

# LSP380 575w Metal Halide Portable Suez Canal Searchlight

## User / Installation Manual

**Product Part Number:**

A6229 – LSP380 575w Metal Halide Portable Suez Canal Searchlight 110/220v



**PLEASE NOTE!**

Please read this manual before installation.

[www.francis.co.uk](http://www.francis.co.uk)

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## General Information:

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## 1 – Introduction

**It is imperative that this manual is read carefully and understood before installing your equipment. For your future reference please keep this manual in a safe place.**

Thank you for specifying a product from the Francis Searchlights range. All Francis products are designed to give complete customer satisfaction and are manufactured to the highest engineering standards to ensure optimum performance and service life.

The Francis LSP range combines features proven over many years in the most hazardous conditions in both marine and land installations.

To prolong the life and performance of your product, we recommend that you only specify Francis Searchlights spare parts. This will also ensure that any warranties on your equipment will not be invalidated. Information on spares ordering and parts is provided in this manual.

Should you ever need to contact Francis Searchlights Ltd. regarding your equipment, please always quote the Product Number and Serial Number of the product you have, this is located on the name plate, inside the front of the barrel to the right.

In order that the searchlight operates correctly it is imperative that competent personnel are responsible for the installation, operation, and servicing of this equipment. Failure to adhere to this advice may cause premature failure or incorrect operation of the searchlight, which may damage the equipment or cause personal injury.

## 2 – Safety Precautions

The following instructions must be adhered to, to ensure a safe working environment and the safety of the user.

**Note: When unpacking or manoeuvring the searchlight into its fixing position, suitable lifting points must be used to prevent damage to the equipment or personal injury.**

- Only suitably qualified personnel may install the products.
- Prevent rain, snow, condensation, and water droplets from contacting the lamp as this may cause bulb failure and possible shattering.
- Metal Halide bulbs run with a high internal pressure more than atmospheric. Whilst the construction is inherently strong, there is a slight risk of the bulb shattering.
- Never look directly into an illuminated searchlight as this may cause severe damage to eyesight. If it is necessary to inspect a lamp whilst in operation, always wear suitable protective goggles.
- Should it be necessary to examine the lamp with the front bezel removed, always use a protective shield and wear goggles to ensure a safe working environment.
- Never attempt to clean a lamp whilst in use.
- Searchlights get hot. Never touch the unit when lit and always allow 15 to 20 minutes for cooling down after turning the searchlight off.
- Never place anything on or cover the searchlight when in use.
- Ensure the lamp has cooled sufficiently before removal.
- If undue force appears necessary to remove the lamp, the equipment should be inspected by a competent person or contact the manufacturer.
- When breaking a lamp for disposal, care must be taken to ensure the glass fragments are safely contained. This operation must be performed out of doors in free air. In all circumstances refer to the lamp manufacturer's instructions packed with the lamp.
- Due to the vast range of lamps available it may appear possible that more powerful lamps can be used in the equipment than for which it was designed. Even when the unit will physically accept a higher wattage or voltage lamp, this substitution is not recommended and is dangerous. This action will also void any warranties on the equipment.

**Always refer to the lamp manufacturer's technical data when dealing with lamps.**

### 3 – Technical Information

<b>Electrical</b>	
Input voltage:	110 VAC - 240 VAC
Input current:	5.5A Max 3A Max
PSU output voltage:	105v AC Max
PSU output current:	5.9A Max
Wattage:	575w
<b>Dimensions</b>	
Height:	568mm
Width:	542mm
Depth:	407mm
Weight:	17Kgs
<b>Searchlight Performance</b>	
Range @ 1 Lux:	3767m
Lamp life (approx.):	1000h
Divergence:	2.1°
Split Beam Angle:	40°
PBCP (Peak Beam Candle Power)	14,190,000 cd
Colour temperature:	6000K
Luminous flux:	49,000 lumens
<b>Searchlight movement</b>	
Tilt elevation:	+10° -40°
<b>Material, colour, IP rating</b>	
Searchlight barrel head:	Aluminium BSEN485 Grade 5251
Crutch:	Aluminium BSEN485 Grade 5251
Paint finish powder coated & stove enamel paint:	Ash Grey BS4800 00A01, Steel Blue RAL5011
IP rating:	IP54
Operating temperature:	-20°C to +50°C
<b>Certification approval:</b>	
ISO9001 2015:	Quality Management System

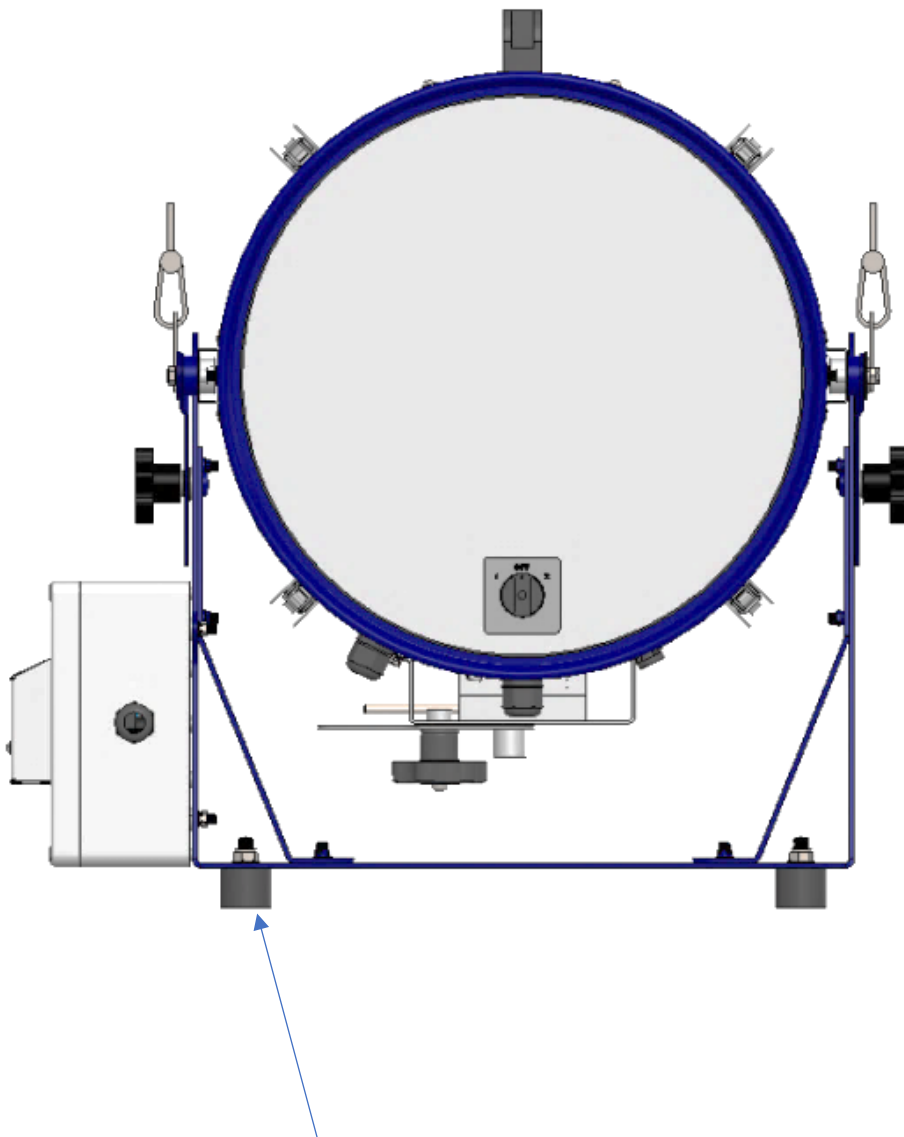
## 4 – Installation Instructions

The following instructions should be read and fully understood prior to installing the equipment to ensure that the correct procedures are followed, and all safety precautions are observed.

**Note: If the equipment has been in storage for a considerable amount of time, it is advisable to conduct a routine maintenance check on all parts before installation.**

### Safety Precautions

This equipment should not be connected to an electrical supply before being installed. Installation procedures should be adhered to, to ensure a safe working environment and reduce the risk of damage or personal injury.



If required to be mounted directly to the deck of the ship, remove the four anti vibration fixings.

Base Fixings,

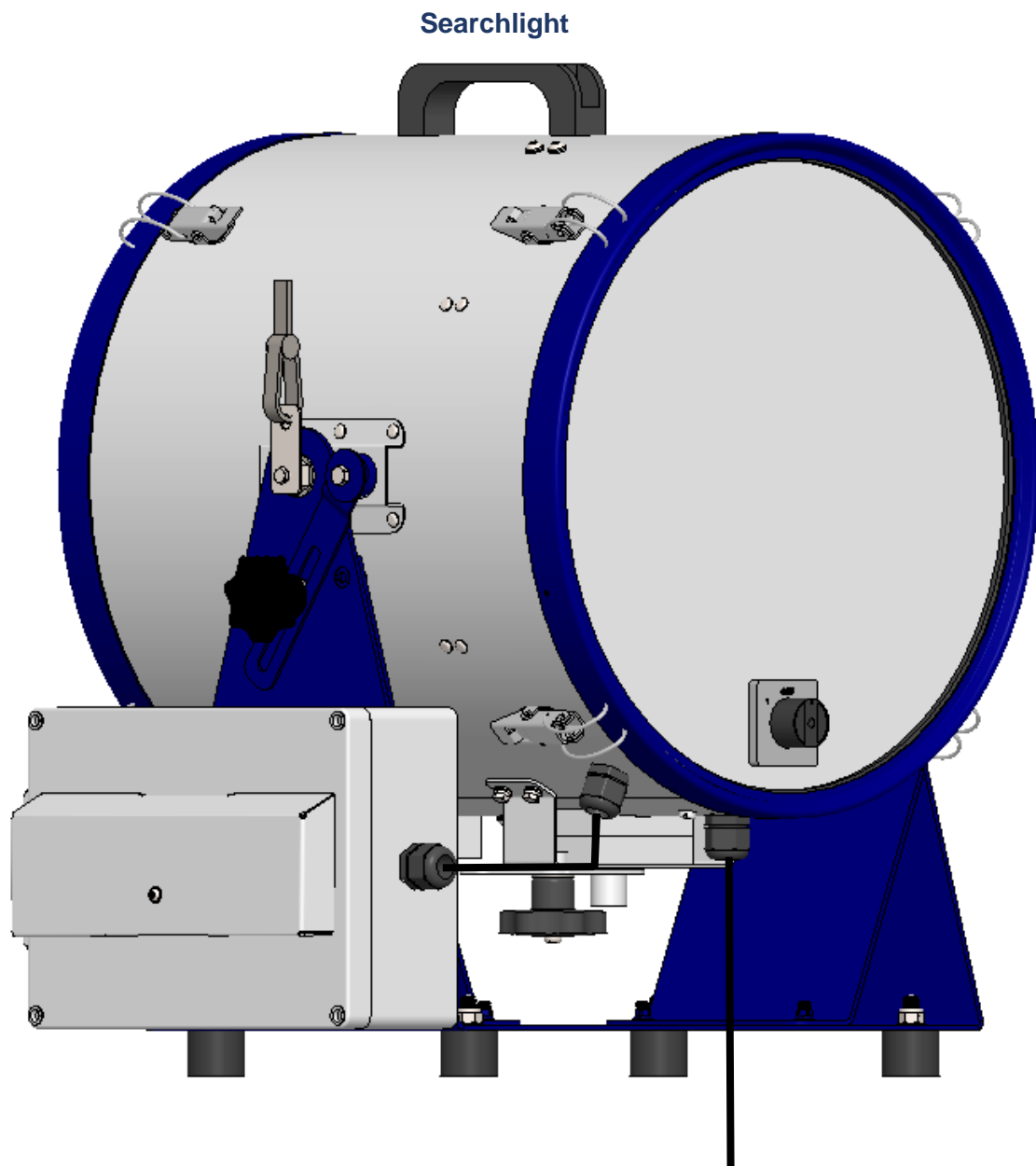
4 Holes Ø8.20 350.00 X 200.00

## 5 – Electrical Installation

**For safety purposes, only competent personnel should perform the electrical installation. All equipment should be installed to current Electrical Regulations and Standards.**

Referring to wiring diagram C29929 (at the back of the manual), a supply is fed to the searchlight, which then provides a common feed to the power supply box.

All cabling has been pre-wired, see below for details.



**2m of supply cable  
supplied by Francis  
3 core 1.5mm**

To obtain the maximum light output from the searchlight, it is essential that the full operating voltage of the lamp fitted be applied to the lamp holder contacts.

### Method of Electrical Connection

- Disconnect the supply before working on the electrical system.
- The searchlight must be connected to a fused electrical supply, using suitably sized cable.
- If the searchlight is located a considerable distance from the supply, provision must be made in the cable size to overcome the voltage drop.

The following table below indicates the maximum length of cable to be used for the supply cable, from the mains supply to the searchlight.

Searchlight	115v 575w	240v 575w
Cable Size (mm <sup>2</sup> )	Distance Max	Distance Max
1.5	31M	118M
2.5	52M	200M

- Whenever possible cable terminations should be made below deck and with approved terminal devices.
- If a spare auxiliary fuse or circuit breaker is not available, one of the correct type/ratings should be fitted and connected to a positive supply. It is advisable to locate a bus bar or main connection and avoid any direct connection to the supply.
- For 115/240v AC products, the following colour coding system should be used for the customer supply cable:

Brown	-	Live
Blue	-	Negative
Green/Yellow	-	Earth

**Note: This equipment must be earthed.**



## 6 – Operating Instructions

This equipment is designed for use out of doors, in free air. Never place anything on or cover the searchlight when in use as this may present a hazard.

The searchlight is fitted with a carrying strap and handle mounted on the top of the searchlight for ease of transportation.

The searchlight can be positioned using the elevation lock wheels. When in the desired position the lock wheels should be securely fastened to maintain position.

The beam of the searchlight can be adjusted to give a 40° split, simply release the lock wheel on the bottom of the barrel and adjust the lever to achieve the desired beam split required making sure to tighten the lock wheel back up in position required.

In event of lamp failure, first rotate the switch located on the rear bezel to the central position (OFF) and rotate the changeover mechanism 180°. Now rotate the switch to number 2 position and the secondary should illuminate, the secondary lamp may take a few seconds to achieve full brightness.

### **Fitting the lamps.**

Make sure the rear bezel switch is in the off position.

Loosen the four latches on the front of the searchlight by pressing down the safety catch and releasing the clip, remove the front bezel assembly.

Using a cloth to hold the lamp, position the two pins of the lamp above the holes in the lamp holder, gently push the lamp into the lamp holder.

Looking front the front of the searchlight, make sure the lamp holder mechanism lever is in the left position. Switch the rear bezel switch to position 1 this should then illuminate the lamp closest to the reflector.

This product should not be used for any purpose other than for which it was designed. Any modifications to the product should not be undertaken without consulting the manufacturer.

## 7 – Fault Finding

All fault finding must be conducted by a competent or qualified Electrical Engineer.

Failure of lamp to light

In the event of the lamp failing to light the following steps should be taken.

- Check voltage at the supply.
- Check supply fuse or circuit breaker.
- Remove the rear bezel assembly and check for 115/240v AC supply across the supply input terminals marked L & N.
- Check for 115/240v AC supply across the power supply terminals marked L & N.
- Check the rear bezel switch is in position 1.
- If all the above is correct replace the lamp.

## 8 - Maintenance and Servicing

To prolong the service life and performance of your searchlight, the following maintenance guidelines are recommended:

- Maintenance checks should be conducted before every voyage or at least every three months.
- Before checking, disconnect the equipment from the supply.
- Visually inspect the condition of the equipment.
- Any major or minor structural damage should be rectified immediately to reduce sympathetic wear.
- After inspection it may be necessary to clean the inside of the searchlight. The following procedure should be adhered to:
  - Remove the front bezel.
  - Clean the front glass inside and out using a proprietary glass cleaner.
  - Clean the reflector if required.
  - Check the reflector mounting gaskets for signs of damage.
  - Ensure that the lamp holder is free from corrosion or other damage.
- It is advisable to check all seals and gaskets for signs of degradation. Renew if necessary.
- The searchlight is fitted with a breather unit. This ensures a steady airflow to prevent any vacuum forming within the barrel.
- Upon completing all maintenance requirements, the searchlight should be tested for full working order (approximately 20 minutes).

**If in any doubt as to the correct servicing procedures to adopt, please contact your distributor/agent or Francis who will be able to advise the best course of action for your product.**

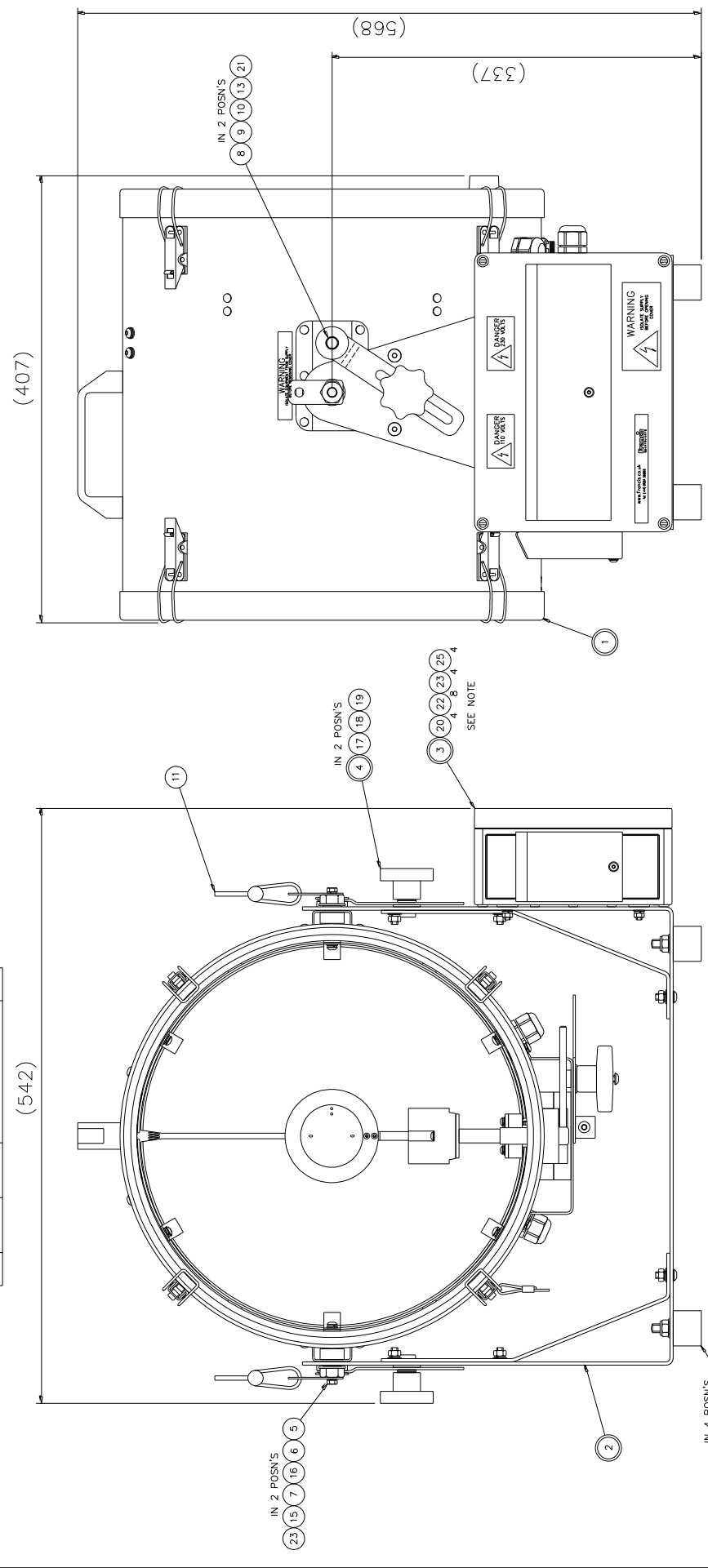
## 9 - Wiring Diagram & General Assembly

<b>Drawing No:</b>	<b>Description</b>
A6229	LSP380 Portable Suez 575w General Assembly
C29929	Wiring Diagram
C29912	Power Supply Box Assembly

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C29926	C29926	BARREL ASSY	1
2	C29927	C29927	CRUTCH ASSY	1
3	C29912	C29912	PSU BOX ASSY	1
4	C11025	X4574	LOCKWHEEL ASSY	2
5	C22145	C22145	TRUNNION BUSH	2
6	C22171	C22171	TRUNNION BOLT	2
7	C22147	C22147	CARRYING STRAP LINK	2
8	C20595	C20595	ELEVATION BUSH	2
9	C20596	C20596	ELEVATION WASHER	2
10	C22170	C22170	ELEVATION LINK	2
11	C22103	C22103	SHOULDER STRAP	1
12	C13660		FOOT	4
13	C09580		M6 x 25 HEX HD SCREW	2

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
14	C05297		M5 x 20 HEX HD SCREW	4
15	C16335		M5 x 12 HEX HD SCREW	2
16	C08370		M12 PLAIN WASHER	2
17	C06999		M8 PLAIN WASHER	6
18	C15275		M8 NYLON WASHER	2
19	C25715		M8 x 25 O/D WASHER	2
20	C08003		M6 FIBRE WASHER	4
21	C10554		M6 S/C SPRING WASHER	2
22	C08392		M5 PLAIN WASHER	12
23	C09231		M5 S/C SPRING WASHER	14
24	C12354		M8 NYLOC NUT	4
25	C08352		M5 FULL NUT	12

- NOTE:
1. FIT FIBRE WASHER BETWEEN THE PSU BOX AND CRUTCH.
  2. SCREWS FOR MOUNTING THE PSU BOX ARE ALREADY IN BOX.



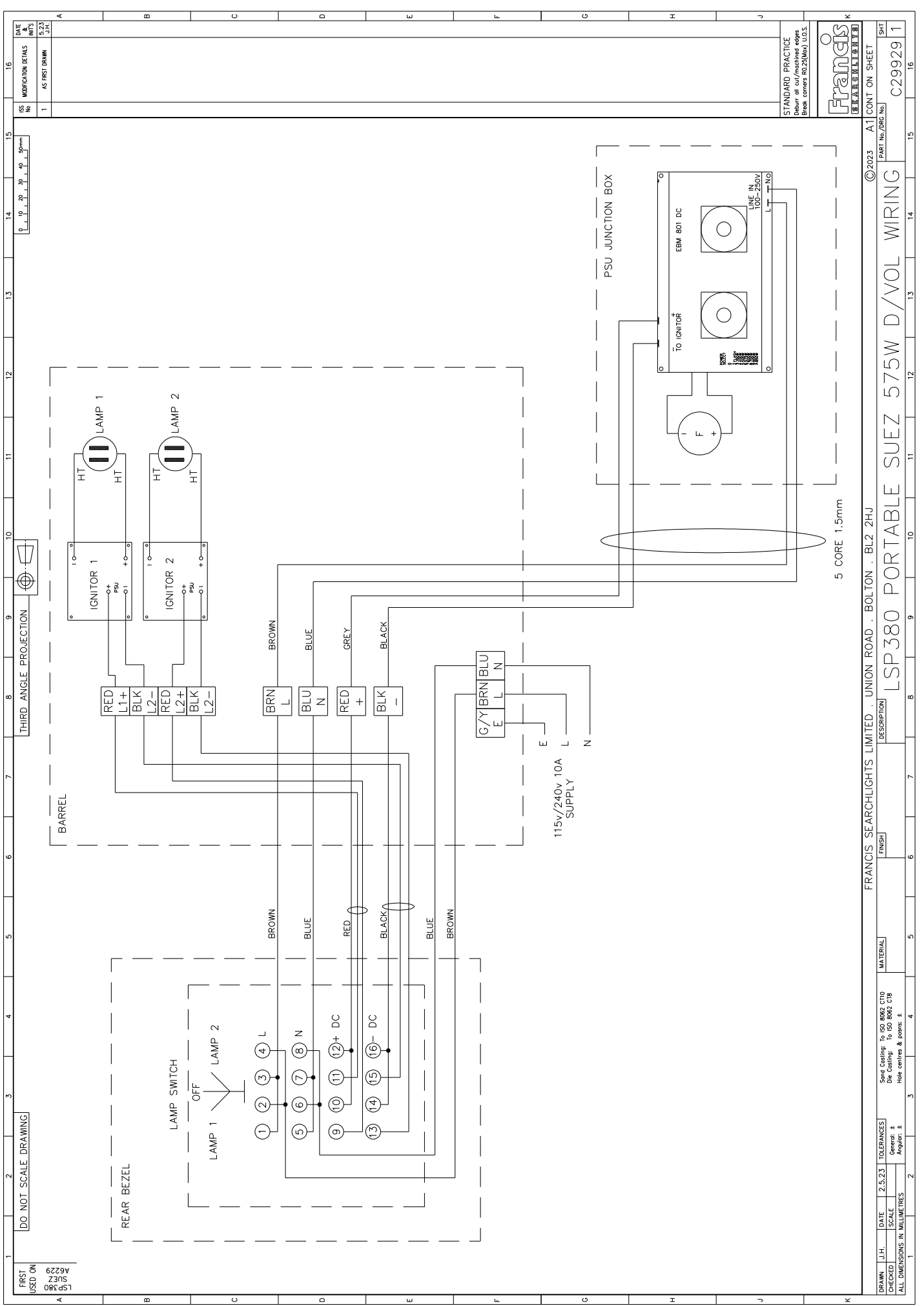
STANDARD PRACTICE  
 Observe the following:  
 Break corners R0.25(Min) U.S.S.



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PART No./PRG No. A6229

SHT 1



FRST  
USED ON  
SUEZ  
A6229  
LSP380

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

DATE  
15.23  
AS FIRST DRAWN

DRAWN	J.H.	DATE	2.5.23	TOLERANCES	Send Centres To ISO 8042 CT10 Die Castings To ISO 8042 CT8 Hole centres & points ±
CHECKED		SCALE		Generals: #	Angular: #
ALL DIMENSIONS IN MILLIMETRES					
FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HU					
FINISH		DESCRIPTION			
		LSP380 PORTABLE SUEZ 575W D/VOL WIRING			
PART No./REV No		©2023 A1		CONT. ON SHEET	
				SP1	
				C29929 1	

5 CORE 1.5mm

115v/240v 10A  
SUPPLY

PSU JUNCTION BOX

EBM 801 DC

F

To IGNITOR

100-250V

L T NO

5 CORE 1.5mm

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HU

MATERIAL

Send Centres To ISO 8042 CT10  
Die Castings To ISO 8042 CT8  
Hole centres & points ±

Generals: #  
Angular: #

SCALE

DATE 2.5.23

TOLERANCES

FINISH

DESCRIPTION

LSP380 PORTABLE SUEZ 575W D/VOL WIRING

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PART No./REV No

SP1

C29929 1

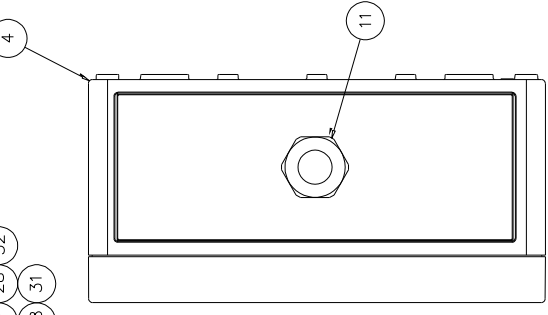
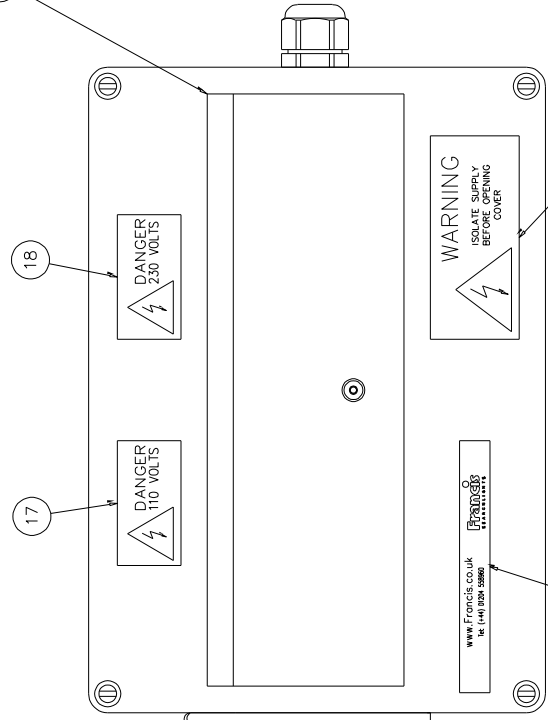
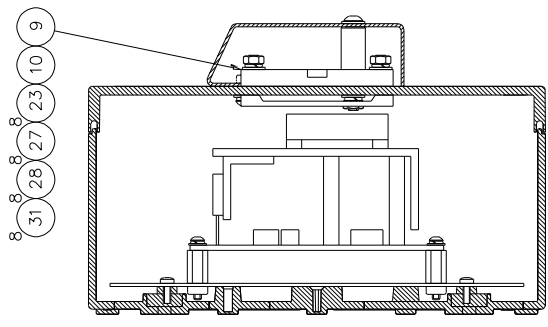
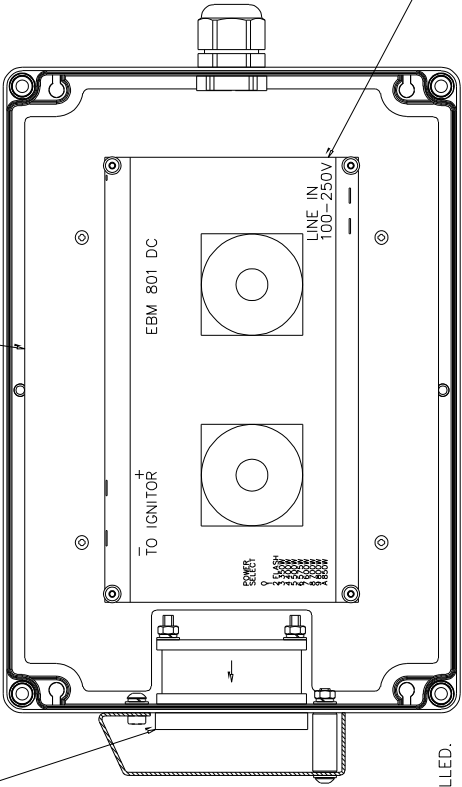
FIRST USED ON  
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DO NOT SCALE DRAWING

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C29906	C29906	CHASSIS PLATE S/ASSY	1
2	C24686	C24686	FAN SPLASH COVER ASSY	1
3	C29908	C29908	FAN SPLASH COVER ASSY	1
4	C29905	C29905	ENCLOSURE DRILLING	1
5	C24687	C24687	FAN COVER PILLAR	2
6	C24368	C24368	INSULATION PAD	1
7	C29851		PSU	1
8	C22104		FAN	1
9	C24366		FAN COVER	3
10	C29911		FAN FILTER	2
11	C10158		M20 CABLE GLAND	1
12	C22515		CONNECTOR LEAD ASSY	1
13	C29148		2 WAY WAGO CONNECTOR	2
14	C15828		RED SHROUDED CRIMP	4
15	C04900		FRANCIS EXTERNAL LABEL	1

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
16	C22036		ISOLATE SUPPLY LABEL	1
17	C22078		110V LABEL	1
18	C21464		240V LABEL	1
19	C16591		3MM NYLON PILLAR	4
20	C10620		M5 x 16 BTN HD SCREW	4
21	C28750		M4 x 45 CSK SKT HD SCREW	4
22	C14468		M4 x 35 BTN HD SCREW	2
23	C10120		M4 x 20 CSK SKT HD SCREW	8
24	C14533		M4 x 10 BTN HD SCREW	4
25	C23598		94 x 8 PAN POZI HD SCREW	4
26	C14502		M3 x 6 BTN HD SCREW	4
27	C04376		M4 PLAIN WASHER	20
28	C08793		M4 S/C SPRING WASHER	18
29	C08028		M3 PLAIN WASHER	4
30	C10747		M3 S/C SPRING WASHER	4
31	C06266		M4 FULL NUT	14
32	C12039		CLEAR RTV	A/R

NOTE:  
 ITEM 20 NOT SHOWN BUT IS TO BE FIT WITH THE RUBBER PLUGS SUPPLIED WITH THE BOX INTO THE SLOTS IN THE BASE BEFORE CHASSIS PLATE IS INSTALLED.

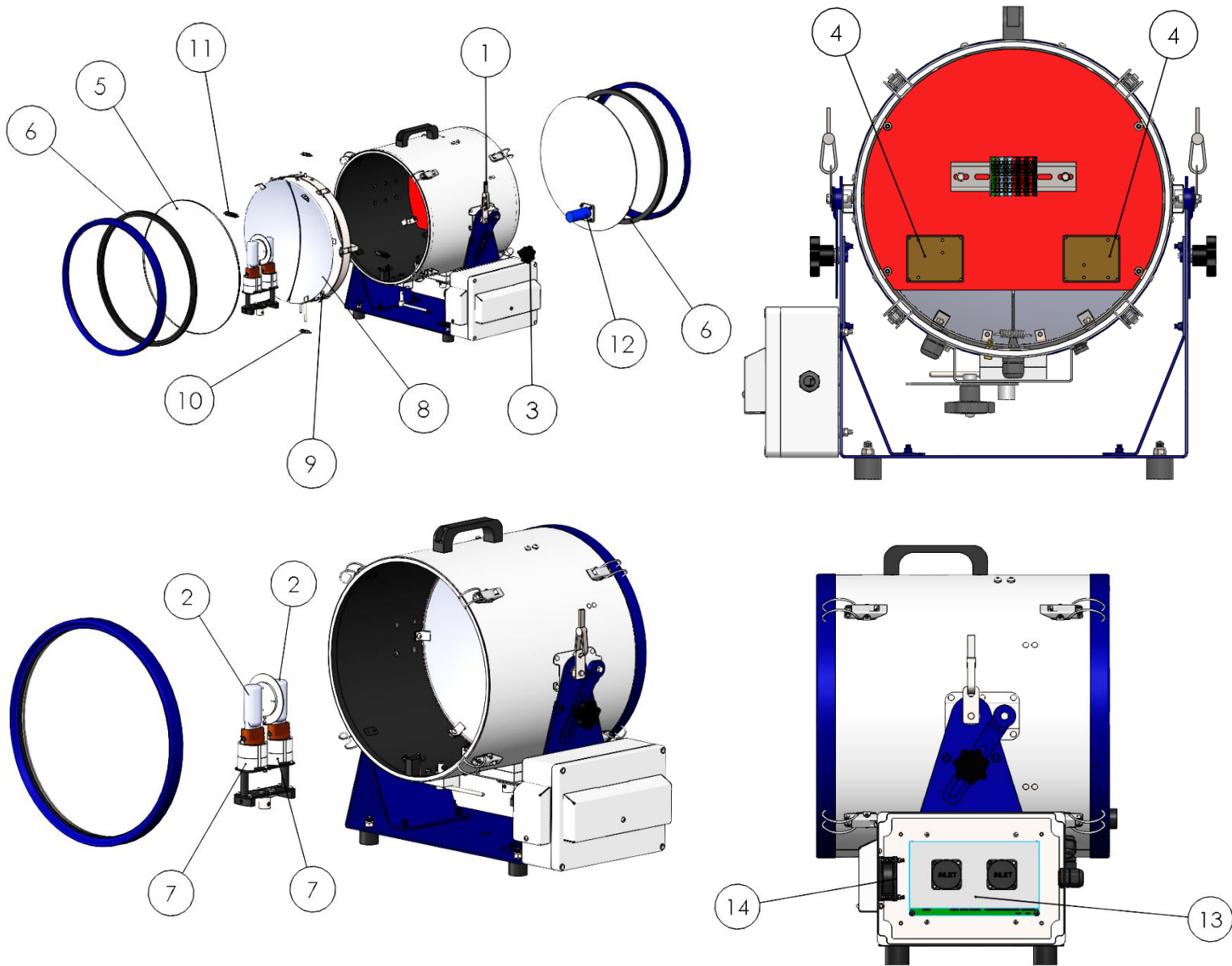


DATE	BY	CHKD	APP'D	DESCRIPTION
15/11/12				AS FIRST DRAWN

STANDARD PRACTICE  
 Drawings to be checked for compliance with the following standards:  
 BS 5400: Part 1 & 2 (Structural Steelwork)  
 BS 5400: Part 3 (Structural Steelwork)  
 BS 5400: Part 4 (Structural Steelwork)  
 BS 5400: Part 5 (Structural Steelwork)  
 BS 5400: Part 6 (Structural Steelwork)  
 BS 5400: Part 7 (Structural Steelwork)  
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 BS 5400: Part 49 (Structural Steelwork)  
 BS 5400: Part 50 (Structural Steelwork)

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 PART No./DRG No. C29912 1  
 SHEET 1

FRANCIS SEARCHLIGHTS LIMITED · UNION ROAD · BOLTON · BL2 2HU  
 DESCRIPTION: PSU BOX ASSY LSP380 DUAL VOLTAGE  
 FINISH:   
 MATERIAL:   
 TOLERANCES:   
 DATE: 4.23  
 SCALE: 1:1  
 CHECKED:   
 DRAWN:   
 ALL DIMENSIONS IN MILLIMETRES  
 Send Conting. to ISO 8667, C10  
 Use Conting. to ISO 8667, C18  
 Non centres & points: 1  
 Generat: ±  
 Angles: 1



Item Number	Part Number	Description	Quantity
1	C22103-00	Carrying Strap	1
2	D15764	575w Lamp	2
3	C11025-01	Elevation Lock Wheel Assembly	2
4	C24181-00	Ignitor	2
5	C22061-00	Front Glass	1
6	C22011-00	Bezel Gasket	2
7	C10870-00	Lamp Holder	2
8	C13980-00	Reflector (2 Pairs)	1
9	C09884-00	Reflector Rubber Pad	12
10	C02196-00	Shutter Spring	2
11	C05125-00	Tension Spring	2
12	C29910-00	On / Off Switch	1
13	C29551-01	PSU	1
14	C22104-00	Fan	1



## 10 - Spare Parts List

The following spare parts can be ordered directly from the manufacturer:

<b>Part Number</b>	<b>Description</b>
--------------------	--------------------

### **Searchlight Spares**

C22103-00	Carrying Strap
D15764	575w Lamp
C11025-01	Elevation Lock Wheel Assembly
C24181-00	Ignitor
C22061-00	Front Glass
C22011-00	Bezel Gasket
C10870-00	Lamp Holder
C13980-00	Reflector
C09884-00	Reflector Rubber Pad
C02196-00	Shutter Spring
C05125-00	Tension Spring
C29910-00	On / Off Switch

### **Power Supply Box Spares**

C29851-01	PSU
C22104-00	Fan

To prolong the life and performance of your product, we recommend that you only specify Francis Searchlights spare parts. This will ensure that any warranties on your equipment will not be invalidated.

When ordering spare parts please contact the Sales Department at Francis Searchlights Limited [sales@francis.co.uk](mailto:sales@francis.co.uk) . Please always quote searchlight model and serial number, which you can find within the front of the barrel head to the right, on the name plate. This will enable a fast response to your spares' requirements.