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## 1 General information

### 1.1 Manufacturer

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### 1.2 Information regarding the operating instructions

ID no.: 276788 / FL6060300130  
Publication code: 2022-03-17-BA00-III-en-01

The original instructions are the English version.  
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
	General danger
	Danger due to explosive atmosphere






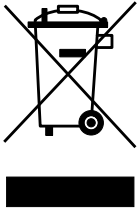
### 2.2 Warning notes

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, NOTE
- Type and source of danger/damage
- Consequences of hazard
- 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>NOTE</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
 05594E00	CE marking according to the current applicable directive.
 02198E00	Device certified for hazardous areas according to the marking.
 15649E00	Input
 15648E00	Output
 11048E00	Safety notes that must always be observed: The corresponding data and/or safety-related instructions contained in the operating instructions must be followed for devices with this symbol!
 20690E00	Marking according to WEEE directive 2012/19/EU

## 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 Personnel qualification

Qualified specialist personnel is required to perform the activities described in these operating instructions. This primarily applies to work in the following areas:

- Project engineering
- Mounting/dismounting the device
- (Electrical) Installation
- Commissioning
- Maintenance, repair, cleaning

Specialists who perform these activities must have a level of knowledge that meets applicable national standards and regulations.

Additional knowledge is required for any activity in hazardous areas!

R. STAHL recommends having a level of knowledge equal to that described in the following standards:

- IEC/EN 60079-14 (Project engineering, selection and construction of electrical systems)
- IEC/EN 60079-17 (Inspection and maintenance of electrical systems)
- IEC/EN 60079-19 (Equipment repair, overhaul and reclamation)

### 3.3 Safe use

#### Before installation

- 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.
- Make sure that the device is not damaged.
- 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

- Have mounting and installation performed only by qualified and authorised persons (see chapter "Personnel qualification").
- The device is only to be installed in areas for which it is suited based on its marking.
- 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.


**Commissioning, maintenance, repair**

- Only have commissioning and repairs performed by qualified and authorised persons (see "Personnel qualification" chapter).
- Before commissioning, make sure that the device is not damaged.
- Perform only maintenance work described in these operating instructions.

**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>
	<p>No liability or warranty for damage resulting from modifications and alterations.</p>

**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>

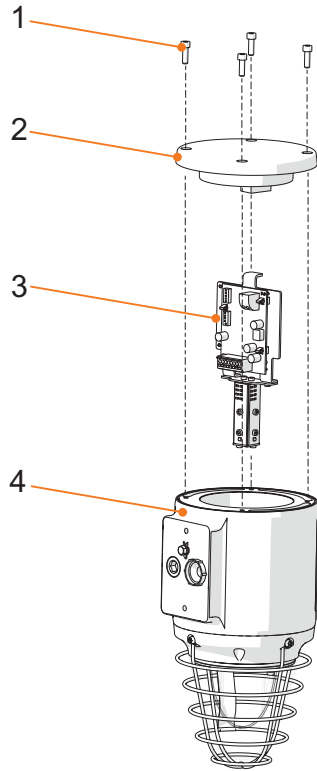
**4.1 Function****Application range**

The series FL60/2 signalling device is intended for use in explosive or harsh environments. It is used in gas hazardous areas in Zones 1 and 2, as well as in dust hazardous areas in Zones 21 and 22.

**Mode of operation**

When activated, the signalling device emits a visible signal, depending on the configuration and device version.

## 4.2 Device design



22790E00

1 Cheese head screws  
2 Cover

3 PCB  
4 Enclosure



## 5 Technical data

### Explosion protection

#### Global (IECEx)

Gas and dust | IECEx EPS 20.0037X  
 Ex db IIC T.<sup>\*)</sup> Gb  
 Ex tb IIIC T... °C<sup>\*)</sup> Db

#### Europe (ATEX)

Gas and dust | EPS 20 ATEX 1 077 X  
 Ⓢ II 2 G Ex db IIC T.<sup>\*)</sup> Gb  
 Ⓢ II 2 D Ex tb IIIC T... °C<sup>\*)</sup> Db

*) Temperature class	T6	T4
Max. surface temperature (tb)	T80 °C	T100 °C
Ambient temperature range (db)	-45 to +50 °C <sup>1)</sup>	-45 to +70 °C <sup>2)</sup>
Ambient temperature range (tb)	-35 to +50 °C <sup>1)</sup>	-35 to +70 °C <sup>2)</sup>

<sup>1)</sup> Loop in/loop out wiring up to max. 10 A

<sup>2)</sup> Loop in/loop out wiring up to max. 10 A, connection line and cable entries with permissible operating temperature ≥ +90 °C required

#### Special conditions "X"

Repair work on flameproof joints is only permissible in accordance with the values specified by the manufacturer.

The protective covers must be installed so that they are protected against electrostatic charge.

The ambient temperature range for dust applications is max. -35 to +50 °C or +70 °C.

For gas Ex applications, the ambient temperature can be as low as -45 °C.

The strength class of the screws used must be at least A2-70.

#### Certifications and certificates

Certificates | IECEx, ATEX

**Technical data**

**Technical data**

Product weight | 5.08 kg

**Electrical data**

Rated operational voltage | 21.1 to 24 V DC

Average input power/ max. current consumption	Max. current consumption [mA]	Average power [W]
XENON 5J	350	6.5
LED	400	6.5
In flash mode	1,200	6.5

Class | I (PE connection) (internal + external)

**Ambient conditions**

Functional ambient temperature range | min. -40 °C  
max. ambient temperature see certificate

**Mechanical data**

Degree of protection | IP66 (IEC/EN 60529)

**Material**

Enclosure | Aluminium 6005A – T6, seawater-resistant

Enclosure colours | Red (RAL 3001)

Calotte cover | Polycarbonate

Fastening | Stainless steel

Seal | NBR O-ring seal

Cable entries | 2 cable entries, equipped with:  
1 x Exd M20 stopping plug, red  
1 x dust cap M20, red

**Technical data**

**Visual data**

Calculated  
max. range

LED disc:		Inform		Alarm	
Function		Flashing 1 Hz	Blinking 1 Hz	Flashing 1 Hz	Blinking 1 Hz
Colour	Red	45 m	58 m	10 m	13 m
	Amber	69 m	89 m	15 m	20 m
	Blue	38 m	48 m	8 m	11 m
	Green	36 m	46 m	8 m	10 m
	Clear	86 m	111 m	19 m	25 m
	Opal	74 m	94 m	16 m	21 m
	Yellow	83 m	106 m	19 m	24 m
	Magenta	19 m	25 m	4 m	6 m
LED tower:		Inform		Alarm	
Function		Flashing 1 Hz	Blinking 1 Hz	Flashing 1 Hz	Blinking 1 Hz
Colour	Red	52 m	67 m	12 m	15 m
	Amber	87 m	111 m	19 m	25 m
	Blue	47 m	61 m	11 m	14 m
	Green	45 m	57 m	10 m	13 m
	Clear	109 m	139 m	24 m	31 m
	Opal	92 m	118 m	21 m	26 m
	Yellow	104 m	133 m	23 m	30 m
	Magenta	24 m	31 m	5 m	7 m
XENON:		Inform		Alarm	
Function		Flashing 1 Hz		Flashing 1 Hz	
Colour	Red	35 m		8 m	
	Amber	62 m		14 m	
	Blue	32 m		7 m	
	Green	32 m		7 m	
	Clear	82 m		18 m	
	Opal	57 m		13 m	
	Yellow	77 m		17 m	
	Magenta	21 m		5 m	

**Technical data**

**Luminous characteristics**

Effective luminous intensity

Type		LED disc		LED tower		XENON
Function		Flash- ing 1 Hz	Blink- ing 1 Hz	Flash- ing 1 Hz	Blink- ing 1 Hz	Flashing 1 Hz
Colour	Red	41 cd	67 cd	55 cd	90 cd	24 cd
	Amber	96 cd	157 cd	151 cd	248 cd	76 cd
	Blue	28 cd	47 cd	45 cd	74 cd	20 cd
	Green	25 cd	42 cd	40 cd	66 cd	21 cd
	Clear	150 cd	245 cd	236 cd	387 cd	136 cd
	Opal	108 cd	178 cd	171 cd	280 cd	66 cd
	Yellow	138 cd	226 cd	217 cd	356 cd	119 cd
	Magenta	7 cd	12 cd	12 cd	19 cd	9 cd

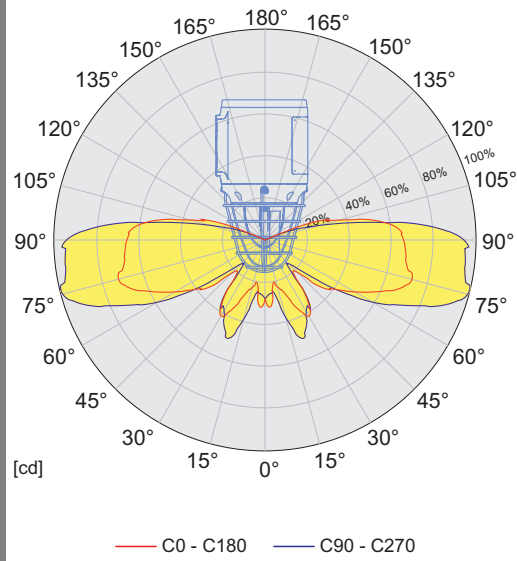
Luminous flux

Type		LED disc	LED tower
Function		Continuous light	Continuous light
Colour	Red	99 lm	236 lm
	Amber	233 lm	573 lm
	Blue	69 lm	170 lm
	Green	62 lm	152 lm
	Clear	365 lm	895 lm
	Opal	264 lm	648 lm
	Yellow	335 lm	824 lm
	Magenta	18 lm	45 lm

Technical data

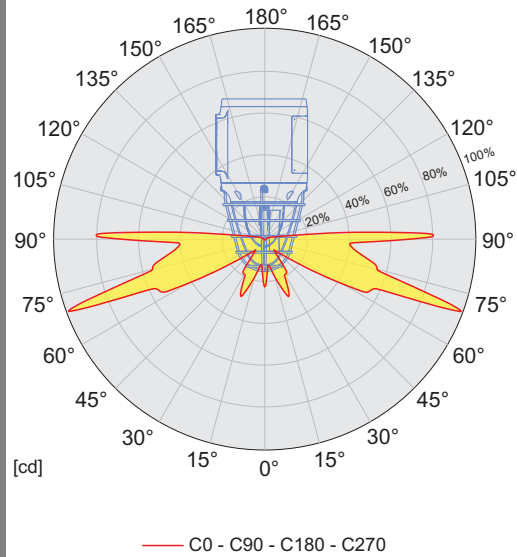
Pole diagram

XENON:



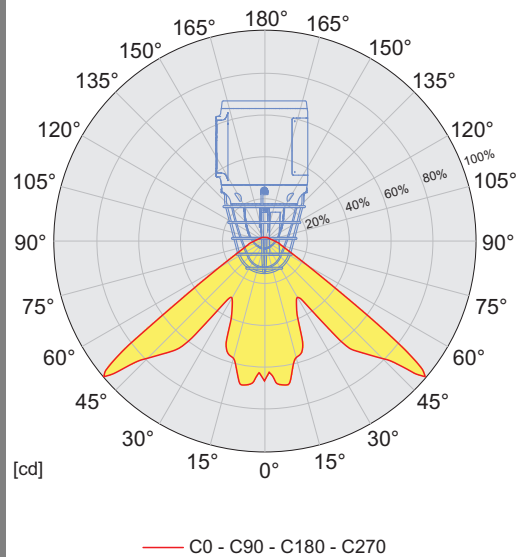
22498E00

LED tower:



22497E00

LED disc:



22496E00

**Technical data**

Flash energy	XENON: 5 J
Signal function	<p>LED:</p> <ul style="list-style-type: none"> <li>- Continuous light (maximum, dimmed)</li> <li>- Flashing light (single flash, double flash, triple flash 1 Hz/2 Hz/ 3 Hz)</li> <li>- Flashing light (1 Hz/1.5 Hz/2 Hz)</li> <li>- Rotating light (90<sup>rpm</sup>, 120<sup>rpm</sup>, 180<sup>rpm</sup>)</li> <li>- Chaos light</li> </ul> <p>XENON:</p> <ul style="list-style-type: none"> <li>- Flashing light (single flash, 1 Hz)</li> </ul>

**Mounting/installation**

Connection type	PUSH-IN terminal
Connection terminals	<p>Solid: Max. 2.5 mm<sup>2</sup></p> <p>Finely stranded: Max. 2.5 mm<sup>2</sup></p>
Scope of delivery	<ul style="list-style-type: none"> <li>- Signalling device according to configuration</li> <li>- L-bracket</li> <li>- Dust caps</li> </ul>

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

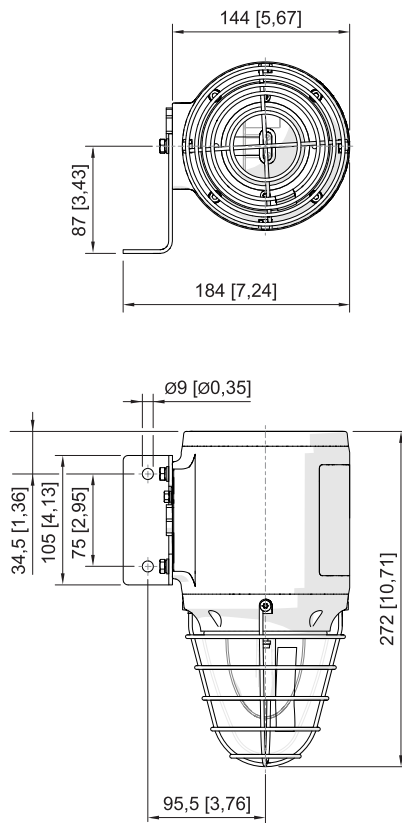
## 6 Transport and storage

- 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 Mounting and installation




### 7.1 Dimensions/fastening dimensions

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



18381E00

## 7.2 Mounting/dismounting, operating position

	<p style="text-align: center;"><b>DANGER</b></p> <p>Explosion hazard due to improper mounting! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Only operate the device if it is not damaged. If the thread is damaged, replace the device immediately.</li> <li>• Only install the device in a clean and dry operating environment.</li> <li>• Only mount the device on a wall or on a suitable surface.</li> <li>• Carefully protect exposed joint surfaces from damage, dust and dirt.</li> <li>• Install end flanges without applying force (without hammer and tool) in straight alignment.</li> <li>• If necessary, fit core end sleeves gas-tight and using a suitable tool.</li> </ul>
	<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 open drilled holes, unused cable entries and cable glands! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Only use cable entries and stopping plugs that have been separately checked and certified in accordance with Directive 2014/34/EU (ATEX) and IECEx (CoC), and which technically correspond to the state of technology given in the certificate.</li> <li>• The IP level of protection of the cable entries and stopping plugs must at least correspond to the IP level of protection of the device (see marking on the device).</li> <li>• When selecting cable entries, observe the type of thread and thread size in the component documentation.</li> <li>• Seal the thread with non-curing thread sealant in order to guarantee the IP66 degree of protection.</li> <li>• Always close unused drilled holes, cable entries and cable glands using approved stopping plugs or plugs. Observe IEC/EN 60079-14 for this.</li> <li>• Installation of the cable gland must be performed in accordance with the manufacturer's instructions.</li> <li>• The cable entry temperature may exceed 70 °C.</li> </ul>



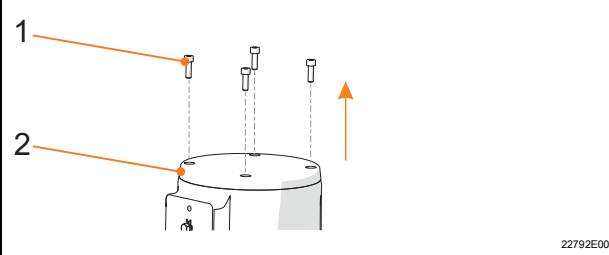
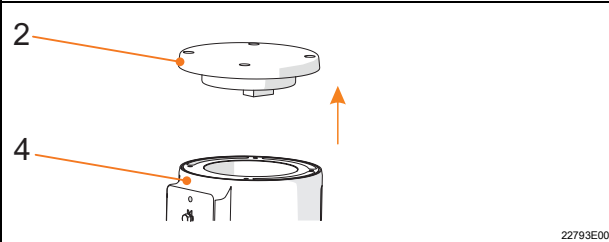
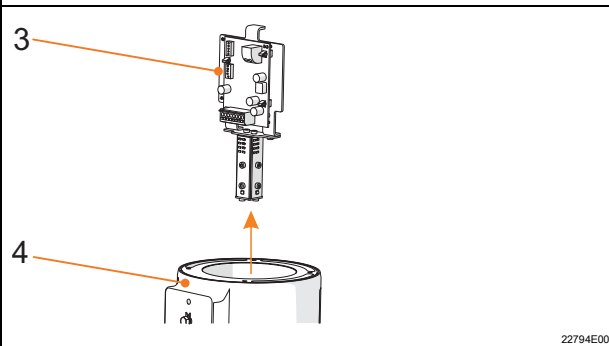
- Select a mounting location that is suitable for the signal effect of the device, as well as the required mounting and installation parameters (see "Technical data" chapter).
- Mount the device on a flat surface using the L-bracket and screw holes.
- Mount suitable approved electrical lines (see "Technical data" chapter) using a suitable flameproof cable entry.
- Close unused entries using certified, flameproof stopping plugs.

### 7.3 Installation


The electrical installation and configuration of the device is performed in the following sequence:

- Dismounting the device (see chapter 7.3.1)
- Electrical connections (see chapter 7.3.2)
- Configuration (see chapter 7.3.3)
- Mounting the device (see chapter 7.3.4)
- Mounting the earth connection (see chapter 7.3.5)

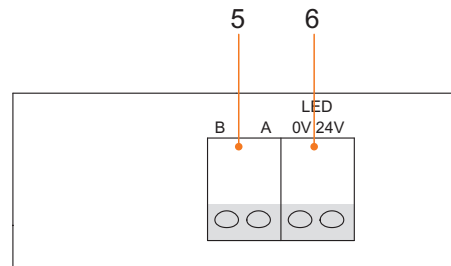
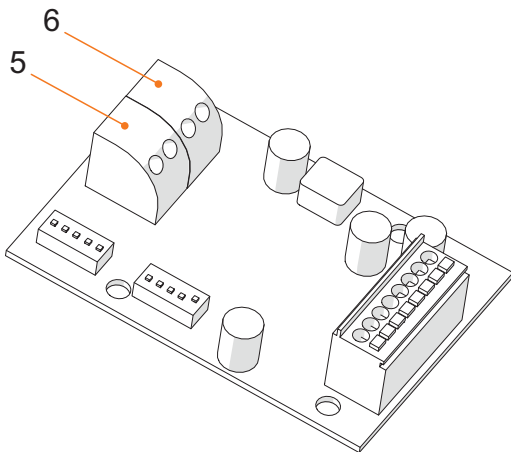
#### 7.3.1 Dismounting the device

 <p>Diagram 1: A top-down view of the device enclosure. Four screws, labeled '1', are being loosened from the top cover, labeled '2'. An upward-pointing arrow indicates the removal direction.</p> <p style="text-align: right; font-size: small;">22792E00</p>	<ul style="list-style-type: none"> <li>• Loosen the 4 cheese-head screws (1) and remove them from the cover (2).</li> </ul>
 <p>Diagram 2: The top cover, labeled '2', is shown being lifted away from the enclosure, labeled '4'. An upward-pointing arrow indicates the removal direction.</p> <p style="text-align: right; font-size: small;">22793E00</p>	<ul style="list-style-type: none"> <li>• Carefully remove the cover (2) from the enclosure (4).</li> </ul>
 <p>Diagram 3: The PCB, labeled '3', is shown being lifted straight up from the enclosure, labeled '4'. An upward-pointing arrow indicates the removal direction.</p> <p style="text-align: right; font-size: small;">22794E00</p>	<ul style="list-style-type: none"> <li>• Carefully remove the PCB (3) from the enclosure (4) by removing it in a straight line.</li> </ul>

7.3.2 Electrical connections

	DANGER
	<p>Explosion hazard due to insufficient protective measures!                  Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> <li>• Select suitable cables to ensure that the maximum permissible conductor temperatures are not exceeded.</li> <li>• When using core end sleeves, attach them using a suitable tool.</li> <li>• The conductor insulation must be touching the terminal.</li> <li>• Do not damage the conductor (e.g. nicking) when stripping it.</li> <li>• Finally, check the conductor to ensure that it is secure (fixed).</li> </ul>

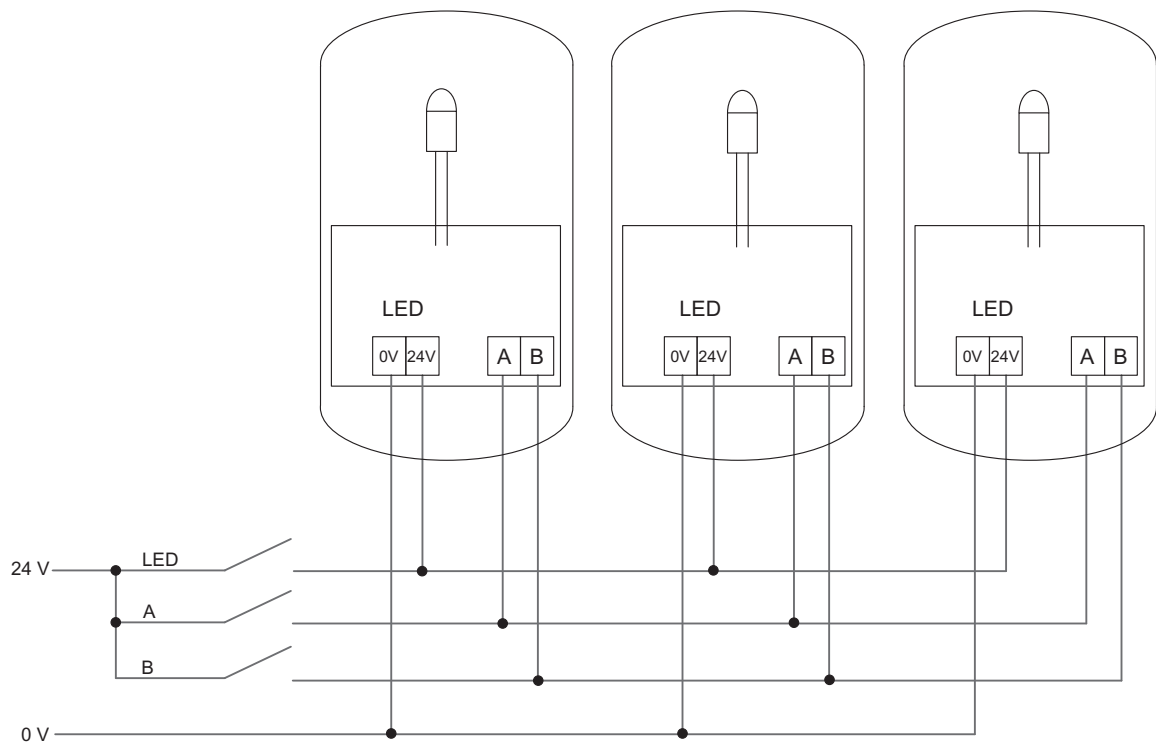
- Lay the pre-installed cabling in the intended electrical connections – see figure.



22797E00

22796E00

- 5 Power supply
- 6 Control (A/B signal)



22798E00

### Example: Connection diagram for combining multiple devices

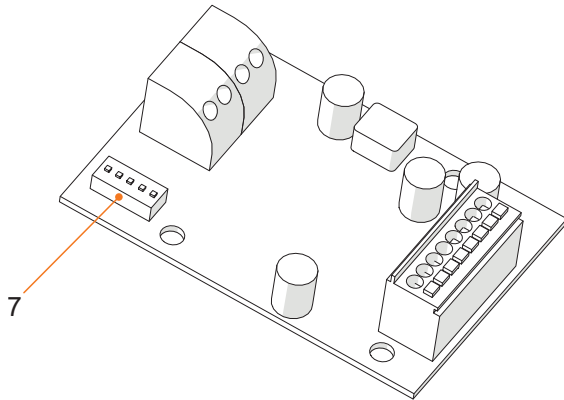
When doing so:

- Observe the maximum permissible single wire cross-sections for the connection terminals – see "Technical data" chapter.
- Only such cable entries and stopping plugs may be installed that have been separately tested and certified according to Directive 2014/34/EU (ATEX) and IECEx (CoC); they must also comply technically with the standard version stated in the certificate.
- Use electrical lines with a minimum length of 3 m or a cable gland with compound.

### 7.3.3 Configuration

The configuration of the device is performed by adjusting the DIP switch on the PCB. The following general/visual configuration options are available:

#### XENON circuit board



22846E00

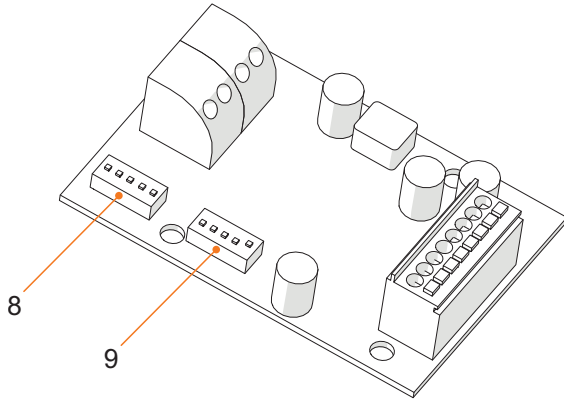
	DIP switch designation	Function
7	SW1	General settings

#### "SW1" DIP switch

1	2	3	4	5	
				ON	Reserved
				OFF	Reserved
			ON		Reserved
			OFF		Reserved
		ON			Reserved
		OFF			Reserved
	ON				Reserved
	OFF				Reserved
ON					RI ACTIVATION Active switching via B signal
OFF					RI DEACTIVATION Regular switching

General settings	Control signal A/B		Emitted signal	
RI	A	B	Signal	Signal selection
ACTIVATION				
0	0	0	XENON 1 Hz	SW1
0	1	0	XENON 1 Hz	SW1
0	0	1	XENON 1 Hz	SW1
0	1	1	XENON 1 Hz	SW1
1	0	0	Signal deactivated	SW1
1	1	0	Signal deactivated	SW1
1	0	1	XENON 1 Hz	SW1
1	1	1	XENON 1 Hz	SW1

LED circuit board



22799E00

	DIP switch designation	Function
8	SW1	Visual functions
9	SW2	General settings

"SW2" DIP switch

1	2	3	4	5	
				ON	LED ECO MODE (current consumption reduced by up to 50%)
				OFF	LED POWER MODE (max. power)
			ON		LED disc
			OFF		LED tower
		ON			Reserved
		OFF			Reserved
	ON				Reserved
	OFF				Reserved
ON					RI ACTIVATION Active switching via B signal
OFF					RI DEACTIVATION Regular switching

General settings	Control signal A/B		Emitted signal	
RI	A	B	Signal	Signal selection
ACTIVATION				
0	0	0	LED prog.1	SW1
0	1	0	LED prog.2	SW1
0	0	1	LED prog.3	SW1
0	1	1	LED prog.4	SW1
1	0	0	Signal deactivated	SW1
1	1	0	Signal deactivated	SW1
1	0	1	LED prog.1	SW1
1	1	1	LED prog.2	SW1

**Visual settings**

DIP switch "SW1" function tower, monochrome

					LED prog1		LED prog2		LED prog3		LED prog4	
SW3					A	B	A	B	A	B	A	B
1	2	3	4	5	0	0	1	0	0	1	1	1
0	0	0	0	0	Continuous light		Double flash 1 Hz		Flashing light 1 Hz		Rotating light 120 rpm	
1	0	0	0	0	Flashing light 1 Hz		Continuous light (dimmed)		Flashing light 1.5 Hz		Flashing light 2 Hz	
0	1	0	0	0	Flashing light 1.5 Hz		Continuous light		Flashing light 1 Hz		Triple flash 1 Hz	
1	1	0	0	0	Flashing light 2 Hz		Continuous light		Flashing light 1 Hz		Triple flash 1 Hz	
0	0	1	0	0	Single flash 1 Hz		Continuous light		Double flash 1 Hz		Triple flash 1 Hz	
1	0	1	0	0	Double flash 1 Hz		Continuous light		Triple flash 1 Hz		Triple flash 2 Hz	
0	1	1	0	0	Triple flash 1 Hz		Continuous light		Triple flash 2 Hz		Single flash 1 Hz	
1	1	1	0	0	Single flash 2 Hz		Continuous light		Double flash 2 Hz		Triple flash 2 Hz	
0	0	0	1	0	Continuous light		Rotating light 90 rpm		Rotating light 120 rpm		Rotating light 180 rpm	
1	0	0	1	0	Continuous light		Rotating light 90 rpm		Flashing light 1 Hz		Flashing light 2 Hz	
0	1	0	1	0	Continuous light		Rotating light 120 rpm		Flashing light 1 Hz		Flashing light 2 Hz	
1	1	0	1	0	Continuous light		Rotating light 180 rpm		Flashing light 1 Hz		Flashing light 2 Hz	
0	0	1	1	0	Continuous light		Rotating light 90 rpm		Single flash 1 Hz		Triple flash 1 Hz	
1	0	1	1	0	Continuous light		Rotating light 120 rpm		Single flash 1 Hz		Triple flash 1 Hz	
0	1	1	1	0	Continuous light		Rotating light 180 rpm		Single flash 1 Hz		Triple flash 1 Hz	
1	1	1	1	0	Continuous light		Rotating light 90 rpm		Triple flash 1 Hz		Chaos light	

					B = RI/TI		B = RI/TI	
SW3					A	A	A	A
1	2	3	4	5	0	1	1	1
0	0	0	0	0	Continuous light		Double flash 1 Hz	
1	0	0	0	0	Flashing light 1 Hz		Continuous light (dimmed)	
0	1	0	0	0	Flashing light 1.5 Hz		Continuous light	
1	1	0	0	0	Flashing light 2 Hz		Continuous light	
0	0	1	0	0	Single flash 1 Hz		Continuous light	
1	0	1	0	0	Double flash 1 Hz		Continuous light	
0	1	1	0	0	Triple flash 1 Hz		Continuous light	
1	1	1	0	0	Single flash 2 Hz		Continuous light	
0	0	0	1	0	Continuous light		Rotating light 90 rpm	
1	0	0	1	0	Continuous light		Rotating light 90 rpm	
0	1	0	1	0	Continuous light		Rotating light 120 rpm	
1	1	0	1	0	Continuous light		Rotating light 180 rpm	
0	0	1	1	0	Continuous light		Rotating light 90 rpm	
1	0	1	1	0	Continuous light		Rotating light 120 rpm	
0	1	1	1	0	Continuous light		Rotating light 180 rpm	
1	1	1	1	0	Continuous light		Rotating light 90 rpm	

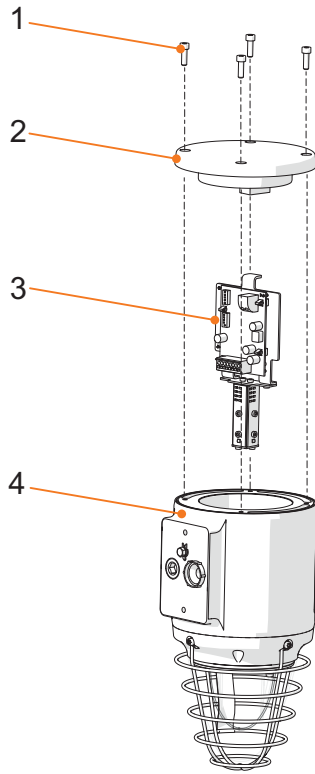


## DIP switch "SW1" function disc, monochrome

					LED prog1		LED prog2		LED prog3		LED prog4	
SW3					A	B	A	B	A	B	A	B
1	2	3	4	5	0	0	1	0	0	1	1	1
0	0	0	0	0	Continuous light		Double flash 1 Hz		Flashing light 1 Hz		Continuous light (dimmed)	
1	0	0	0	0	Flashing light 1 Hz		Continuous light (dimmed)		Flashing light 1.5 Hz		Flashing light 2 Hz	
0	1	0	0	0	Flashing light 1.5 Hz		Continuous light		Flashing light 1 Hz		Triple flash 1 Hz	
1	1	0	0	0	Flashing light 2 Hz		Continuous light		Flashing light 1 Hz		Triple flash 1 Hz	
0	0	1	0	0	Single flash 1 Hz		Continuous light		Double flash 1 Hz		Triple flash 1 Hz	
1	0	1	0	0	Double flash 1 Hz		Continuous light		Triple flash 1 Hz		Triple flash 2 Hz	
0	1	1	0	0	Triple flash 1 Hz		Continuous light		Triple flash 2 Hz		Single flash 1 Hz	
1	1	1	0	0	Single flash 2 Hz		Continuous light		Double flash 2 Hz		Triple flash 2 Hz	

					B = RI/TI		B = RI/TI		
SW3					A	A			
1	2	3	4	5	0	1			
0	0	0	0	0	Continuous light		Double flash 1 Hz		
1	0	0	0	0	Flashing light 1 Hz		Continuous light (dimmed)		
0	1	0	0	0	Flashing light 1.5 Hz		Continuous light		
1	1	0	0	0	Flashing light 2 Hz		Continuous light		
0	0	1	0	0	Single flash 1 Hz		Continuous light		
1	0	1	0	0	Double flash 1 Hz		Continuous light		
0	1	1	0	0	Triple flash 1 Hz		Continuous light		
1	1	1	0	0	Single flash 2 Hz		Continuous light		

7.3.4 Mounting the device



- |   |                    |   |           |
|---|--------------------|---|-----------|
| 1 | Cheese head screws | 3 | PCB       |
| 2 | Cover              | 4 | Enclosure |

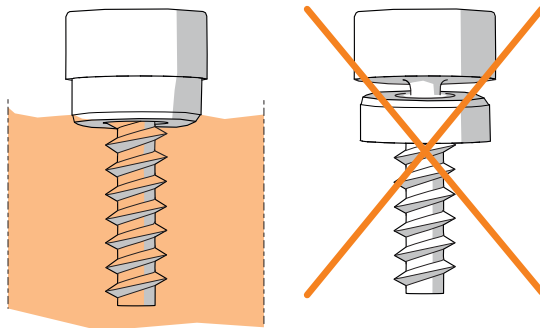
22790E00



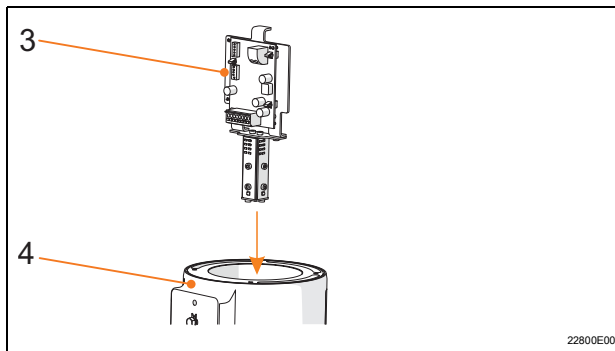
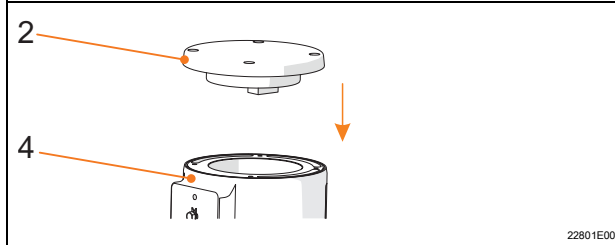
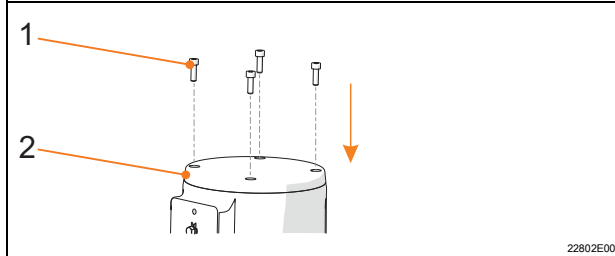
**Screws and seals**

The cheese-head screws are delivered with Nyltite seals.

- Before mounting, check the seals for damage.
- Replace damaged seals.
- Use seals a maximum of 5 times.
- When using screws on a flat surface, note the seal on the screw head – see figure.




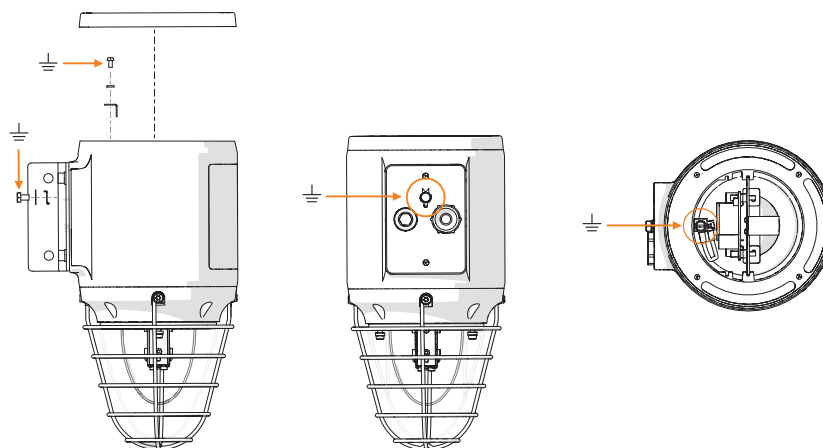
15748E00

 <p>22800E00</p>	<ul style="list-style-type: none"> <li>Carefully insert the PCB (3) into the enclosure (4).</li> </ul>
 <p>22801E00</p>	<ul style="list-style-type: none"> <li>Keeping the cover (2) straight, place it carefully on the enclosure (4).</li> </ul>
 <p>22802E00</p>	<ul style="list-style-type: none"> <li>Insert the 4 cheese-head screws (1) into the cover (2) and tighten them (tightening torque 4 Nm).</li> </ul>

### 7.3.5 Mounting the earth connection

- Connect the internal earth connection as the primary connection point.


	<p>The external connection can be used as an additional equipotential bonding conductor, provided that it is permissible or required in accordance with local regulations or by the authorities.</p>
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22804E00

## 8 Commissioning

### 8.1 Prerequisites

	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>

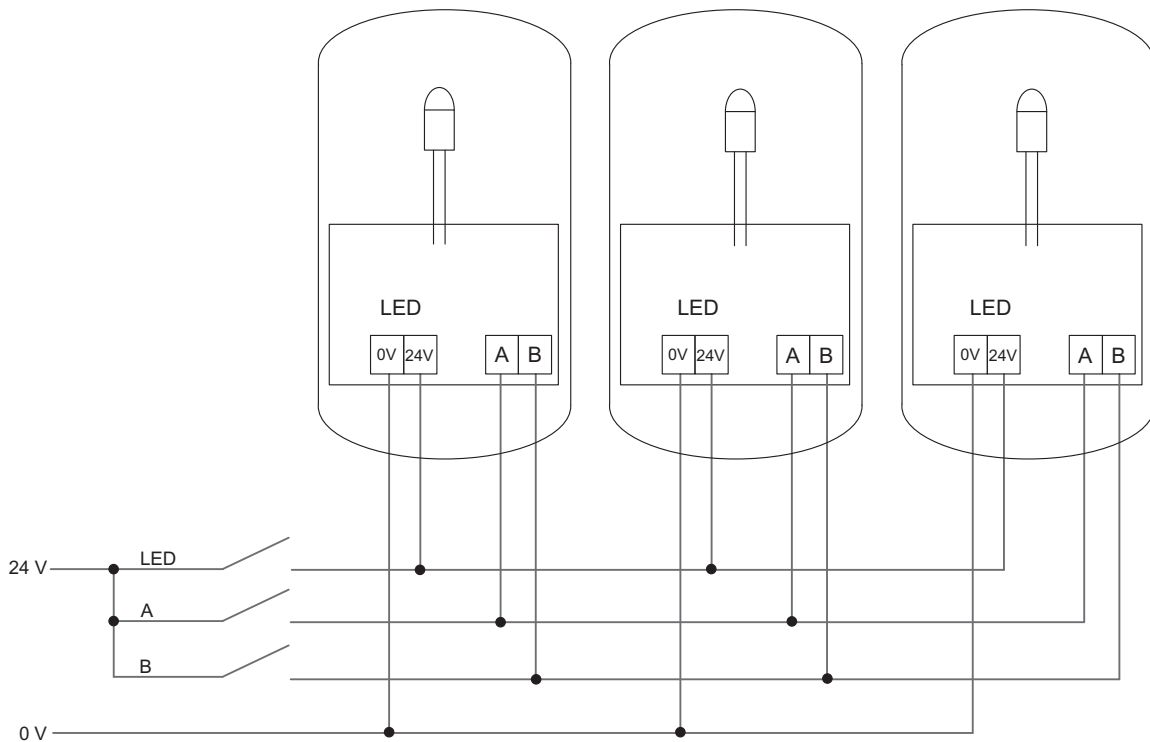
Before commissioning, make sure that:

- the device has been installed according to regulations.
- the line voltage and the rated operational voltage are consistent.
- the permissible cable diameter for the cable entries has been used.
- the cable entries and stopping plugs have been securely tightened.
- the electrical lines have been connected correctly.
- the connection has been performed correctly.
- all screws and nuts are tightened in accordance with the regulations.
- the connection chamber is clean.
- the device is not damaged.
- there are no foreign objects inside the device.
- the device is closed according to regulations.

### 8.2 Testing

For commissioning, the line voltage must correspond to the rated operational voltage. When doing so, the following pre-configured functions can be tested, see figure:

- Visible signal
- Control functions (A/B signal)



22798E00

## 9 Operation

The device is used to warn and alert by means of

- a visual signal.

### 9.1 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)

## 10 Maintenance, overhaul, repair

### 10.1 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 conductors are clamped securely
- Whether the device has cracks or other visible signs of damage
- Whether the seals have aged or been damaged
- Compliance with the permissible temperatures (according to EN 60079)
- Whether the device is used as intended and functions properly

### 10.2 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>

### 10.3 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).


## 11 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!

## 12 Disposal

- Observe national, local and statutory regulations regarding disposal.
- Separate materials for recycling.
- Ensure environmentally friendly disposal of all components according to statutory regulations.

## 13 Accessories and spare parts

<i>NOTE</i>	
<p>Malfunction or damage to the device due to the use of non-original components. Non-compliance may lead to material damage!</p> <ul style="list-style-type: none"> <li>• Use only original accessories and spare parts from R. STAHL Schaltgeräte GmbH.</li> </ul>	
	<p>For accessories and spare parts, see the data sheet on our homepage <a href="http://r-stahl.com">r-stahl.com</a>.</p>

**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:** **Akustische und optische Signalgeräte**  
*that the product:* *Audible and visual signalling devices*  
*que le produit:* *Appareil de signalisation sonore et lumineux*

**Typ(en), type(s), type(s):** **YL60/2, YA60/2, FL60/2**

**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	<b>ATEX-Richtlinie</b>	EN IEC 60079-0:2018
2014/34/EU	<i>ATEX Directive</i>	EN 60079-1:2014
2014/34/UE	<i>Directive ATEX</i>	EN 60079-31:2014

**Kennzeichnung, marking, marquage:**  **II 2 G Ex db IIC T6/T4 Gb**  **0158**  
**II 2 D Ex tb IIIC T 80 °C/T100 °C Db**

**EU-Baumusterprüfbescheinigung:** **EPS 20 ATEX 1077 X**  
*EU Type Examination Certificate:* (Bureau Veritas Consumer Products Services Germany GmbH,  
*Attestation d'examen UE de type:* Businesspark A96, 86842 Tuerkheim, Germany)

**Produktnormen nach Niederspannungsrichtlinie:** EN 60598-1:2015/ A1:2018  
*Product standards according to Low Voltage Directive:* EN 62471:2008  
*Normes des produit pour la Directive Basse Tension:*

2014/30/EU	<b>EMV-Richtlinie</b>	EN 50130-4:2011/ A1:2014
2014/30/EU	<i>EMC Directive</i>	EN 61000-6-3:2007/+ A1:2011/ AC:2012
2014/30/UE	<i>Directive CEM</i>	

2011/65/EU	<b>RoHS-Richtlinie</b>	EN 50581:2012
2011/65/EU	<i>RoHS Directive</i>	
2011/65/UE	<i>Directive RoHS</i>	

Waldenburg, 2021-06-11

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

i.V.

  
**Dr. C. Chevalier**  
**Vice President BU Lighting & Signalling**  
*Vice-Président BU Eclairage & Appareils de signalisation*

i.V.

  
**J. Freimüller**  
**Vice President global Quality Management**  
*Vice-Président globale Gestion de Qualité*