

Instructions for operating and installing the DS series of acoustic alarms

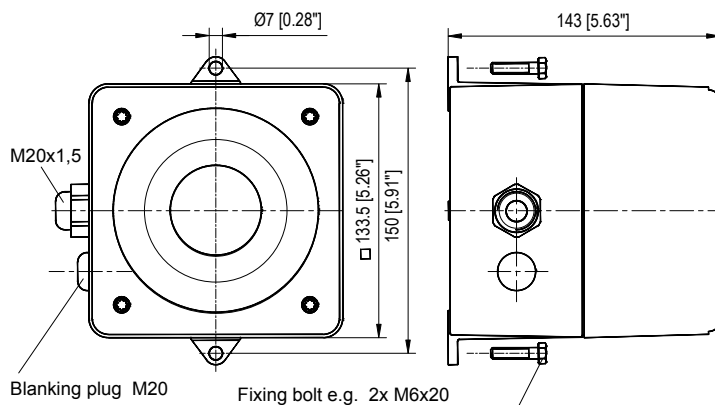
1. Description and use

The sounders of type series DS are designed for heavy-duty requirements under industrial conditions and can be used as universal alarm signalling units. The sounders suitable for indoor and outdoor use generate warning signals in 31 different tones which can be selected with the help of an internal switch. There is a possibility (optional) of switching over to a maximum of 3 other tones by external activation. The sound combination, besides the works setting, can be freely selected by adjusting on the spot. Special versions are available for special conditions of use. The alarm sounders are approved for the use in fire alarm systems (EN54-3 - Fire alarm devices) in buildings.


2. Installation

The best way to install the acoustic alarms is to fix them in place in their final location using bolts or similar fixing material. The housing and the fixing lugs are made of aluminium. The cable glands consist of a M20x1,5 threaded connection. The opening of the bell mouth must not point upwards, especially in the case of use outdoors or in a particularly dusty environment.

During installation it must be ensured that the connection cables are secured against tension and distortion. Please observe: The devices are not designed for portable use.



3. Technical Data

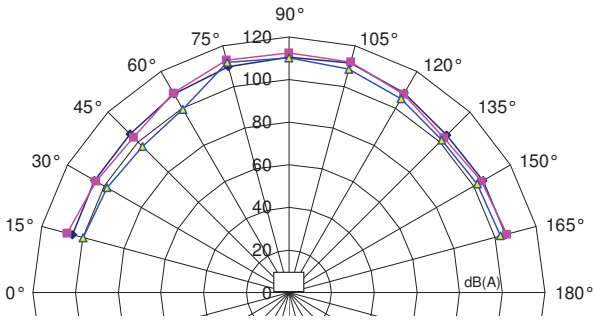
| | DS 5 | | | | | | DS 10 | | | | | |
|--|---|----------|----------|----------------|-----------------|-----------------|---|----------|----------|----------------|-----------------|-----------------|
| Max. sound level | 108 dB(A) – 1m | | | | | | 114 dB(A) – 1m 12V DC:110 dB(A) – 1m | | | | | |
| Operating temperature | -40°C ... +55°C (VdS, GL: -25°C ... +55°C) | | | | | | | | | | | |
| Storage temperature | -40°C ... +70°C | | | | | | | | | | | |
| Ingress protection | IP 66/67 (EN 60529) | | | | | | | | | | | |
| Environmental protection class EN 54-3' | Type B | | | | | | | | | | | |
| Protection class | I | | | | | | | | | | | |
| Rated voltage | 12V DC | 24V DC | 48V DC | 24V 50/60Hz | 115V 50/60Hz | 230V 50/60Hz | 12V DC | 24V DC | 48V DC | 24V 50/60Hz | 115V 50/60Hz | 230V 50/60Hz |
| Voltage range | 10 - 15V | 19 - 29V | 41 - 53V | 19 - 29V | 95 - 127V | 195 - 253V | 10 - 15V | 19 - 29V | 41 - 53V | 19 - 29V | 95 - 127V | 195 - 253V |
| Nominal current consumption | 0,28A | 0,24A | 0,28A | 0,28A | 0,06A | 0,02A | 0,30A | 0,40A | 0,42A | 0,42A | 0,12A | 0,06A |
| Power consumption | 3,4W | 6,7W | 13,5W | 7W | 8VA | 8VA | 4W | 10,1W | 20,2W | 10,5W | 15VA | 15VA |
| Duty Cycle | 100% | | | | | | | | | | | |
| Clamp range of cable gland | 8 – 12 mm | | | | | | | | | | | |
| Cross section of terminals | 0,08 - 2,5mm ² | | | | | | | | | | | |
| Surface coating | Epoxy resin RAL 3000 | | | | | | | | | | | |
| Material | GD-AI Si12 Cu | | | | | | | | | | | |
| EC certificate and declaration of conformity |  | | | | | | VdS 0786-CPD-20005 (EN54/3:2001/ A1:2002 / A2: 2006) | | | | | |
| Approvals | | | | | | | VdS: G28609 * | | | | | |
| Environmental Category | C, H, EMC1 | | | | | | | | | | | |

* The tones listed below are VdS approved:

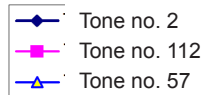
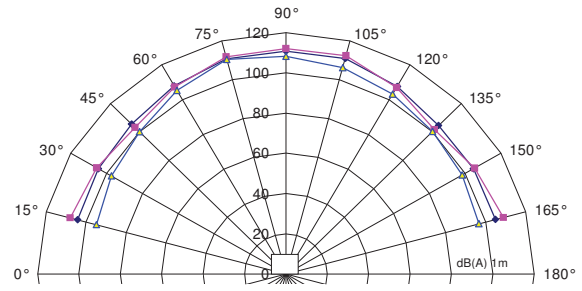
| Stage 1 | | |
|---------|-------------|------------------|
| 2 | 500/ 1200Hz | Emergency Signal |
| 128 | 800/ 1025Hz | Alternating tone |
| 57 | 950Hz | Continuous tone |

4. Sound level

DS 10 sound pressure level horizontal diagram



DS 10 sound pressure level vertical diagram



min. sound pressure level at 19V in dB(A) 1m

5. Taking into operation

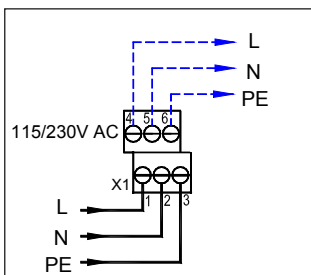
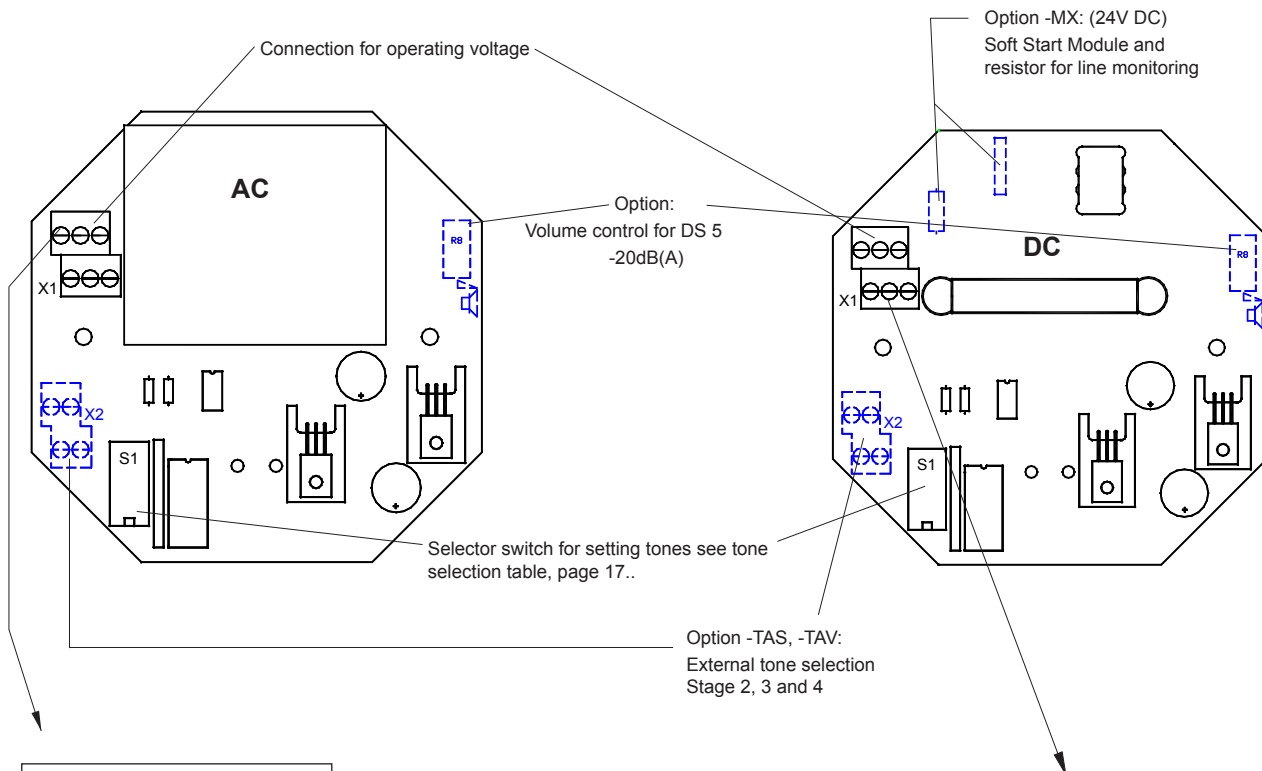
The acoustic alarm may only be connected to the electricity supply by a suitably authorized person. Prior to connection, it must be ensured that no voltage is applied to the acoustic alarm.

DC- versions: The device is provided with a reverse polarity protection. No function when polarity is reversed!

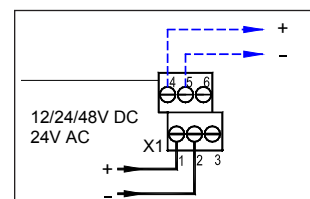
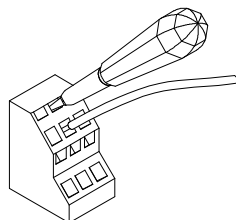
You can detach the front section after removing the 4 screws located on the front. During the installation the sealing has to be clean and intact. The housing screws (Torx-T20) are to be tightened with a torque of approx. 2 - 2,5 Nm in at least two passages crosswise.

The tone is set with the selector switch S1 according to the tone selection table, page 17.

Connection to the electrical supply and actuators - AC and DC



Wire connection



Power Supply for max. 10 additional sounders type DS 10 or max. 15 sounders type DS 5.

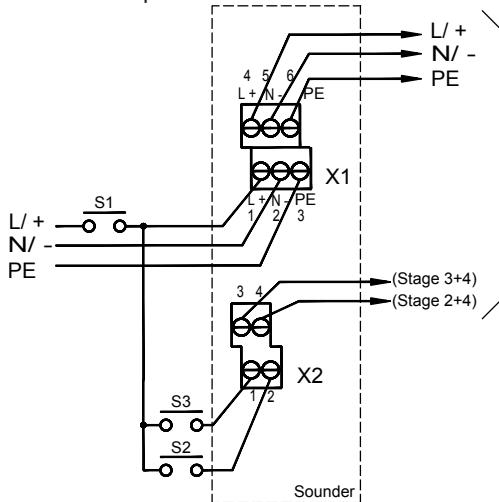
6. Option: External tone selection for sounders Type DS 5/ 10 -TAS and DS 5/ 10 -TAV

(Sounders with external tone selection are available in two different versions. This function is not integrated into the sounder as a standard function).

Version 1 (DS 5 / DS 10 - TAS):

External tone selection via control voltage, possible for all service voltages

Connection example:



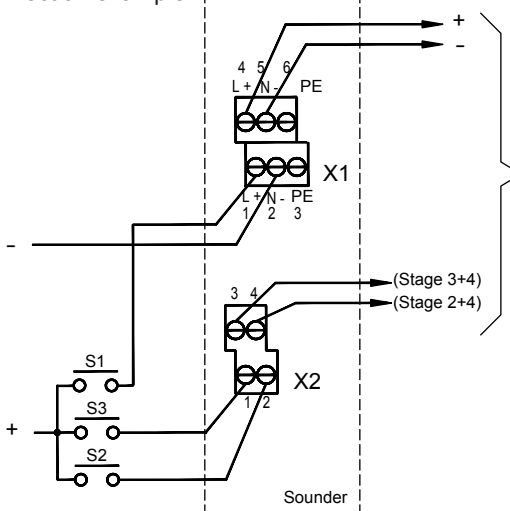
Connection for max. 10 additional sounders type DS 10 or max. 15 sounders of type DS 5

| | S1 | S2 | S3 | |
|------------------------------------|----|----|----|---|
| Stage 1 | 1 | x | | Load „S1“ with nominal current Load „S2“ + „S3“ with max. 10 mA. |
| Stage | 2 | x | x | |
| Stage | 3 | x | x | |
| Stage | 4 | x | x | |
| x = closed | | | | |
| see tone selection table, page 17. | | | | |

Version 2 (DS 5 / DS 10 - TAV)

External tone selection using operating voltage, possible for all DC-versions

Connection example:



Connection for max. 10 additional sounders type DS 10 or max. 15 sounders of type DS 5

| | S1 | S2 | S3 | |
|-----------------------------------|----|----|----|--|
| Stage 1 | 1 | x | | Load of all inputs with nominal current. |
| Stage | 2 | | x | |
| Stage | 3 | | x | |
| Stage | 4 | | x | |
| x = closed | | | | |
| see tone selection table, page 17 | | | | |

7. Individual combination of the tones for stages 1, 2, 3 and 4 (tone 32 of the Tone Selection Table)

In the case of sounders with external tone selection, the combinations of the tones for the stages 1 to 4 can be easily altered and thus adapted to the particular application. The tone of stage 1 will continue to be activated with selector switches 1 - 5. Stages 2, 3 and 4 are programmable.

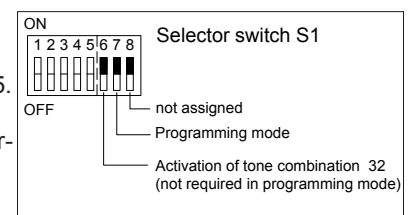


Work on the opened device may be carried out only by technically trained persons.

Programming

The programming of stages 2, 3 and 4 can be described as follows:

- De-energise sounders
- Change to programming mode by selector switch position 7 to ON
- Selection of the selected (basic) tone by appropriate selector switch settings 1 - 5. (see tone selection table)
- Brief application of service voltage and control voltage to the appropriate input terminals for stages 2, 3 or 4 (see also connection examples, chapter 6.) The basic tone set is taken over by the stage activated.



WARNING: When the service voltage is switched on do not touch any live parts of the sounder.

Repeat for all stages (2 - 4) which are to be activated.

- De-energise sounder
- Switch off programming mode by means of selector switch setting 7 to OFF.

The tone for stage 1 is set, after the programming mode has been left, with the help of selector switches 1 to 5. Selection of the individual tone combination, by setting the selector switch 6 to ON (see Tone Selection Table, Tone Selection 32).

8. Special Versions

8.1 DS 5 + DS 10 -GL-Version




These sounders have been designed and certified in accordance with the Guideline of German Lloyd. Special demands are made on the stability when exposed to environmental influences and on electromagnetic compatibility (EMC).

8.2 9.2 Special versions for explosion hazard zones 2 and 22: DS 5 -3G/ 3D and DS 10 -3G/ 3D

These sounders are suitable for use in an explosion-hazard environment in zones 2 acc. to EN 60079-10-1 and 22 acc. to EN 60079-10-2. The sounders can be used for gases of the temperature classes T1, T2, T3 and T4 as well as for environments with non-conductive dusts.

The surface temperature of the housing does not exceed +135°C.

Standard conformity: Guideline 2014/34/EU (ATEX)
EN 60079-0: 2012
EN 60079-15: 2010
EN 60079-31: 2014

Identification marking:  II3G Ex nAc IIC T4 -25°C ≤ Ta ≤ +55°C (all voltages except 24V AC)
PDG 03.0001 X  II3G Ex nAc IIC T3 -25°C ≤ Ta ≤ +55°C (only 24V AC)
 II3D Ex tc IIIB T135°C IP 66/67 -25°C ≤ Ta ≤ +55°C

Installation requirements:

The sounders are to be installed in conformity with current editions of the appropriate parts of DIN EN 60079 or in accordance with equivalent IEC specifications.

EN 60079-10-1 Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmospheres

EN 60079-10-2 Explosive atmospheres - Part 10-2: Classification of areas - Combustible dust atmospheres

EN 60079-14 Explosive atmospheres - Part 14: Electrical installations design, selection and erection

Applicable national constructor provisions are to be observed in the case of all work on the sounder.

In the case of work in explosion-hazard areas, the safety of persons and equipment depends upon adherence to all of the relevant safety regulations. The following is to be observed:

- Equipment Safety Act
- National safety regulations
- National accident prevention regulations
- National construction and erection regulations
- Generally accepted rules of technology
- Characteristic values of the sounder according to the rating plate and the operating instructions

Special conditions X

The sounders are designed to be used in stationary installation. When using the original cable gland a strain relief for the connecting cable has to be ensured. The cable gland is restricted for applications with a low degree of mechanical hazard according to EN60079-0. If a protected installation is not possible Ex-e cable glands without restriction combined with a connection thread gasket have to be used.

Minimum requirement : M20x1,5, IP66/67, II3G Ex e IIC Gc / II3D Ex tc IIIB Dc, Tamb. -25°C .. +70°C.

Original cable gland: WISKA ESKE/1-e 20, sealing range 7 - 13mm, PTB 13 ATEX 1015 X.

Further Notes:

The type of protection IP 66/67 must be established after installation by means of proper and correct closing of the casing and the use of matching cables and screwed cable glands. The sealing range of the screwed cable gland is to be adhered to. (Original cable gland: 7 - 13mm.)

During installation the seal of the housing is to be checked for damage and function. Damage can cancel out the explosion protection.

The housing screws (Torx-T20) are to be tightened with a torque of approximately 2 - 2,5 Nm in at least two passages crosswise.

Do not cover the opening of the bell mouth during operation otherwise too high surface temperatures may occur. The opening of the bell mouth must not point upwards after installation. Replacement of the device after ten years is recommended.

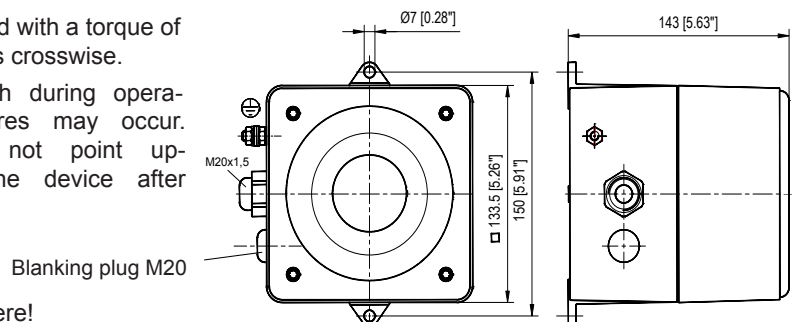
Additional safety notes:

Do not open when energised!

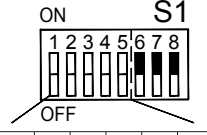
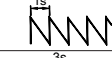
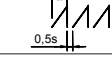
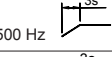
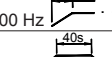
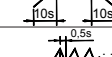
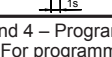

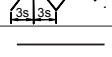
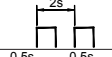
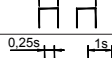
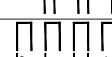
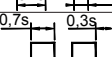
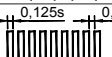
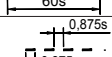
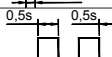
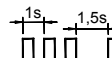
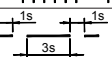

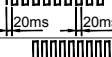


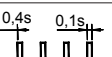


Do not open when there is an explosive atmosphere!

9. Maintenance Instructions

The sounder does not require any special maintenance. External cleaning should be done moist with a mild soap solution without the use of solvents. The sounder may only be operated in the undamaged state within the specified rating. Conversions, alterations, improper and inadmissible use as well as the non-observance of the notes in these operating instructions shall render the warranty null and void. Components may be replaced only by original spare parts. As a matter of principle, repairs are to be carried out in the manufacturing works.



Tonartentabelle/ Tone Selection/ Tableau des sons/ Tabella suoni

| Grund- ton Nr./ Stage1/ Son de base/ N° suono base |  | | | | | | Beschreibung – Grundton (Voreinstellung: Ton-Nr. 2) Description stage 1 (No. 2 = pre-set) Description du son de base (Pré-réglage Son-No. 2) Descrizione – suono base (pre-impostazione: suono n° 2) | | Stufe Stage Niveau Livello | Stufe Stage Niveau Livello | Stufe Stage Niveau Livello |
|--|---|----|----|----|----|----|---|---|-------------------------------------|-------------------------------------|-------------------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | | | 2 | 3 | 4 |
| 0 | | | | | | | kein Ton/ No tone/ Pas de son/ Nessun suono | | 2 | 88 | 57 |
| 2 | | | | | ON | | Notsignal / Unified emergency signal / Signal danger répétitif descendant/ Segnale d'emergenza - DIN 33404/T3 - |  | 128 | 112 | 57 |
| 15 | ON | | ON | ON | | | ansteigender Sägezahn mit Pause / Sawtooth/ Son en dents de scie / Segnale ascendente a dente di sega con pausa |  | 131 | 54 | 112 |
| 23 | ON | | ON | ON | ON | | Sirene / Siren / Sirène montante et descendante / Sirena |  | 24 | 60 | 112 |
| 24 | ON | ON | | ON | ON | | Sirene / Siren / Sirène montante et descendante / Sirena |  | 55 | 23 | 131 |
| 26 | ON | ON | ON | | ON | | Sirene / Siren / Sirène montante et descendante / Sirena - Hoechst - |  | 2 | 100 | 93 |
| 31 | ON | ON | ON | ON | ON | | Sirene / Siren / Sirène montante et descendante / Sirena - NF C 48-265 - |  | 128 | 54 | 57 |
| 32 | 0 | 0 | 0 | 0 | 0 | ON | Auswahl der frei belegbaren Tonkombinationen in Stufe 2, 3 und 4 – Programmierung s. Kapitel 7/ Selection of the freely assignable tone combinations in stages 2,3 and 4. For programming see Chapter 7/ Sélection des combinaisons de sons libres au niveau 2, 3 et 4. Programmation, voir chapitre 7/ Selezione delle combinazioni libere di suoni per i livelli 2, 3 e 4 – Per la programmazione fare riferimento al capitolo 7 | | | | |
| 36 | ON | ON | ON | | | | Sirene / Siren / Sirène montante et descendante / Sirena |  | 146 | 67 | 57 |
| 45 | | | ON | ON | | | Sirene / Siren / Sirène montante et descendante / Sirena |  | 2 | 57 | 93 |
| 54 | | ON | ON | ON | | | Dauerton / Continuous tone / Son continu / Suono continuo | 1500 Hz | 2 | 57 | 67 |
| 55 | | ON | ON | | ON | | Dauerton / Continuous tone / Son continu / Suono continuo | 1200 Hz | 2 | 88 | 128 |
| 57 | | | ON | | | | Dauerton / Continuous tone / Son continu / Suono continuo | 950 Hz | 2 | 128 | 88 |
| 60 | | ON | ON | | | | Dauerton / Continuous tone / Son continu / Suono continuo | 825 Hz | 24 | 93 | 125 |
| 63 | | ON | | ON | ON | | Dauerton / Continuous tone / Son continu / Suono continuo - Bayer - | 725 Hz | 2 | 97 | 93 |
| 67 | | ON | | ON | | | Dauerton / Continuous tone / Son continu / Suono continuo | 500 Hz | 24 | 93 | 125 |
| 88 | | | ON | | ON | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente |  | 2 | 57 | 128 |
| 90 | ON | | | | | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente |  | 2 | 127 | 108 |
| 92 | ON | | | ON | | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente |  | 131 | 146 | 57 |
| 93 | | ON | | | ON | | Hupe / Electromechanical horn / Trompe électro-mécanique / Segnale acustico |  | 2 | 128 | 57 |
| 97 | ON | | | | ON | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente - Bayer - |  | 2 | 63 | 93 |
| 98 | | ON | | | | | Notsignal Schweden / Swedish imminent danger signal / Son pulsé rapide / Segnale d'emergenza in Svezia - SS 031711 - |  | 112 | 128 | 57 |
| 100 | ON | ON | ON | ON | | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente |  | 2 | 57 | 125 |
| 108 | | ON | ON | ON | ON | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente |  | 2 | 127 | 60 |
| 112 | | | | ON | | | Notsignal für Räumung/ Audible emergency evacuation signal/ Signal international d'évacuation / Segnale d'emergenza per evacuazione - ISO 8201 - |  | 2 | 57 | 128 |
| 116 | ON | | ON | | ON | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente - Schiff verlassen - |  | 117 | 93 | 125 |
| 117 | ON | | ON | | | | Unterbrochener Ton / Interrupted tone / Son intermittent / Suono intermittente (IMO SOLAS III/50 + SOLAS III/6.4) |  | 93 | 116 | 125 |
| 125 | ON | ON | | ON | | | Wechselton / Alternating tone / Modulation bi-ton / Suono alternato |  | 57 | 93 | 24 |
| 127 | ON | ON | | | | | Wechselton / Alternating tone / Modulation bi-ton / Suono alternato |  | 2 | 90 | 60 |
| 128 | | | ON | ON | | | Wechselton / Alternating tone / Modulation bi-ton / Suono alternato |  | 2 | 112 | 57 |
| 131 | ON | | | ON | ON | | Wechselton / Alternating tone / Modulation bi-ton / Suono alternato |  | 24 | 55 | 23 |
| 142 | ON | ON | | | ON | | Wechselton / Alternating tone / Modulation bi-ton / Suono alternato |  | 2 | 54 | 88 |
| 146 | | | ON | ON | ON | | Feueralarm Frankreich / French Fire sound / Son évacuation urgence / Allarme antincendio in Francia - NFS32-001 - |  | 128 | 67 | 4 |