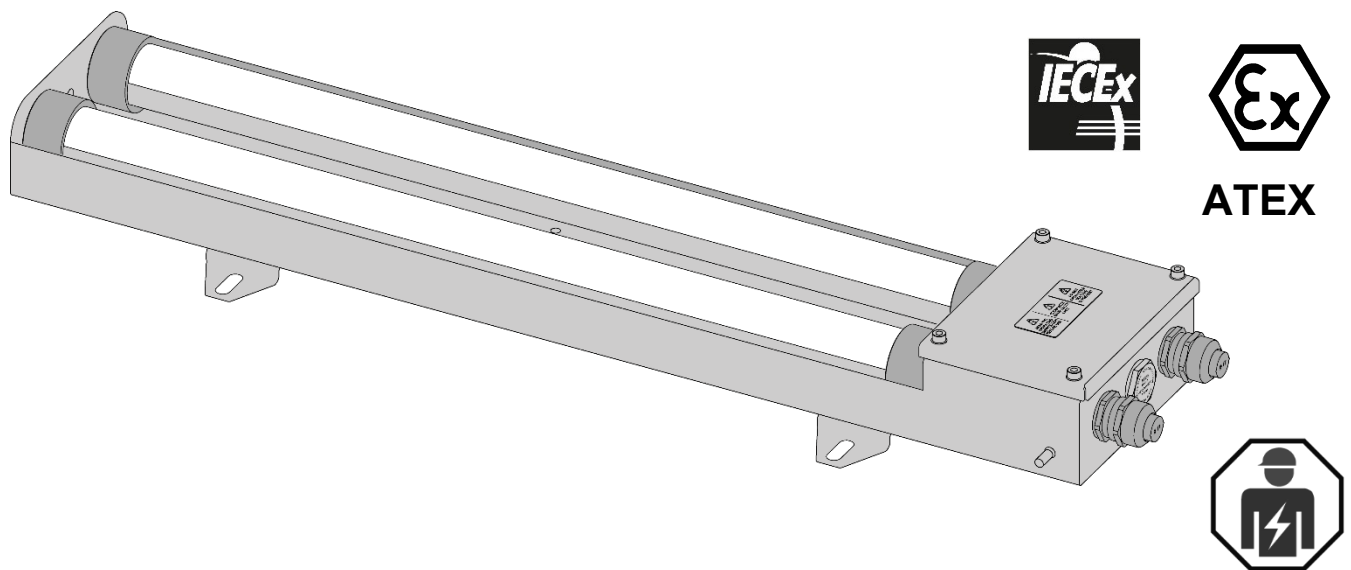


## Instruction Manual



### LED Ex-Luminaire 4201

4201-1x13 / 4201-2x13 / 4201-1x26 / 4201-2x26

Always keep the operating instructions within easy reach.

50108615

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## 1 Introduction

The operating instructions are intended for operators, staff and installers and enable the installation and safe use of the LED Ex luminaire. In hazardous areas, adequate qualification of personnel is required.







Instructions for use are important when installing and operating. They must be observed to prevent hazards, reduce repair costs and downtime, and improve reliability and service life.

Read the instructions carefully! WISKA Hoppmann GmbH is not liable for damages and malfunctions due to non-observance of the operating instructions.

## 2 Safety instructions

The operator is accountable for the intended use.

Prior to each unsafe situation, a warning shall be given to indicate the situation to be avoided. Hazard Warnings, Symbols and Safety Precautions:

Symbol	Signal word	Meaning
	<b>DANGER</b>	Probable consequence: immediate death or more severe injuries.
	<b>WARNING</b>	Possible consequence: death or serious injury.
	<b>CAUTION</b>	Possible consequence: slight to moderate injury to persons.
	<b>ATTENTION</b>	Possible consequence: property damage and malfunctions.
	Electrician	Labor steps only by a qualified electrician.
	Electrical voltage	Injury due to open live parts and components.
	Unlock	Switch off the device before starting work and secure it against being switched on again.

### 2.1 General safety instructions

Installation, commissioning and maintenance by an electrician qualified and qualified for the area at risk. Read these instructions - and use instructions from manufacturers of components and parts used in relation to this lamp!

Use the LED Ex luminaire only according to the IP protection class, otherwise you can damage the LED Ex luminaire.

Avoid dropping or striking else damage to the Ex LED light is possible.

Observe the manufacturer's tightening torques.

Leave the LED tube to cool for at least 5 minutes before replacing it.

**⚠ WARNING:** Opening and repair of the LED Ex luminaire only by authorized electrician qualified for the EX area!

**⚠ CAUTION:** Switch off the LED Ex luminaire immediately and disconnect it from the mains voltage if smoke, sparks, fumes or an unusual odor occurs!

## 2.2 Safety instructions for hazardous areas

**⚠ WARNING:** Risk of explosion due to improper installation.

Only personnel qualified for the hazardous area under the 60079 standard and install the product.

Only use the product for an application for which it is approved (Ex marking).

Comply with zoning regulation to install the product at the appropriate location.

Use only tools suited to hazardous locations.

Never install or use damaged products in hazardous areas.

Modifications to the device or the electrical connections will invalidate the operational safety and explosion protection.

Observe the characteristic values and rated operating conditions of the type and data plates.

Observe national and local safety regulations, accident prevention regulations and assembly and installation regulations (e.g. IEC/EN 60079-14).

Observe the informational signs on the unit.

## 2.3 Electrical voltage

Install the LED Ex luminaire in accordance with this manual.

**ATTENTION:** The electrical connections and connection cables must comply with all applicable regulations.

Observe the safety rules for qualified electricians: Before performing any installation or maintenance work, disconnect the power supply, secure it against reconnection, check that no voltage is present, ground and short-circuit and cover adjacent live parts.

**⚠ WARNING:** LED Ex luminaires must not be installed outside when it is raining. Danger of electrical shock!

**⚠ CAUTION:** Observe the load limits of extension cords or power outlets. There is a risk of fire or electrical shock.


**⚠ WARNING:** Never repair damaged supply cables! Danger to life. Disconnect the LED Ex luminaire from the mains and have it repaired.

Properly install every cable and fixture! Only in this way is the function reliable.

Comply with domestic and local requirements for installation and classification. In some countries, only licensed installers are permitted to install lighting.

Tighten clamping screws in electrical connections.

Observe symbols for connecting the lines as per national guidelines:

N = neutral, L = phase,  = ground, LS = live, switched.

## 2.4 Repairability

The light source of this luminaire is interchangeable. The replacement must be carried out in compliance with the EN 60079-19 standard and may only be performed by personnel qualified for the EX area.

## 2.5 These instructions apply to the following versions:

LED Ex luminaire 4201-1x13, 4201-2x13, 4201-1x26, 4201-2x26.

## 2.6 Change history

Revision	Revision date	Changes
1.0	05/2021	First edition

## 2.7 Original instruction

The German version of this document is the original instruction.

### 3 Description and intended use

The LED Ex luminaire 4201 is used to illuminate areas in hazardous areas on ships. It comes with 4 different power variants. Variants with an external 24V DC emergency light with external power supply are also available. The extra LEDs for that function have a lower power. The LED Ex luminaire comprises a stainless steel housing with a terminal housing. It has one or two LED light pipes in polycarbonate. It is mounted on walls or ceilings with stainless steel mounting support on the back. The terminal box is sealed with a silicone seal within the lid.

The LED Ex luminaire is approved for outdoor use and meets the IP66/68 degree of protection.

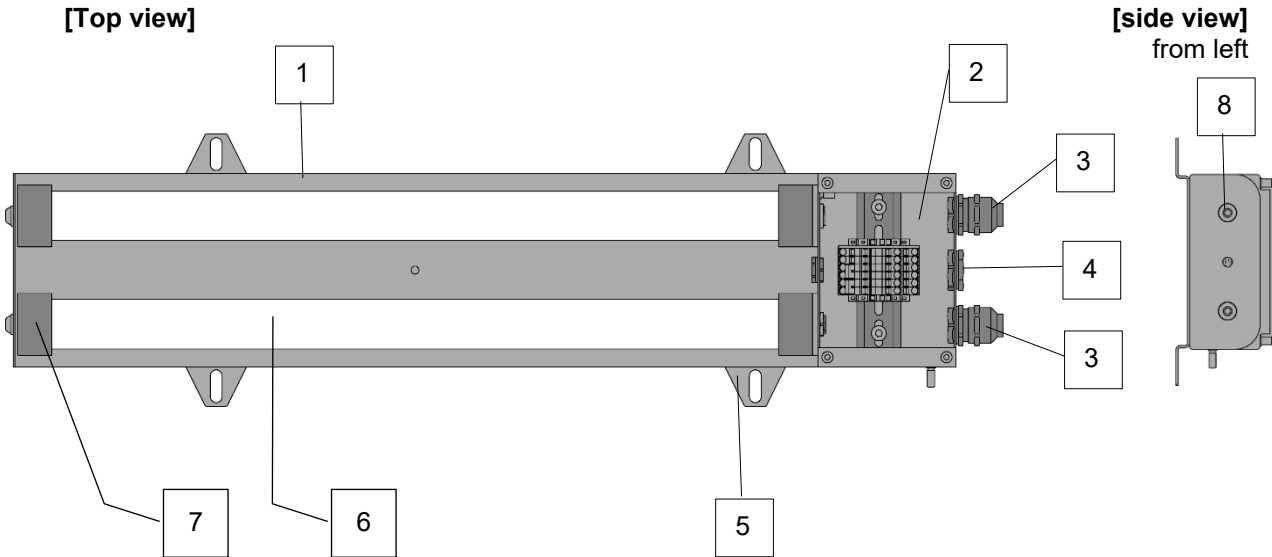


Figure 1- Overview LED Ex luminaire with two tubes

Pos.	Designation
1	Housing
2	Terminal box
3	Cable entry
4	Screw plug
5	Mounting bracket
6	Luminaire tube
7	End cap light tube
8	Rear mounting

The LED Ex luminaire is designed to illuminate the areas of vessels.

The luminaire is approved for hazardous areas zone 1, 2, 21, 22 and is suitable for installation and stationary use. The luminaire fits both indoor and outdoor use. The declaration of the luminaire for Ex areas is:

- Explosion protection, zone 1,  
II 2G Ex db eb op is IIC T5...T6 Gb,  
II 2D Ex tb op is IIIC T85°C...100°C Db.
- The certificate numbers are EPS 19 ATEX 1 076 X, IEC Ex EPS 19.0109 X  
Note on special conditions "X":  
Lamp tube has been tested with reduced energy (2 joules). Luminaire 4201 Ex must be mounted to protect against the risk of significant impacts.

Prohibited:

- To use the LED Ex luminaire in areas and classes other (superior) than those specified.
- Commissioning, maintenance and repair by non-EX qualified personnel.
- Improper use of the Ex LED light as a handle.
- Hook or hold items on the cable.

## 4 Operation

Only operate via the on-site power switch in the power supply line!

No preparation is necessary if the product is not to be used over a long period of time.  
A visual inspection before recommissioning is recommended.

## 5 Malfunctions

Repairs and maintenance may only be carried out by a qualified electrician for hazardous areas.

Measures in case of malfunctions:

Problem	Cause	Remedy
Luminaire can be do not switch on	Interruption of the Power supply	Establish power supply: Switch / Fuse / Connection.
	Light switch defective	Electrician: Replace light switch
	Luminaire tube defective	Electrician: Replace LED light tube.
	Fuse tripped/ Short circuit	This measure may only be carried out by a qualified electrician for hazardous areas. Eliminate the error, then switch on the fuse again.
	Luminaire incorrectly connected	This measure may only be carried out by a qualified electrician for hazardous areas. Check connection.
	Connection cable defective	This measure may only be carried out by a qualified electrician for hazardous areas. Replace connecting cable or replace LED light tube.
Water in LED light tube	Luminaire tube broken	This measure may only be carried out by a qualified electrician for hazardous areas. Replace LED light tube.
Incorrect illumination	Luminaire not properly fixed	Check fastening/screws. Replace luminaire if necessary.
One LED light tube does not work	Luminaire tube defective	This measure may only be carried out by a qualified electrician for hazardous areas. Replace LED light tube. Individual LEDs cannot be replaced.
Luminaire flickers	Connection to a dimmer	Qualified electrician: Remove dimmer.
	Network malfunction	Inform qualified electrician.

## 6 Cleaning

Clean the exterior surfaces of the fixture using a soft, dry cloth. For heavy soiling, lightly dampen the cloth with clean water.



### WARNING

Risk of electrical shock.

- Before cleaning, turn off the LED Ex luminaire / disconnect it from voltage sources.

### ATTENTION

Do not use solvents, benzene or alcohol, the LED Ex luminaire surfaces may be damaged. Do not clean with sharp-edged tools, screwdrivers, metal brushes or similar.

## 7 Regular review

The LED Ex luminaire is maintenance-free. In case of problem or malfunction, please refer to "Malfunctions" and "Maintenance".

Carry out visual and functional checks regularly, at least monthly.

The examination comprises the following:

- Visual inspection of damage and heavy soiling on the housing.
- Visual inspection of damage/rust on mounting bracket and mounting screws.
- Visual inspection of damaged cables or leads.
- Visual inspection of damage (cracks, discolouration, condensation) within the LED light tube.
- Checking the mounting angle for damage
- Check for sounds (cracking, buzzing) or supply lines that have become hot.
- Functionality test of the lamp.



### WARNING

Threat of glare.

If the LED Ex luminaire is illuminated during service work, the light intensity may damage the eyes.

People may become disorientated and fall.

- Turn off the light.
- Only look to the side of the light.
- Secure the LED Ex luminaire so it is not illuminated.

## 8 Disposition and decommissioning.

Comply with local and domestic laws, guidelines and regulations regarding the disposal of materials and products.

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

The electrical devices of WISKA Hoppmann GmbH are professional electrical devices, so-called business-to-business (B2B) devices. Waste electrical equipment is taken back by us in accordance with § 19 ElektroG and disposed of properly. Please contact us prior to shipping the WISKA waste electrical equipment - [contact@wiska.de](mailto:contact@wiska.de). Components, such as cable glands, are not covered by the law.

Do not mix or dispose of WISKA Hoppmann GmbH waste electrical equipment with other commercial waste.

## 9 Mounting

Assembly, commissioning, maintenance and repair only by specialists with a proven EX qualification.



### DANGER



Danger to life from the electric current!



When working on open circuits, there is a risk of short circuits and body short circuits.



-Work on electric components only by qualified electricians.

-Ensure equipment is disconnected from power connection.

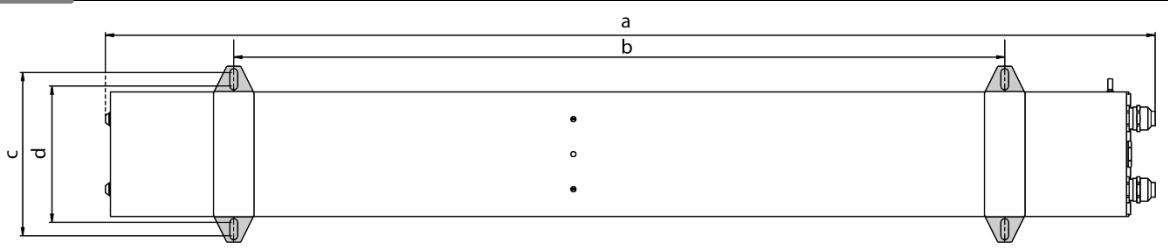
-Secure electrical power to prevent it from switching on again.

-Cover open third party equipment components.




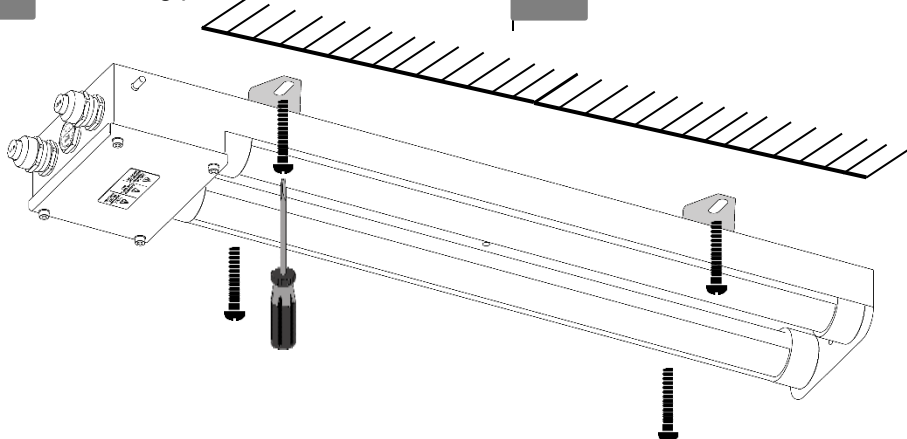

-Short circuit system components as required.

-Make sure the system is powered off.


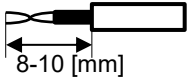
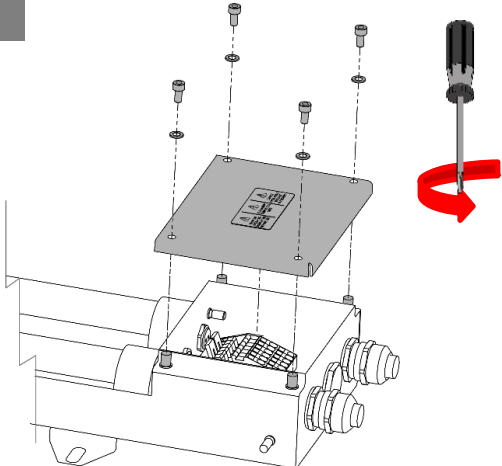
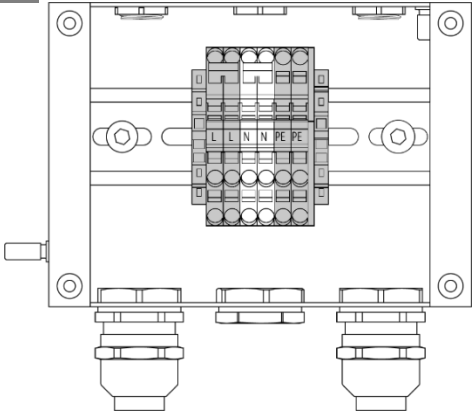
### 9.1 Preparation

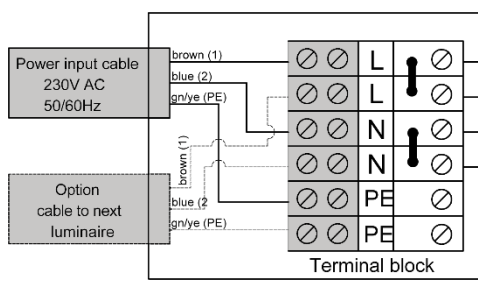
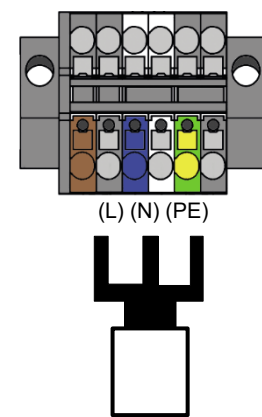
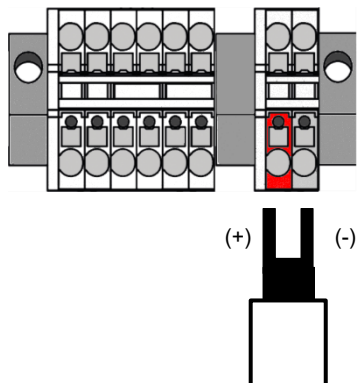
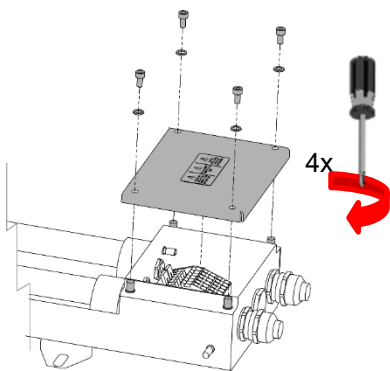
Tools needed	Drill, screwdriver / cordless screwdriver			
<b>1</b>	Mark mounting position. <b>CAUTION:</b> Possible malfunctions due to continuous drops of water. Do not install lights underneath drip edges or rain gutters. Minimum distance of 30cm from the edge of the drip.			
<b>2</b>	Prepare mounting points for onboard installation.			
				
<b>Model</b>	<b>a [mm]</b>	<b>b [mm]</b>	<b>c [mm]</b>	<b>d [mm]</b>
1x13 / 2x13	796	430		
1x26 / 2x26	1294	950	201	168

## 9.2 Installation

Tools needed	Screwdriver, open-end wrench, ratchet	
	<p><b>CAUTION</b> The LED Ex luminaire is heavy. Fall-related injuries and damage are possible. Have somebody else hold the light.</p>	
<p>1</p>	<p>Screw the mounting bracket to the mounting points.</p>	<p> Tightening torque <b>appropriate</b> to the surface.</p>
 <p data-bbox="1236 526 1442 627">Requires: 4x M8, Stainless steel</p>		
<p>2</p>		

### 9.3 Electrical connection

	Electrical connections only by qualified electrician	
<b>DANGER</b>	Danger of electrical shock!	
<b>ATTENTION</b>	Do not use shrink tubing, damage to the screw connection possible.	
<b>NOTE</b>	Make sure there is a switch on the power line.	
<b>i</b>	Terminal information <ul style="list-style-type: none"> <li>• Conductor cross-section flexible: up to 4 mm<sup>2</sup></li> <li>• Conductor cross section flexible with ferrule: up to 4 mm<sup>2</sup></li> <li>• Conductor cross-section solid: up to 6 mm<sup>2</sup></li> <li>• Connection type: spring-cage connection</li> <li>• Stripping length: 8 - 10 mm</li> </ul>	
<b>Characteristics</b> Rated voltage Rated power Cable cross section Cable diameter	230 V AC, 50/60 Hz 1x13 W to 2x26 W depending on model Max. 3x4 mm <sup>2</sup> 9-17 mm (cable gland M25)	
Tools needed	Wire stripper, screwdriver	
<b>1</b> Prepare the connection cable  phase (L), neutral conductor (N) and protective conductor (PE) are required.	<b>2</b> Strip the cable.  	
<b>3</b> Open the terminal box.  	<b>4</b> Terminal box open. Terminals with push-in connections.  	

<p><b>5</b> Wiring.</p> <p>Use phase (L), neutral (N) and protective conductor (PE).</p> 	<p><b>6</b> Insert leads</p> 
<p><b>6a</b> Only emergency light variant: Connect 24V voltage supply.</p> 	<p><b>7</b> Close the terminal box. Tighten the cover screws.</p> 
<p><b>i</b> Make sure that the seal is properly placed in the cover! Tightening torque of cover screws <b>3 Nm!</b></p>	
<p><b>i</b> Tightening torque of cable gland <b>10 Nm!</b></p>	
<p><b>8</b> ✓</p>	

## 10 Commissioning



### DANGER



Danger to life from the electric current!

The product may only be activated by an electrician qualified for hazardous areas.

Observe state, local and internal regulations for work in hazardous areas and on electrical equipment.

1	Ensure that all electrical lines are properly connected.
2	Check all screw connections.
3	Visually inspect luminaire tubes.
4	Check grounding.
5	Following the visual inspection, close all open covers.
6	Check tightening torques: cable glands, screws on terminal box cover, fastening screws.
7	Remove unused cable glands and seal with certified Ex blanking plugs.
8	Everyone else should leave the ex-zone.
9	Check function.
10	✓

## 11 Maintenance and repair

Repairs may only be carried out in conformity with the EN 60079-19 standard and exclusively by electricians qualified for the EX area.



### DANGER



Danger to life from the electric current!



When working on open circuits, there is a risk of short circuits and body short circuits.



-Work on electric components only by qualified electricians.

-Ensure equipment is disconnected from power connection.

-Secure electrical power to prevent it from switching on again.

-Cover open third party equipment components.

-Short circuit system components as required.

-Make sure the system is powered off.

### 11.1 Replace luminaire tube

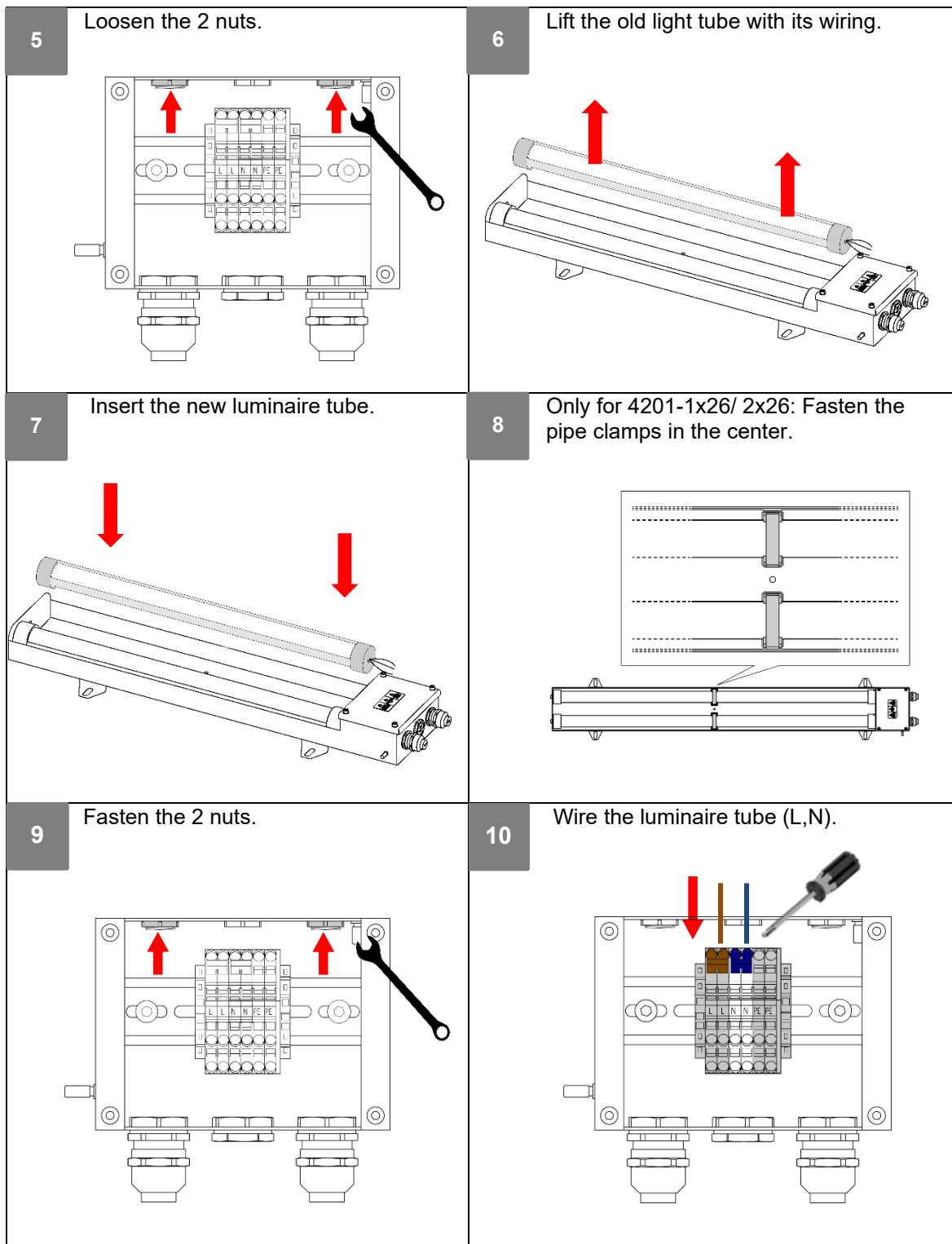


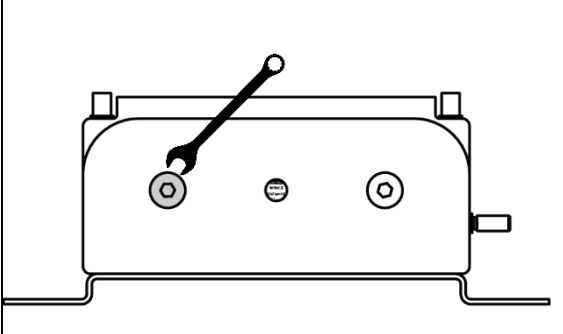
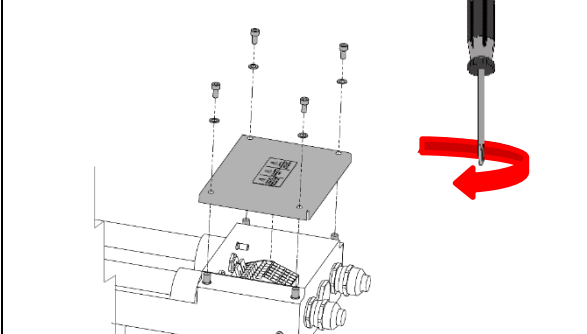
**DANGER** of electrical shock.

Disconnect the luminaire from the power supply.

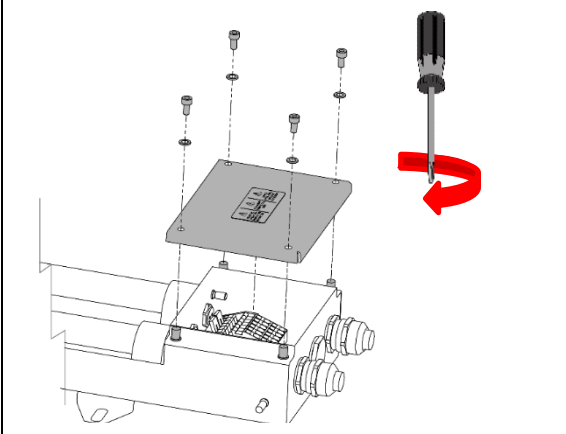
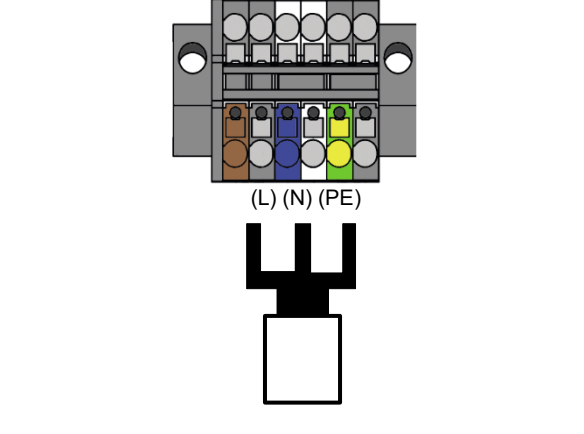
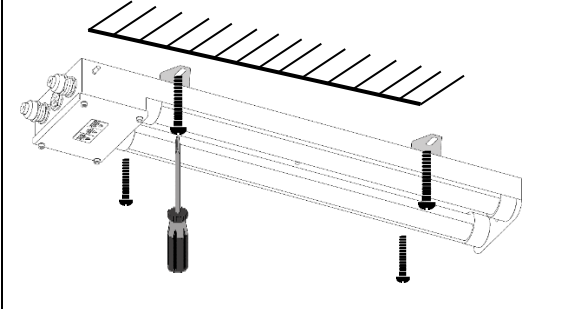
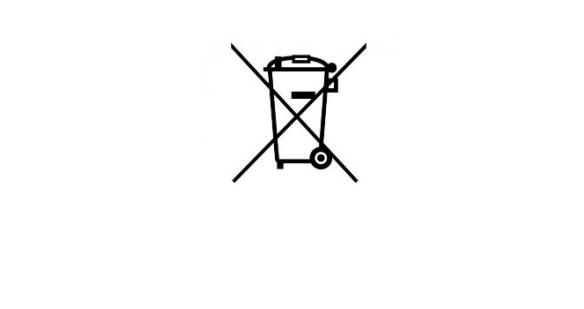
Observe safety measures against restarting.

Tools needed		Screwdriver, hexagonal wrench (Reuse screws)	
<b>1</b>	Open the terminal box.	<b>2</b>	Disconnect the wiring (L,N) of the lamp tube.
<b>3</b>	Loosen the rear attachment.	<b>4</b>	Only for 4201-1x26/ 2x26: Loosen the pipe clamps in the middle.



<p><b>7</b> Tighten the rear attachment.</p> 	<p><b>8</b> Close the terminal box.</p> 
<p><b>i</b> Tightening torque: 10 Nm</p>	<p><b>i</b> Tightening torque: 4 Nm</p>
<p><b>9</b> ✓</p>	

## 12 Dismantlement

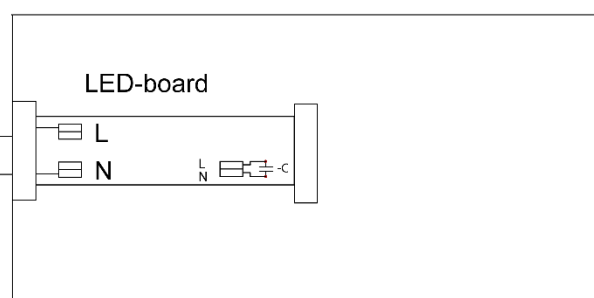
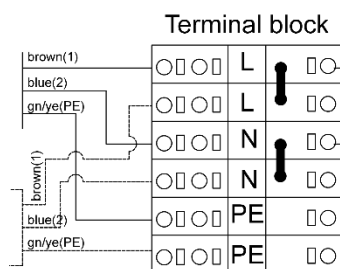
<p>Tools needed</p>	<p>Screwdriver</p>
<p><b>1</b> Open the terminal box.</p> 	<p><b>2</b> Disconnect the connection cable leads.</p>  <p>(L) (N) (PE)</p>
<p><b>3</b> Detach the mounting bracket from the mounting points.</p> 	<p><b>4</b> Dispose of professionally.</p> 
<p><b>5</b> ✓</p>	

## 13 Circuit diagram

### 4201-1x13

Power input cable  
50/60 Hz  
220V AC

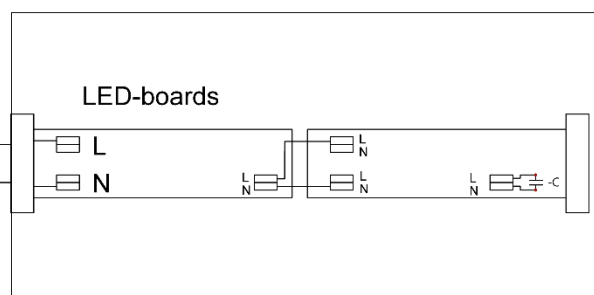
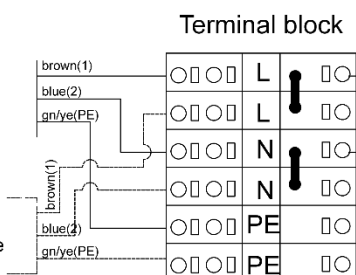
Option  
Cable to next luminaire



### 4201-2x13

Power input cable  
50/60 Hz  
220V AC

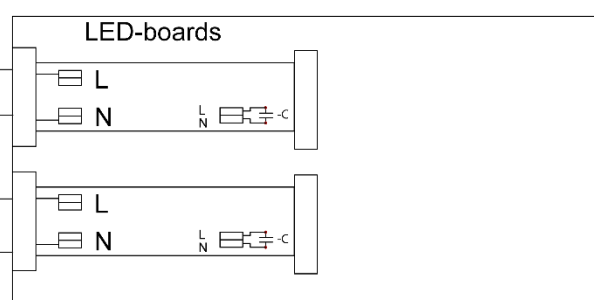
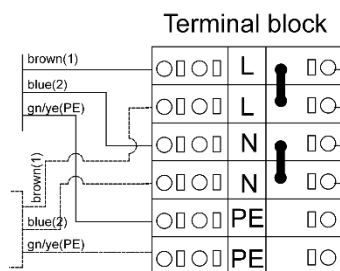
Option  
Cable to next luminaire



### 4201-1x26

Power input cable  
50/60 Hz  
220V AC

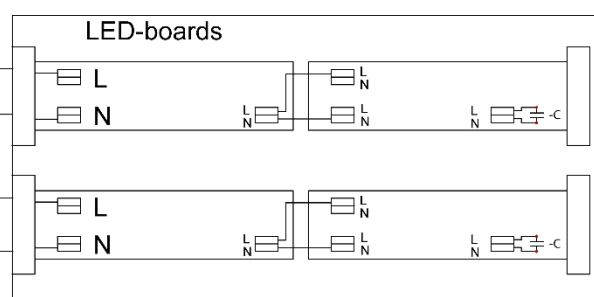
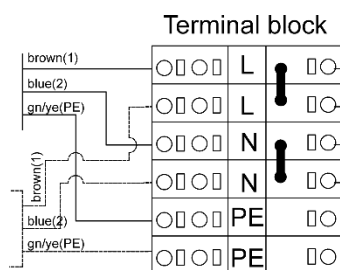
Option  
Cable to next luminaire



### 4201-2x26

Power input cable  
50/60 Hz  
220V AC

Option  
Cable to next luminaire



### Terminal information

- Conductor cross-section flexible: up to 4 mm<sup>2</sup>
- Conductor cross section flexible with ferrule: up to 4 mm<sup>2</sup>
- Conductor cross-section solid: up to 6 mm<sup>2</sup>
- Connection type: spring-cage connection
- Stripping length: 8 - 10 mm

## 14 Technical data

Specifications	1x13	2x13	1x26	2x26
<b>Voltage</b>	230/110 V AC, 50/60 Hz (standard) 24V DC (emergency light, external uninterruptible power supply)			
<b>Nominal power</b>	1 x 13 W	2 x 13 W	1 x 26 W	2 x 26 W
<b>LED emergency light</b>	2 W (only for variants with externally supplied 24 V DC emergency light)			
<b>Cable gland</b>	2x EMSKE-L 25 EMV-Z Brass, nickel-plated, mounted on junction box Cable 10-17mm diameter			
<b>Connection</b>	4x3-pole spring-cage terminal blocks 4mm <sup>2</sup> according to Ex eb IIC			
<b>Rated lifetime</b>	L70/B50 @Ta +35°C			
<b>System lifetime</b>	> 100000 h			
<b>Illuminant</b>	LED			
<b>Color temperature</b>	5600 K			
<b>Luminous flux</b>	1000 lm	2000 lm	2000 lm	4000 lm
<b>Color rendering index</b>	CRI>80			
<b>Operating temperature</b>	-30 °C to 55 °C			
<b>Protection class</b>	IP66 / IP68			
<b>Areas of application</b>	Hazardous areas, zone 1, II 2G Ex db eb op is IIC T5...T6 Gb, II 2D Ex tb op is IIIC T85°C...100°C Db.			
<b>Ex certificate</b>	EPS 19 ATEX 1 076 X, IEC Ex EPS 19.0109 X			
<b>Mounting type</b>	Structure, wall, ceiling, 2 mounting brackets permanently installed			
<b>Material</b>	Stainless steel, Luminaire tubes polycarbonate, top clear			
<b>Surface</b>	Housing powder coated			
<b>Product color</b>	RAL 9016			
<b>Feature</b>	Mains loop through			

### 14.1 Dimensions

Model	Outer dimensions*			Mounting bracket		Weight**
	L	H	D	L	Hole spacing	
	mm	mm	mm	mm	mm	
4201- 1x13	796	91	216	950	168...201	4,3
4201- 2x13	796	91	216	950	168...201	5,0
4201- 1x26	1294	91	216	950	168...201	6
4201- 2x26	1294	91	216	950	168...201	6,9

\* incl. mounting bracket

## 14.2 Temperature classes

LED luminaire with short luminaire tubes Type 4201-2x13-\*\*\*\_\*\*\*\_\*\*\*\_\*\*\*\_\*\*\*

Ex db eb IIC T5...T6 Gb  
Ex tb IIIC T85°C ...T100°C Db

Rated current	Ta max ≤ 50 °C		Ta max ≤ 55 °C	
	Cable cross section		Cable cross section	
	≥ 1.5 mm <sup>2</sup>	≥ 2.5 mm <sup>2</sup>	≥ 1.5 mm <sup>2</sup>	≥ 2.5 mm <sup>2</sup>
max. 10 A	T6 / T85°C	T6 / T85°C	T5 / T100°C	T5 / T100°C
max. 16 A	-	T6 / T85°C	-	T5 / T100°C

LED luminaire with long luminaire tubes Type 4201-2x26-\*\*\*\_\*\*\*\_\*\*\*\_\*\*\*

Ex db eb IIC T5...T6 Gb  
Ex tb IIIC T85°C ...T100°C Db

Rated current	Ta max ≤ 50 °C		Ta max ≤ 55 °C	
	Cable cross section		Cable cross section	
	≥ 1.5 mm <sup>2</sup>	≥ 2.5 mm <sup>2</sup>	≥ 1.5 mm <sup>2</sup>	≥ 2.5 mm <sup>2</sup>
max. 6 A	T6 / T85°C	T6 / T85°C	T6 / T85°C	T6 / T85°C
max. 10 A	T6 / T85°C	T6 / T85°C	T5 / T100°C	T6 / T85°C
max. 16 A	-	T6 / T85°C	-	T5 / T100°C

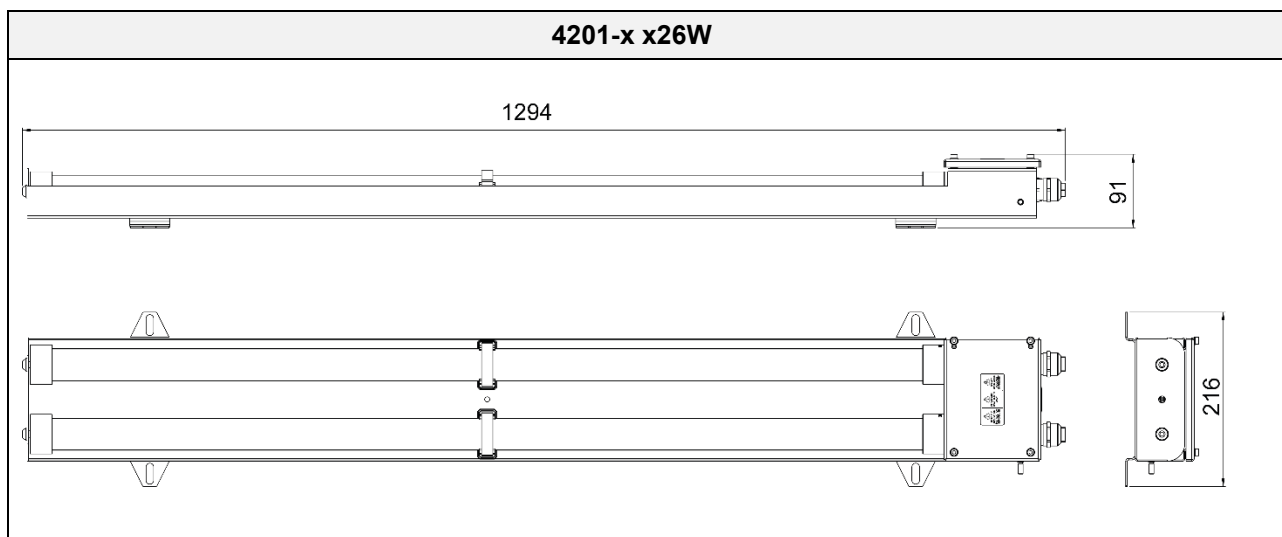
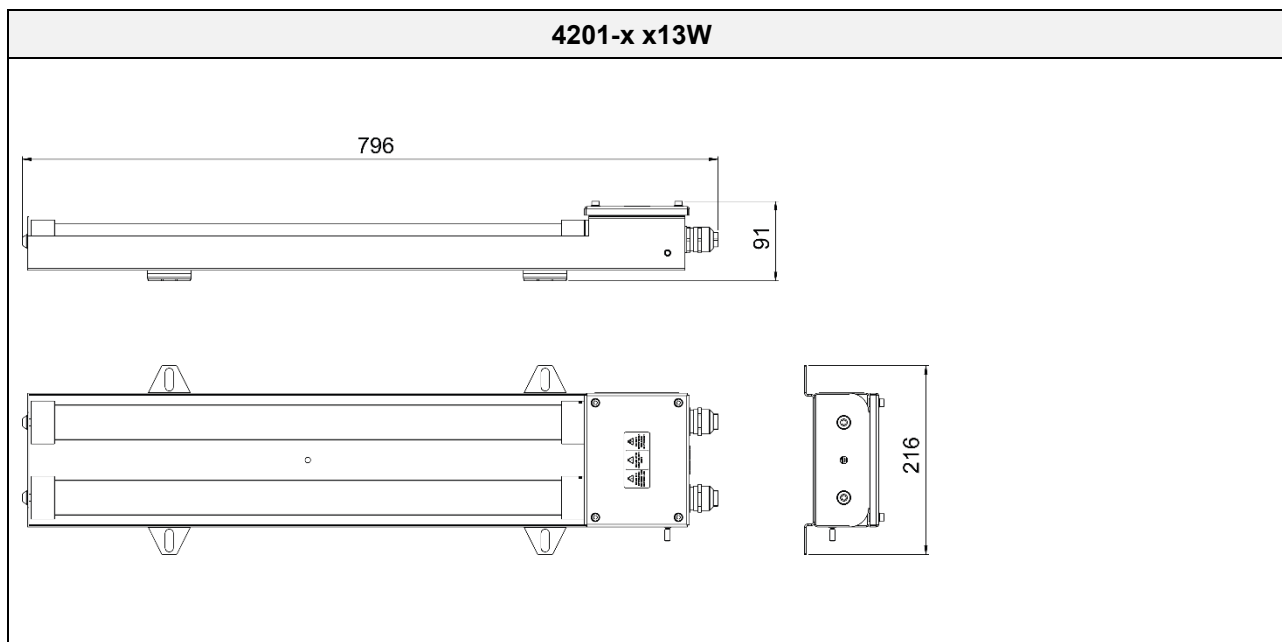
Cable cross section for the terminal

min. 1 x 1.5 mm<sup>2</sup> (solid wire)  
max. 1 x 4 mm<sup>2</sup> (solid wire)  
1 x 6 mm<sup>2</sup> (braided wire)

Maximum number and minimum cross section of the connected strands in the terminal box

16 x 1.5 mm<sup>2</sup>

### 14.3 Dimensional drawings





## 14.7 Scope of delivery

The LED Ex luminaire is delivered including illuminant and mounting bracket.

## 15 Accessories / Spare parts

Only use original accessories and original spare parts from WISKA. For accessories and spare parts (e.g. cable entries, pressure compensation plugs, seals), contact WISKA Service.

### Spare parts

No.	Designation	Item no.
1	LED light tube 13 W / 110 V	22001251
2	LED light tube 26 W / 110 V	22001252
3	LED light tube 13 W / 230 V	22001249
4	LED light tube 26 W / 230 V	22001250

## 16 Declaration of Conformity / Certificate

The current declaration of conformity is available at [www.wiska.com](http://www.wiska.com) for the respective product.





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