



User Instruction & Installation Manual

L230 LED 40-Watt Searchlight



Product Reference Number:

A6158 – 12/24v DECK

A6159 – 12/24v CABIN

Manufacturer's details:

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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 LED range combines features proven over many years service 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 Serial Number.

2 - Safety Precautions

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

- The high luminance of the LED can cause severe damage to the eye if viewed directly. ALWAYS wear suitable protective goggles when viewing the LED.
- 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 LED has cooled sufficiently before removal.
- Due to the vast range of LED modules available it may appear possible that more powerful LED's can be used in the equipment than for which it was designed. Even when the unit will physically accept a higher wattage LED, this substitution is not recommended and is dangerous. This action will also void any warranties on the equipment.

3 – Technical Information

This product has been designed to operate in accordance with the product specification. The L230 LED 40w searchlight has the following features:

- All marine grade materials and fixings.
- Powder coated finish.
- Horizontal rotation 360°.
- Vertical movement $\pm 35^\circ$.
- Instant re-strike. No cooling down time required.
- Economical 30,000-hour LED life.
- Toughened Opti White front glass.
- Luminous flux 4800.
- Colour temperature 6000K.
- Searchlight Weight 4Kg.

The searchlight also performs to the following optical data:

- Supply voltage – 12v or 24v.
- Range – 800 metres at 1 Lux.
- Divergence – 5° .
- Temperature range: -40 to +50

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.

4 - Unpacking and 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.

Preparing the Mounting Position

Mark out and drill 3 off holes Ø6.4mm on a 108mm P.C.D.

A central hole Ø50mm will be required to accept the movement of the control handle. Make sure to fit the Base-sealing gasket, when in the desired position bolt the searchlight firmly down. On an uneven surface a suitable sealant maybe required to provide a weatherproof seal.

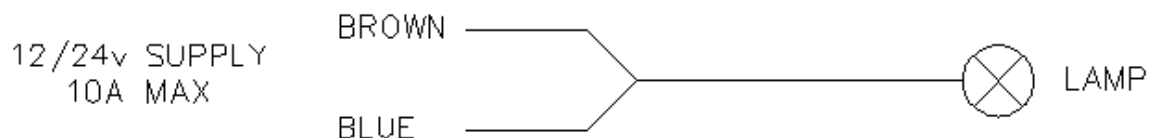
5 - Electrical Installation

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

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

Method of Electrical Connection

- 1) Disconnect the supply before working on the electrical system.
- 2) The searchlight must be connected to a fused electrical supply, using suitably sized cable.
- 3) If the searchlight is located a considerable distance from the supply, provision must be made in the cable size to overcome the voltage drop.
- 4) Whenever possible cable terminations should be made below deck and with approved terminal devices.
- 5) 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:
- 6) When wiring the negative supply, the direct connection to a battery or supply, or metal hull/object, should be avoided. It is advisable to use a suitable terminal block or connection.
- 7) For ease of use a single pole switch, of the appropriate rating, should be fitted in a convenient location. All cable lengths should be kept to a minimum.



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 beam of the searchlight cannot be adjusted.

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 person or qualified Electrical Engineer.

Failure of LED to light.

In the event of the LED failing to light the following steps should be taken:

- 1) Check that the supply is connected to the input of the LED and check all connections as per the wiring diagram C27603. On operation if the lamp does not light, switch off supply and check all fuses.

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.
- It is advisable to check all seals and gaskets for signs of degradation. Renew if necessary.
- 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 the manufacturer who will be able to advise the best course of action for your product.

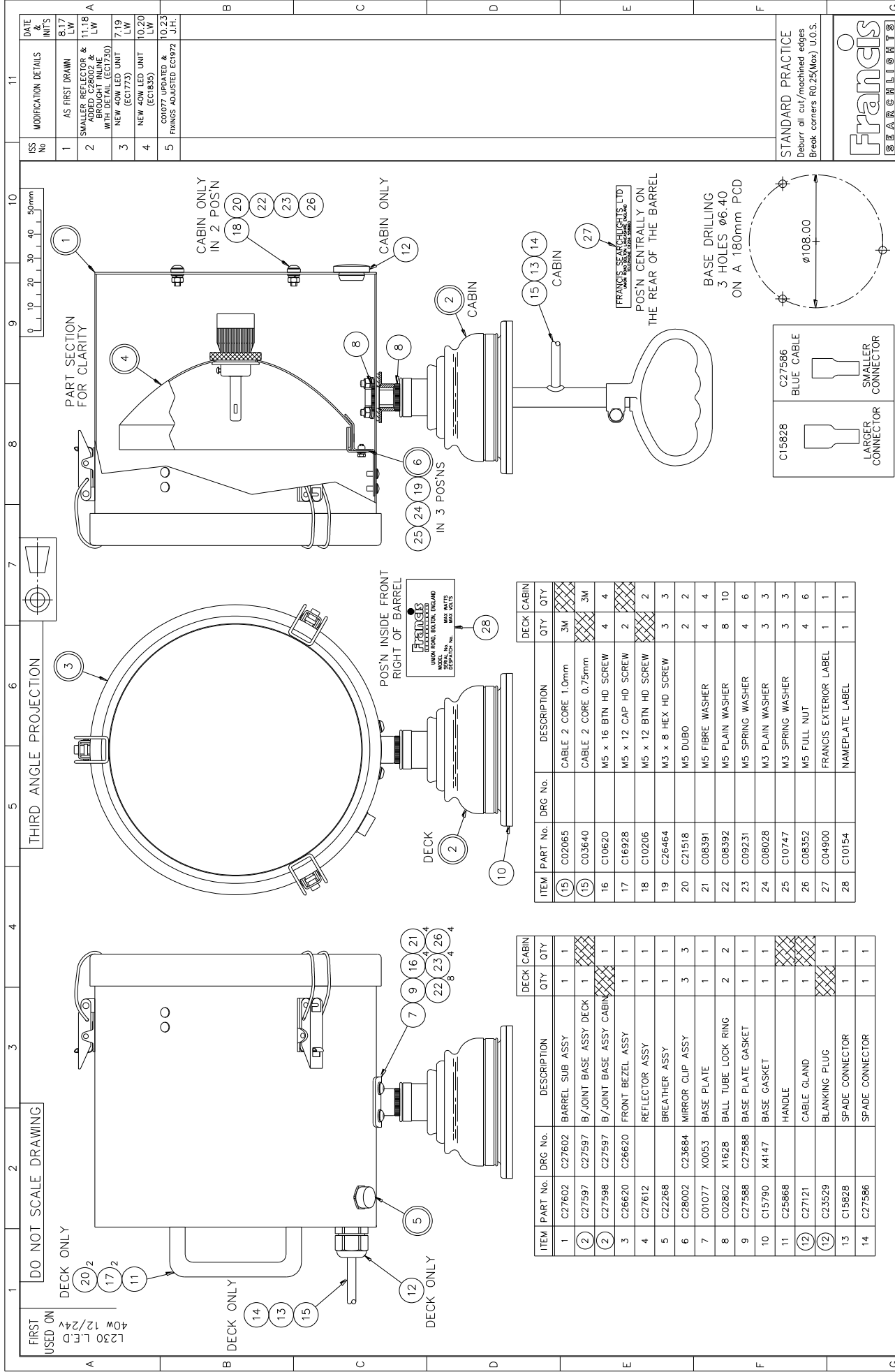
Notes for Lamp Fitting/Removal

Ensure all screws are retained carefully in a safe position.

- Remove front bezel from searchlight by releasing the three latches.
- Remove the three M3 hex head screws that fasten the Mirror Clips to the Mirror Pads.
- Remove reflector & unclip lamp leads.
- For aid see Diagram **C27612**.

9 - Wiring Diagrams & General Assemblies

Drawing Number	Description
A6158/A6159	L230 LED 40w 12/24v Deck/Cabin General Assembly
C27612	Reflector Assembly (Lamp fitting/removal guide)
C27603	Wiring Diagram 12/24v.



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<div><div>SEARCHLIGHT HEAD</div><div></div><div>12/24V SUPPLY</div><div>BLUE</div><div>BROWN</div><div>SPADE CONNECTORS</div></div>																					
STANDARD PRACTICE Deburr all cut/machined edges Break corners R0.25(Max) U.O.S.																					
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10 – Spare Parts List

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

Part Number	Description
C15790-00	Base Gasket
C26630-00	Front Glass
C21141-00	Front Glass Gasket
C22268-01	Breather Assembly
C28166-01	LED Unit
C25988-00	Reflector

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. Please always quote searchlight model and serial number. This will enable a fast response to your spares' requirements.