Explosion Proof Combination Signal - 110 dB (A) / 5 Joule

Series YL60
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1 General information

1.1 Manufacturer
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Business Unit Lighting & Signalling
Nordstr. 10
99427 Weimar
Germany
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Fax: +49 3643 4221-76
Internet: www.r-stahl.com
E-mail: info@stahl.de
R. STAHL Schaltgeräte GmbH
Am Bahnhof 30
74638 Waldenburg
Germany
Phone: +49 7942 943-0
Fax: +49 7942 943-4333
Internet: www.r-stahl.com
E-mail: info@stahl.de
1.2 Information regarding the operating instructions

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

1.3 Further documents

• Data sheet

For documents in additional languages, see www.r-stahl.com.

1.4 Conformity with standards and regulations


The device has IECEx approval. For certificate please refer to the IECEx homepage: http://iecx.iec.ch/

2 Explanation of the symbols

2.1 Symbols in these operating instructions

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>Tips and recommendations on the use of the device</td>
</tr>
<tr>
<td>!</td>
<td>General danger</td>
</tr>
<tr>
<td>!</td>
<td>Danger due to explosive atmosphere</td>
</tr>
<tr>
<td>!</td>
<td>Danger due to energised parts</td>
</tr>
</tbody>
</table>
2.2 Warning notes

Warnings must be observed under all circumstances, in order to minimize the risk due to construction 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

<table>
<thead>
<tr>
<th></th>
<th>DANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Danger to persons</td>
</tr>
<tr>
<td></td>
<td>Non-compliance with the instruction results in severe or fatal injuries to persons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Danger to persons</td>
</tr>
<tr>
<td></td>
<td>Non-compliance with the instruction can result in severe or fatal injuries to persons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Danger to persons</td>
</tr>
<tr>
<td></td>
<td>Non-compliance with the instruction can result in light injuries to persons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avoiding material damage</td>
</tr>
<tr>
<td></td>
<td>Non-compliance with the instruction can result in material damage to the device and / or its environment.</td>
</tr>
</tbody>
</table>
3 Safety notes

3.1 Operating instructions storage
- Read the operating instructions carefully and store them at the mounting location of the device.
- Observe applicable documents and operating instructions of the devices to be connected.

3.2 Safe use
- Read and observe the safety notes in these operating instructions!
- Observe characteristic values and rated operating conditions on the rating and data plates!
- Observe additional information plates on the device!
- Use the device in accordance with its intended and approved purpose only!
- We cannot be held liable for damage caused by incorrect or unauthorized use or by non-compliance with these operating instructions.
- Before installation and commissioning, make sure that the device is not damaged!
- Work on the device (installation, maintenance, overhaul, repair) may only be carried out by appropriately authorized and trained personnel.

3.3 Modifications and alterations

DANGER
Explosion hazard due to modifications and alterations to the device!
Non-compliance results in severe or fatal injuries.
- Do not modify or alter the device.

No liability or warranty for damage resulting from modifications and alterations.
4 Function and device design

4.1 Function
The explosion proof combination signal series YL60 is an audible and visual signal. It provides an audible and/or visual signal intended to alert, warn or draw attention to an event. It is designed for use in hazardous or harsh environments. In hazardous areas the devices have explosion protection for ATEX / IECEx Zones 1 & 2 for gas and 21 & 22 for dust. Gas groups covered are IIB & IIB + H2, dust protection for IIIC. UL certified variants offer protection to Class I Division I Gas groups BCD, Class II Division I Gas groups EFG.

The device is not intended for continuos use.

The life of the xenon flash tube is guaranteed for the following number of flashes:

<table>
<thead>
<tr>
<th>Variant</th>
<th>Number of flashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 J</td>
<td>2 million</td>
</tr>
</tbody>
</table>
5 Technical data

**Explosion Protection**

**Global (IECEx)**

<table>
<thead>
<tr>
<th>IIB+H2</th>
<th>IECEx BAS 05.0087X</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIB</td>
<td>IECEx BAS 05.0086X</td>
</tr>
</tbody>
</table>

**Europe (ATEX)**

<table>
<thead>
<tr>
<th>IIB+H2</th>
<th>Baseefa02ATEX0222X</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIB</td>
<td>Baseefa02ATEX0212X</td>
</tr>
</tbody>
</table>

**North America (cULus listed)**

<table>
<thead>
<tr>
<th>IIB+H2, IIB</th>
<th>E161818, E188831</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIB+H2, IIB</td>
<td>SL: UL 60079-0 / UL 60079-1 / UL 1203 / UL 1638</td>
</tr>
<tr>
<td></td>
<td>CSA C22.2 No. 30-M1986 / CSA C22.2 No. 25-M1966 / CSA E60079-0-7 / CSA E60079-1</td>
</tr>
</tbody>
</table>

---

**Technical data**

**Explosion Protection**

**Global (IECEx)**

Gas and dust

- IIB+H2: Ex d IIB+H2 T4 Gb (Ta = -20 ... +60 °C)
- Ex tb IIIC T135°C Db IP 66 (Ta = -20 ... +60 °C)
- Ex d IIB+H2 T6 Gb (Ta = -20 ... +40 °C)
- Ex tb IIIC T85°C Db IP 66 (Ta = -20 ... +40 °C)

**Europe (ATEX)**

Gas and dust

- IIB+H2: Ex d IIB+H2 T4 Gb (Ta = -35 ... +60 °C)
- Ex tb IIIC T135°C Db IP 66 (Ta = -35 ... +60 °C)
- Ex d IIB T6 Gb (Ta = -35 ... +40 °C)
- Ex tb IIIC T85°C Db IP 66 (Ta = -35 ... +40 °C)

**North America (cULus listed)**

Gas and dust

- IIB+H2, IIB: Ex d IIB+H2 T4 Gb (Ta = -20 ... +60 °C)
- Ex tb IIIC T135°C Db IP 66 (Ta = -20 ... +60 °C)
- Ex d IIB+H2 T6 Gb (Ta = -20 ... +40 °C)
- Ex tb IIIC T85°C Db IP 66 (Ta = -20 ... +40 °C)

---

Operating temperature -25 ... +66 °C

Audible signal appliance public mode with supplementary Visual signal appliance private mode

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IIB+H2

CLASS I, DIVISION 1, GROUPS B, C and D, T4;
CLASS II, DIVISION 1, GROUPS E, F and G;
CLASS III

CLASS 1, ZONE 1 AEx d IIB+H2 T4
CLASS 1, ZONE 1 Ex d IIB+H2 T4

Operating temperature -25 ... +66 °C

Audible signal appliance public mode with supplementary Visual signal appliance private mode

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IIB

CLASS I, DIVISION 1, GROUPS C and D, T4;
CLASS II, DIVISION 1, GROUPS E, F and G;
CLASS III

CLASS 1, ZONE 1 AEx d IIB T4
CLASS 1, ZONE 1 Ex d IIB T4

Operating temperature -35 ... +66 °C

Audible signal appliance public mode with supplementary Visual signal appliance private mode
**Technical Data**

**Technical data**
- Product weight: 6 kg

**Electrical data**
- Rated operational voltage: 24 V DC, 48 V DC, 115 V AC and 230 V AC operational parameters + or -10 %
- Rated operational current:
  - 24 V DC: 570 mA
  - 48 V DC: 435 mA
  - 115 V AC: 200 mA
  - 230 V AC: 100 mA

**Mechanical data**
- Material:
  - Enclosure: aluminium, seawater resistant
  - Horn: ABS, flame retardant
  - Lens cover: polycarbonate
  - Fixings: stainless steel
- Cable entries: 2 cable entries, equipped with stopping plug (1x) and dust cap (1x)
- UL devices: equipped with M20 / 1/2” adapters (2x)
- Degree of protection: IP66 – IEC 60529
- NEMA 4X – UL 50

**Operating temperature range**
- Variant dependant see Explosion protection

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**Explosion Protection**

**Certifications and certificates**
- Certificates: IECEx, ATEX, Brazil (INMETRO), India (PESO), Kazakhstan (TR), Russia (TR), Taiwan (ITRI), USA & Canada (cULus), Belarus (TR)
### Technical Data

#### Acoustic data

<table>
<thead>
<tr>
<th>Volume</th>
<th>110 dB(A) / 1 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polar diagram</td>
<td></td>
</tr>
<tr>
<td>Horizontal plane</td>
<td></td>
</tr>
<tr>
<td>Vertical plane</td>
<td></td>
</tr>
</tbody>
</table>

#### Luminous characteristics

<table>
<thead>
<tr>
<th>Effective candela</th>
<th>5 J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>46 cd</td>
</tr>
<tr>
<td>Yellow</td>
<td>42 cd</td>
</tr>
<tr>
<td>Amber</td>
<td>28 cd</td>
</tr>
<tr>
<td>Red</td>
<td>14 cd</td>
</tr>
<tr>
<td>Blue</td>
<td>13 cd</td>
</tr>
<tr>
<td>Green</td>
<td>10 cd</td>
</tr>
<tr>
<td>Magenta</td>
<td>N/A</td>
</tr>
</tbody>
</table>

| Candela seconds   | 5 J | 9.3 lumens Clear lens |
| Flash energy      | 5 J |
| Flash rate        | 60 FPM |

For further technical data, see www.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) and vibration-free.
- Do not drop the device.
7 Mounting and installation

7.1 Dimensions / fastening dimensions

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations
7.2 Mounting / dismounting, operating position

**DANGER**

Risk of explosion!
Risk of injuries and material damage!
- Terminal sleeves are fitted, they must be gas-tight and applied with a suitable tool.

**DANGER**

Explosion hazard!
Risk of injuries and material damage!
- Carefully remove or replace the components.
- Exposed joint surfaces must not be damaged and must be protected from dust and dirt.
- Install the end flanges squarely without applying any force. Do not use a hammer or other tools when working on the flanges and do not use the fixing screws to pull down the flanges.

- Mount the device on a flat surface suitable for its weight.
- The tone output should be directed towards the area to be covered (see chapter Technical Data, Polar diagram).
- Insert the cables using certified and flameproof cable glands which are suitable for the gas group.
- Close unused entries using certified and flameproof stopping plugs.

**7.2.1 Installation conditions for electrical connection**

**DANGER**

Explosion hazard!
Risk of injuries and material damage!
- Only use cable glands with corresponding certificate. The cable glands must be flameproof (Ex d) and suitable for the type of cable used.
- Close unused open holes in the enclosure with flameproof stopping plugs.
- Close unused cable glands using flameproof plugs.
- Cable glands, stopping plugs and plugs must meet the requirements of IEC/EN 60079-14.
- Installation of the cable gland must be performed in accordance with the manufacturer’s instructions.
- Cable entry temperature may exceed 70 °C.
- To ensure degree of protection IP 66, a non-hardening sealant must be applied to the threads.

**DANGER**

Danger due to energised parts!
**Non-compliance results in severe or fatal injuries.**
- Before opening and dismounting the device, disconnect it from the power supply.
- Secure the device against unauthorized switching.
7.2.2 Access to the PCB

- Remove the 3 screw ST 4,2 x 13
- Lift horn cover
- Remove the 4 cheese-head screws M5 x 16
- Lift sounder flange
- Disconnect pressure unit from PCB (see Electrical Connection, Key Components)
- Lift PCB to expose terminals for connection
  (see Electrical Connection, Wiring Diagrams for details)
7.2.3 Reassembly of enclosure

Inserting the PCB

For correct positioning of the PCB there are 2 grooves in the enclosure. Depending on the version, insert the PCB in the corresponding groove!

- YL60./.D50./..
- YL60./.F50./..
- YL60./.L50./..
- YL60./.N50./..

• Carefully insert the connected printed circuit board.
• Connect the horn flange to the printed circuit board.
• Set the horn flange on the enclosure. Do not clamp in any cables in the process.
• Insert the horn flange in a straight position without applying any pressure.
• Replace cheese-head screws M5 x 16 (see information below) and tighten the screws with a tightening torque of 3 Nm.
• Re-attach the cover. Tighten the ST 4.2 x 13 screws with a tightening torque of 0.4 Nm.

![Diagram](image)

• Carefully assemble the device to ensure that the degree of protection is IP 66.
• The cheese-head screws are delivered with Nyltite seals (see the "Connection" section above).
• Check the Nyltite seals for damage before the installation.
• Tighten cheese-head screws with a torque of 3 Nm.
• Use the Nyltite seal a maximum of five times with the tightening torque.
7.2.4 Electrical connection

Key Components

Key components YL60 DC

Key components YL60 AC

Legend

7 = Terminal blocks
8 = Connector for sounder
9 = Tone selection switch (ton table)
10 = Link for combined function (DC-version only)

Link connected:
• Strobe and sounder work together.

Link removed:
• Strobe and sounder independent function.

= Strobe
= Sounder

Cable Connection

- Approximately 20 cm (8 Inch) tails are required inside the enclosure for connection to the terminals on the PCB. This is especially important for installation using solid core cable.
- The terminals accept wires of 2.5 mm² or 14 to 18 AWG.
Interconnection of devices parallel
Up to 10 devices with common supplies may be connected as a single system loop.

Circuit diagrams

**Line monitoring** for devices with DC
- Through reverse polarity
- By connecting an EOL resistor between 0 V and +V. The resistance value is defined by the system developer.

**Two signal levels** for devices with DC
- Through reverse polarity
- By connecting a third electrical line.

**Two signal levels** for devices with AC
- By connecting a third electrical line.

DC version
**Combined function of sounder and strobe with one signal tone**
Connection to a 2-wire conductor

Combined function of sounder and strobe with two signal tones
Connection to a 3-wire conductor

**Tone 1**

**Tone 2**
Mounting and installation

Connection to a 2-wire conductor - second tone by reverse polarity

Tone 1

![Connection diagram for Tone 1](image1.png)

Tone 2

![Connection diagram for Tone 2](image2.png)

Independent function of sounder and strobe
Connection to a 4-wire conductor

Remove jumper from LK1 and LK2

![Connection diagram for independent function](image3.png)

Connection:
- Strobe TB1
- Sounder TB2

Second tone by reverse polarity or 3-wire connection to TB2, as shown above in connection diagrams.

Combined function of sounder and strobe - activation by telephone signal

Sounder and strobe are activated by a telephone signal. The function is retained as long as the telephone signal is available. The strobe can flash up to four times after deactivating the telephone signal.

![Connection diagram for combined function](image4.png)
AC version
Combined function of sounder and strobe with one signal tone
Connection to a 2-wire conductor

Bridge TB1 and TB2 using a conductor.

Combined function of sounder and strobe with two signal tones
Connection to a 3-wire conductor

Independent function of sounder and strobe
Connection to a 3-wire conductor

Second tone via connection to TB4 possible (see above).
**7.2.5 Earth connection**

- The unit must be connected to a good quality earth.
- The internal Earth connection is the primary point. The external connection is for a supplementary bonding connection and is used where local code or authorities permit or require such connection.
### 7.2.6 Sound tone selection

- For signal tone selection and its switch positions refer to the table below.
- Check if the correct switch positions of the selected signal tones have been selected.

<table>
<thead>
<tr>
<th>Tone no.</th>
<th>Version</th>
<th>Frequency</th>
<th>Sound selection switch 12345 (ON = 1)</th>
<th>Repetition rate (sec)</th>
<th>Special application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tone 01</td>
<td>Alternate two-tone</td>
<td>800-1000</td>
<td>11111</td>
<td>0.5</td>
<td>Fire alarms - Level crossing</td>
</tr>
<tr>
<td>Tone 02</td>
<td>Alternate two-tone</td>
<td>2500-3100</td>
<td>01111</td>
<td>0.5</td>
<td>Security alarms</td>
</tr>
<tr>
<td>Tone 03</td>
<td>Alternate fast two-tone</td>
<td>800-1000</td>
<td>10111</td>
<td>0.25</td>
<td>Increased urgency - Level crossing</td>
</tr>
<tr>
<td>Tone 04</td>
<td>Alternate fast two-tone</td>
<td>2500-3100</td>
<td>00111</td>
<td>0.25</td>
<td>Security deterrent</td>
</tr>
<tr>
<td>Tone 05</td>
<td>Alternate two-tone</td>
<td>440-554</td>
<td>11011</td>
<td>0.4/0.1</td>
<td>AFNOR, France</td>
</tr>
<tr>
<td>Tone 06</td>
<td>Alternate two-tone</td>
<td>430-470</td>
<td>01011</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Tone 07</td>
<td>Alternate very fast two-tone</td>
<td>800-1000</td>
<td>10011</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Tone 08</td>
<td>Alternate very fast two-tone</td>
<td>2500-3200</td>
<td>00011</td>
<td>0.07</td>
<td>Turn out, Sweden (SS 031711)</td>
</tr>
<tr>
<td>Tone 09</td>
<td>Alternate two-tone</td>
<td>440-554</td>
<td>11101</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Tone 10</td>
<td>Continuous tone</td>
<td>700</td>
<td>01101</td>
<td></td>
<td>All clear, Sweden (SS 031711)</td>
</tr>
<tr>
<td>Tone 11</td>
<td>Continuous tone</td>
<td>1000</td>
<td>10101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone 12</td>
<td>Continuous tone</td>
<td>1000</td>
<td>00101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone 13</td>
<td>Continuous tone</td>
<td>2300</td>
<td>11001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone 14</td>
<td>Continuous tone</td>
<td>440</td>
<td>01001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone 15</td>
<td>Interrupted tone</td>
<td>1000</td>
<td>10001</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Tone 16</td>
<td>Interrupted tone</td>
<td>420</td>
<td>00001</td>
<td>1.25</td>
<td>AS2220, Australia</td>
</tr>
<tr>
<td>Tone 17</td>
<td>Interrupted tone</td>
<td>1000</td>
<td>11110</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Tone 18</td>
<td>Interrupted tone</td>
<td>2500</td>
<td>01110</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Tone 19</td>
<td>Interrupted tone</td>
<td>2500</td>
<td>10110</td>
<td>0.5</td>
<td></td>
</tr>
</tbody>
</table>
### Tone table

<table>
<thead>
<tr>
<th>Tone</th>
<th>Description</th>
<th>Frequency</th>
<th>Duration</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Interrupted tone</td>
<td>700</td>
<td>00110</td>
<td>6/12 Important message, Sweden</td>
</tr>
<tr>
<td>21</td>
<td>Interrupted tone</td>
<td>1000</td>
<td>11010</td>
<td>1.0</td>
</tr>
<tr>
<td>22</td>
<td>Interrupted tone</td>
<td>700</td>
<td>01010</td>
<td>4.0 Air-raid alarm, Sweden</td>
</tr>
<tr>
<td>23</td>
<td>Interrupted tone</td>
<td>700</td>
<td>10010</td>
<td>0.25 Local warning, Sweden</td>
</tr>
<tr>
<td>24</td>
<td>Interrupted tone</td>
<td>720</td>
<td>00010</td>
<td>0.7/0.3 Industrial alarm, Germany</td>
</tr>
<tr>
<td>25</td>
<td>Interrupted, fast, rising volume</td>
<td>1400</td>
<td>11100</td>
<td>0.25</td>
</tr>
<tr>
<td>26</td>
<td>Fast siren</td>
<td>250-1200</td>
<td>01100</td>
<td>0.085</td>
</tr>
<tr>
<td>27</td>
<td>Rising constantly, falling</td>
<td>1000</td>
<td>10100</td>
<td>10/40/10 Industrial alarm, Germany</td>
</tr>
<tr>
<td>28</td>
<td>ISO 8201 Evacuation</td>
<td>800-1000</td>
<td>00100</td>
<td>As standard International evacuation alarm</td>
</tr>
<tr>
<td>29</td>
<td>Fast whoop</td>
<td>500-1000</td>
<td>11000</td>
<td>0.15</td>
</tr>
<tr>
<td>30</td>
<td>Slow whoop</td>
<td>500-1200</td>
<td>01000</td>
<td>4.5 Evacuation, The Netherlands</td>
</tr>
<tr>
<td>31</td>
<td>Reverse sweep</td>
<td>1200-500</td>
<td>10000</td>
<td>1.0 Fire alarm, Germany (DIN 33404)</td>
</tr>
<tr>
<td>32</td>
<td>Siren</td>
<td>500-1200</td>
<td>00000</td>
<td>3.0</td>
</tr>
</tbody>
</table>

The PFEER sound signals recommended by UKOOA are:

- **General alarm**: Sound signal 15 Interrupted tone 1000 Hz
- **PAPA**: Sound signal 31 Reverse sweep 1200-500 Hz
- **Toxic gas**: Sound signal 11 Continuous tone 1000 Hz

### Sound selection switch detail

<table>
<thead>
<tr>
<th>ON 1</th>
<th>Standard</th>
<th>Telephone initiate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[Diagram]</td>
<td>[Diagram]</td>
</tr>
</tbody>
</table>

Explosion Proof Combination Signal -
110 dB (A) / 5 Joule
Series YL60
7.3 Installation

**WARNING**

Danger of electric shock due to energised parts!
Non-compliance can result in severe or fatal injuries.

- All connections and wiring must be disconnected from the power supply.
- Secure the connections against unauthorized switching.

**DANGER**

Explosion hazard!
Risk of injuries and material damage!

- Operate the device only if it is not damaged.
- If the thread is damaged, the device must be replaced immediately.
- Handle the device and the components very carefully.
- Exposed joint surfaces must be protected from dust, dirt and damage.
- Mount the end flanges squarely and do not apply any force.
- Do not use a hammer or any other metal instruments to work on the flange.
- Do not use the fixing screws to pull down the flange.
- Install the device only in a clean and dry operating environment.

Before commissioning, ensure the following:

- the device has been installed according to regulations.
- the power supply voltage and the rated operational voltage are identical.
- the required cable diameter for cable glands has been used.
- the cable entries and stopping plugs have been securely tightened.
- the cables are correctly connected.
- the connection has been performed correctly.
- all screws and nuts are tightened according to regulations.
- the connection chamber is clean.
- the device is not damaged.
- no foreign bodies are inside the device.
- the device is sealed according to regulations.

8 Commissioning

**DANGER**

Explosion hazard due to incorrect installation!
Non-compliance results in severe or fatal injuries.

- Check the device for proper installation and function before commissioning.
- Comply with the national regulations.
9 Operation
The device is used to warn and alert by means
• of a sound signal.
• of a visual signal.

9.1 Troubleshooting
If an error occurs please re-visit the earlier sections of this document.
If the error cannot be eliminated using the mentioned procedures:
• Contact R. STAHL Schaltgeräte GmbH.
For fast processing, have the following information ready:
• Type and serial number
• Purchase information
• Error description
• Intended use (in particular input / output wiring)

10 Maintenance, overhaul, repair

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of electric shock or malfunctioning of the device due to unauthorized work!</td>
</tr>
<tr>
<td>Non-compliance can result in severe injuries and material damage.</td>
</tr>
<tr>
<td>• Work performed on the device must only be carried out by appropriately authorized and qualified electricians.</td>
</tr>
</tbody>
</table>
10.1 Maintenance

Observe the relevant national regulations in the country of use.

- Determine the type and extent of inspections in compliance with the relevant national regulations.
- Adapt inspection intervals to the operating conditions.

The following tests and measures must be carried out during regular maintenance.

<table>
<thead>
<tr>
<th>Check</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>the permissible ambient temperature</td>
<td>If exceeding the permissible ambient temperature or falling below the device must be taken out of operation.</td>
</tr>
<tr>
<td>the enclosure components for formation of cracks and damage.</td>
<td>Replace the exchangeable enclosure components. If the enclosure components are non-exchangeable, the device must be taken out of operation.</td>
</tr>
<tr>
<td>its intended use</td>
<td>If the device is not used according to its intended use, it must be taken out of operation.</td>
</tr>
<tr>
<td>if the conductors are clamped properly</td>
<td>clamp loose conductors tightly.</td>
</tr>
<tr>
<td>the cables for ageing and damage</td>
<td>replace damaged or aged cables.</td>
</tr>
<tr>
<td>the seals for ageing and damage</td>
<td>replace damaged, aged and porous seals and completely change enclosure components with foamed seal.</td>
</tr>
</tbody>
</table>

10.2 Repair

**DANGER**

Explosion hazard due to improper repair!
Non-compliance results in severe or fatal injuries.
- Repair work on the devices must be performed only by R. STAHL Schaltgeräte GmbH.
Cleaning

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 www.r-stahl.com website.
- Under "Support" > "RMA form", select "Request RMA slip".
- Fill out the form and send it.
  Confirmation will be sent. R. STAHL's customer service will contact you.
  You will receive an RMA slip after speaking with customer service.
- Send the device along with the RMA slip in the packaging to
  R. STAHL Schaltgeräte GmbH (refer to Section 1.1 for the address).

11 Cleaning

- Clean the device only with a cloth, brush, vacuum cleaner or similar items.
- When cleaning with a damp cloth, use water or mild, non-abrasive,
  non-scratching cleaning agents.
- Do not use aggressive detergents or solvents.

12 Disposal

- Observe national and local regulations and statutory regulation regarding disposal.
- Separate materials when sending it for recycling.
- Ensure environmentally friendly disposal of all components according to the statutory
  regulations.

13 Accessories and spare parts

**NOTICE**

Malfunction or damage to the device due to the use of non-original components.
Non-compliance can result in material damage.

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

For accessories and spare parts, see data sheet on our homepage
R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany
derklärt in alleiniger Verantwortung, declares in its sole responsibility, déclare sous sa seule responsabilité,
dass das Produkt: Explosionsgeschütztes Kombinationssignal - 110 dB(A) / 5 Joule
that the product: Explosion Proof Combination Signal - 110 dB(A) / 5 Joule
que le produit: Avertisseur sonore et lumineux - 110 dB(A) / 5 joules

Typ(en), type(s), type(s): YL60B

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

<table>
<thead>
<tr>
<th>Richtlinie(n)</th>
<th>Directive(s)</th>
<th>Norm(en)</th>
</tr>
</thead>
<tbody>
<tr>
<td>94/9/CE: Directive ATEX</td>
<td>2014/34/EU:</td>
<td></td>
</tr>
</tbody>
</table>

Kennzeichnung, marking, marquage:

EG-Baumusterprüfsbescheinigung:
EC Type Examination Certificate:
Attestation d'examen CE de type:

Produktnormen nach Niederspannungsrichtlinie:
Product standards according to Low Voltage Directive:
Normes des produit pour la Directive Basse Tension:


2011/65/EU RoHS-Richtlinie
2011/65/EU RoHS Directive
2011/65/UE Directive RoHS
EN 50581:2012

Waldenburg, 01.02.2016

Ort und Datum
Place and date
Lieu et date

Dr. A. Kaufmann
Leiter BU Leuchten & SignaGeräte
Head of BU Lightings & Signalling
Directeur BU Eclairage & Appareils de Signal

J.-P. Rückgauer
Leiter Qualitätsmanagement
Director Quality Management
Directeur Assurance de Qualité

i.V.

F-4174-601 01/2011 STMZ YL6090020010-02
EG/EU-Konformitätserklärung
EC/EU Declaration of Conformity
Déclaration de Conformité CE/UE

R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany
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dass das Produkt: that the product: que le produit:
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Explosion Proof Combination Signal - 110 dB(A) / 5 Joule
Avertisseur sonore et lumineux - 110 dB(A) / 5 joules

Typ(en), type(s), type(s):
YL60C

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.

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<th>Norme(s)</th>
</tr>
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<tbody>
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<td>2016-04-19:</td>
<td>2016-04-20:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kennzeichnung, marking, marquage:

EG-Baumusterprüfbescheinigung:
EC Type Examination Certificate:
Attestation d’examen CE de type:
Baseefa 02 ATEX 0222X
(Baseefa Ltd., Rockhead Business Park Staden Lane, Buxton Derbyshire, SK17 9RZ United Kingdom)

Produktnormen nach Niederspannungsrichtlinie:
Product standards according to Low Voltage Directive:
Normes des produit pour la Directive Basse Tension:

Waldenburg, 01.02.2016

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