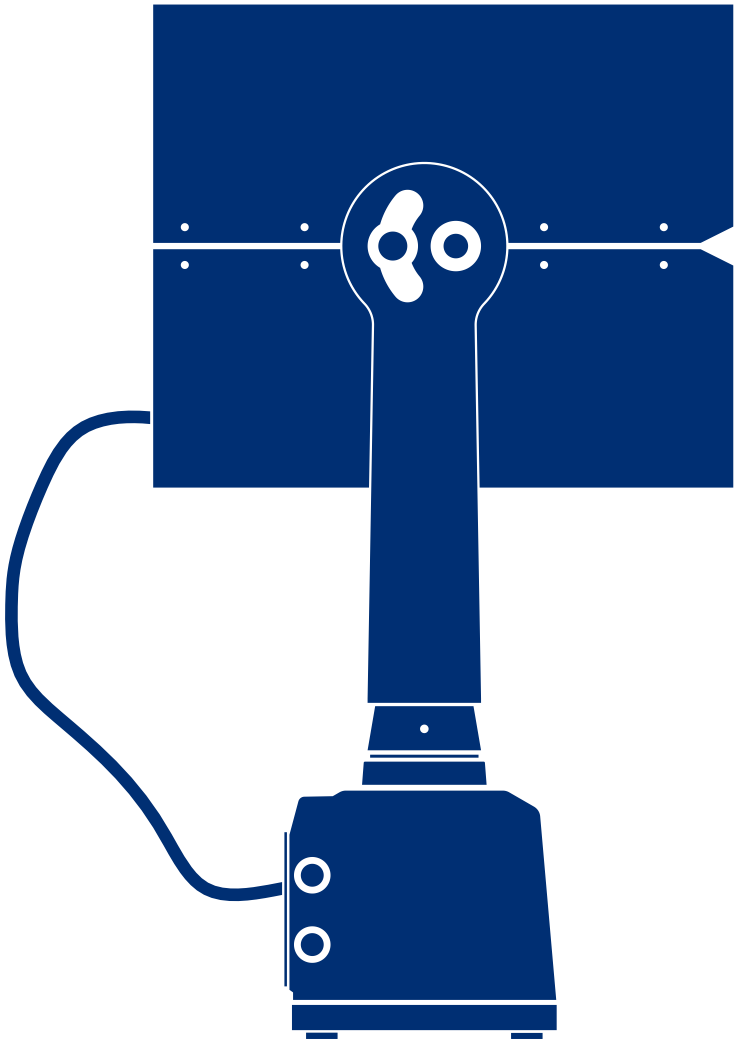
TECHNICAL DOCUMENT

DHR **320 RC Halogen**

Remote Controlled Searchlights



Den Haan Rotterdam

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Safety notes:

- Turn power off before inspection, installation or removal
- Keep combustible materials away from lamp
- Do not exceed 105% of rated voltage
- 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 by the warranty.

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Version 0.9 Jan. 2023

FOREWORD

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.

Den Haan Rotterdam manufactures halogen searchlights for over 30 years and are known for their robustness, quality and reliability: key values for marine equipment. The RC-series is the second generation of DHR remote controlled type of searchlights introduced in 2019. This product range is very popular, because of its compact size and its simplicity in installation and operation. The RC-series includes two types of light sources, such as: halogen bulbs and LEDs. Also the optical performance is top-notch, thanks to the use of silverplated mirror reflectors.

The application of the 230- and 320-series searchlights is limitless. Mostly they are benificial for work boats, tugs, fishing vessels, dredgers and even watch towers for land based solutions.

DEN HAAN ROTTERDAM B.V.

D.M. Den Haan
Managing Director

QUALITY STANDARDS

- Incandescent Light Source
- Remote control
- Excellent Optics
- Maintenance Friendly
- Light Weight Construction
- IP66 Water Ingress Protection

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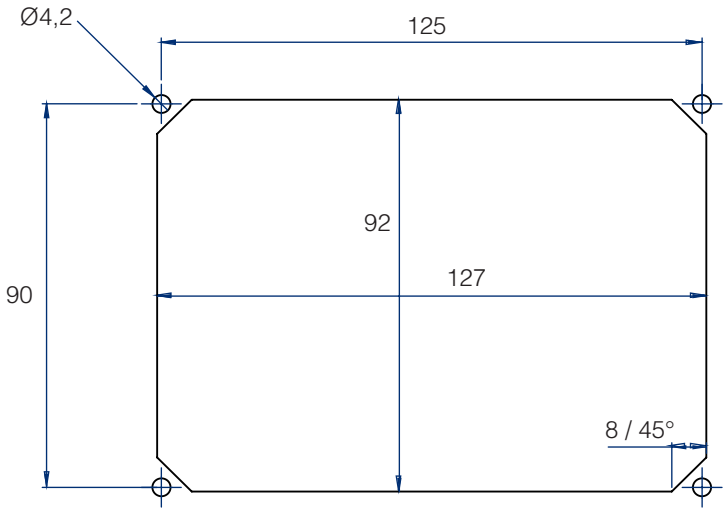
1. MOUNTING INSTRUCTIONS

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

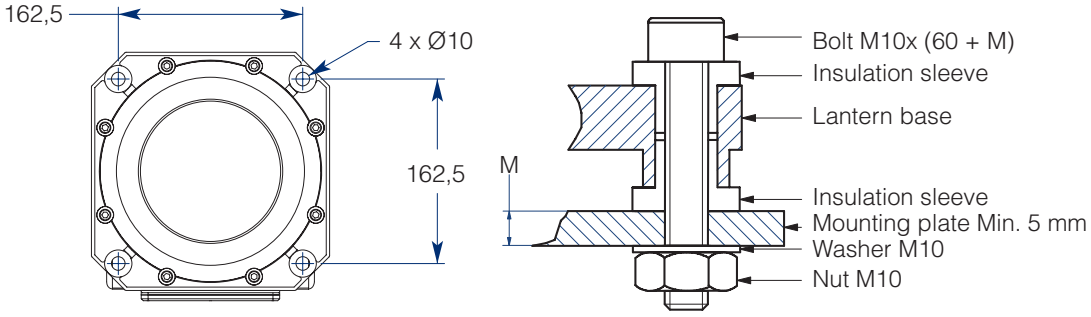
Place the control panel inside the wheelhouse, where it is protected against weather influences. The housing is especially constructed to be flush mounted in an instrument cabinet according the illustration on the right.

The minimum space needed behind the panel is 50 mm. (depth)



Searchlight installation

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



All dimensions in mm

Fasteners

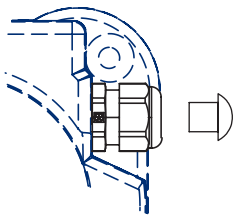
- The permissible torque should be 8 Nm
- Use only A4-grade stainless steel

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.

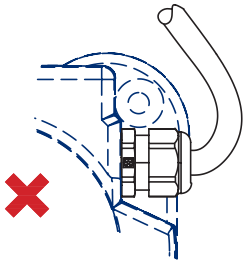
Electrical installation

Install the electrical wiring according to the wiring diagrams showed on pages 11 - 14. Keep the distance between the power supply and halogen lamp as short as possible. Long wires will increase a voltage drop near the halogen lamp, which affects the light output.

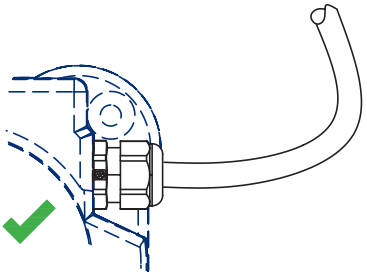
Cable glands



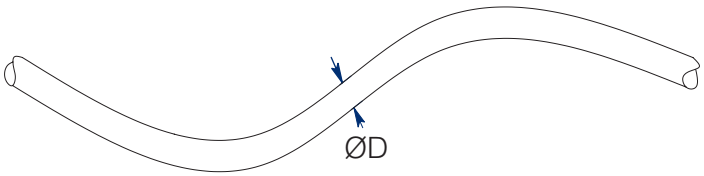
Remove the plug before placing the cable.
If no cable is connected, leave the plug in place!



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

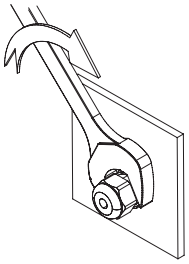


Include cable slack at the entering point of the cable gland



Cable

- Prefered diameter D is 7 - 12 mm
- Material: Neoprene H07RN-F



Replacing cable gland

- Use gasket between housing and cable gland
- Tighten firmly (6Nm) with wrench

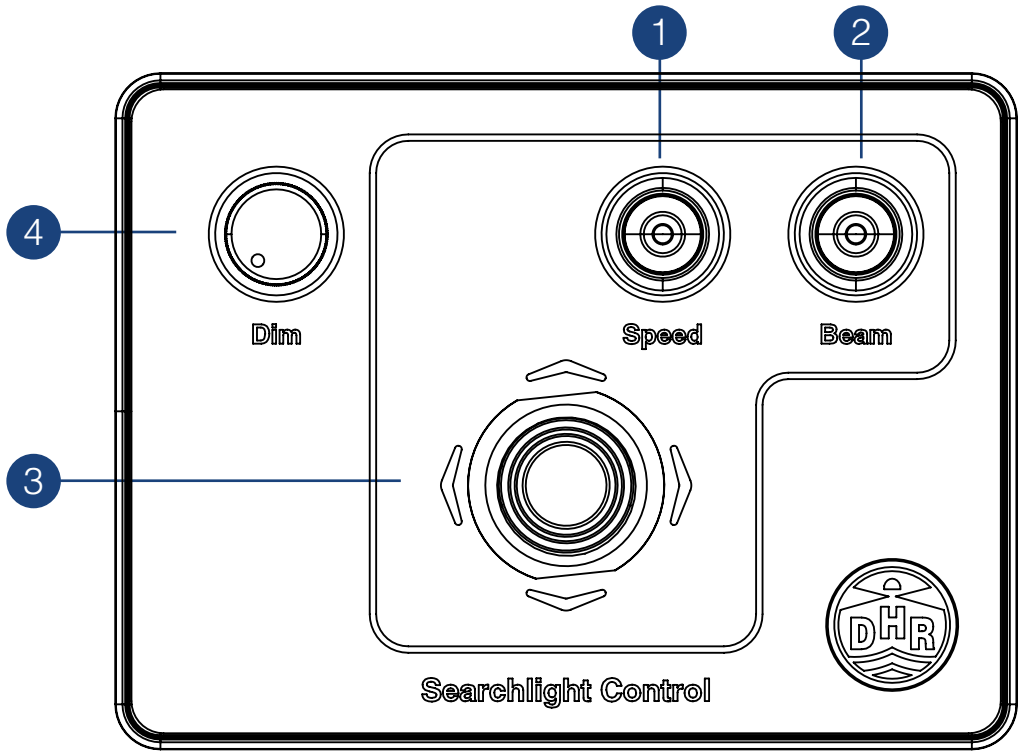
Note

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
Width	140 mm
Weight	0,6 kg
Electrical	
Voltage	24 VDC -20 /+30%
Maximum wattage	20 W
Fuse	Resettable - 3A
Electrical insulation class	III
Housing	
Front	IP65
Back	Aluminium, painted black
Operating temperature	0° / + 45° C



Switches
1. Speed, slow / Fast.
2. Joystick, controls the direction of the movement.
3. Beam, switches the searchlight on or off.

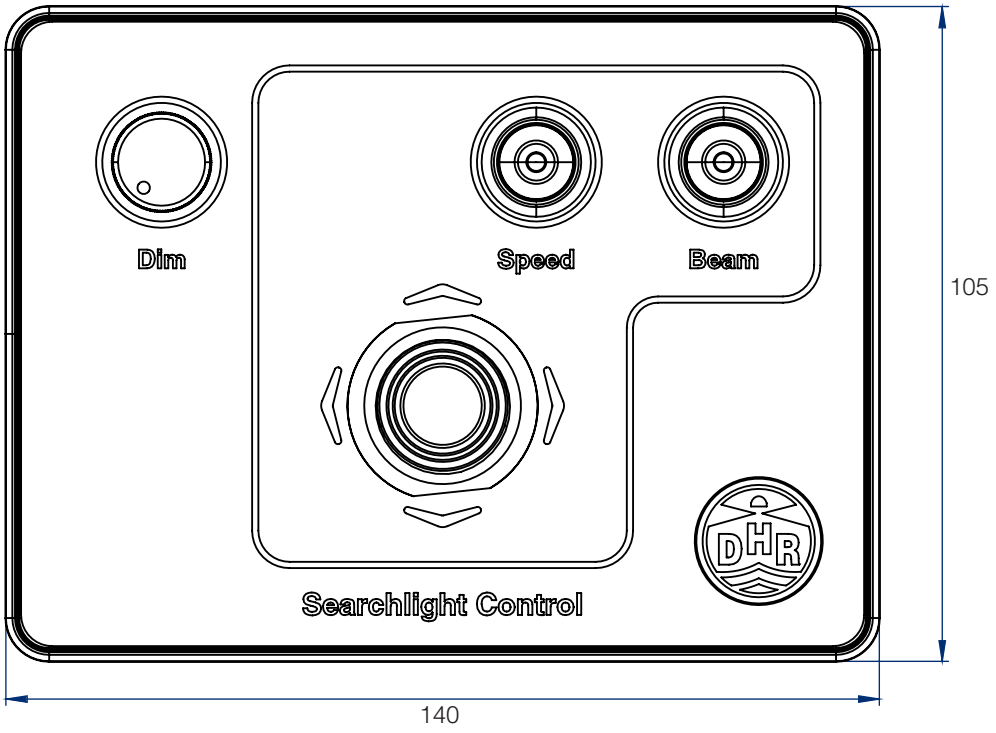
Potentiometers
4. DIM, setting intensity LEDs Searchlight panel.

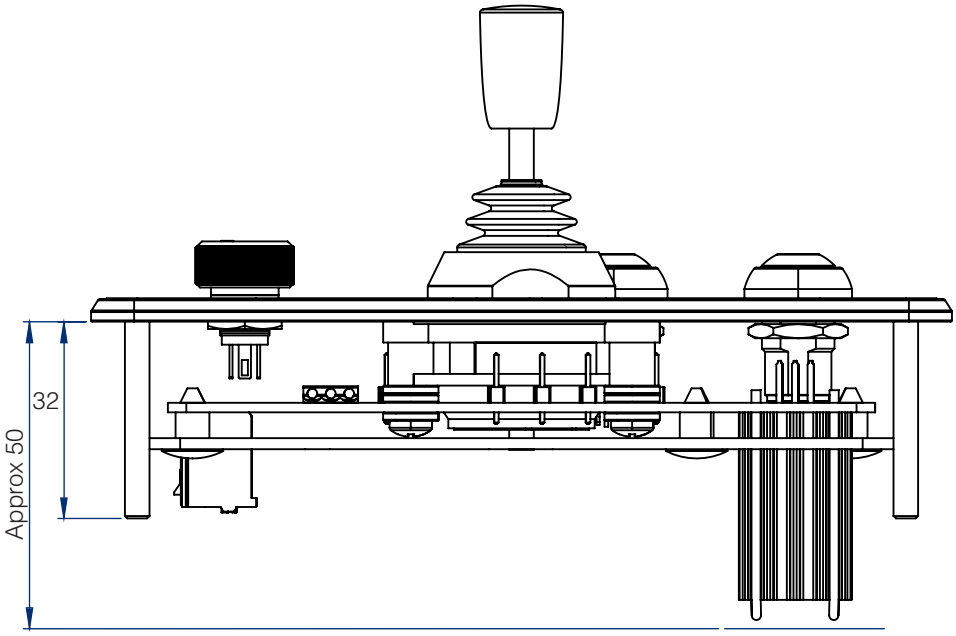
Searchlight

Model	320RC220
Dimensions	
Height	820 mm
Width	377 mm
Weight	24,5 Kg
Electrical	
Lamp voltage	230VAC
Motor voltage	6-13 VDC
Preferred cable type	H07RN-F
Cable diameter	Ø 6-12 mm
Optics	
Parabolic mirror reflector	Ø 320 mm
Range	1104 m
Adjustable Focus	Yes
Beam angle at 50%	3,5° x 4°
Luminous intensity	1.100.000 cd
Bulb / LED	
Model	6984P
Luminous flux	22.500 lm
Rated lamp voltage	230 V
Rated lamp wattage	1000 W
Average life-time	180 h
Color temperature	3200 K
Base	GX 9,5
Heater	
Type	PTC
Voltage	230VAC
Maximum wattage	70 Watt
Motor Unit	
Tilt	+ 25° / - 25°
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 glass
Seals	Silicone / Neoprene, black
Cable gland	M25x1.5
Operating temperature	- 25° / + 40° C
Ingress protection class Motor house	IP66 c/w Membrane vent
Ingress protection class Head	IP66 c/w Membrane vent

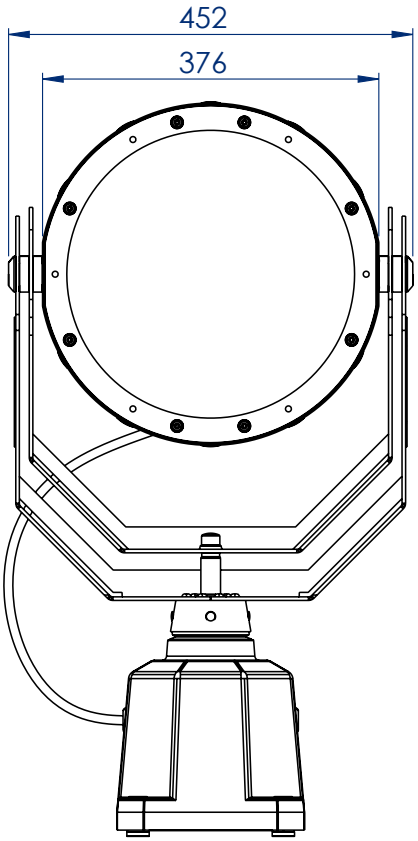
3. DIMENSIONS

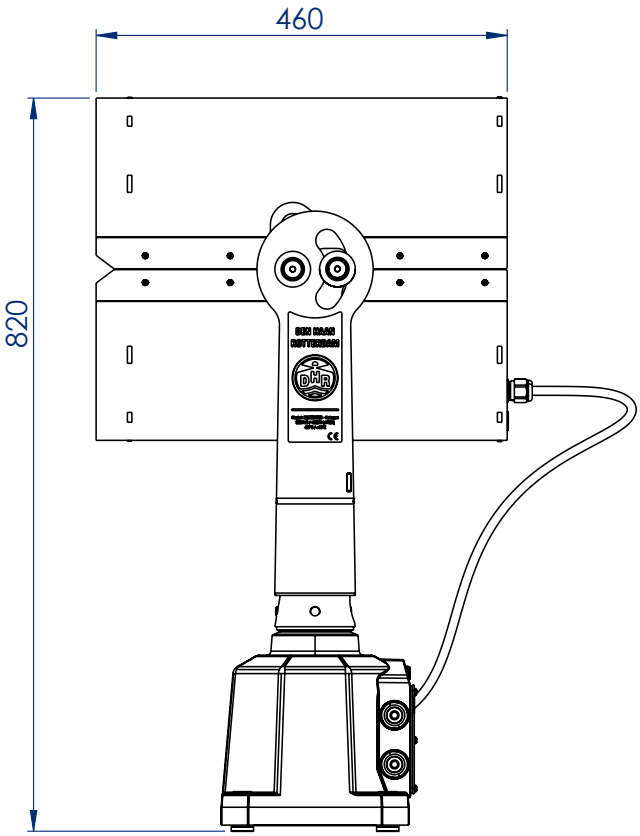
Control Panel

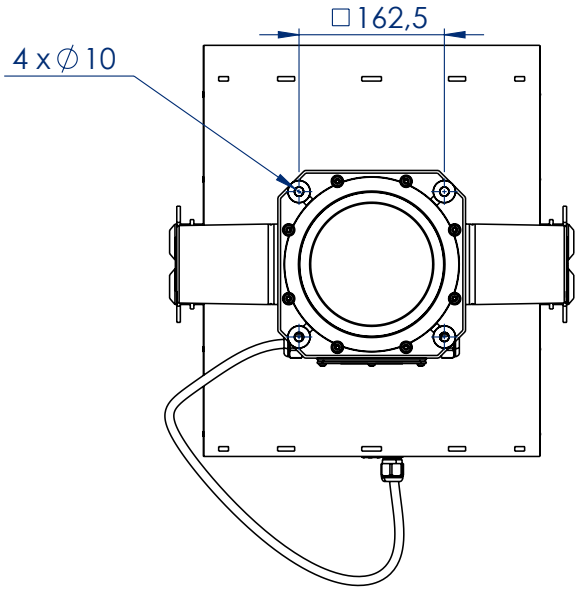




Searchlights







All sizes are in mm.

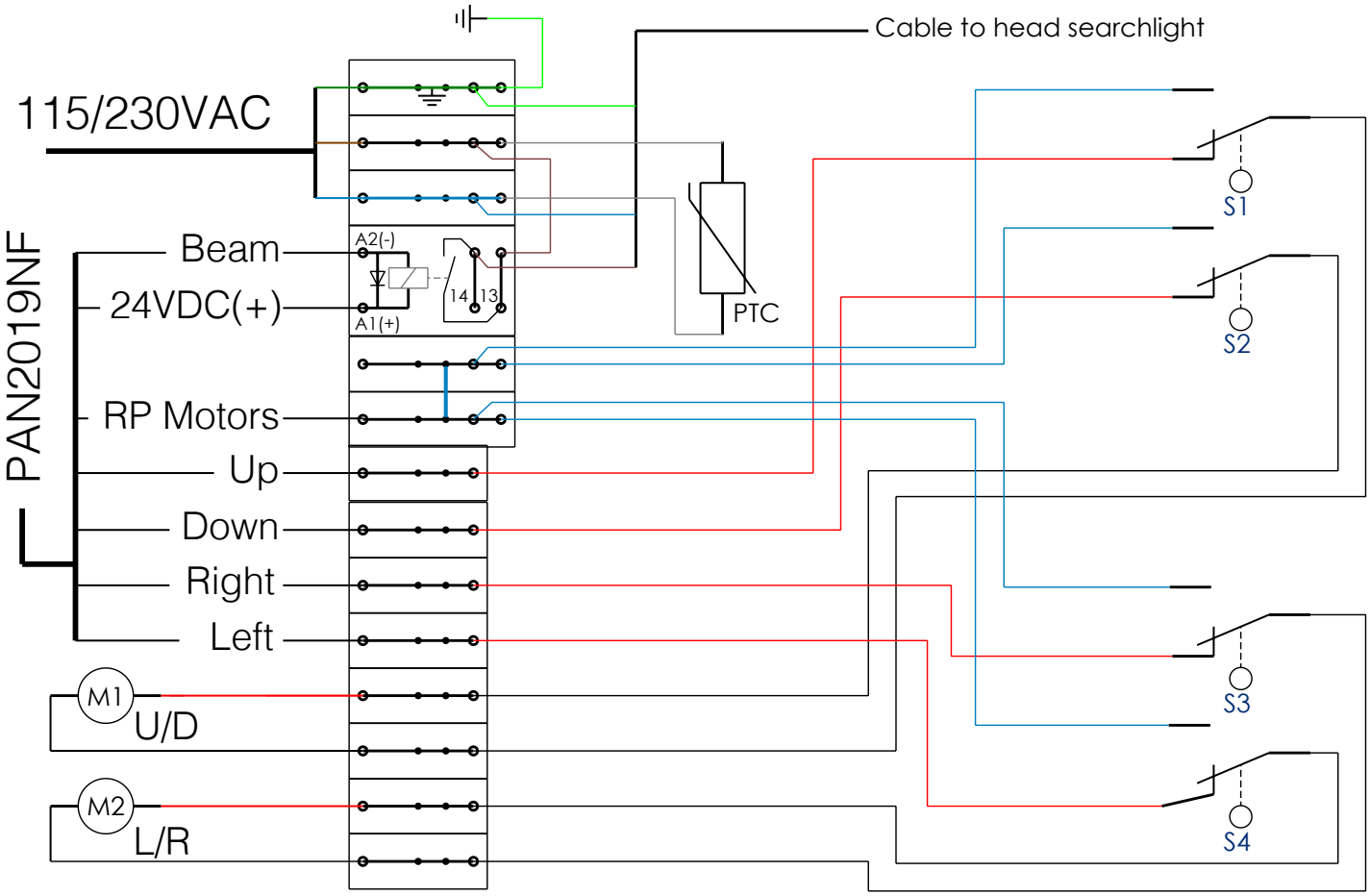
4. PHOTOS

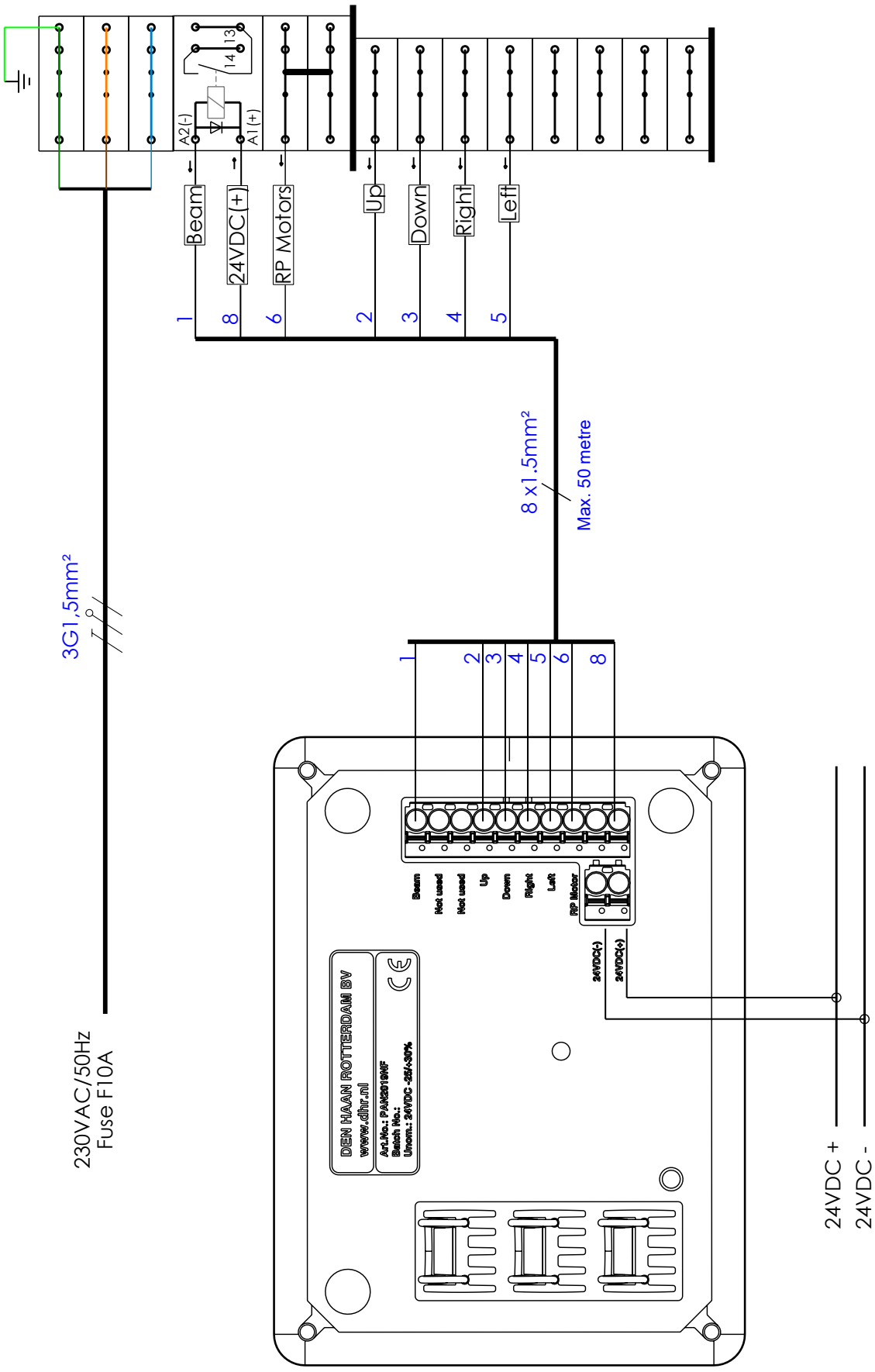



DEN HAAN
ROTTERDAM

5. WIRING DIAGRAMS

A. Internal Connections




A2(-)
A1(+)
13
14
Beam
24VDC(+)
RP Motors
Up
Down
Right
Left
1
8
6
2
3
4
5
8 x1.5mm²
Max. 50 metre
3G1,5mm²
230VAC/50Hz
Fuse F10A
Beam
Not used
Not used
Up
Down
Right
Left
RP Motor
24VDC(-)
24VDC(+)
DEN HAAN ROTTERDAM BV
www.dhr.nl
24VDC +
24VDC -

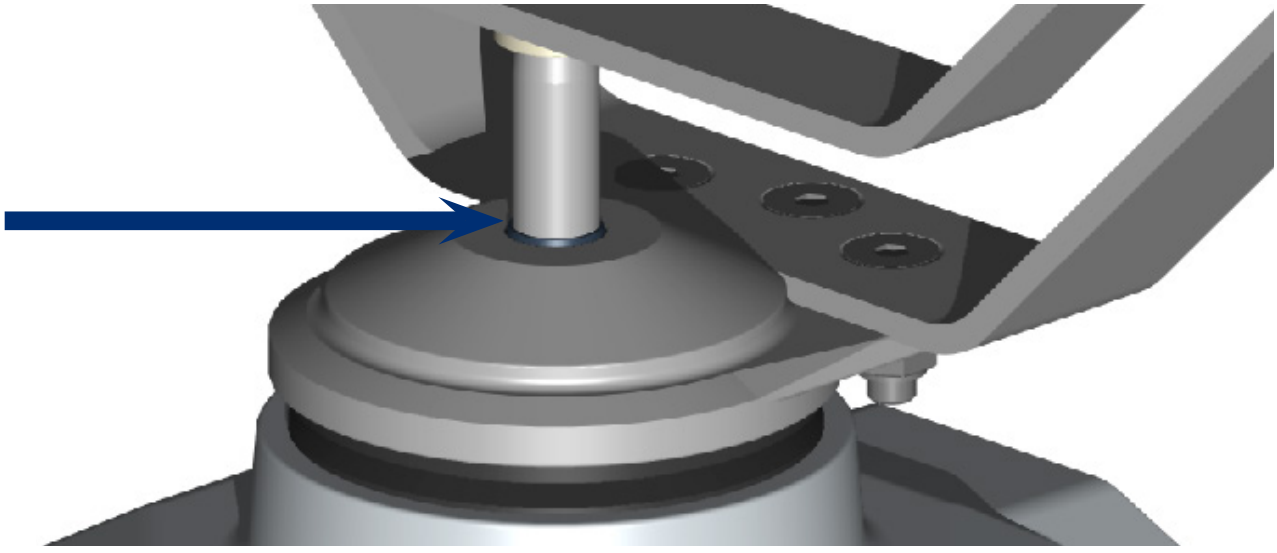
6. MAINTENANCE AND CORRECT USE

Safety notes
- Handle with care
- Turn off main power
- Warning, lamp is hot
- Do not touch the lamp with bare hands

Lamp replacement
1. Switch off the main power
   Caution – hot lamp. Let the lamp cool down for at least 10 minutes before proceeding with maintenance actions
2. Open the drum
3. Remove the lamp from the lampholder
4. Ensure that the replacement lamp is of the same type
5. Take a clean cloth to place the new lamp in the lampholder
   Do not touch the lamp with bare fingers, remove any fingerprints with a cloth and alcohol and rub it dry
6. Check the silicone sealing of the front glass and rub it in with talcum powder
7. Close the drum
8. The searchlight is ready for use

Tips for correct use
- Do not overheat the searchlight - max. burning time 20 min.
- Switch off the searchlight immediately after use, this increases the life expectancy of the bulb
- Do not light-up objects closer than 2 metres
- Clean the searchlight regularly with water
- Do not point the light beam at the eyes of humans or animals

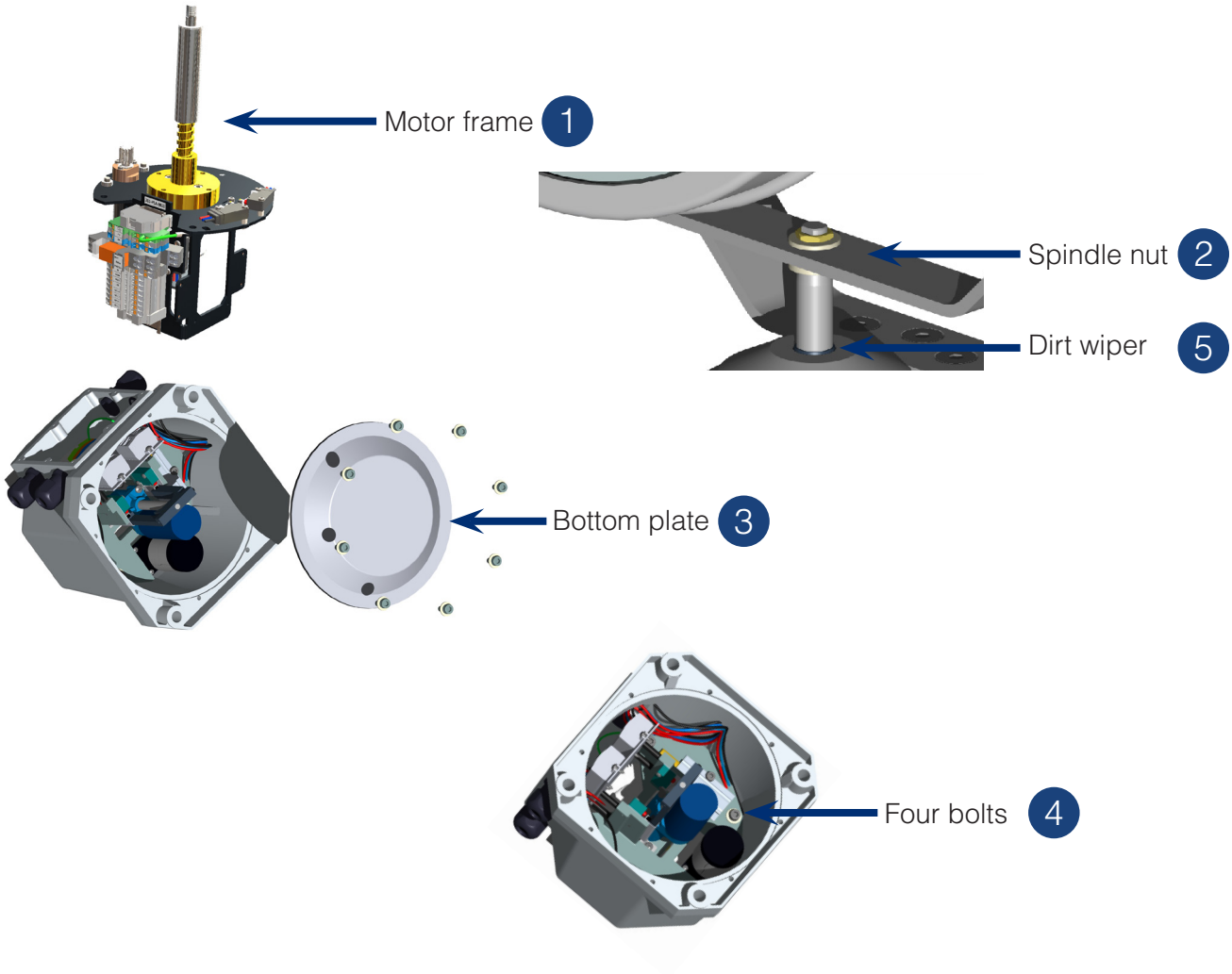
Preventive maintenance
Clean the searchlight with clean water regularly. Do not use any aggressive cleaning agents. At least twice a year rub the dirt wiper, on top of the motor housing (see drawing below), in with silicone grease.



7. REPLACING OF MOTOR FRAME

Motor frame replacement

1. Switch off the main power
2. Open the backplate of the motor housing
3. Disconnect the power cables connected to the motor frame 1
4. Unscrew the four (4) bolts to dismount the searchlight from the base structure
5. Unscrew the spindle nut 2
6. Tilt the searchlight vertically
7. Disassemble the bottom plate 3
8. Unscrew the (4) bolts and carefully remove the defective motor frame 4
9. Slowly insert the new motor frame in the motor housing. ⚠ **Be careful** not to damage the dirt wiper located on top of the motor housing 5
10. Before fixing the (4) bolts of motor frame, the following steps should be taken:
    - **A.** Reconnect the power cables
    - **B.** Turn the motors left/right and up/down using the controls. This is necessary to settle the motor frame inside the motor housing
11. Close the motor housing by mounting the bottom plate
12. Reposition the searchlight and mount it on the base structure
13. Fasten the spindle nut. ⚠ **Do not overtighten it!**
14. Test the searchlight both in vertical and horizontal directions to ensure that the searchlight is functioning properly
15. Searchlight is ready for use



8. RECOMMENDED SPARE PARTS

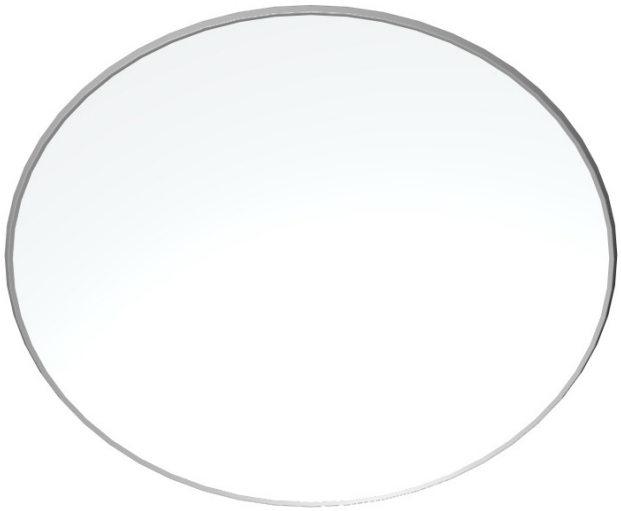
Spare Part		
No	**Description**	**Order code**
1	Halogen lamp 230V/1000W	CP63
2	Lampholder GX 9,5	35001
3	Mirror reflector 320	32099030
4	Front glass c/w Sealing	32099031
5	Motor frame	32099032
6	Control Panel	PAN2019NF



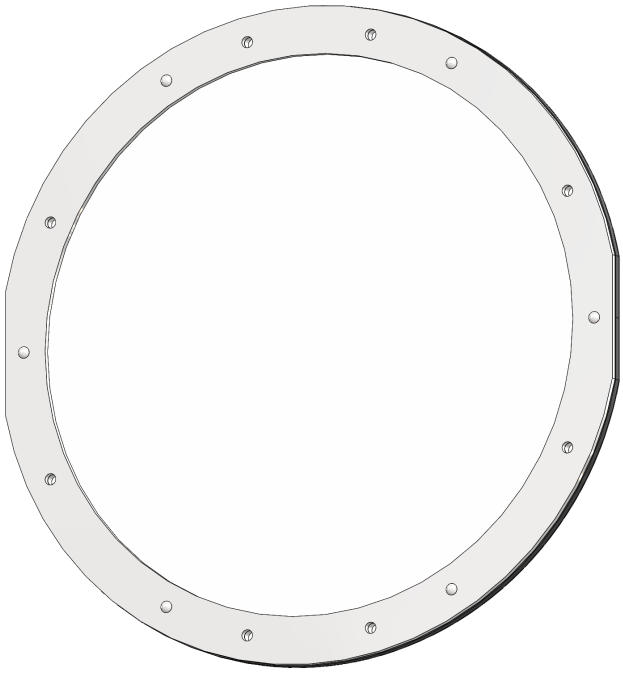
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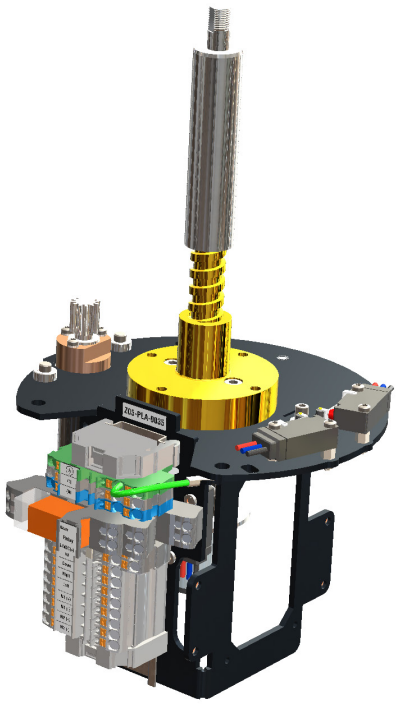
2



3



4



5



6

ADVANCED MARITIME SIGNALLING SOLUTIONS

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