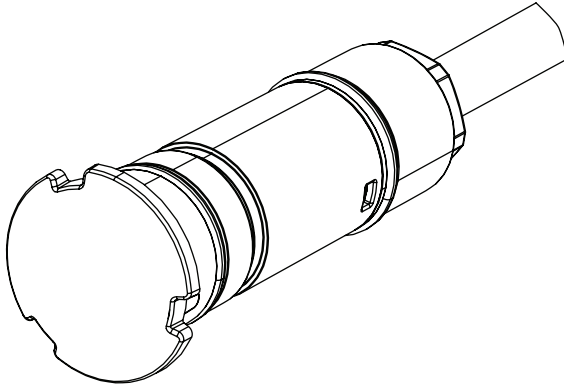




# PENTAIR POOL

## INTELLIVIBE™ NANO LED LIGHT



### INSTALLATION AND USER'S GUIDE

IMPORTANT SAFETY INSTRUCTIONS  
READ AND FOLLOW ALL INSTRUCTIONS  
SAVE THESE INSTRUCTIONS

Digital copies of all IntelliVibe Nano manuals can be found at [www.pentair.com](http://www.pentair.com), or by scanning the provided QR code.

Se pueden encontrar copias digitales de todos los manuales de IntelliVibe Nano en [www.pentair.com](http://www.pentair.com), o escaneando el código QR proporcionado.

Des copies numériques de tous les manuels IntelliVibe Nano peuvent être trouvées sur [www.pentair.com](http://www.pentair.com), ou en scannant le code QR fourni.



# CUSTOMER SERVICE / TECHNICAL SUPPORT

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<p><b>READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL</b></p>
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## IMPORTANT WARNING AND SAFETY INSTRUCTIONS



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



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



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.

Call (800) 831-7133 for additional free copies of these instructions. Please refer to [www.pentair.com](http://www.pentair.com) for more information related to this products.



**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.**

This product 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 installing or removing the light. Failure to do so could result in death or serious injury to service person, pool users or others due to electrical shock.

## 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.

### INSTALLERS AND INSPECTORS

**THE LIGHT AND WALL FITTING FORM A COMPLETE NON-METALLIC LOW VOLTAGE LIGHTING SYSTEM. THIS CONFIGURATION DOES NOT REQUIRE BONDING OR GROUNDING WHEN POWERED BY A POOL RATED 300 WATT ISOLATION TRANSFORMER AND INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC).**

**NOTICE:** The light power cord has three conductors. The black and white conductors are for power. The green conductor is a communication wire and is not intended for grounding. All three conductors must be connected to the IntelliVibe controller directly or via a junction box.

**UNBONDED LIGHTING NEC PROVISIONS:** When the non-metallic low voltage lights are used, 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 LUMINAIRES:** Follow these guidelines when installing or replacing Pentair fixed luminaires:

**FOR LIGHT OPERATION, ONLY USE A SAFETY ISOLATION TRANSFORMER.  
FIXED POOL AND SPA CONTROLLER SPECIFICATION: 14 VAC 50/60 Hz.**

IntelliVibe Nano Lights are approved to be installed in a vertical position (facing up).

Vertical light installations are recommended only in non-occupant areas of the pool (e.g. up-lighting a vanishing edge overspill).

# INSTALLATION

## LIGHT OVERVIEW

The IntelliVibe Nano is rated for both underwater and air operation.

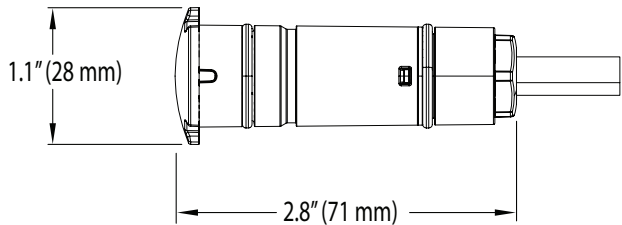
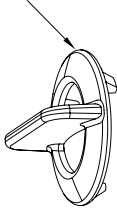
## OUTPUT LIGHTING TABLE

- IntelliVibe Controller Maximum: 200 W
- Individual Output Maximum: 100 W
- IntelliVibe Nano Output: 2 W

IF USING PS300 300 VOLT-AMP TRANSFORMER	
Maximum Number of Lights per 100 W OUTPUT:	
IntelliVibe Nano	40
Maximum Number of Lights per CONTROLLER (sum of all outputs):	
IntelliVibe Nano	100

## LIGHT DIMENSIONS

Installation Tool



## LIGHT INSTALLATION IN NANO NICHE OR 1.5" WALL FITTING (USA)

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

**Note:** IntelliVibe Nano lights are approved for horizontal and vertical installation.

For Intellivibe Nano installation in anything OTHER than a standard wet conduit 1.5" NPT return fitting, the light requires a custom niche for installation. Refer to the *IntelliVibe Nano Niche Installation Manual (P/N 619148)* for custom niche installation.

**BEFORE STARTING:** The following information describes the tasks that must be completed by the electrician *before* the light wall fitting is installed. See Figure 1.

### **⚠ 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 Junction Box, PS300, and the IntelliVibe controller are located at least 4 inches (10.2 cm) above ground level or 8 inches (20.3 cm) above maximum water level, whichever is higher. The Junction Box, PS300, and the IntelliVibe controller must be at least 4 feet (1.2 m) from the edge of the pool. See Figure 1.
- To be certain that the pool or spa electrical system meets all applicable requirements, the electrician should also consult the local building department.

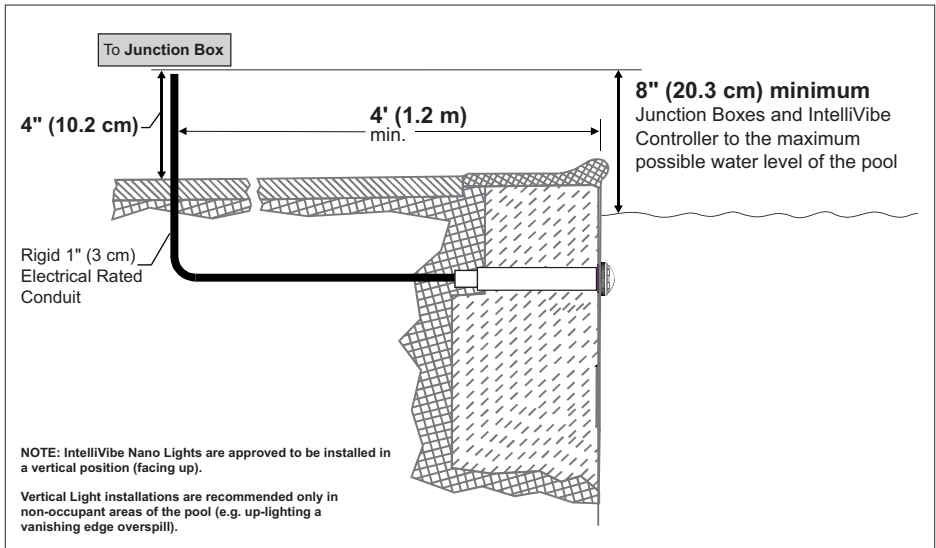


Figure 1

**Note:** See *Light Dimensions* on page 1.

## LIGHT INSTALLATION IN NANO NICHE OR 1.5" WALL FITTING (CANADA)

**⚠ WARNING** Be sure the electrical system of your pool conforms with the following requirements of the Canadian Electrical Code (CE), and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the light and (fixture-housing) is installed. Some of the CE requirements are listed below.

- The junction/deck box must be sealed to the conduit to prevent water from getting into the box. See Figure 2 below.

The following information is for the Junction Box and pool deck location for Canada only.

Junction/Deck boxes shall be installed:

- above the normal water level of the pool;
- so that the top of the box is located at or above the finished level of the pool deck;
- in a location that the box will not be an obstacle; and
- where any water on the deck will drain away from the box (See diagram below.)

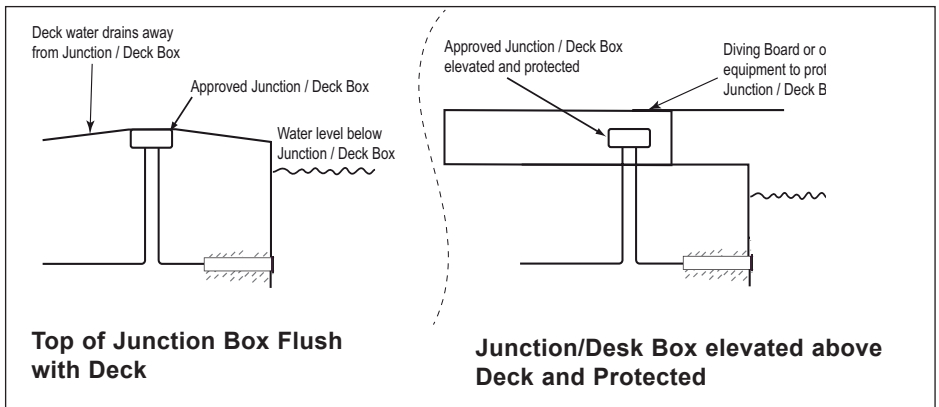


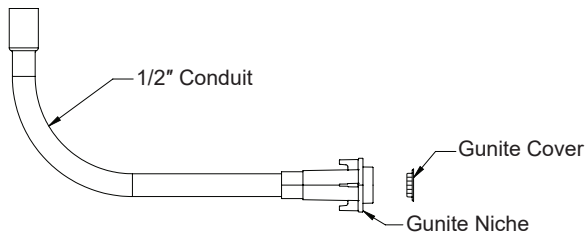
Figure 2

## DRY/SEALED CONDUIT INSTALLATION (USE PROVIDED KIT)

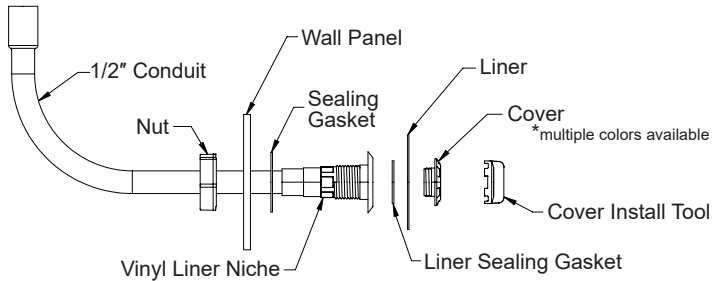
Dry/sealed conduit installation requires one of the niche fitting kits shown below. Refer to the *Nano Niche Installation Manual (P/N 619148)* for fitting installation instructions.

1. **The pool water level must be below the light wall fitting.**
2. Route the light power cord through the 1.5" wall fitting to the IntelliVibe controller or junction box.
3. Pull the light power cord through the wall fitting until there are approximately 3 to 6 inches of cord between the light and wall fitting.
4. Using the provided lubricant, lubricate both pre-installed O-rings on the light.
5. Follow niche install instructions given in the *Nano Niche Installation Manual (P/N 619148)*.
6. Continue to *Light Wiring Installation* on page 7.

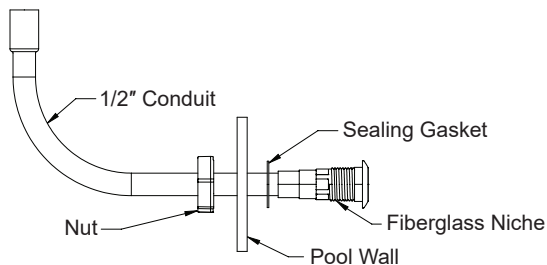
### Gunite Kit (P/N 602271)



### Vinyl Kit (P/N 602272)



### Fiberglass Kit (P/N 602273)





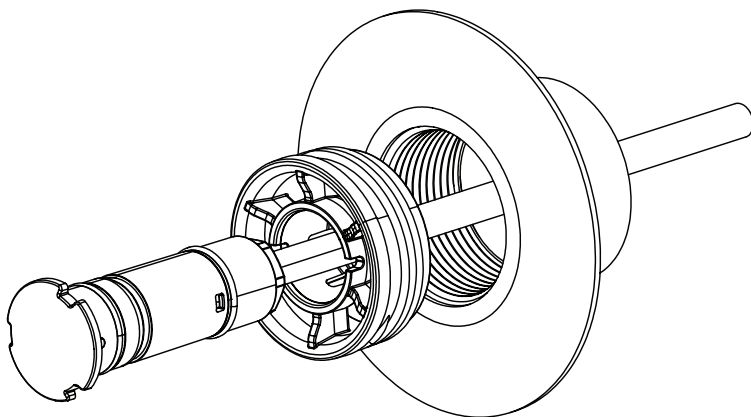
## WET CONDUIT INSTALLATION

**Note:** The *Threaded Adapter* (P/N 602274) for IntelliVibe Nano's 1-1/2" standard fitting is not included with the light and must be purchased.

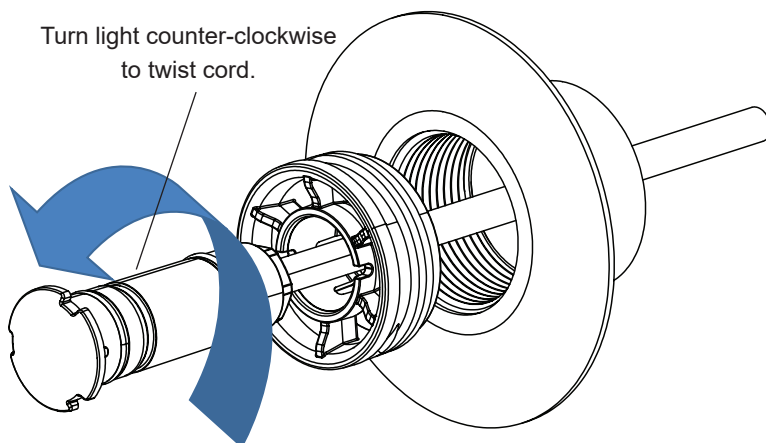
**Note:** The IntelliVibe Nano is a low-power (2 W) LED luminaire that produces significantly less light than a 12 W luminaire (such as a MicroBrite or IntelliVibe Micro). It is designed for use in small pool areas or accent lighting.

To install the light into the wall fitting:

1. Route the light power cord through the 1.5" wall fitting to the IntelliVibe controller or junction box.
2. Pull the light power cord through the conduit until there is approximately 3 to 6 inches of visible cord between the body of the light and the wall fitting.



3. With the light in hand, twist the light assembly approximately five turns counter-clockwise. This prevents twists remaining in the cord after the light is fully installed.

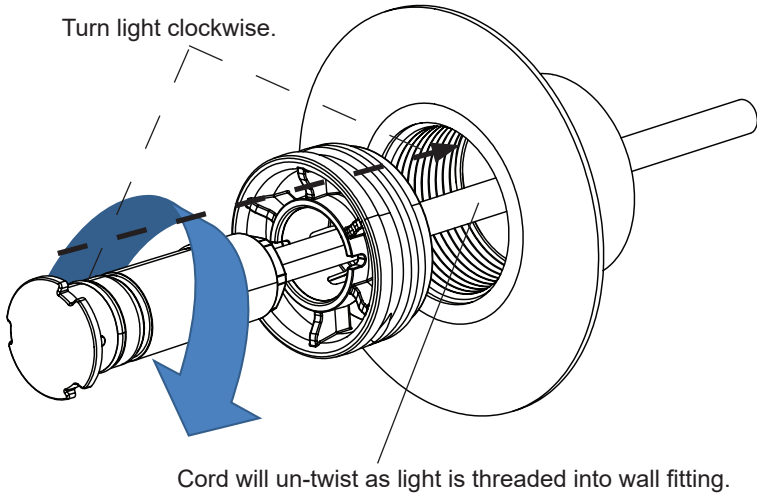


## WET CONDUIT INSTALLATION (continued)

4. Ensure the inside of the wall fitting and threaded adapter are free of debris, then thread the light clockwise into the wall fitting until hand-tight.

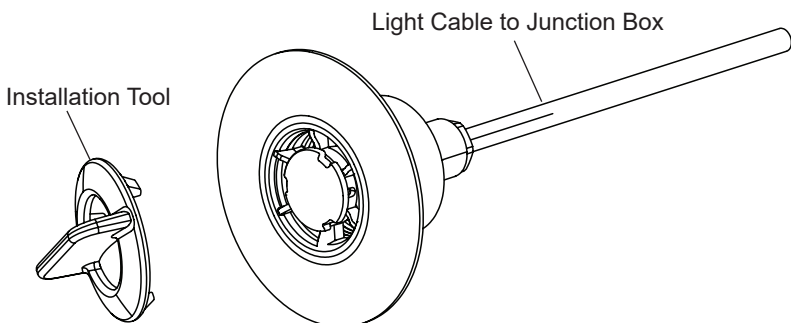


**HAND-TIGHTEN ONLY. OVER-TIGHTENING CAN PERMANENTLY DAMAGE THE LIGHT.**



5. Place Nano Light Installation Tool (P/N 602275) over the front of the light and tighten the light into the 1.5" fitting.

**Note:** The light should be secured in place so that it can only be removed by using the light installation tool.



6. Continue to *Light Wiring Installation* on page 7.

## FIBER OPTIC RETROFIT APPLICATIONS

The IntelliVibe Nano LED Light may be suitable for many fiber optic retrofit applications.

### **IMPORTANT:**

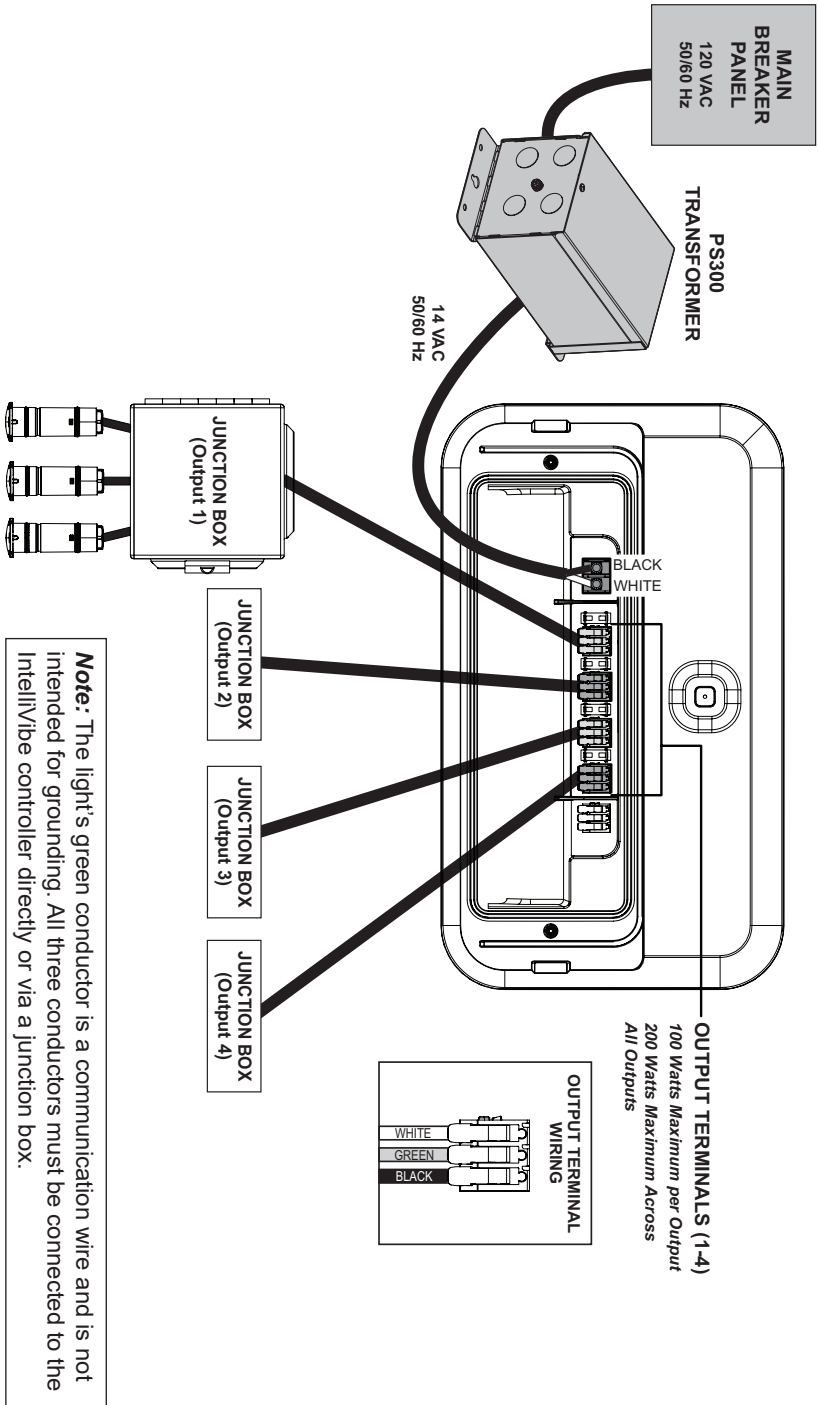
1. Before proceeding with the fiber optic retrofit installation, verify that the light fits properly before removing the fiber optic system.
2. Refer to *Light Dimensions* on page 1.
3. Read all instructions to verify that all of the 1.5" fittings in the pool have suitable dimensions to allow the light to fit properly.
4. Be sure the conduit that was previously utilized as housing for the fiber optic cables meets all applicable codes and regulations that apply to electrical conduit in swimming pool applications.

## LIGHT WIRING INSTALLATION

To connect the IntelliVibe Nano Light to the IntelliVibe controller or junction box:

1. Route the IntelliVibe Nano light power cord through the wall fitting to the location of the IntelliVibe controller or junction box.
2. At the IntelliVibe controller or junction box, cut off any extra cord. Leave at least 6 inches (15.2 cm) of cord in the Junction Box or controller to facilitate the light installation wall fitting inspection.  
*See Figure 1 on page 2 for junction box installation in the USA.*  
*See Figure 2 on page 3 for junction box installation in Canada.*
3. Connect the 3 conductors to the corresponding colors of circuit wires in the Junction Box. Secure the Junction Box cover.  
**Note:** The light power cord has three conductors. The black and white conductors are for power. The green conductor is a communication wire and is not intended for grounding. All three conductors must be connected to the IntelliVibe controller directly or via a junction box.
4. Refer to *IntelliVibe Controller Manual (P/N 619140)* for wiring connections.
5. Before operating the light, fill the pool with water until the light is completely submerged.

# WIRING DIAGRAM



# MAINTENANCE

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

### **⚠ DANGER**



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 and all applicable local codes and ordinances. 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 property.

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.

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

### **⚠ WARNING**

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 existing light junction box, light wiring compartment, or IntelliVibe controller wiring cover. Disconnect the light wires and attach 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 existing pool light assembly from the pool or spa.** Use provided installation tool (P/N 602158z) to rotate the light assembly counter-clockwise 1/8 of a turn to release the light from the wall fitting.
4. Completely unthread light from the wall fitting.
5. Slowly pull the light (with attached fish tape) out of the wall fitting. Place the light on the deck.
6. Secure the new light power cord to the fish tape and carefully feed the fish tape and cable back to the junction box.
7. **Install the light into the wall fitting:** Refer to *Wet Conduit Installation*, page 5 and *Dry/Sealed Conduit Installation (Use Provided Kit)*, page 4 for specific instructions.
8. **Connect the 3 conductors to the corresponding circuit wires in the Junction Box:** See *Light Wiring Installation* on page 7.

# TROUBLESHOOTING

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## If lights are not turning on:

1. Ensure power is being supplied to the IntelliVibe controller. Refer to the *IntelliVibe Controller Manual (P/N 619140)*.
2. Ensure lights are wired to IntelliVibe controller correctly. Refer to the *IntelliVibe Controller Manual (P/N 619140)*.
3. Ensure IntelliVibe controller is installed properly and provisioned to the Pentair Home App.
4. If 1-3 are all proper, measure the voltage being delivered to the light from the white and black conductors. Ensure voltage is between 15-20 V DC.

# REPLACEMENT PARTS

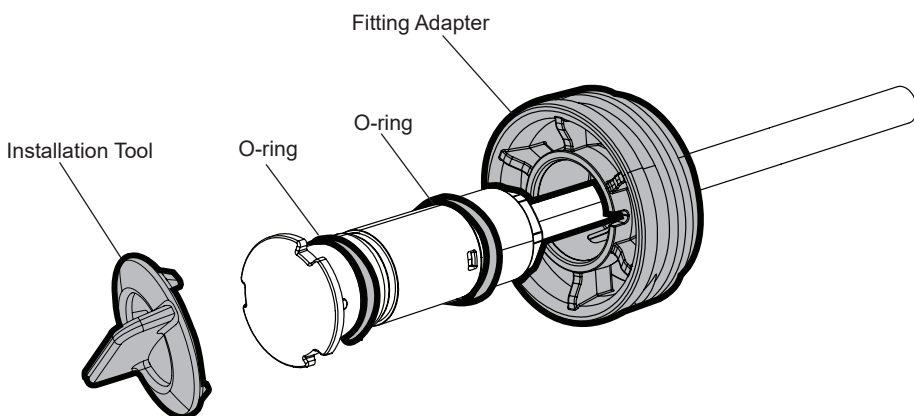
## INTELLIVIBE NANO MODELS

PART NUMBER	DESCRIPTION
602268	Light Assembly, 50 foot cord
602269	Light Assembly, 100 foot cord
602270	Light Assembly, 150 foot cord

## INTELLIVIBE NANO REPLACEMENT PARTS

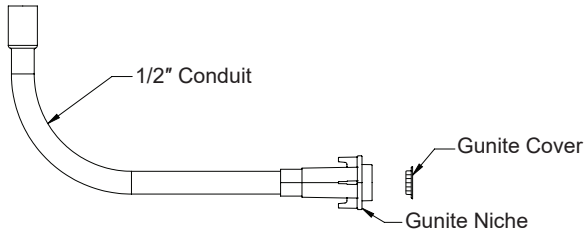
PART NUMBER	DESCRIPTION
602271*	Niche Kit, Gunite
602272*	Niche Kit, Vinyl
602273*	Niche Kit, Fiberglass
602274	1.5-inch Fitting Adapter
602275	Installation Tool and O-rings (includes 10 O-rings)
602276	Removal Tool, Vinyl
619114	Vinyl Niche Cover, Gray (Qty. 5)
619120	Vinyl Niche Cover, White (Qty. 5)
619126	Vinyl Niche Cover, Tan (Qty. 5)
619132	Vinyl Niche Cover, Black (Qty. 5)
619138	Vinyl Niche Cover, Blue (Qty. 5)

(\*) Refer to Available Niche Kits, page 12 for kit contents.

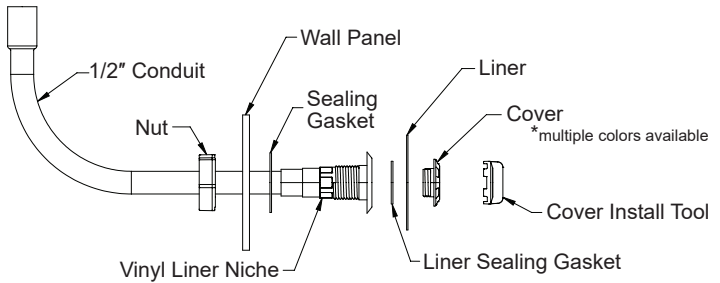


## AVAILABLE NICHE KITS

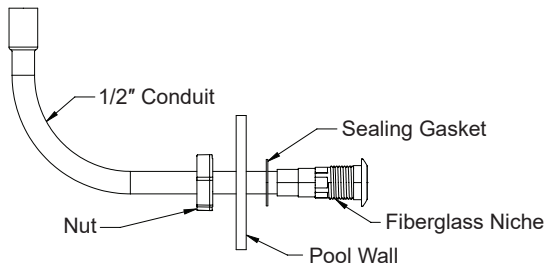
### Gunite Kit (P/N 602271)



### Vinyl Kit (P/N 602272)



### Fiberglass Kit (P/N 602273)





## NOTES

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# NOTES

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## NOTES

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