

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
- EN 54-24 certified

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.

Certifications and approvals

Safety	acc. to EN 60065
Emergency	acc. to EN 54-24 / 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
	CE DOP
	CPD

Installation/configuration notes

The loudspeaker can be suspended from a steel wire or chain using Dee shackles (not supplied).

A separate accessory, LM1-MSB-1, is available for applications where fixed suspension is required to avoid any loudspeaker movement (such as rotation, wobbling).

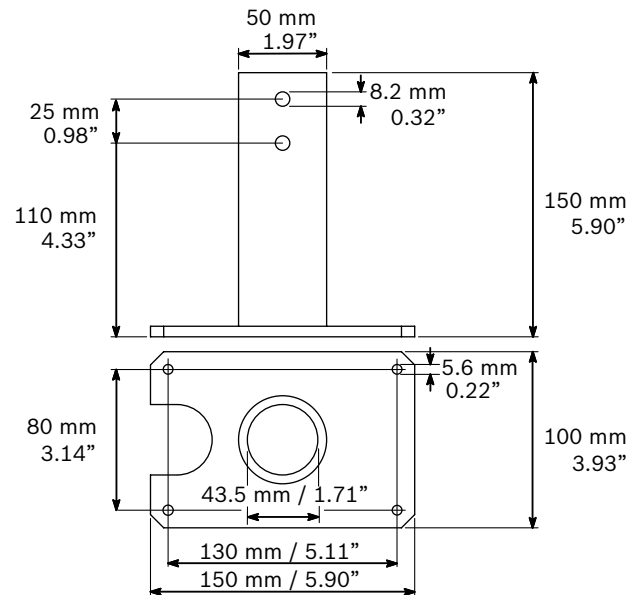
This accessory uses a set of zinc plated steel mounting plates:

- 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

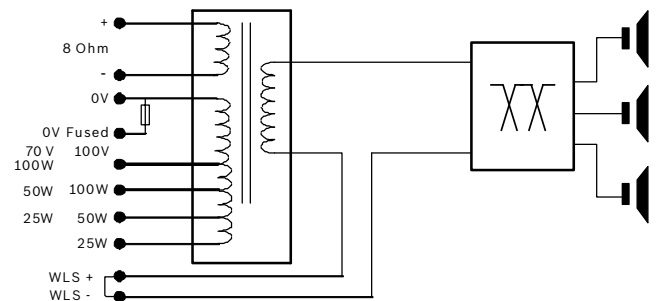
The mounting plates can be mechanically connected with a standard 42.4 mm (DIN EN 10255) dia. tube (not supplied by Bosch, but generally available in any required length).

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.

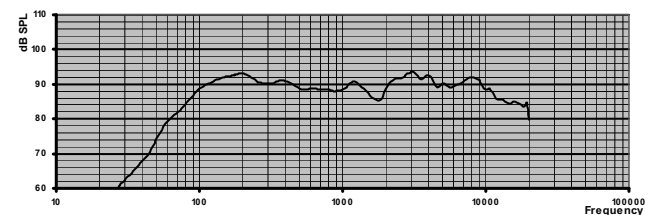
The electrical connection box, under the suspension cover, provides connection of the installation cable, allowing loop through and provision for internally mounting the optional line/loudspeaker supervision board.



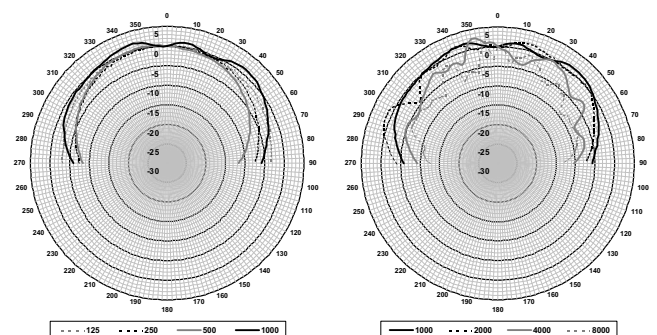
Dimensions LM1-MSB-1



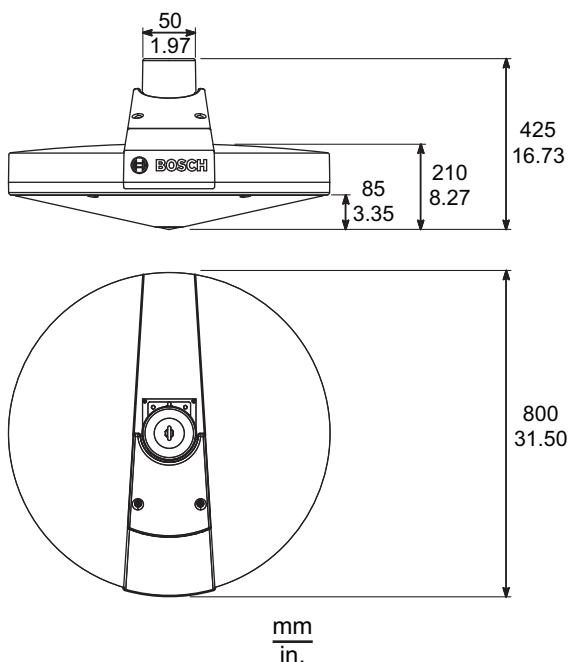
Circuit diagram



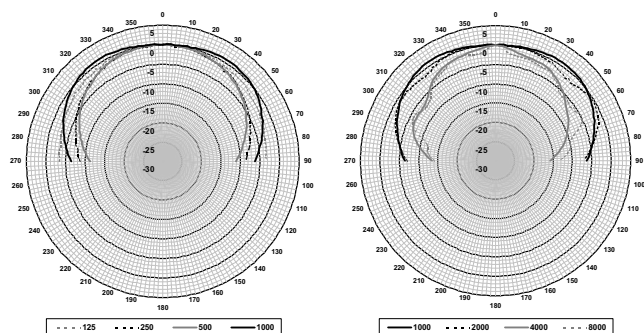
Frequency response



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



Dimensions LS1-OC100E-1



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			
Sound pressure level at 100 W / 1 W (1 kHz, 4 m)	98 / 77 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 input voltage		28.3 V	70 V	100 V
Rated impedance	100 W	8 Ohm	50 Ohm	100 Ohm
	50 W	N.A.	100 Ohm	200 Ohm
	25 W	N.A.	200 Ohm	400 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	Pearl dark gray (RAL 9023)
Color grille	White aluminum (RAL 9006)
Material	ABS TSG
LM1-MSB-1	
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)
Color	Pearl dark gray (RAL 9023)
Material	Zinc plated steel

Environmental

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

Note:

- The specification data is measured in an anechoic chamber, free field
- The reference axis is perpendicular to the center point of the front grille
- The reference plane is perpendicular to the center of the reference axis
- The horizontal plane is perpendicular to the center of the reference plane

 1438
Bosch Security Systems BV Torenallee 49, 5617 BA Eindhoven, the Netherlands 12 1438/CPD/0255
EN 54-24:2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings Hemi-directional loudspeaker LS1-OC100E-1 Type A DoP: LP052912

Ordering information**LS1-OC100E-1 Hemi-directional Loudspeaker**

Hemi-directional loudspeaker, 100 W, high-impact ABS enclosure, metal grille, suspended mounted for large areas/high-ceilings, self-restoring tweeter overload protection, chlorine resistant, water and dust protected IP 42, white/silver finish.

Order number **LS1-OC100E-1**

Accessories**LM1-MSB-1 Metal Suspension Bracket Adaptor Set**

Metal suspension bracket adaptor set for fixed suspension of the Hemi-directional Loudspeaker LS1-OC100E-1, prevents loudspeaker movement, zinc-plated steel, supplied with 4 fixing pins and screws.

Order number **LM1-MSB-1**

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