



Navigation Lights



Signalling Lights



Searchlights



Whistles

TECHNICAL DOCUMENT

DHR **230RC**-series Remote Controlled Searchlight



Den Haan Rotterdam





SAFETY NOTES

- Turn power off before inspection, installation or removal
- Don't stare directly into the LEDs, Always use eye protection when handling LEDs
- This product can be damaged by electrostatic discharge, ESD. When handling take close care before opening the drum to avoid damaging the LEDs.
- Allow lamp/fixture to cool before handling
- Do not use the searchlight if outer glass is scratched or broken

**DAMAGE DUE TO INAPPROPRIATE HANDLING IS
NOT COVERED UNDER WARRANTY.**

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PREFACE

Den Haan Rotterdam is a family-owned company established in 1922. Started as a small tinsmith, it has evolved into a globally respected producer of navigation lights, searchlights, air horns and a wide range of nautical lamps made from copper and brass. By introducing products with advanced LED-technology, DHR has safeguarded a visibly safe future for marine vessels in all weather conditions.

With the 230RC-series searchlight, DHR introduces an entry level remote controlled LED searchlight. The 75W LED engine produces a color output of 5.000K and an intensity close to the same performance levels of 1.000W halogen searchlights. Using the best available parabolic mirror reflectors on the market, a crisp & clear spot with no visible stray light has been ensured. The 230RC is equipped with an unique bracket design to realize an extreme downward vertical angle. This is specifically useful for close range targets. Positions on high structures or foremasts of inland navigation vessels, where high angles up to 60° are desired, the 230RC is the answer.

DEN HAAN ROTTERDAM B.V.



D.M. Den Haan
Managing Director

QUALITY STANDARDS



LED Technology



Light Weight Construction



Remote Control



IP66 Water Ingress Protection



Excellent Optics



Large Vertical Angle



Maintenance Friendly



5. TABLE OF CONTENTS

Safety notes	2
Preface	3
Quality standards	3
1. Mounting instructions	5
2. Specifications	7
3. Dimensions	9
4. Photos	11
5. Electrical diagrams	12
6. Safety, maintenance and correct use	17

1. MOUNTING INSTRUCTIONS



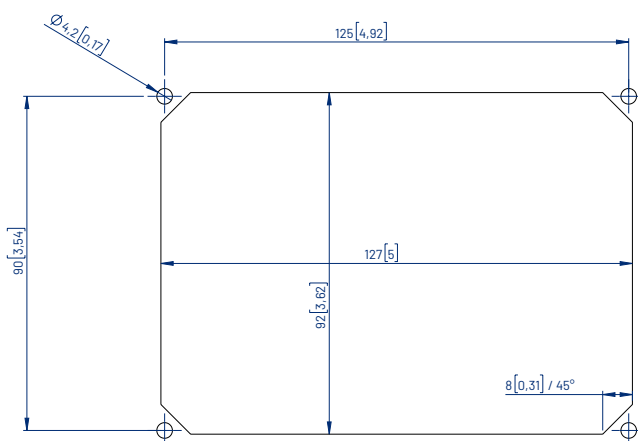
WARNING!

Den Haan Rotterdam does not accept responsibility for any damage if the searchlight is installed incorrectly and/or used improperly. When in doubt consult a qualified electrical technician.

MOUNTING THE PANEL

Place the control panel inside the wheelhouse, where it is protected against weather influences. The panel has been designed in order to be flush-mounted in an instrument cabinet, as shown in the illustration below.

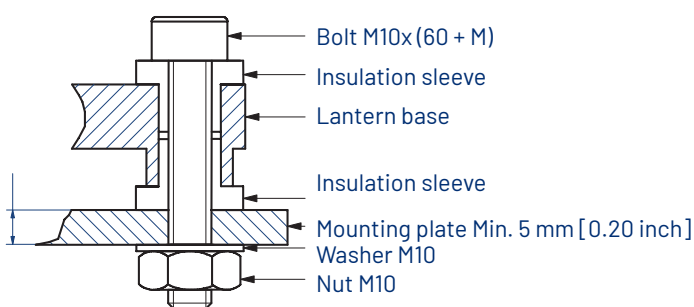
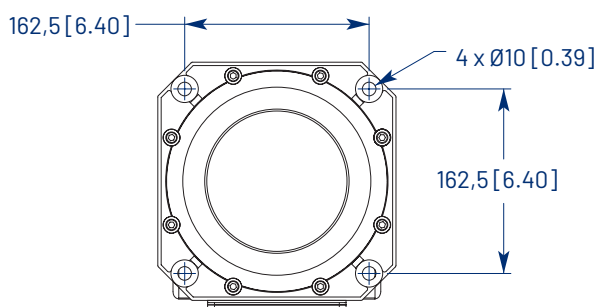
The minimum required space for the panel inside the console 50 mm [4.33 inch].



All sizes are in mm [inch]

SEARCHLIGHT INSTALLATION

Install the searchlight in a horizontal upright position with sufficient space around the drum of the searchlight to ensure it can move freely. The dimensions can be found on page 9.



All sizes are in mm [inch]

FASTENERS

- The permissible torque should be 8 Nm [5.9 lbf•ft]
- Use only A4-grade stainless steel

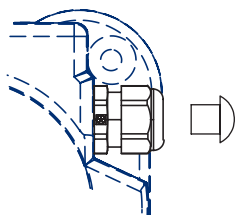
CAUTION!

Even though the housing is made of corrosion resistant materials, galvanic corrosion may still occur. To prevent galvanic corrosion use the supplied insulation sleeves to isolate the aluminium housing from other metal parts.

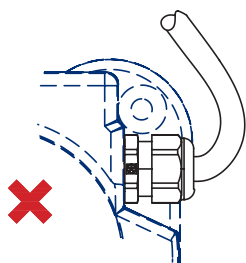
ELECTRICAL INSTALLATION

Install the electrical wiring according to the wiring diagrams showed on pages 12 - 15. Keep the distance between the power supply and Searchlight as short as possible. Long wires will increase a voltage drop lamp, what affects the performance.

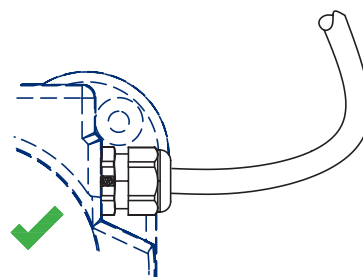
CABLE GLANDS



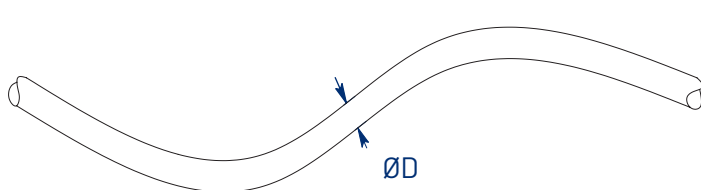
Remove the plug before placing the cable.
If no cable is connected, leave the plug in place!



Cable too tight!
This gives unwanted stress at the sealing of the cable gland and water ingress will occur.

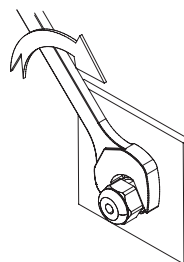


Include cable slack at the entering point of the cable gland



CABLE

- Preferred diameter D is 7 - 12 mm [0.28 - 0.47 inch]
- Material: Neoprene H07RN-F



REPLACING CABLE GLAND

- Use gasket between housing and cable gland
- Tighten firmly 6Nm [4.4 lbf•ft] with wrench

NOTE

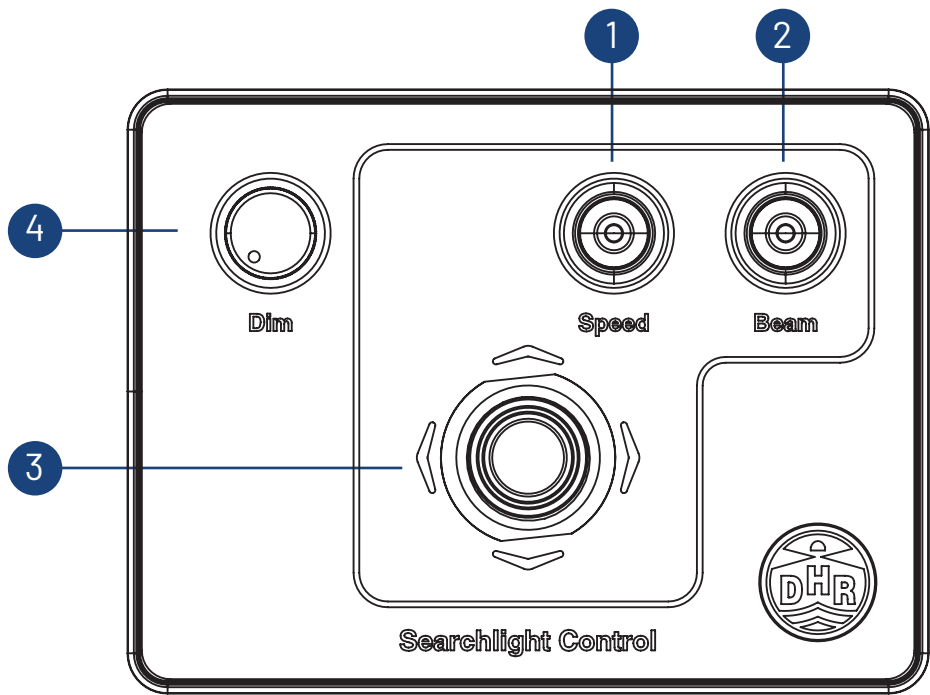
The cable glands on the searchlight prevent water ingress. Do not use (electrical) tape to cover the cable where it enters the cable gland as this will cause water ingress. Do not use a rubber or shrinkable cover on the cable gland to improve water tightness.



2. SPECIFICATIONS

CONTROL PANEL

Model	PAN2019NF
Dimensions	
Height	105 mm [4.33 inch]
Width	140 mm [4.33 inch]
Weight	0,6 kg [1.32 lb]
Electrical	
Voltage	24 VDC -20 /+30%
Maximum wattage	20 W
Fuse	Resettable - 3A
Electrical insulation class	III
Housing	
Front	Aluminium / Acrylic black - IP65
Back	Acrylic blue
Operating temperature	0 - 40 °C [32 - 104 °F]



SWITCHES

1.

SPEED

To select two speed settings: slow / fast
2.

BEAM

Switching the light source on/off
3.

JOYSTICK

To control the direction of movement

POTENTIOMETER

4.

DIM

To adjust the light intensity of the illuminated buttons

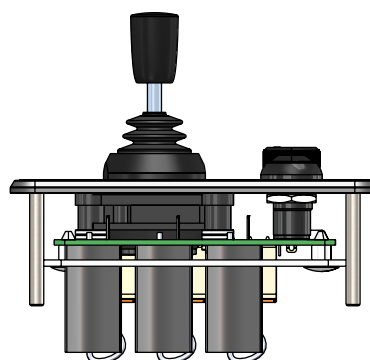
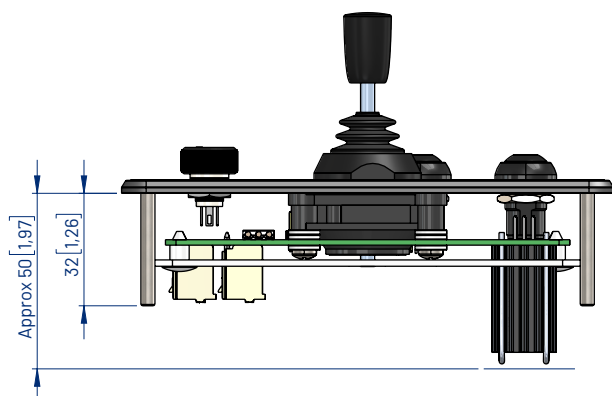
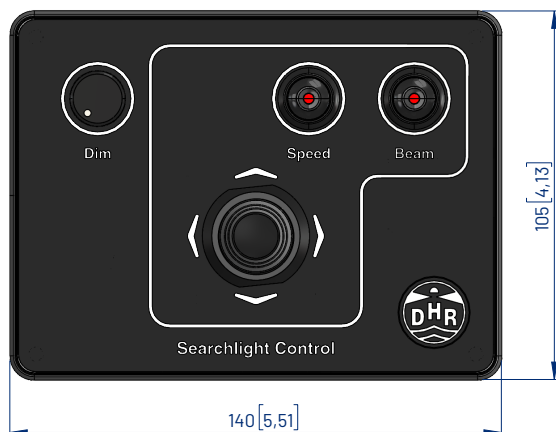


SEARCHLIGHT

Model	230RCL21 (115/230VAC)	230RCL11 (24VDC)
Dimensions		
Height	617 mm [24.29 inch]	
Width	331 mm [13.03 inch]	
Weight	16 kg [35.27 lb]	
Electrical		
LED-driver	115/230 VAC	24VDC
Motor voltage	6-13 VDC	
Preferred cable type	H07RN-F	
Cable diameter	Ø 6-12 mm [0.24 - 0.47 inch]	
Optics		
Mirror	Parabolic mirror reflector Ø 230 mm [9.06 inch]	
Range at 1 lux	800m [2625 ft]	740m [2428 ft]
Adjustable Focus	No	
Beam angle	6° x 6°	
Luminous intensity	640.000 cd	550.000 cd
LED		
Model	CLU731	
Luminous flux	8.767 lm	7000 lm
Rated LED voltage	-	
LED wattage	75W	65W
Average life-time	50.000 h	
Color temperature	5000 K	
Base	-	
Heater		
Type	PTC-heater	
Voltage	100-240VAC	24VDC
Maximum wattage	50 W	30W
Motor Unit		
Tilt	+ 30° / - 60°	
PAN	340°	
Max. speed left / right approx.	34° / sec	
Max. speed up / down approx.	3,2° / sec	
Housing		
Material	Chromated seawater resistant aluminium	
Finish	UV resistant powder coating - White RAL9016	
Front glass	Hardened front glass	
Seals	Silicone / Neoprene, black	
Cable gland	M25x1.5	
Operating temperature	- 25° / +40° C [-13° / +104° F]	
Ingress protection class	IP66 c/w Membrane vent	

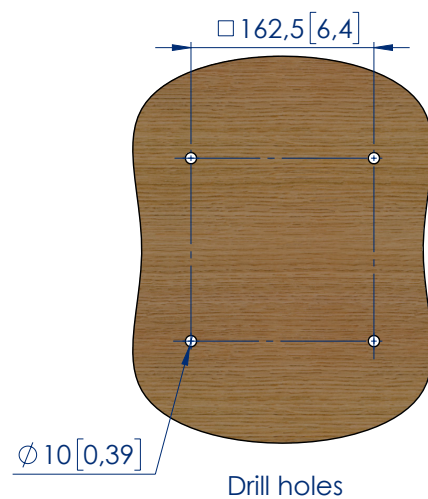
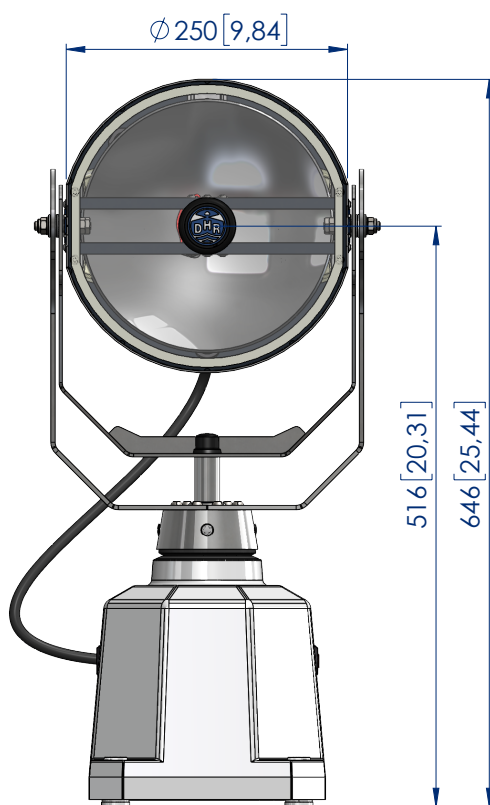
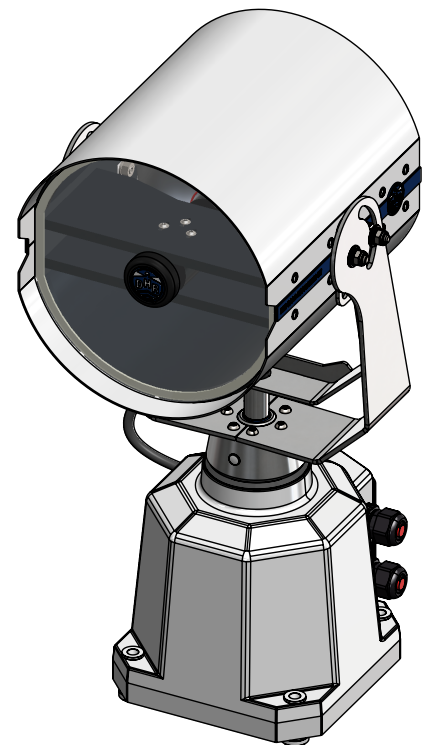
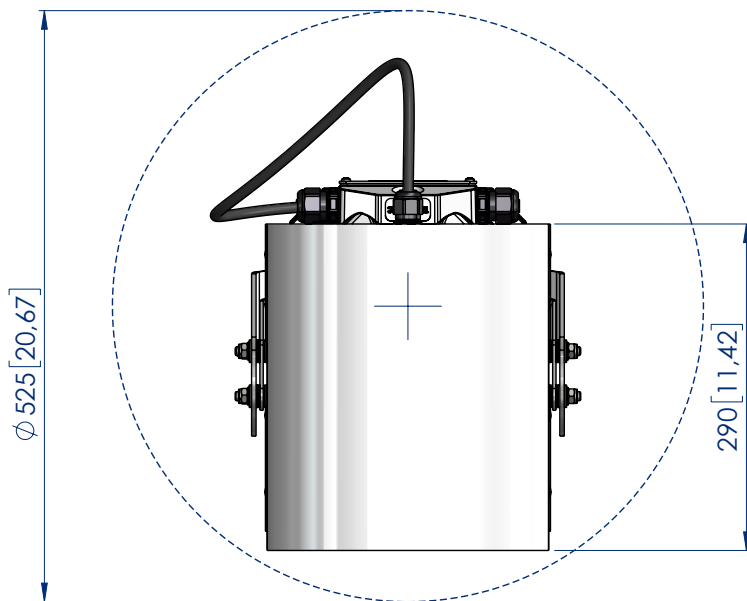
3. DIMENSIONS

CONTROL PANEL



All sizes are in mm [inch]

SEARCHLIGHT

**Fasteners**

- The permissible torque should be 8 Nm
- Use only A4-grade stainless steel

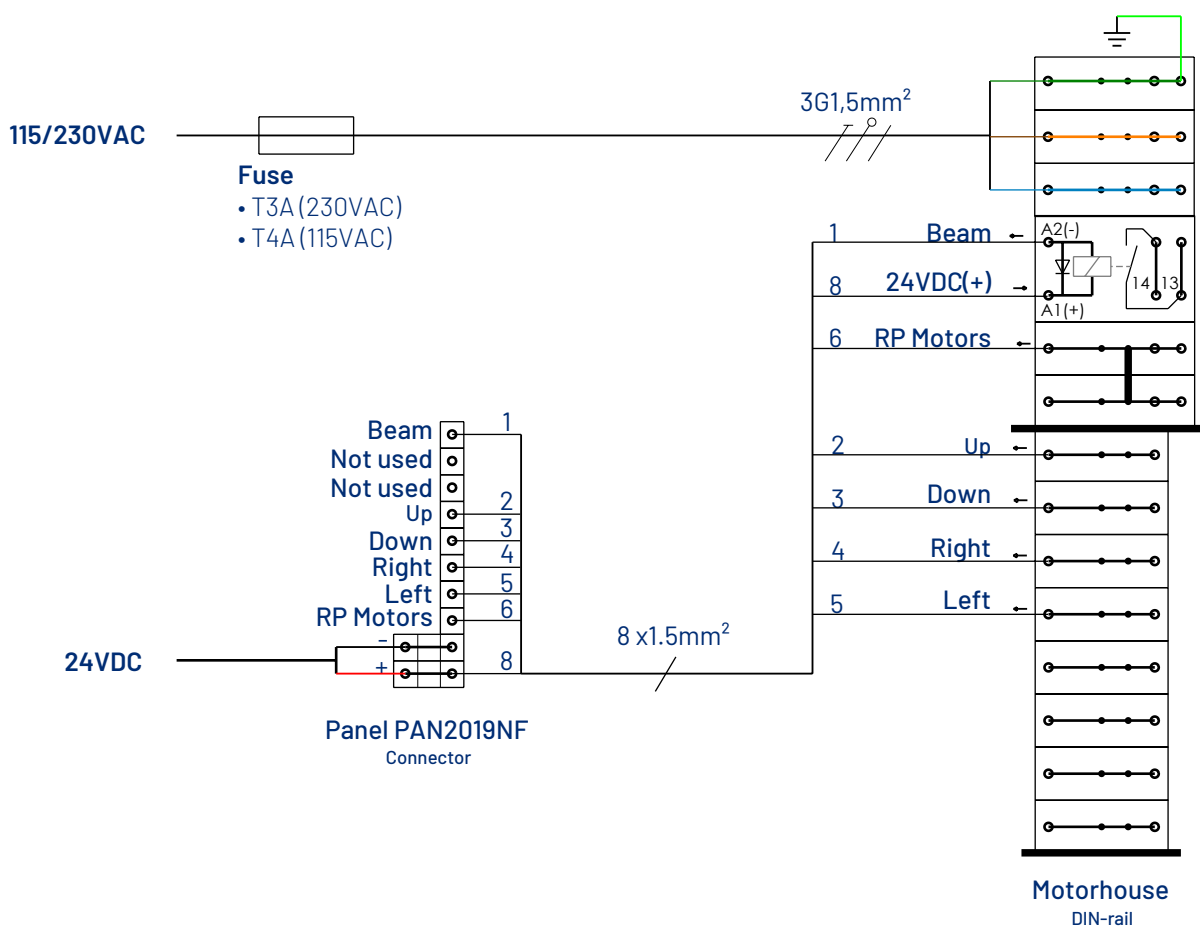
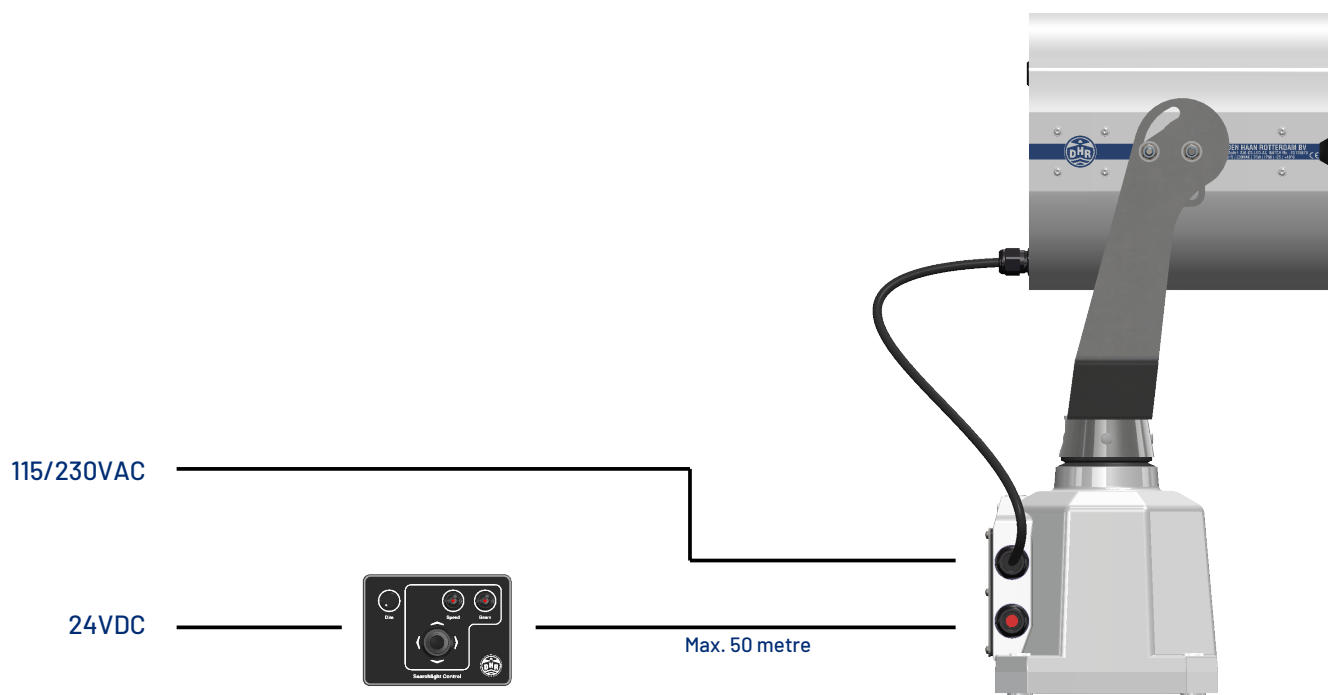
All sizes are in mm [inch]

4. PHOTOS

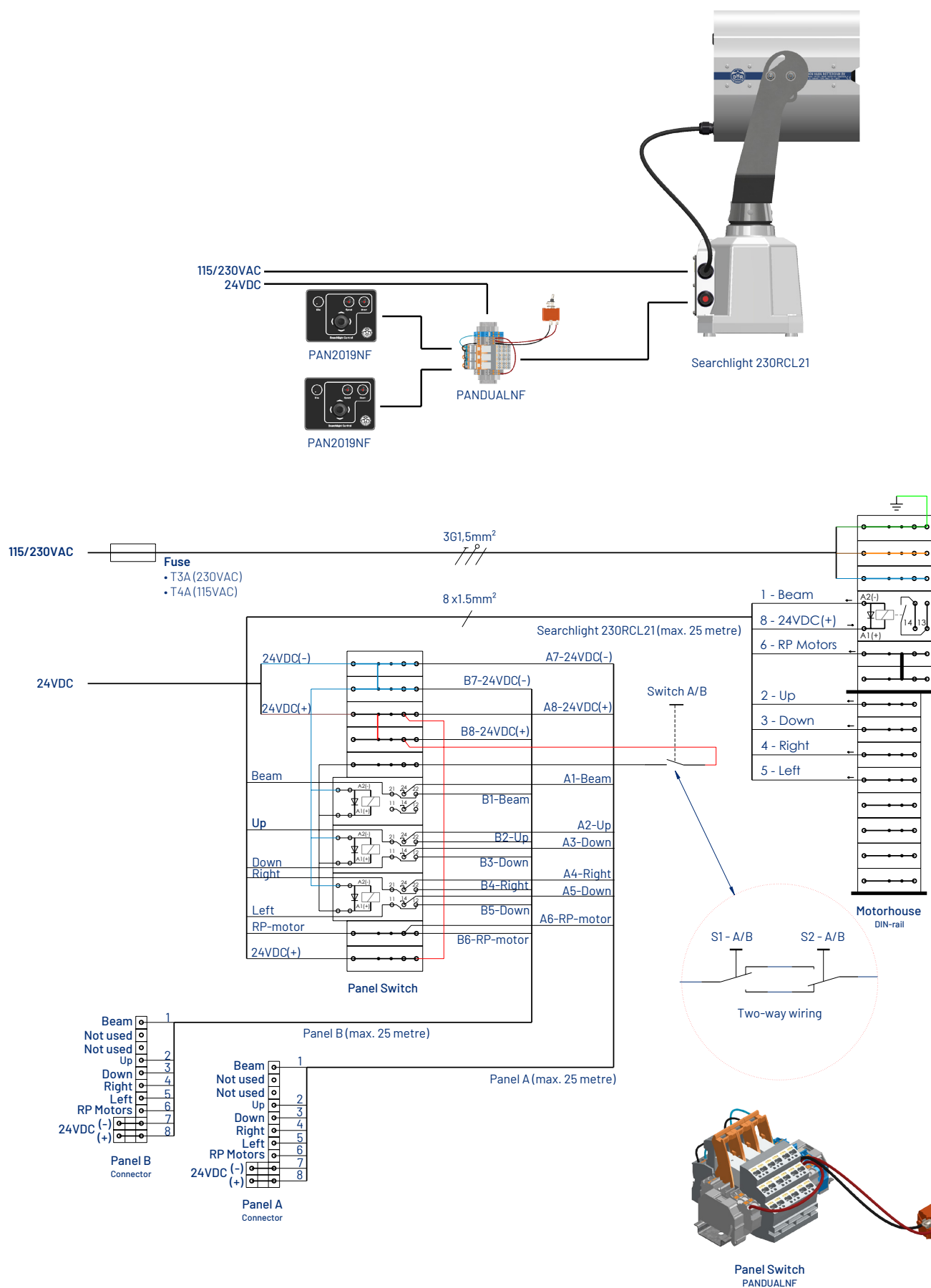


5. ELECTRICAL DIAGRAMS

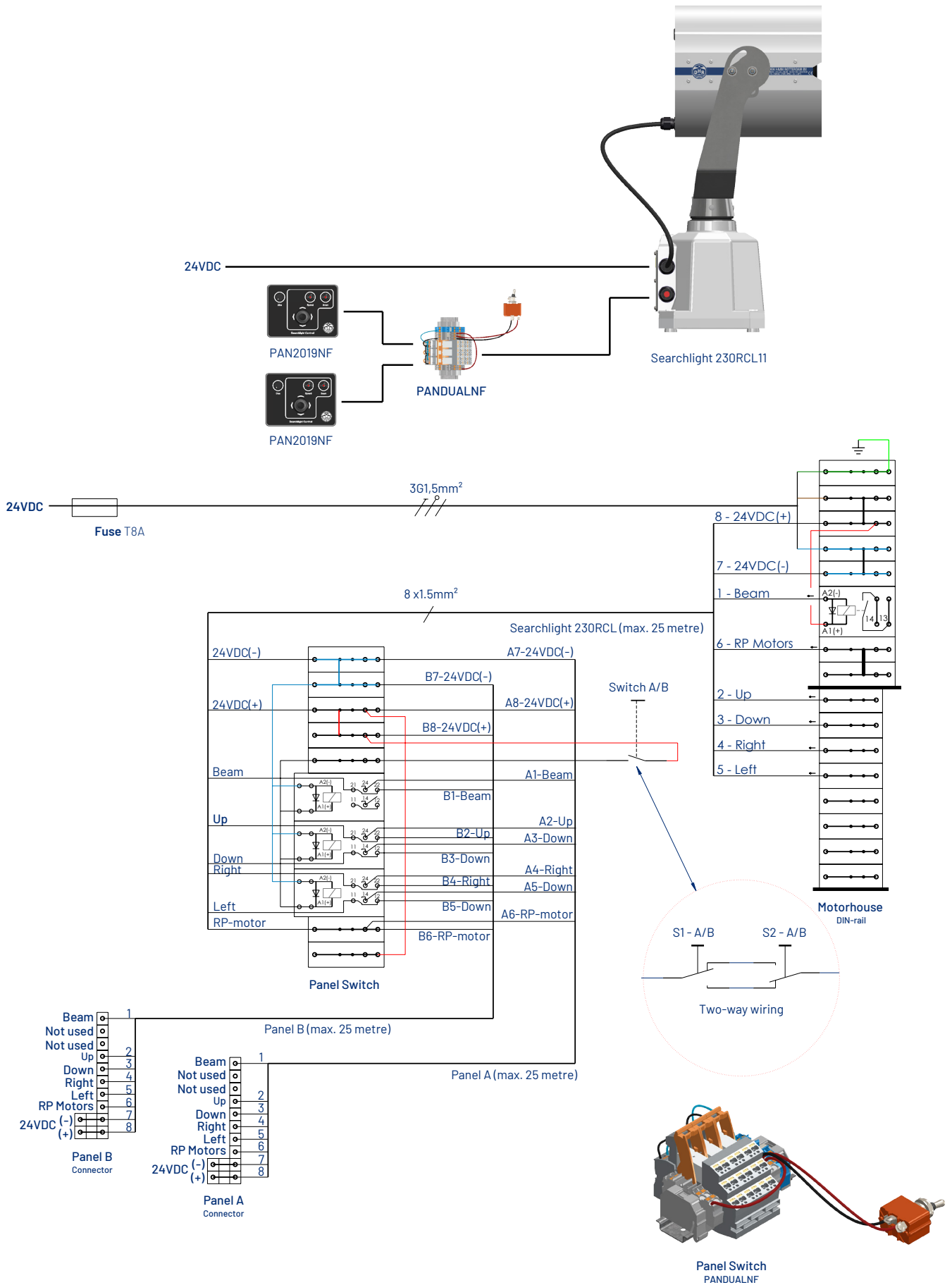
CONTROL PANEL WITH SEARCHLIGHT 230RCL21 (115/230VAC)



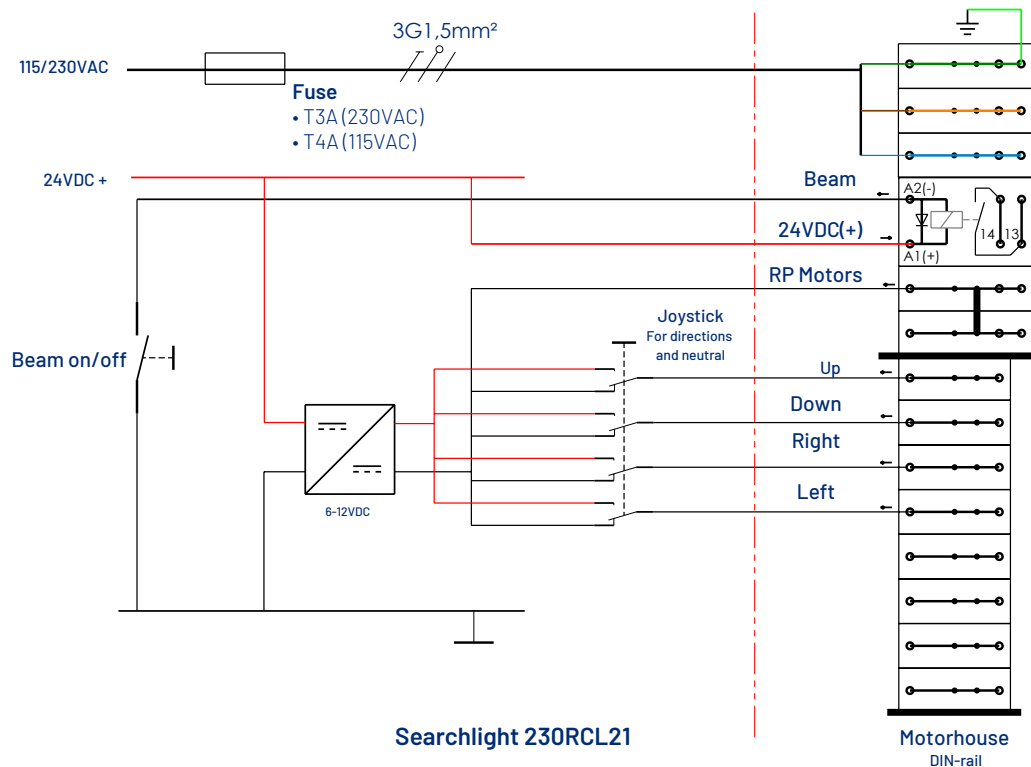
TWO PANELS WITH SEARCHLIGHT 230RCL21 (115/230VAC)



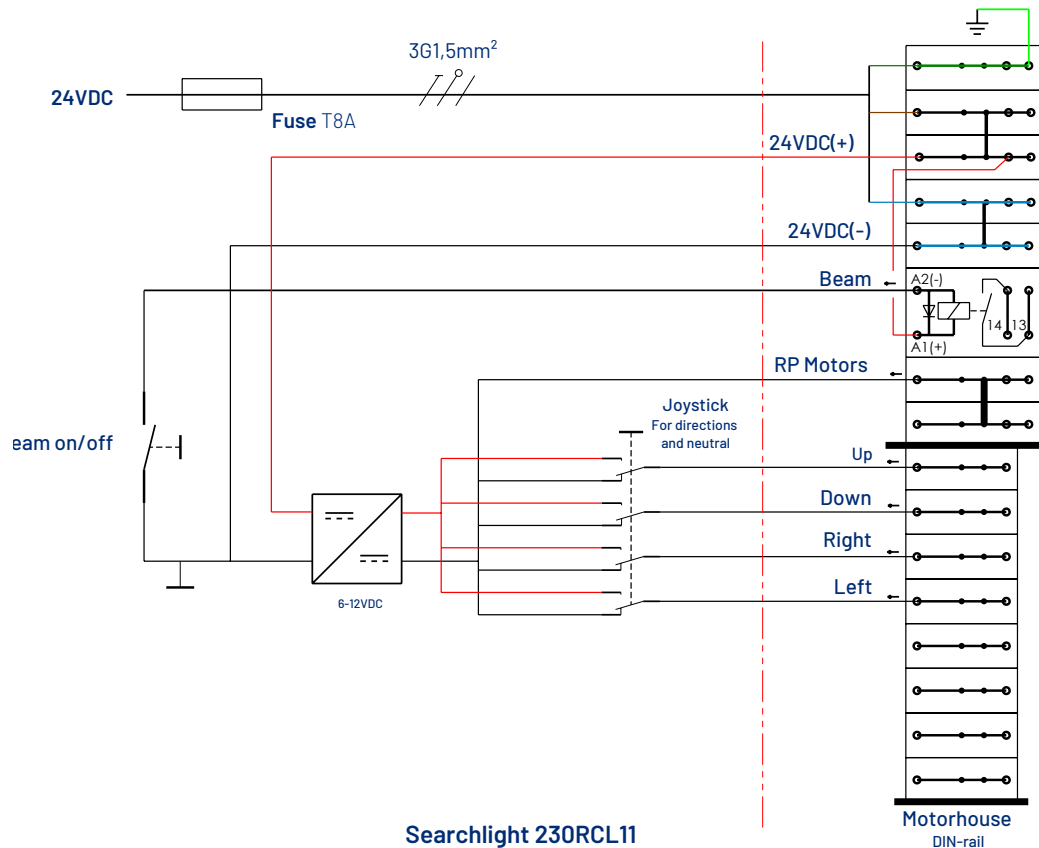
TWO PANELS WITH SEARCHLIGHT 230RCL11(24VDC)



THIRD PARTY CONTROL (115/230VAC)



THIRD PARTY CONTROL (24VDC)



6. SAFETY, MAINTENANCE AND CORRECT USE



ESD

This product, like all LED searchlights, uses semi-conductors that can be damaged by electrostatic discharge (ESD). When handling, take close care before opening the drum to avoid damaging the LEDs.

THE FOLLOWING PRECAUTIONS MUST BE TAKEN

- Always disconnect the power from the light before any maintenance.
- Use a conductive wrist strap attached to a known ground point at a workbench.
- Always discharge yourself by touching grounded bare metal.
- Use an approved anti-static mat to cover your work surface.
- When in doubt always consult a qualified electrician.

DON'T STARE DIRECTLY INTO THE LEDS

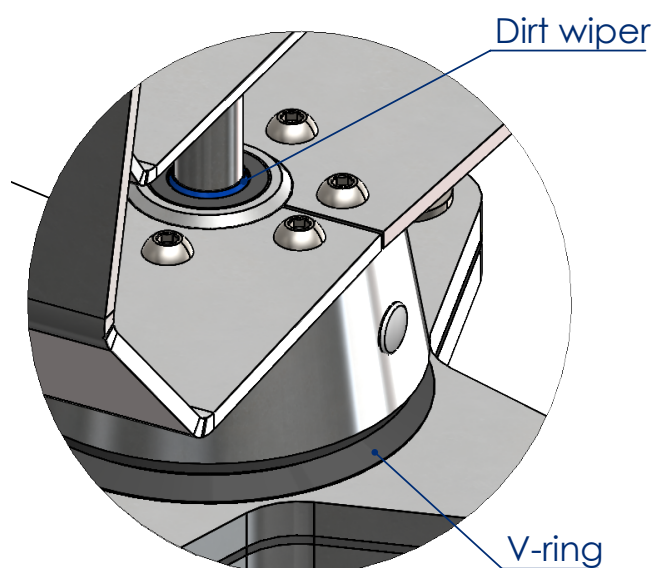
All cool white LEDs (5000 Kelvin and higher) contain a lot of blue and can be harmful to our eyes. Always use eye protection when handling LEDs

TIPS FOR CORRECT USE

- Switch off the searchlight immediately after use, this increases the life expectancy of the COB - LED
- Do not light-up objects closer than 2 metres
- Do not point the light beam at the eyes of humans or animals

PREVENTIVE MAINTENANCE

Clean the searchlight with fresh water regularly. Do not use any aggressive cleaning agents. At least twice a year rub the V-ring and dirt wiper in with silicone grease.



ADVANCED MARITIME SIGNALLING SOLUTIONS



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