



## Emergency luminaire with LED

Series EXLUX 6409/4



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# 1 General information

## 1.1 Manufacturer

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## 1.2 Information regarding the operating instructions

ID no.: 266665 / 640960300140  
Publication code: 2022-03-14·BA00·III·en·03

The original instructions are the English edition.  
They are legally binding in all legal affairs.

## 1.3 Further documents

- Data sheet
- For documents in other languages, see r-stahl.com.

## 1.4 Conformity with standards and regulations

IECEX, ATEX, EU Declaration of Conformity and further national certificates can be downloaded via the following link: <https://r-stahl.com/en/global/support/downloads/>.  
IECEX is also available at: <http://iecex.iec.ch/>

## 2 Explanation of symbols

### 2.1 Symbols used in these operating instructions

Symbol	Meaning
	Tips and recommendations on the use of the device
	Danger due to explosive atmosphere
	Danger due to live components



### 2.2 Warning notes

Warning notes must be observed under all circumstances, in order to minimise the risk resulting from design engineering and operation. The warning notes have the following structure:

- Signalling word: DANGER, WARNING, CAUTION, NOTICE
- Type and source of danger/damage
- Consequences of danger
- Taking countermeasures to avoid the danger or damage

	<b>DANGER</b>
	Danger to persons Non-compliance with the instruction results in severe or fatal injuries to persons.
	<b>WARNING</b>
	Danger to persons Non-compliance with the instruction can result in severe or fatal injuries to persons.
	<b>CAUTION</b>
	Danger to persons Non-compliance with the instruction can result in light injuries to persons.
<b>NOTICE</b>	
Avoiding material damage Non-compliance with these instructions can result in material damage to the device and/or its surroundings.	

## 2.3 Symbols on the device

Symbol	Meaning
 0158 <small>05594E00</small>	CE marking according to the current applicable directive.
 02198E00	Device certified for hazardous areas according to the marking.

## 3 Safety notes

### 3.1 Operating instructions storage

- Carefully read the operating instructions.
- Store the operating instructions at the mounting location of the device.
- Observe applicable documents and operating instructions of the devices to be connected.

### 3.2 Safe use

#### Before mounting

- Read and observe the safety notes in these operating instructions!
- Ensure that the contents of these operating instructions are fully understood by the personnel in charge.
- Use the device in accordance with its intended and approved purpose only.
- Always consult R. STAHL Schaltgeräte GmbH if using the device under operating conditions which are not covered by the technical data.
- We cannot be held liable for damage to the device caused by incorrect or unauthorised use or non-compliance with these operating instructions.

#### For mounting and installation

- Observe national mounting and installation regulations (e.g. IEC/EN 60079-14).
- Observe national safety and accident prevention regulations.
- During installation and operation, observe the information (characteristic values and rated operating conditions) on the rating, data and information plates located on the device.
- Before installation, make sure that the device is not damaged.

#### Maintenance, repair, commissioning



- Before commissioning, make sure that the device is not damaged.
- Work on the device, such as installation, maintenance, overhaul, repair, may only be carried out by appropriately authorised and trained personnel.
- Only perform the maintenance work and repairs described in these operating instructions.

### 3.3 Intended use


The light fitting is equipment

- for lighting areas, work areas and objects
- for emergency lighting in case of power failure
- that can be used indoors and outdoors
- for stationary mounting
- for use in Zones 21, 2, 22 and in the safe area

### 3.4 Modifications and alterations

	<b>DANGER</b>
	<p>Explosion hazard due to modifications and alterations to the device!                  Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Do not modify or change the device.</li> </ul>
	No liability or warranty for damage resulting from modifications and alterations.

## 4 Function and device design

	<b>DANGER</b>
	<p>Explosion hazard due to improper use!                  Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Use the device only according to the operating conditions described in these operating instructions.</li> <li>• Use the device only for the intended purpose specified in these operating instructions.</li> </ul>

### 4.1 Function

#### Application range

The luminaire 6409/4 is equipment used for lighting areas, work equipment and objects. It can be used indoors or outdoors and is suitable for emergency lighting in case of power failure.

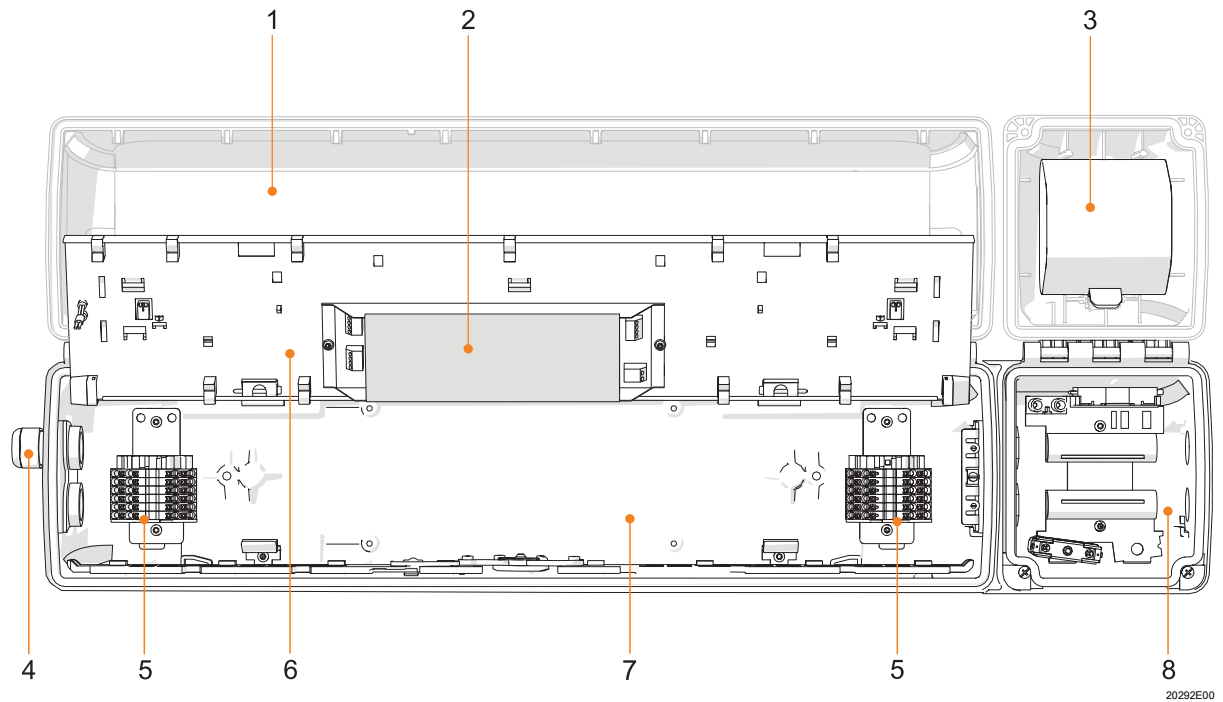
The luminaire is approved for use in hazardous areas of Zones 2, 21 and 22.

#### Mode of operation

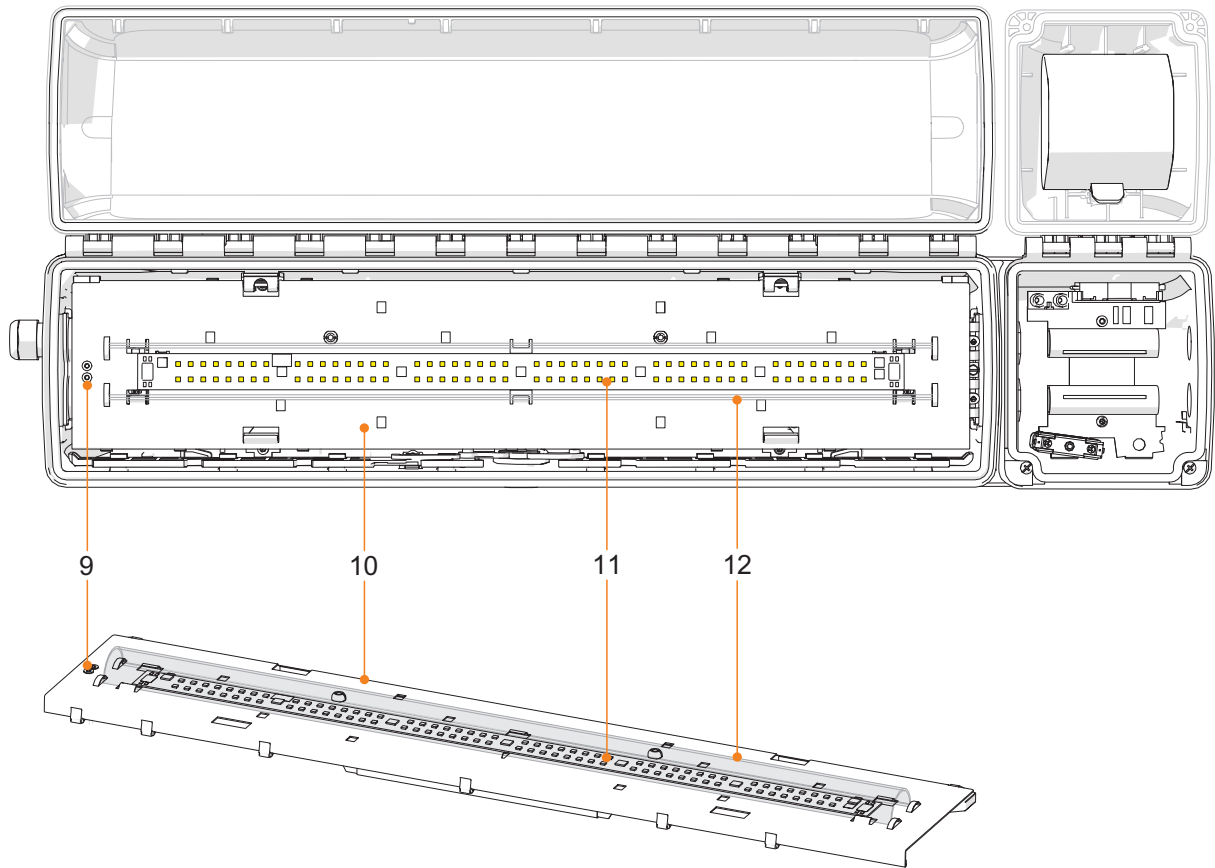
A weekly functional test and annual rated operating time test have been permanently integrated.

When opened using a central lock, the luminaire switches off automatically (optional). The operating hours can be determined and the luminaire can be dimmed and switched via an optional DALI interface.

## 4.2 Device design



- |   |                   |   |                              |
|---|-------------------|---|------------------------------|
| 1 | Translucent cover | 5 | Connection terminal          |
| 2 | Control gear      | 6 | Mounting plate (bottom side) |
| 3 | Battery           | 7 | Luminaire enclosure          |
| 4 | Cable entry       | 8 | Battery enclosure            |



20293E00

- |    |                           |    |          |
|----|---------------------------|----|----------|
| 9  | LED indicator             | 11 | LED PCB  |
| 10 | Mounting plate (top side) | 12 | Diffuser |



## 5 Technical data

### Explosion protection

#### Global (IECEx)

Gas and dust	IECEx IBE 16.0047 Ex db ec IIC T4 Gc Ex tc IIIC T100 °C Dc Ex tb op is IIIC T100 °C Db
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#### Europe (ATEX)

Gas and dust	IBExU 16 ATEX 1233 ⊕ II 3 G Ex db ec IIC T4 Gc ⊕ II 3 D Ex tc IIIC T100 °C Dc ⊕ II 2 D Ex tb op is IIIC T100 °C Db
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### Certifications and certificates

Certifications	IECEx, ATEX
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### Technical data

#### Electrical data

Rated operational voltage	AC: 110 to 240 V ±10%; 50 to 60 Hz				
Rated insulation voltage	250 V				
Rated operational current	<b>Standard + DALI Size 2</b>		<b>Standard + DALI Size 4</b>		
At nominal voltage	110 V	230 V	110 V	230 V	
During stand-by switching	< 0.08 A	< 0.08 A	< 0.08 A	< 0.08 A	
In continuous mode	0.24 A	0.13 A	0.43 A	0.21 A	
Start-up current	I <sub>peak</sub> = 62 A; Δt = 122 μs Maximum number of luminaires per miniature circuit breaker at 230 V:				
	<b>Type</b>	<b>10 A</b>	<b>16 A</b>	<b>20 A</b>	<b>25 A</b>
	<b>B</b>	10	17	21	27
	<b>C</b>	18	28	36	45
	<b>K</b>	36	57	72	90
Power factor	<b>Size 2</b>		<b>Size 4</b>		
At nominal voltage	110 V	230 V	110 V	230 V	
	≥ 0.98	≥ 0.90	≥ 0.99	≥ 0.95	
Class	I (with internal PE connection)				
Protective conductor current	≤ 0.5 mA				
THD	Size 2: < 15% Size 4: < 8%				

**Technical data**

**Luminous characteristics**

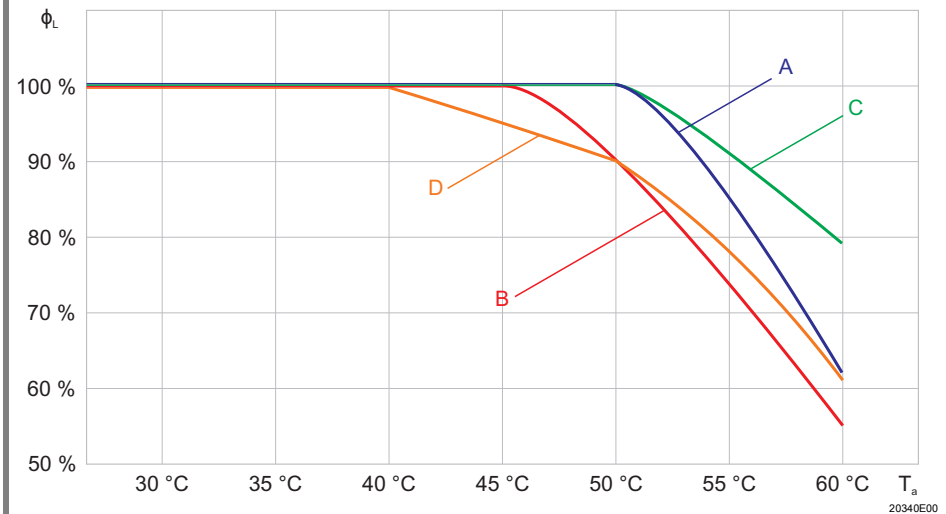
Colour rendering  $R_a \geq 80$   
 Colour temperature Depending on the variant, 2,700 K (warm white), 4,000 K (warm neutral white), 5,000 K (standard light colour, neutral white) or 6,500 K (daylight white)

Luminous flux	Size 2		Size 4	
	with	without	with	without
Power consumption [W]	25		45	
Diffuser	with	without	with	without
Luminous flux [lm]	2,910	3,230	5,810	6,460
Luminaire efficacy [lm/W]	116	129	129	144

Values apply to  $T_a = +25\text{ °C}$ .

Energy efficiency class of the light source The device contains a light source in energy efficiency class D (label according to Ecodesign Directive)

Luminous flux decline at ambient temperature



- A: Size 2; 230 V, 50 Hz
- B: Size 4; 230 V, 50 Hz
- C: Size 2; 110 V AC, 60 Hz
- D: Size 4; 110 V AC, 60 Hz

**Technical data**

**Ambient conditions**

Functional ambient temperature range	without through wiring	-30 to +60 °C (1, 2)
	I <sub>N</sub> Through wiring ≤ 10 A	-30 to +55 °C (1, 2)
	I <sub>N</sub> Through wiring ≤ 16 A	-30 to +50 °C (1)
<p>(1) <b>Rated operating time during emergency light operation</b>                  is guaranteed within an ambient temperature range of -5 to +50 °C.                  This also applies to charging and discharging of the battery. The rated operating time might be reduced if used outside this temperature range.</p> <p>(2) <b>Battery service life</b>                  is guaranteed within an ambient temperature range of -30 to +50 °C according to IEC/EN 60598-2-22.</p>		
Storage temperature	-30 to +60 °C	

**Service life**

LED	L <sub>90</sub> B <sub>50</sub> : 100,000 h	
	L <sub>x</sub> B <sub>y</sub> At the end of the service life:	
	<ul style="list-style-type: none"> <li>• Luminous flux declines to "x" percent</li> <li>• up to "y" percent of all luminaires do not reach "x"</li> </ul>	
LED control gear	C <sub>10</sub> at 60 °C ≥ 100,000 h C <sub>10</sub> = failure rate 10%	

**Mechanical data**

Degree of protection according to IEC 60598	Size 2	Size 4
R. STAHL cable entries	IP66/IP67	IP66/IP67
8162/1 breather	IP64	IP64
Impact strength (IK code)	IK10 (IEC 62262)	
Material		
Enclosure	Polyester resin, glass fibre reinforced	
Enclosure colours	Grey colour, similar to RAL 7035	
Translucent cover	Polycarbonate	
Seal	Silicone seal, foamed into the translucent cover	
Luminaire lock	Central lock for M8 / A/F 13 box spanner; the translucent cover can be swivelled on its hinge	

**Technical data**

**Mounting/installation**

Cable entries	Openings	Standard	Connection side, 2 drilled holes for M25 (for loop in/loop out wiring) Output side, 1 drilled hole for M25 (for through wiring of the connection line)
		optional	max. 4 drilled holes for M20, M25, NPSM 1/2" or max. 2 drilled holes for NPT 3/4"
Threaded plate		Standard	2 x plastic M25 x 1.5
		optional	2 x metal M25 x 1.5 or M20 x 1.5 connected by means of PE for metal cable entries Seawater-resistant version on request Attention: cable entries must be ordered separately
Accessories		Standard	Plastic, 2 x M25 x 1.5 cable entries 8161 and 2 x M25 x 1.5 stopping plugs 8290 (included)
		optional	Metal cable glands: M20 x 1.5, M25 x 1.5; earthing of metal cable entries via metal plates (further cable entries possible on request)
Connection		Spring clamp terminals for max. 16 A Standard: 6-pole: L1, L2, L3, L', N, PE with DALI: 8-pole: L1, L2, L3, L', N, PE, D1, D2 Clamping range: 1 x 1.5 to 4 mm <sup>2</sup> (finely stranded) 1 x 1.5 to 6 mm <sup>2</sup> (solid and finely stranded with core end sleeve) (2 free clamping units per pole available)	
Through wiring		Standard	with Luminaires are equipped with internal through wiring. Connection of ingoing and outgoing leads on opposite sides is possible. Terminals: See technical data Wiring cross section of the supply line connection: 2.5 mm <sup>2</sup> for max. 16 A (Observe operating temperature)
		optional	without On the connection side, there are 2 M25 x 1.5 bores for cable entries for loop in/loop out wiring of the connection line (ingoing and outgoing lead on one side).
Mounting		Standard	2 x M8 insert nuts in the enclosure
		optional	Mounting grooves in the enclosure for use of mounting and top rails for variable luminaire mounting (variable mounting distances for luminaires Size 2: 320 to 480 mm Size 4: 670 to 930 mm)

**Technical data**

**Control gear**

Emergency light operation | In case of power failure the LEDs are supplied by the battery.

Rated operating time | At optimal ambient temperature of the battery:

Battery capacity	Rated operating time	Emergency light output	
		Size 2	Size 4
7 Ah	1.5 h	65%	35%
	3.0 h	35%	20%

Switchover voltage | From mains to battery operation at  $U < 0.83 \times U_N$   
 From battery to mains operation at  $U > 0.88 \times U_N$

**Battery set**

Version | NiCd battery, gas-tight

Operating voltage | 6 V

Capacity | 7 Ah

Changing the battery set | When opening the battery enclosure, the connection between the battery and the control gear is disconnected by means of a switch.

The battery set can be replaced after disconnecting a plug-in contact.

**Optional**

Interface | DALI (according to IEC 62386):  
 • Device type 1 (emergency lighting with individual battery)  
 • Device type 6 (LED driver)

Breather | Breather 8162/1 from R.STAHL Schaltgeräte GmbH  
 The breather guarantees compliance with degree of protection IP64 in all mounting positions. The breather may not be used in atmospheres with corrosive gases.

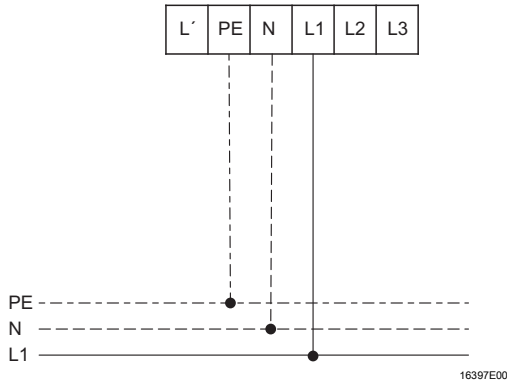
For further technical data, see [r-stahl.com](http://r-stahl.com).

## 6 Project engineering

### 6.1 Power supply operation

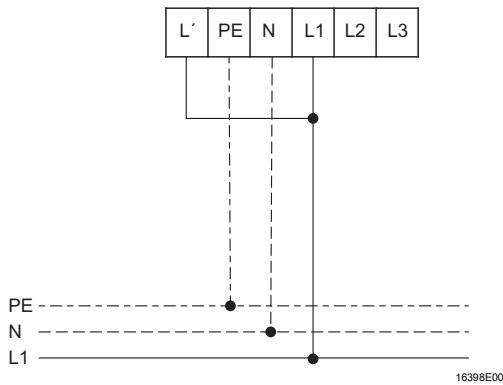
#### 6.1.1 Stand-by switching

- The luminaire is switched off.



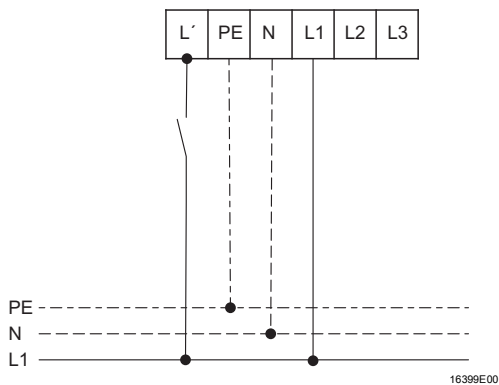
#### 6.1.2 Continuous mode

- The luminaire is switched on.



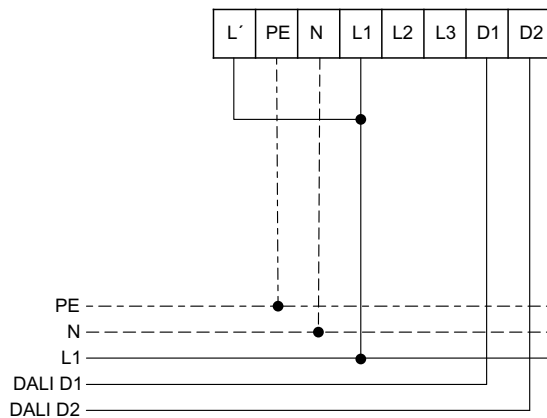
#### 6.1.3 Switching with normal lighting

- The light fitting is switched with the normal lighting.



### 6.1.4 Control with DALI

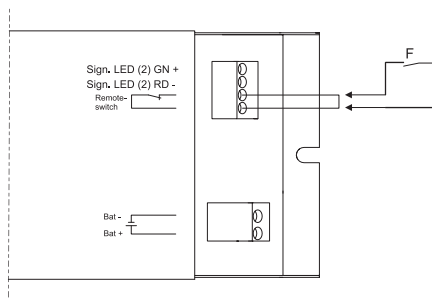
- The luminaire is switched using a DALI control.



22340E00

### 6.2 Emergency light blocking

A remote switch for emergency light blocking can be connected to the "Remote switch" terminals on the control gear.



19192E00

Power supply operation  
Power failure

**Remote switch is closed**  
Switching on the luminaire depending on operating mode  
Emergency light function

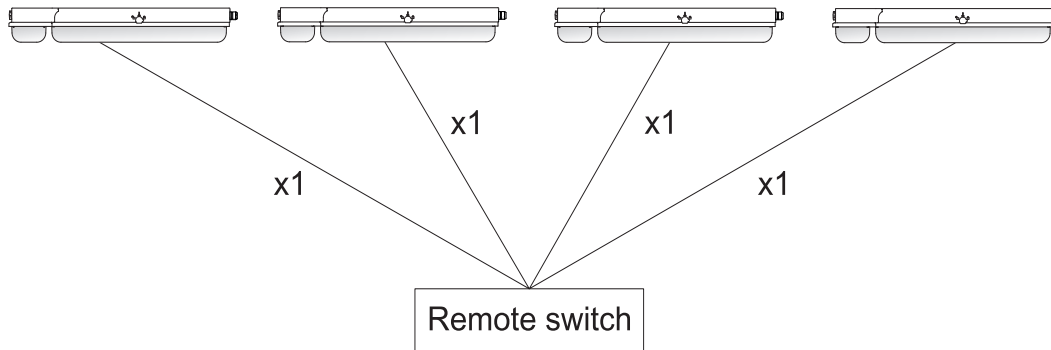
**Remote switch is opened**  
Switching on the luminaire depending on operating mode  
No emergency light function

### 6.2.1 Remote switch connection variants

The remote switch is directly connected to the control gear.

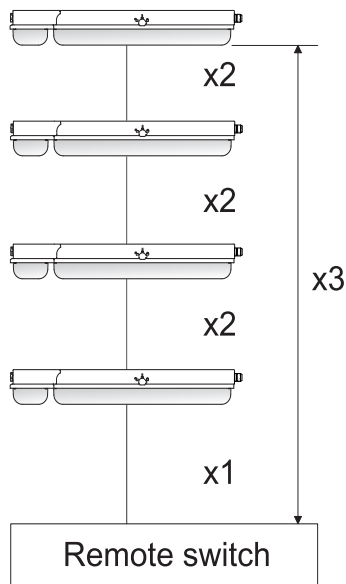
The following connection variants are possible:

#### Point-to-point connection



18474E00

#### Linear connection



18473E00

The following conductor specifications must be observed during connection:

	Point-to-point connection	Linear connection
maximum conductor length		
x 1	500 m	100 m
x 2		50 m
x 3		500 m
maximum number of luminaires	50	30
Cable cross section	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>



## 7 Transport and storage

### 7.1 General information

- Transport and store the device only in the original packaging.
- Store the device in a dry place (no condensation) free of vibrations.
- Do not drop the device.

### 7.2 Batteries

- Do not transport together with other materials.
- Do not transport in an explosive dust atmosphere.
- Handle with care.
- Store protected from fire, sources of dust, harmful gases and liquids.
- Store in a dry and cool location.

#### **NOTICE**

Risk of deep battery discharge due to exceeded storage!


Non-compliance can result in material damage!

- The battery should be charged within 26 weeks from date of production by means of operating the luminaire.

#### **Recommendation:**

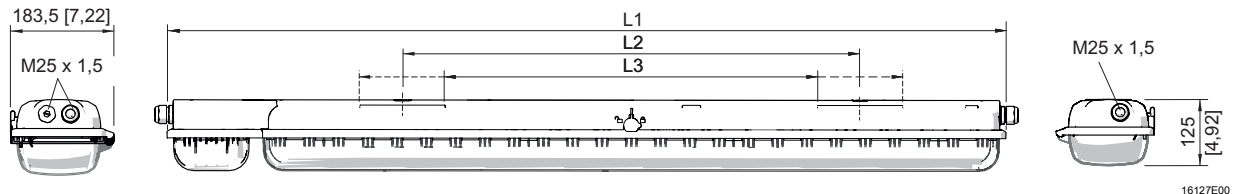
- Store the battery at an ambient temperature of +5 to +25 °C and a relative humidity of  $65 \pm 5\%$ . Outside of this temperature range, the storage time is shortened to up to a month.

## 8 Mounting and installation

	<b>DANGER</b>
	<p>Explosion hazard due to incorrect installation of the device! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>Carry out installation strictly according to the instructions and national safety and accident prevention regulations to maintain explosion protection.</li> <li>Select and install the electrical device so that explosion protection is not affected due to external influences, i.e. pressure conditions, chemical, mechanical, thermal and electrical influences such as vibration, humidity and corrosion (see IEC/EN 60079-14).</li> <li>The device must only be installed by trained qualified personnel who are familiar with the relevant standards.</li> </ul>
<b>NOTICE</b>	
<p>Malfunction or device damage caused by condensation. Non-compliance may lead to material damage!</p> <ul style="list-style-type: none"> <li>Operate the luminaire continuously or periodically over extended periods of time.</li> <li>Avoid thermal bridges.</li> </ul>	

### 8.1 Dimensions/fastening dimensions

Dimensional drawings (all dimensions in mm [inch]) – Subject to change



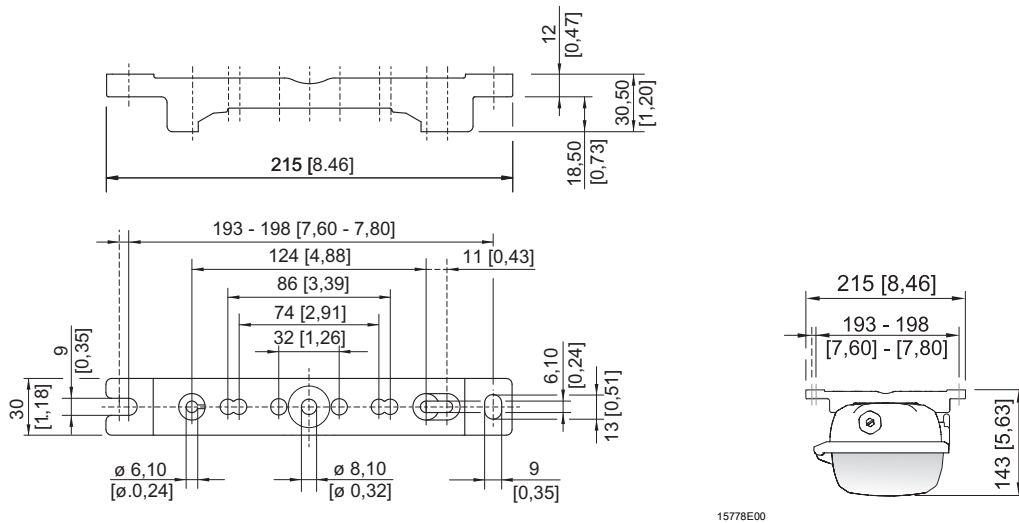
Dimensions	Luminaire	
	Size 2	Size 4
L1	857 [33.74]	1467 [57.76]
L2 <sup>1)</sup>	400 [15.75]	800 [31.50]
L3 <sup>2)</sup>	320 to 480 [12.60 to 18.90]	670 to 930 [26.38 to 36.61]

<sup>1)</sup> fixed mounting distance

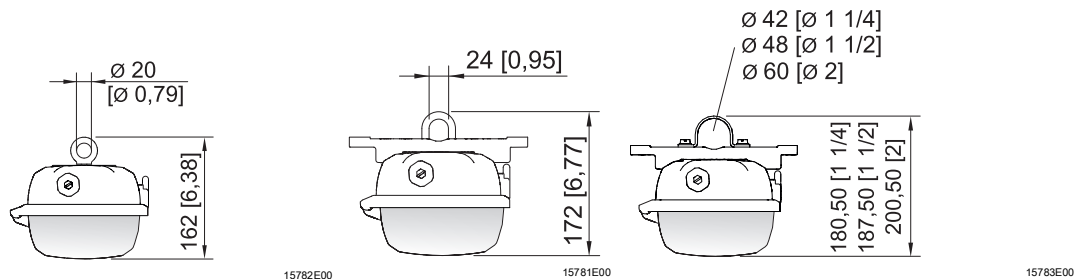
<sup>2)</sup> variable mounting distance

### EXLUX 6409/4

**Dimensional drawings for assembly parts and accessories (all dimensions in mm [inch]) – Subject to change**



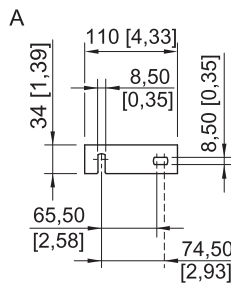
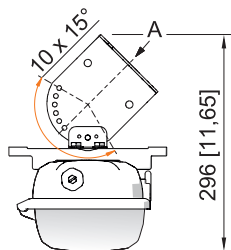
**Mounting rail**



**Ring bolt installed in insert nut of the luminaire**

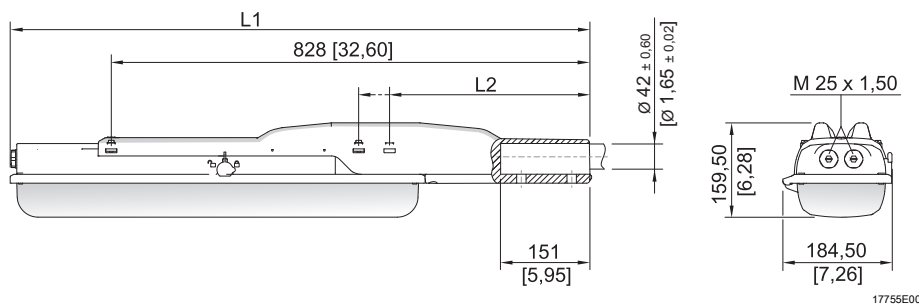
**Mounting bracket fitted in mounting rail**

**Pipe clamp installed in mounting rail**



**Wall mounting bracket installed in mounting rail**

**Dimensional drawings for assembly parts and accessories (all dimensions in mm [inch]) – Subject to change**




Dimensions	Luminaire	
	Size 2	Size 4
L1	1135 [44.69]	1744 [68.66]
L2	390 [15.35]	338 [13.31]

**Linear luminaire EXLUX with pole mounting sleeve**




**8.2 Removing protective foil**

As standard, the luminaire is generally delivered with protective foil on the translucent cover. However, in some cases, it can be delivered without protective foil.

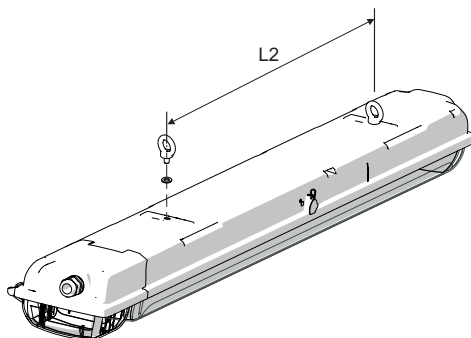
	DANGER
	<p>Explosion hazard due to electrostatic discharge!                      Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Only remove protective foil in safe areas.</li> </ul>

- If protective foil is present:  
Remove the protective foil before commissioning.

### 8.3 Mounting/dismounting, operating position

	<p style="text-align: center;"><b>DANGER</b></p> <p>Explosion hazard due to electrostatic discharge! Non-compliance results in severe or fatal injuries.</p> <p>Do not use the device in strong charge-generating environments!</p> <p>The following processes/activities should be avoided:</p> <ul style="list-style-type: none"> <li>• Accidental friction</li> <li>• Particle flows</li> </ul>
	<p style="text-align: center;"><b>DANGER</b></p> <p>Explosion hazard due to impermissible heating! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Avoid external heat sources and/or direct sunlight (risk of change of temperature class or change of maximum permissible surface temperature).</li> <li>• Do not exceed the maximum ambient temperature due to external heat sources (premature failure of equipment).</li> </ul>
	<p>The luminaire is suitable for wall and ceiling mounting. In event of wall mounting in outdoor areas, avoid installation with central lock at top. The mounting position with light emission upwards is prohibited in outdoor areas.</p>

#### Suspension at fixed mounting points

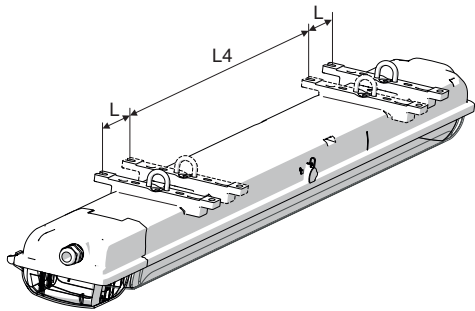


Size	L2 mm [inch]
2	400 [15.75]
4	800 [31.50]

max. screw-in depth 10 mm [0.39]

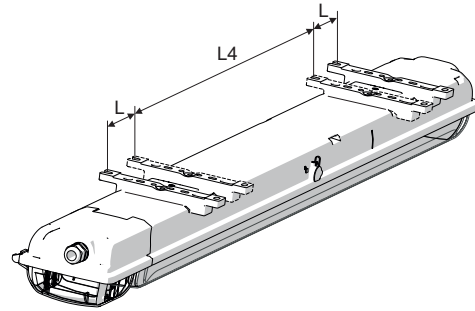
16324E00

Suspension on movable assembly parts



Mounting bracket

16325E00



Top rail

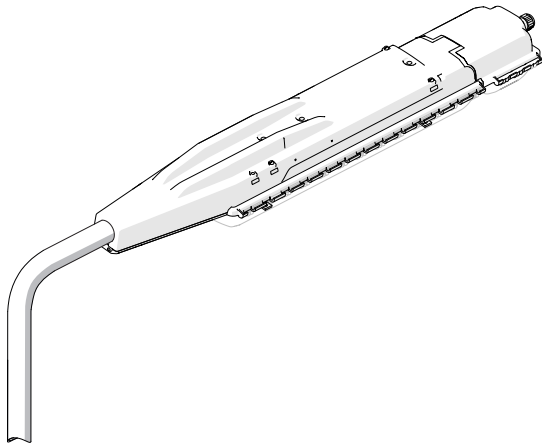
16326E00

Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

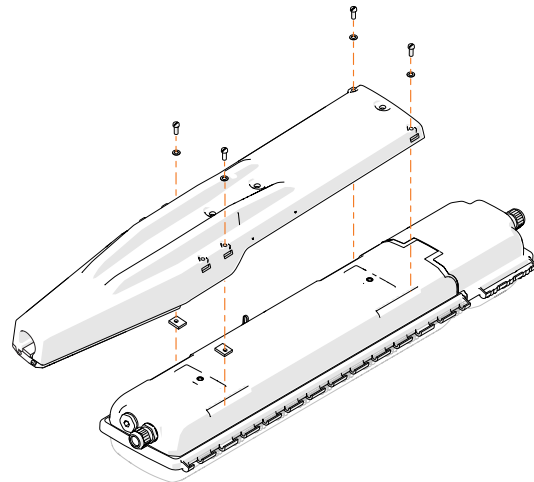
Lateral mounting pockets for variable points of suspension.

<b>i</b>	<p>When mounting the luminaire using top rails, ensure that the mounting surface is flat. Otherwise, the enclosure might be mounted in a warped/twisted way. The result is leakage of the luminaire and difficulties in replacing the translucent cover.</p>
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Pole mounting using pole mounting sleeve

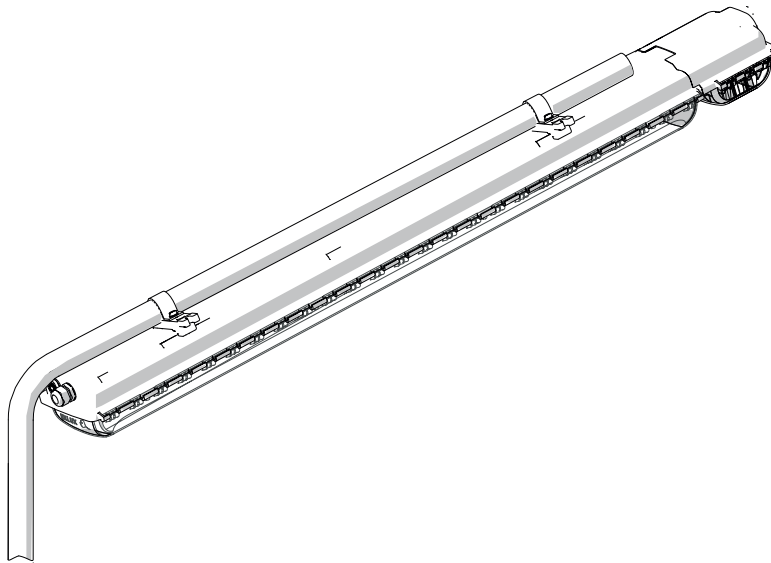


18483E00

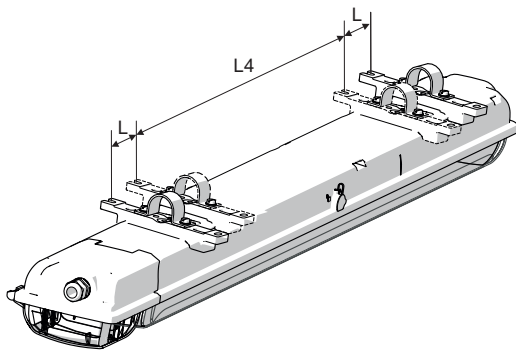


18482E00

Pole suspension  
Pole mounting using pipe clamps



16327E00

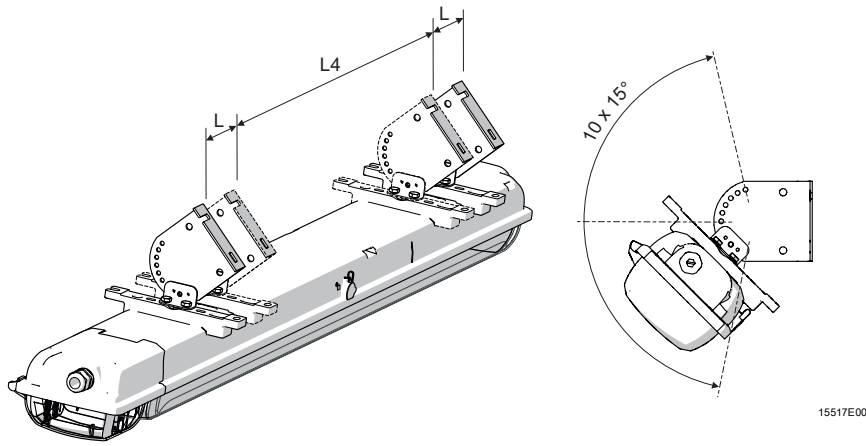


16328E00

Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

<b>i</b>	<p>For pipe clamp mounting, use the solution from R. STAHL Schaltgeräte GmbH with integrated mounting rail, providing reliable and stable four-point fixing!</p> <p>In case of point suspension using pipe clamps, R. STAHL Schaltgeräte GmbH does not guarantee the strength and tightness of the luminaire!</p>
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Wall bracket mounting



Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

8.4 Installation

8.4.1 Opening and closing the enclosure

	<b>DANGER</b>
	<p>Risk of electric shock due to improper opening!                  Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Open luminaires without switches only in de-energised state (see information plate on the lock)!</li> </ul>
	<p><b>Recommendation</b>                  Open and close the luminaire using the box spanner from R. STAHL Schaltgeräte GmbH.</p>



15448E00

15451E00

15436E00

- Remove the closing cap of the central lock.
- Turn the central lock using a box spanner M8, spanner size 13, by 90° to the left as far as it will go.
- Swivel down the translucent cover.
- Proceed in reverse order to close.
- The seal of the translucent cover must lie correctly on the sealing edge.
- Push the closing cap onto the central lock opening (protection against dirt).

**i** Observe the following during mounting and dismantling:

- Version without switch: Disconnect the luminaire from the power supply, secure it against being switched on again and open the battery case in order to disconnect from the battery voltage.
- Do not use force when opening or closing the enclosure!

**Central lock**

- Version with switches: The luminaire is positively disconnected from the power supply by actuating the central lock.
- In the open end position and with the translucent cover swivelled down, the anti-pumping device prevents the central lock from being actuated.

### Opening and closing the reflector plate

15512E00

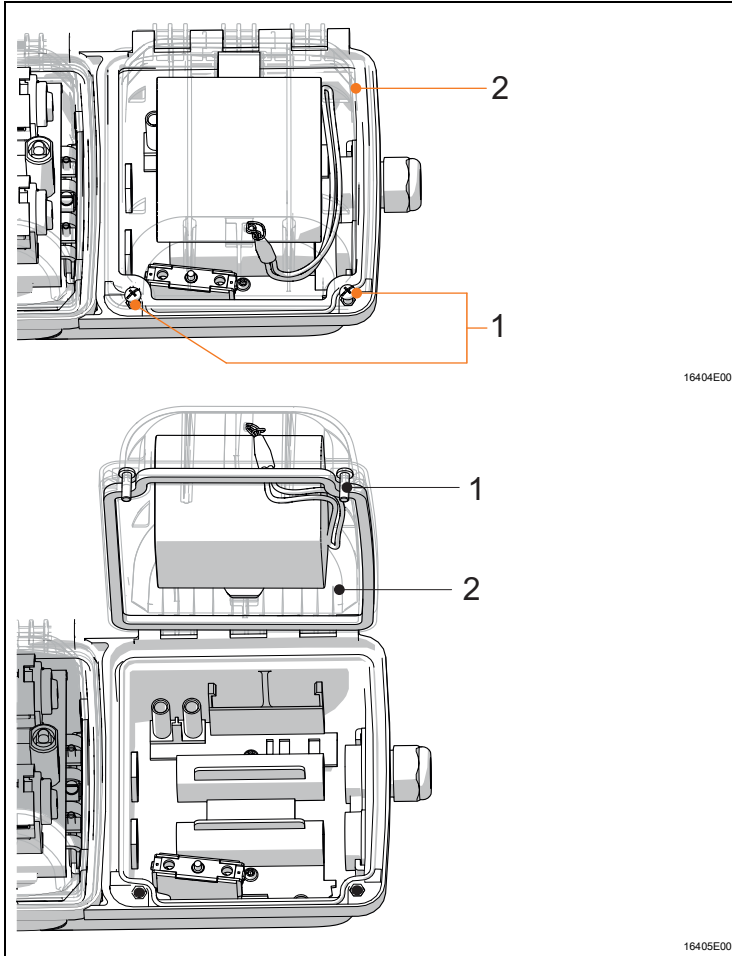
**Opening:**

- Open the reflector plate by pressing down on the safety latch (1).
- Swivel down the reflector plate (2).

**Closing:**

- Flip up the reflector plate and snap it into place.

Opening and closing the battery case



Opening:

- Loosen the screws (1) (cross-recessed H2).
- Open the battery cover (2).

Closing:

- Close the battery cover (2).
- Tighten the screws (1) (cross-recessed H2) firmly (2 Nm).

### 8.4.2 Electrical connections

#### Mains connection

Observe the maximum clamping possibility of the connection terminals (see chapter "Technical data").

For optional screw terminals, two conductors per clamping unit can be clamped (through wiring).

Observe the following when connecting to the mains connection:

- Clamping must be carried out precisely!
- Do not clamp any part of the conductor insulation!
- Do not mix up the conductors.
- Observe the technical regulations when connecting the conductor.
- Clamp the conductor firmly.
- Do not remove the terminal cover with optional screw terminals in order to clamp the conductor!
- Phase L1 must be directly connected to the mains. It functions as the charging phase of the battery.

#### NOTICE

Danger due to wrong connection.

Malfunction

- Phases L' and L1 must be connected in phase.
- Optional screw terminals: Firmly tighten screws (tightening torque 2 Nm, for unused clamping units 0.7 Nm)!

#### Connection terminals

##### Clamping range:

1 x 1.5 to 4 mm<sup>2</sup> (finely stranded)

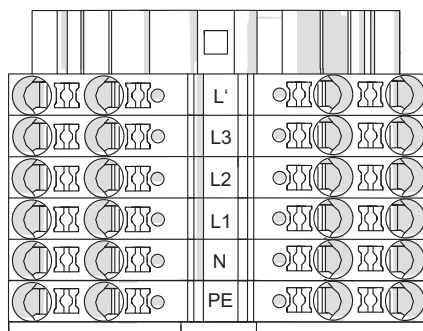
1 x 1.5 to 6 mm<sup>2</sup> (solid and finely stranded with core end sleeve)

(2 free clamping units per pole available)

##### Stripping length:

10 to 12 mm

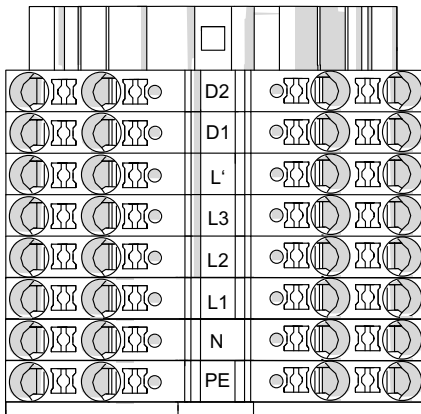
##### Standard:



- L' = switched phase
- L1 = charging phase
- L2, L3 = phase
- N = neutral conductor
- PE = protective conductor

20294E00

with DALI connection:



- D1, D2 = DALI connection
- L' = switched phase
- L1 = charging phase
- L2, L3 = phase
- N = neutral conductor
- PE = protective conductor

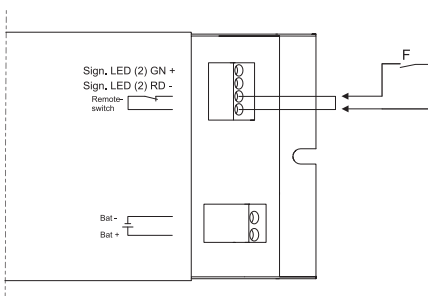
20302E00

### Through wiring of the mains supply connection

<b>i</b>	Through wiring with 2.5 mm <sup>2</sup> Cross section for max. 16 A.
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### Connecting the remote switch to the control gear

Connecting the remote switch to the potential-free contact "Remote switch" on the control gear.



#### Clamping range:

1.5 mm<sup>2</sup> solid, finely stranded and extra finely stranded

#### Stripping length:

8.5 to 9.5 mm

19192E00

### 8.4.3 Cable entries, stopping plugs and breathers

The standard luminaire is delivered with 3 entries, 2 cable entries and 2 stopping plugs.


**Tightening torques for components from R. STAHL Schaltgeräte GmbH**

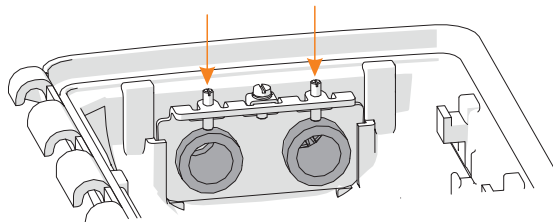
Luminaires with installed cable entries and stopping plugs from

R. STAHL Schaltgeräte GmbH must be tightened using the following values:

		Tightening torque	
		Connection thread	Pressure screw
Cable entry 8161	M20 x 1.5	2.3 Nm	1.5 Nm
	M25 x 1.5	3.0 Nm	2.0 Nm
Stopping plug 8290	M20 x 1.5	1.0 Nm	–
	M25 x 1.5	1.5 Nm	–
Breather 8162/1	M25	3.0 Nm	–


#### Cable entry or breather made of metal

<b>DANGER</b>	
	<p>Explosion hazard due to unprotected earthing contacts! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Contact threaded pins for a combination of a metal insertion plate with metal cable entries or breather (see figure).</li> </ul>



23080E00

#### Luminaires with cable entries and stopping plugs which are not supplied by R. STAHL Schaltgeräte GmbH

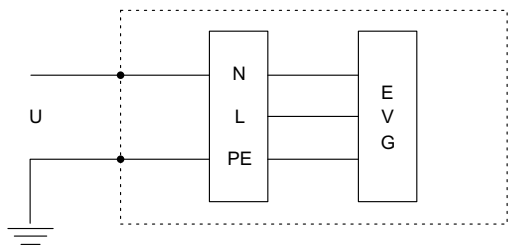
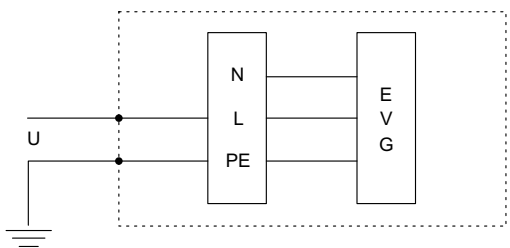
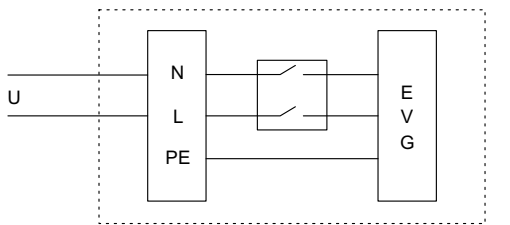
<b>DANGER</b>	
	<p>Explosion hazard due to impermissible cable entries and stopping plugs! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Use cable entries and stopping plugs which have been separately tested and certified according to Directive 2014/34/EU (ATEX) or IECEx (CoC) and which comply with the standard version stated in the certificate of the luminaire.</li> </ul>

Please observe the following:


- the required dust resistance!
- the required type of protection!
- the required temperature resistance!
- the IP degree of protection according to the rating plate!
- the operating instructions of the cable entries and stopping plugs!
- the required tightening torques!
- the area for the permissible conductor diameter!
- insert the metal cable entries and/or stopping plugs into the PE!

### 8.4.4 Lighting system insulation test

A DC voltage insulation test in electrical circuits is permissible up to 500 V DC under the following conditions:

Test location/condition	Circuit diagram
<p>1. Between neutral conductor and protective conductor</p>	 <p style="text-align: right; font-size: small;">22952E00</p>
<p>2. Between phase and protective conductor</p>	 <p style="text-align: right; font-size: small;">22953E00</p>
<p>3. Between phase and neutral conductor</p> <p>For a measurement between phase and the neutral conductor, the control gear must be disconnected from the mains power!</p> <p><b>NOTICE!</b>  <b>Destruction of the device and/or electrical components if the disconnecter is missing!</b>                      Non-compliance may lead to material damage!</p> <p>► Only disconnect the device from the mains power using an internal switch before the insulation test.</p>	 <p style="text-align: right; font-size: small;">22954E00</p>

## 9 Commissioning

	DANGER
	<p>Explosion hazard due to incorrect installation! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Check the device for proper installation before commissioning.</li> <li>• Comply with national regulations.</li> </ul>
NOTICE	
<p>Malfunction or device damage caused by condensation. Non-compliance may lead to material damage!</p> <ul style="list-style-type: none"> <li>• Operate the luminaire continuously or periodically over extended periods of time.</li> <li>• Avoid thermal bridges.</li> </ul>	

Before commissioning, ensure the following:

- Check the mounting and installation.
- Check the device for damage.
- Remove any foreign objects.
- If necessary, clean the connection chamber.
- Monitor whether the electrical lines have been inserted correctly.
- Monitor whether all screws and nuts have been tightened securely.
- Monitor whether all drilled holes are closed.
- Monitor whether all cable entries and stopping plugs have been tightened securely.
- Monitor whether all conductors have been clamped firmly.
- Monitor whether the line voltage and the rated operational voltage are consistent.
- Monitor whether the permissible conductor diameters for the corresponding cable entries have been used.
- Monitor whether the device is closed according to regulations.
- Monitor whether the battery is connected.
- If necessary, remove transport protection (foam cushion).
- Monitor whether the LED assembly and the diffuser are clean.
- Check that there is no protective foil on the translucent cover.

## 10 Operation

### 10.1 Operating modes

#### Power supply operation:

Stand-by switching	The luminaire is switched off regardless of normal lighting.
Continuous mode	The luminaire is switched on regardless of normal lighting.
Switching with normal lighting	The light fitting is switched with the normal lighting.

#### Emergency light operation:

In the event of a power failure, the luminaire switches to emergency light operation. The luminaire is switched on regardless of the operating mode for the selected rated operating time.

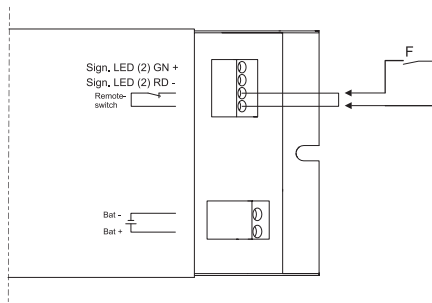
#### Rated operating time

is 1.5 h or 3.0 h within the optimum temperature range depending on the variant (see "Technical data" chapter).



## 10.2 Emergency light blocking (remote switch function)

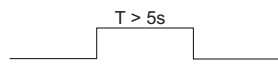
For emergency light blocking, a remote switch can be connected via a remote switch on the control gear.



19192E00

	Remote switch is closed	Remote switch is opened	
		Logic 1 (see figure below)	Logic 2 (see figure below)
Duration		$\geq 5$ s	1 to 5 s (pulse)
Power supply operation	Switching on the luminaire depending on operating mode	Switching on the luminaire depending on operating mode	
Power failure	Emergency light function	No emergency light function	No emergency light function  Notice: The existing emergency light blocking is automatically reset after a power failure.

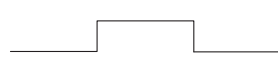
remote switch open  
remote switch closed



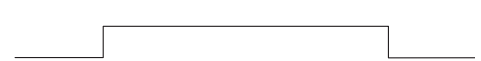
remote switch open  
remote switch closed



emergency light blocked  
emergency light unblocked



emergency light blocked  
emergency light unblocked



22957E00

22956E00

### Logic 1

### Logic 2

### 10.3 Functional and rated operating time test

To carry out the test, the following prerequisites must be fulfilled:

- The time interval has expired
- Power supply operation was active for at least 1 hour
- The remote switch is closed

The test result is shown on the LED indicator.

During a test the luminaire is switched on.

#### Functional test

- starts within 24 hours after commissioning
- is carried out every 7 days
- takes 1 minute
- checks the function of the LEDs and the battery

#### Rated operating time test

- starts within 44 days after commissioning
- is carried out once a year
- checks the function and the operating time of the luminaire during emergency light mode
- is repeated after 14 days if the rated operating time test is faulty

### 10.4 Displays

#### When connecting to the power supply

Initialisation for 10 seconds

Seconds	Description	LED indicator
0 to 2	Function test green LED	–
2 to 4	Function test red LED	–
4 to 10	Status of rated operating time test	Green LED flashes – rated operating time test active
		Green LED off – rated operating time test not active

Then, the LED indicator switches to operating mode.

**During power supply operation**

Blinking: 1 second on, 1 second off

Flashing: 0.25 seconds on, 0.75 seconds off

LED indicator	Description	Meaning
Green	Luminaire is operational	–
Blinking green	Luminaire is operational	Functional or rated operating time test activated
Red	Error	Battery is defective or electrical circuit to battery is interrupted
Blinking red	Error	Last functional and/or rated operating time test defective
Flashing red	Error	LEDs defective
Blinking green/red	Luminaire is operational, no emergency light operation	Emergency light operation is deactivated by remote switch
Flashing green/red	Luminaire is operational	Reset signal detected

**During emergency light operation**

The LED indicator is switched off.

**10.5 Troubleshooting**

Error	Cause of error	Troubleshooting
Luminaire is not lighting up	The LEDs are defective.	Replace the mounting plate including LEDs and the control gear.
	The control gear is defective.	Replace the mounting plate including LEDs and the control gear.
	The switch is defective.	Replace the switch.
Red LED indicator	The battery is defective.	Replace the battery.
	The switch in the battery box is defective.	Replace the switch.
	The switch in the luminaire is defective.	Replace the switch.
LED indicator blinking red	The battery capacity is too low.	Replace the battery.
	The LEDs are defective.	Replace the mounting plate including LEDs and the control gear.

The LED indicator lights up green after troubleshooting.


If the error cannot be eliminated using the specified procedures:

- Contact R. STAHL Schaltgeräte GmbH.

For rapid processing, have the following information ready:


- Type and serial number of the device
- Purchase information
- Error description
- Intended purpose (especially input/output circuit)

## 11 Maintenance, overhaul, repair

	<b>CAUTION</b>
	<p>Risk of electric shock or malfunction of the device due to unauthorised work! Non-compliance can result in minor injuries!</p> <ul style="list-style-type: none"> <li>• Switch off the voltage supply before working on the device.</li> <li>• Work performed on the device must only be carried out by authorised and appropriately trained qualified electricians.</li> </ul>

### 11.1 Maintenance and overhaul

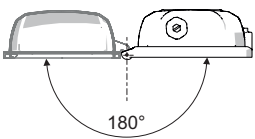
- Consult the relevant national regulations to determine the type and extent of inspections.
- Tailor inspection intervals to the operating conditions.
- Perform maintenance and repair work in accordance with IEC 60079-17 and IEC 60079-19.

	Observe the relevant national regulations in the country of use.
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At a minimum, check the following points during maintenance on the device:

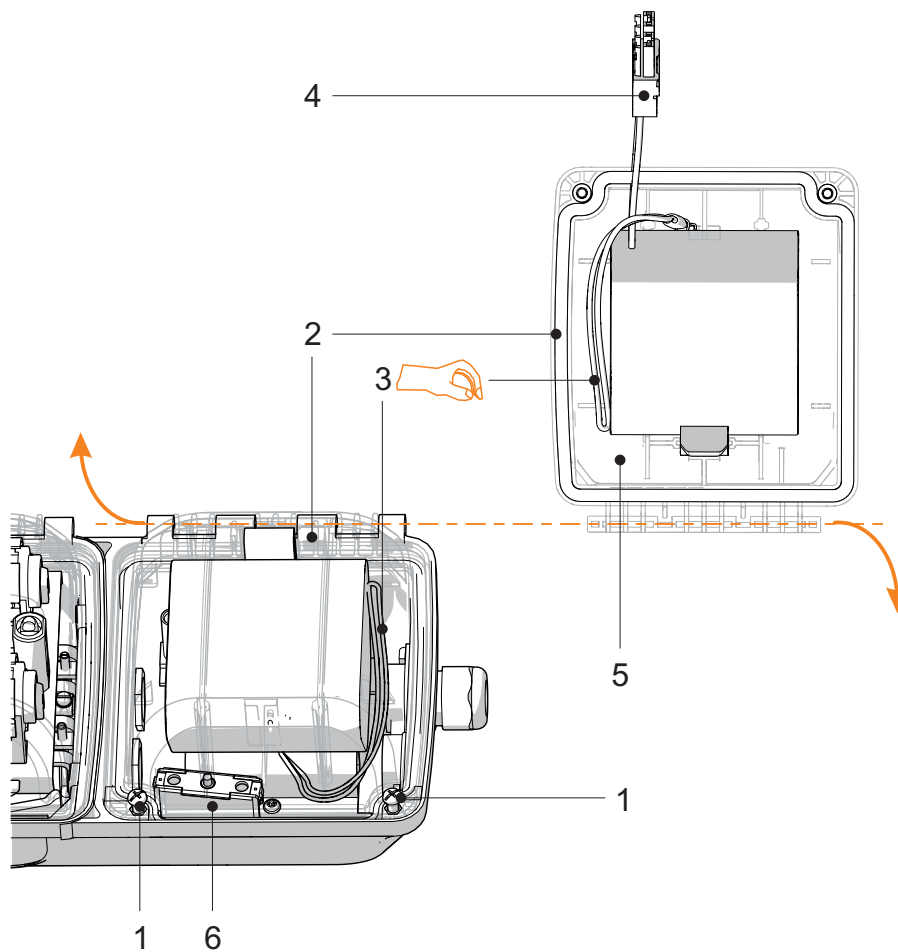
- Whether the clamping screws holding the electrical lines fit securely
- Whether the device has cracks or other visible signs of damage
- Whether the seal shows signs of ageing or damage (completely replace enclosure components with damaged foamed seal)
- Whether the device is clean inside and out
- Whether the permissible temperatures are complied with (according to EN 60079)
- Whether the cable entry is intact and securely tightened
- Whether the cables and electrical lines show signs of ageing and damage
- Whether the device is used as intended and functions properly

#### 11.1.1 Replacing the luminaire cover

	<ul style="list-style-type: none"> <li>• Open the luminaire.</li> <li>• Swivel the translucent cover backwards by 180°.</li> <li>• Lift the translucent cover to detach it from the hinge.</li> <li>• Insert the new translucent cover into the hinge.</li> <li>• All hinges must engage correctly.</li> <li>• Close the luminaire.</li> <li>• Observe safety notes!</li> </ul>
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### 11.1.2 Replacing the battery

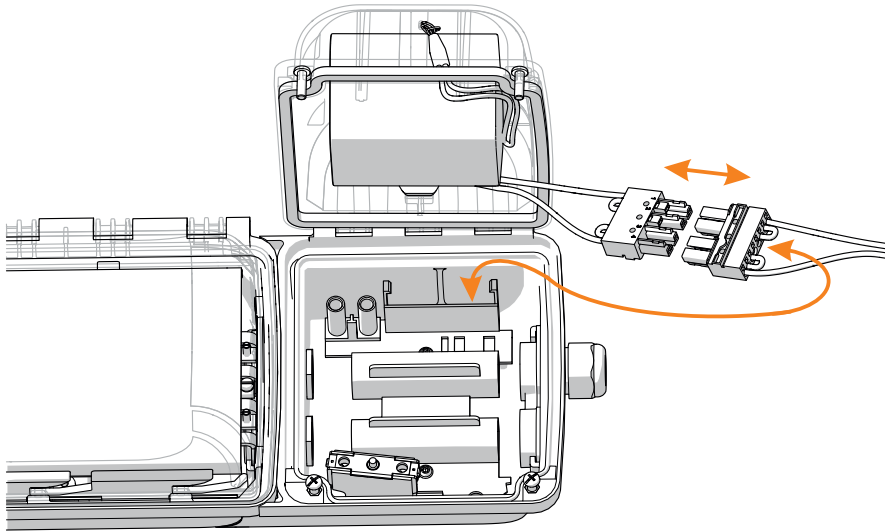
	<b>DANGER</b>
	<p>Explosion hazard due to explosive dust atmosphere!                  Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>Do not replace or transport the battery in an explosive dust atmosphere.</li> </ul>
	<b>WARNING</b>
	<p>Danger due to sparking!                  Explosion protection jeopardised!</p> <ul style="list-style-type: none"> <li>Transport the battery cover with installed battery securely on your wrist.</li> <li>To do so, put the strap of the battery case around your wrist.</li> </ul>



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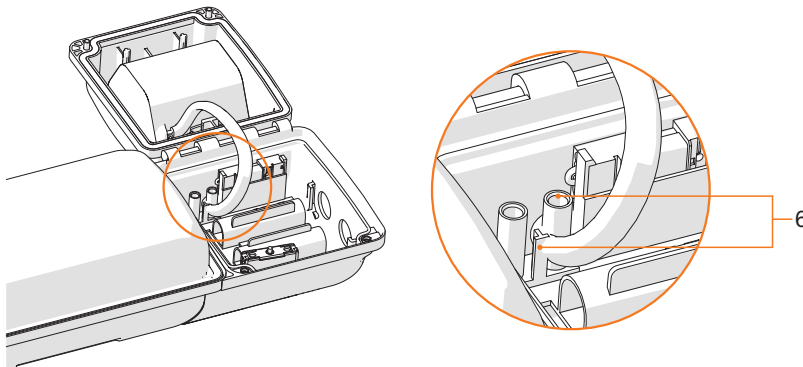
- |   |               |   |              |
|---|---------------|---|--------------|
| 1 | Screws        | 4 | Battery plug |
| 2 | Battery cover | 5 | Battery      |
| 3 | Strap         | 6 | Switch       |

- Loosen the screws (1) (cross-recessed H2) in the battery cover (2).
- Open the battery case.
- The switch (6) disconnects the battery circuit.
- Secure the battery cover with installed battery to your wrist using the strap (3).



16406E00

- Remove the battery plug from the chamber.
- Disconnect the battery plug (4).
- Take off the battery cover with installed battery (5).
- Attach the new battery cover with installed battery (5).
- Connect the battery plug (4).
- Remove the strap (3) from your wrist and store it in the battery case.




21447E00

- Close the battery case. Fix battery conductors in place to protect them against getting caught between the plastic domes (6).
- Tighten the screws (1) (cross-recessed H2) firmly (2 Nm).

## Resetting the error indication "blinking red" after replacing the battery

<b>i</b>	<p>The error indication "blinking red" remains active after successfully replacing the battery.</p> <p><b>Deactivation:</b></p> <p>Automatic:</p> <ul style="list-style-type: none"> <li>• After replacing the battery, a rated operating time test is carried out automatically within 14 days.</li> <li>• The error will be reset once this test has been passed successfully.</li> </ul> <p>Manual:</p> <ul style="list-style-type: none"> <li>• The line voltage must be switched on.</li> <li>• Actuate the switch in the battery case for 5 seconds.</li> <li>• Release the switch.</li> <li>• Actuate the switch twice within 10 seconds for a duration of 2 seconds.</li> <li>• The LED indicator will show that the error has been reset by flashing red/green lights for 5 seconds.</li> <li>• The error is reset.</li> <li>• Close the battery case.</li> </ul>
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### 11.2 Repair

	<b>DANGER</b>
	<p>Explosion hazard due to improper repair! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Repair work on the devices must be performed only by R. STAHL Schaltgeräte GmbH.</li> </ul>

### 11.3 Returning the device

- Only return or package the devices after consulting R. STAHL!  
Contact the responsible representative from R. STAHL.

R. STAHL's customer service is available to handle returns if repair or service is required.

- Contact customer service personally.

or


- Go to the [r-stahl.com](http://r-stahl.com) website.
- Under "Support" > "RMA" > select "RMA-REQUEST".
- Fill out the form and send it.  
You will automatically receive an RMA form via email. Please print this file off.
- Send the device along with the RMA form in the packaging to R. STAHL Schaltgeräte GmbH (refer to chapter 1.1 for the address).

## 12 Cleaning

- Devices located in hazardous areas may only be cleaned with a damp cloth to avoid electrostatic charge.
- When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- Do not use abrasive cleaning agents or solvents.
- Never clean the device with a strong water jet, e.g. a pressure washer.

## 13 Disposal

- Observe national, local and statutory regulations regarding disposal.
- Separate materials for recycling.
- Ensure environmentally friendly disposal of all components according to statutory regulations.
- Removal of components at the end of their service life (according to Ecodesign Directive):
  - Remove and open luminaires according to the operating instructions.
  - Disconnect cables from the LED PCB and control gear.
  - Control gear: Loosen the mounting screws and remove the device.
  - LED PCB: Push the barbs on the underside together using suitable pliers and remove the PCB upwards.

<b>CAUTION</b>	
	<p>Danger to people and the environment if the surrounding environment is contaminated.</p> <p>Non-compliance can result in minor injuries and environmental damage.</p> <p>Batteries</p> <ul style="list-style-type: none"> <li>• must be collected separately</li> <li>• must be disposed of in a controlled manner</li> <li>• must not be disposed of in domestic waste</li> <li>• must be returned to public collection points or the supplier</li> </ul>

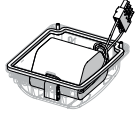


## 14 Accessories and spare parts

### NOTICE

Malfunction or damage to the device due to the use of non-original components.  
Non-compliance may lead to material damage!

- Use only original accessories and spare parts from R. STAHL Schaltgeräte GmbH.

Designation	Figure	Description	Item no.	Weight kg
Battery set		Battery cover with installed battery. NiCd battery, gas-tight; 7 Ah/6 V	<b>223532</b>	1.195

16332E00



For accessories and spare parts, see the data sheet on our website  
[r-stahl.com](http://r-stahl.com).

**EU-Konformitätserklärung**  
*EU Declaration of Conformity*  
*Déclaration de Conformité UE*





**R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany**  
 erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: **LED Notlichtleuchte**  
*that the product: LED Emergency Luminaire*  
*que le produit: LED Luminaire de secours*

Typ(en), type(s), type(s): **6409/4...**

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.  
*is in conformity with the requirements of the following directives and standards.*  
*est conforme aux exigences des directives et des normes suivantes.*

Richtlinie(n) / Directive(s) / Directive(s)		Norm(en) / Standard(s) / Norme(s)
2014/34/EU 2014/34/EU 2014/34/UE	<b>ATEX-Richtlinie</b> <i>ATEX Directive</i> <i>Directive ATEX</i>	EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015 EN 60079-18:2015 EN 60079-28:2015 EN 60079-31:2014
Kennzeichnung, marking, marquage:		II 3 G Ex db ec IIC T4 Gc II 3 G Ex db ec mb IIC T4 Gc II 3 D Ex tc IIIC T100 °C Dc II 2 D Ex tb op is IIIC T100 °C Db  
EU-Baumusterprüfbescheinigung: <i>EU Type Examination Certificate:</i> <i>Attestation d'examen UE de type:</i>		<b>IBExU 16 ATEX 1233</b> (IBExU Institut für Sicherheitstechnik GmbH Fuchsmühlenweg 7, 09599 Freiberg, Germany)
Produktnormen nach Niederspannungsrichtlinie: <i>Product standards according to Low Voltage Directive:</i> <i>Normes des produit pour la Directive Basse Tension:</i>		EN 60598-1:2015/A1:2018 EN 60598-2-22:2014/AC:2015 EN 62471:2008
2014/30/EU 2014/30/EU 2014/30/UE	<b>EMV-Richtlinie</b> <i>EMC Directive</i> <i>Directive CEM</i>	EN 61547:2009 EN 55015:2013 + A1:2015 EN 61000-3-2:2014 EN 61000-3-3:2013
2011/65/EU 2011/65/EU 2011/65/UE	<b>RoHS-Richtlinie</b> <i>RoHS Directive</i> <i>Directive RoHS</i>	EN 50581:2012

Waldenburg, 2019-09-02

Ort und Datum  
*Place and date*  
*Lieu et date*

i.V.

  
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