WISKA
make power smile

Operating Instruction

Luminaire
Ex 525

Redaction	Rev.	Date	Section	Remark
1	0	06.11.2017	-	Initial edition of these instructions

Table of contents

List of abbreviations

525 Luminaire for areas with potentially explosive atmospheres (Ex areas)

Lux Lux is the illumination intensity of an illuminated surface. Lux is thus the luminous flux in lumens per square metre.

EMC Electromagnetic compatibility

SP Spare parts

LED Light-emitting diode, also luminescence diode

1 About this operating instruction

1.1 Structure and purpose of this operating instruction

This operating instruction is targeted towards personnel who are entrusted with the installation, operation and maintenance of the purchased product.

This operating instruction is divided by chapter in a logical manner regarding the respective product life cycle.

1.2 Users and target groups

Each person who uses the product must follow the safety and handling instructions listed in this operating instruction to ensure safe operation of the product.

Each person must be trained in the use of the product, must read the operating instruction, and understand the content thereof.

Any work on the product without the aid of these instructions is not allowed.

1.3 Supplier documentation

Supplier documents associated with this product are listed in chapter 12 “Supplier documents and certificates” and are attached to this operating instruction.

1.4 Safety information

1.4.1 Standard safety information

The safety information for WISKA has been created according to the SAFE principle and is derived from the residual risks of the risk and hazard assessment:

- Keyword
  The keyword reflects the severity of the immediate hazard (hazard, warning, attention, note, information)
- Type and source of the hazard
  The type and source of the hazard comes from standard DIN EN ISO 12100
- Consequences
  Indicates the possible consequences of non-compliance
- Avoidance and/or prevention
  The options for avoiding and/or preventing hazards are listed here.

HAZARD
Type and source of the hazard Consequences that arise from this hazard Avoiding and preventing the hazard.

2 For your safety

2.1 General safety information

When operating/working on WISKA products, the following general safety information applies:

- Read the operating instruction completely before operating the product or working on it to prevent hazards for yourself and/or the product.
- Follow applicable instructions for handling products in potentially explosive atmospheres.
- Only qualified electricians may perform work on the product.
- Before starting the work, de-energise the electrical system and lock it against switching back on.
- Do not modify the products yourself. The resulting hazards are unpredictable.
- Unauthorised modifications nullify the operating licence and warranty of the product.
- Only use original spare parts obtained from WISKA.
- The product can heat up during operation. Only touch the product with suitable personal protective equipment.
- Never look directly into the light source during operation. This can damage the eyes.
- Make sure that the installation position is secure and accessible.
- Always follow all safety information that is listed in this operating instruction.
- When working on and installing the product, follow all national and in-house rules/regulations regarding the product.
- Make sure that national regulations for the use of work lights are followed.
- Make sure that the luminaires in the workplace area are connected in alternate phases to avoid a stroboscope effect.
- Observe the applicable regulations for wiring multiple luminaires in series

2.1.1 Safety information structure

The chapter Safety and warning information describes the structure and application of that information. A warning message regarding the situation to be avoided is indicated for each hazardous situation.

HAZARD

Hazard indicates a dangerous situation that if not avoided could lead to immediate death or severe injury.

WARNING

Warning indicates a dangerous situation that if not avoided could lead to death or severe injury.

CAUTION

Caution indicates a hazard with a low level of risk that, if not avoided, could lead to minor or moderate personal injuries.

ATTENTION

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

2.1.2 Embedded safety information

In order to not greatly interrupt the flow when reading the described actions, embedded safety information for procedural actions is also used. It looks like the following:

1. Take…
2. Remove…

   ⚠WARNUNG

   Burns due to hot surfaces.

   During operation, searchlights heat up and can cause burns to the extremities.

   Before starting any work, make sure that the searchlight has cooled down.

   Wear suitable personal protective equipment.
3. Disconnect…
4. Remove…

✓ The assembly is removed.

2.2 Safety information for Ex areas

The following applies to fundamental safety information relating to WISKA products:

- Only personnel trained for Ex areas can handle and install the product.

- Ensure that the product has been certified for the use case (explosive atmosphere marking).
- Always adhere to the zone division to install the product in the correct installation location.
- Only use tools suitable for Ex areas.
- Note that modifications are not permitted.
- Ensure that no damaged products are installed and operated in an Ex area.
- Changes to the device or the electrical connections cause operating safety and protection against explosion to be nullified.
- Observe the key values and operating conditions for dimensioning that are provided on the type and data plates.
- Observe national and local safety regulations, accident prevention regulations, and installation and set-up regulations.
- Observe the general safety information.
- Observe recognised rules of engineering.
- Observe additional notification plates on the device, if applicable.

2.3 Intended use

The luminaires provided by WISKA are intended for illuminating work areas, surfaces, objects and similar items.

The luminaire is certified for Ex areas in zones 1, 2, 21 and 22; it can be installed and operated there in a fixed position. The luminaire is suitable for interior and exterior use.

The luminaire has been declared for Ex areas as follows:

- Type 525: II 2G Ex db eb op is IIB+H2 T6/T5/T4 Gb

- Type 525: II 2D Ex tb op is IIIC T85°C T6/T5/T4 Gb

The luminaire was developed mainly for use on seagoing vessels and for safety applications in coastal areas. The associated certificate numbers are EPS 17 ATEX 1 120 X and IECEx EPS 17.0060X

2.4 Foreseeable misuse

The luminaire may only be used for the applications listed in the Intended use section. All other possible uses are prohibited.

The luminaire cannot be used in mobile applications. Such use would nullify the protection against explosive atmospheres. The luminaire cannot be used as a hand-held lamp.

2.5 Warranty

WISKA products are subject to a statutory warranty according to German and EU law.

Please contact WISKA Service regarding any defect with your product.

2.6 EMC

The Ordinance on Electromagnetic Compatibility 2014/30/EU governs the influence of technical devices on each other. Electromagnetic compatibility means the ability of an operating material to work satisfactorily in its electromagnetic environment without itself causing electromagnetic interference that would be unacceptable to other operating materials in the same environment.

WISKA products have been tested for their conformity, if applicable, and have been provided with a CE mark and declaration of conformity accordingly.

2.7 Users

It is fundamentally important that the user who will be using, operating, servicing or installing the product be properly trained and instructed for said product.

2.7.1 Qualification of users

The user must have read the documentation in its entirety and have understood it in order to understand the association of the individual components and the operation of the product.

Training on remaining and behaving in Ex areas is definitely required.

2.7.2 Qualification of technical personnel

Technical personnel must have an appropriate level of training, allowing them to safely create mechanical connections and test the function.

Training on working and behaviour in Ex areas is a mandatory requirement.

According to VDE, an electrician is required to connect the electrical components.

2.8 Hazardous areas and danger points

Potential hazardous areas or danger points:

- Hazardous area according to ATEX guideline zone division
- Connection chamber for electrical connections
- Connection pieces and cable inlets

2.9 Protective devices

No dangers that affect the operator are known for this product.

2.10 Labels and symbols

Symbol	Meaning	Use
	Hazard symbol Warns of an immediate danger.	Safety information and warning information
	Hazard symbol Warns of an electrical hazard.	Safety information and warning information
	Hazard symbol Warns about suspended loads when working above the head.	Safety information and warning information

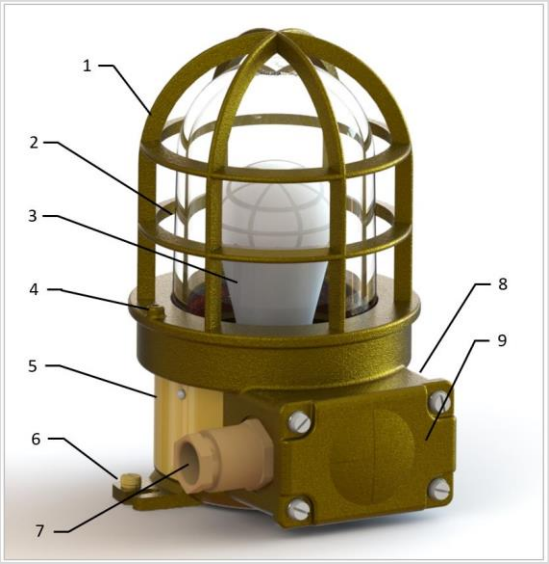
Symbol	Meaning	Use
	Hazard symbol Warns about hazards in Ex areas.	Safety information and warning information
	Mandatory action sign For maintenance disconnect from mains.	Safety information and warning information
	Mandatory action sign Connect an earth terminal to the ground before maintenance and use.	Safety information and warning information
	Mandatory action sign Consult operating instructions.	Safety information and warning information
	Information An electrician is required for installation.	Safety information and warning information

2.11 Personal safety equipment

Symbol	Meaning
	Safety helmet Must always be worn when suspended loads are in the work area.
	Work clothes 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 be worn in the work area.

3 Technical description

3.1 Product overview



Item	Designation	Item	Designation
1	Protective cage	**2**	Safety glass
3	Light source	**4**	Protective cage safeguard
5	Type plate	**6**	Assembly point and external earth
7	Screwed cable fitting	**8**	Connection box
9	Connection box cover	**n/a**	-

3.2 Technical components

Luminaire

The luminaire is intended for use in Ex areas. It essentially consists of the brass housing with cast-on terminal compartment of ignition protection class "e", a protective cage connected to the protective glass and the cover for the connection box. The bottom part of the housing features a cast-on connection box of ignition protection type “e” equipped with one or two screwed cable fittings that have been certified for ignition protection type “e”. If not used, the threaded apertures are sealed with a screw plug that has been certified for ignition protection type “e”. Depending on the design of the luminaire, the sockets are pre-assembled and can be fitted with a light source stated in the approval document. When selecting a light source, observe the resulting temperature class. Note the light source matrix for this.

Connection box

The connection box is fitted with approved Ex “e” cable glands. The type and number can be taken from the type plate and the description of the luminaire. The minimum and maximum cable diameter results from this.

There are two certified cable apertures on the connection box. The apertures serve as the installation point and proved a passage to the pressure-resistant encapsulated luminaire space. The connection box is sealed with a silicone sealant in the cover and O-rings at the apertures on the sides.

Light source

The luminaire operator selects the light source. The resulting temperature class must be observed. The Ex luminaire may only be operated with light sources stated in the approval document.

Light source matrix:

Use in group II: Position of use:	Suspended		Any	
Maximum ambient temperature:	+45 °C	+55°C	+45 °C	+55°C
Incandescent lamp up to 60W	T5	T4	T4	T4
Incandescent lamp up to 25W	T5	T5	T5	T4
Incandescent lamp up to 40W	T5	T4	T4	T4
LED light source 9W type OSRAM AB41762	T6	T6	T6	T6
Energy-saving lamp (ESL) up to 15W	T6	T6	T5	T5

Use in group III: Position of use:	Suspended		Any	
Maximum ambient temperature:	+45 °C	+55°C	+45 °C	+55°C
Incandescent lamp up to 60W	T100 °C	T135 °C	T135 °C	T135 °C
Incandescent lamp up to 25W	T100 °C	T100 °C	T5	T135 °C
Incandescent lamp up to 40W	T100 °C	T135 °C	T135 °C	T135 °C
LED light source 9W type OSRAM AB41762	T85 °C	T85 °C	T85 °C	T85 °C
Energy-saving lamp (ESL) up to 15W	T85 °C	T85 °C	T100 °C	T100 °C

4 Installation

4.1 Transporting and lifting

WARNING

Danger of injury due to suspended loads.

If the product or parts thereof become loose, severe injuries are likely.

- Always wear your personal protective equipment
- Do not step into the swivel area or under the product
- Carefully secure the load before you install it any further.

Depending on the combination in the cardboard box, the product arrives on a pallet in sturdy, weather-proof packaging.

Make sure that there is no transport damage to the packaging. If there is damage, please contact Customer Service.

Transport the product to its point of use. If installation is delayed, temporarily store the product according to the requirements in the Storage chapter.

4.2 Unpacking

Remove the packaging tape used for closing the package.

Remove the padding from the product.

Remove the operating instruction and the product.

✓ The product is unpacked.

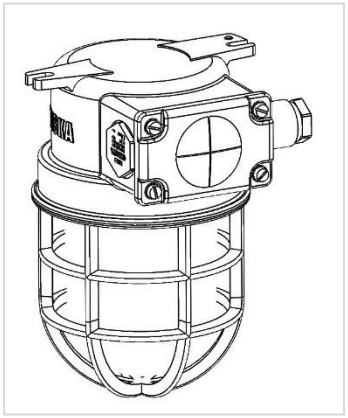
4.3 Mechanical installation

WARNING

Danger of injury due to working above the head.

If the product or parts thereof become loose, severe injuries are likely.

- Always wear your personal protective equipment
- Do not step under the product
- Carefully secure the product before you install it any further.



1. Position the luminaire on the intended ceiling bolt/holes.
2. Tightly screw in the luminaire with flat washers and a nut.
3. Where applicable, connect the earth to the screw connection provided on the assembly base.

✓ The luminaire is now installed on the ceiling.

4.4 Electrical installation

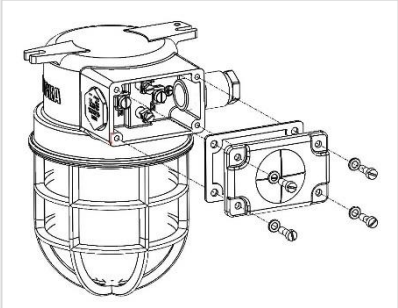
HAZARD

Danger of fatal injury from electric currents.

When working on open power circuits, this can lead to short circuits and ground short circuits.

- An electrician is required when working on electrical components.
- Make sure that the system is disconnected from the electrical connection.
- Secure the power supply from being switched on again.
- Cover open external installation parts.
- If required, short-circuit the installation parts.
- Test to ensure that the system is de-energised.

1. Open the cover of the connection box.



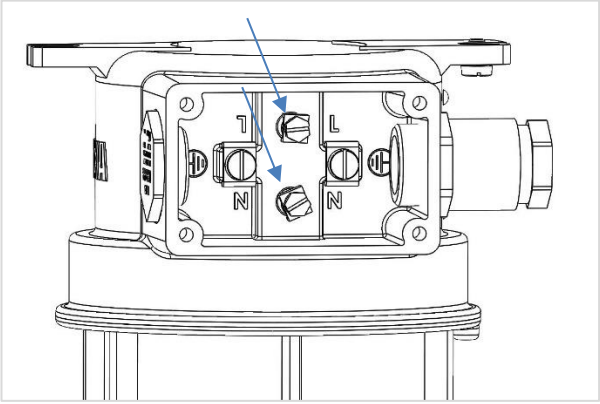
2. Loosen the cap nut of the screwed cable fitting.
3. Guide the cable through the screwed cable fitting into the connection box.

ACHTUNG

Please refer to the enclosed wiring diagram for information on the electrical connection.

Observe local, national and in-house rules, if applicable, for the connection of electrical components.

4. Connect the luminaire to the cable lead-troughs L, N and PE according to the diagram.



5. Tighten the screwed cable fitting with the specified torque.
6. Close the cover of the connection box and tighten the screws at 3 Nm.

✓ The luminaire is now electrically connected.

5 Commissioning

HAZARD

Danger of electrical shock due to unprofessional installation

Products that are installed by electricians who are not trained for Ex areas can malfunction.

- Only have the product installed by electricians trained for Ex areas.
- Observe national, local and in-house regulations for working in Ex areas and for working on electrical systems.

Please proceed as follows for commissioning:

- Make sure that no explosive atmosphere exists for initial actuation of the luminaire.
- Make sure that all electrical lines have been connected correctly.
- Make sure that all electrical lines and cables were securely laid or stowed.
- Make sure that all screw connections have been tightened correctly.
- Make sure that the light source is inserted correctly.
- Make sure that earthing has been established correctly.
- Close all covers still open after a visual check.
- Make sure that all screwed cable fittings have been tightened correctly and unused screwed cable fittings have been removed and closed with sealing screws certified for Ex areas.
- Makes sure that there are no persons in the Ex area.
- Test the luminaire for functionality.

6 Operation

6.1 General operation

This chapter describes product operation. It ensures that all possible operating types for the product are described, and explains how to make the product operational again after a system malfunction; it also provides warnings about hazardous situations that could arise during operation.

6.1.1 Switching on and operating

1. If necessary, switch on the main switch.
2. Actuate the light switch intended for the luminaire.

✓ The luminaire is now in operation.

6.1.2 Switching off

1. Actuate the light switch intended for the luminaire.
2. If necessary, switch off the main switch.

✓ The luminaire is now out of service.

7 Troubleshooting

Should product malfunctions occur, please see the following for possible measures to rectify the problem.

Error	Cause	Remedy
The luminaire will not turn on.	No power available.	Connect the power supply via the main switch.
		Check the current supply.
		Check the fuse.
	Wiring in the connection box defective	Make sure that no current-carrying lines are defective.
	On/off switch defective	Check the on/off switch.
	Light source is defective.	Observe the applicable safety regulations when replacing a light source.

8 Servicing

HAZARD

Risk of death due to explosive atmosphere.

When working in explosive atmospheres low-speed detonations may occur.

- Work in Ex areas can only be performed by personnel that is certified for Ex areas.
- Do not work on the system, if there is an explosive atmosphere.
- Observe national, local and in-house rules
- Observe the safety information in this operating instruction.

HAZARD

Danger of fatal injury from electric currents.

When working on open power circuits, this can lead to short circuits and ground short circuits.

- An electrician is required when working on electrical components.
- Make sure that the system is disconnected from the electrical connection.
- Secure the power supply from being switched on again.
- Cover open external installation parts.
- If required, short-circuit the installation parts.
- Test to ensure that the system is de-energised.

CAUTION

Danger of blinding

The light intensity when looking directly into the LEDs can damage the eyes.

- Turn off the product.
- Secure the product from being switched on again.
- Do not look directly into the lit LEDs.

8.1 Maintenance

The system is maintenance-free. If problems or faults should occur, please see the “Troubleshooting” and “Servicing” chapters.

8.2 Inspection

Perform a visual check and function check at regular intervals (min. once per month). Check the product for:

- Exterior damage
- Functional mounting points
- Functional light source
- External damage to the electrical installations

- External damage to the power cables

8.3 Repairs

HAZARD

Danger of electrical shock due to unprofessional repair

Products that are repaired by electricians who are not trained for Ex areas can malfunction.

- Only have the product repaired by electricians trained for Ex areas.
- Note that the lighting tube can only be repaired by WISKA Pushbutton GmbH
- Observe national, local and in-house regulations for working in Ex areas and for working on electrical systems.

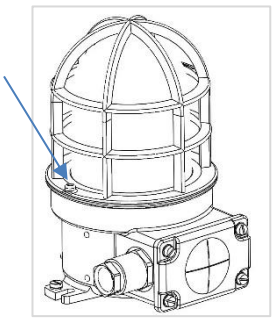
Please observe the following steps before repair work is carried out:

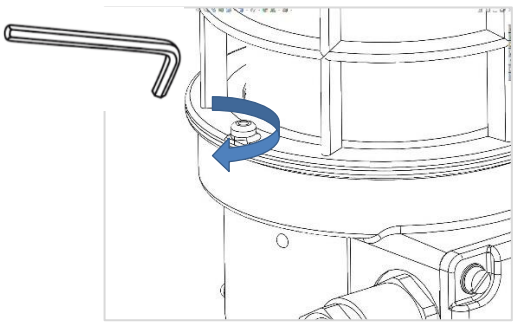
- An electrician is required when working on electrical components.
- When working in Ex areas, personnel trained for Ex areas is required.
- Turn off the system.
- Make sure that the system is disconnected from the electrical connection.
- Secure the power supply from being switched on again.
- Observe the safety information at the beginning of the chapter.

8.3.1 Replacing the light source

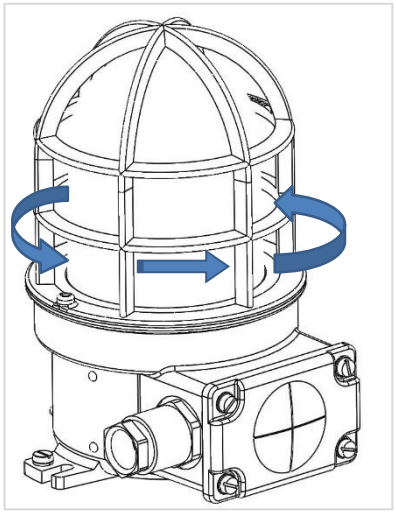
1. De-energise the system.

   Use an angled hexagon screwdriver to loosen the grub screw in the protection cage.



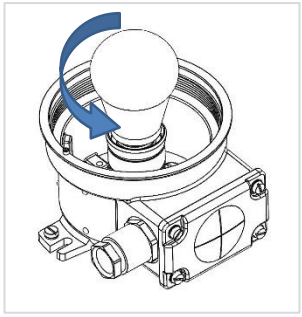


2. Unscrew and remove the protection cage from the luminaire housing.



3. Check the sealing ring; replace the ring immediately in case of damage.
4. Remove the defective light source.

Figure shows an E27 light source.



✓ The light source has now been removed.

8.3.2 Installing a light source

1. Perform the work steps from section 8.3.1 in reverse order.

   Check and ensure the correct position of the O-ring and secure the protection cage again using the grub screw.

2. Test the luminaire for its functionality.

✓ The light source has now been changed.

8.4 Cleaning

ATTENTION

Do not use alcohol- or alkaline-based cleaning agents. They can damage the surface and dull the glass.

Clean the surface of the product using a lint-free, damp cloth and a non-aggressive, mild cleaning agent.

9 Spare parts

No.	Designation	Art. no.	Spare part designation
1	Glass with protection cage, cast	22001003	SP-525 Glass with protection cage, cast
2	Two-prong socket E27	22000192	SP-1974 Two-prong socket E27
3	Incandescent bulb 60W 260V E27	22000983	SP - Incandescent bulb 60W 260V E27
4	LED LAMP 9W 230V E27 827	22000689	SP LED LAMP 9W 230V E27 827
5	Fluorescent lamp 15W 230V E27 840	22000602	SP fluorescent lamp 15W 230V E27 840
6	Cylinder screw M4 x 4	22001004	SP cylinder screw M4 x 4

10 Disposal and decommissioning

HAZARD

Danger of fatal injury from electric currents.

When working on open power circuits, this can lead to short circuits and ground short circuits.

- An electrician is required when working on electrical components.
- Make sure that the system is disconnected from the electrical connection.
- Secure the power supply from being switched on again.
- Cover open external installation parts.
- If required, short-circuit the installation parts.
- Test to ensure that the system is de-energised.

CAUTION

Danger of blinding

The light intensity when looking directly into the LEDs can damage the eyes.

- Turn off the product.
- Secure the product from being switched on again.
- Do not look directly into the lit LEDs.

10.1 Disposal

Observe all local and national laws, guidelines and regulations regarding the disposal of materials and products.

In case of doubt, ask the manufacturer whether or not he will accept returned products manufactured by him for disposal and recycling.

10.2 Decommissioning

Proceed as follows to decommission the product or take it out of service:

1. Follow the safety and warning information on the product and in the associated documentation.
2. Turn off the product.
3. Disconnect the product from the power grid.
4. Dismount the product/system parts that are to be decommissioned.
5. Reuse the dismounted system parts or recycle them.

✓ The system or the system part is decommissioned.

11 Technical data

11.1 Technical data

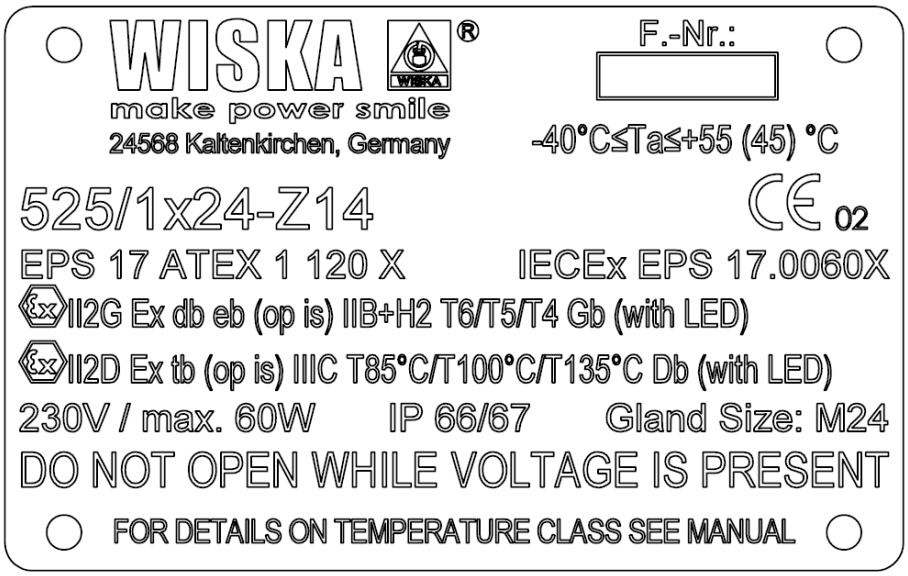
Feature	525/*/***/(**W)/(******)
Light type	Incandescent bulb, fluorescent lamp or LED
Colour rendering index	*Depending on light source*
Lumen [lm]	*Depending on light source*
Colour temperature [K]	*Depending on light source*
Operating voltage [V]	24 VDC 110 VAC 230 VAC, *depending on light source*
Frequency [Hz]	50/60
Terminals/poles [mm²]	max. 2.5 mm²
Lamp output [W]	*Depending on light source*
Housing material	Brass
Operating temperature	- 40 °C to + 55 °C
Height [mm]	208.5
Width [mm]	156
Depth [mm]	154
Weight [kg]	3.7
Screwed cable fitting	EX-KVM-24
Protection class	IP 66/67

11.2 Type code

The type code is structured as follows:

Item	Example	Description of the place holder
1	525/	Type designation of the luminaire
2	*/	Details of the number and position of cable inlets
3	***/	Details of the installed lamp socket
4	(******)	Information about the size and type of cable inlet
5		Etc.

11.3 Type plate



Among other things, the type plate contains the following information:

- Item description
- Article number
- Power supply
- Potentially explosive atmosphere classification

11.4 ATEX marking/potentially explosive area classification

11.4.1 525/*/***:

Device group II, device category 2G (gas), ignition protection type “pressure-resistant encapsulation - d” “inherent optical safety op is” and connection box with increased safety “e”, EPL Gb, temperature class T4…T6, depending on light source, installation position and maximum ambient temperature.

Marking:  II 2G Ex db eb op is IIB+H2 T6…T4 Gb

and

Device group II, device category 2D (dust), ignition protection type “protection by housing - tb” and “inherent optical safety – op is”, temperature class 85°C…135°C depending on light source, installation position and maximum ambient temperature.

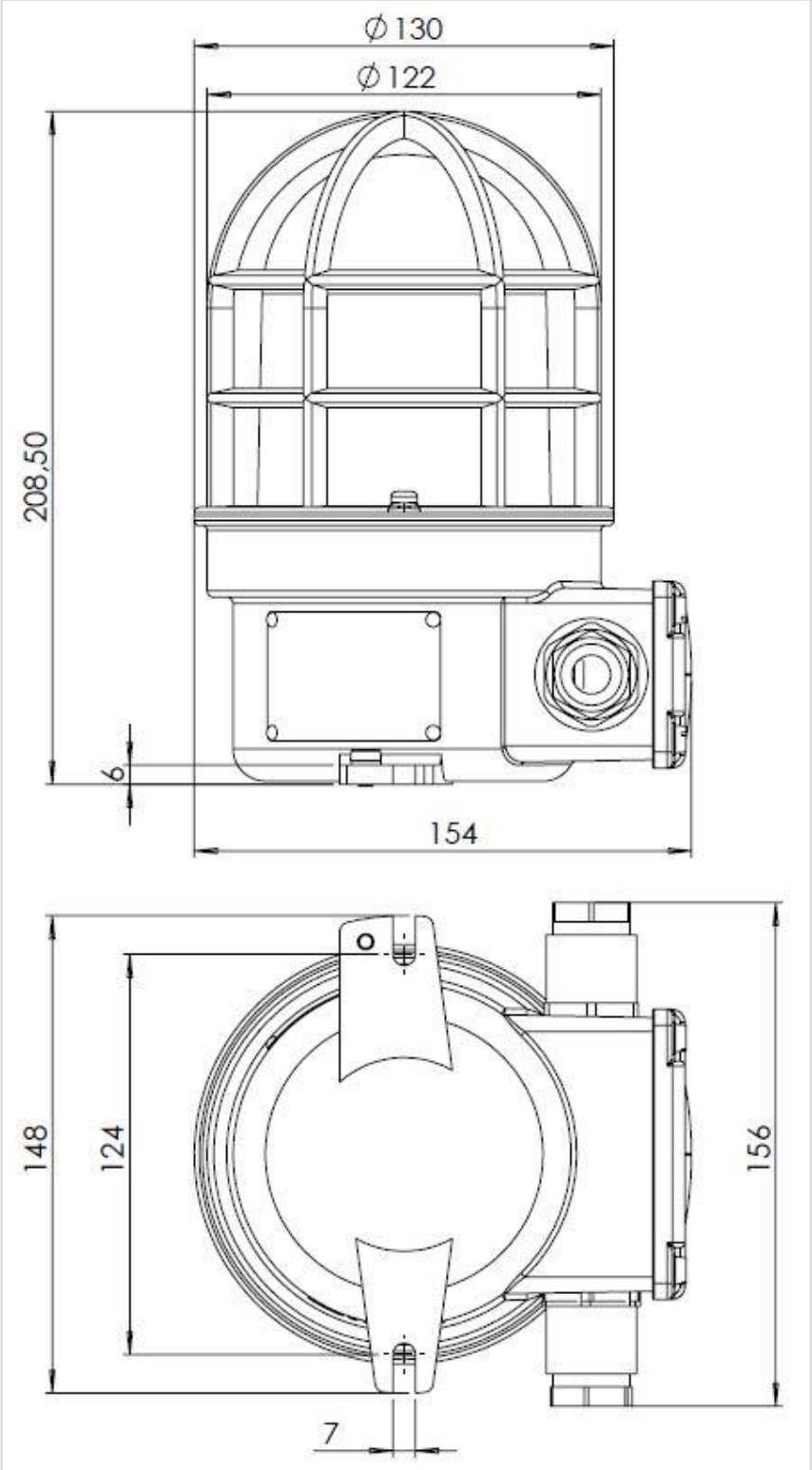
Marking:  II 2D Ex tb op is IIIC T85°C…135°C Db

11.5 Protection class

The IP degrees of protection result from standards DIN EN 60529:2014-09 or VDE 0470-1:2014-09. The product has been tested as follows:

IP protection class	Description
IP6X	Protection against the ingress of dust – dustproof
IPX6	Protection against strong water jets (100 l/min)
IPX7	Protection against submersion

11.6 Dimensions



12 Supplier documentation and certificates

12.1 Overview

The further applicable documents from supplier items are summarised here and attached as a PDF to these instructions to ensure safe use of the complete product. The following supplier documents must be observed for this product:

- Cable gland Wiska EX-KVM-24
- Stud type bushing, steel type 8171

12.2 Type examination certificate

The matching build sample inspection certificate is enclosed with this manual. If it is lost, you can view the current version on the WISKA website:

https://www.wiska.com/de/

12.3 Manufacturer’s declaration

The matching manufacturer’s declaration is enclosed with this manual. If it is lost, you can view the current version on the WISKA website:

https://www.wiska.com/de/

12.4 CE declaration of conformity

The matching CE Declaration of Conformity is enclosed with this manual. If it is lost, you can view the current version on the WISKA website:

https://www.wiska.com/de/

13 Keyword index

T

U

W

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