To carry out this process, simply ensure that all the lamps are connected to the same controller.

3. Select the desired color or show using the remote control, following the color and show sequence (shown later).

4. To turn off the LED lamps, you must switch off the main switch or press the OFF button on the controller or the remote control.

#	MODE	#	MODE
1	Static red	17	Fading and radiant cyan
2	Static green	18	Fading and radiant white
3	Static blue	19	Fading and radiant color show
4	Static yellow	20	Soft Red/Green color
5	Static purple	21	Soft Red/Blue color
6	Static cyan	22	Soft Green/Blue color
7	Static white	23	Soft Red/Yellow color
8	Color jump	24	Soft Green/Cyan color
9	7-color jump	25	Soft Blue/Purple color
10	White strobe	26	Soft Green/Yellow color
11	7-color strobe	27	Soft Blue/Cyan color
12	Fading and radiant red	28	Soft Red/Purple color
13	Fading and radiant green	29	Soft Blue/White color
14	Fading and radiant blue	30	Soft Yellow/Purple/Cyan color
15	Fading and radiant yellow	31	Soft Red/Green/Blue color
16	Fading and radiant purple	32	All colors in soft mode

All programming is done through the controller's remote control. Below are some functions described (you can consult the complete information in the controller's manual):

BUTTON	FUNCTION
ON:	Turning on the LED lamps
OFF:	Turning off the LED lamps
MODE +:	Change the light show forward
MODE -:	Change the light show backward
SPEED +:	Speed up the light show
SPEED -:	Slow down the light show
BRT +:	Increase the intensity of the LED light
BRT +:	Reduce the intensity of the LED light
CIRCULAR TOUCH PANEL:	Change the color according to the client's selection on the panel.


CV CONTROLLER


1
2
3
4
5
6
7
8
9

8. USES AND PROHIBITIONS

Uses

Installation in concrete pools

Use with 12V AC or 12V DC, depending on the model.

Synchronization of colored lamps by sequential shutdown and on.

Installation following the specified minimum and maximum depth measurements.

Prohibitions

Do not replace the power cable if damaged; the entire lamp must be replaced.

Do not connect to a voltage higher than or different than 12V, as this could burn the equipment.

Do not operate the electrical system without first disconnecting the main power supply.