

LBC 3210/00 Line Array Indoor/Outdoor Loudspeaker

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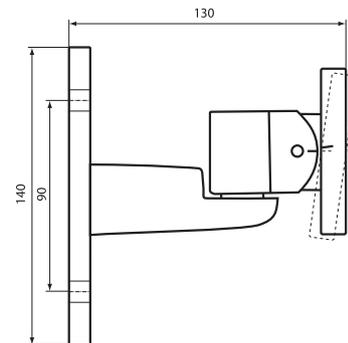


- ▶ Extended listening area
- ▶ Excellent intelligibility of speech and music
- ▶ Uniform distribution of natural sound throughout the room
- ▶ Provision for inside mounting the optional line/loudspeaker supervision board
- ▶ EN 54-24 certified

This loudspeaker, with its excellent directivity and high power output, can handle large (reverberant) indoor environments like airport departure lounges, train stations and congress venues. It is also suitable for outdoor use, for instance in railway stations or sports stadiums. Its full frequency range makes it ideal for speech as well as music reproduction.

System overview

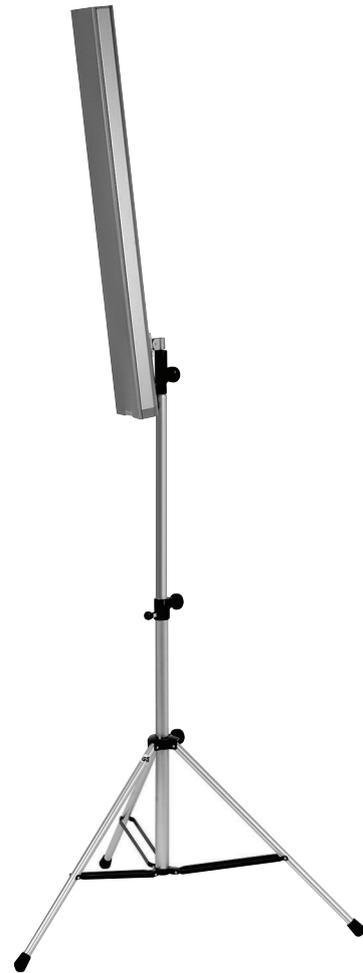
A time- and labor-saving mounting method has been developed for the LBC 3210/00. A chart is supplied with the loudspeaker, which shows the ideal installation height for the area the loudspeaker has to cover. Once the appropriate height has been determined for a given area, the loudspeaker is mounted at an angle marked on the mounting bracket. This simple procedure is very much simpler and more accurate than traditional trial and error installation methods. The LBC 3210/00 can be mounted on a wall or directly onto a floor stand LBC 1259/01 with an M10 threaded bolt without additional accessories.



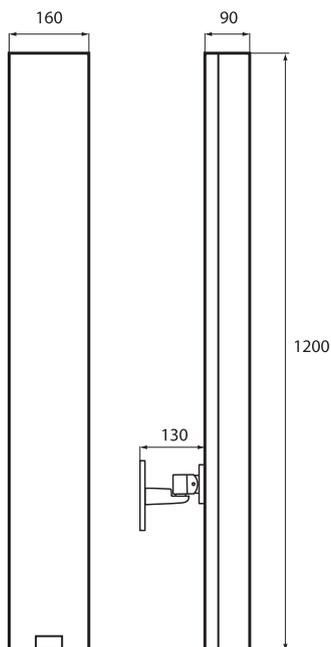
*Mounting bracket (included) with marked angle.
Dimensions in mm*



Detail mounting bracket



Mounted on optional loudspeaker stand (LBC 1259/01)



Dimensions in mm

Functions

Range of Application

The LBC 3210/00 is part of the XLA 3200 (eXtended Listening Area) range of line array loudspeakers. Advanced filtering and positioning of the loudspeaker drivers has resulted in greatly improved audio directivity. Each speaker driver produces a dedicated frequency range. The difference between a conventional column loudspeaker and this line array is noticeable in several ways. There is uniform sound distribution throughout the whole listening area: not too loud at the front, not too quiet at the back. All relevant frequencies are present everywhere in the listening area. Greater coverage is achieved, so more people can be reached with speech and music with a higher intelligibility level. All these important features will give the experience of a very natural sound quality in the whole listening area.

Easy Installation

The advanced filtering generates larger vertical opening angles for high frequencies, so there is less narrow 'beaming' of higher tones. Compared to conventional column loudspeakers, this line array has a more constant opening angle for all relevant frequencies. As an example, at 4 kHz the vertical opening angle is still 18°. Having more constant vertical opening angles makes installation easier, as the positioning of the loudspeakers is less critical because they cover a wider area. An excellent horizontal opening angle of 90° at 4 kHz means that a single loudspeaker can provide natural sound reproduction over an extensive listening area.

Suppressed Side Lobes

All conventional column loudspeakers produce a main lobe of sound, which is directed at listeners, and a number of unwanted side lobes. The LBC 3210/00 has highly suppressed side lobes in the vertical plane, typically at least 10 dB from the 250 Hz octave band at 90°, resulting in a much clearer, less 'colored' sound, even when close to the loudspeakers. This gives the line array loudspeaker superb intelligibility of both speech and music.

Sound Reproduction

The positioning and very high quality of the 4-inch drivers contribute significantly in making the LBC 3210/00 a very efficient line array. With a sound pressure level of 115 dB at 1 m at 60 W, loud and clear sound reproduction is possible even at considerable distances from the loudspeaker.

The high-quality loudspeaker drivers used in the LBC 3210/00 give excellent, natural sound reproduction of frequencies ranging from 190 Hz to 20 kHz. Together with the constant directivity this ensures that all important frequencies are heard in the listening area.

Emergency Compliant

The loudspeakers ceramic terminal block, thermal fuse and heat-resistant, high-temperature wiring, ensure that, in the event of a fire, damage to the loudspeaker does not result in failure of the circuit to which it is connected. In this way, system integrity is maintained, ensuring loudspeakers in other areas within the same loudspeaker zone can still be used to inform people of the situation.

The line arrays have provision for mounting the optional line/loudspeaker supervision board. A three-way ceramic terminal block with screw connections suitable for loop-through wiring is located in a compartment at the base of the loudspeaker column. There is also a switch which allows the selection of nominal full power (60 W), half power (30 W) or quarter power (15 W). The compartment has knock-out slots for accommodating cables.

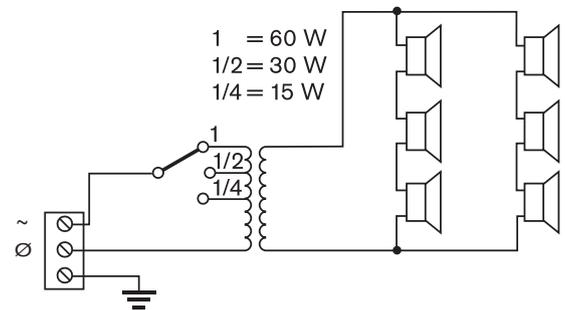
Certifications and approvals

All Bosch loudspeakers are designed to withstand operation at their rated power for 100 hours in accordance with IEC 268-5 Power Handling Capacity (PHC) standards. These loudspeakers also comply with the Simulated Acoustical Feedback Exposure (SAFE) test, which demonstrates that they can withstand acoustical feedback at full power for short durations. This ensures extra reliability under extreme conditions, leading to higher customer satisfaction, longer operating life and much less chance of failure or performance deterioration.

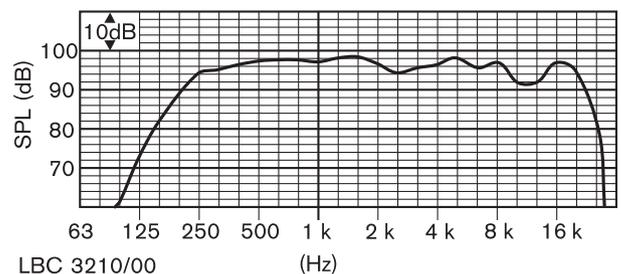
Safety	acc. to EN 60065 and CE
Emergency	acc. to EN 54-24 / BS 5839-8 / EN 60849
Water and dust protection	acc. to IEC 60529, IP 66
Impact	acc. to EN 50102, IK 07
Wind-force	acc. to NEN 6702 :2007 + A1 :2008, Bft 11

Region	Certification
Europe	CE
	CPD
Poland	CNBOP

Installation/configuration notes



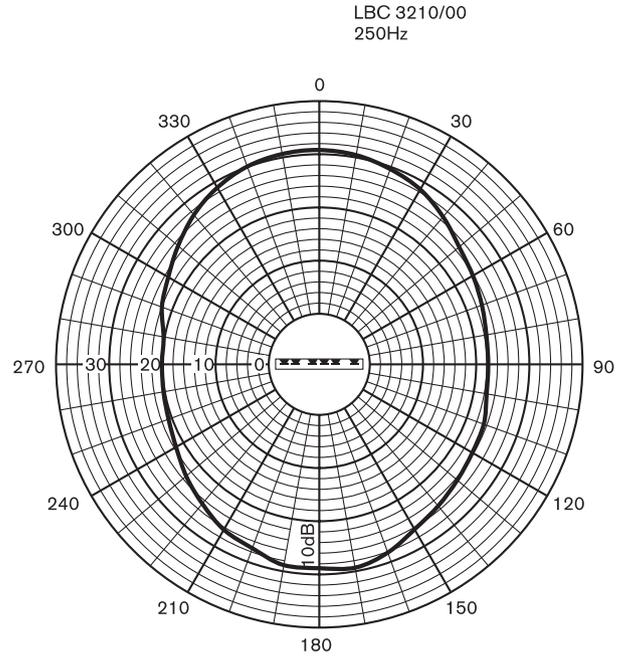
Circuit diagram



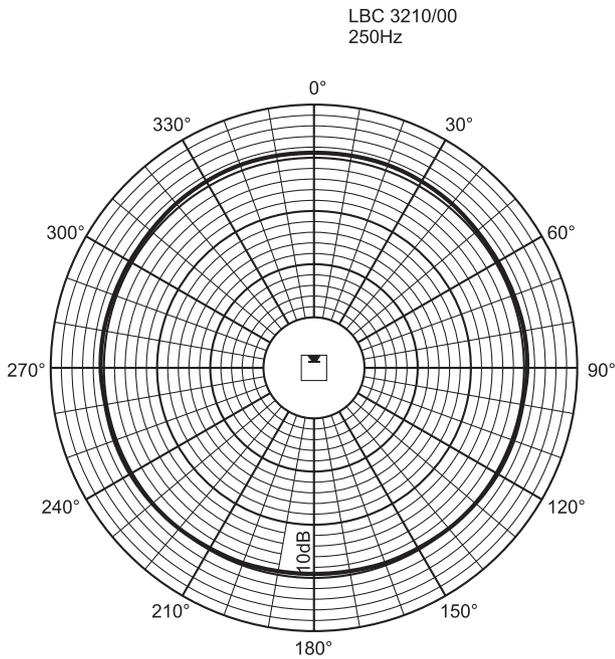
Frequency response

	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
SPL 1.1	94	97	97	95	96	93
SPL max.	112	115	115	113	114	111
Q-factor	2.2	2.7	6.3	10.8	22.6	32.3
H. angle (deg)	360	180	170	160	90	60
V. angle (deg)	100	60	55	34	18	10

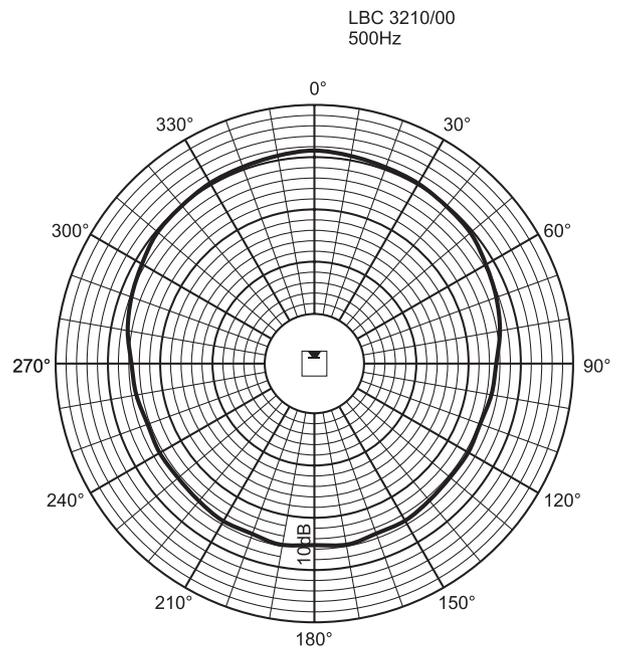
Acoustical performance specified per octave



Polar diagram (vertical)

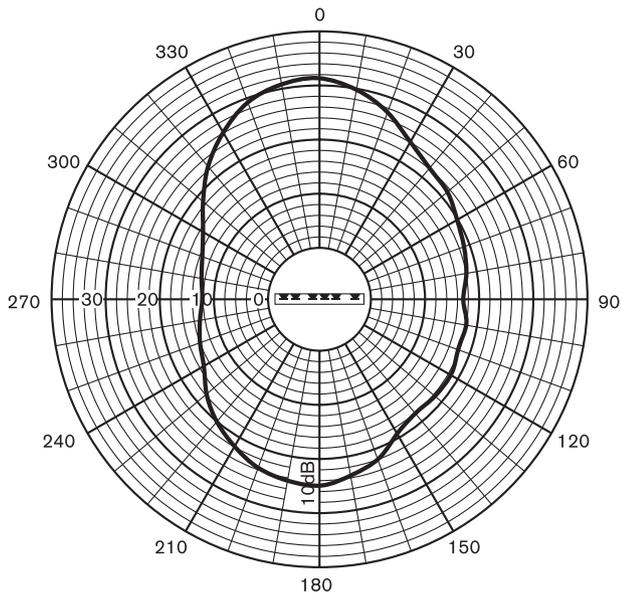


Polar diagram (horizontal)



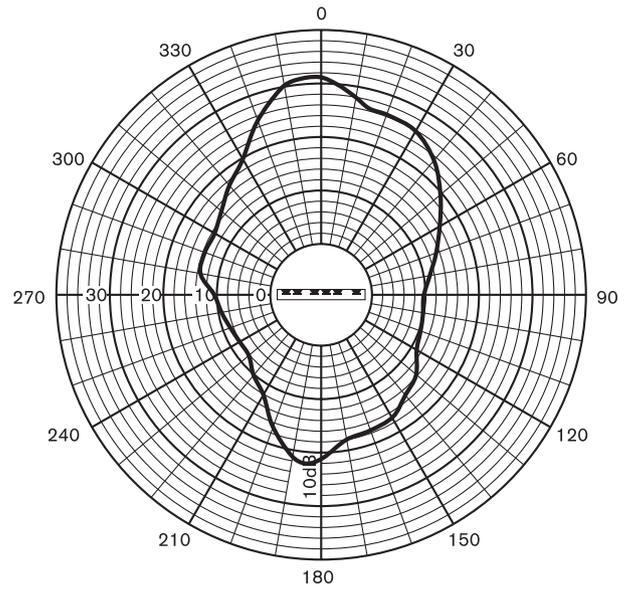
Polar diagram (horizontal)

LBC 3210/00
500Hz



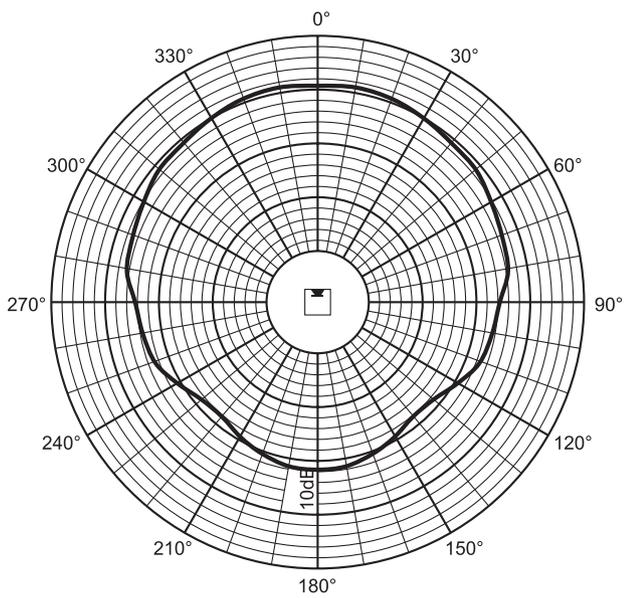
Polar diagram (vertical)

LBC 3210/00
1kHz



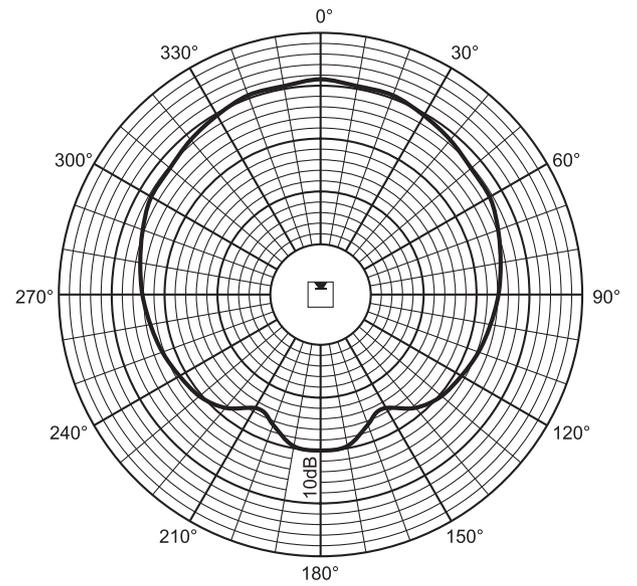
Polar diagram (vertical)

LBC 3210/00
1kHz



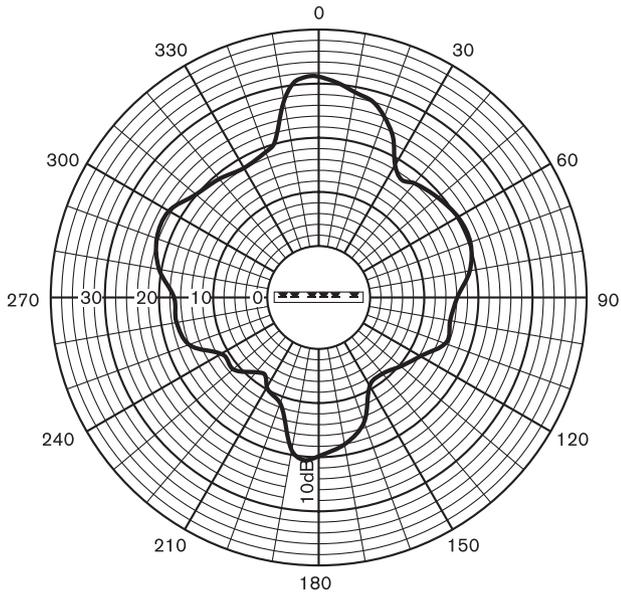
Polar diagram (horizontal)

LBC 3210/00
2kHz



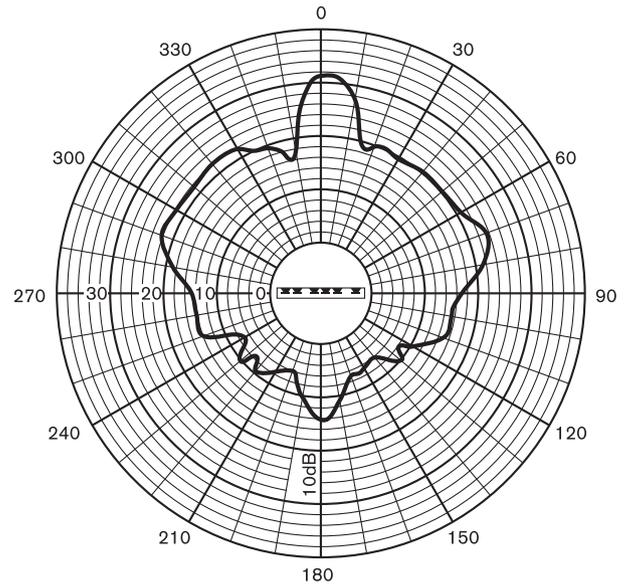
Polar diagram (horizontal)

LBC 3210/00
2kHz



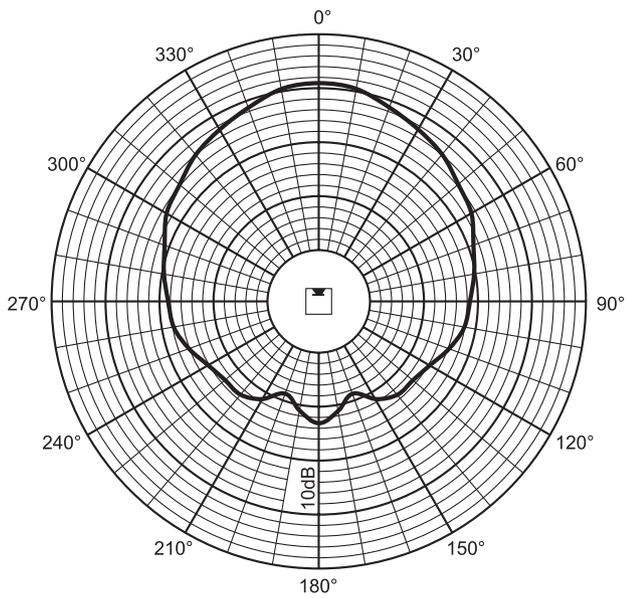
Polar diagram (vertical)

LBC 3210/00
4kHz



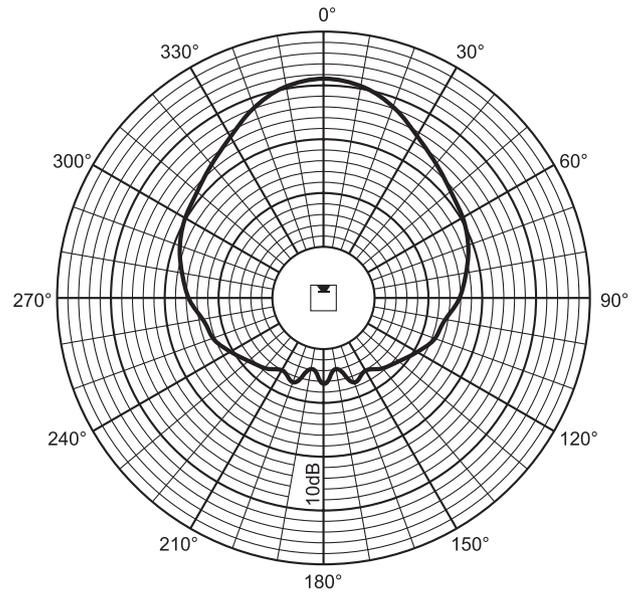
Polar diagram (vertical)

LBC 3210/00
4kHz

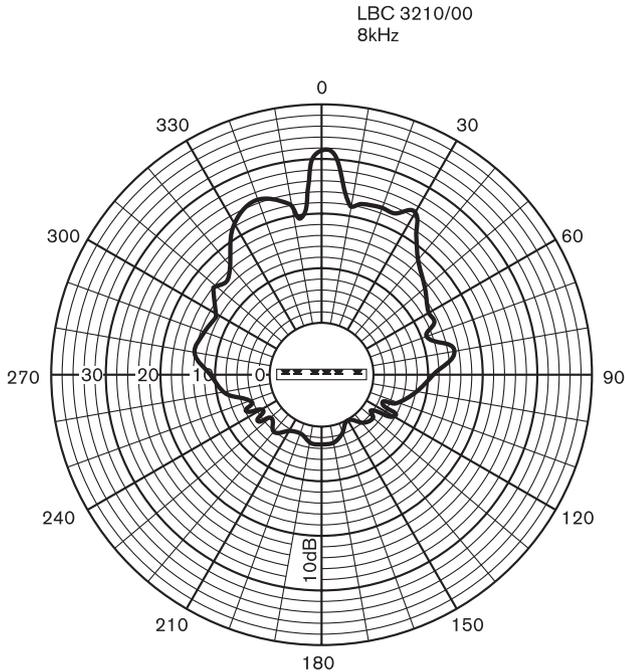


Polar diagram (horizontal)

LBC 3210/00
8kHz



Polar diagram (horizontal)



Polar diagram (vertical)

Parts included

Quantity	Components
1	LBC 3210/00 Line Array Loudspeaker
1	Wall mounting bracket
1	Attachment piece
1	Installation chart

Technical specifications

Electrical*

Maximum Power	90 W
Rated Power	60 / 30 / 15 W
Sound pressure level at 60 W / 1 W (1 kHz, 1 m)	115 dB / 97 dB (SPL)
Effective frequency range (-10 dB)	190 Hz to 20 kHz
Opening angle	1 kHz / 4 kHz (-6 dB)
horizontal	170° / 90°
vertical	55° / 18°
Rated input voltage	100 V
Rated impedance	167 ohm
Connector	Screw terminal block

* Technical performance data acc. to IEC 60268-5

Mechanical

Dimensions (H x W x D)	1200 x 160 x 90 mm (47.24 x 6.3 x 3.54 in)
Weight	9 kg (19,8 lb)
Color	Light gray (matches RAL 9022)

Environmental

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



1438

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1438-CPD-0254

EN 54-24:2008

Loudspeaker for voice alarm systems
for fire detection and fire alarm systems for buildings

Line Array 60W
LBC 3210/00
Type B

Ordering information

LBC 3210/00 Line Array Indoor/Outdoor Loudspeaker
for large (reverberant) environments, 60 W
Order number **LBC3210/00**

Accessories

LBC 1259/00 Universal Floorstand
Lightweight aluminum construction, foldable,
M10 x 12 reducer flange.
Order number **LBC1259/00**

LBC 1259/01 Universal Floorstand
Lightweight aluminum construction, foldable,
M10 x 12 reducer flange.
Order number **LBC1259/01**

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