

LS1-OC100E-1 Hemi-directional Loudspeaker

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Invented for life



- ▶ For large area, high-ceiling applications
- ▶ Optional bracket for fixed mounting
- ▶ Self-restoring tweeter overload protection
- ▶ Provision for internal mounting of the optional line/loudspeaker supervision board
- ▶ BS 5839-8 and EN 60849 compliant

The Bosch Hemi-directional Loudspeaker is an easy to install, innovative loudspeaker which projects consistent and high quality sound, ensuring superb reproduction of background music and high speech intelligibility for paging or emergency calls. The speaker's opening angle and high sound pressure level allows it to cover at least 700 m², making it extremely suitable for indoor high-ceiling areas like warehouses, transport and exhibition halls, mega stores and swimming pools.

Functions

Voice alarm loudspeaker

The LS1-OC100E-1 is used in voice alarm systems and is compliant with emergency standards. The loudspeaker has built-in protection to ensure that a fire-damaged loudspeaker does not cause failure of the connected circuit. This ensures system integrity, meaning loudspeakers in other areas can still be used to inform people of the fire. The loudspeaker has ceramic terminal blocks, a thermal fuse and heat-resistant, high-temperature wiring.

Materials

The loudspeaker is made of high-impact ABS TSG, self-extinguishing according to class UL 94 V 0 and with the highest flame retardant rating (UL 94 5VA). The loudspeaker has a white and silver finish; the metal grille has a silver finish. All metal parts are zinc plated.

Drivers

This acoustically innovative loudspeaker accommodates 14 drivers in combination with advanced positioning and filtering. *

* *patent pending*

Certifications and Approvals

| | |
|---------------------------|------------------------------|
| Safety | acc. to EN 60065 |
| Emergency | acc. to BS 5839-8 / EN 60849 |
| Self-extinguishing | acc. to UL 94 V 0 |
| Flame retardant | acc. to UL 94 5VA |
| Water and dust protection | acc. to EN 60529 IP 42 |
| Chlorine resistant | acc. to IEC 60068/2-60 |
| Mechanical impact | acc. to EN 50102 IK 07 |

| Region | Certification |
|--------|---------------|
| Europe | CE |

Installation/Configuration Notes

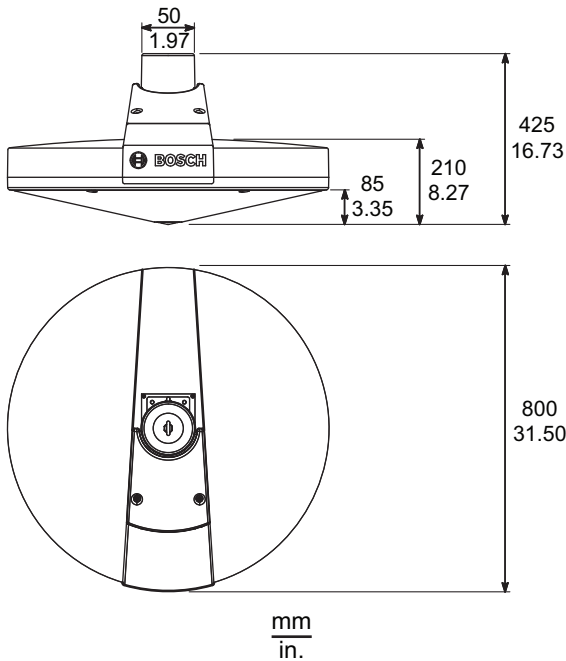
The loudspeaker can be suspended from a steel wire or chain using Dee shackles (not supplied). A separate accessory, LM1-MSB, is available for applications where fixed suspension is required to avoid any loudspeaker movement (such as rotation, wobbling).

This accessory uses a set of zinc plated steel mounting plates:

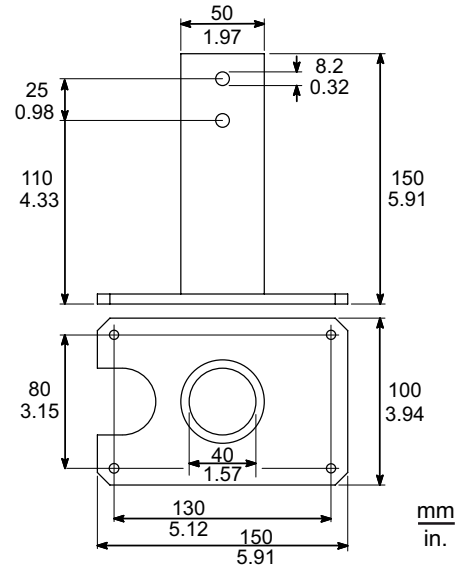
- one plate for mounting centrally onto the loudspeaker (with fixing provisions)
- one plate for fixing onto the ceiling or roof construction
- four fixing pins and spring clips
- four fixing screws

The mounting plates can be mechanically connected with a standard 39 mm dia. tube (not supplied by Bosch, but generally available in any required length). For extra safety, the loudspeaker has an eye bolt (M8 x13) with a maximum tensile strain of 1500 N for attaching an optional safety cord.

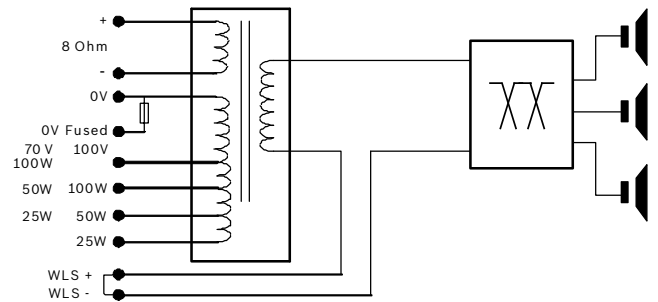
The electrical connection box, under the suspension cover, provides connection of the installation cable, allowing loop through and provision for internally mounting the optional line/loudspeaker supervision board.



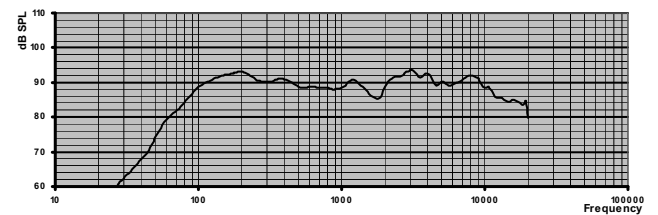
Dimensions LS1-OC100E-1



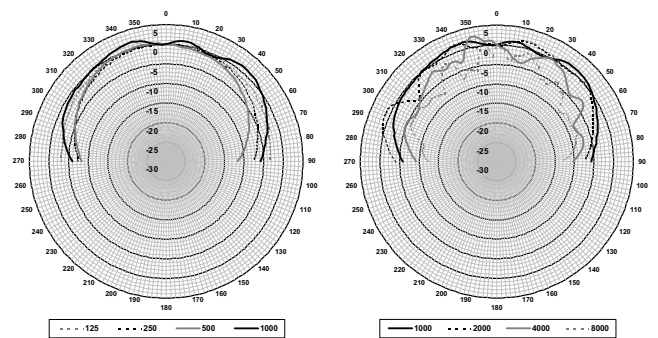
Dimensions LM1-MSB



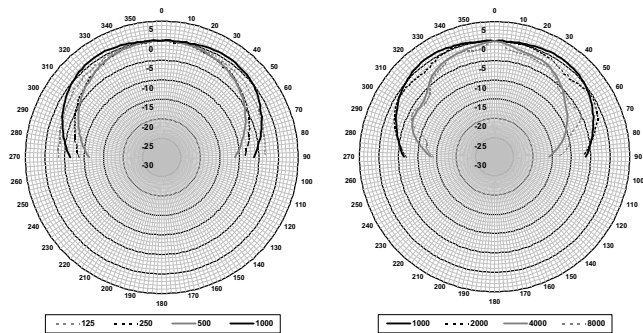
Circuit diagram



Frequency response



Vertical polar diagram of LS1-OC100E-1 (pink noise octave, normalized at 0° axis)



Horizontal polar diagram of LS1-OC100E-1 (pink noise octave, normalized at 0° axis)

Octave band sensitivity *

| | Octave SPL 1W/1m | Total octave SPL 1W/1m | Total octave SPL Pmax/1m |
|--------------|---------------------|------------------------------|--------------------------------|
| 125 Hz | 91.2 | - | - |
| 250 Hz | 92.1 | - | - |
| 500 Hz | 90.5 | - | - |
| 1000 Hz | 89.5 | - | - |
| 2000 Hz | 90.1 | - | - |
| 4000 Hz | 92.1 | - | - |
| 8000 Hz | 91.8 | - | - |
| A-weighted | - | 88.0 | 107.1 |
| Lin-weighted | - | 89.7 | 109.0 |

Octave band opening angles

| | Horizontal | Vertical |
|---------|------------|----------|
| 125 Hz | >180 | >180 |
| 250 Hz | 139 | 153 |
| 500 Hz | 127 | 136 |
| 1000 Hz | 175 | 180 |
| 2000 Hz | 172 | 180 |
| 4000 Hz | 96 | 137 |
| 8000 Hz | 111 | 80 |

Acoustical performance specified per octave

* (all measurements are done with a pink noise signal; the values are in dB SPL)

Parts Included

| Quantity | Components |
|----------|---------------------------|
| 1 | LS1-OC100E-1 |
| 1 | Installation Instructions |

Technical Specifications

Electrical*

| | |
|--|---|
| Maximum power | 150 W |
| Rated power | 100 W (100 – 50 – 25 W) |
| Sound pressure level at 100 W / 1 W (1 kHz, 1 m) | 110 / 90 dB |
| Opening angle at 1 kHz / 4 kHz (-6 dB) | 175° / 96° (horizontal) 180° / 137° (vertical) |
| Effective frequency range (-10 dB) | 60 Hz to 20 kHz |
| Rated voltage | 100 V, 70 V and 28.3 V |
| Rated impedance | 100 ohm, 50 ohm and 8 ohm |
| Connector | Ceramic screw terminal |

* Technical performance data acc. to IEC 60268-5

Mechanical

| | |
|-----------------------|------------------------------------|
| LS1-OC100E-1 | |
| Dimensions (dia. x H) | 800 x 425 mm (31.50 x 16.74 in) |
| Weight | 27 kg (59.52 lb) |
| Color baffle | White (RAL 9010) |
| Color top cover | Silver (RAL 9023) |
| Color grille | Silver (RAL 9006) |
| Material | ABS TSG |

| | |
|------------------------|---|
| LM1-MSB | |
| Dimensions (H x W x D) | 150 x 100 x 150 mm (5.90 x 3.94 x 5.90 in) |
| Weight | 2.9 kg (6.39 lb) |
| Material | Zinc plated steel |

Environmental

| | |
|-----------------------|--------------------------------|
| Operating temperature | -25 to +55 °C (-13 to 131 °F) |
| Storage temperature | -40 to +70 °C (-40 to +158 °F) |
| Relative humidity | <95% |

Ordering Information

LS1-OC100E-1 Hemi-directional Loudspeaker
100 W
Order number **LS1-OC100E-1**

Accessories

LM1-MSB Metal Suspension Bracket Adaptor Set

Metal Suspension Bracket Adaptor Set

Order number **LM1-MSB**

Represented by:

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