WISKA
make power smile

Operating instructions

Searchlight
SD-2-135

Table of contents

Change history

Date	Description	Reason for change
2026/02/18	SD-2-135 operating instructions	First edition

List of abbreviations

FL	Remote control
IP xy	Ingress Protection, protection class / protection of active parts against contact, ingress of foreign bodies (e.g. dust, dirt), and water
ISO	International Organization for Standardization (International Organisation for Standardisation)
RCU	Remote Control Unit (remote control unit / remote control)
Pan (H)	Pan, horizontal
Tilt (V)	Tilt, vertical

1 About this manual

1.1 Structure and purpose of these operating instructions

The operating instructions are important for installation, maintenance, and operation. They must be observed in order to avoid hazards, reduce repair costs and downtime, and increase reliability and service life.

Read the manual carefully! WISKA Hoppmann GmbH is not liable for damage or malfunctions resulting from failure to observe the operating instructions.

1.2 Users and target groups

These operating instructions are intended for operators, technical personnel, and operating personnel. If a chapter is designed for a specific target group, this will be indicated in the introduction.

Anyone who operates and maintains the product must have read and understood the contents of this operating manual and follow all safety instructions and operating instructions to handle the product safely at all times. Every user must be trained and instructed in the use of the product.

Working on the product without this manual is not permitted.

1.3 Safety instructions

1.3.1 Standard safety instructions

Safety instructions at WISKA are created according to the SAFE principle and derived from the residual risks identified in the risk assessment:

- Keyword
  The keyword indicates the severity of the hazard. (danger, warning, caution, note).
- Type and source of the hazard
  The type and source of the hazard are derived from the EN ISO 12100 standard.
- Consequences
  Indicates the possible consequences of non-compliance.
- Escape or avoidance
  This section lists ways to escape, avoid or prevent the hazard.

Hazard Keyword
Type and source of the hazard Consequences arising from this hazard Escaping and avoiding the hazard.

1.3.2 Structure of safety instructions

The chapter on safety and warning notices describes the structure and use. Before describing a potentially dangerous situation, a warning notice is used to draw attention to this situation, which should be avoided.

DANGER

Danger refers to a hazardous situation that, if not avoided, will result in immediate death or serious injury.

WARNING

Warning refers to a dangerous situation which, if not avoided, could result in death or serious injury.

CAUTION

Caution refers to a hazard with a low degree of risk that, if not avoided, could result in minor or reversible injury to persons.

CAUTION

Caution indicates the possibility of damage to the product and its function.

1.3.3 Embedded safety instructions

In order to avoid interrupting the flow of reading during descriptive activities, additional embedded safety instructions are used for procedural activities. These are as follows:

1. ...take ...
2. ...open...

   ⚠CAUTION

   Burns from hot surfaces.

   Searchlights in operation heat up and can cause burns.

   Ensure that the searchlight has cooled down before starting work.

   Wear suitable personal protective equipment.
3. ...disconnect...
4. ...remove...

✓ The assembly has been removed.

1.4 Labels and symbols

Symbol	Meaning	Use
	Hazard symbol Warns of an immediate danger.	Safety and warning notice
	Hazard symbol Warns of an electrical hazard.	Safety and warning notice
	Hazard symbol Warns of suspended loads when working overhead.	Safety and warning notice
	Mandatory sign De-energize the system before starting work.	Safety and warning notice
	Mandatory sign Observe the operating instructions.	Safety and warning notice
	Mandatory sign Ground before work and use	Safety and warning notice
	Information A qualified electrician is required for installation.	Safety and warning notice

1.5 Personal protective equipment

Symbol	Meaning
	Safety helmet Must always be worn if there are suspended loads in the work area.
	Protective clothing Must always be worn to protect the body from external influences.
	Safety gloves Must always be worn to protect the hands from external influences.
	Safety shoes Must always be worn in the work area.

2 For your safety

2.1 General safety instructions

The following safety instructions must always be followed:

Read the operating instructions thoroughly before using, maintaining, or repairing the product. Failure to do so may result in danger to people and damage to the product.

- Observe all safety instructions in these operating instructions.
- Observe national and local regulations when working on and installing the product.
- In some countries, only licensed companies are permitted to install searchlights.
- Maintenance or repairs may only be carried out by qualified electricians.
- Before starting work, disconnect the electrical system from the power supply and secure it against being switched back on.
- When working on the pan/tilt unit, the system must be disconnected from the power supply, and the remote-control-unit must be disabled.
- The installation position must always be safe and accessible.
- Do not modify products without authorization, as the resulting hazards are unpredictable.
- In addition, unauthorized modifications will void the operating license and warranty of the product.
- Only use original spare parts purchased from WISKA.
- The use of unauthorized spare parts will void the warranty.
- Switch off the device if smoke develops, it becomes very hot or makes noises.
- Do not touch during thunderstorms.
- Only touch the device with gloves at low temperatures or in icy conditions.
- The product may become hot during operation. Only touch the searchlight with suitable personal protective equipment.
- Never look directly into the light source. This can damage your eyes.
- Never point the searchlight at people other than those searched for. They may be dazzled. Eye damage is possible.
- Ensure that no person is in the area of the pan/tilt unit when the searchlight is operated via the remote control.

2.2 Specific safety instructions

WARNING

Risk of glare

- Never look directly into the light source. This may damage your eyesight.
- Switch off the device before performing any work.
- For testing purposes, point the searchlight at water or open terrain.

CAUTION

Risk of crushing, risk of cutting

Limbs can become trapped between the searchlight and the base, resulting in injury.

- Make sure that no persons are in the immediate vicinity of the searchlight before turning or swiveling it.

2.3 Intended use

WISKA searchlights are designed to illuminate floating or distant objects such as obstacles or hazardous areas, or to search for objects or persons floating in the water.

The searchlights have been developed primarily for use on seagoing vessels and for safety applications in coastal areas.

2.4 Foreseeable misuse

The searchlight may only be used for the activities listed in the intended use. All other activities are prohibited.

It is prohibited to illuminate or dazzle people other than those being searched for. The luminosity is so high that people may be injured. It is prohibited to dazzle oncoming or crossing ship traffic or traffic near the shore or to give false signals with it.

The searchlight is not suitable for illuminating rooms on ships or in buildings.

2.5 User qualifications /specialist knowledge

Knowledge of an electrician is required for installation, commissioning, and repair. Technical personnel must have a level of training that enables them to safely connect mechanical and electrical connections and test the function. The searchlight contains two enclosed LED light sources. Suitable means of transport and handling must be ensured for transport. Specialist knowledge as a waste management specialist is required for disassembly and recycling.

2.6 Hazardous areas and hazardous locations

Hazardous areas and locations include, among others:

- Light sources may fail if replaced incorrectly.
- Surface temperatures during and after use.
- Swivel range.
- Operation via RCU, swivel range is not visible.

3 Technical description

3.1 Function and design

The searchlight is used for remote-controlled illumination of the route in shipping traffic or for searching for obstacles or people. It has a power output of 2x135 W. A searchlight is designed to emit as much light as possible onto a target at a great distance. Integrated LED light fields allow switching between focused and floodlight mode. The light intensity can be changed using dimming mode. Switching on and off, as well as dimming, is controlled remotely by the RCU.

The range of the light can be limited by external influences such as fog or precipitation.

The pan/tilt unit is made of stainless steel. The aluminum searchlight heads have cooling fins on the rear. The searchlight heads are attached to the side of the pan/tilt unit and can be rotated and tilted remotely using the RCU-E-S or a computer. A pane of single-pane safety glass (ESG) protects the light source from dirt or damage and protects people in the event of breakage.

The pan/tilt unit can be mounted directly or on bolts on the surface.

The searchlight is connected to the PSUD ballast unit. The ballast unit is used to supply power and interfaces the control of the movements of the searchlight.

3.2 Overview

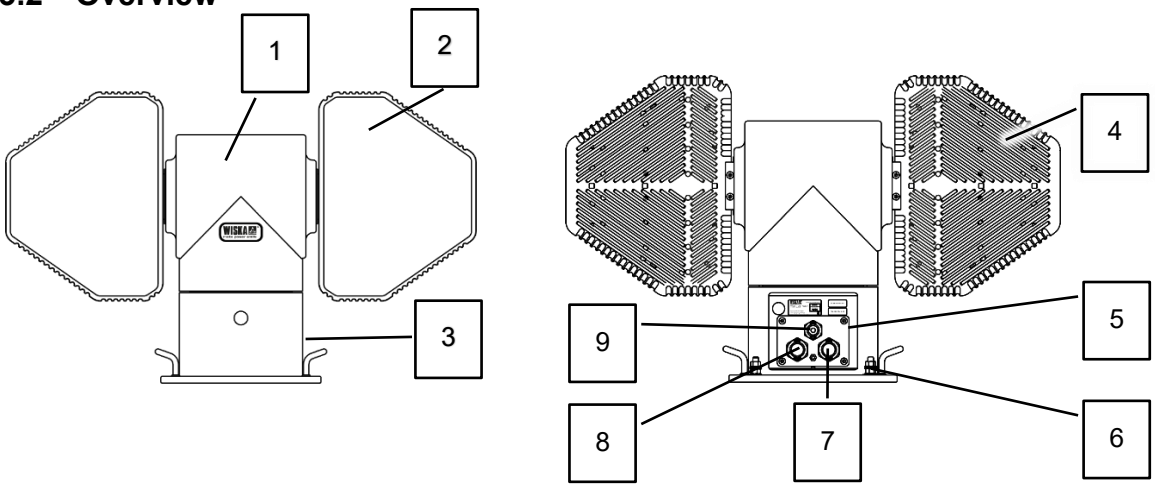


Figure1 Overview SD-2-135 searchlight (front/rear)

Item	Designation	Item	Designation
1	Pan/tilt unit	**2**	Searchlight head
3	Carrying handle	**4**	Cooling fins searchlight head
5	Connection box (cable)	**6**	Ground connection
7-9	Cable glands for power supply, control line, and network connection 9: Control line		
10	PSUD main switch	11	PSUD grounding connection
12	PSUD cable glands		

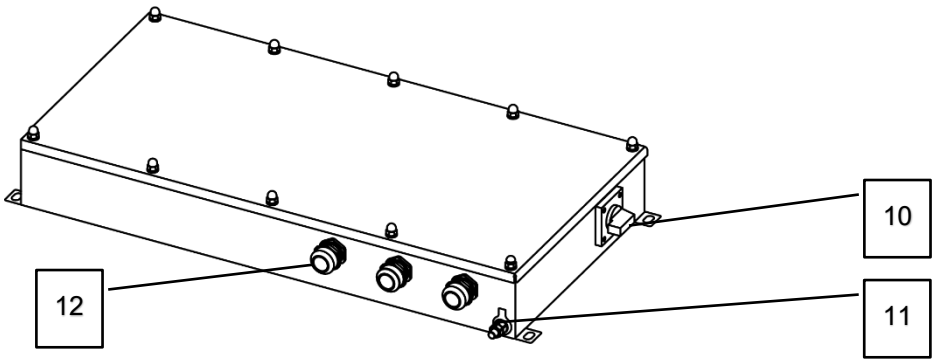


Figure2 Overview of PSUD ballast

3.3 Electric pan/tilt unit

The electric pan/tilt unit is used to tilt and pan the searchlight heads synchronously. These movements are controlled by electrically operated actuators.

3.4 Power supply

PSUD ballast unit

The ballast unit is required for operating the LED Searchlight. It contains the power supply unit for the searchlight and the interface for commands from the remote-control unit. The searchlight is connected to it with several cables. The pan/tilt unit is also powered via this unit.

[Front view] [Side view]

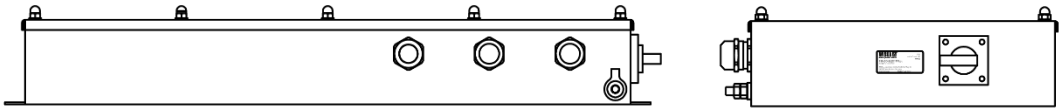


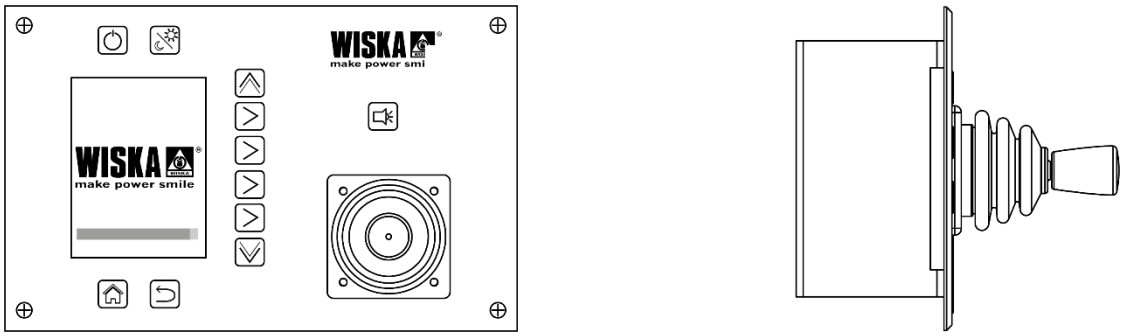
Figure3 Ballast unit

3.5 Remote control unit (optional)

Remote control unit RCU-E-S

To switch the light on and off, to control the pan/tilt unit, and to focus the light beam a separate remote control is required. The remote control unit RCU-E-S is dedicated to control the WISKA searchlights functions (for details please refer to the separate operating instructions).

[Top view] [Side view]



4 Transport, unpacking

WARNING

Risk of injury from suspended loads.

If the product or parts of it come loose, serious injury is likely.

- ➔ Always wear personal protective equipment.
- ➔ Do not step into the swivel range or under the product.
- ➔ Secure the load carefully before unloading and mounting it.

4.1 Transport/Lifting/Moving

Depending on the configuration, the product is delivered on one or more pallets, packed in weatherproof and sturdy packaging.

Check the packaging for any obvious transport damage. If there is any damage, please contact customer service.

Temporary storage in the original packaging material. The searchlight must not be tilted.

Transport the product to the place of use using means of transport suitable for its weight.

4.2 Unpack

1. Loosen the lashing straps on the package.
2. Remove the packaging materials.
3. Take out the product and written information.
4. Dispose of packaging materials properly in accordance with national and local regulations.

✓ The product is now unpacked.

5 Assembly

5.1 Mechanical assembly

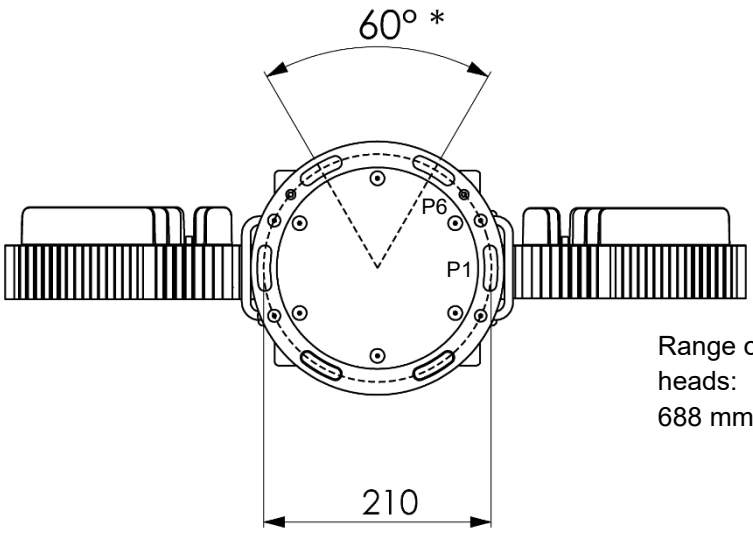
NOTE

Heavy weight
Due to the weight, a second person is required for assembly.

Before starting assembly, determine the tightening torques appropriate for the substrate.

5.1.1 Assembly of the pan/tilt unit

The searchlight is delivered pre-assembled on the pan/tilt unit.



Range of motion of the spotlight heads:
688 mm

Figure4 Mounting holes (hole circle Ø 210 mm)

Mounting the pan/tilt unit

1. If there are no mounting points: Mark a circle with a diameter of 210 mm. Pre-drill at least four holes in this circle.
2. Alternatively, on a ship, fasten 4 to 6 M8 bolts (stainless steel A4 (AISI316L)).
3. Place the searchlight on the holes or bolts and screw it in place with 4 to 6 M8 screws (at least stainless steel A4-70) or nuts and matching washers. Nominal torque: 12 Nm

   ✓ The searchlight is now mounted.

5.1.2 Installation of the PSUD ballast unit

NOTICE

Heavy weight
Due to the weight, a second person is recommended for installation.

Ensure that suitable means of transport are used.

NOTICE

Installation
Secure the device on a plain surface to prevent moisture from entering.

It is recommended to mount the device so, that the cable glands point downwards.

[Top view] [Unit: mm]

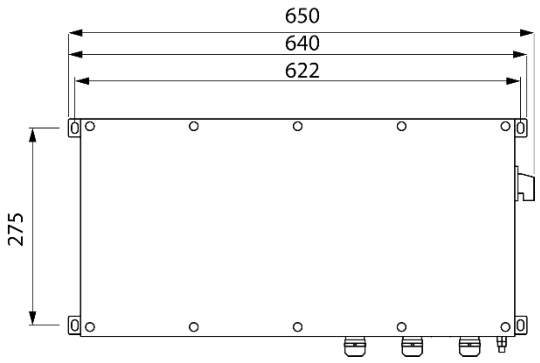


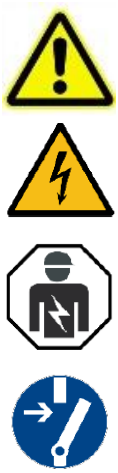
Figure5 PSUD dimensions for mounting

Mounting

1. If there are no mounting points: Mark four holes.
2. If there are no mounting points: Pre-drill.
3. Place the ballast unit over the holes or bolts.
4. Tighten the screws (4 x M8). Nominal torque: 12 Nm

✓ The ballast unit is now installed.

5.2 Electrical connections



DANGER

Danger to life due to electric currents.
Working on open circuits can result in short circuits and ground faults.

- ➔ Work on electrical components may only be carried out by a qualified electrician.
- ➔ Ensure that the system is disconnected from the electrical connection.
- ➔ Secure the power supply against being switched back on.
- ➔ Cover open third-party system components.
- ➔ Short-circuit system components if necessary.
- ➔ Test whether the system is voltage-free.

5.2.1 Electrical connection values

Supply voltage: 230 VAC, 50/60 Hz.

Pre-fuse: Must be installed by the customer in accordance with specifications.

The connections between the remote control unit and the pan and tilt unit can be found in the enclosed circuit diagram or in the chapter 12.4 Electrical connection diagram.

5.2.2 Notes on mains connection

- ➔ The applicable national and international regulations must be observed.
- ➔ The main switch and fuse must be switched off during work.
- ➔ The connection must be made correctly and unambiguously.
- ➔ The correct execution of the neutralization/grounding must be checked (the individual components should be connected to a common grounding point).

5.2.3 Connection

The components of the searchlight must be connected to the PSUD ballast unit. The required cable between the searchlight (standard length: 15 m) and PSUD is included in the scope of delivery and connected on the searchlight side.

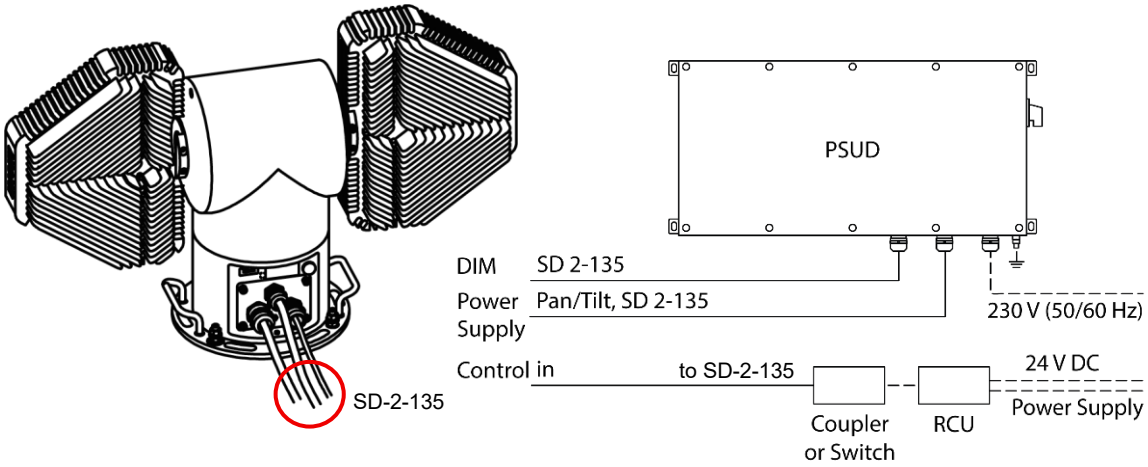


Figure6 Connection principle (example with one RCU)

NOTES

1. The cable from the searchlight is connected to the ballast unit (PSUD).
2. The connection diagram with the pin assignment can be found in chapter 12.4 Electrical connection diagram .

Cable (included in delivery)

Between searchlight and PSUD, fully connected on the searchlight side, 15m.

Additional cables required (not included)

Power cable (220 - 240 V AC, 50/60 Hz) for PSUD: 3x 1.5 mm² to a maximum of 2.5 mm²

Network cable for connecting the RCU-E-S (according to separate system plan, CAT 5e or higher, total length up to 100 m incl. the 15 m cable between searchlight and ethernet port.

Ethernet connection 1:1 between one RCU and one searchlight by coupler. Further devices require additional ethernet switch)

Required network connection (not included):

According to the local network infrastructure (according to separate system plan)

Required tools:

Wire strippers, cable stripper, Phillips screwdriver, flat-head screwdriver, hex key.

5.2.3.1 Connecting the searchlight to the ballast unit

1. Switch off the main switch on the PSUD and the fuse in the supply cable.
2. Unscrew the cover on the top of the PSUD ballast unit.
3. Connect the searchlight:
   a. Cable glands on the PSUD: loosen the cap nut if necessary.
   b. Feed the cable through the cable glands on the PSUD.
   c. Cable 1: 12 x 0.5 mm², 2 wires used (from the searchlight head)
      Cable 2: 7 x 1.5 mm²
      (For details, see chapter12.4 Electrical connection diagram).
   d. Strip the cable ends and strip 8 to 10 mm of insulation from the wires.
   e. Connect the cable (for details, see chapter12.4 Electrical connection diagram)
4. Connect to the network with RJ45 (for details, see chapter12.4 Electrical connection diagram)

✓ Searchlight and pan/tilt unit are connected.

5.2.3.2 Connect the ballast unit to AC mains

1. Prepare the power cable (3x 1.5 mm² to a maximum of 2.5 mm²)
2. If not already done: Switch off the main switch on the device and the fuse in the supply cable.
3. If not already done: Unscrew and remove the cover of the PSUD ballast unit.
4. Feed the cable through the cable glands.
5. Tighten the cable gland/cap nut with the following tightening torque:
   M25: 10 Nm / M20: 8 Nm.
6. The cable cross-section of the supplied cables is adapted to the current and distance.
5. Connect the cables to the terminals according to the circuit diagram. (For details, see chapter12.4 Electrical connection diagram)
7. Place the cover on the PSUD ballast unit and screw it tight.
8. Switch on the fuse and main switch.

✓ The ballast unit is now connected.

✓ The searchlight is ready for commissioning.

5.2.3.3 RCU-E-S connection

Please refer to the operation manual delivered with the remote control unit.

6 Commissioning

WARNING

Risk of glare

The searchlight has an extremely high light intensity.

- Switch off the device before performing any work.
- Never look into the light source. This could damage your eyesight.
- Ensure that no one stands in front of the searchlight when switching it on and during operation.
- For testing purposes, point the searchlight at water or open terrain.

6.1 Before commissioning

1. Check that the installation and connection have been carried out correctly.

   NOTICE

   Reverse polarity will destroy the LEDs.

2. Check that the grounding and neutral current are functioning correctly.
3. Reinsert or switch on the fuses.

6.2 General commissioning

1. Switch the main switch on the PSUD ballast unit to ON. The system is now in standby mode.
2. Continue commissioning as described in the operating instructions for the RCU-E-S remote control unit for searchlights in chapter "6.2 General commissioning".
3. Switching on and off and further control is carried out using the RCU-E-S remote control unit. The information can be found in the separate operation manual of the remote control unit.

7 Operation

WARNING

Risk of glare

- Do not look into the light source. This may damage your eyesight.
- Never point the searchlight at people other than those being searched for.
- Switch off the device before every inspection, maintenance, or repair.
- For testing purposes, point the searchlight at water or open terrain.

WARNING

Risk of burns on the housing

The housing can reach temperatures of over 60 °C.

- Never touch the searchlight housing during operation.
- Cool immediately in case of burns. Seek medical attention if necessary.

7.1 Avoiding problems

NOTICE

Temperature

LEDs become hot during operation. The cooling fins on the back of the searchlight heads reduce the temperature inside the housing by dissipating heat to the outside.

- Allow for a swivel radius of at least 10 cm from the nearest object.

NOTICE

Radiation and function in case of defect

1. LEDs emit UV light, which is dangerous to the eyes.
2. If a searchlight head is damaged during operation, for safety reasons it is no longer possible to operate both heads.

- Have a qualified electrician replacing the defective head.

7.2 Operating the searchlight (with pan/tilt unit)

1. The main switch on the PSUD ballast unit should remain switched on at all times. If it is switched off, switch the main switch on the ballast unit to ON.

   ⚠CAUTION Risk of glare

   Before switching it on, check that no one is standing directly in front of the searchlight.

2. Operation is carried out using the RCU-E-S remote control unit. Operation is described in the separate operating instructions "RCU-E-S remote control unit for searchlights" in chapter "7 Operation".

   ➔ Switching on and off

   ➔ Focused mode

   ➔ Floodlight mode

   ➔ Dimming

8 Troubleshooting

If faults occur in the product, the necessary measures can be determined here in order to provide the operator with troubleshooting measures within the scope of their capabilities.

Error	Cause	Remedy
No light	Fuse blown	Have the electrical circuit checked by a qualified electrician. Only then replace/switch on the fuse.
	Main switch on PSUD ballast off	Switch on the main switch.
	Shortly after a new installation	Have a qualified electrician check the connections for reverse polarity.
	Light source defective	Replace the light source (see 9.3.3).
Problems with the RCU remote control unit		See separate operating instructions for the RCU.
Malfunction or no response	Control board	Switch the main switch off and then on again.
The voltage drops after switching on.	Consumer causes short circuit	Check the consumer.
	Pan/tilt unit defective	Have connections and pan/tilt unit checked by a qualified electrician.

Error	Cause	Remedy
Searchlight cannot be moved in the desired direction.	Joystick defective (RCU)	Check RCU-E-S, replace if necessary, see separate instructions.
	Fuse defective	Replace fuse.
	Control cable defective	Replace control cable.
	Pan-tilt unit defective	Replace pan/tilt unit.
Motor does not switch off after reaching the end position.	Pan/tilt unit defective	Replace pan/tilt unit

9 Maintenance

WARNING

Risk of glare

- Do not look into the light source. This could damage your eyesight.
- Never point the searchlight at people.
- Switch off the device before every inspection, maintenance, or repair.
- For testing purposes, point the searchlight at water or open terrain.

9.1 Maintenance

Maintenance is recommended to maintain functionality over the service life.
Details on the intervals for the individual maintenance and service points can be found in the chapter12.5 Service and maintenance plan .

NOTE

A functional test must be carried out after each maintenance: Check all directions of movement with the joystick or tilt and swivel manually.

Before starting maintenance work

1. Switch off the main switch on the PSUD.
2. Wait until the searchlight has cooled down.

Maintenance

3. Visually inspect the housing and cable entries for damage and heavy soiling.
4. Visually inspect the pan/tilt unit, searchlight head mountings, and mounting screws for damage or rust.
5. Visually inspect the cables, switches, and power plugs for damage.
6. Visually inspect the searchlight heads for damage (cracks, condensation). If necessary, clean them with a slightly damp, clean microfiber cloth.
7. Check for noises (crackling, humming) or hot supply cables.
8. Function test Press the on/off switch on the RCU. This also serves as a function test for the light source.
9. Function test of the pan/tilt unit and focus with the RCU.
10. Visual inspection of the ballast and cable glands.
11. Function test: Press the main switch on the PSUD.
12. Visual inspection to check whether any modifications have been made.

✓ Maintenance is complete.

9.2 Cleaning

Before starting cleaning work

1. Switch off the main switch on the PSUD.
2. Wait until the searchlight has cooled down.

Cleaning

3. Clean the housing surfaces with a clean cloth dampened with water. Do not use harsh cleaning agents.
4. Clean the front glass pane with a clean cloth moistened with water. Use only water or glass cleaner.
5. Check that the closures are tightly closed and that there is no rust/corrosion.
6. Switch on the main switch on the PSUD.

9.3 Repair

DANGER

Danger to life due to electric currents.
Working on open circuits can result in short circuits and ground faults.

- ➔ Work on electrical components may only be carried out by a qualified electrician.
- ➔ Ensure that the system is disconnected from the electrical supply.
- ➔ Secure the power supply against being switched back on.
- ➔ Cover open third-party system components.
- ➔ If necessary, short-circuit the system components.
- ➔ Test whether the system is voltage-free.

9.3.1 Replace searchlight assembly

The light bulb is defective

- if it only flashes a few times without lighting up,
- if parts of a searchlight do not shine or the brightness has decreased significantly,
- if the average service life of 20,000 hours has been exceeded and reliability is no longer guaranteed.

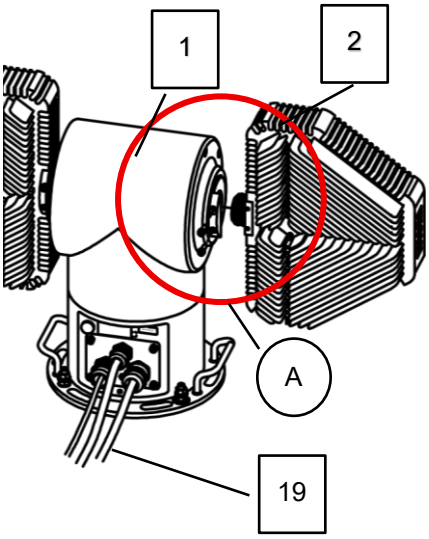
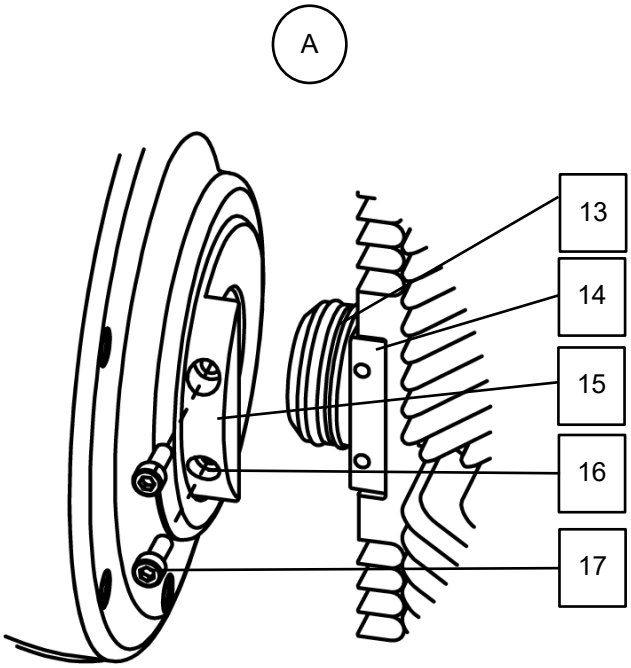


Figure7 Rear view



Detailed view A

Item	Description	Item	Description
1	Pan/tilt unit	**2**	Searchlight head
13	Connecting pin	**14**	M5 thread
15	Flange	**16**	Through hole
17	Connecting screw Type: ISO 4762 stainless steel A4 M 5x12	**18**	Plug
19	Connection cable		

1. Preparation

1. Required tools: M5 Allen key
2. Obtain searchlight assembly (see chapter10).
3. Unpack the searchlight assembly and lay it out ready.
4. Switch off the main switch on the PSUD.

   Ensure that the entire electrical system is de-energized and secure it against being switched back on.

5. Wait until the searchlight has cooled down.

2. Remove the searchlight assembly

6. Loosen the connecting screws [17] on the flange [15] of the pan/tilt unit [1] and set them aside.
7. Carefully pull off the searchlight head [2].
8. Disconnect the connection cable [19] from the plug in the pan/tilt unit [1].
9. Discard the defective searchlight head.
10. The old searchlight head has been removed.

3. Install new searchlight head

11. Position the new searchlight head with the M5 thread [14] behind the flange [15].
12. Connect the connection cable [19] to the plug in the pan/tilt unit [1].
13. Hold the M5 thread [14] and flange [15] flush against each other.
14. Screw the connecting screws [17] through the through hole [16] on the flange [15] of the pan/tilt unit [1]. Tighten to 5 Nm.

    NOTE

    No bending or twisting forces may be applied to the searchlight head during installation.

✓ The new searchlight head is now in place.

Dispose of the old searchlight head properly.

4. Switch on the searchlight

15. Switch on the main switch on the PSUD.
16. Switch on the light on the RCU-E-S remote control unit.
17. Check the light.
18. Check the pan and the tilt function.
19. The searchlight is ready for use.

9.3.2 Replacing components of the pan-tilt unit

9.3.2.1 Replacement kits for Pan/Tilt Unit and their components

Pos	Designation	Hint	Art.-Nº.
1	**SP-SD-FL2024 Engine Unit PAN or TILT (H)(V)**		22001483
	1.1 ISO 4762 - M6 x 8-A2 2	**B**	
	1.2 Nord Lock Scheibe NL6 flZn	**A**	
	1.3 ISO 4762 - M6 x 50 12.9 flZn 2	**A, B**	
2	**SP-SD-FL2024 Electric Unit incl. PTCU12**		22001484
	2.1 ISO7380 - M5 x 6-A2 2	**B**	
3	**SP-SD-FL2024 Slip Ring PAN (H)**		22001485
	3.1 Adapterring für Schleifring 1		
	3.2 ISO4762 - M5 x 20-A4 3	**B**	
4	**SP-SD-FL2024 Slip Ring TILT (V)**		22001486
	4.1 ISO 4762 - M6 x 8 - A4 3	**B**	
6	**SP-SD-FL2024 Sealing for flange TILT (V) A C**	**A, C**	22001516
	6.1 USIT-Scheibe M6 - 10 x 6,7 x 1-A4 6	**A**	
	6.2 ISO 4762 - M6 x 20 - A4 6	**B**	
7	**SP-SD-FL2024 Bottom cover with sealing**		22001517
	7.1 USIT-Scheibe M5 - 10 x 5,7 x 1-A4 6	**A**	
	7.2 ISO 7380 - M5 x 10-A4 6	**B**	
8	**SP-SD-FL2024 Passive flange TILT (V)**		22001518
9	**SP-SD-FL2024 Active flange TILT (V) RAL9016**		22001519
10	**SP-SD-FL2024 Clutch shore 80 blue TILT V**		22001520
11	**SP-SD-FL2024 Positioning sensor kit**		22001521
	11.1 ISO 7380 - M3 x 6 - A4 2	**B**	
12	**SP-SD-FL2024 Cable mounting plate** with cable harness		22001522
13	**SP-SD-FL2024 Scissor gear PAN (H)**	**C**	22001523
	13.1 ISO 4762 - M4 x 35-A2 3	**A,B**	
	13.2 Nord-Lock-Scheibe NL4 flZn 3	**A**	
	13.3 Adapterstück für Scherenzahnrad 1		
14	**SP-SD-FL2024 Gear cover TILT (V)**		22001524
	14.1 ISO 4762 - M6 x 8-A2 2	**B**	

HINTS

Sealing: Whenever a side cover on the pan/tilt unit is opened, a new gasket (6)* must also be installed. This is the only way to prevent water from entering
* Art. Nr. 22001516, SP-SD-FL2024 Sealing for flange TILT (V)

A: The part must be replaced; reinstallation is not permitted (included in the scope of delivery)

B: The fastener must be secured against loosening using an approved threadlocker

C: The component must be lubricated with an approved grease during installation to ensure damage-free installation and reliable operation

1. **Replacement Sealing for flange (6) – left side or right side**
   (One replacement kit covers one side at the pan-tilt unit)

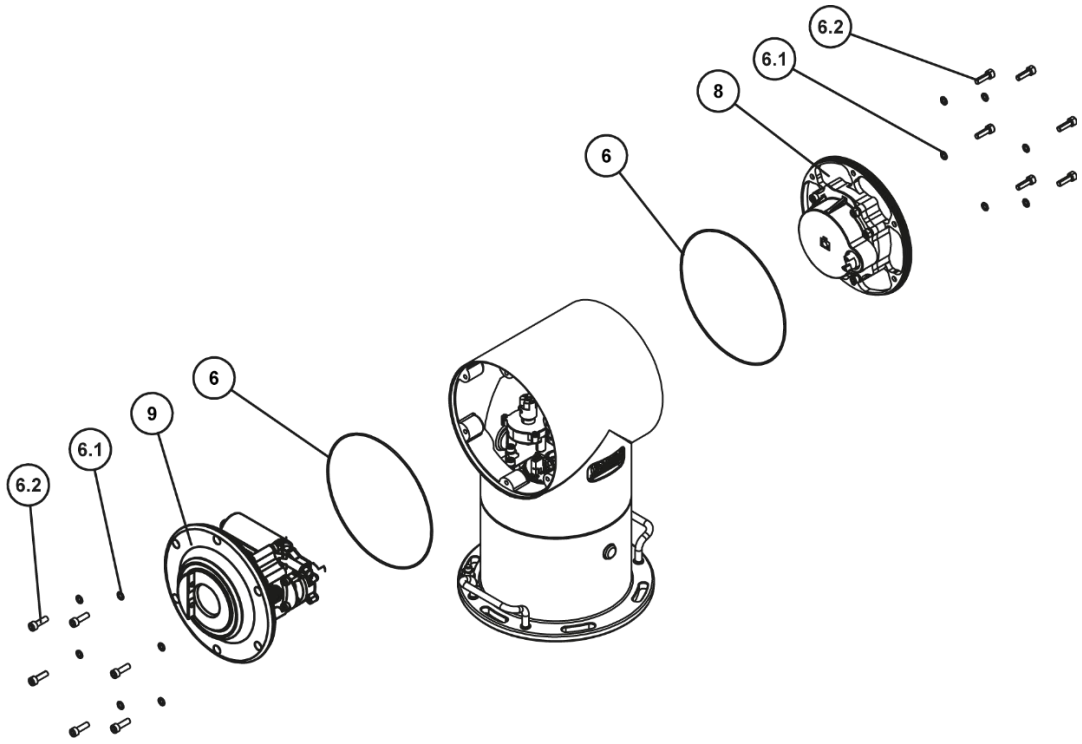


Figure 8 Exploded view of Pan/Tilt unit with Sealing for flange

2. **Replacement Active Flange Tilt(9)**

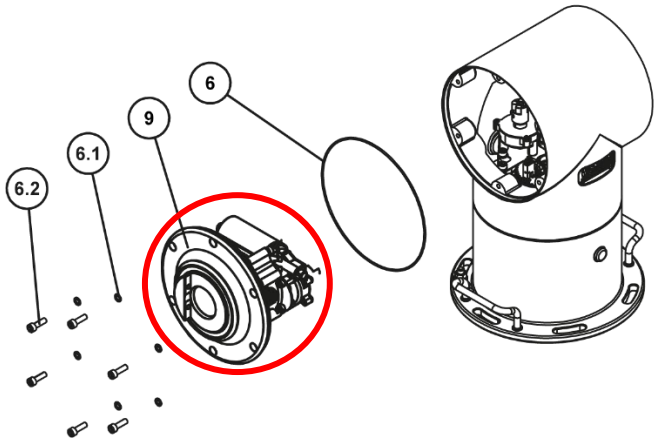


Figure 9 Exploded view of Pan/Tilt unit with Active flange tilt und Sealing for flange

3. **Replacement**
   a. Cable Mounting Plate (12) und/ oder
   b. Slip Ring Tilt (V) (4) und/ oder

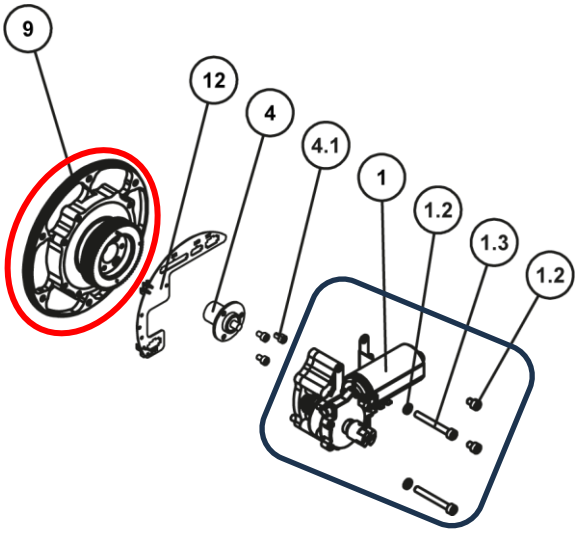


Figure 10 Exploded view of Active flange tilt

c. Engine Unit PAN or TILT (1)

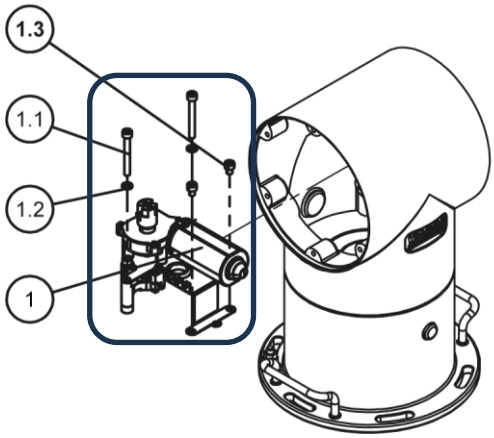


Figure 11 Exploded view of Pan/Tilt unit with Engine unit

d. Positioning Sensor Kit (11)

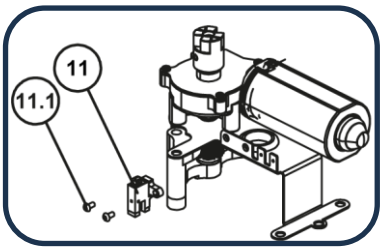


Figure 12 Engine unit pan or tilt with Positioning sensor kit

4. Replacement Scissor Gear Pan (H) (13)

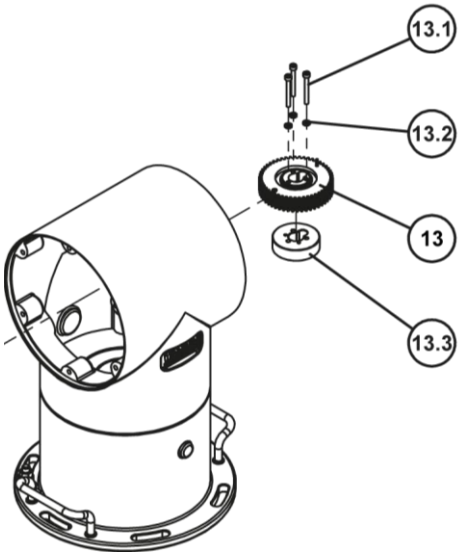


Figure 13 Exploded view of Pan/Tilt unit with Scissor gear pan

5. Replacement

a. Passive flange tilt (8)

b. Clutch shore 80 blue tilt (V) (10)

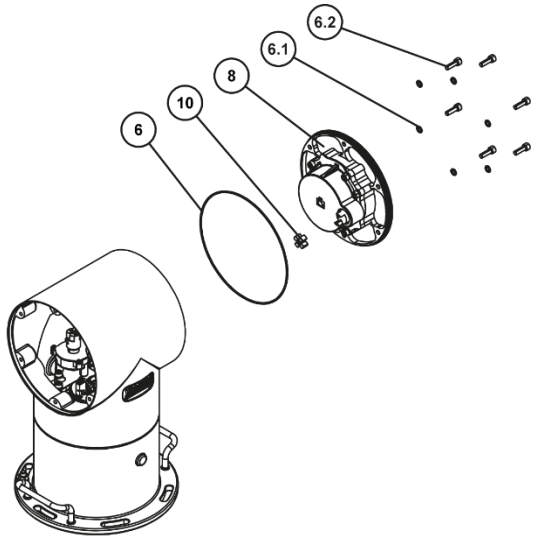


Figure 14 Exploded view of Pan/Tilt unit with Passive flange tilt and Clutch shore

c. Gear Cover Tilt (14)

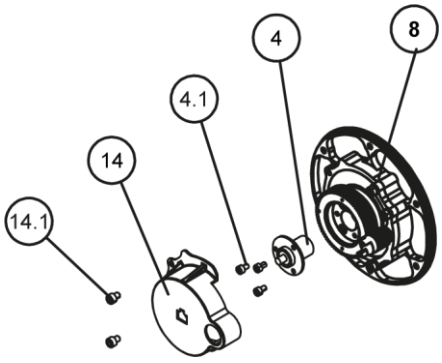


Figure15 Exploded view of passive flange tilt with gear cover tilt and slip ring tilt

6. **Replacement**
   a. Bottom cover with sealing (7)
   b. Electric Unit incl. PTCU12 (2)
   c. Slip Ring PAN (H) (3)

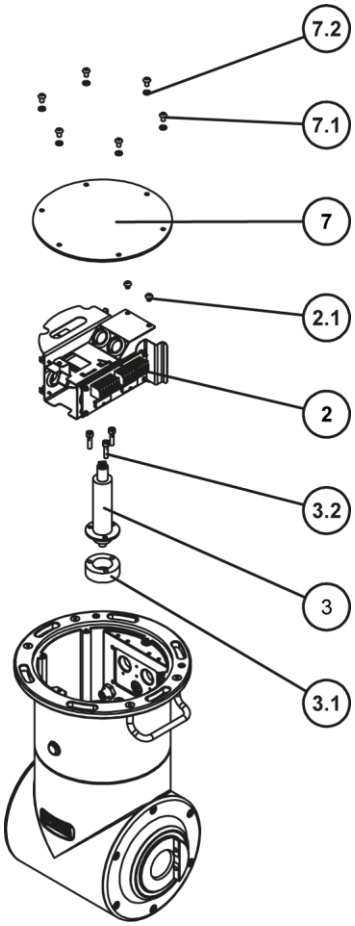


Figure 16: Pan/tilt unit – bottom view

10 Spare parts

The following spare parts are available. The spare parts are supplied with the corresponding installation instructions.

No.	Description	Item
1	SP-SD-FL2024 Engine Unit PAN or TILT (H)(V)	22001483
2	SP-SD-FL2024 Electric Unit incl. PTCU12	22001484
3	SP-SD-FL2024 Slip Ring PAN (H)	22001485
4	SP-SD-FL2024 Slip Ring TILT (V)	22001486
5	SP-SD-SLED Searchlight Head	22001513
6	SP-SD-FL2024 Sealing for flange TILT (V)	22001516
7	SP-SD-FL2024 Bottom cover with sealing	22001517
8	SP-SD-FL2024 Passive flange TILT (V)	22001518
9	SP-SD-FL2024 Active flange TILT (V) RAL9016	22001519
10	SP-SD-FL2024 Clutch shore 80 blue TILT V	22001520
11	SP-SD-FL2024 Positioning sensor kit	22001521
12	SP-SD-FL2024 Cable mounting plate	22001522
13	SP-SD-FL2024 Scissor gear PAN (H)	22001523
14	SP-SD-FL2024 Gear cover TILT (V)	22001524
15	SP-SD-PSUD Mounting plate SLED17F KPL	22001533

Note: A remote control unit is required to operate the searchlight. In case it's operating instructions went lost, the latest version can be found on the WISKA website: www.wiska.com, article no. 50110228.

11 Disposal and decommissioning




DANGER

Danger to life due to electric current

Working on open circuits can result in short circuits and ground faults

- Only authorized personnel may open the housing.
- Secure the power supply against being switched back on.
- Cover open third-party system components.
- If necessary, short-circuit the system components.
- Test whether the system is de-energized.
- Disconnect the device from the power supply before opening it.

11.1 Disposal

Electrical components contain valuable resources or environmentally hazardous substances. Defective parts must either be disposed of properly or returned to WISKA. The address is on the back of this manual.

11.2 Decommissioning

Decommissioning or taking the product out of service:

1. Follow the safety and warning instructions on the product and in the accompanying documentation.
2. Switch off the product.
3. Disconnect the product from the power supply.
4. Dismantle product/system components that are to be decommissioned.
5. Send dismantled system components for further use or disposal.

✓ The system or system component has been decommissioned.

11.3 Storage

Dismantle components for temporary storage of the product.

- Pack the dismantled components and protect them against moisture and external damage.
- Label the components for better identification.
- Check stored components at regular intervals to ensure they are complete and in proper condition.
- Store in a location protected from water and dust.
- Store the components in a closed location.

12 Technical data

12.1 Specifications

SD-2-135 Searchlight head on pan/tilt unit

Light source	LED
Light intensity	2 x 1.7 million cd (searchlight mode)
Range [1 lx]	1850 m (searchlight mode)
Lamp power	2 x 100 W (searchlight) 2 x 135 W (floodlight), and pan/tilt unit 100 W max.
Beam angle	3° I/10 narrow beam (searchlight), 30° I/10 wide beam (floodlight)
Luminous flux	2 x 8000 lm (searchlight), 2 x 18000 lm (floodlight)
Average system lifetime	20,000 h (L80B10 @ 45°C)
Color temperature	5000 K
Color rendering index	>70
Power supply	From PSUD
Area of application	Outdoor
Installation	On deck (upside/downside)
Protection	IP66 / IP68 (0.2 bar; 30 min.)
Temperature	-25 °C to +45 °C
Network capability	LAN (Ethernet 802.3)
Functions	Switching between floodlight and searchlight, dimming Pan 360°, tilt 360°, endlessly
Cable glands	2x M25, 1xM20 Type EMSKV-Z
Dimensions (WxHxD)	690 mm x 430 mm x 240 mm (Searchlight heads in starting position)
Housing color	RAL 9016
Material	Stainless steel / aluminum
Weight	35 kg (without connection cables)

PSUD ballast unit (power supply)

Operating voltage	230 V AC (198–264 V)
Operating frequency	50/60 Hz
Power	Max. 600 W
Output voltage	24 V DC (pan/tilt unit), 110 V DC and 180 V DC (Searchlight)
Overvoltage protection	4 kV
Protective circuit	Short circuit, overheating
Network connection	WISKA Smart LAN
Cable glands	3x M25 EMSKV-Z
Average system life	50,000 h
Protection against external mechanical stress in accordance with EN/IEC 62262	IK08
Area of application	Indoor/outdoor
Protection	IP66
Temperature	-25 °C to +45 °C
Mount	Wall
Weight	15 kg
Dimensions (WxHxD)	650 mm x 340 mm x 100 mm
Material	Stainless steel
Color	RAL 9016

12.2 Type plates

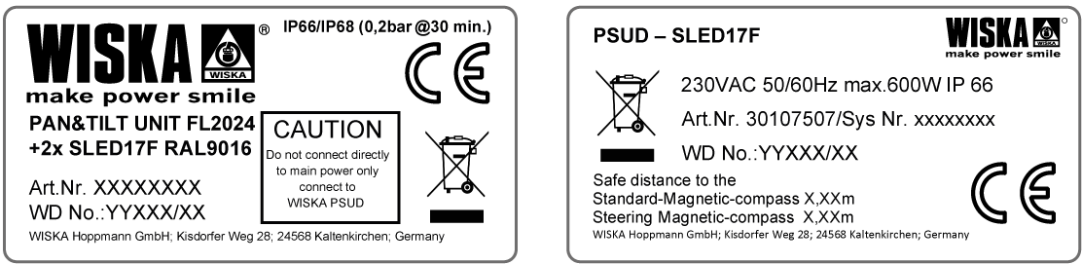


Figure16 Type plates SD-2-135, PSUD

12.3 Dimensions

[Unit: mm]

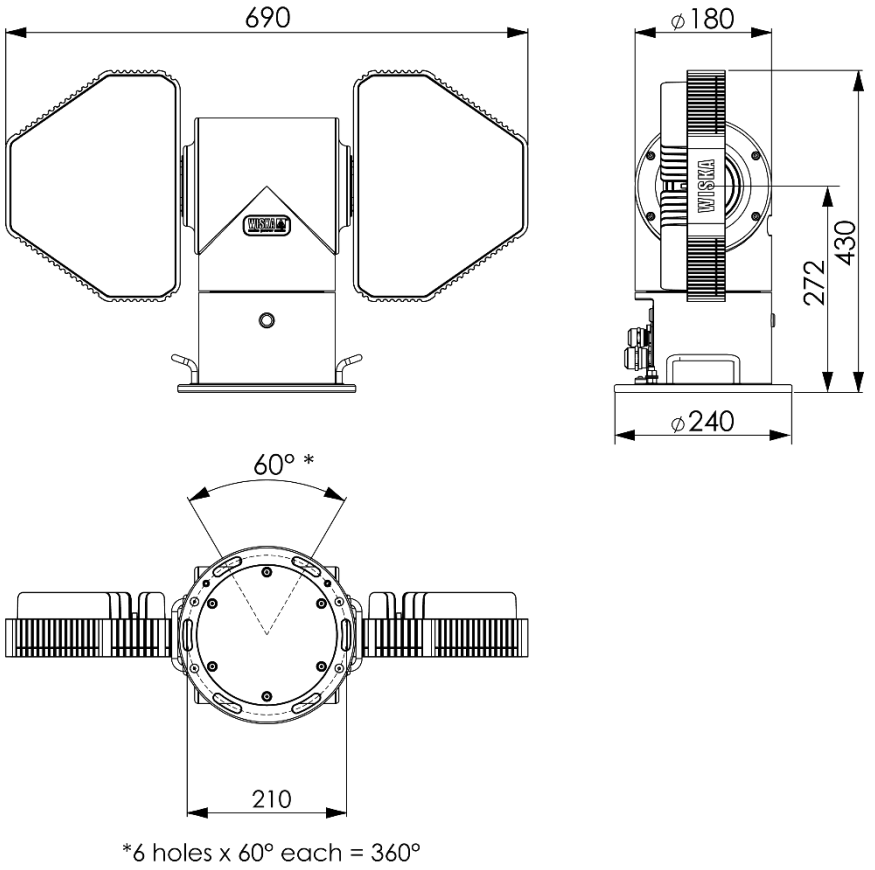


Figure17 SD-2-135 searchlight

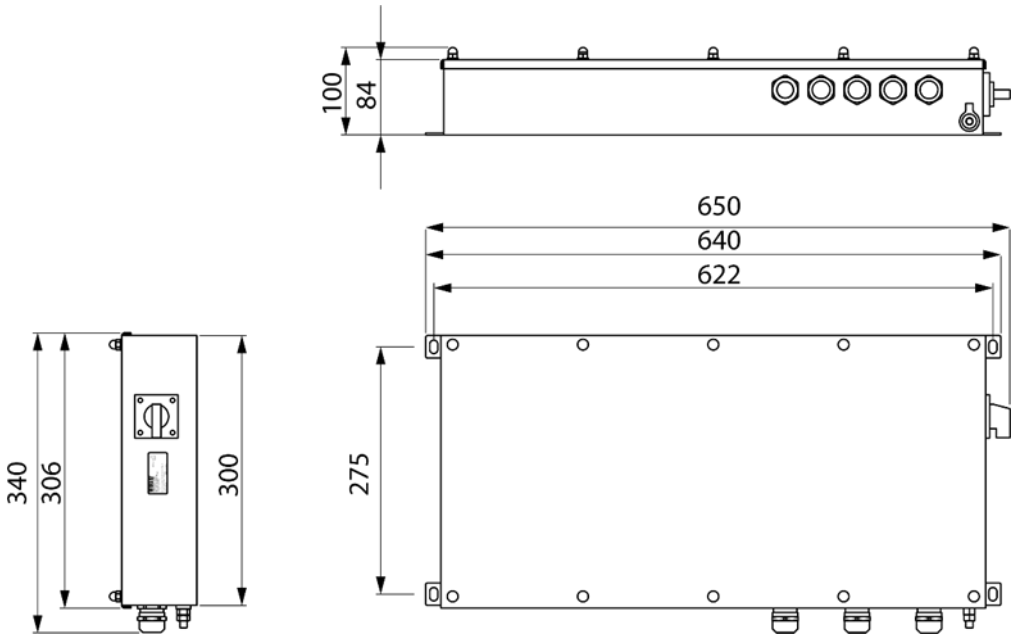
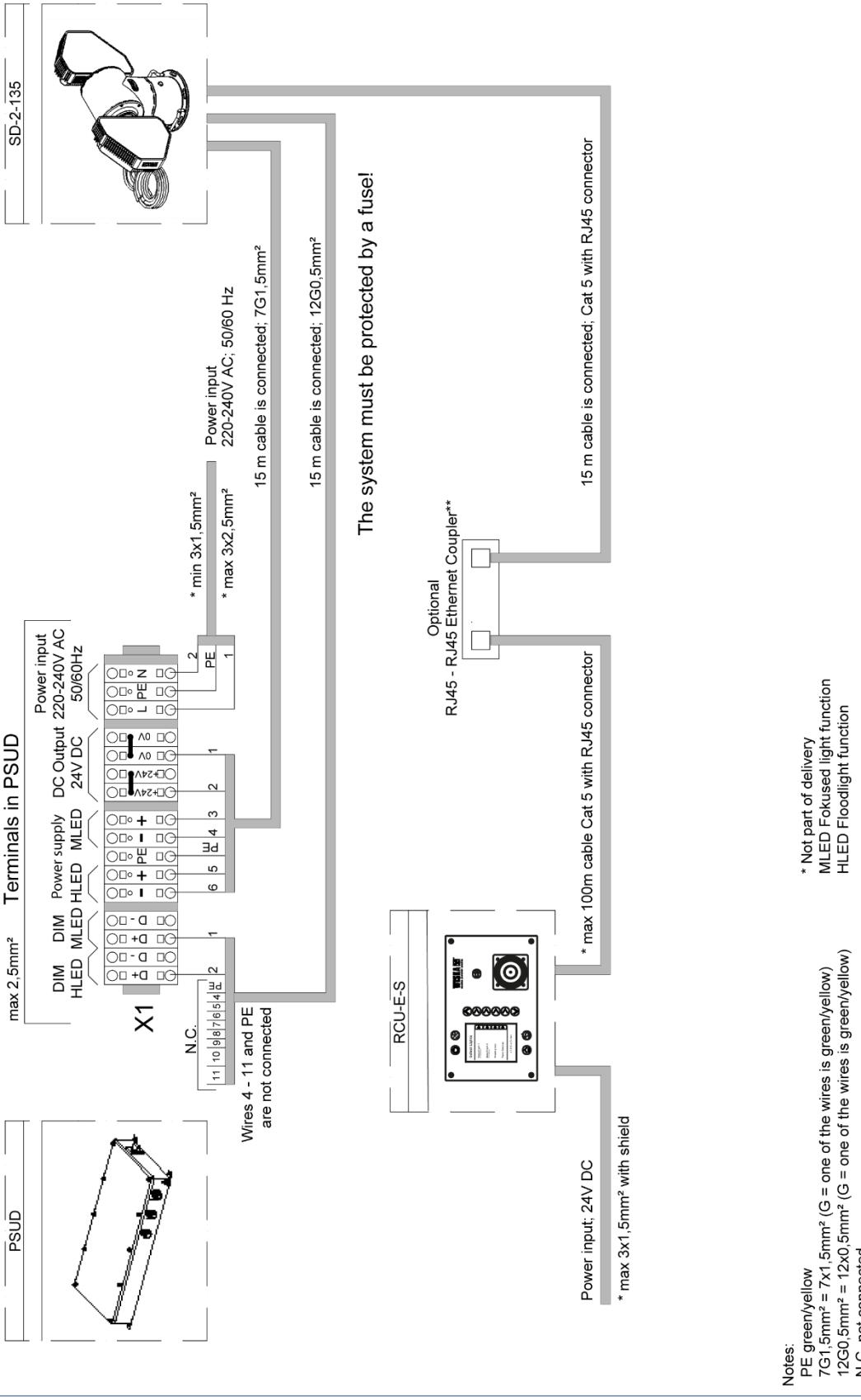


Figure18 PSUD ballast unit

12.4 Electrical connection diagram



12.5 Service and maintenance plan

SERVICE AND MAINTENANCE SCHEDULE
SD 2-135 SEARCHLIGHT

WISKA make power smile

X Personnel
Qualification equivalent to deck crew
◆ Specialist required.
Qualification equivalent to engine room personnel or electrical specialist

Component	Test	Type of test	Required knowledge	Storage	Installation	Commissioning	Recommissioning	During operation: Before each trip	During operation: Every 3 months	During operation: min. 1x/year
Light	Function	Visual inspection	Personnel		x	x	x	x		
Focus	Function	Visual inspection	Personnel		x	x	x	x		x
Housing	Damage	Visual inspection	Personnel	x	x	x	x		x	
	Check for water ingress	Visual inspection	Personnel		x	x	x			x
	Front glass/reflector	Visual inspection	Personnel			x		x		
	Swivel/tilt	Function test	Personnel		x	x	x	x		
	Closures	Visual inspection	Personnel		x	x	x		x	
Fastening elements	Damage	Visual inspection	Personnel	x	x	x	x			x
	Seat of the screws	Function test	Personnel		◆	x	x		x	
Pan/tilt unit	Damage	Visual inspection	Personnel	x	x	x	x			x
	Tightness	Function test	Qualified electrician		◆	◆	x			◆
	Replace seal if necessary	Function test	Qualified electrician		◆	◆	◆			◆
RCU	Display function	Visual inspection	Personnel		x	x	x	x		
	Joystick function	Function test	Personnel		x	x	x	x		
	Switch function	Function test	Personnel		x	x	x	x		
PSUD	Cracks/damage	Visual inspection	Personnel	x	x	x	x			x
	Tightness	Functional test	Qualified electrician		◆	◆	x			x
	Check the seat of the cable glands	Function test	Personnel		◆	◆	x			x
	Seal undamaged	Visual inspection	Personnel		x	x	x			x

● Work can be done by qualified staff ▼ Work should be done by a specialist

SERVICE AND MAINTENANCE SCHEDULE
SX450 SEARCHLIGHT

X Personnel
Qualification corresponding to deck personnel

♦ Specialist required.
Qualification corresponding to engine room personnel.

Component	Examination	Type of examination	Required knowledge	Storage	Installation	Commissioning	Recommissioning	During operation		
								Before each trip	Every 3 months	min. 1x/year
Connection cables	Damage to connecting cables	Visual inspection	Qualified electrician	x	♦	♦	x			♦
	Damage to insulation	Visual inspection	Qualified electrician	x	♦	♦	x			♦
	Proper selection/ use of cables and plugs	Suitability test	Qualified electrician		♦	♦				
	Condition of the power plug, connection terminals, and wires	Visual inspection	Qualified electrician		♦	♦	♦			♦
	Bending radii not observed	Visual inspection	Qualified electrician		♦	♦				
	Defects in the strain relief of the connection cable	Visual inspection	Qualified electrician		♦	♦				
	Condition of fastenings, cable and fuse holders accessible to end users	Visual inspection	Qualified electrician		♦	♦	x			♦
	Signs of overload or improper use/operation	Visual inspection	Qualified electrician		♦	♦	x			♦
	Signs of unauthorized tampering or modifications	Visual inspection	Qualified electrician		♦	♦	x			♦

x = Work can be done by qualified staff ♦ = Work should be done by a specialist

13 Declaration of conformity and certificates

13.1 CE Declaration of Conformity

CE

EU DECLARATION OF CONFORMITY

CE

WISKA Hoppmann GmbH
Kisdorfer Weg 28
24568 Kaltenkirchen
Germany

KCE3-25003-0

Declares under its sole responsibility that:

Product designation:	Searchlight
Type designation:	SD-2-135 with PSUD
Description:	LED Searchlight for electrical installation

corresponds to all the relevant provisions of the directives listed below and valid harmonized and / or international and national standards - including all applicable changes at this time of issuing this document.

Regulation	Standard
2014/35/EU Electrical apparatus (Low voltage directive)	EN IEC 60598-1:2021/A11:2022 EN 60598-2-5:2015 EN IEC 61347-1:2024
2014/30/EU Electromagnetic compatibility (EMC Directive)	EN IEC 61000-3-2:2019 + A1:2021 EN 61000-3-3:2013 + A1:2019 + A2:2021 + A2:2021/AC:2022 EN IEC 55015:2019 + A11:2020 EN IEC 61547:2023
2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)	EN IEC 63000:2018

WISKA Hoppmann GmbH
Kaltenkirchen, Germany

2026-02-13

Head of Engineering & Design

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