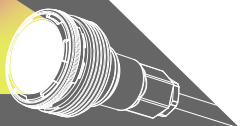
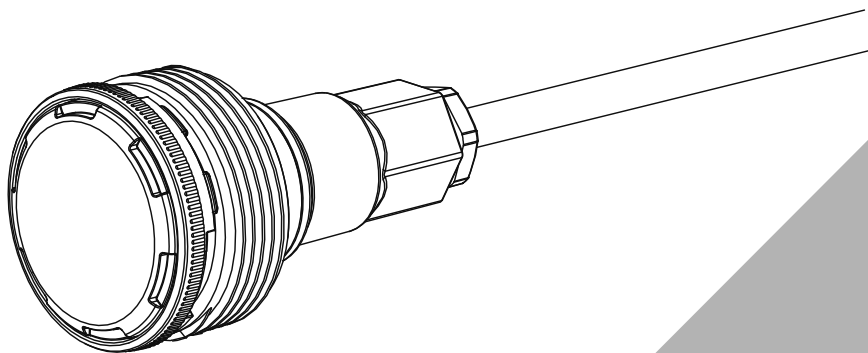




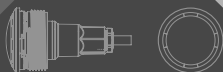
MICROBRITE®

EN - COLOR LED LIGHT FOR POOL AND SPA



620424-EU

Compact LED light for 1.5" pool wall fitting



REV 01/2021

COMPACT LED LIGHT FOR 1.5" POOL WALL FITTING

Pentair thanks you for placing your trust in the company and purchasing MICROBRITE®, the compact LED light for 1.5" pool wall fitting.

Please carefully read this user manual to fully benefit from all of the functions of MICROBRITE®. Store it carefully so that it can be consulted at any time.



Declaration of conformity

Directives – Harmonised standards

Pentair International Sarl – Avenue de Sévelin 20 – 1004 Lausanne – Switzerland

We declare, under our own responsibility, that the product meets the directives

SAFETY EN 60598-1 (2015) ; EN 60958-2-18 (1994) + A1

EMC EN 55015 / 2013 / AMD1 : 2015 ; EN 61547 / 2009 ; EN 62493 : 2015

EN 61000-3-2 : 2014 ; EN 61000-3-3 : 2013

PHOTOBIOLOGICAL SAFETY EN 62471 12/2008 ; IEC TR 62778 Edition 2 07/2014

**MICROBRITE :
620424**

Other normative documents

2002/95/EC (RoHS)

2002/96/EC (WEEE)

Authorised person for technical documentation

Pentair International S.a.r.l
Avenue de Sévelin 20
1004 Lausanne – Switzerland

Lausanne, 2021 01 28



Jacques Van Bouwel
Engineering Mgr

Product specifications: 620424-EU

Operating temperature: 0° to 40° C

Weight (cable included): 1.2 kg

Maximum installation depth underwater : 2m

Operating hygrometry: 100% at 75° C

Consumption: 12 W

Power supply: 12 V ~, 50 Hz

Light (underwater use): IP 68

Waste treatment of electronic devices at the end of their service life:



The crossed-out bin placed on the main parts which make up the product indicates that it must not be disposed of with household waste. It must be returned to an appropriate collection point for electronic device recycling (information available from the local household waste collection service). This product contains potentially dangerous substances which may have adverse effects on the environment and human health.

Hotline After sales service / SAV : +33(0)1 84 28 09 40

website: www.pentairpooleurope.com

- Warranty : 2 years

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- The document is subject to change without notice

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IMPORTANT WARNING AND SAFETY INSTRUCTIONS



DANGER - SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS LIGHT IS NOT INSTALLED AND USED CORRECTLY.

DANGER - INSTALLERS, POOL OPERATORS AND POOL OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS BEFORE USING THE POOL AND/OR SPA LIGHT.



The light should be positioned so that prolonged staring into the luminaire at a distance closer than 0.51m is not expected.

Do not stare at the operating light source.

WARNING - Most states and local codes regulate the construction, installation, and operation of public pools and spas, and the construction of residential pools and spas. It is important to comply with these codes, many of which directly regulate the installation and use of this product. Consult your local building and health codes for more information.

IMPORTANT NOTICE - Attention Installer: This Installation and User's Guide ("Guide") contains important information about the installation, operation and safe use of this underwater pool and spa light. This Guide should be given to the owner and/or operator of this equipment.

Before installing this product, read and follow all warning notices and instructions in this Guide. Failure to follow warnings and instructions can result in severe injury, death, or property damage.

Please refer to www.pentairpooleurope.com for more information related to this products.

DANGER - RISK OF ELECTRICAL SHOCK OR ELECTROCUTION: UNDERWATER POOL LIGHTS REQUIRE HIGH VOLTAGE WHICH CAN SHOCK, BURN, OR CAUSE DEATH. Before working 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.

ELECTRICAL WIRING RULES : This product must be installed by a licensed or certified electrician or a qualified pool professional in accordance with the local regulation depending country :

A = ÔVE 8001-4-702

D = OIN VDE 0100-702

EW = EVHS-HD 384-7-702

GB = 6S7671:1992

I = CEi 64-8/7

LUX = 384-7.702 S2

NL = NEN 1010-7-702

PL = PN-IEC 60364-7-702:1999

SLO = SIST HD 384-7-702.S2

CZ = CSN 33 2000 7-702

E = UNE 20460-7-702 1993, RECBT ITC-BT-31 2002

F = NF C15-100

H = MSZ 2364-702/1994/MSZ 10-553 1/1990

IRL = Wiring Rules + IS HD 384-7-702

M = MSA HD 384-7-702.S2

P = RSIIUEE

SK = STN 33 2000-7-702

TR = TS IEC 60364-7-702

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 installing or removing the light. Failure to do so could result in death or serious injury.

IMPORTANT WARNING AND SAFETY INSTRUCTIONS

WARNING - 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.

WARNING - This product is intended for use in swimming pool applications only.

POOL AND SPA FIXED LUMINARIES - Follow these guidelines when installing or replacing Pentair Water Pool and Spa fixed luminaries.

FOR LIGHT OPERATION, ONLY USE A SAFETY ISOLATION TRANSFORMER COMPLIANT WITH NF EN 61558-2-6.

Note: Connect both wires to the corresponding circuit wires in the junction box (brown wire to power, and blue wire to common) FIXED POOL AND SPA LUMINARIES SPECIFICATION: 12 VAC 50/60 Hz.

- **IMPORTANT NOTICE** - THE MICROBRITE LIGHT IS A NON-SERVICEABLE LIGHT. THE COMPLETE LIGHT ASSEMBLY MUST BE REPLACED.

- **CAUTION** - DO NOT INSTALL MICROBRITE LIGHTS WITH DIMMER SWITCHES. USE OF DIMMER SWITCHES WILL RESULT IN PERMANENT DAMAGE TO THE LIGHT.

- **WARNING** - Connect the device to a differential interrupter. If this system is used to control the underwater lighting devices, a differential interrupter must be installed upstream of these devices. Conductors downstream of the differential interrupter shall not be located in ducts, junction boxes or enclosures containing other conductors, except if the conductors are also protected by a differential interrupter. Refer to valid local codes for more details.

GLOBAL PRESENTATION

MicroBrite® Color LED Light Overview

This manual describes how to install, replace and operate the 12 VAC MicroBrite Color for pool and spa. The MicroBrite Color light provides brilliant vivid multi-colors with spectacular effects for your pool. Choose one of the seven pre-programmed color light shows or select one of the five fixed colors to create a virtually endless range of dramatic underwater lighting effects for a spectacular effect in your pool and spa.

GLOBAL WIRING INSTALLATION RULES

MicroBrite® Color LED light wiring installation

To connect the MicroBrite light to a junction box:

1 - Route the MicroBrite light power cord light cable through the wall fitting to the location of the junction box.

2 - At the junction box, leave at least 15 cm of cord to facilitate the light installation. Cut off any extra cord.

WARNING : Electrical wiring to the lighting must be in accordance with the latest edition of the Electrician Wiring Rules (see p4).

3 - Connect the two (2) conductors to the corresponding circuit wires in the junction box. Secure the junction box cover.

4 - Before operating the MicroBrite light, fill the pool with water until the light is completely submerged.

Note: The MicroBrite light should not be powered for more than 30 seconds if it is not submerged in water.

5 - Final check for proper MicroBrite light operation:

Switch on the main switch or circuit breaker to the 12 VAC transformer and the switch that operates the MicroBrite light itself. The light should illuminate when the 12 VAC power is applied. If not recheck the installation steps.

LIGHT INSTALLATION

INSTALLATION IN 1.5" WALL FITTING

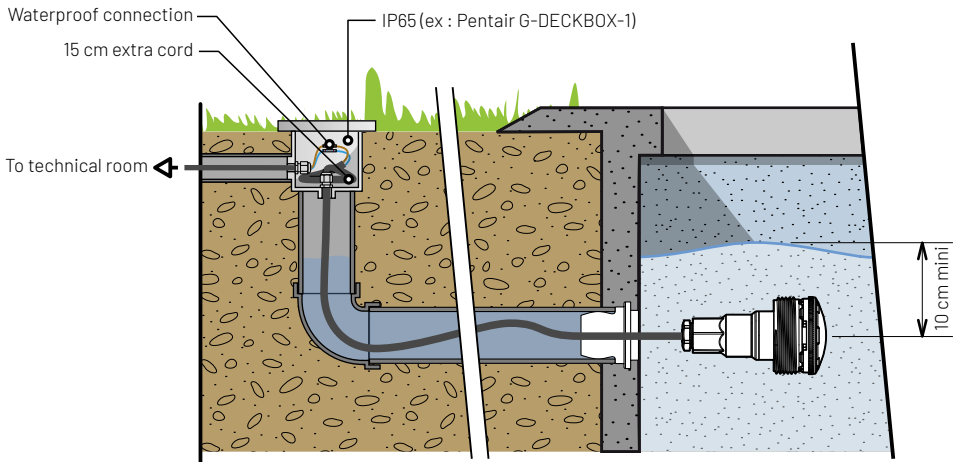
The following instruction describes how to install the MicroBrite light in a 1-1/2" wall fitting.

BEFORE STARTING: The following information describes the tasks that must be completed by the electrician before the light wall fitting is installed. See figure below.

WARNING : Electrical wiring to the lighting must be in accordance with the latest edition of the electrician wiring rules (see p4).

The Junction Box must be installed as shown below.

The low voltage transformer (compliant with NF EN 61558-2-6) must be located in the technical room.



COMPATIBLE WALL FITTINGS

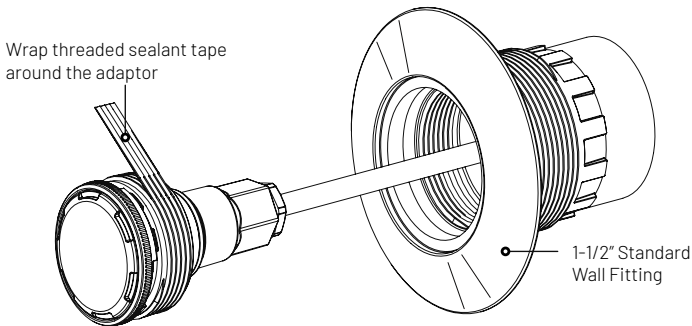
PENTAIR 86205100	HAYWARD SP1022
PENTAIR 542429	WATERWAY 215-9170B
PENTAIR 542402	WATERWAY 400-9150B
PENTAIR 542414	WATERWAY 215-9890B
PENTAIR 542411 (not recommended)	WATERWAY 400-9170B
PENTAIR 86205100	CMP CMP25550001060
PENTAIR 542405	CMP CMP25522100000
PENTAIR 542404	CMP CMP25550000000

The MicroBrite light adaptor allows the mounting of the MicroBrite light in the 1-1/2" return fitting. Refer to the compatible MicroBrite light wall fittings table above.

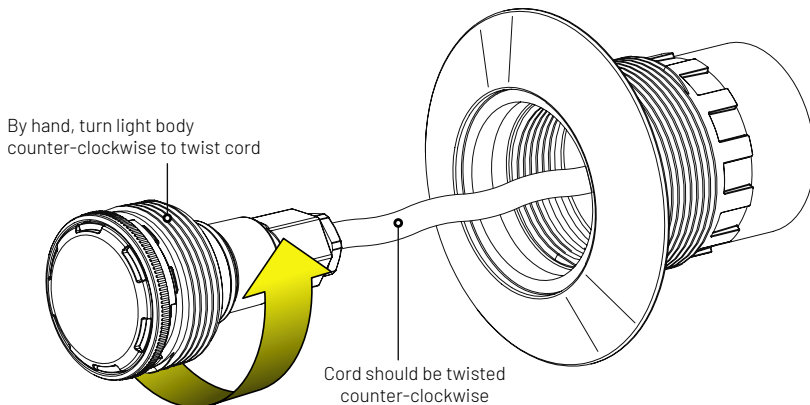
WET CONDUIT INSTALLATION

Note: MicroBrite lights are shipped from the factory with the white threaded adaptor ring pre-installed onto the body of the light. The male threads on the white threaded adaptor ring allow the light to be threaded into the female threads of most 1-1/2" (1.5") pool wall return fittings. To install the MicroBrite light wall fitting into a concrete/vinyl pool:

- 1** - To install a MicroBrite light, route the MicroBrite light power cord light cable through the 1.5" wall fitting to the location of the junction box.
- 2** - Wrap plumber's thread sealant tape around the male threads on the white threaded adaptor ring on the light.
- 3** - Pull the MicroBrite power cord through the conduit so there is approximately 7 to 15 cm of visible cord between the body of the MicroBrite light and the wall fitting.

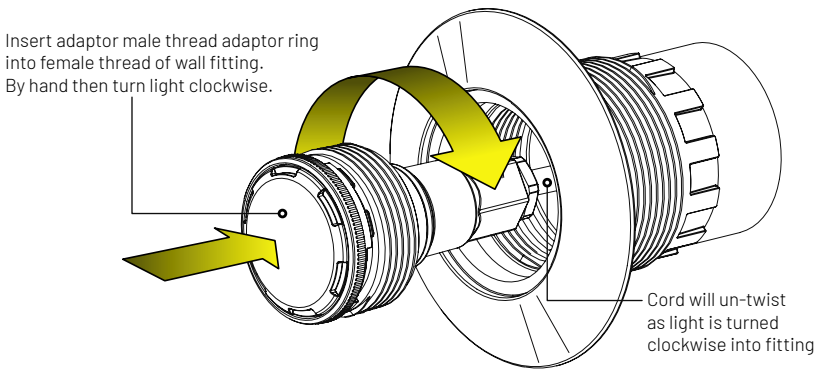


- 4** - With the MicroBrite light in your hands, roll the body of the light several turns counter-clockwise, so that the cord of the MicroBrite light receives several "pre-twists" in a counter-clockwise direction. Read step 5 before continuing with step 6.
- 5** - Dry/Sealed conduit installation (use provided kit), see page 10: If code requires an O-Ring to be installed on the light for a dry conduit installation, install the O-Ring as described on page 10, then continue with step 6 below.



Continue on page 9

- 6** - Insert the MicroBrite light into the 1.5" wall fitting. By hand start the process of threading the male threads on the MicroBrite's white threaded adaptor ring into the female threads of the wall fitting.

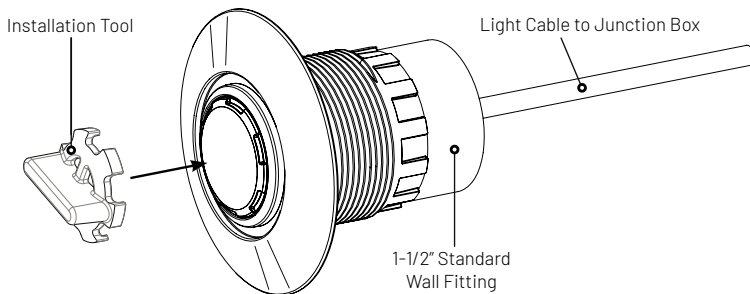


- 7** - Place Microbrite light installation tool (P/N 602158Z) over the front of the light while turning the tool and light clockwise.

Note: If the light does not turn smoothly, pull the light slightly out and be sure that it's seated properly and the wall fitting is free of debris, then reinstall the light.

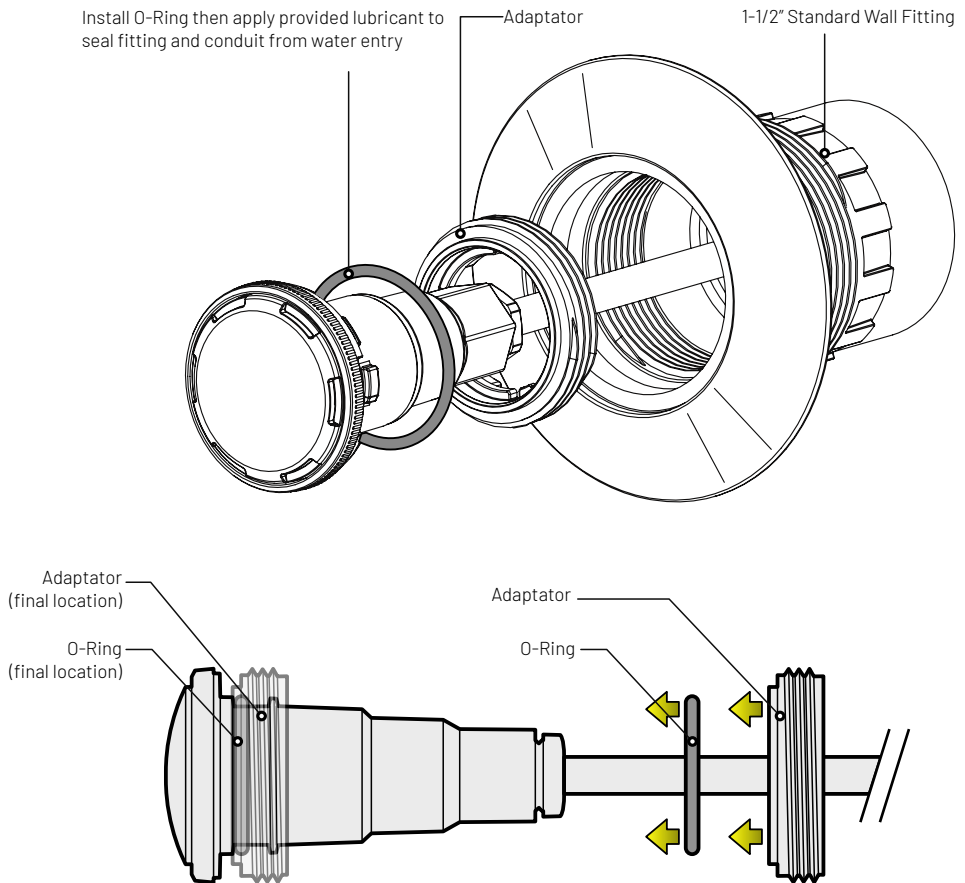
- 8** - Turn the light clockwise while threading it into the wall fitting to un-twist the power cord.
- 9** - Turn the light clockwise (approximately 5 turns) so that it is threaded tightly into the wall fitting.

- 10** - Note: Once the light is tightly installed remove the tool be sure the light cannot be unscrewed using your fingers. The light should be secured in place so that it can only be removed by using the light installation tool.



DRY/SEALED CONDUIT INSTALLATION (USE PROVIDED KIT)

- 1 - Note:** The pool water level must be below the level of the 1.5" return fitting where the MicroBrite will be installed.
- 2 -** Unscrew the adaptor from the body of the light and remove it along the 3m cord.
- 3 -** Pass the 3m cord inside the O-Ring.
- 4 -** Place the O-Ring behind the lens body.
- 5 -** Apply the provided lubricant on the O-Ring.
- 6 -** Pass the 3m cord inside the adaptor.
- 7 -** Place back the adaptor on the body of the light
- 8 -** Resume the installation process at step 1 (see page 8).



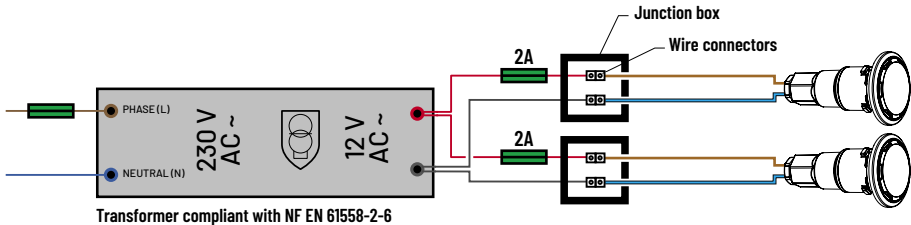
ELECTRICAL CONNECTION

EXTERNAL SAFETY ISOLATION TRANSFORMER :

Using an external safety isolation transformer for multiple 12 VAC MicroBrite lights

When using multiple MicroBrite 12 VAC ~ lights on a 100 Watt safety isolation transformer, it is recommended that no more than six (6) MicroBrite lights be used.

For long cable lengths for each light, it is recommended not to exceed 45 m of total cable run between the 12 VAC isolation transformer and the MicroBrite light.



Maximum wattage using multiple lights (with a 300 Watt isolation transformer).

IMPORTANT! When using multiple 12 VAC Pentair pool and spa lights the total allowable light wattage should not exceed 80% of rated value.

The individual light wattage is as follows:

- One MicroBrite Color Pool LED light is 12 Watts maximum
- One IntelliBrite-e Pool Color LED light is 40 Watts maximum
- One IntelliBrite-PAR56 Color LED light is 40 Watts maximum
- Up to six (6) MicroBrite 12 V AC lights can be connected on a 100W transformer.
- Up to twenty (20) MicroBrite 12 V AC lights can be connected on a 300W transformer.

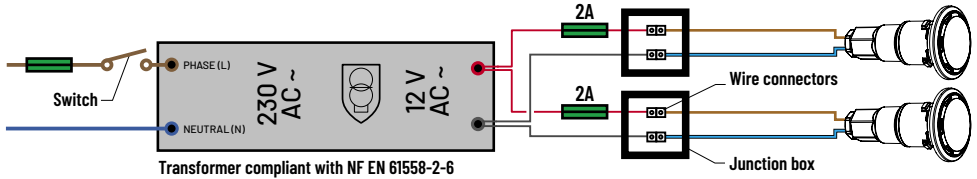
Powering on the MicroBrite color lights

When the MicroBrite color light is powered on, the previously selected color is displayed, unless the HOLD or RECALL feature was previously enabled.

Note: If power to the light is off for more than five (5) seconds, the last color show mode or fixed color that was saved will be displayed.

Operating MicroBrite® color LED light using a wall switch

Les projecteurs MicroBrite couleur peuvent être utilisés avec un interrupteur mural standard (ou par le MicroBrite color lights can be controlled using a standard wall-mount light switch (or by the IntelliBrite® Controller, see page 10). Multiple MicroBrite color lights can be connected via a junction box and a 12 VAC transformer to a single switch so that all lights can be switched on and off together. MicroBrite color lights are controlled by cycling AC power to the 12 VAC transformer from a standard wall switch. By turning the switch on and off a specific number of times, the light activates one of the seven light show modes, fixed colors, or enables the “Hold” and “Recall” feature. Note : Up to six (6) MicroBrite 12 V AC lights can be connected to a 100W transformer



Selecting a MicroBrite Color Light Show Mode or Fixed Color using a Wall Switch

MicroBrite color lights are compatible with IntelliBrite® Color Light shows and can be synchronized with IntelliBrite color lights.

First switch power on to the light. A white light will momentarily illuminate, followed by the previously selected color. To select a color show mode (1-7) or fixed color (8-12), turn the wall switch off/on a specific number of times. Each number (1-12) shown below corresponds to the number of times to power-cycle the switch to activate a color light show or fixed color. For details about saving color effects while in “show” modes, see “Hold” and “Recall” feature on page 8.

- 1 - SAm Mode: Cycles through white, magenta, blue and green colors (emulates the SAm color changing light).
- 2 - Party Mode: Rapid color changing building energy and excitement.
- 3 - Romance Mode: Slow color transitions creating a mesmerizing and calming effect.
- 4 - Caribbean Mode: Transitions between a variety of blues and greens.
- 5 - American Mode: Red, white and blue transition.
- 6 - California Sunset Mode: Dramatic transitions of orange, red and magenta tones.
- 7 - Royal Mode: 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 - Hold: Save the current color effect during a color light show.
- 14 - Recall: Activate the last saved color effect.

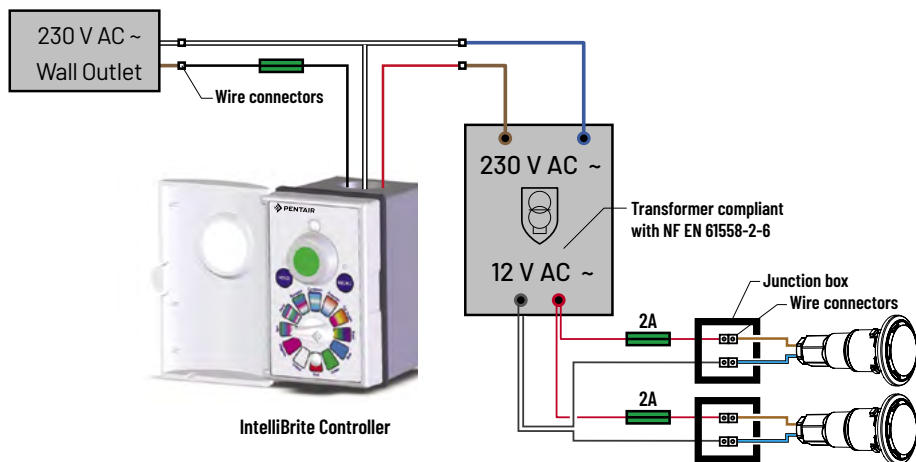
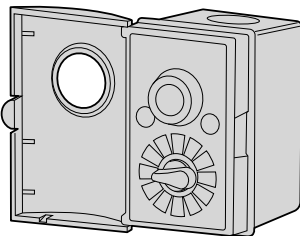
Example: To select California Sunset Mode; turn the switch on, then off and on six (6) times. During the off/on switching process, no illumination will occur, then a white light will momentarily illuminate.

- **WARNING :** During the off/on switching process, before the selected color is displayed, no illumination will occur. This operating mode is normal during the switching process. During this period the pool and spa will be dark and precautions should be taken to avoid unforeseen accidents. Failure to observe this warning may result in serious injury or death to pool and spa users.

Operating MicroBrite® color LED light using an IntelliBrite® Controller

Wiring MicroBrite® Color LED Lights to IntelliBrite® Controller and 300 Watt Transformer

The following diagram shows how to connect MicroBrite Lights to an IntelliBrite Controller using a 300 Watt transformer.



Selecting color and show modes using an IntelliBrite® Controller

The MicroBrite color light can be controlled with the IntelliBrite Controller (p/n 620139, sold separately). The IntelliBrite® Controller provides complete control of your MicroBrite color lights. Just dial in any one of the pre-programmed color light shows or fixed colors.

Using the IntelliBrite Controller:

MicroBrite color lights are compatible with IntelliBrite colors and shows and can be synchronized with IntelliBrite color lights and landscape lights. To select a color light show mode or fixed color mode, rotate the dial so that it points to the desired selection. The color mode selections start in a clockwise direction from the 9 o'clock position.

Hold and Recall Feature

- Hold button/LED: Press this button (LED on) to capture and save a color effect while displaying one of the light show modes. When the button is pressed, the LED will be on, indicating that the color effect is captured.
- Recall Button/LED: Use this button (LED on) to activate the last saved color effect. When the button is pressed, the LED will be on, indicating that the color effect is being displayed.

Operating MicroBrite® color LED light using a ControlBrite®

Refer to ControlBrite's user manual for wiring.



Selecting color and show modes using a ControlBrite®

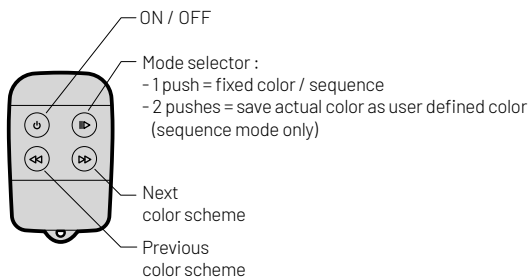
The MicroBrite color light can be controlled with the ControlBrite (p/n CTRB-1010, sold separately). The ControlBrite provides complete control of your MicroBrite color lights. Just press remote control buttons to color light shows or fixed colors. The ControlBrite can be connected to individual or multiple 12 VAC transformers (300W maximum) to control MicroBrite color lights.

- Use the ON/OFF key on the remote control or main unit to switch the lights on or off.
- Use the >> or << key (remote or main unit) to change to the next/previous color scheme. It will take a few seconds for the new scheme to become active.

On the remote control it is possible to switch from fixed colors to sequences using the ||> key.

Hold and Recall :

ControlBrite allows you to store a specific color to be used as one of the fixed colors. To memorize this color, press the ||> key on the remote control twice with a 1 sec interval. This function only works with one of the sequences running. The saved color can be activated using the 'recall' fixed color. The display will show 'U'.



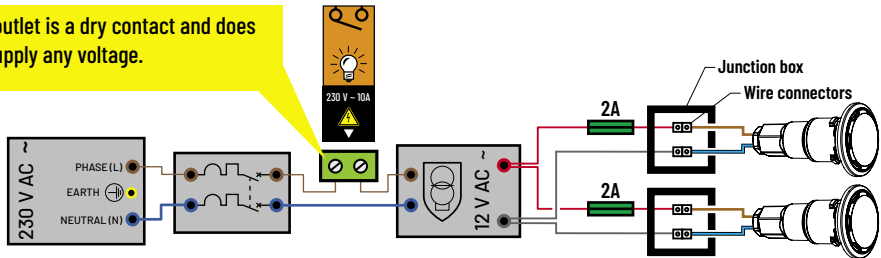


Operating MicroBrite lights using an automation system

MicroBrite lights can also be automatically controlled using the Pentair IntelliPool, Maestro or Speedeo.

Refer to the automation device user manual for wiring.

i An outlet is a dry contact and does not supply any voltage.



Selecting color and show modes using an IntelliPool, a Maestro or a Speedeo automation device.

For IntelliPool and Maestro:

The MicroBrite Color light can be controlled with the IntelliPool (p/n INTP-1010) or either the Maestro (p/n SB-PF-ENS-002D) sold separately. The IntelliPool® / Maestro® provides complete control of your MicroBrite color lights :

- directly on the Control Center, by selecting lighting menu / color mode / mono or party ...
- on the App by selecting color mode in Lighting window.
- on the IntelliPool / Maestro server by selecting color mode in Lighting window. Previously, you need in Pool properties / tick the check box "IntelliBrite" and then save.

For Speedeo:

The MicroBrite Color light can be controlled with the Speedeo (p/n SB-PF-SP0-003C, sold separately). The Speedeo® provides complete control of your MicroBrite color lights directly on the Speedeo itself, by:

- Starting the secured Install menu (from the main menu, simultaneously hold down Esc and Valid for 3 secs. A star appears in the top right corner of the home screen).
- On the Inlets / E1 sub-menu, selecting LIGHTING to indicate that a dry contact has been connected to the corresponding inlet.
- For MicroBrite and other LED lights with colours that may change with impulses, on the Home menu, selecting Lighting and validating the chosen light programme type (color mode / mono or party ...).

TROUBLESHOOTING

Troubleshooting (MicroBrite lights)

Light does not function properly: Be sure that there is 12 VAC power applied to the light.

Troubleshooting (IntelliBrite Controller)

Both of the LEDs are flashing: Check the light wiring connection to the junction box at the pool side and to the AC power switch.

The IntelliBrite Controller has detected that the load has exceeded the maximum allowable wattage or the output is shorted out.

- 1 - Switch off the IntelliBrite Controller OFF. Remove excessive load or short.
- 2 - Press the IntelliBrite Controller power switch to power on the unit. Ensure that the LEDs are no longer flashing.

SPARE PARTS

MicroBrite® color and white LED lights parts list:

Part No.	Description
620424-EU	MicroBrite Color Light 12 VAC - 3 meter cord
620428-EU	MicroBrite White Light 12 VAC - 3 meter cord
620457-EU	MicroBrite Warm White Light 12 VAC - 3 meter cord

MicroBrite Color and White LED lights replacement kits

Part No.	Description
620460	MicroBrite Light Adaptor (replacement)
602158Z	Installation Tool (replacement)
620463	Conduit Seal O-Ring (replacement)

MAINTENANCE

REPLACING THE MICROBRITE® LIGHT ASSEMBLY (IN AN EXISTING POOL OR SPA)

WARNING : Electrical wiring to the lighting must be in accordance with the latest edition of the Electrician Wiring Rules (see p1).

IMPORTANT NOTICE: THE MICROBRITE LIGHT IS A NON-SERVICEABLE LIGHT. THE COMPLETE LIGHT ASSEMBLY MUST BE REPLACED.

WARNING - Verify that the pool and spa meets the requirements of the current local regulation applicable. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the underwater light is installed.

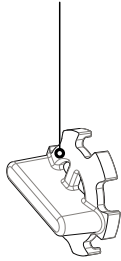
IMPORTANT NOTICE:

The following removal and installation instructions describe how to remove and install the MicroBrite light assembly.

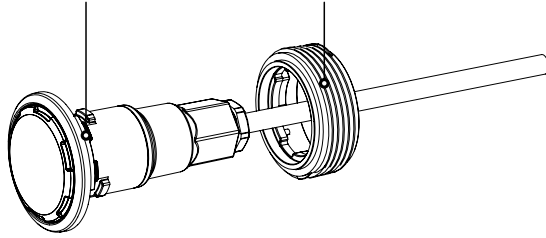
Failure to bring the pool or spa's electrical system up to code requirements before installing the underwater light will create an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property.

- 1 -** Switch off electrical switch or circuit breaker at the source,
- 2 -** Remove junction box or transformer cover. Disconnect the light wires and attach a fish tape to the existing light power cord. This will assist in pulling the replacement light power cord through the conduit back to the junction box.
- 3 -** Remove the MicroBrite light assembly from the pool or spa water: Using the provided installation tool (P/N 602158Z), rotate the light assembly counter-clockwise 1/8 of a turn to release the light from the wall fitting.
- 4 -** Slowly pull the light and attached power cord (with attached fish tape) out of the wall fitting. Pull the light's power cord and fish tape out of the wall fitting and place the light on the deck.
- 5 -** Attach the new light power cord to the fish tape and carefully feed the fish tape and cable to the junction box.
- 6 -** Install the light into the wall fitting: See page 7-10 for light installation instructions.
- 7 -** Connect the two (2) conductors to the corresponding circuit wires in the junction box: See page 11 and following for light wiring instructions.
- 8 -** Final check: See page 6 for final check instructions.

Installation tool



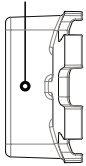
O-Ring



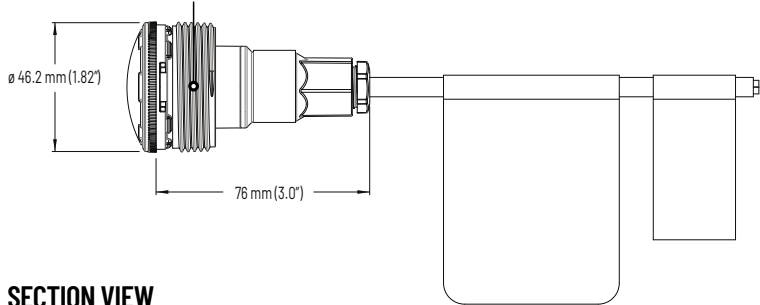
MicroBrite light adaptor

MicroBrite® LED light dimensions

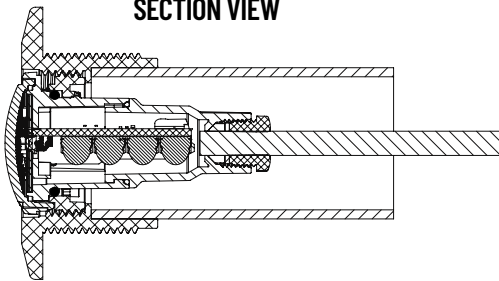
INSTALLATION TOOL



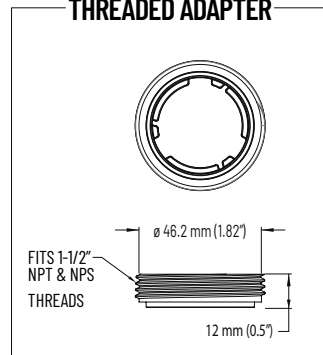
THREADED ADAPTER



SECTION VIEW



THREADED ADAPTER



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