



LA1-UMx0E Metal Column Loudspeakers



The LA1-UM20E and LA1-UM40E metal column loudspeakers deliver professional performance from a robust, yet aesthetically designed aluminum enclosure in a white finish.

It is an ideal loudspeaker column where sound beaming is required, for both indoor and outdoor use in passenger terminals, places of worship, conference venues, theme parks, swimming pools, factories, exhibition areas.

A swivel wall mounting bracket is supplied as standard, allowing accurate positioning.

Functions

Voice alarm

Voice alarm loudspeakers are specifically designed for use in applications, where the performance of PA systems is subject to official regulations. The LA1-UM20E and LA1-UM40E are designed for voice alarm systems, and are compliant with British Standard BS 5839-8 and EN 60849.

Protection

Both loudspeaker columns have built-in protection to ensure that in the event of a fire damage does not cause failure of the connected circuit. In this way, system integrity is maintained; ensuring loudspeakers in other areas can still be used to inform people of the situation.

- ▶ **Good speech intelligibility and background music reproduction**
- ▶ **For applications where directivity is important**
- ▶ **Slim-line weatherproof design**
- ▶ **Swivel wall mounting bracket supplied as standard**
- ▶ **Robust aluminum construction**
- ▶ **Switchable between 100 V line and 8 Ohms**
- ▶ **Provision for inside mounting of the optional line/loudspeaker supervision board**
- ▶ **Recommended for voice evacuation systems**

Connections and safety

The loudspeaker columns have a ceramic terminal block, thermal fuse, and heat-resistant, high-temperature wiring. The column has a provision for internally mounting the optional line/loudspeaker supervision board.

Loudspeaker output power setting

Four primary taps are provided on the built-in matching transformer. Loudspeaker output power setting is done on the built-in transformer and connected to a rotary vary-tap switch located in the back of the enclosure to allow simple output power setting. An 8 ohms setting and switch-off position is also provided on the rotary vary-tap switch.

Certifications and Approvals

All Bosch loudspeakers are designed to withstand operating at their rated power for 100 hours in accordance with IEC 268-5 Power Handling Capacity (PHC) standards. Bosch has also developed the Simulated Acoustical Feedback Exposure (SAFE) test to demonstrate that the speakers can withstand two times their rated power for short durations. This ensures extra reliability under extreme conditions, leading to greater customer satisfaction, longer operating life, and much less chance of failure or performance deterioration.

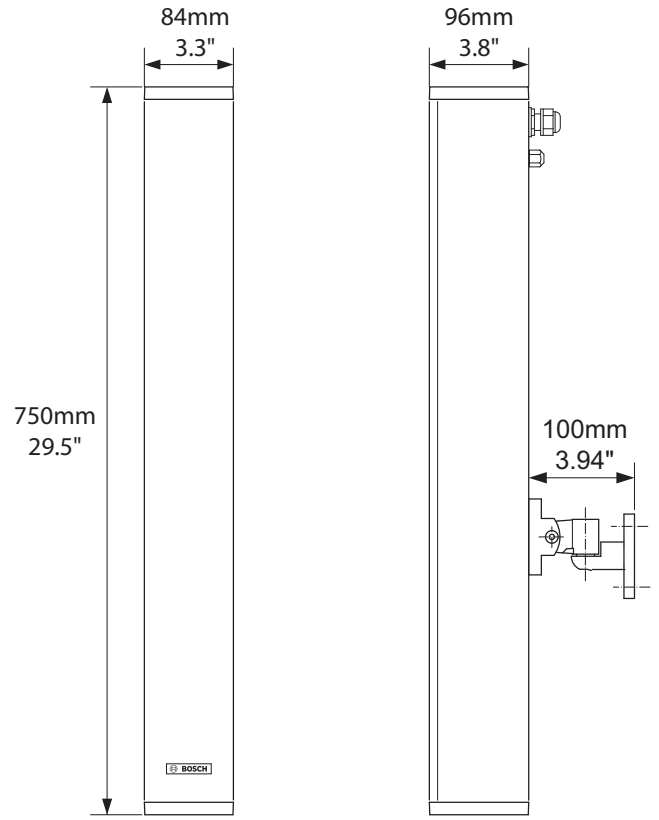
Safety	acc. to EN 60065
EVAC	acc. to BS 5839-8
	acc. to EN 60849
Water / dust protection	acc. to EN 60529 IP 65

Installation/Configuration Notes

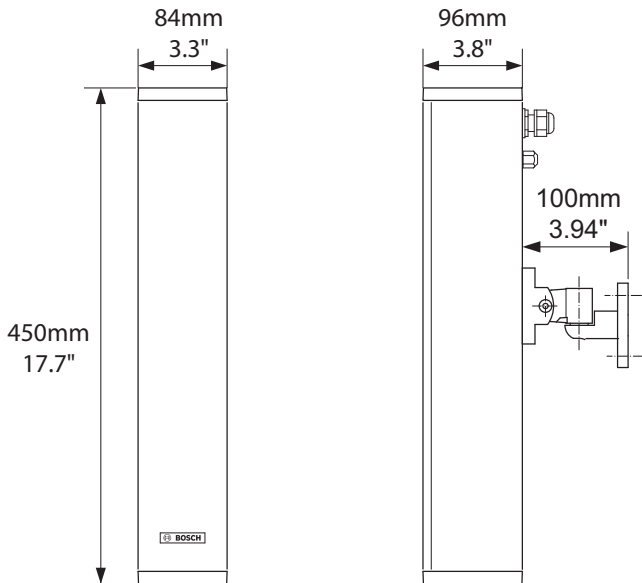
The column loudspeakers can be wall mounted using the swivel wall bracket standard supplied, or directly onto a floor stand LBC 1259/00 with an M10 threaded bolt without additional accessories. The bracket is attached on a slider, which can be placed and secured in any desired position along the rear of the enclosure.

Standard supplied with 2 m connection cable, but these can be replaced during installation with any other type of connection cable.

The connection cable is fed out through a cable gland (PG 20) in the top rear of the enclosure. For loop through connection, a second hole (covered as standard supplied) is provided.



LA1-UM40E Dimensions mm (in)

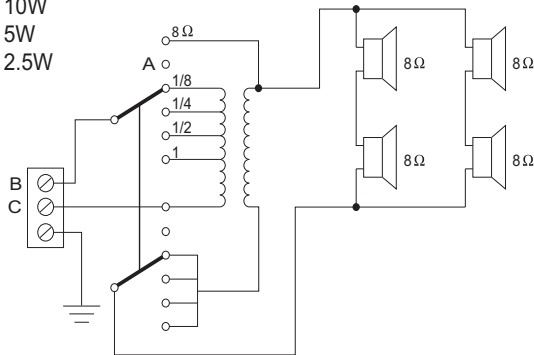


LA1-UM20E Dimensions mm (in)



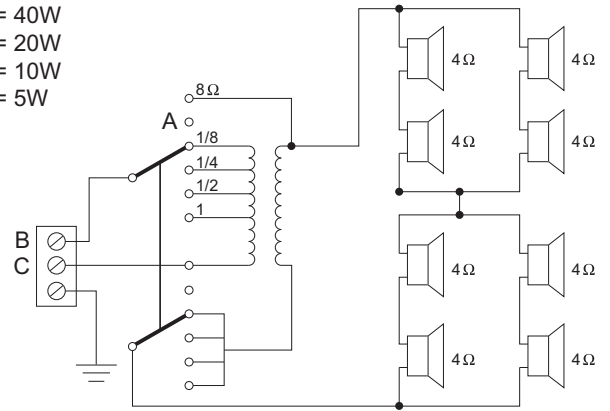
LA1-UM20E / LA1-UM40E Back view

- 1 = 20W
- 1/2 = 10W
- 1/4 = 5W
- 1/8 = 2.5W

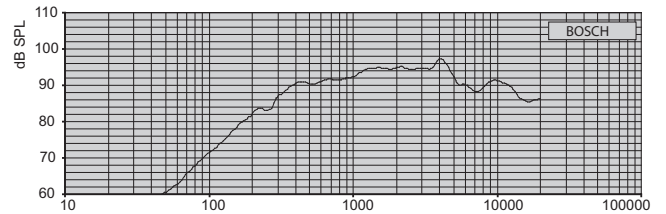


LA1-UM20E Circuit diagram (A: OFF, B: Phase, C: Common)

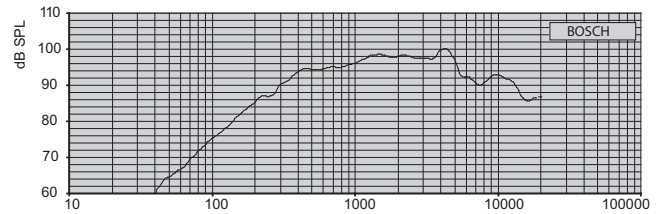
- 1 = 40W
- 1/2 = 20W
- 1/4 = 10W
- 1/8 = 5W



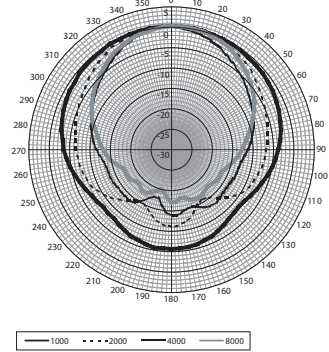
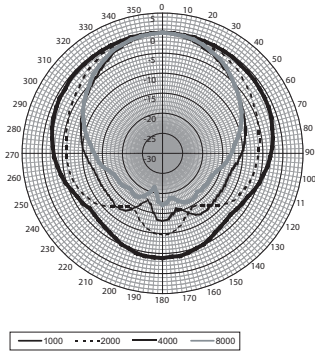
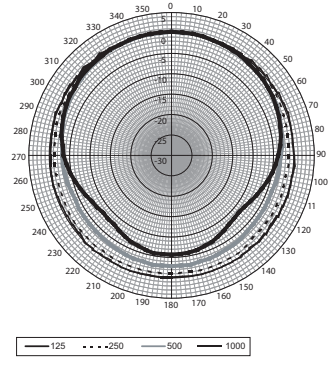
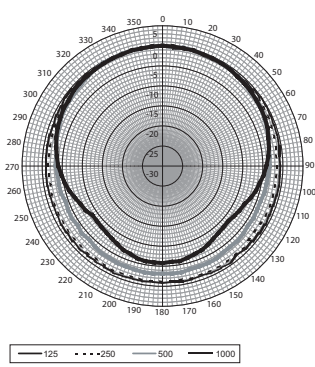
LA1-UM40E Circuit diagram (A: OFF, B: Phase, C: Common)



LA1-UM20E Frequency response

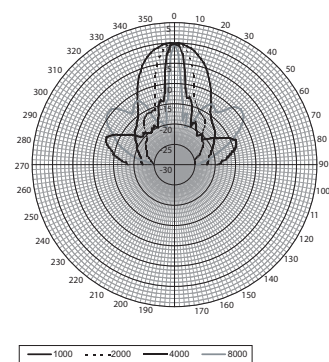
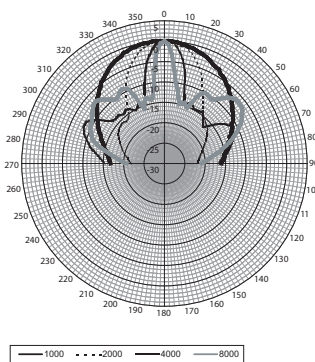
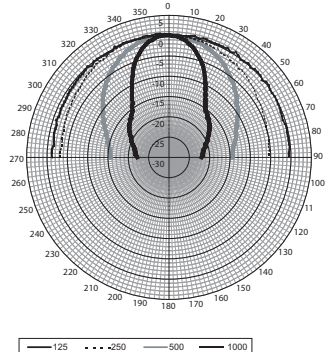
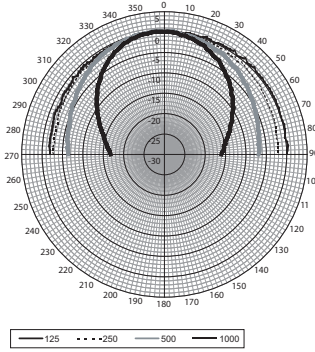


LA1-UM40E Frequency response



LA1-UM20E Polar-diagram (horizontal)

LA1-UM40E Polar diagram (horizontal)



LA1-UM20E Polar diagram (vertical)

LA1-UM40E Polar diagram (vertical)

Octave band sensitivity LA1-UM20E

	Octave SPL 1W/m	Total octave SPL 1W/m	Total octave SPL Pmax/m
125 Hz	72.2	-	-
250 Hz	81.9	-	-
500 Hz	89.7	-	-
1000 Hz	91.9	-	-
2000 Hz	94.2	-	-
4000 Hz	94.8	-	-
8000 Hz	90.0	-	-
A-weighted	-	90.2	102.3
Lin-weighted	-	90.1	101.6

Octave band opening angles LA1-UM20E

	Horizontal	Vertical
125 Hz	360	>180
250 Hz	360	>180
500 Hz	360	150
1000 Hz	210	82
2000 Hz	150	43
4000 Hz	96	23
8000 Hz	98	11

Octave band sensitivity LA1-UM40E

	Octave SPL 1W/m	Total octave SPL 1W/m	Total octave SPL Pmax/m
125 Hz	76.2	-	-
250 Hz	86.0	-	-
500 Hz	93.4	-	-
1000 Hz	95.8	-	-
2000 Hz	97.8	-	-
4000 Hz	98.1	-	-
8000 Hz	92.0	-	-
A-weighted	-	93.7	109.0
Lin-weighted	-	93.4	107.9

Octave band opening angles LA1-UM40E

	Horizontal	Vertical
125 Hz	360	>180
250 Hz	360	>180
500 Hz	360	80
1000 Hz	211	40
2000 Hz	150	22
4000 Hz	94	12
8000 Hz	106	6

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	LA1-UMx0E Metal Column loudspeaker
1	Wall mounting bracket
1	Installation instruction

Technical Specifications

Electrical*

Description	LA1-UM20E	LA1-UM40E
Maximum power	30 W	60 W
Rated power (PHC)	20 W	40 W
Power tapping	20 / 10 / 5 / 2.5 W	40 / 20 / 10 / 5 W
Sound pressure level at 6 W / 1 W (1 kHz, 1 m)	105 / 92 dB (SPL)	112 / 96 dB (SPL)
Effective frequency range (-10 dB)	240 Hz to 16 kHz	250 Hz to 16 kHz
Horizontal opening angle at 1 kHz / 4 kHz (-6 dB)	210° / 82°	212° / 94°
Vertical opening angle at 1 kHz / 4 kHz (-6 dB)	82° / 24°	40° / 12°
Rated input voltage	100 V	100 V
Rated impedance	500 ohm / 8 ohm	250 ohm / 8 ohm

* Technical performance data acc. to IEC 60268-5

Mechanical

	LA1-UM20E	LA1-UM40E
Dimensions (W x D)	450 x 84 x 96 mm (17.7 x 3.3 x 3.8 in)	750 x 84 x 96 mm (29.5 x 3.3 x 3.8 in)
Weight	2.9 kg (6.4 lb)	4.4 kg (9.7 lb)
Color	White (RAL 9010)	White (RAL 9010)
Material (housing and grille)	Extruded aluminum / steel	Extruded aluminum / steel
Connection	2 m 3-wire cable	2 m 3-wire cable
Connector (phase, common, earth)	3-pole screw block	3-pole screw block

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%

Ordering Information

LA1-UM20E Metal Column Loudspeaker 20 W	LA1-UM20E
LA1-UM40E Metal Column Loudspeaker 40 W	LA1-UM40E

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