SE

atom
EMC SERIES

CONCRETE INSTALLATION

ULTRA COMPACT NICHE LIGHT

INSTALLATION & OWNER'S MANUAL

CONTENTS

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READ THIS FIRST

This booklet contains important information about the correct installation and handling of EM-series lights. Please read this booklet carefully before commencing installation to familiarise yourself with the included parts, accessories and correct installation procedures.

BEFORE YOU START:
• EM-series cables can be shortened to suit individual installation requirements. Spa Electrics recommends all cabling is protected by conduit and that a conduit draw-box (or similar) is incorporated into pool cabling design to avoid siphoning. 20m cable is supplied as standard; 30m & 50m cable lengths are available to order from Spa Electrics or your distributor.
• Ensure that the lighting system is installed by a suitably qualified person (e.g. registered pool builder and/or qualified electrician), in accordance with the most current edition and/or amendment of AS/NZS 3000:2007 standards.
• For safe and proper installation, ensure that only those parts supplied with the system are used.
• Maximum installation depth for EM-Series lights is 400mm below coping (to centre of light)
• All lights should be mounted in a location that is easily accessible without the need for entering or lowering the pool water.
• At least 700mm cable must remain stored within the Niche to ensure the light can be accessed above the waterline. (Maximum cable within niche = 2 metres).
• EM-series lights can be mounted at any angle provided the installation conforms to the above items.

CLEANING
• Only use warm water and a soft brush or cloth to clean EM-series lights. DO NOT use detergents or spirits as this can damage the light and void your warranty.

USE
• Do not operate light unless completely submerged in water.
• Operating the light for at least 15 minutes every week is advised (all year round).
• EM-series lights are suited for both domestic and commercial installations and can be operated continuously (24/7) if required.

⚠ WARNING

The EM series light must only be powered by the supplied 12V AC SPA ELECTRICS transformer.

• DO NOT use electronic or switch-mode transformers with EM-series lights. These transformers will damage the light and void your product warranty.

• Pool chemicals & PH levels: Due to the corrosive nature of unbalanced pool chemicals, Spa Electrics strongly recommend 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

• This light contains no user-serviceable parts; opening the light will void the product warranty.

TOOLS REQUIRED

→ No. 2 Phillips screwdriver

→ 13mm open-ended spanner

→ Flat-blade screw driver (for EM-light removal)

⚠ IMPORTANT NOTE

The use of power tools (such as 240V and cordless drills) 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.
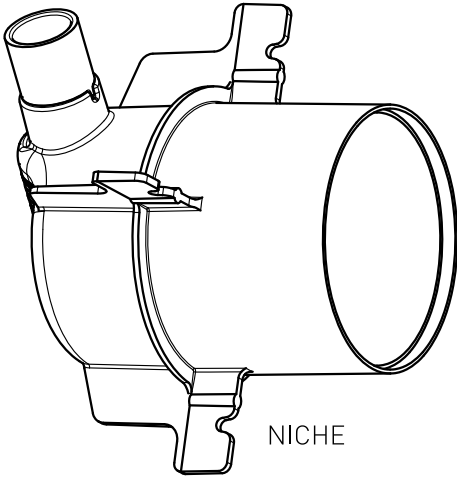
PRODUCT SUPPORT & INFORMATION

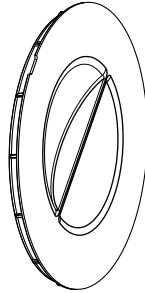Phone: +61 3 9793 2299 (business hours)

Email: sales@spaelectrics.com.au (SALES enquiries)

Email: tech@spaelectrics.com.au (TECHNICAL support enquiries)

Web: www.spaelectrics.com.au
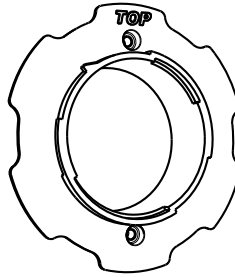
INCLUDED PARTS

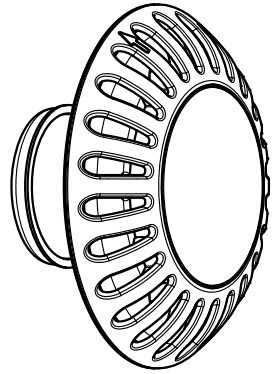

NICHE

PROTECTIVE CAP
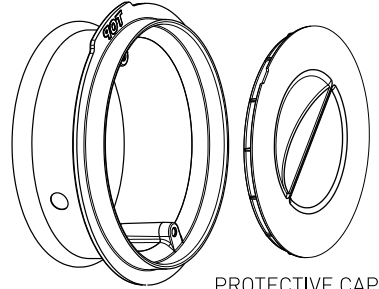
MOUNTING RING
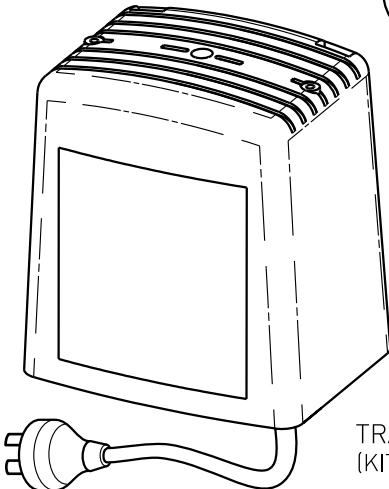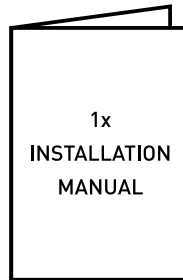(INC 2 X SCREW)

PROTECTIVE CAP
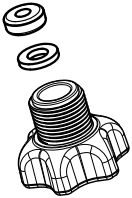
CABLE
GLAND
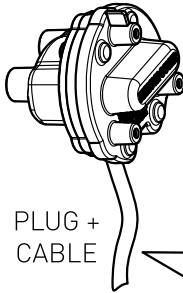
PLUG +
CABLE

20m

LOCKING
RING
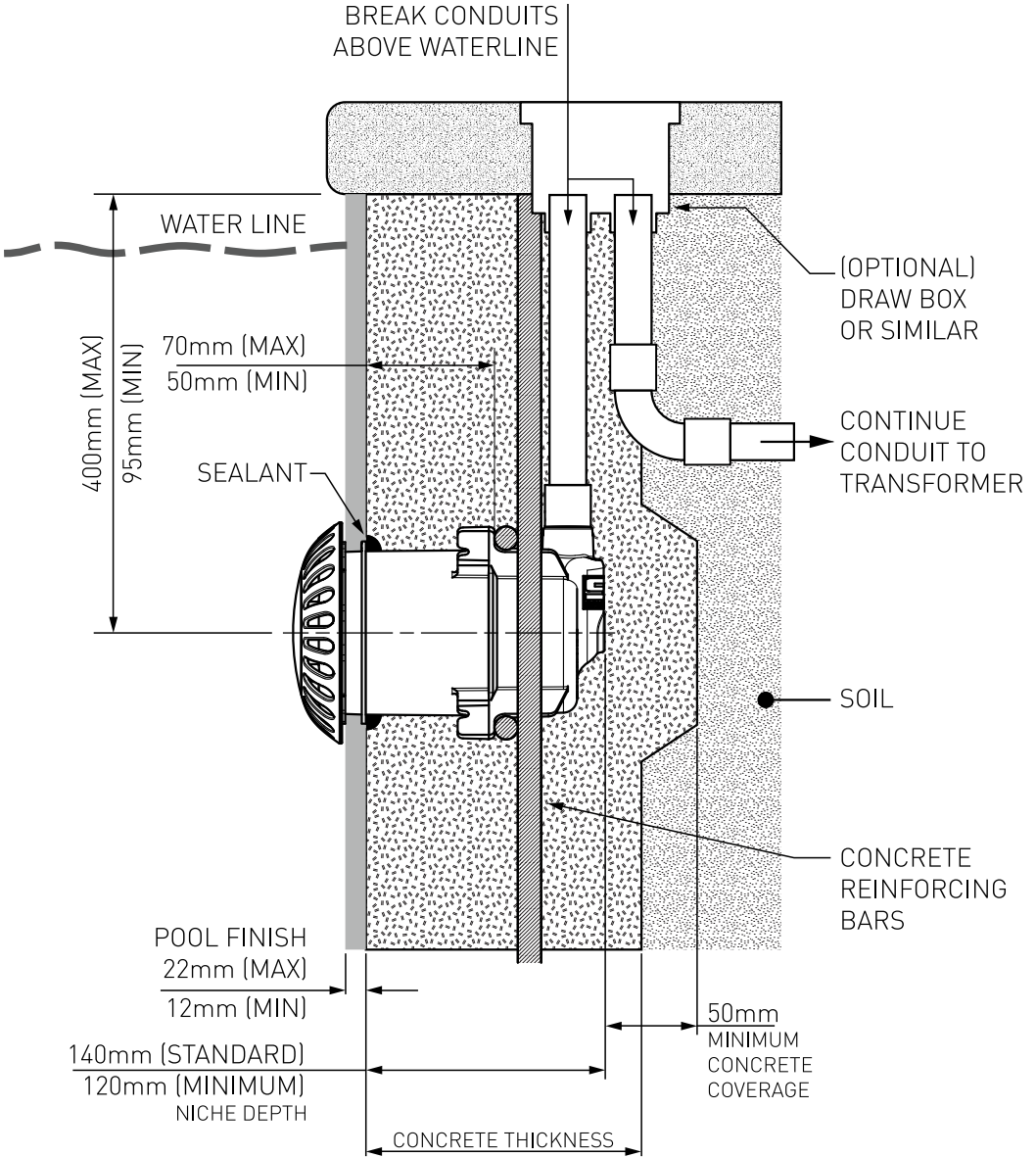
LIGHT

TRANSFORMER
(KITS ONLY)
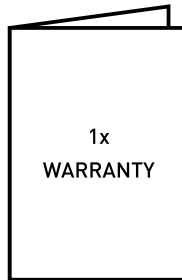
1x
WARRANTY

1x
INSTALLATION
MANUAL

FINISHED INSTALLATION

BREAK CONDUITS
ABOVE WATERLINE

WATER LINE

(OPTIONAL)
DRAW BOX
OR SIMILAR

400mm (MAX)
95mm (MIN)

70mm (MAX)
50mm (MIN)

CONTINUE
CONDUIT TO
TRANSFORMER

SEALANT

SOIL

CONCRETE
REINFORCING
BARS

POOL FINISH
22mm (MAX)
12mm (MIN)

140mm (STANDARD)
120mm (MINIMUM)
NICHE DEPTH

50mm
MINIMUM
CONCRETE
COVERAGE

CONCRETE THICKNESS

5

! NOTE

ENSURE INSTALLED LIGHT IS **FULLY SUBMERGED** BELOW WATERLINE (ALLOWING FOR EVAPORATION)

BREAK CONDUITS ABOVE WATERLINE

(OPTIONAL) DRAW BOX OR SIMILAR

WATER LINE

CONDUIT EXITS HORIZONTALLY FROM NICHE (SEE PAGE 12)

SEALANT

CONTINUE CONDUIT TO TRANSFORMER

90mm (MIN)

40mm (MIN)

SOIL

POOL FINISH
22mm (MAX)
12mm (MIN)

50mm MINIMUM CONCRETE COVERAGE

70mm (MAX)
50mm (MIN)

140mm (STANDARD)
120mm (MINIMUM)
NICHE DEPTH

CONCRETE THICKNESS

CONCRETE REINFORCING BARS

6
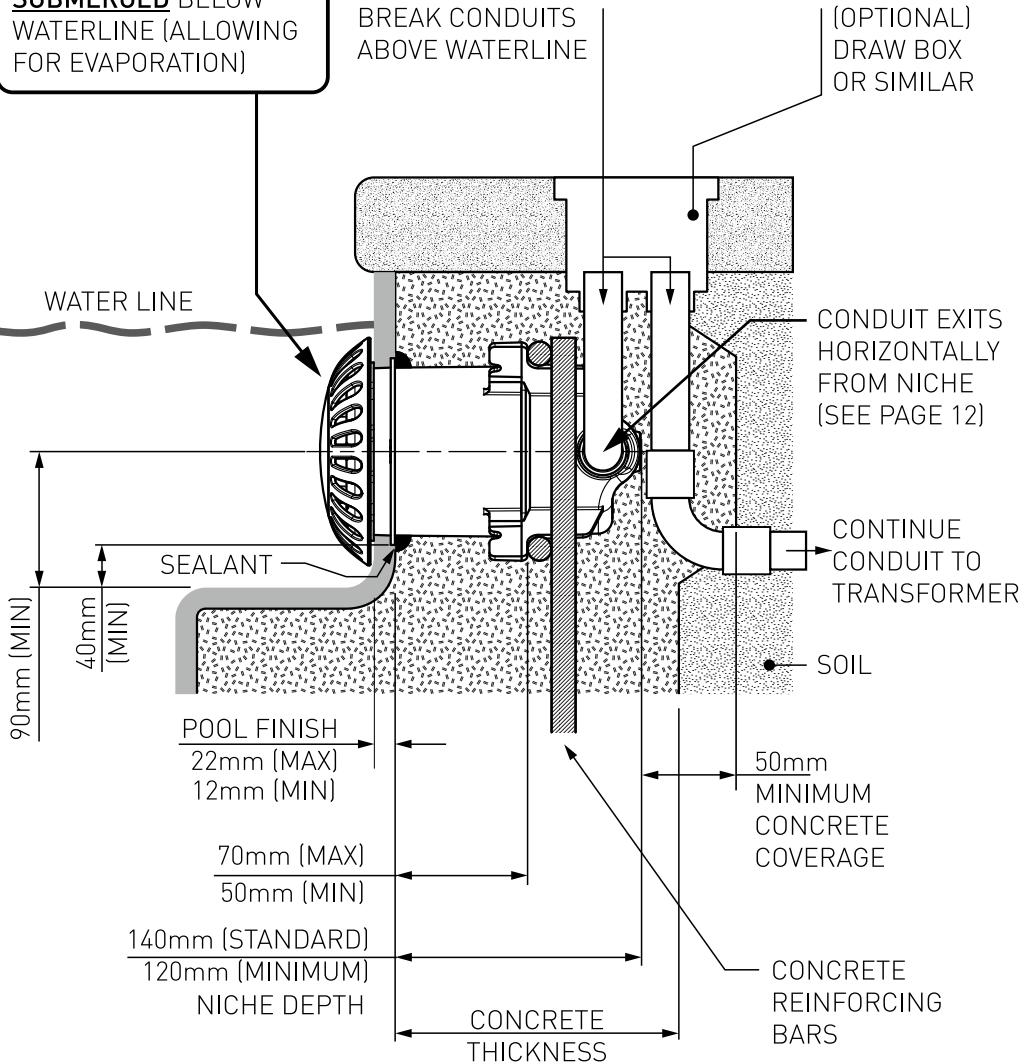
INSTALLATION

1 VERTICAL CONDUIT INSTALLATION

20mm CONDUIT GLUED INTO
CONDUIT TAKE-OFF USING
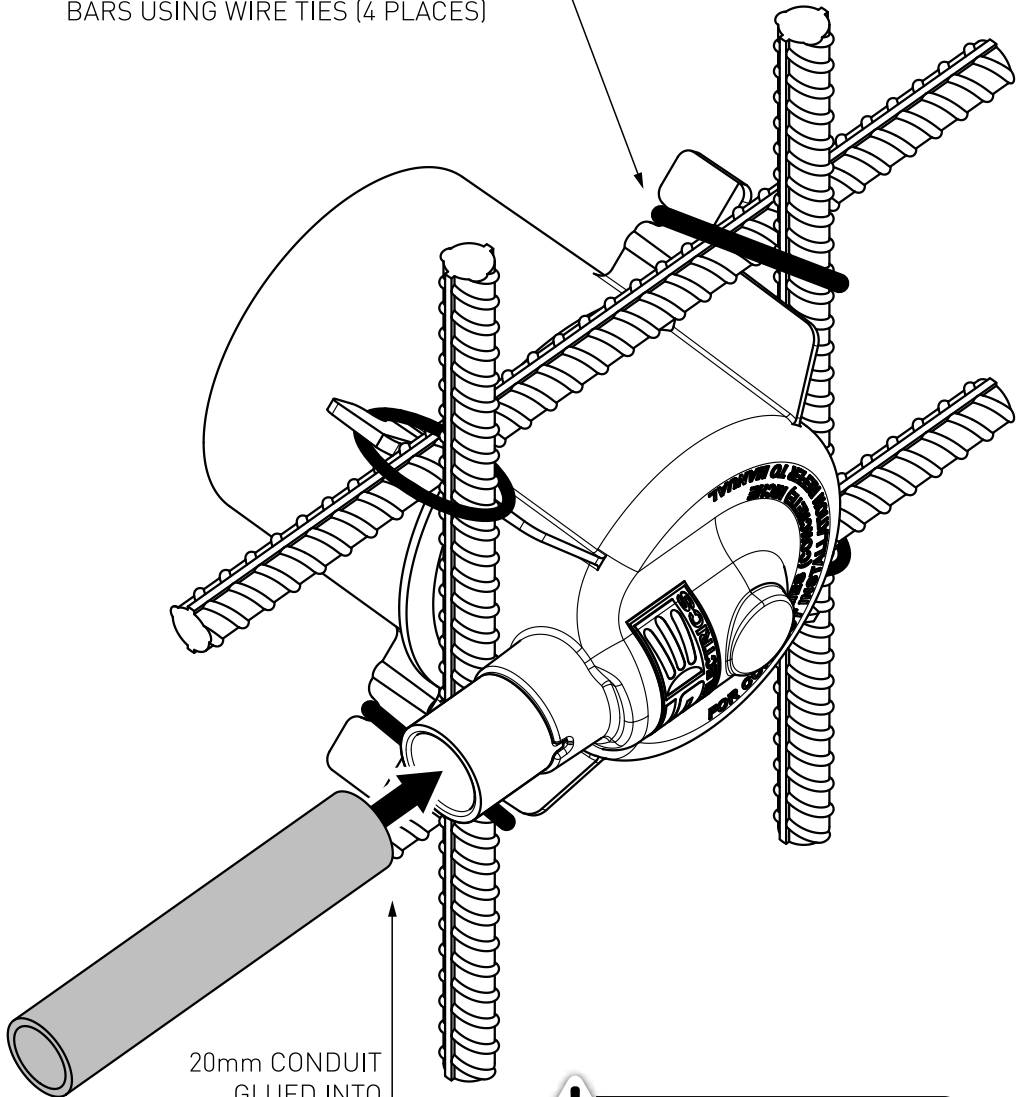PVC SOLVENT CEMENT SUITABLE
FOR NON-PRESSURE APPLICATIONS

SECURE NICHE TO REINFORCING
BARS USING WIRE TIES (4 PLACES)

⚠ NOTE

REFER TO PAGES **8~10** FOR
ALTERNATIVE INSTALLATION
CONFIGURATIONS

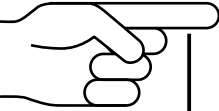SECURE NICHE TO REINFORCING
BARS USING WIRE TIES (4 PLACES)

20mm CONDUIT
GLUED INTO
CONDUIT TAKE-OFF
USING APPROVED
PVC SOLVENT
CEMENT

⚠️ NOTE

REFER TO PAGES **8~10** FOR
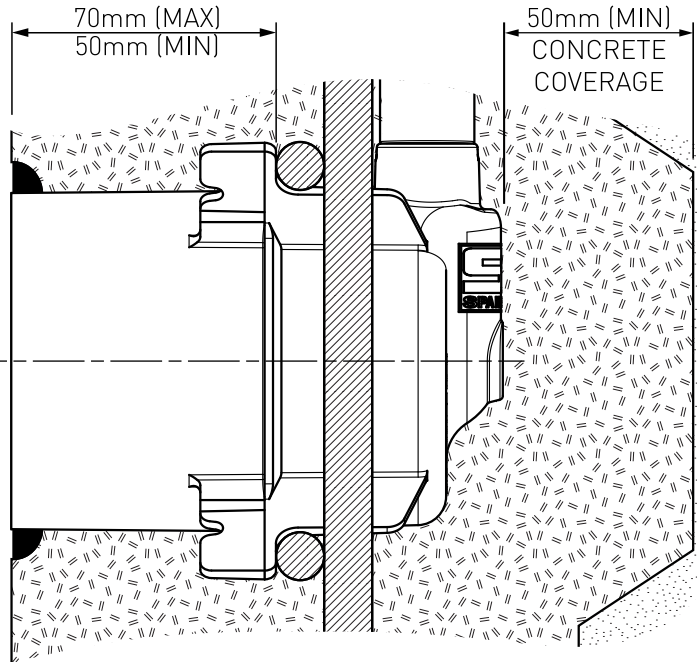ALTERNATIVE INSTALLATION
CONFIGURATIONS

70mm (MAX)
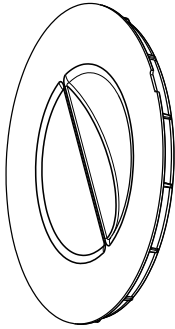50mm (MIN)

50mm (MIN)
CONCRETE
COVERAGE

⚠ **NOTE**

SCALLOP
CONCRETE
AROUND NICHE
PERIMETER
AND FILL WITH
SEALANT
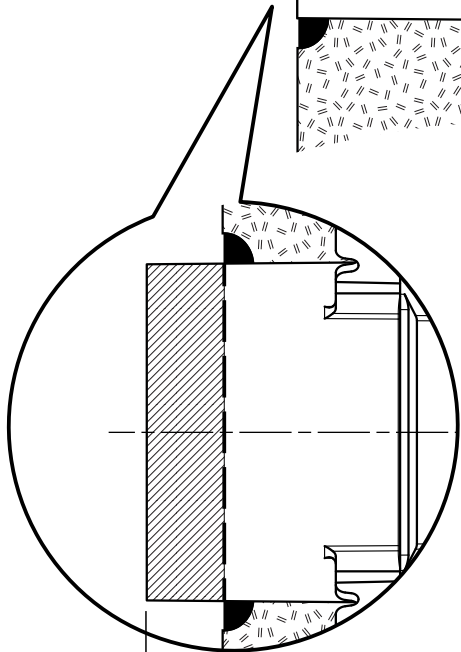
20mm
(MAX)

NICHE PROTRUDING?
NICHE CAN BE TRIMMED A
MAXIMUM OF 20mm IF IT
PROTRUDES FORWARD OF
FINISHED CONCRETE SURFACE
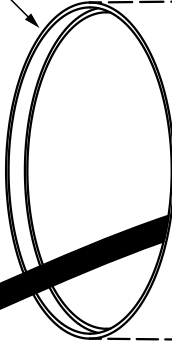
9

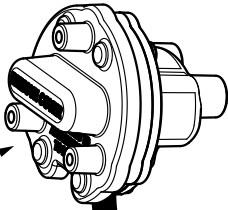**4** INSTALL CABLE & PLUG INTO NICHE

1 REMOVE NICHE PROTECTIVE CAP

2 DRAW CABLE THROUGH CONDUIT

CABLE + PLUG ASSEMBLY

NICHE (INSTALLED IN WALL)

NOTE: <u>DO NOT</u> REMOVE RED DUST COVER FROM PLUG (SEE STEP 10)

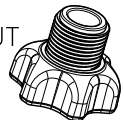2 METRES (MAX)
700mm (MIN)

3 TIGHTEN CABLE NUT BY HAND ONLY

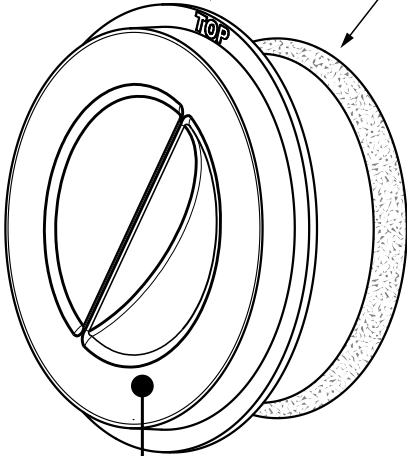RUBBER GROMMET

PLASTIC WASHER

CABLE NUT

⚠ **IMPORTANT NOTE**

→ ENSURE CABLE GLAND IS ASSEMBLED AS SHOWN.

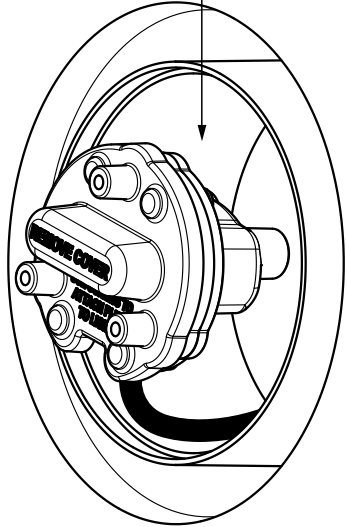# 5 | INSTALL MOUNTING RING INTO NICHE

NOTE
ENSURE "TOP" IS POSITIONED CORRECTLY

1 COIL PLUG & CABLE INSIDE NICHE
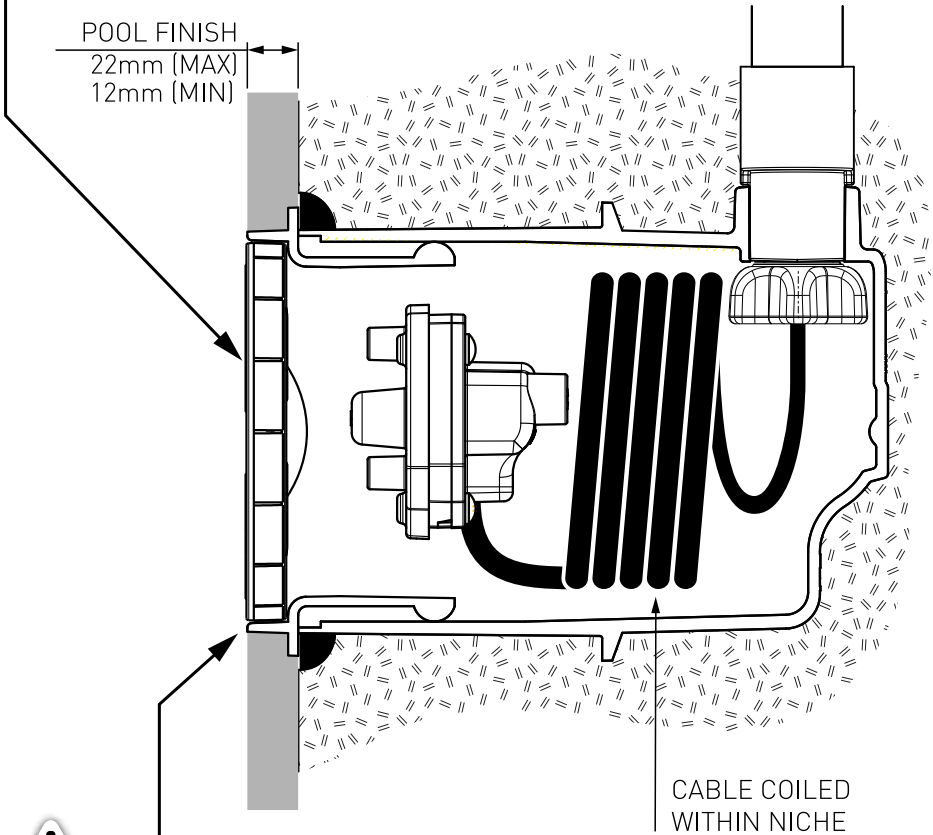
2 APPLY PVC SOLVENT CEMENT TO MOUNTING RING

TOP

3 FIRMLY PUSH MOUNTING RING INTO NICHE

NOTE
ENSURE PROTECTIVE CAP REMAINS IN MOUNTING RING (UNTIL STEP 8)

⚠ NOTE

PROTECTIVE CAP MUST REMAIN IN
MOUNTING RING DURING RENDERING / TILING

POOL FINISH
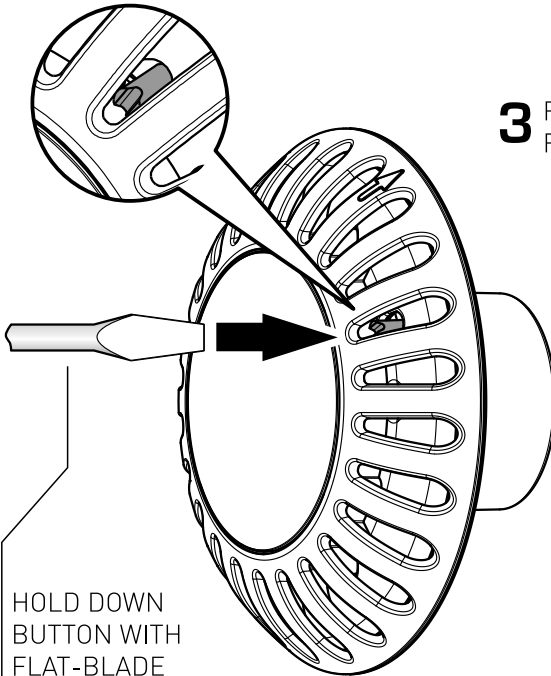22mm (MAX)
12mm (MIN)

CABLE COILED
WITHIN NICHE

⚠ NOTE

DO NOT TRIM
FRONT EDGE OF
MOUNTING RING
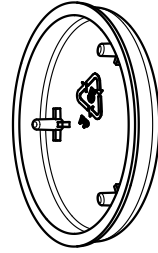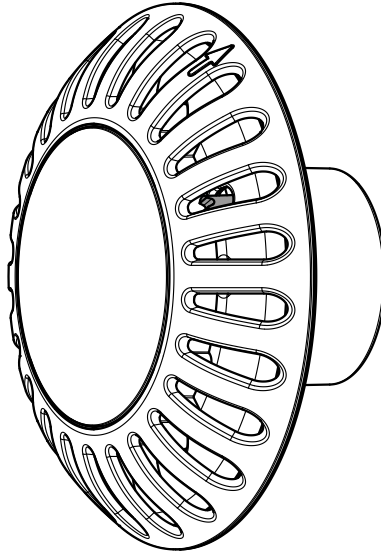
1 REMOVE DUST CAP

3 ROTATE ANTI-CLOCKWISE & RELEASE LOCKING RING
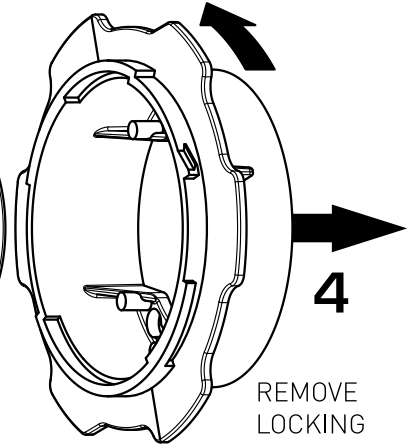
4 REMOVE LOCKING RING

2 HOLD DOWN BUTTON WITH FLAT-BLADE

1 REMOVE MOUNTING SCREWS FROM REAR OF LOCKING RING.
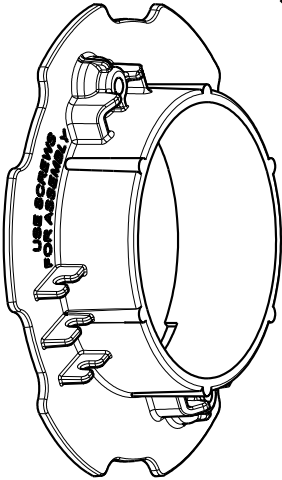
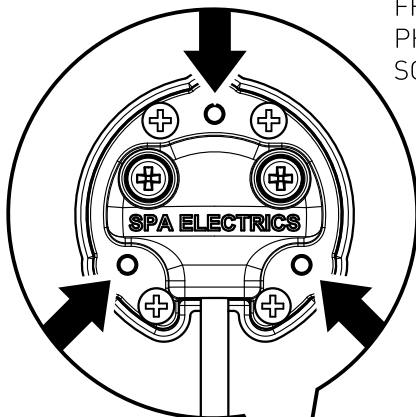**2** REMOVE PROTECTIVE CAP FROM MOUNTING RING
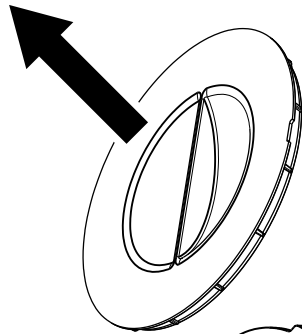
3 PULL PLUG + CABLE THROUGH LOCKING RING
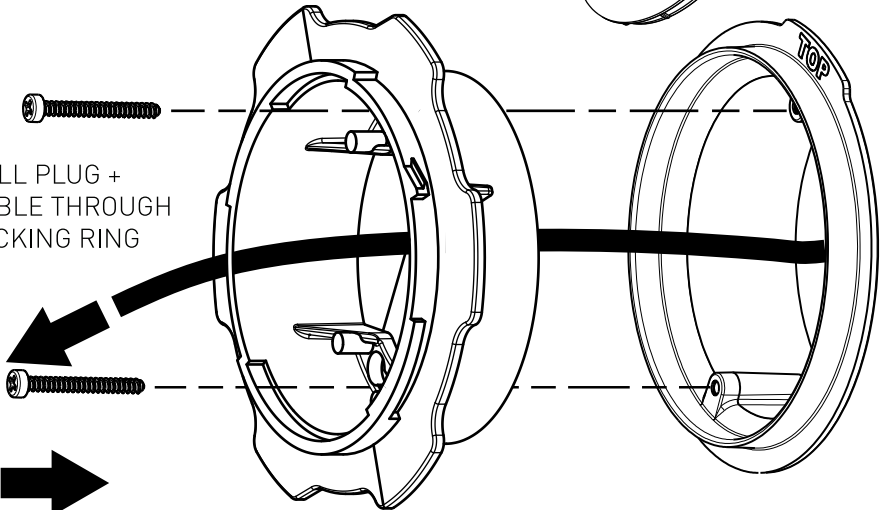
4 ASSEMBLE LOCKING RING WITH MOUNTING RING USING MOUNTING SCREWS PROVIDED.

USE SCREWS FOR ASSEMBLY

TOP

REMOVE DUST COVER
FROM PLUG USING
PHILLIPS-HEAD (NO.2)
SCREW-DRIVER

SPA ELECTRICS

⚠ NOTE

ENSURE SEAL IS
SEATED FLAT IN
PLUG BASE
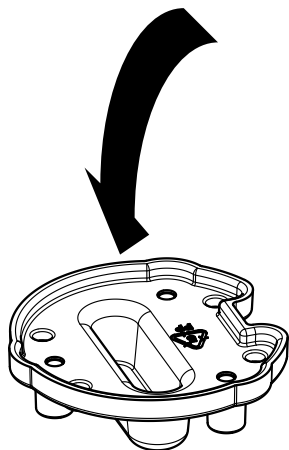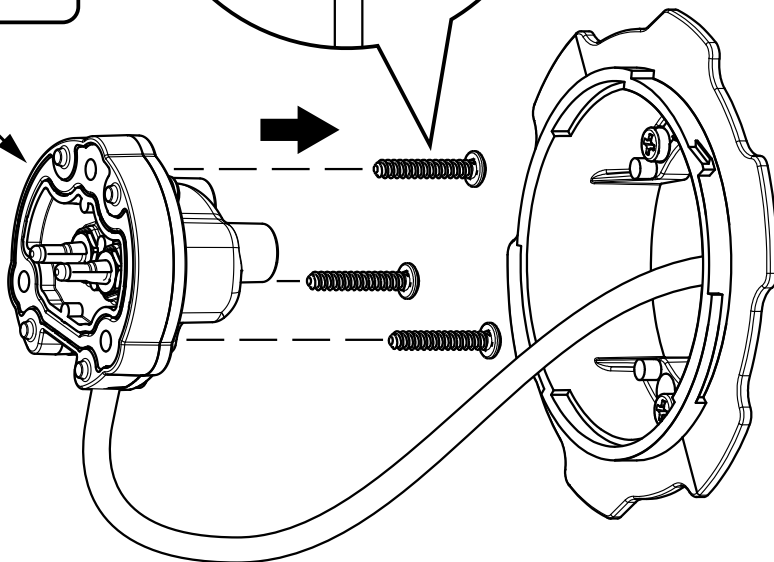
⚠ NOTE

DO NOT REMOVE
RED DUST COVER
UNDERWATER

10 ASSEMBLE PLUG TO LIGHT

ALIGN TERMINAL PINS
AND FIRMLY ASSEMBLE
PLUG TO LIGHT

FASTEN PLUG TO LIGHT USING
3 x (M3.5 x 21mm) FASTENERS
& NO.2 PHILLIPS-HEAD
SCREWDRIVER
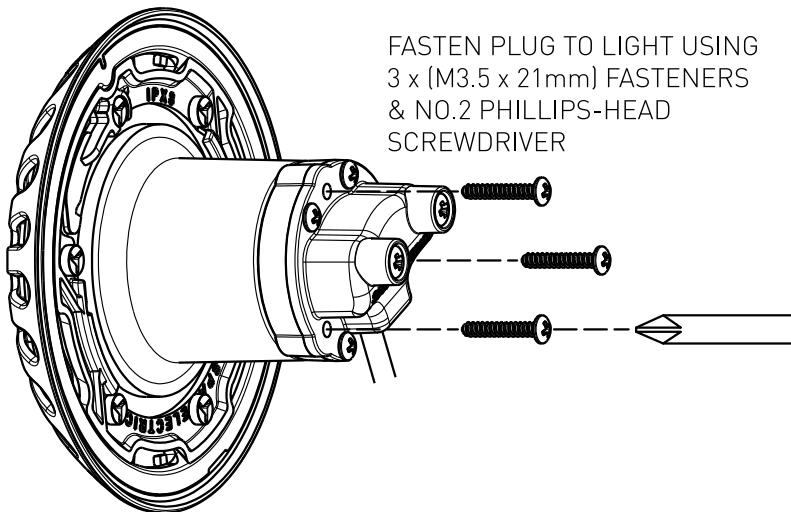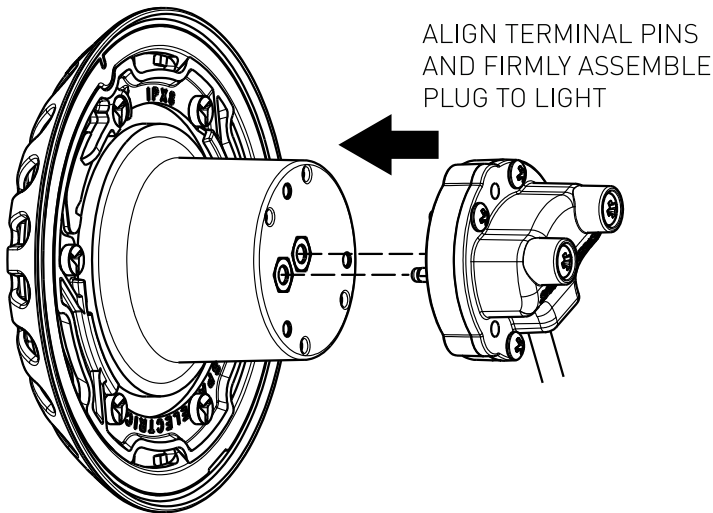
⚠ IMPORTANT NOTES

→ DO NOT OVERTIGHTEN SCREWS
→ DO NOT USE POWER-TOOLS
→ DO NOT ADD SEALANTS OR GREASES
→ ENSURE ALL SURFACES ARE CLEAN AND DRY
→ **DO NOT ASSEMBLE UNDERWATER**

EM-LIGHT ASSEMBLY

1 COIL CABLE INSIDE NICHE

2.0m (MAX)
700mm (MIN)
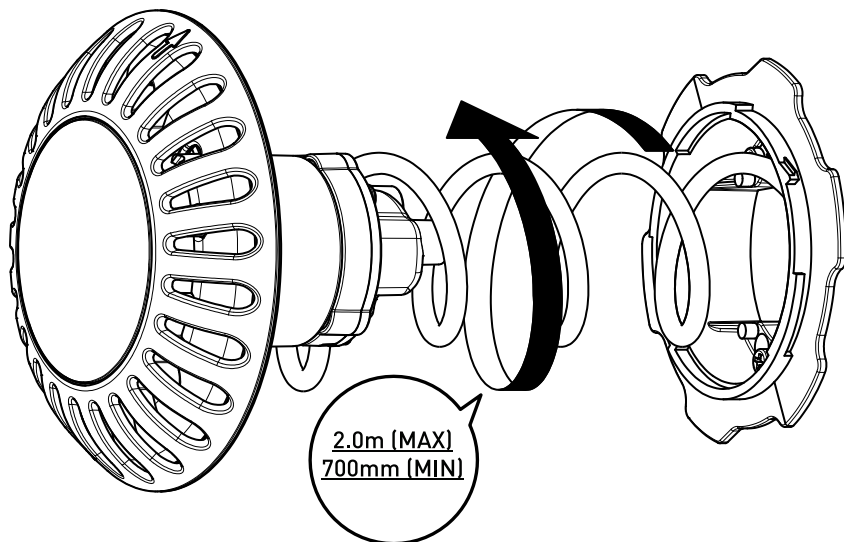
2 INSERT LIGHT INTO LOCKING RING

1 ROTATE 15 DEGRESS
ANTI-CLOCKWISE FROM
'TOP' TO ALIGN WITH
LOCKING MECHANISM

2 ROTATE CLOCKWISE TO
LOCK LIGHT IN PLACE

1

2

"CLICK"
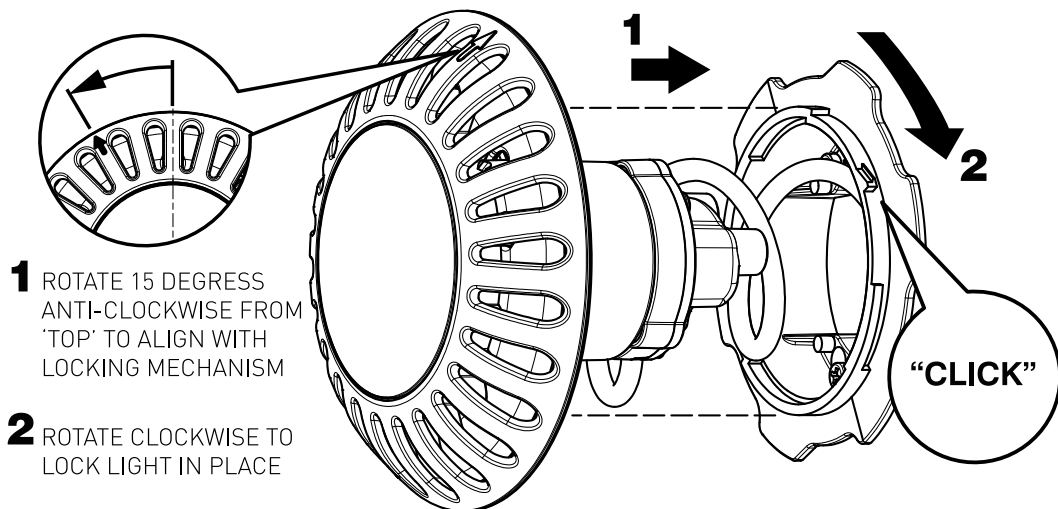
EM-LIGHT REMOVAL

1 PUSH DOWN BUTTON WITH FLAT BLADE & HOLD
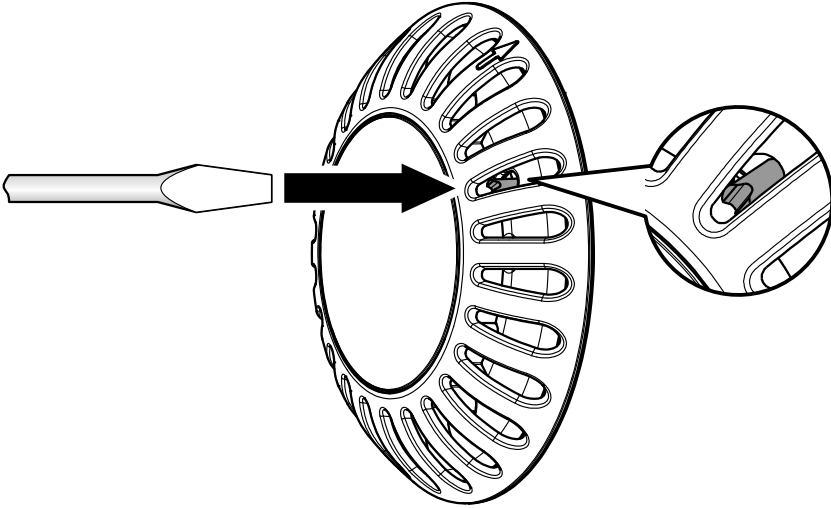
2 ROTATE ANTI-CLOCKWISE & RELEASE FROM LOCKING RING

TO G.P.O.

50VA
TRANSFORMER

CONTINUE
DAISY-CHAIN
UP TO 10A
(MAX)

25VA
TRANSFORMER

POOL LIGHT

POOL LIGHT

POOL LIGHT
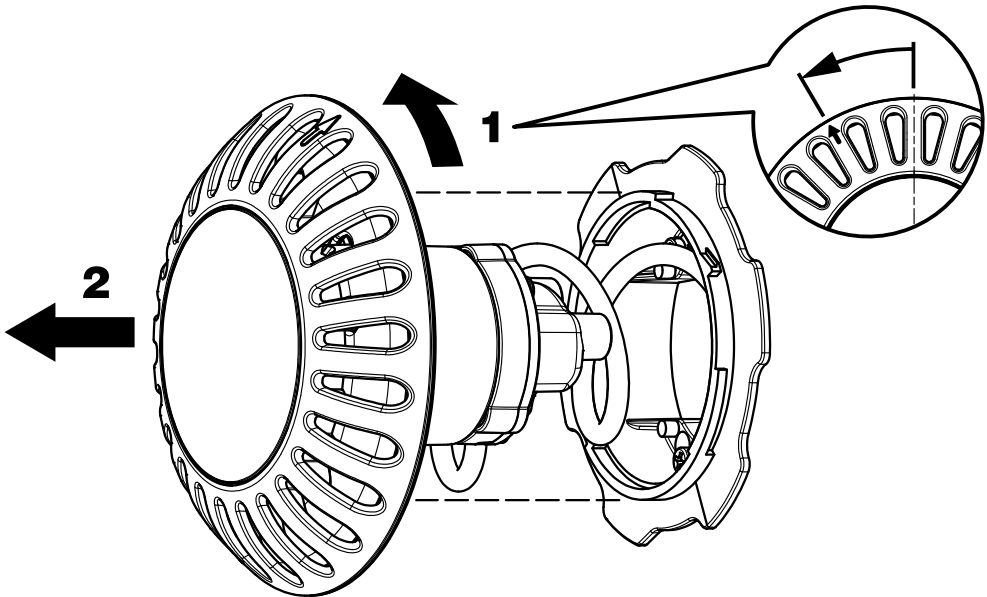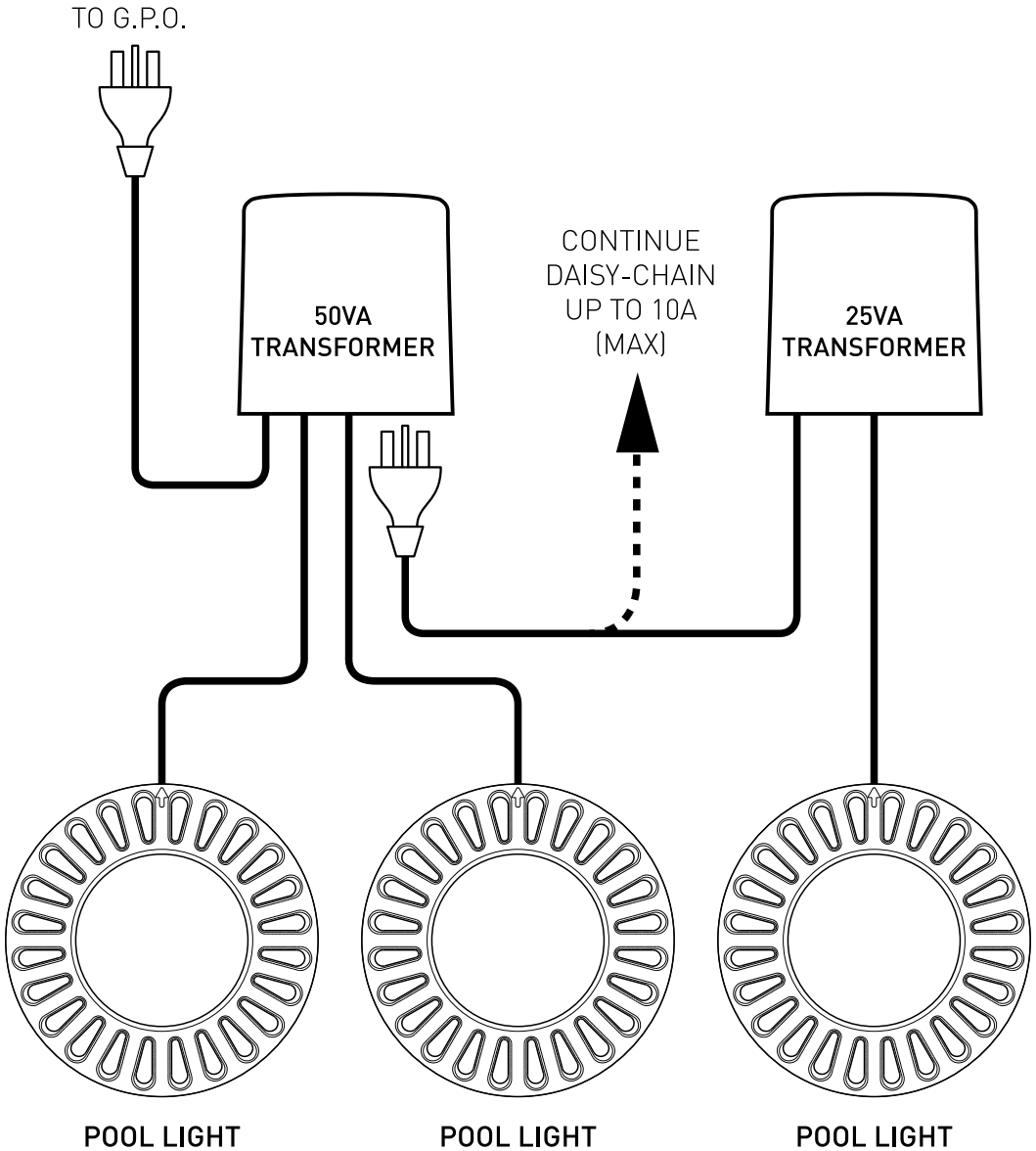
MULTI-COLOUR OPERATION

MULTI-Colour light models provide a choice of 8 exciting fixed colours & 2 Multi-Colour programs with the flick of a switch!

COLOURS AVAILABLE:
1. Electric **Blue**
2. Midnight **Magenta**
3. Ruby **Red**

4. Spring **Lime**
5. Lagoon **Green**
6. Tropical **Aqua**

7. Daylight **White**
8. Warm **White**
9. Slow colour Blend
10. Fast Colour Change

OPERATING INSTRUCTIONS
1. To change the color of the light, simply turn your light **OFF** for **2** seconds and then turn it back **ON**. This will signal the light to step through to the next colour.
   Colours will display in the order above, to select a desired colour, simply step through the colours until you find your desired selection.

2. Your lights will automatically save your selected colour once the power has been turned **OFF** for more than **1** minute so the next time the lights are used, they will illuminate on the last colour selected.

3. To reset or '**synchronize**' your lights; with the power turned **ON**, turn the power **OFF/ON** once rapidly. This will put the lights into **RESET** mode (flashing **BLUE**), once this occurs turn the power **OFF**, wait **2** seconds & turn the power **ON**. Your lights should now be synchronized.

SYNCHRONIZED INSTALLATION
When installing multiple lights; to ensure synchronization and ease of operation all Lights must operate from a single switch.

WIRING DIAGRAM

SWITCH

TRANSFORMERS

POOL LIGHTS
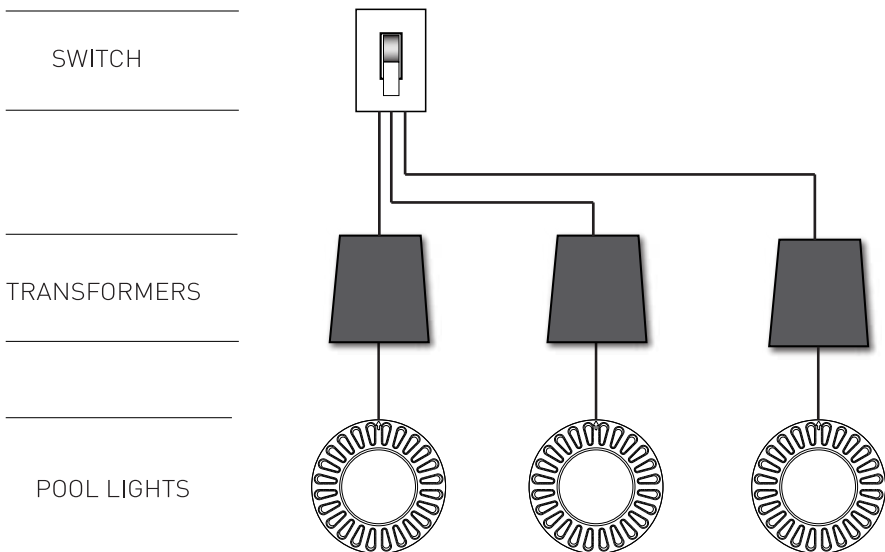
TROUBLESHOOTING

| ISSUE	REASON	ACTION
Light flashing Blue continuously	System is in "Reset" mode	Refer to multi-colour operating instructions
Light flashes 2 times	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 as per instructions
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. 20w 12v)
Light not operating (4)	Transformer not working	Check fuses & test transformer using multimeter under load (ie. 20W 12V)
Light not operating (5)	Damage caused by high voltage and/or incorrect power supply.	Return product to Spa Electrics for repair
Light colours not synchronised	Power interruptions or lights have been used individually	Reset lights - refer to multi-colour operating instructions

**If these issues cannot be resolved
with the above recommended actions,
please contact your distributor or Spa Electrics.**

KEY DIMENSIONS

A   NICHE

140mm OVERALL LENGHT

105mm

B   INSTALLED LIGHT

POOL WALL

120.5mm

28.5mm
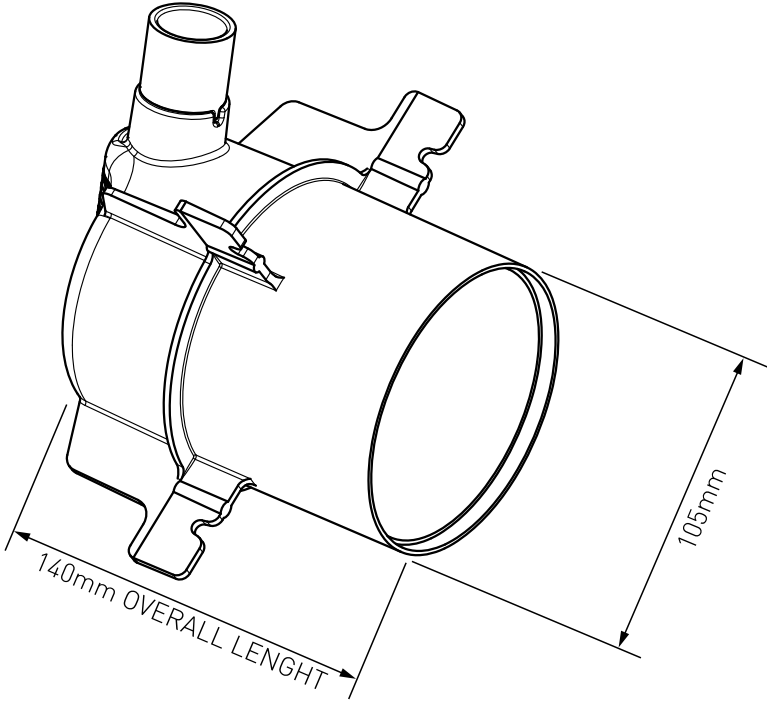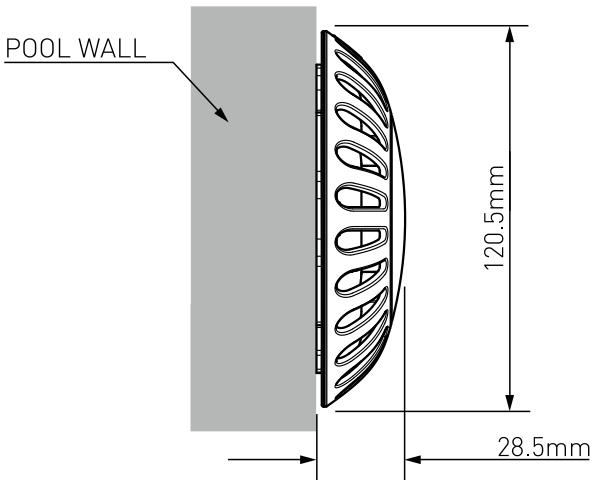
⚠ **NOTE**

**PLEASE STORE THIS
MANUAL IN A SAFE PLACE
FOR FUTURE REFERENCE**

atom
EMC SERIES

RAINBOW®
POOL PRODUCTS
Quality Pool & Spa Products

Rainbow Pool Products

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