WISKA®
make power smile

Operating instructions

Day Signaling Searchlight
HML-ISO LED

Change history

Edition	Rev.	Date	Chapter	Remark
1	0	19.06.2024	All	Creation
1	1	06.08.2024	11.4 1.4	Correct Standard Spelling correction
1	2	26.08.2024	12.3	Certificate added
1	3	02.12.2024	11.5.3 cover	Charger added, new cover photo
1	3.1	11.02.2025	12.3	Certificate with new charger
1	3.2	23.05.2025	3.2, 11.1	Typing errors corrected

Always keep the operating instructions to hand with the appliance.

List of abbreviations

HML-ISO LED	Day signalling searchlight
Lux	Lux is the illuminance of an illuminated surface. Lux is therefore luminous flux in lumens per square meter.
Cd	Candela; unit of measurement for luminous intensity
CE	Declaration of conformity in the European Union
SP	Spare part

Table of contents

1 About these instructions

1.1 Structure and purpose of these instructions

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

Read the instructions carefully! WISKA Hoppmann GmbH is not liable for damage and malfunctions caused by failure to observe the operating instructions.

1.2 Users and target groups

These operating instructions are intended for operators, specialist personnel and operating personnel.

Every person who operates and maintains the product must have read and understood the contents of these operating instructions and must follow all safety instructions and handling instructions to handle the product safely. Provide appropriate product training and instructions to each user.

You may not work on the product without these instructions.

1.3 Safety instructions

WISKA safety instructions are based on the SAFE principle and derived from residual hazards in the risk assessment:

- Keyword
  The keyword reflects the gravity of the hazard (danger, warning, caution, note).
- Type and source of the hazard
  The type and source of the hazard derive from the standard DIN EN ISO 12100.
- Consequences
  Shows the possible consequences of non-compliance.
- Escaping from or avoiding the situation
  That lists how to avoid or evade the hazard.

Keyword
Nature and source of the hazard The consequences arising from this hazard Escape and avoid the hazard.

1.4 Structure of safety instructions

The chapter describes the setup and use of the safety instructions. Before describing a potentially dangerous situation, a warning indicates the situation to be avoided.

DANGER

Danger refers to a hazardous situation that can result in imminent death or severe injury if not avoided.

WARNING

Warning refers to a hazardous situation that may result in death or severe injury if not avoided.

CAUTION

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

ATTENTION

Attention indicates the possibility of material damage to the product and its function.

1.5 Labels and symbols

Icon	Meaning	Use
	Hazard symbol Warns of an imminent danger.	Safety and warning notice
	Hazard symbol Warns of an electrical hazard.	Safety and warning notice
	Commandment sign Disconnect the system from the power supply before working on it.	Safety and warning notice
	Commandment sign Observe the operating instructions.	Safety and warning notice
	Information Installation only by a qualified electrician.	Safety and warning notice

2 For your safety

Always follow these safety precautions:

- Read these instructions fully before using, maintaining or repairing the product. Failure to do so may place people and the product at risk.
- Only qualified electricians may perform service or repair work.
- Do not modify the products without prior authorization; the resulting hazards are not foreseeable.
- Unauthorized modifications invalidate the operating permit, approval, and warranty of the product.
- The use of unapproved spare parts cancels the warranty.
- Never look straight into the light source. You may have damage to your eyes.
- Always follow all safety instructions in these operating instructions.
- Observe the national and local regulations when working on and repairing the product.

2.1 Intended use

The WISKA day signalling searchlight is designed to transmit light signals and emergency signals.

The range (1 lux at the target) of the spotlight is 275 meters.

The searchlight has been developed for use on seagoing vessels over 150 gross register tons in accordance with SOLAS and for safety applications in coastal areas.

It fulfills the requirements of the Marine Equipment Directive MED 2014/90/EU (Daylight signalling lamp A.1/4.52). The certificates are described in chapter 12 Supplier documentation and certificates.

2.2 Foreseeable misuse

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

Due to its high luminosity, it must not be used at close range to dazzle/illuminate people.

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

2.3 Warranty

If there is a defect in your product, please contact WISKA Service.

2.4 Qualification of users/expertise

These operating instructions apply to operators, technical personnel and operating personnel.

Every person who operates and maintains the product must have read and understood the contents of these operating instructions and must follow all safety instructions and handling instructions to handle the product safely. Provide appropriate product training and instructions to each user.

You may not work on the product without these instructions.

A qualified electrician is required to connect electrical components. Observe the regional and national regulations and guidelines.

Professional knowledge as a specialist in waste management is needed for recycling of the lead battery.

2.5 Danger areas and danger points

Danger areas or danger points are, among others:

- Button (pinching the skin).
- Observe the protective distance to the compass.

2.6 Battery

- Protect the battery from fire, heat, and sunlight.
- Do not short-circuit.
- Do not open. If gel or acid gets on the skin, immediately rinse with clean water, and consult a doctor.
- Follow the enclosed instructions for handling the lead battery.

2.7 Specifications for operation

The day signalling searchlight has a DNV approval. Please note: Sufficient replacement lamps must be available on board for the day signalling searchlight.

Only use batteries, LED modules and chargers from WISKA Hoppmann, as these are approved with the day signalling searchlight.

After 10000 operating hours, the LEDs must be replaced. The red LED on the searchlight flashes. This ensures that the remaining brightness is sufficient and complies with the provisions of MSC95(72).

3 Technical description

3.1 Product overview

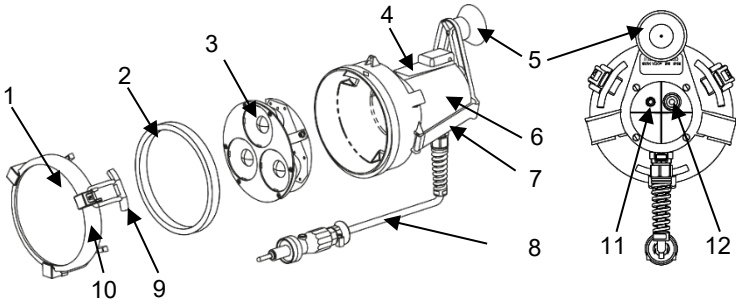


Figure 1a Overview of day signalling searchlight head

Pos.	Designation
1	Glass pane
2	Gasket
3	LED module with 3 LED spots
4	Signal button
5	Target device
6	Housing
7	Retaining lugs
8	Cable with plug (to battery)
9	Tension fasteners
10	Front frame
11	Status indicator
12	Function switch

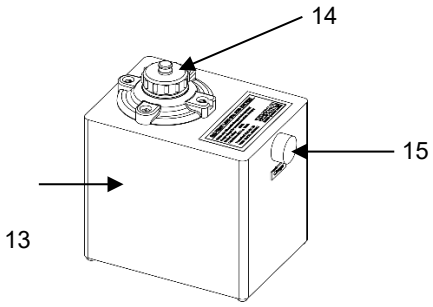


Figure 1b Overview of power pack

Pos.	Designation
13	Power pack
14	Connection socket
15	Charging socket for the battery charger
No picture	Battery charger

3.2 Function and design

Daytime signal searchlights

The portable day signalling searchlight is used as an emergency signal device or for sending light signals over longer distances. The range is 4062 m during the day and 17700 m at night.

The performance of a searchlight can be limited by external influences such as fog or precipitation.

It is equipped with an LED module with 3 LED spots. If one or two LED spots fail, the light intensity remains the same. All intact LED spots become correspondingly brighter.

The device can be operated with the battery or connected to the on-board power supply via an optional concentric socket. It can be operated with an operating voltage of 12 - 24 VDC.

Power pack	The power pack contains the battery (battery) in a housing and the connection socket for the cable (7).
Charger	The charger is used to charge the battery of the day signalling searchlight. The charging current can be adjusted using various modes.
Housing	The searchlight housing, made of fiberglass-reinforced plastic, is equipped with opening options. A wrist strap on the side is used for holding.
Front frame	The front frame is attached to the housing with tension locks. The lens is inserted into the front frame to protect the light source. The front panel is made of polycarbonate (PC).
Light source	The light sources are LED spotlights arranged in threes on an LED module (3). The light color corresponds to the values required by the standard.
Operating hours counter	The brightness of LED spotlights decreases due to ageing. The operating hours counter indicates after 10,000 hours that the LED module needs to be replaced. This ensures that the remaining brightness is sufficient and complies with the provisions of MSC95(72).
Scope of delivery	Depending on the scope of delivery of the selected product, the device is supplied in a case or bag or as a set with a case and filters in red, green, and blue.
Optional	A concentric socket is available for installation for operation on the vehicle electrical system with 12 VDC or 24 VDC (see section 9 Spare parts).

4 Transport, unpacking

4.1 Transportation and lifting

Depending on the order, the product comes in a parcel or on a pallet, for example, in weatherproof and sturdy packaging.

In case of damage, contact our customer service.

If required, store it temporarily in the original packing material.

Transport the product to the installation location by an appropriate means of transport.

4.2 Unpack

The product is supplied in a bag or case, depending on the scope of delivery ordered.

1. Open the packaging.
2. Observe the enclosed instructions for charging the battery.
3. Remove the day signalling searchlight and, if necessary, the charger and/or the battery pack.

✓ The product is unpacked.

5 Commissioning

- Ensure that all electrical cables are securely routed or stowed away.
- Make sure that the LED module is connected correctly and that the seal of the LED module is seated correctly.
- After the visual inspection, close all latches that are still open.
- Observe both the enclosed charger‘s operating instructions and the battery hints.

The preparatory measures are as follows:

1. Connect the charger to the charging socket (15) of the battery pack (13) and the power circuit.
2. Charge the battery.
3. Disconnect the charger from the power supply and the battery pack.
4. Connect the plug (8) of the day signalling searchlight to the battery pack.
5. The status indicator (11) on the back of the day signalling searchlight must no longer light up.
6. Switch on the day signalling searchlight by pressing the signal button (4) on the top.
7. Switch off the day signalling searchlights.
8. Make sure that minimum 1 replacement LED module is available on board.
9. Check the function of the device after charging.

✓ The day signalling searchlight is put into operation.

6 Operation

ATTENTION

Protective distance to the compass

- A protective distance of 0.30 m from the magnetic compass must be maintained.

NOTES

When the status indicator lights up:

- the battery of the day signalling searchlight must be charged.
- the operating voltage is too low.

If the status indicator flashes red

- the LED module must be replaced.

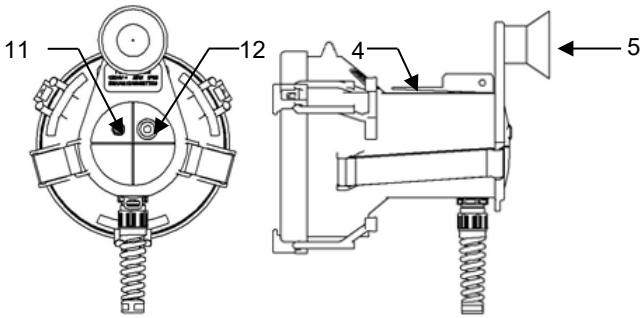


Figure 2 Day signalling searchlight controls

Pos.	Designation
11	Battery status indicator operation (illuminated) / permissible 10,000 operating hours exceeded (flashing red)
12	Function switch
4	Signal button
5	Target device

6.1 Using the target device

If another ship or the mainland is in the vicinity, the target is aimed at with the aiming device (5) so that the light signals are better perceived there.

6.2 Operation via signal button

1. Make sure that the battery is charged.
2. Press the signal button (4) to switch on the day signalling searchlight.
3. Release the signal button to switch off the day signalling searchlight.
4. Repeat steps 2 and 3 until the message to be transmitted has been sent.

✓ The spotlight can be used for further use.

If necessary, check the charge status of the rechargeable battery after use and always ensure that the day signalling searchlight is ready for operation (see section 6.6).

6.3 Operation as a light (torch function)

1. Make sure that the battery is charged.
2. Press and hold the signal button (4) and the function switch (12) to switch on the day signalling searchlight.

✓ The day signalling searchlight lights up continuously.

3. Press the signal button or the function switch to switch the day signalling searchlight off again.

After use, check the charge status of the rechargeable battery and always ensure that the day signalling searchlight is ready for operation (see section 6.6).

6.4 Operation via SOS button

1. Make sure that the battery is charged.
2. Press the function switch (12) to generate a continuous SOS emergency signal.
3. Press the signal button (4) to switch off the SOS emergency signal.

✓ The day signalling searchlight is now ready for further use.

After use, check the charge status of the rechargeable battery and always ensure that the day signalling searchlight is ready for operation (see section 6.6).

6.5 Connecting the battery

1. Insert the plug (8) into the connection socket (14) of the battery. Observe polarity.

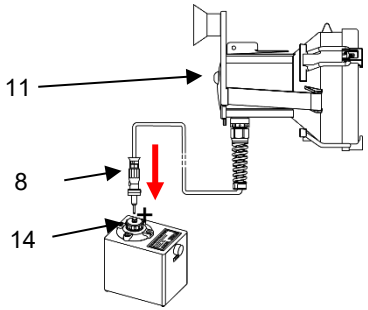


Figure 3 Connecting the battery

2. Charge the battery if the status indicator (11) on the day signalling searchlight lights up.

✓ The plug connection is now established.

Tip: If the day signalling searchlight remains permanently connected to the battery pack, it should be connected to the charger for charging.

The battery status indicator (11) lights up if the input voltage is too low. If using the Power Pack HML-ISO LED should be recharged.

6.6 Charging the battery

Charge the battery after each use and leave it connected to the charger (trickle charging).

Follow the separate instructions for the charger.

1. Connect the charger to the charging socket (15) of the battery pack.
2. Connect the charger to the power circuit.
3. Charge the battery according to the instructions in the separate operating instructions.
4. The day signalling searchlight is now ready for further use.

7 Troubleshooting

If faults occur on the product, the necessary measures can be determined here to provide the operator with measures to rectify the fault within the scope of his possibilities.

Error	Cause	Remedy
Day signalling searchlight cannot be switched on	No power available.	Establish the power supply. Check that the charger is working. Check the fuse in the battery pack, insert a replacement fuse if necessary.
	Status indicator lights up continuously red.	Charge the battery.
	Status indicator flashes	Replacement of the LED module required.
	Signal button defective.	Check the signal button.
	Function switch defective.	Check the function switch.
	Cable/plug defective.	Make sure that no live cables are defective.
	All 3 LED spots defective.	Replace the LED module.
One/two LEDs do not light up	LED spot(s) defective	The device still works with initial brightness. Change LED module during the next maintenance.

8 Maintenance

DANGER

Danger to life due to electrical currents.

Working on open circuits can lead to short circuits and short circuits in the body.

- A qualified electrician is required when working on electrical components.
- Make sure that the system is disconnected from the electrical connection.
- Secure the power supply against being switched on again.
- Cover open external system parts.
- If necessary, short-circuit the system components.
- Test whether the system is de-energized.

WARNING

Danger of glare

If the searchlight is switched on during maintenance work, the light intensity can permanently damage the eyes or even lead to blindness.

- Switch off the product.
- Secure the product against being switched on again.

8.1 Maintenance

The battery must be charged regularly in accordance with the manufacturer's instructions. It can remain connected to the power supply with the charger between two uses. See also the instructions in the instruction leaflet (30101990001) Charging the battery.

8.2 Inspection

Carry out a visual and functional check at regular intervals, but at least once a month. Check the product for:

- External damage
- Damaged retaining straps and tension locks
- Functional LED spotlights
- External damage to the cables.

8.3 Repair

Please follow the steps below before carrying out any repair work:

- A qualified electrician is required when working on electrical components.
- Switch off the day signalling searchlight.
- Make sure that the day signalling searchlight is disconnected from the battery.
- Secure the power supply against being switched on again.

8.3.1 Changing the LED module

Note

If one or two LED spots fail, the remaining LED spots light up brighter. We recommend replacing the LED module if several LED spots are defective.

If the status indicator (11, see chapter 3.1) flashes red, the LED module (3) must be replaced to be able to signal safely and with sufficient light intensity during use. This is also necessary due to decreasing light output caused by ageing of the LEDs (degradation). To ensure safe operation, an operating hours counter is installed which indicates on the status indicator (11) to replace the LED module after 10,000 operating hours by flashing red.

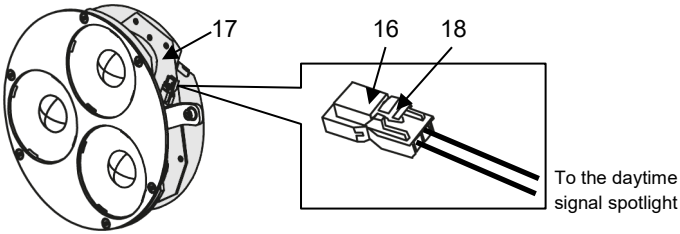


Figure 4 Connecting the LED module

Note:
If both the operating hours have been exceeded and the battery voltage is low, the status indicator (11) lights up red continuously. In this case, the battery is first charged and then the operating hours counter is reset.

1. Disconnect the plug (8) from the battery/onboard power supply.
2. Open the retaining straps (7) of the front frame.
3. Remove the seal (2) from the housing.
4. Pull out the LED module (3).
5. Detach the plug (16) from the base plate (17) of the LED module. The locking tab (18) on the plug must be pressed while pulling it out.

   Note: The cable remains in the plug.
6. Attach the cable to the new LED module.
7. Insert the new LED module.
8. A new seal (2) is supplied with the LED module. Attach the new seal correctly to the housing so that it closes tightly.
9. Close the front frame (10) using the retaining tabs (7).
10. Connect the plug (8) to the battery (13). Observe polarity: The tip of the plug is positive.

Resetting the operating hours counter:

11. Press the function switch (12) and then also press the signal button (4, SOS button).
12. Keep both pressed for 10 seconds.
    The red status indicator (11) flashes quickly.
13. Confirm within 10 seconds by pressing the signal button (10) again.
    Note: If the time period is exceeded, the HML-ISO LED returns to normal status

14. The status indicator (11) lights up for 2 seconds..
    ✓ The operating hours counter is reset

15. Carry out a function test.

✓ The LED module has now been replaced.

8.4 Cleaning

ATTENTION

Do not use cleaning agents containing alcohol or brine for cleaning. These can damage the surface and dull the glass.

Clean the surface of the product with a clean, lint-free cloth and, if necessary, a solvent-free cleaning agent.

9 Spare parts

No.	Designation	Article no.
1	HML-ISO front frame	22000456
2	HML-ISO glass pane, clear	22000457
3	HML-ISO Clamping lock, rubber	22000460
4	HML-ISO LED module	22001383
5	Concentric plug	22000463
	Additional options	
1	Concentric socket DK 503	22000464
2	Power pack ISO 35	22000465
3	HML-ISO charger	22000466
4	HML-ISO front glass; blue	22000467
5	HML-ISO front glass; green	22000468
6	HML-ISO front glass; red	22000469
7	Concentric socket outlet 503 PG16	10010003
8	Extension cable; 10 m	10101233

10 Disposal and decommissioning

10.1 Waste disposal

Waste electrical and electronic equipment (Applies in the European Union and other European countries with separate collection systems).

The electrical appliances of WISKA Hoppmann GmbH are professional electrical appliances, which are called business-to-business (B2B) appliances. We take back old electrical appliances in accordance with § 19 ElektroG and dispose of them properly. Please contact us before shipping your old WISKA electrical equipment - contact@wiska.de. Components such as cable glands are not covered by the law.

Do not mix or dispose of used electrical appliances from WISKA Hoppmann GmbH with other commercial waste.

- If there is a rechargeable battery or a battery in the device: Open the device, remove the rechargeable accumulator/battery and dispose of it properly.
- Always dispose of batteries in battery recycling containers.

Current information on disposal can be found here.

Always observe local and national laws, guidelines, and regulations on the disposal of materials and products.

10.2 Decommissioning

Disconnect the battery from the day signalling searchlight before decommissioning.

11 Technical data

11.1 Specifications

Feature	
Type of illuminant	LED
Operating voltage	12 - 24 VDC
Diffusion angle	8° I/10
Luminous intensity	75881 cd
Range	275 m
Signal range	4062 m by day 17700 m at night
LED power	5 W
Luminous flux degradation	24,000 h (L90) Service life according to ISO25861
Housing material	PBT
Color	RAL 9005, black
Diameter	160 mm
Depth	244 mm
Weight	2.23 kg (incl. cable)
Protection class	IP 56
Safe distance to compass	0.3 m (magnetic compass, steering compass)

11.2 Type key

The type key for searchlights is as follows:

Position	Example	Description of the placeholders
1	HML	Hand morse lamp
2	-ISO	According to ISO standard
3	LED	Type designation
4	-xx	Cable length in [m]
5	-x	Transport container
6	-W	Enclosure model
7	-Fxx	Filter combination
8	-Axx	Equipment
9	-Zxx	Accessories
10	-Sxx	Special solution

11.3 Nameplate

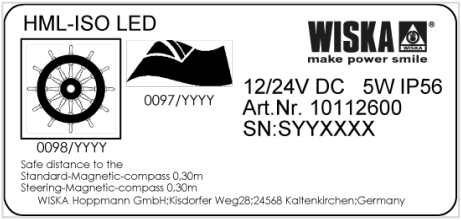


Figure 5 Nameplate HML-ISO LED

Figure 6 Battery nameplate

Figure 7 Battery charger nameplate

The nameplate has a three-row structure. Line contents are:

- Article description
- Item number
- Production date
- Power supply
- Serial number
- Certifying body

11.4 Protection class

The IP codes are derived from the ISO 25861 and IEC 60529 standards. The searchlight's equipment category is "Portable" acc. to IEC 60945. The product has been tested as follows:

IP protection class	Description
IP 5X	Protection against dust ingress
IP X6	Protection against strong water jets (100 l/min)

11.5 Dimensions

11.5.1 HML-ISO LED

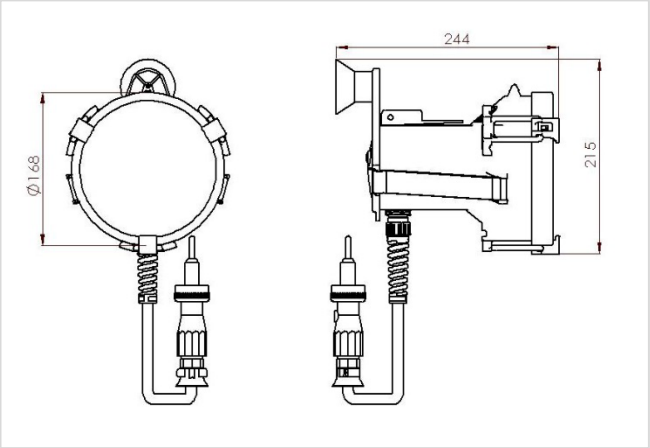


Figure 8 Dimensional drawing HML-ISO LED

11.5.2 Battery

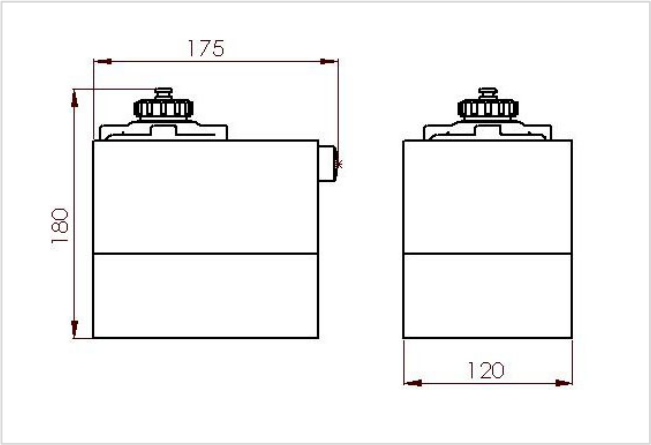


Figure 9 Dimensional drawing of battery pack

11.5.3 Battery charger

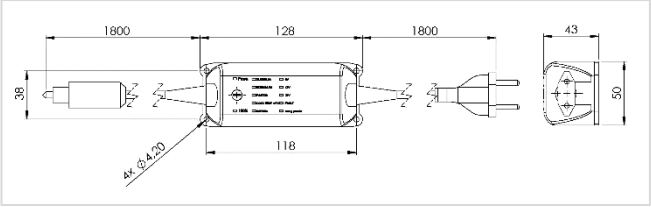
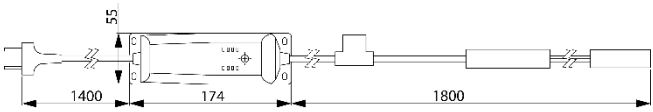


Figure 10 Dimensional drawing of battery charger Var A



Dimensional drawing of battery charger Var B

11.6 Electrical connection diagram

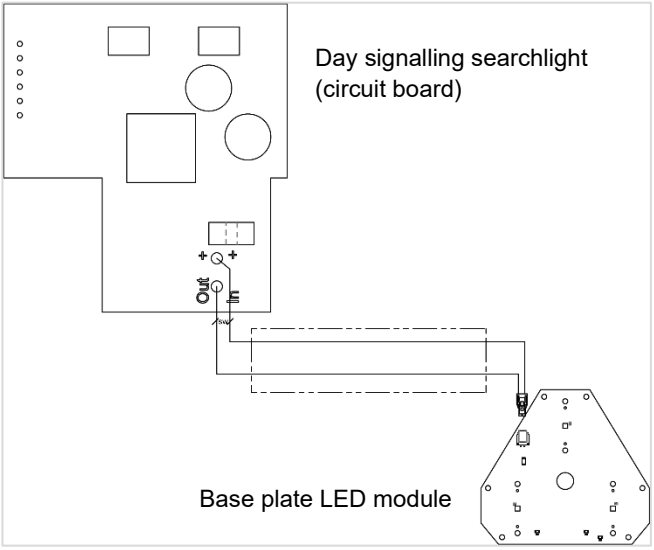


Figure 11 Electrical connection diagram

11.7 Scope of delivery

Housing with built-in LED module and hand straps (article 10102803), all other article numbers: additional battery pack (incl. spare fuse) and charger.

Optional accessories

- Suitcase
- Bag
- Colored filter discs
- LED module with seal

12 Supplier documents and certificates

12.1 Overview

The following supplier documentation is binding for this product:

- Handling lead-acid batteries (enclosed)
- Charger operating instructions (enclosed)

12.2 Certificates

Certificates are enclosed separately with these instructions. If these are lost, the status can be viewed on the DNV website:
https://approvalfinder.dnv.com/

12.3 MED Declaration of Conformity

The MED Declaration of Conformity is enclosed separately with these instructions. If this is lost, a current version can be viewed on the WISKA homepage:
https://www.wiska.com/de/

DNV

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB00007XN
Revision no.:
1

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

that the **Daylight signalling lamp**

with type designation(s)
Day Signaling Searchlight HML- ISO LED

issued to
WISKA Hoppmann GmbH
Kaltenkirchen, Germany

is found to comply with the Implementing Regulation **(EU) 2024/1975** for
Item no. **MED/4.52** (Row **1** of **1**)
according to the following requirements:
SOLAS 74 Reg. V/19, IMO Res. A.694(17), IMO Res. MSC.36(63)-(1994 HSC Code), IMO Res. MSC.95(72), IMO Res. MSC.97(73)-(2000 HSC Code), SOLAS 74 Reg. V/18, SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code), IMO Res. MSC.97(73)-(2000 HSC Code)

Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2025-02-11**

Expiry date: **2029-08-25**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Kai Möller

Notified Body
No.: **0098**

for **DNV SE**

Digitally Signed By:
Christine Mydlak-Röder

Christine Mydlak-Röder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment, signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 2023.
The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

WISKA Hoppmann GmbH
Kisdorfer Weg 28
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