

SAFETY POINTS

GENERAL

BEFORE REMOVING ANY COVER PLATES OR ANY PART OF THE COMPLETE UNDERWATER FLOOD LAMP UNIT, SWITCH THE POWER OFF AT THE MAINS. ENSURE ALL CONNECTIONS ARE MADE CORRECTLY.

After initial installation each new season, switch the power off at the mains and inspect the transformer, the wiring, glands and lamp unit. Take special care in inspecting any parts in contact with the swimming pool water. If any part on inspection has, or seems to have deteriorated, replace it immediately. This will ensure that your light will work correctly and safely.

TRANSFORMER

The PU11 H transformer, which is built to comply with IEC EN60 742 and BS 3535, should always be used with the PU9H underwater floodlight. The index of protection, or IP code, is IP65 as laid down in IEC EN60 529 and BS5490.

Input voltage 220 - 240V 50-60Hz.

Maximum power rating 120VA.

Max current 8.33A.

Input fuse T1A (5x20mm)

Self resetting thermal cut out. If the lamp does not light or goes off during operation switch off supply, allow transformer to cool down and check the installation and wiring before continuing operation. Check the installation and wiring for any faults before re-setting the cutout.

LIGHT UNIT

Under no circumstances tamper with the light unit whilst the mains power is switched on.

Do not allow the water level to fall below the level of the top of the lamp unit whilst the lamp is on.

Do not switch the lamp on whilst it is out of the water or partially submerged.

ELECTRICAL EQUIPMENT USED AROUND AND IN SWIMMING POOLS, SHOULD BE INSTALLED BY A COMPETENT ELECTRICIAN.

A. CERT. - AH - No. Reproduction

Certikin

INTERNATIONAL LTD

THE HALOGEN UNDERWATER FLOODLIGHT FOR SWIMMING POOLS

Installation of all Certikin underwater lighting equipment must comply with IEE 16th Edition (E.C. Countries only).

The Certikin PU11 H Transformer complies with the Low Voltage Electrical Equipment (Safety) Regulations: S1728: 1989 and specification EN60 742: 1989.

Certikin underwater lighting equipment complies with the following index of protection ratings:

PU9 H	Light Unit	: IPX8
PU10N	Deck Box	: IP65
PU11 H	Transformer	: IP65

IMPORTANT

Please read this booklet *before* commissioning your underwater lights.

This leaflet should be held by the person in charge of pool maintenance.

INSTALLATION AND MAINTENANCE CHECK-LIST

Use these points as a regular check-list to help maintain the life of your underwater light.

Always ensure that:

- All glands and screws are fully tightened on underwater light unit for a perfect seal.
- On-load voltage measured at the deck box does not exceed 11.5V AC.
- The 'Micallef' water-tight gland is fully tightened at the deck box.
- The lamp is **fully** submerged whenever the light is switched on.

When changing lamps, always use Certikin parts and renew the seal with Certikin O-rings.

Under no circumstances should the light be switched on while the lamp is not underwater.

These simple rules will help prevent damage to your light.

UNDERWATER FLOODLIGHTING

When you use CERTIKIN underwater floodlighting the following points should be borne in mind:

- When planning how many lights to use, the following may be taken as a guide:
 - For indoor pools where the lights will be used in conjunction with overhead or partial overhead lighting: one light per 38m sq. (400 sq.ft.) and one for every 24m sq. (250 sq.ft.) in excess of the basic figure.
 - For indoor pools where the pool lights will be used for effect: one light per 24m sq. (250 sq.ft.) and one for every 24m sq. (250 sq.ft.) in excess of the basic figure.
 - For outdoor pools where pool lights will be used in conjunction with area lighting or general lighting: one light per 30m sq. (320 sq.ft.) and one for every 19m sq. (200 sq.ft.) in excess of the basic figure.
 - For outdoor pools where the pool lights will be used for effect: one light per 24m sq. (250 sq.ft.) and one for every 19m sq. (200 sq.ft.) in excess of the basic figure.
- If coloured lenses are used, these will reduce the actual light output considerably depending upon the intensity of the colour. Therefore, if these lenses are to be used, choose the palest tone in keeping with your requirements.
- Keep all the lights, where possible, pointing away from the house to avoid glare.
- Calculate the cable runs carefully and select the correct type and size for the length of run.

SPARE PARTS LIST

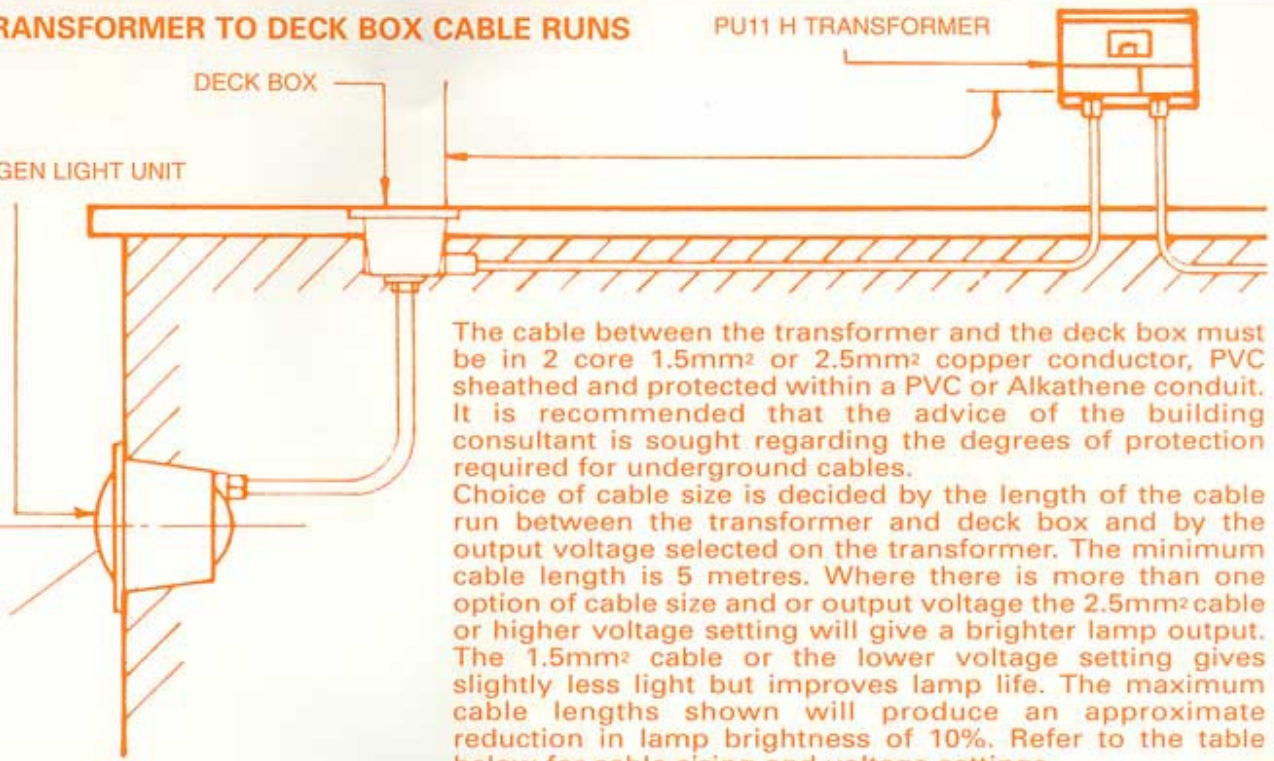
PART No.	DESCRIPTION	No. OF
UNDERWATER LIGHT - PU9		
SPC 454	Front Plate	1
SPC 471	Front Liner Ring	1
SPC558H	100W 12V Lamp	1
SPC 469N	O-Ring	1
SPC 980S	Gland Nut	1
SPC 979	Rubber Bush	1
SPC 980	Resin Washer	1
SPC 466N	M6 x 20mm Raised Csk Stainless Steel Screw	2
SPC 467N	M4 x 20mm Pan Head Stainless Steel Screw	8
SPC 468	M4 Stainless Steel Shakeproof Washer	8
SPC 438	No. 10 x 1 1/4" Csk screw for liner light	12
SPC 513	No. 10 x 1 1/2" Csk screw for liner light	4
SPC 472	Gasket for Front Liner Ring	2
SPC 469	Back Liner Ring	1
SPC 465S	Flexible Conduit (Lamp Housing to Deck Box)	1
DECK BOX - PU10		
SPC 479	Deck Box Lid	1
SPC 853	Large O Ring (for Main Body)	1
SPC 853N	Small O Ring (for Lid)	1
SPC 516N	Terminal Block	2
SPC 484	No. 6 x 3/4" Csk screw	3
PU9M	Watertight Conduit Gland	1

A**TRANSFORMER TO DECK BOX CABLE RUNS**

PU11 H TRANSFORMER

PU9H HALOGEN LIGHT UNIT

0.75M



The cable between the transformer and the deck box must be in 2 core 1.5mm² or 2.5mm² copper conductor, PVC sheathed and protected within a PVC or Alkathene conduit. It is recommended that the advice of the building consultant is sought regarding the degrees of protection required for underground cables.

Choice of cable size is decided by the length of the cable run between the transformer and deck box and by the output voltage selected on the transformer. The minimum cable length is 5 metres. Where there is more than one option of cable size and or output voltage the 2.5mm² cable or higher voltage setting will give a brighter lamp output. The 1.5mm² cable or the lower voltage setting gives slightly less light but improves lamp life. The maximum cable lengths shown will produce an approximate reduction in lamp brightness of 10%. Refer to the table below for cable sizing and voltage settings.

WARNING
Damage or a reduction in lamp life will occur if the on-load voltage, when measured at the deck box terminals, exceeds 11.5V AC.

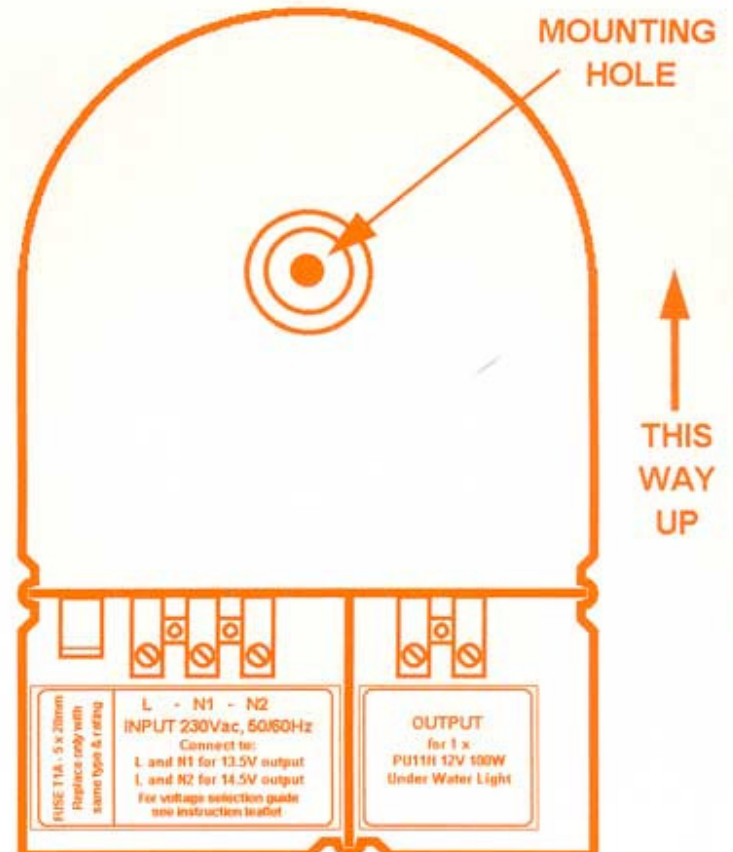
CONNECTION	LENGTH OF CABLE RUN BETWEEN TRANSFORMER AND DECK BOX	
	1.5mm ²	2.5mm ²
13.5V	5 - 22 metres	13.5 - 37.5 metres
14.5V	13.5 - 28.5 metres	22.5 - 50 metres

B

CERTIKIN PU11 H

TRANSFORMER WIRING AND OUTPUT DETAILS

The transformer is designed to operate only with the PU9 H 100W Halogen Under Water Light. Each PU9 H light must be connected to it's own transformer. The transformer is protected by a T1A (5 x 20mm) fuse and a self resetting thermal cut out. The transformer has a protection rating of IP65 making it suitable for use outside zones 'A' and 'B' as specified in the IEE 16th Edition Wiring Regulations, Section 602 for swimming pools. However, unless all the cables, cable glands and any other conduit comply with this specification, a protection rating of IP65 cannot be claimed for the whole system. The transformer is designed for wall mounting using the central fixing hole shown, with the cable entry glands at the bottom. The output voltage to the lamp is determined by selecting the mains input connections. See section A above.



FOR AN OUTPUT OF:
13.5V
14.5V

USE INPUTS:
L and N1
L and N2

FUSE T1A, 5x 20mm

Replace only with same type & rating

L - N1 - N2
INPUT 230Vac, 50/60Hz
Connect to:
L and N1 for 13.5V output
L and N2 for 14.5V output
For voltage selection guide see instruction booklet

OUTPUT
for 1 x
PU11H 12V 100W
Under Water Light

C

WIRING COLOUR CODE

SUPPLY TO TRANSFORMER INPUT

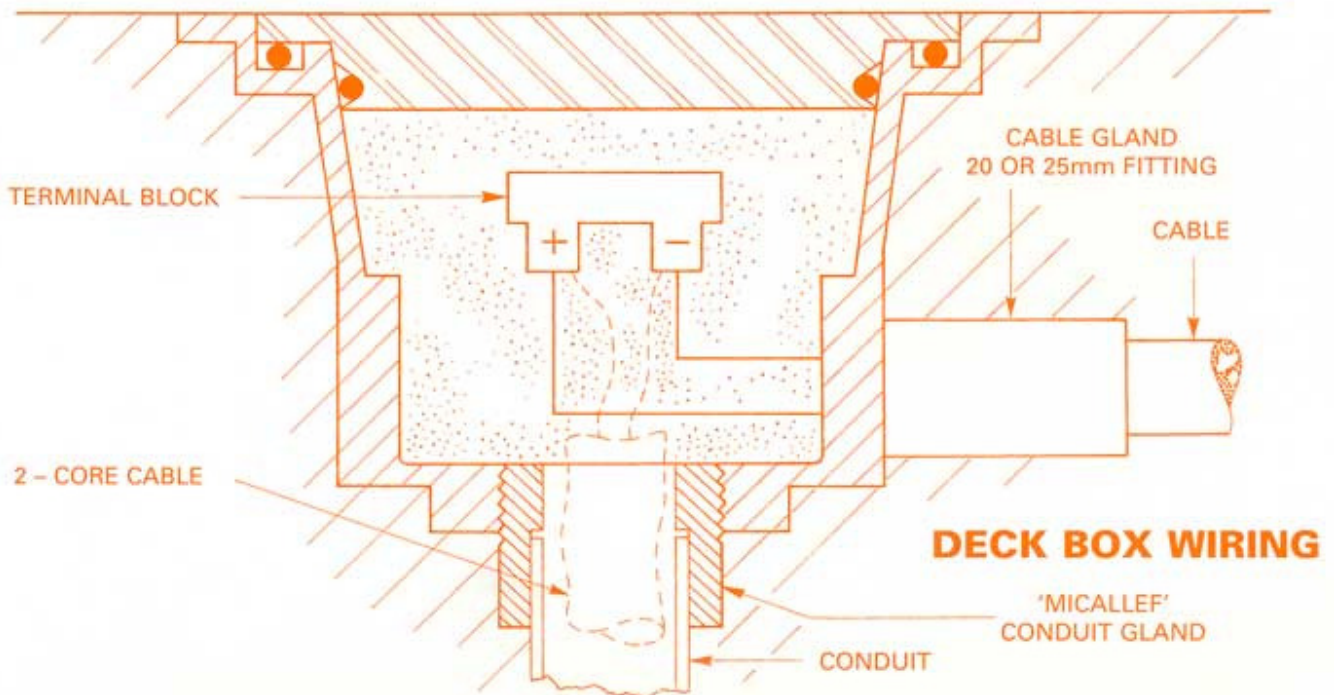
Live(+): Brown or Red
Neutral (-): Blue or Black

TRANSFORMER OUTPUT TO DECK BOX

LIVE (+): Red
Neutral (-): Blue

DECK BOX TO LIGHT

LIVE (+): Brown or Red
Neutral (-): Blue or Black



DECK BOX WIRING

D

METHOD OF FIXING PU9H AND GENERAL DIMENSIONS

