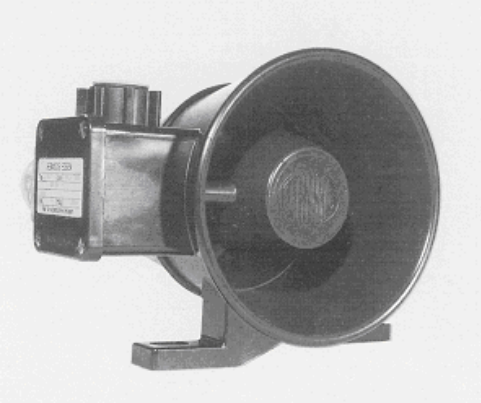
FHF Bergbautechnik GmbH & Co. KG

Ringing Loudspeaker Type 5801A, 5801K, 5802

Ordering Data

Designation	Type	Item no.
Ringing loudspeaker (impedance 200 Ω)	5801A	123 720 06 AX
Ringing loudspeaker (impedance 200 Ω with capacitor)	5801K	123 720 03 AX
Ringing loudspeaker (impedance 8 Ω)	5802	123 720 01 AX



- **Protected against impress of water and dust**
- **Plastic housing**
- **High sound pressure level**
- **Protection type I M 1 EEx ia I**

Use

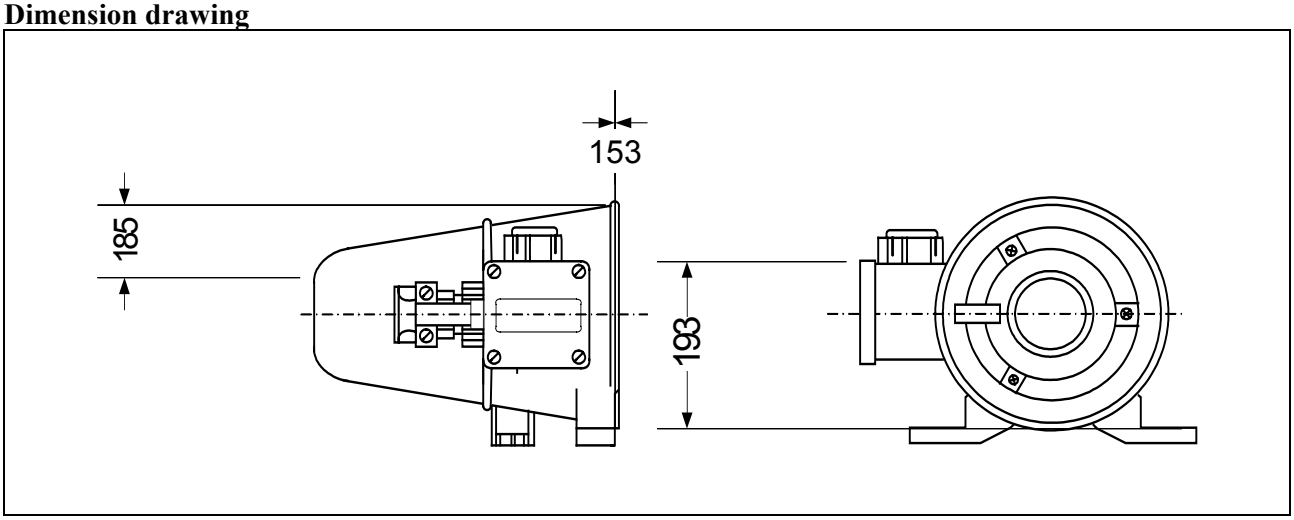
The ringing loudspeaker (ringing horn) type 5801/5802 is an acoustical signalling device in intrinsically safe installations within firedamp areas.
The ringing loudspeaker conforms to protection type EEx ia I and must be supplied with power by an intrinsically safe power supply unit.
The high efficiency of the pressure chamber system converts the only limited power which is available in intrinsically safe electric circuits into a high sound pressure level and ensures good intelligibility.

Configuration

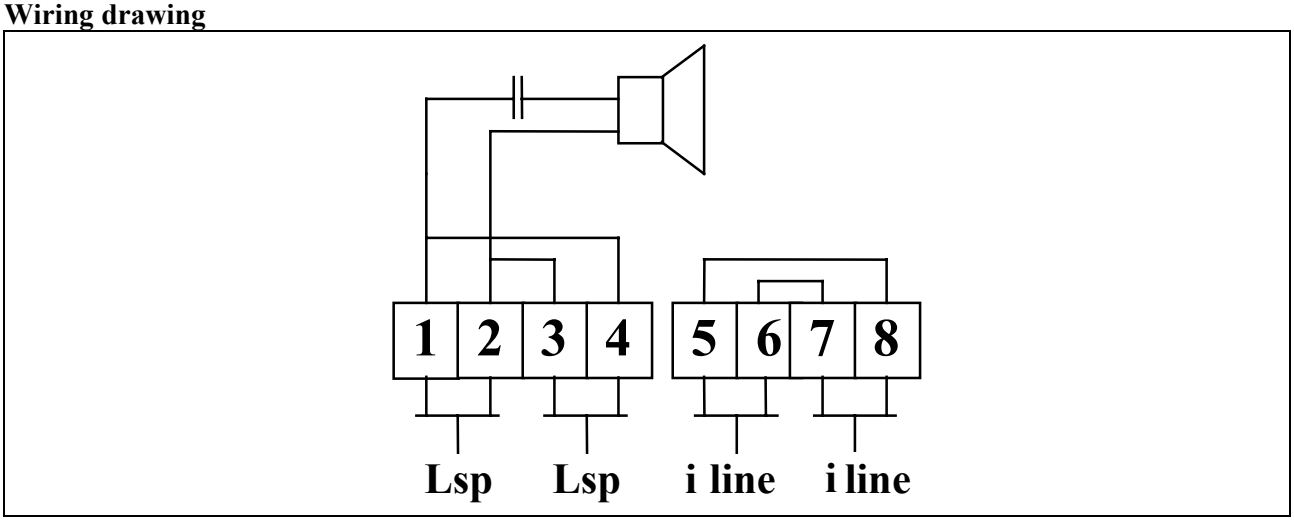
The ringing loudspeaker (ringing horn) is a pressure chamber loudspeaker. It consists of a top section with integrated terminal box, two mounting brackets and a horn-shaped bottom section which is fixed to the top section. All housing components are made from plastics.
The dynamic capsule used as sound transducer is integrated, and thus protected against impress of water and dust, into the top section which is also provided with the sound emission opening.

The terminal box is connected with the top section through a conduit. This terminal box accommodates the multipole terminal strip. The loudspeaker is connected at the terminals Kl. 1 – Kl. 2 or Kl. 3 – Kl. 4 (Kl. 1 and Kl. 4 or Kl. 2 and Kl. 3 are connected in parallel).
The terminal housing contains two other pairs of terminals (Kl. 5//8 and Kl. 6//7) which can be used for the interconnection of a separate intrinsically safe power circuit.

Dimension drawing



Wiring drawing



Technical data

Loudspeaker power circuit Kl. 1 to Kl. 4

Designation	Ringing loudspeaker (ringing horn)	
Types	5801A	200 Ω
	5801K	200 Ω, add. 1 capacitor 2.2 µF in series with the dynamic capsule
	5802	8 Ω
Type 5801A, 200 Ω impedance:		
Max. input voltage U_i	13 V	
Max. input current I_i	to be separately considered	
Max. input power P_i	3 W	
Max. internal capacity C_i	negligible	
Max. internal self-inductance L_i	10 mH	
Ohmic resistance	140 Ω ± 10%	
Type of current	audio frequency – (alternating) current	
Type 5801K, 200 Ω impedance (with 2.2µF capacitor):		
Max. input voltage U_i	13 V	
Max. input current I_i	to be separately considered	
Max. input power P_i	3 W	
Max. internal capacity C_i	2.5 µF	
Max. internal self-inductance L_i	10 mH	
Type of current	audio frequency – (alternate) current	
Type 5802 8 Ω impedance:		
Max. input voltage U_i	10 V	
Max. input current I_i	to be separately considered	
Max. input P_i	5 W	
Max. internal capacity C_i	50 µH	
Max. internal self-inductance L_i	10 mH	
Ohmic resistance	6.3 Ω ± 10%	
Type of current	audio frequency – (alternating) current	

Technical data

Potential-free connecting power circuit Kl. 5 to Kl. 8 (all types):

Max. input voltage U_i	up to 30 V
Max. input current I_i	up to 2 A
Max. internal capacity C_i	negligible
Max. internal self-inductance L_i	negligible
Test voltage	500 V_{AC} (between loudspeaker power circuit and connecting power circuit)
Connecting terminals	Up to 1.5mm^2 flexible, 2.5mm^2 single-wire
Cable glands	1 x Pg 16 (for lines with ∅ 8-10mm)
Blind fitting	1 x Pg 16
Housing	plastics, colour: black
Protection against ingress of solid foreign bodies and of water	IP54 as per IEC publication 529
Temperature range	
-operation	- 20°C to + 40°C
-storage	- 25°C to + 70°C
-transport	- 25°C to + 70°C
Operating mode	continuous operation
Operating position	at choice
Dimensions	153 x 185 x 193mm (H x B x T)
Weight	ca. 1.1 kg
Test and approval	
-protection type	I M 1 EEx ia I
-approval no.	BVS 03 ATEX E 112

Marking

The nameplate is marked as follows:

Company	FHF Bergbautechnik D-42551 Velbert
Type	580* Ⓔx I M1 EEx ia I BVS 03 ATEX E 112 CE 0158 -10°C ≤ T_a ≤ +40°C F. No.....test....(initials, month/year)

Assembly

The loudspeaker will operate in any operating position. It should be observed, however, that the highest acoustic effect is obtained in the direction of the loudspeaker emission opening.

Ensure that the mounting is vibration-proof. The loudspeaker is mounted with 2 screws of up to 8mm diameter. The mounting elements and the base must be capable to carry the weight of the device of 1.1 kg.

Installation

The device may only be connected by a trained specialist. The details specified in the technical data are to be met. To connect the line, open the terminal housing cover. Insert the line through the cable gland and then seal, secure and connect it in the terminal housing. Reinstall the cover.

Ensure that the sealing is clean and intact. Tighten the screws lightly. Then proceed in crosswise order to tighten them again until the cover is firmly fixed on the housing.

Warning and Safety Advice

The apparatus is a flameproof device designed for the operation within explosive atmospheres. It complies with safety class group I M 1 and is appropriate for the operation underground.

Please pay particular attention to the following warning and safety advice:

The interconnection with other electric equipment must be separately certified.

If the device is supplied with power through an appropriately approved intrinsically safe power supply circuit of category I M2, protection type EEx ib I, the user will be responsible for this power supply circuit to be shut down in the event of an explosive atmosphere (increased methane content).

The apparatus is to be connected and installed in accordance with the specified installation instructions by qualified personnel, taking into account the protection type indicated.

The device may only be connected and operated with the specified voltage. The polarity specifications are to be observed.

Make sure the housing is not damaged. Do not operate faulty devices, shut them off immediately.

If the device is operated in an industrial installation, the rules for the prevention of accidents for electrical installations and equipment of the association of the industrial employer's social insurance against occupational accidents shall be observed.

The device may only be operated under the specified ambient conditions. Unfavourable ambient conditions may damage the appliance, possibly jeopardising the user's life as a result. Unfavourable ambient conditions may be:

- moisture, dust (observe type of protection)
- air humidity too high (> 75% rel., condensing)
- inflammable gases, vapours, solvents not covered by the protection class of the device.
- ambient temperatures too high (>+40°C)
- ambient temperatures too low (<-20°C).

The ambient temperature specified for the device may not be exceeded or failed to be reached during operation, storage and transport.

Replace faulty components only by the appropriate genuine spare parts.

Only use the cable glands/entries specified by the manufacturer.

The extension and the installation of further parts is not permitted.

Repair work may only be realised by the manufacturer or by a person authorized by the manufacturer. Subsequently, a new routine test for the device must be carried out.

Make sure the device is protected against damage during transport, storage and when not in use. Disconnect the battery to prevent its premature discharge.

Magnetic fields with power engineering frequencies might influence the audibility.

Preferably, the device is mounted horizontally, with the cable glands and plug connectors facing downwards at the bottom side. When mounting the device, it is to be ensured that the device will not be used as climbing aid and thus be damaged. If required, additional measures must be taken to protect the device against falling objects.

Attention:

Disregarding the above points will nullify the explosion protection. The device then represents a danger to the life of the operator and may cause a hazardous atmosphere to explode.

The device features a high sound level. Do not go too near to the activated loudspeaker in order to avoid hearing impairment.

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