

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
	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).

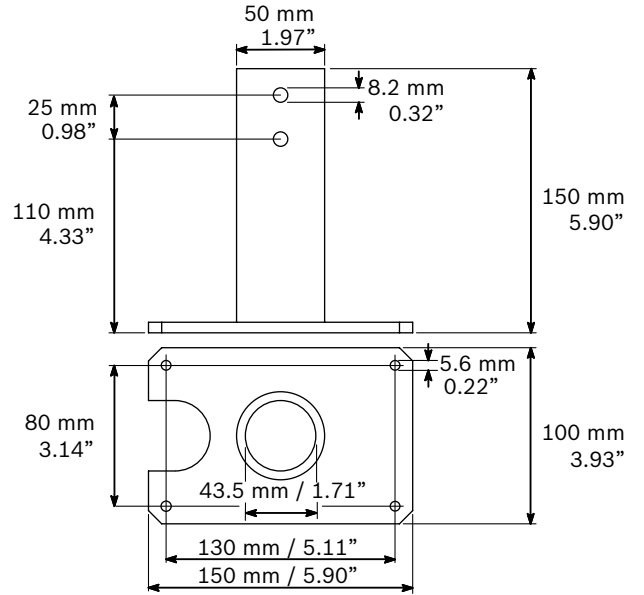
This accessory uses a set of zinc plated steel mounting plates:

- 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

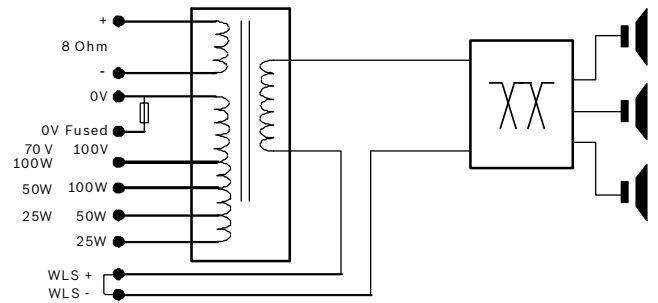
The mounting plates can be mechanically connected with a standard 42.4 mm (DIN EN 10255) dia. tube (not supplied by Bosch, but generally available in any required length).

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.

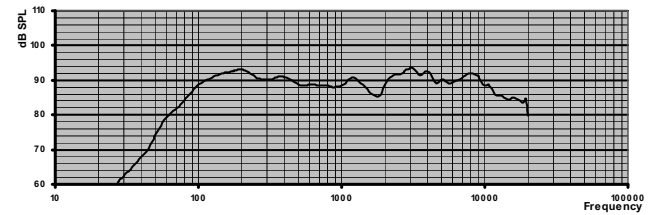
The electrical connection box, under the suspension cover, provides connection of the installation cable, allowing loop through and provision for internally mounting the optional line/loudspeaker supervision board.



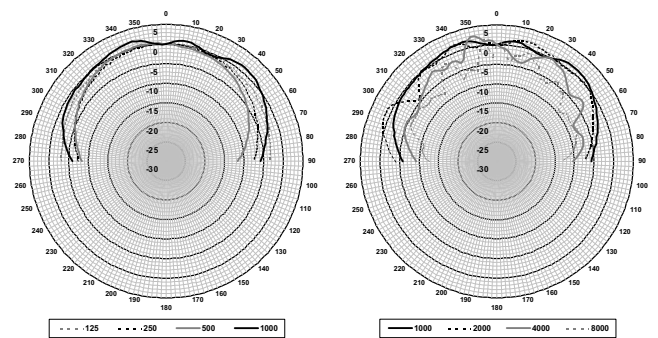
Dimensions LM1-MSB-1



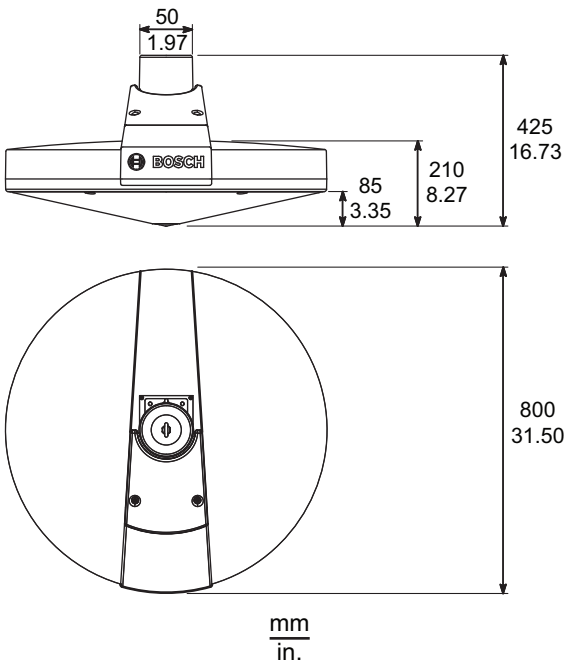
Circuit diagram



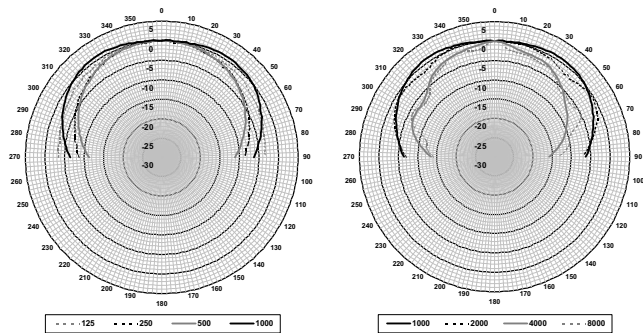
Frequency response



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
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	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 temperature	-40 to +70 °C (-40 to +158 °F)
Relative humidity	<95%



1438

Bosch Security Systems BV
Torenallee 49, 5617BA Eindhoven, The Netherlands
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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

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**

Represented by:

Americas:

Bosch Security Systems, Inc.
12000 Portland Avenue South
Burnsville MN 55337, USA
Phone: +1-800-392-3497
Fax: +1-800-955-6831
audiosupport@us.bosch.com
www.boschsecurity.com

Europe, Middle East, Africa:

Bosch Security Systems B.V.
P.O. Box 80002
5617 BA Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:

Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

China:

Bosch (Shanghai) Security Systems Ltd.
201 Building, No. 333 Fuquan Road
North IBP
Changning District, Shanghai
200335 China
Phone +86 21 22181111
Fax: +86 21 22182398
www.boschsecurity.com.cn

America Latina:

Robert Bosch Ltda Security Systems Division
Via Anhanguera, Km 98
CEP 13065-900
Campinas, Sao Paulo, Brazil
Phone: +55 19 2103 2860
Fax: +55 19 2103 2862
latam.boschsecurity@bosch.com
www.boschsecurity.com