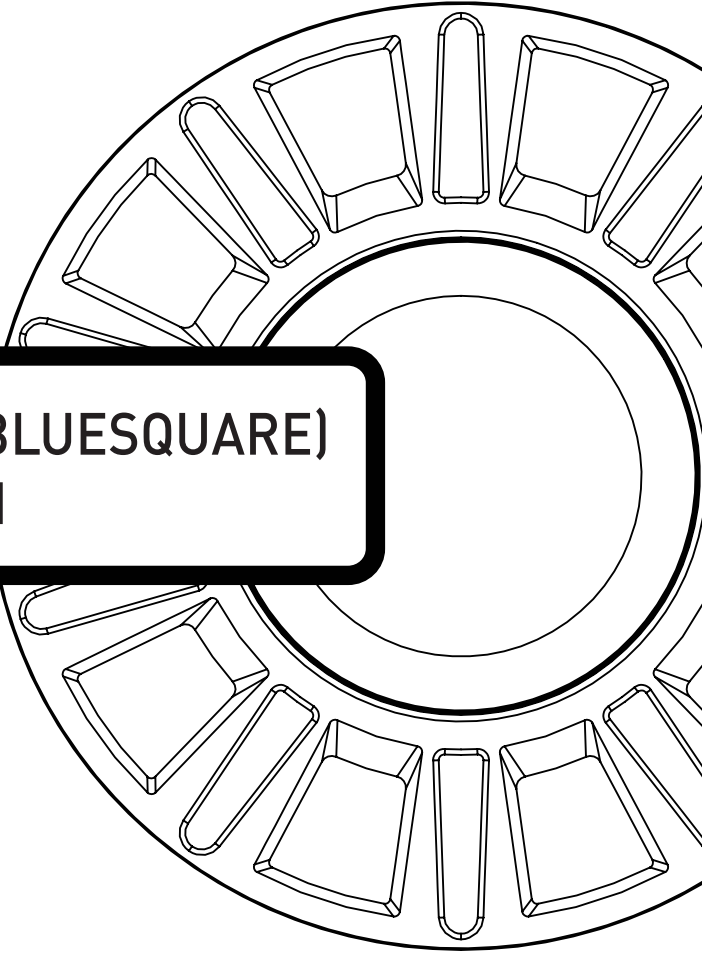


SE Spa Electrics®

retro™

REPLACEMENT LED POOL LIGHT



**POOL LIGHT (BLUESQUARE)
INSTALLATION**

R6B **INSTALLATION &
OWNER'S MANUAL**

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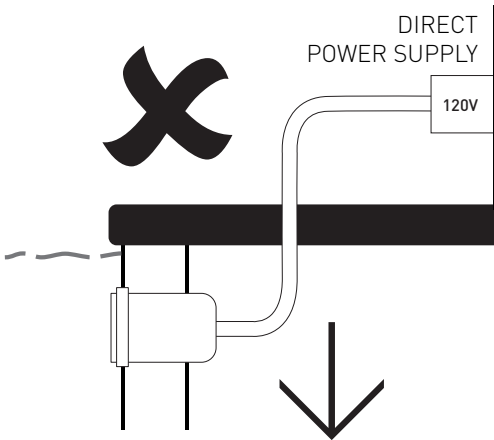
IMPORTANT NOTE

FRESH WATER USE ONLY
NOT INTENDED FOR OPERATION OUT OF WATER

PRE-INSTALLATION CHECK

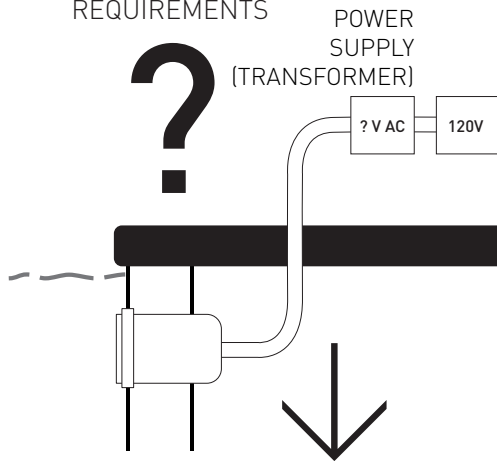
1 CHECK POWER SUPPLY

1A: IF THE POOL LIGHTS ARE DIRECTLY CONNECTED TO A 120V POWER SUPPLY, DO NOT CONTINUE INSTALLATION



1B: A 12V AC TRANSFORMER **MUST** BE INSTALLED BETWEEN THE 120V POWER SUPPLY AND POOL LIGHT

2A: IF THE POOL LIGHTS ARE CONNECTED TO A TRANSFORMER CHECK THAT IT MEETS STEP 1B REQUIREMENTS



2B: IF THE TRANSFORMER DOES NOT MEET THE REQUIREMENTS, IT WILL REQUIRE REPLACEMENT

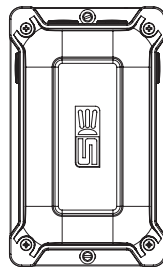
2 ADD TRANSFORMER (if needed)

EXISTING TRANSFORMER **MUST BE:**

- UL Listed Isolating Low Voltage power supply, evaluated for swimming pool use
- Installed as per current NEC wiring rules
- 12~14v AC output
- Minimum 15W per Retro Series Pool light
- In good working order

EXISTING TRANSFORMER **MUST NOT BE:**

- DC or 'LED Driver'
- Electronic or Switch mode
- Weather damaged or in otherwise poor condition



Models Available:

LVX50
LVX50P
LVX100
LVX100P

Spa Electrics recommends "LVX" safety transformers for use with **Retro Universal** lights

PRE-INSTALLATION CHECK

3 CHECK CABLE THICKNESS

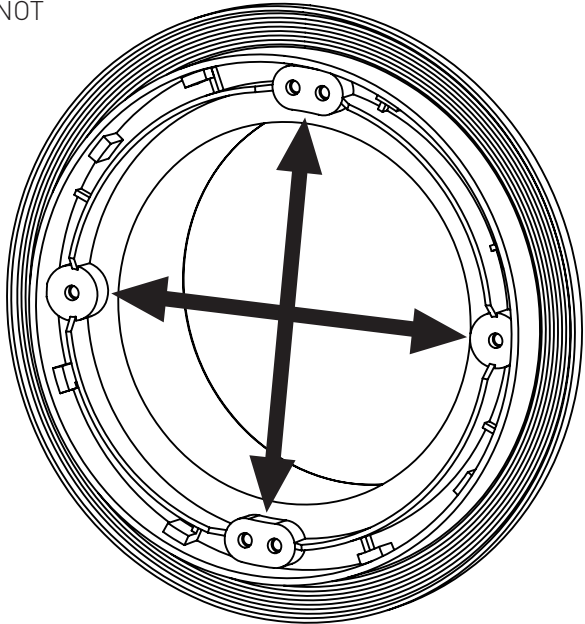
RETRO UNIVERSAL CAN
FIT CABLES FROM 9/32" (7mm)
UP TO 9/16" (14mm) DIAMETER

Max \varnothing
9/16 inch
(14mm)



4 CHECK SCREW BOSSES

CHECK THE CONDITION OF THE
SCREW BOSSES TO ENSURE TWO
OPPOSING BOSSES ARE NOT
STRIPPED OR DAMAGED



READ THIS FIRST

Congratulations on your purchase of a Spa Electrics **Retro Universal** Series Pool Light. This light has been designed in conjunction with leading pool professionals across the USA and manufactured solely in Australia.

The Retro Series Pool light is designed to quickly and easily replace existing LOW VOLTAGE, Bluesquare 6" Light / SPECTRUM™ 360 Niches.

For safe and proper installation, please read this manual in full before commencing installation and use only the parts (screws, plugs, sealant, etc) as provided.

For operating instructions, please refer to the MULTI PLUS Operating Manual. (Provided)

NOTE: The use of DC / Electronic (or Switch mode) power supplies is **not** permitted as they can cause disruptions in the light's normal operation & in some cases damage the light's internal electronic components. For more information, please contact Spa Electrics Inc.



WARNING

- Ensure sufficient cable is coiled behind the light to allow for servicing (~12 to 24inch)
- Ensure only circular cable not exceeding 9/16" (14mm) diameter is connected to the **Retro Universal** Light. The use of Fig. 8 or non-circular cable will not seal correctly & will void the product warranty.
- The **Retro Universal** LED Light does not contain any user-serviceable parts, opening the light will void the product warranty.
- Pool chemicals & pH levels: Due to the corrosive nature of unbalanced pool water, Spa Electrics strongly recommends that your pool water is balanced prior to installing your pool lights or any plastic or stainless steel components, and tested weekly to maintain these levels. pH levels should be maintained between 7.2- 7.6 at all times to ensure the longevity of these components. Failure to do so can result in chemical damage to the light housing and pool fittings, including stainless steel components.
 - Please note: Lights or components found to have excessive chemical damage will not be covered under our manufacturer's warranty policy.

TOOLS REQUIRED

- Phillips head screwdriver
- Small flat blade screwdriver



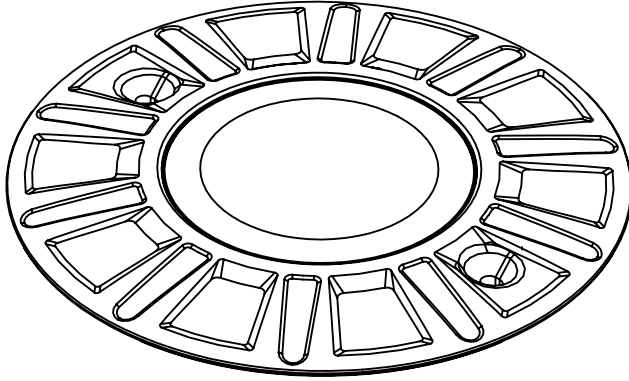
IMPORTANT NOTES

- The use of power tools during installation is **not** recommended as these devices can cause faults and damage to light components.
- All installation steps should be carried out with manual tools only.
- The enclosed images are for illustrative purposes only. Appearances of parts and assemblies may vary from the enclosed illustrations.
- Please contact your reseller if you have any questions regarding the correct installation of this product.

PRODUCT SUPPORT & INFORMATION

For the most update to date installation and contact information please visit www.spaelectrics.com

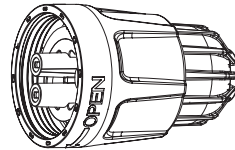
INCLUDED PARTS



LIGHT ASSEMBLY & NICHE ADAPTER



LANOLIN



QUICK CONNECT PLUG
(PROVIDED AS COMPONENTS
SEE BELOW)

CONNECTOR PLUG COMPONENTS



SCREW TERMINAL
END WITH FILLING
SCREWS ATTACHED



STRAIN
RELIEF CLIP
(OPTIONAL)



CONNECTOR
BARREL



GLANDS
X3 SIZES
PROVIDED



GLAND
NUT



LARGE
GLAND NUT
(ALSO SUPPLIED)



PLUG
COLLAR



1x INSTALLATION
MANUAL



1x WARRANTY
CARD



1x MULTIPLUS
MANUAL



REQUIRED PART (NOT INCLUDED)

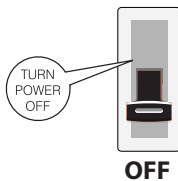
UL LISTED ISOLATING LOW VOLTAGE POWER SUPPLY, EVALUATED FOR SWIMMING POOL USE.

Installed as per current NEC wiring rules. 12-14v AC output. Minimum 15W per Retro Series Pool Light. Spa Electrics recommends the use of its "LVX Series" safety transformers with the Retro Series lights.

A: CONNECTION TO CABLE

**STOP! WARNING
ELECTROCUTION**

CHECK POWER IS
TURNED OFF
FIRST



TURN OFF BREAKER
TO POOL LIGHT
TRANSFORMER

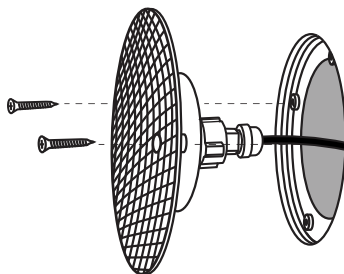
1 REMOVE EXISTING LIGHT

UNDO AND REMOVE SCREWS.
REMOVE EXISTING LIGHT FROM NICHE
AND BRING TO THE SURFACE FOR
CONNECTION.

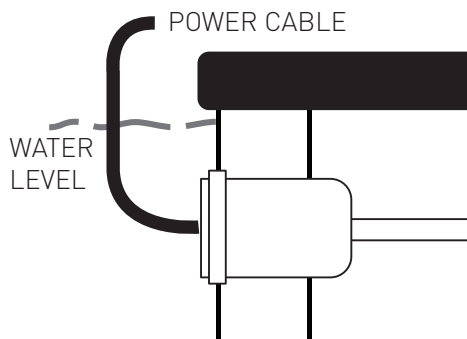


IMPORTANT

RETAIN EXISTING MOUNT-
ING SCREWS FOR LATER
ASSEMBLY STEP



ALL CABLE CONNECTIONS ARE
TO BE DONE
AT SURFACE LEVEL, AND OUT
OF WATER.

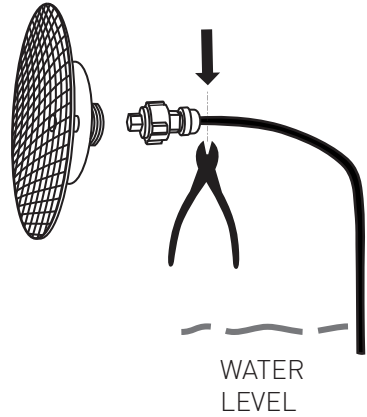


2

DISCONNECT EXISTING LIGHT

DISCONNECT LIGHT
FROM POWER CABLE

CUT POWER CABLE
AS CLOSE TO BACK OF
EXISTING LIGHT AS POSSIBLE



3

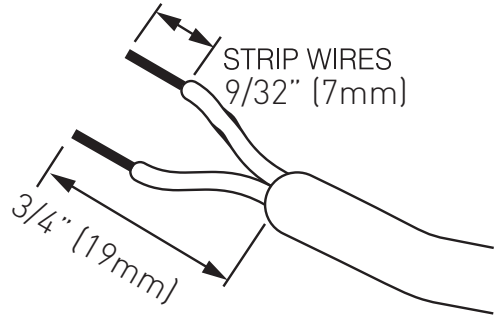
CABLE PREPARATION

STRIP POWER CABLE TO
SPECIFIED LENGTH



NOTE

IF CABLE LENGTH ALLOWS,
CUT CABLE BACK UNTIL
FRESH COPPER APPEARS.



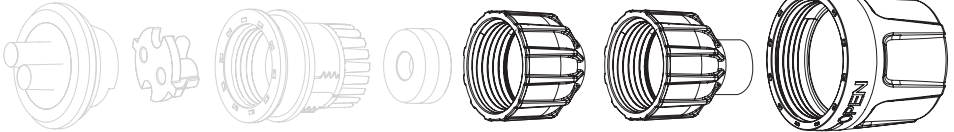
4

START ASSEMBLY OF CONNECTOR PLUG

LANOLIN USE



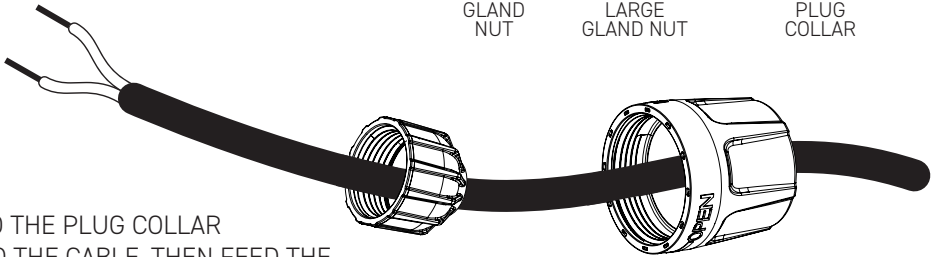
GENTLY WARM
LANOLIN
BEFORE USE



GLAND
NUT

LARGE
GLAND NUT

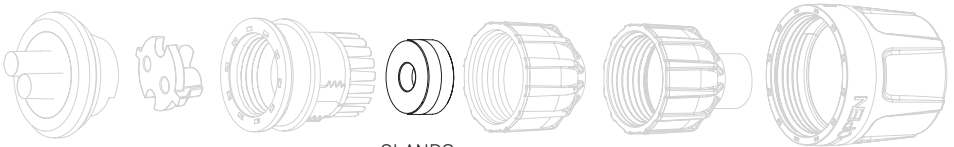
PLUG
COLLAR



FEED THE PLUG COLLAR
ONTO THE CABLE, THEN FEED THE
APPROPRIATE GLAND NUT ONTO THE CABLE

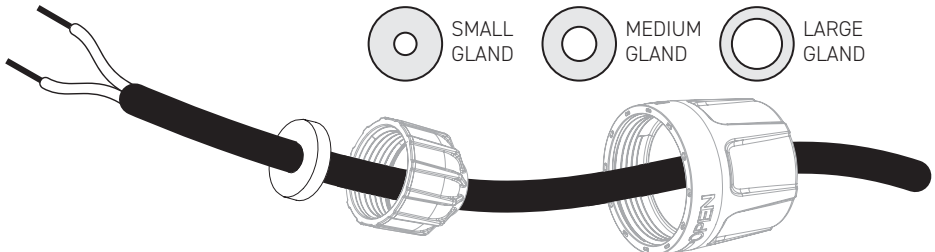
5

CHOOSE THE APPROPRIATE GLAND



GLANDS
X 3 SIZES
PROVIDED

SELECT THE **APPROPRIATE** CABLE
GLAND FROM THE THREE SUPPLIED
THAT SNUGLY FITS THE EXISTING
POWER CABLE WITHOUT BULGING



SMALL
GLAND

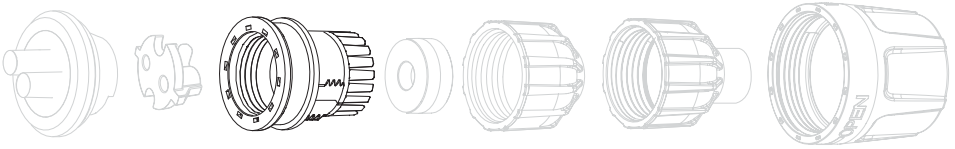


MEDIUM
GLAND

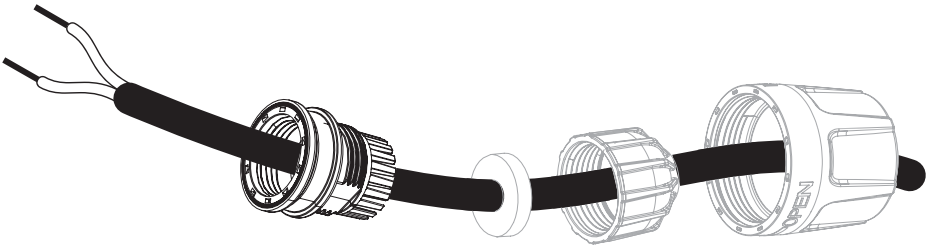
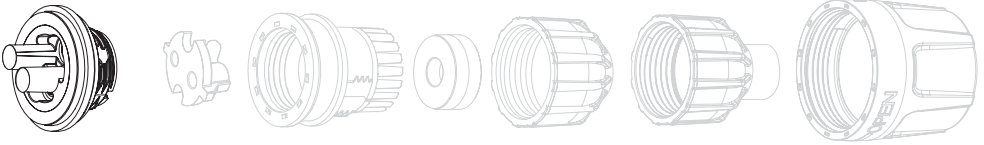


LARGE
GLAND

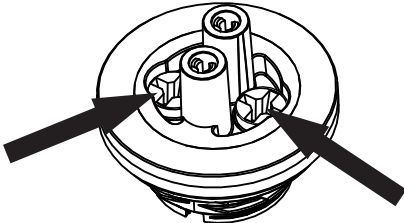
THE GLAND FITMENT SHOULD BE
FIRM OVER THE CABLE WITHOUT
BULGING OR DEFORMING THE GLAND

6**CONTINUE ASSEMBLY OF CONNECTOR PLUG**CONNECTOR
BARREL

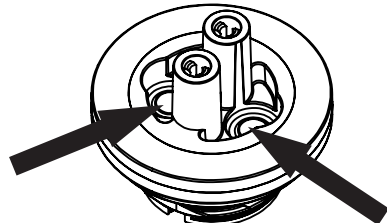
FEED THE CONNECTOR BARREL ONTO THE CABLE

**7****CHECK SCREWS ON SCREW TERMINAL END**SCREW
TERMINAL END

CHECK IF SCREWS ARE PRESENT IN THE TOP OF THE SCREW TERMINAL END

WITH SCREWS

USE A MANUAL PHILLIPS HEAD SCREWDRIVER TO ENSURE THAT THE 2 SCREWS INDICATED ARE FULLY SEATED. PROCEED TO STEP 8.

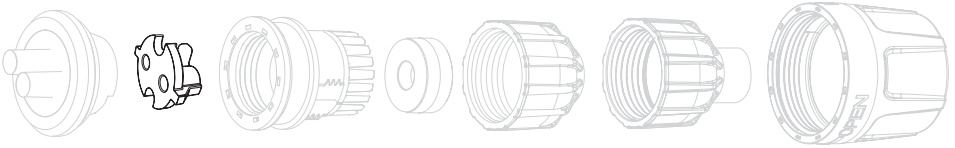
WITHOUT SCREWS

CHECK THERE ARE NO HOLES IN THE INDICATED LOCATIONS.

PROCEED TO STEP 8.

8

STRAIN RELIEF CLIP



STRAIN RELIEF CLIP
(OPTIONAL)

OPTION 1: WHEN USING THE MEDIUM OR LARGE CABLE GLANDS, THE STRAIN RELIEF CLIP IS NOT REQUIRED. FOLLOW STEP 9A (IGNORE STEP 9B).

OPTION 2: THE STRAIN RELIEF CLIP MUST BE USED WHEN THE SMALL CABLE GLAND IS USED. FOLLOW STEP 9B (IGNORE STEP 9A).

STRAIN RELIEF CLIP REQUIRED



SMALL
GLAND



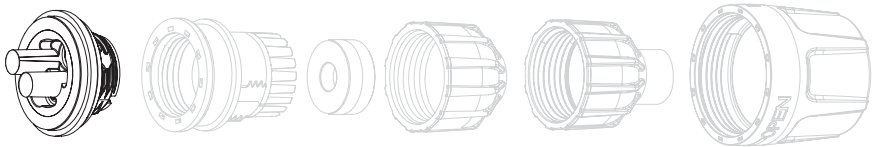
MEDIUM
GLAND



LARGE
GLAND

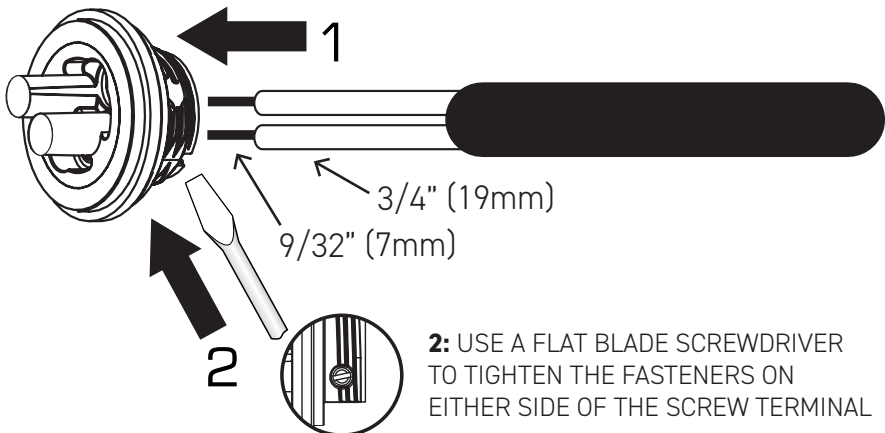
9A

CONNECT THE SCREW TERMINAL END



SCREW TERMINAL END

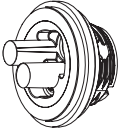
1: FEED THE TWO STRIPPED CABLE ENDS THROUGH THE TWO HOLES IN THE BACK OF THE SCREW TERMINAL END



2: USE A FLAT BLADE SCREWDRIVER TO TIGHTEN THE FASTENERS ON EITHER SIDE OF THE SCREW TERMINAL

9B

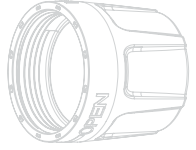
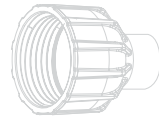
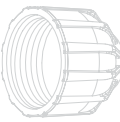
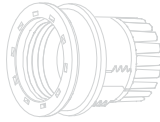
CONNECT THE SCREW TERMINAL END



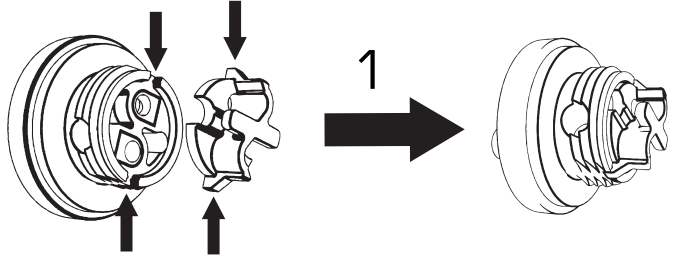
SCREW
TERMINAL END



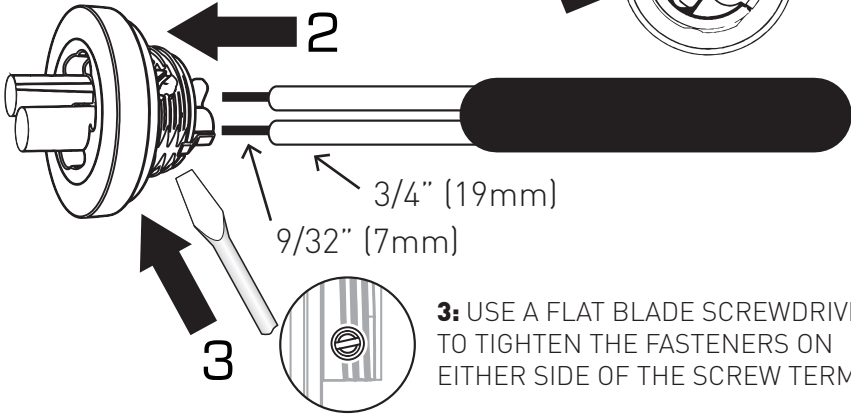
STRAIN RELIEF
CLIP



1: ATTACH THE STRAIN RELIEF CLIP TO THE SCREW TERMINAL END



2: FEED THE TWO STRIPPED CABLE ENDS THROUGH THE TWO HOLES IN THE BACK OF THE SCREW TERMINAL END



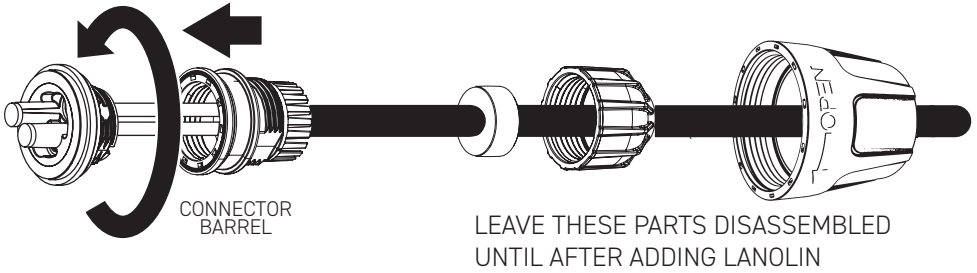
3: USE A FLAT BLADE SCREWDRIVER TO TIGHTEN THE FASTENERS ON EITHER SIDE OF THE SCREW TERMINAL

4: TWIST THE SCREW TERMINAL AND LOOP CABLE ENDS UNDER THE STRAIN RELIEF CLIP



10 START ASSEMBLY OF CONNECTOR PLUG

CAREFULLY THREAD CONNECTOR BARREL ONTO SCREW TERMINAL AND TIGHTEN FIRMLY BY HAND

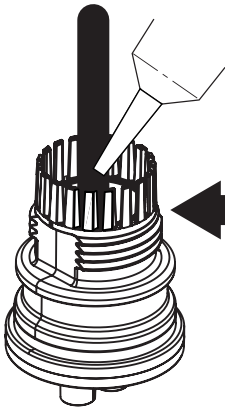


11 ADD LANOLIN

LANOLIN USE



GENTLY WARM
LANOLIN
BEFORE USE



FILL BACK OF CONNECTOR BARREL WITH LANOLIN UP TO THE INDICATED POINT

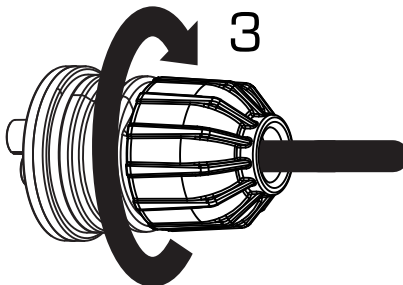
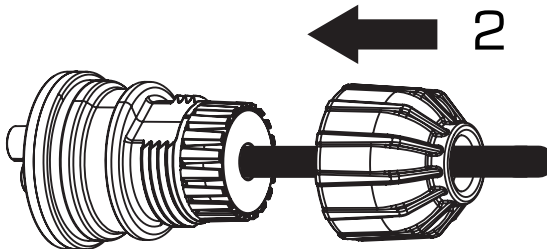
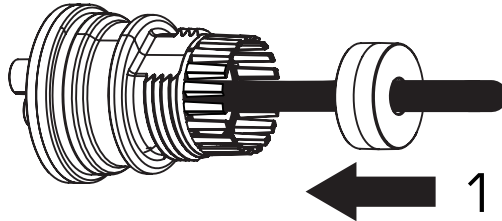
FILL TO HERE
(ALLOWING ROOM FOR GLAND)

12 CONTINUE ASSEMBLY OF CONNECTOR PLUG

1: SEAT CABLE GLAND ALL THE WAY INTO CONNECTOR (DO A VISUAL CHECK TO MAKE SURE A SEAL BETWEEN GLAND AND CABLE)

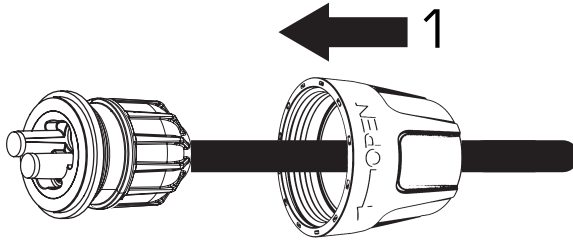
2: CAREFULLY THREAD GLAND NUT ONTO CONNECTOR BARREL

3: TIGHTEN GLAND NUT FIRMLY BY HAND

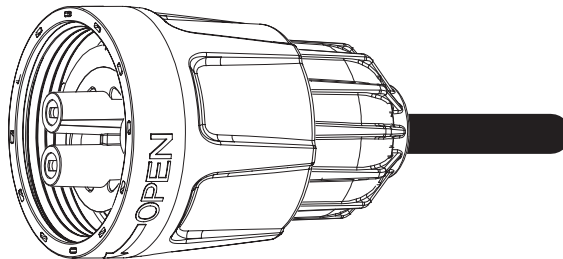


13 CONTINUE ASSEMBLY OF CONNECTOR PLUG

1: POSITION CONNECTOR COLLAR ALL THE WAY TO THE END READY FOR ATTACHMENT TO THE LIGHT ASSEMBLY



ASSEMBLED VIEW OF CONNECTOR PLUG



B: ATTACH TO NICHE

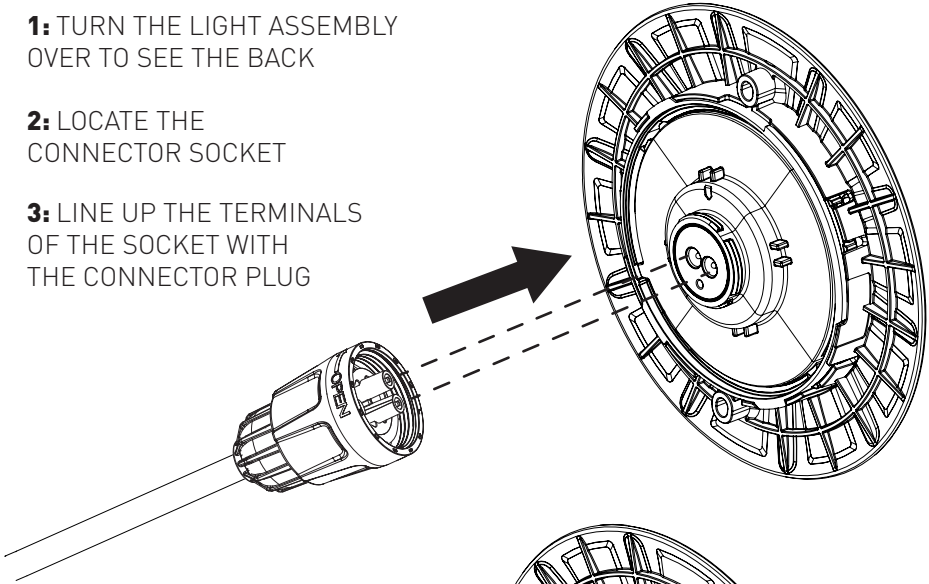
1

ALIGN UP AND CONNECT CONNECTOR PLUG

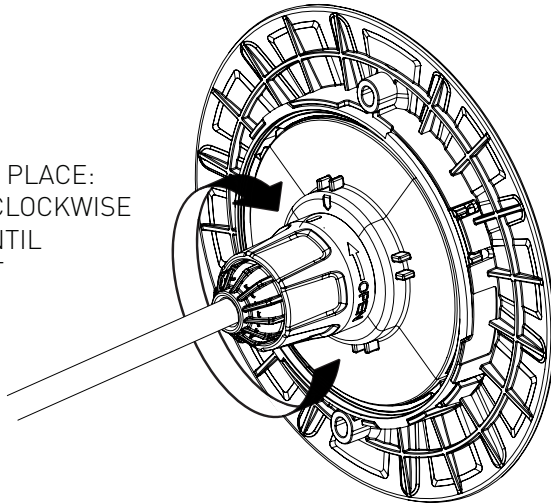
1: TURN THE LIGHT ASSEMBLY OVER TO SEE THE BACK

2: LOCATE THE CONNECTOR SOCKET

3: LINE UP THE TERMINALS OF THE SOCKET WITH THE CONNECTOR PLUG



4: TO LOCK INTO PLACE: TWIST COLLAR CLOCKWISE A FEW TIMES UNTIL IT'S HAND TIGHT



IMPORTANT NOTES

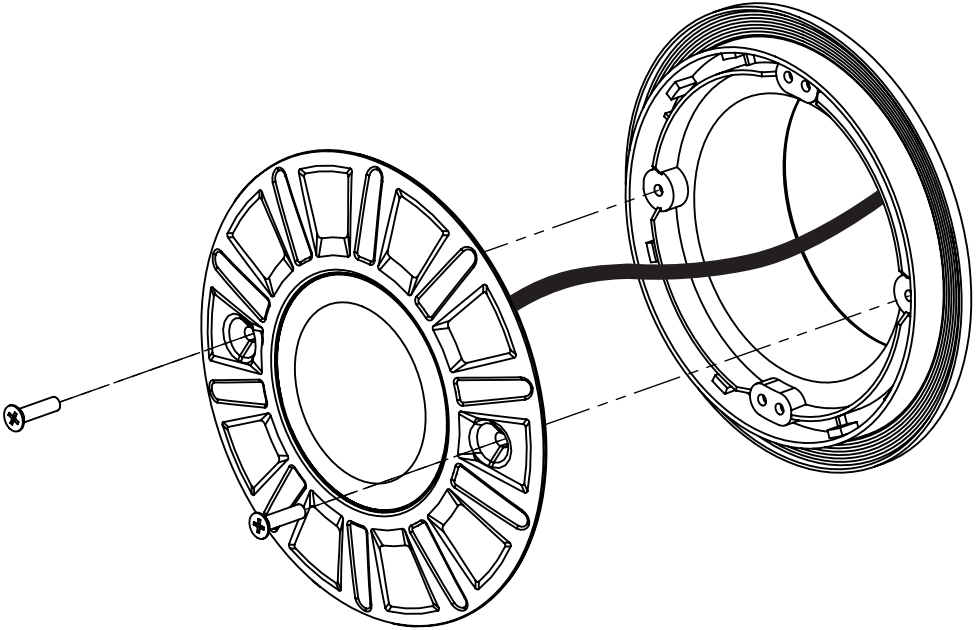
- DO NOT ADD SEALANTS, GREASES OR ADHESIVES
- ENSURE ALL SURFACES ARE CLEAN AND DRY
- **DO NOT ASSEMBLE UNDERWATER**

2

ATTACH ASSEMBLED LIGHT TO NICHE

ALIGN THE ASSEMBLED LIGHT USING THE SCREW HOLES BETWEEN THE ADAPTOR AND NICHE.

FASTEN USING THE EXISTING SCREWS, HAND TIGHTEN USING A SCREWDRIVER.

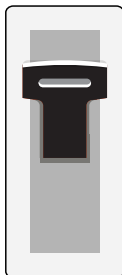


POST INSTALLATION CHECK

1 TEST SYSTEM

TURN ON POWER
AND CHECK ALL
WORKING CORRECTLY

ON

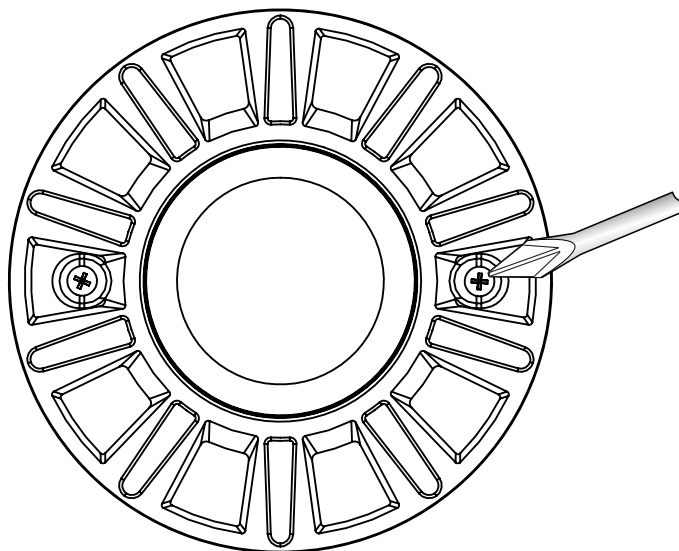


TURN ON BREAKER
TO POOL LIGHT
TRANSFORMER

LIGHT REMOVAL

1 DETACH THE LIGHT ASSEMBLY

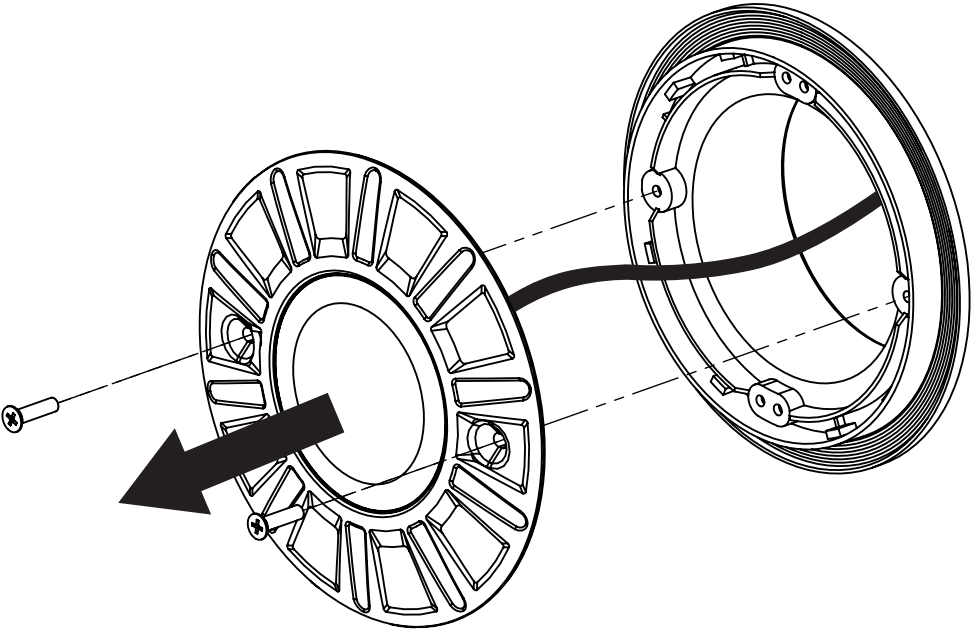
USE A SCREWDRIVER TO REMOVE THE SCREWS



2

PULL OUT LIGHT ASSEMBLY

PULL OUT THE LIGHT ASSEMBLY FROM THE NICHE



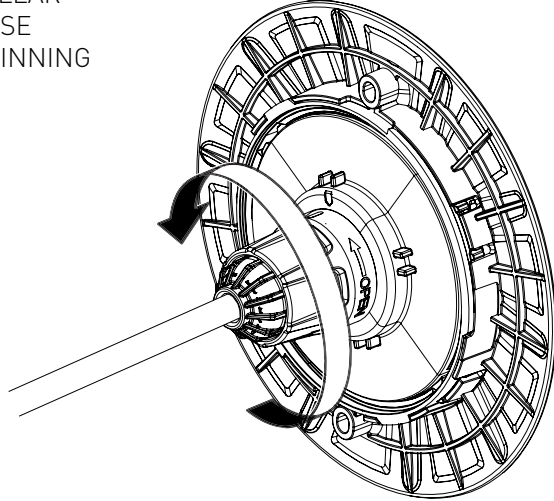
IMPORTANT NOTE

BRING ABOVE WATER LINE BEFORE DETACHING
CABLE

3

UNLOCK THE PLUG

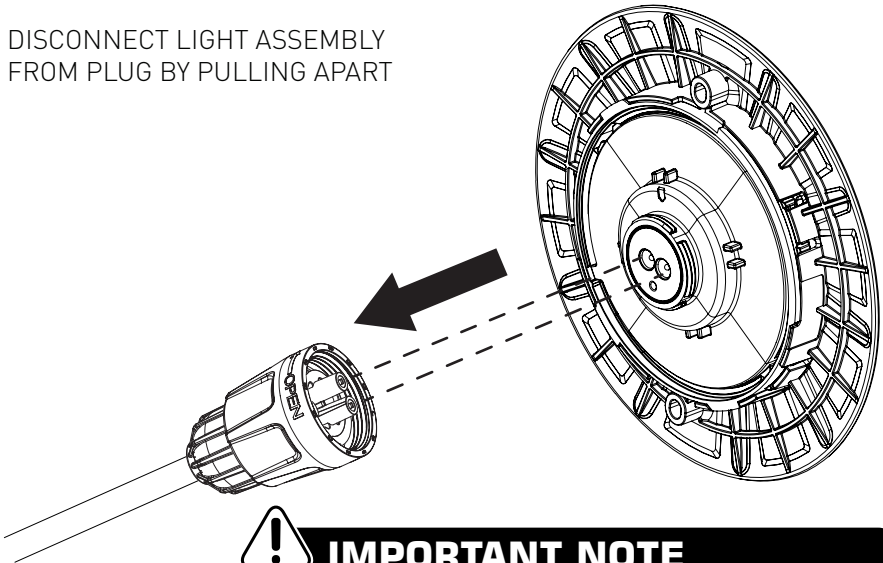
UNSCREW PLUG COLLAR
COUNTER-CLOCKWISE
UNTIL IT IS FREE SPINNING



4

REMOVE THE LIGHT ASSEMBLY

DISCONNECT LIGHT ASSEMBLY
FROM PLUG BY PULLING APART

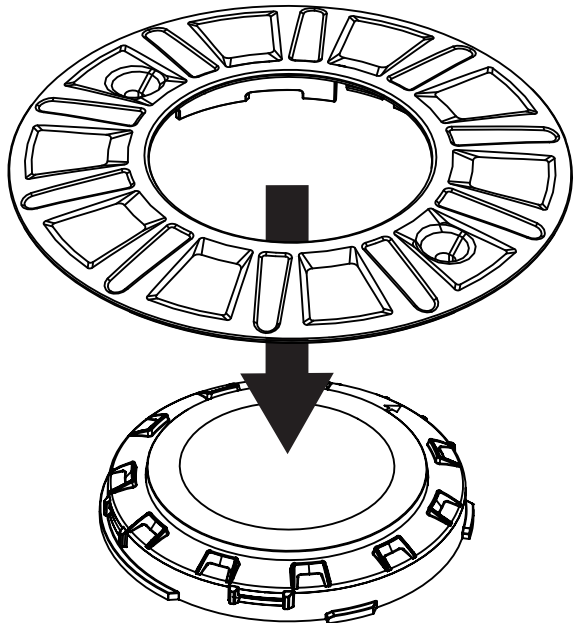
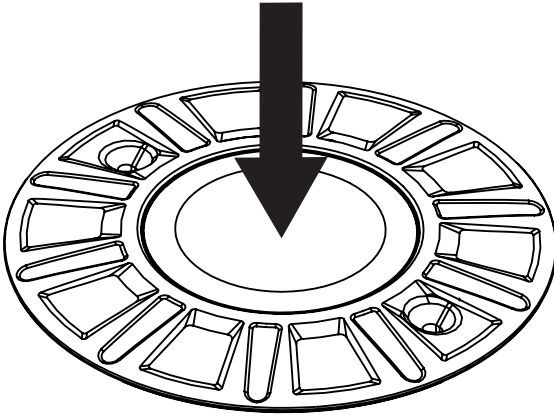


IMPORTANT NOTE

CABLE SHOULD BE SECURED ABOVE WATER AND
WEATHER PROTECTED WHILE LIGHT IS DETACHED

5 UNCLIP LUMINAIRE FROM ADAPTOR (IF REQUIRED)

IF REQUIRED, THE LUMINAIRE CAN BE UNCLIPPED FROM THE ADAPTOR BY CAREFULLY PUSHING ON THE LENS FROM THE FRONT WHILE HOLDING THE ADAPTOR.



TROUBLESHOOTING

ISSUE	REASON	ACTION
Light returns to WHITE colour during manual colour change	Light synchronization process has been triggered	Refer to MultiPlus User Guide instructions
Light flashes red	Light over heating	Check light is fully submerged. Check vents are not obstructed
Light not operating (1)	Faulty connection to transformer	Ensure cable correctly connected to transformer terminals
Light not operating (2)	Mains power not connected	Check transformer is plugged in to GPO and switched on
Light not operating (3)	Damaged cable	Disconnect plug top and test voltage under load using multi-meter (ie. 15w 12v) Required voltage (11v ~ 13.5v)
Light not operating (4)	Transformer not working	Check fuses & test transformer using multimeter under load (ie.15w 12v)
Light colours not synchronized with controller	Incorrect operating mode selected	Refer to MULTI PLUS setup procedure

If these issues cannot be resolved with the above recommended actions, please contact your local Spa Electrics reseller or Spa Electrics directly.

ELECTRICAL GROUNDING

Underwriters Laboratories (UL) Statement

Per the NEC, NFPA 70, Article 680.23 (B)(5), states that bonding shall not be required for luminaires that are listed for the application and have no non-current carrying metal parts. In addition, per Article 680.26 (B)(4), exception states that Listed low-voltage lighting systems with non-metallic forming shells shall not require bonding.

Therefore, luminaires with polymeric/non-current carrying metal parts are not required to be grounded / bonded.

Manufacturers Statement

Spa Electrics **Retro Universal** luminaires with their plastic housing designs do not require grounding / bonding.

Spa Electrics **Retro Universal** lights have also been determined to comply with the applicable requirements for wet-niche, LED type Swimming Pool and Spa Luminaires.

FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two (2) conditions:

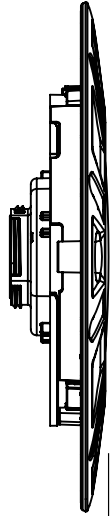
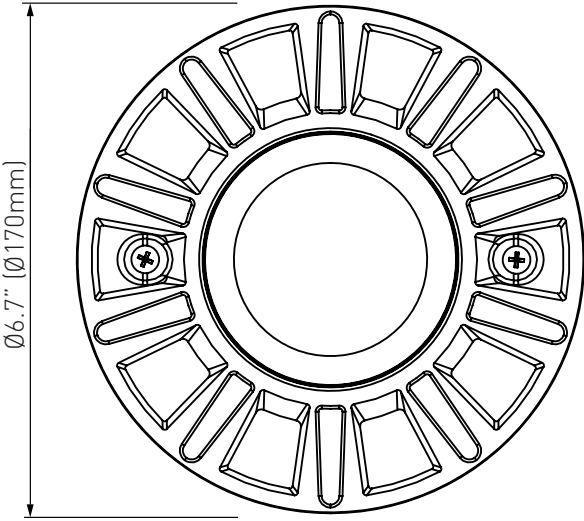
- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna**
- **Increase the separation between the equipment and receiver**
- **Connect the equipment into an outlet on a circuit different to that to which the receiver is connected**
- **Consult the dealer or an experienced radio / TV technician for help**

Do not make any changes or modifications to the equipment unless otherwise specified in the manual.

KEY DIMENSIONS



0.35" (9mm)

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NOTE

PLEASE STORE THIS MANUAL IN A SAFE PLACE
FOR FUTURE REFERENCE



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