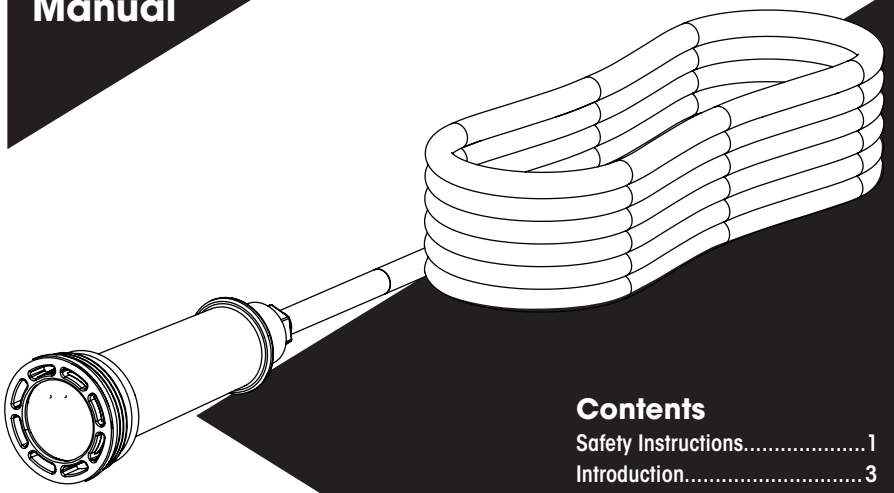
AQUACOLORS

POOL LIGHTING SYSTEMS

AQUACOLORS POOL LIGHT | 2" P-Mode

POOL/SPA LED LIGHT

Owner's Manual



Contents

Safety Instructions.....1
Introduction.....3
Installation.....6
Operation.....9
Warranty.....11

75-1100-P
75-1150-P

RevA-01

AQUACOLORS

POOL LIGHTING SYSTEMS

IMPORTANT SAFETY INSTRUCTIONS

When using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS:

⚠ **WARNING** – Read and follow all instructions in this manual and on the equipment. Failure to do so may result in serious injury or death.

⚠ **DANGER** – Incorrect installation or use of this light can cause serious injury or death. Follow all instructions carefully.

⚠ **DANGER** – Installers, pool operators, and owners must read and understand all warnings and instructions before using this pool or spa light.

⚠ **WARNING** – State and local codes regulate the construction and operation of pools and spas. Always comply with applicable building and health codes when installing and using this product. Consult your local building and health codes for more info.

⚠ **ATTENTION** – This manual contains important information regarding the safe installation, operation, and use of this underwater light. Provide this manual to the owner or operator. Failure to follow all warnings and instructions may result in serious injury, death, or property damage.

⚠ **WARNING – Prevent Child Drowning.** Always supervise children. Do not allow anyone to sit, step, lean, or climb on pool equipment. Install operational components at least 5 ft (1.5 m) from the pool to prevent children from using equipment to access the pool.

⚠ **DANGER – Risk of Electric Shock or Electrocution.** Underwater pool lights require high voltage which can shock, burn, or cause death. Before working on or servicing pool lights, ALWAYS DISCONNECT power to the pool and/or spa lights at the source circuit breaker. Failure to do so could result in death or serious injury to service person, pool users or others due to electric shock. When installing and using this electrical equipment, basic safety precautions should always be followed.

⚠ **DANGER – Risk of Electric Shock.** This underwater light must be installed by a licensed or certified electrician or a qualified pool professional in accordance with the current National Electrical Code (NEC), NFPA 70 or the Canadian Electrical Code (CEC), CSA C22.1. All applicable local installation codes and ordinances must also be adhered to. Improper installation will create an electrical hazard which could result in death or serious injury to pool users, installers or others due to electrical shock, and may also cause damage to power source. Always disconnect the power to the pool light at the circuit breaker before servicing the light. Failure to do so could result in death or serious injury to service person, pool users or others due to electrical shock.

For countries in compliance with International Electrotechnical Commission (IEC) regulatory standards: The light fixture must be installed by a licensed or certified electrician or a qualified pool service person, in accordance with current IEC 364-7-702 and all applicable local codes and ordinance. Improper installation will create an electrical hazard, which could result in death or serious injury to pool user, installer or other due to electrical shock and may also cause damage to the property.

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING – Risk of Electrical Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI).

Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI. This light must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the light without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this light. Disconnect the light and have the problem corrected by a qualified service representative before using. Locate your pool so that the wall is at least 10 feet (3.048 m) from all electrical receptacles and at least 20 feet (6.1 m) from all receptacles not protected by a GFCI. It is also very important to locate the pool so that it is not under any electrical wiring, that is less than 18 feet (5.49 m) vertically above the pool wall and within an area located 10 feet outside the pool walls. The pool must also never be located under any lighting fixture or within 5 feet (1.5 m) measured horizontally from any fixture mounted less than 5 feet (1.5 m) vertically above the pool water level.

NOTICE – The external flexible cable or cord of this luminaire cannot be replaced; if the cord is damaged, the luminaire should be discarded/ destroyed.

INSTALLERS AND INSPECTORS: The AquaColors 2" P-Mode Pool Light and plastic niche form a complete non-metallic low voltage lighting system. This configuration does not require bonding or grounding when powered by a listed, Class 2, 100-Watt or 300-Watt transformer and installed in compliance with the current National Electric Code (NEC).

UNBONDED LIGHTING NEC PROVISIONS: When the UL listed non-metallic AquaColors 2" P-Mode Pool Light low voltage lights are used with the AquaColors 2" approved niches, the current NEC provides an exception to luminaire bonding and grounding in Article 680.6 and 680.23

POOL WATER BONDING NEC PROVISIONS: For Pool Water Bonding required by NEC Article 680.26C, concrete pools are considered conductive (refer to 680.26 (b)(1) due to the porosity of concrete and the bonding of rebar. No additional bonding is required.

POOL AND SPA FIXED LUMINARIES: Follow these guidelines when installing or replacing AquaColors 2" P-Mode Pool Light fixed luminaries:

FOR LIGHT OPERATION, ONLY USE A SAFETY ISOLATION TRANSFORMER. NOTE: Connect both wires to the corresponding circuit wires in the Junction Box (black wire to power, and white wire to common)
FIXED POOL AND SPA LUMINAIRES SPECIFICATION: 12 VAC 50/60 Hz

NOTICE – The AquaColors 2" P-Mode Pool Light is a non-serviceable light. The complete light assembly must be replaced. Connecting the unit improperly will damage the light. 12-14 VAC only.

AQUACOLORS

POOL LIGHTING SYSTEMS

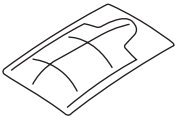
INTRODUCTION

This manual explains how to install, replace, and operate the AquaColors 2" Pool Light for pools and spas. These energy-efficient LED lights deliver a vibrant range of colors to enhance any pool environment. Select from dynamic color light shows or fixed color settings to create a wide variety of dramatic underwater lighting effects for your pool or spa.

Technical Specifications

Nominal Supply Voltage	12-14 VAC, 50/60 Hz
Power Consumption	19 Watts Max Per Light
Fault Protection Run	Dry Thermal Cut Off. Over Current Fuse Protection.

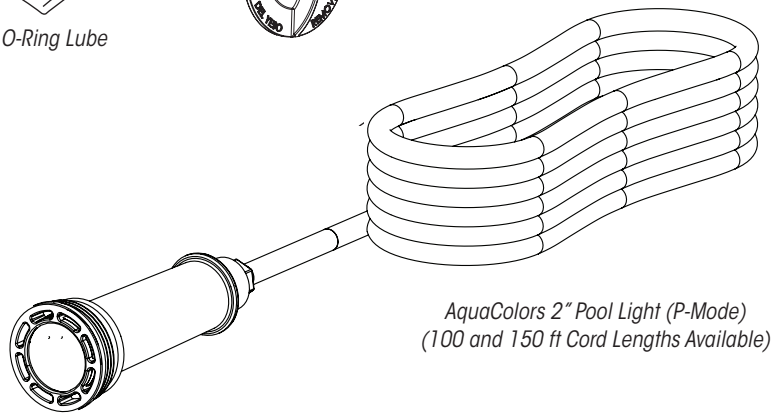
What's Included



O-Ring Lube



Installation Tool
Plaster Cover



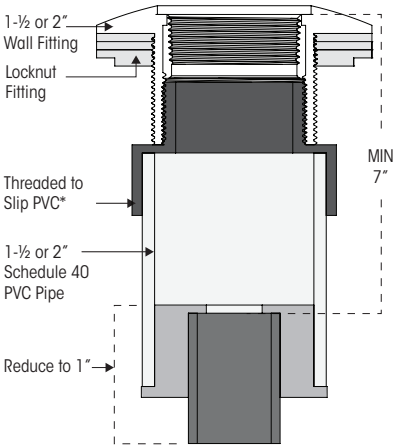
AquaColors 2" Pool Light (P-Mode)
(100 and 150 ft Cord Lengths Available)

Compatibility

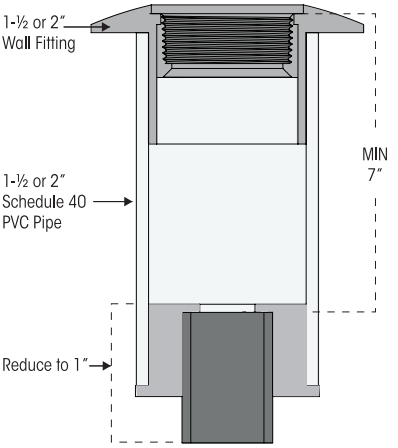
The AquaColors 2″ Pool Light is installed with either 1-1/2″ or 2″ Schedule 40 PVC pipe with the appropriate reducers.

IMPORTANT - There must be a **minimum vertical clearance of 7 in.** between the topmost thread of the wall fitting and the seating surface of the bottom reducer. Assemble the PVC pipe and required reducers to maintain the minimum 7″ clearance as shown below.

Fiberglass/Vinyl

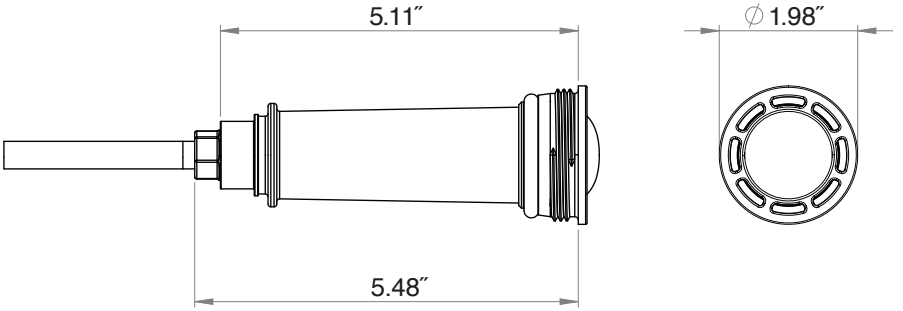


Gunite



* Ensure that the luminaire can freely pass through the 1-1/2″ threaded male/slip adapter before gluing.

AquaColors 2″ Pool Light Dimensions



AQUACOLORS

POOL LIGHTING SYSTEMS

INSTALLATION

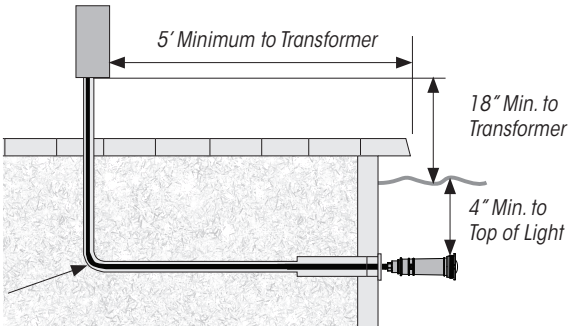
Wiring Overview

IMPORTANT - The following information describes the tasks that must be completed by an electrician before the light fixture is installed.

⚠ **WARNING –** Be sure that the pool or spa meets the requirements of the current National Electrical Code (N.E.C.) Article 680-22 and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the underwater light is installed. Some of the requirements of the National Electrical Code which the pool's electrical system must meet are as follows:

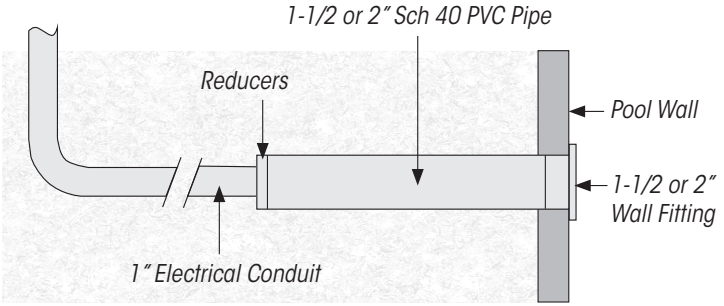
- The AquaColors 2" Pool Light Fixture requires a Class 2, isolating low voltage ungrounded output (100W or 300W) 120VAC / 12- 14 VAC step down transformer.
- The lighting circuit has a Ground Fault Circuit Interrupter (GFCI) for 120 VAC transformers and has an appropriately rated circuit breaker. The conductors on the load side of the GFCI circuit shall not occupy conduit, boxes, or enclosures containing other conductors unless the additional conductors are also protected by a GFCI. Refer to current local codes for complete details. 1" PVC electrical conduit needs to be installed from the pool light power supply/transformer location to the rear of the supplied niche/sleeve.
- The Junction Box and the low voltage transformer is located at least 8 in. (20.3 cm) above water level, at least 4 in. (10.15 cm) above ground level and at least 48 in. (1.22 m) from the edge of the pool.
- The AquaColors 2" Pool Light must be properly installed so that the top edge of the lens of the product is at least 4 in. (10.15 cm) below (not more than 48 in. [121.8 cm] below in Canada) the surface of the water in the pool or spa. Power on unit through customer provided timer, light switch or automated control.
- To be certain that the pool or spa electrical system meets all applicable requirements, the electrician should also consult the local building department.
- After installation, power on light fixture through customer provided timer, light switch or automated control.

Installation Overview



Pipe Sleeve Installation

NOTE: Ensure installation includes proper reducers to accommodate a 1″ electrical conduit



1. Identify installation location on a vertical wall. The top lens of the light must be a minimum of 4″ below normal water level.
2. Install a 1-1/2″ (3.8 cm) or 2″ (5 cm) Schedule 40 PVC pipe in the desired location.
3. Allow at least 1″ (2.5 cm) of the pipe sleeve to extend on both sides of the wall. Cut any excess pipe to allow final installation to be flush with plaster.
4. Reduce the assembly to 1″ (2.5 cm) by gluing the necessary reducer bushings to the back side of the pipe sleeve.
5. Glue the 1″ (2.5 cm) conduit into the bottom reducer. Ensure the pipe accommodates the total length of the light, fitting, and reducer assembly (See page 4-5).
6. Apply PVC cement to the inside of the sleeve. Slide the corresponding wall fitting (1-1/2″ or 2″) into the sleeve until it is flush with the wall.
7. Apply plaster to the pool wall up to the outer edge of the wall fitting trim ring. **Be sure not to fill the fitting and or fitting threads with pool plaster.**

AQUACOLORS

POOL LIGHTING SYSTEMS

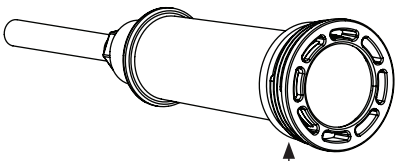
Light Installation

IMPORTANT - Make sure the power is OFF at the intended transformer.

1. Route the AquaColors 2" Pool Light 16/2 AWG power cord through the wall fitting and pipe sleeve to the 12-14 VAC pool transformer or junction box with a 14V tap. Leave at least 6" (15.2 cm) of extra cord at the transformer/junction box.
2. Strip the two conductors and connect them to the corresponding wires in the transformer/junction box. **Be careful not to damage the copper conductor.** Secure the enclosure cover.

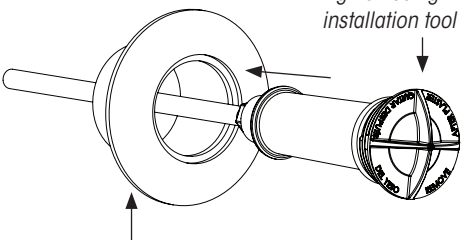
IMPORTANT - This light is designed for underwater use only. Only operate the light out of water for a brief test (UNDER 1 MINUTE) or damage may occur.

3. Before locking into the pipe sleeve, test the light by turning on power at the transformer for LESS THAN ONE MINUTE. **Be sure that all line and load side wiring is complete and not exposed.**
4. After turning off power, apply thread tape to the threads around the lens retainer.

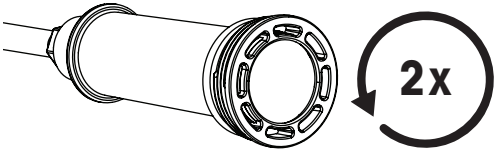


Apply Thread Tape to Threads

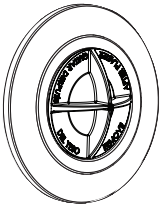
6. Tighten the light into the wall fitting using the supplied installation tool. Do not overtighten.



5. Before securing into the wall fitting, turn the light two turns counterclockwise to pre-load the cable and reduce tension.



7. Leave the installation tool on the light to serve as a protective cover until pool construction is complete.



Leave installation tool in place

OPERATION

P Mode

Light colors and shows are controlled through power-cycling: a method of changing light programs by turning the light off and on, removing the need for a special controller or interface. The number assigned to each light program represents the number of power-cycles necessary to activate it.

- To activate the light: Turn on the switch.
- To deactivate the light: Turn off the switch.
- To select a light program (fixed color or color show): Turn the switch off and back on the number of times that corresponds to your desired show or color. Use the table below to determine how many power cycles are required for each light program. **NOTE:** The number of power cycles is always the same for each program, even if another program is currently active. Always select a program using its corresponding number of cycles.

Light Synchronization

AquaColors Pool Lights can synchronize with Pentair Intellibrite® lights so they all display the same colors and shows at the same time. For light synchronization, all lights must be wired to the same switch.
Once installed, all lights should automatically synchronize.

P MODE PROGRAM NAME	LIGHT SHOWS AND SOLID COLORS
1. SAM Show	Cycles through white, magenta, blue and green colors
2. Party Show	Rapid color changing building energy and excitement
3. Romance Show	Slow color transitions creating a mesmerizing and calming effect
4. Caribbean Show	Transitions between a variety of blues and greens
5. American Show	Patriotic red, white and blue transition
6. California Sunset Show	Dramatic transitions of orange, red and magenta tones
7. Royal Show	Richer, deeper color tones
8. Blue	Fixed color
9. Green	Fixed color
10. Red	Fixed color
11. White	Fixed color
12. Magenta	Fixed color
13. Color Lock	Save current color effect during a color light show
14. Return	Activate last saved color effect

Color Lock Feature (Program 13)

You can select a non-standard solid color at any time by activating the color lock feature. The colorlock feature allows you to stop a light show and "lock" on any color during an active light show. To "lock" a solid color, power cycle the pool light switch off/on thirteen times when the desired color is displayed during the active light show. USE ONLY AQUACOLORS GENUINE REPLACEMENT PARTS

Return Feature (Program 14)

You can return to the last color locked color effect while in a light show mode or fixed solid colors by activating the return feature. To return to the last color locked color effect, power cycle fourteen times. After five seconds, the last saved color lock effect will be displayed.

When connected to a Pentair Controller: Select fixed colors and color shows using the controller. Refer to your control's manual to determine compatibility and for specific information about configuration and operation.

⚠ **WARNING –** During off/on power cycling, prior to the selected show/color displaying, no illumination will occur. This is normal during the cycling process. During this period, the pool/spa will be dark and precautions should be taken to avoid any unforeseen accidents. Failure to observe this warning may result in serious injury or death to pool/spa users.

SwimSense AquaColors Pool Products Limited Warranty

SwimSense Pool Products, Inc., warrants the components of this product to be free from defects in materials and workmanship during the warranty period. Please visit https://swimsense.shop/support/resources/warranty for product warranty details.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care, Acts of God or as specified in installation and operations manual. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option.

Proof of purchase is required for warranty service. In the event proof of purchase is not available, the manufacturing date of the product will be the sole determination of the purchase date.

To obtain warranty service, please contact the place of purchase.

SwimSense shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

SwimSense Pool products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

The express limited warranty above constitutes the entire warranty of SwimSense Products with respect to its pool products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall SwimSense be responsible for any consequential, special or incidental damages of any nature.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

SwimSense LLC, 1021 S Rogers Circle #2, Boca Raton FL 33487 | www.swimsense.shop

*Supersedes all previous publications

Register your product at https://swimsense.shop/support/resources/warranty/product-registration

AQUACOLORS

POOL LIGHTING SYSTEMS



For further information or consumer technical support, visit our website at www.swimsense.shop

SwimSense