

LA1-UW24-x Column Loudspeakers



4

Features

- ▶ **Good speech intelligibility and background music reproduction**
- ▶ **For applications where directivity is important**
- ▶ **High sensitivity**
- ▶ **Swivel wall-mounting bracket supplied as standard**
- ▶ **Available in black or white**
- ▶ **MDF construction**
- ▶ **Complies with international installation and safety regulations**

The LA1-UW24-x is a 24 W, general-purpose, cost-effective column loudspeaker for indoor use where beaming is desirable, such as places of worship, conference venues, meeting rooms, and canteens. A swivel wall-mounting bracket is supplied as standard. The column loudspeaker is available in black and white.

Functions

The robust, solid MDF (Medium Density Fiber board) enclosures are covered with a durable, easy-to-clean vinyl in a choice of black or white. The ABS fronts are covered with fine woven cloth in matching color.

These powerful column loudspeakers are fitted with four dual-cone, high-sensitivity, loudspeaker drivers.

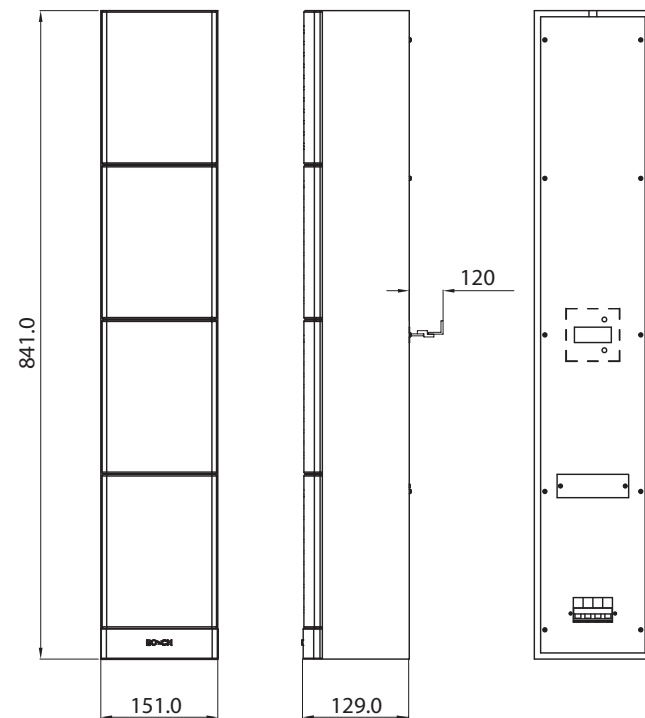
Certifications and Approvals

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 they can withstand two times their rated 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.

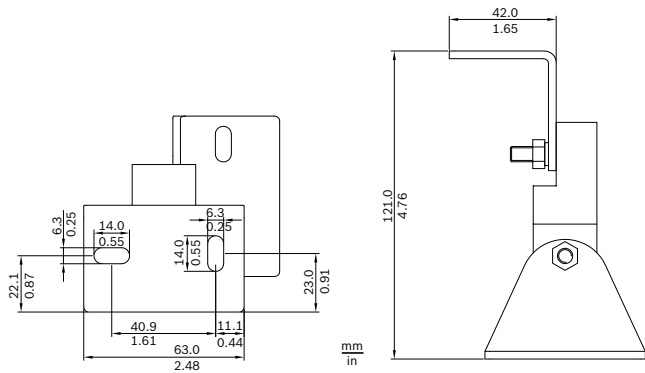
Safety acc. to EN 60065

Installation/Configuration Notes

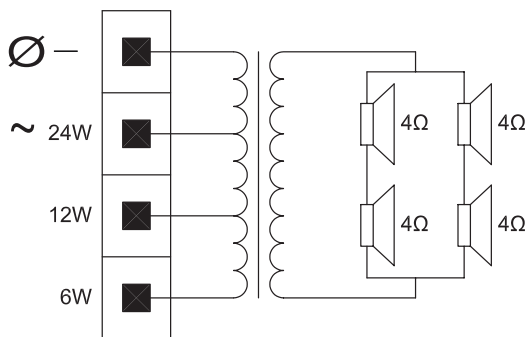
The column loudspeakers can be wall mounted using the supplied swivel bracket, allowing accurate positioning. A convenient, easy-to-use, four-pole push-in terminal block is present on the rear panel for on-site wiring. This terminal block has provision for power tapping on the 100 V, matching transformer in the cabinet. It allows selection of nominal full-power, half-power or quarter-power radiation (in 3 dB steps).



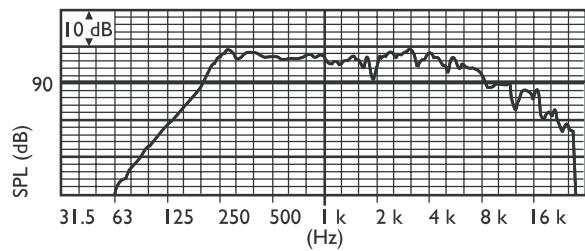
Dimensions in mm



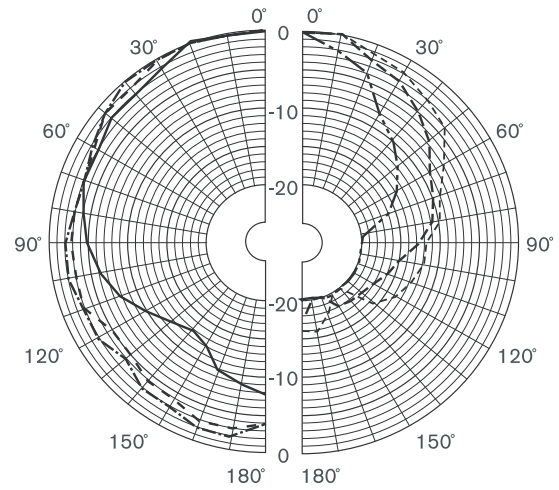
Bracket dimensions



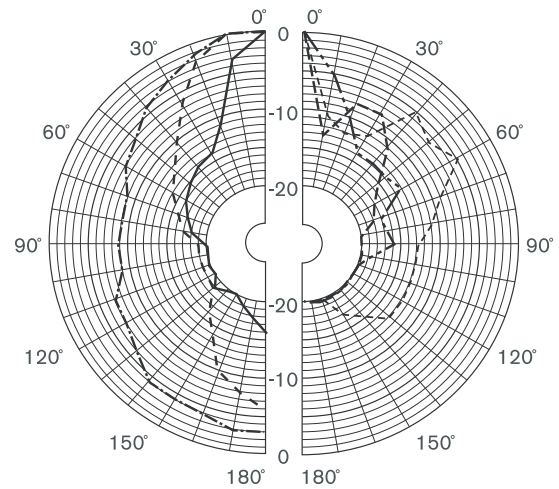
Circuit diagram



Frequency response



Polar diagram horizontal (measured with pink noise)



Polar diagram vertical (measured with pink noise)

Parts Included

| Quantity | Component |
|----------|-------------------------------|
| 1 | LA1-UW24-x Column Loudspeaker |
| 1 | Swivel wall mounting bracket |

Technical Specifications
Electrical*

| | |
|--|-------------------------------|
| Maximum power | 36 W |
| Rated power | 24 / 12 / 6 W |
| Sound pressure level at 24 W / 1 W (1 kHz, 1 m) | 110 dB / 96 dB (SPL) |
| Effective frequency range (-10 dB) | 165 Hz to 16 kHz |
| Opening angle | 1 kHz / 4 kHz (-6 dB) |
| horizontal | 190° / 88° |
| vertical | 30° / 8° |
| Rated input voltage | 100 V |
| Rated impedance | 417 ohm |
| Connector | 4-pole push-in terminal block |

* Technical performance data acc. to IEC 60268-5

Mechanical

| | |
|------------------------|--|
| Dimensions (H x W x D) | 841x 151 x 129 mm (33.1 x 5.9 x 5.1 in) |
| Weight | 5.5 kg (12.1 lb) |
| Color | Black (D) or white (L) |
| cabinet / cloth (D) | Matches RAL 9004 / RAL 9004 |
| cabinet / cloth (L) | Matches RAL 9010 / RAL 7044 |

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-UW24-D Column Loudspeaker 24 W, black | LA1-UW24-D |
| LA1-UW24-L Column Loudspeaker 24 W, white | LA1-UW24-L |

LA1-UW36-x Column Loudspeakers



Features

- ▶ **Good speech intelligibility and background music reproduction**
- ▶ **For applications where directivity is important**
- ▶ **High sensitivity**
- ▶ **Swivel wall mounting bracket supplied as standard**
- ▶ **Available in black or white**
- ▶ **MDF construction**
- ▶ **Complies with international installation and safety regulations**

The LA1-UW36-x is a 36 W, general-purpose, cost-effective column loudspeaker for indoor use where beaming is desirable, such as places of worship, congress venues, meeting rooms and canteens. A swivel wall mounting bracket is supplied as standard. The column loudspeaker is available in black and white.

Functions

The robust, solid MDF (Medium Density Fiber board) enclosures are covered with a durable, easy-to-clean vinyl in a choice of black or white. The ABS fronts are covered with fine woven cloth in matching color.

These powerful column loudspeakers are fitted with four dual cone high sensitivity loudspeaker drivers.

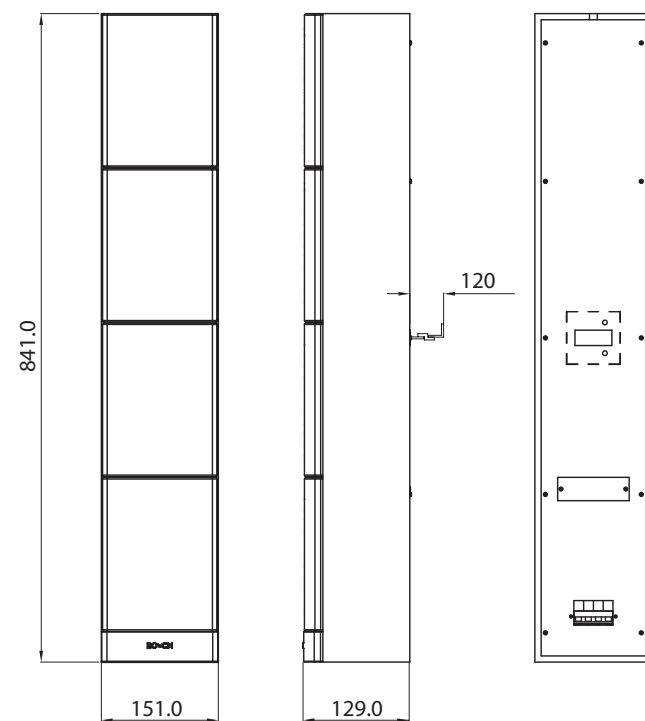
Certifications and Approvals

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 they can withstand two times their rated 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.

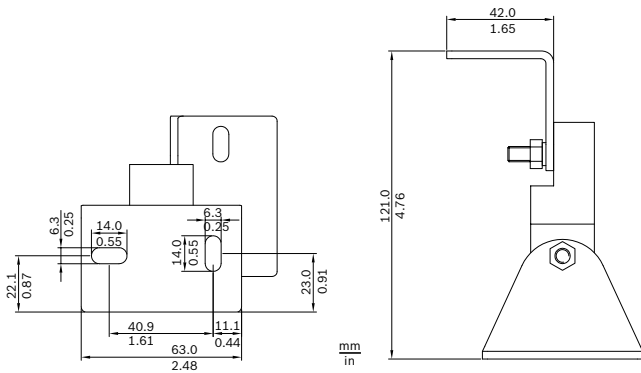
Safety acc. to EN 60065

Installation/Configuration Notes

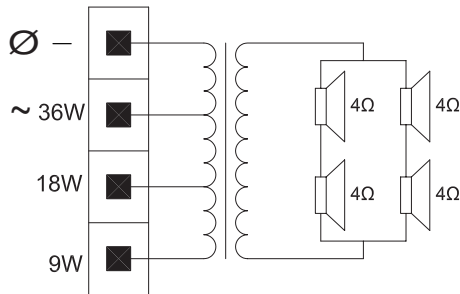
The column loudspeakers can be wall mounted using the supplied swivel bracket, allowing accurate positioning. A convenient, easy-to-use, four-pole push-in terminal block is present on the rear panel for on-site wiring. This terminal block has provision for power tapping on the 100 V, matching transformer in the cabinet. It allows selection of nominal full-power, half-power or quarter-power radiation (in 3 dB steps).



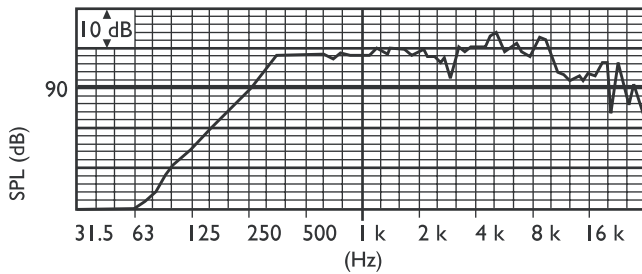
Dimensions in mm



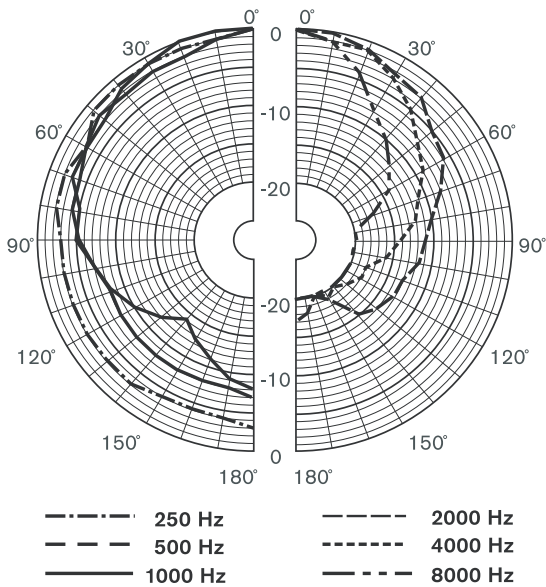
Bracket dimensions



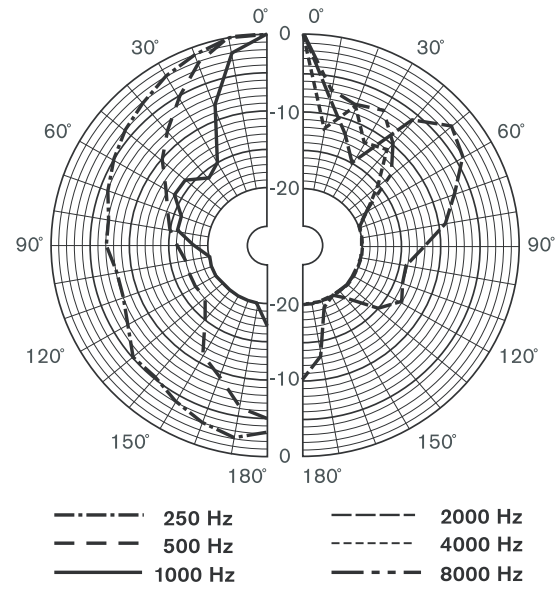
Circuit diagram



Frequency response



Polar diagram horizontal (measured with pink noise)



Polar diagram vertical (measured with pink noise)

Parts Included

| Quantity | Component |
|----------|-------------------------------|
| 1 | LA1-UW36-x Column Loudspeaker |
| 1 | Swivel wall mounting bracket |

Technical Specifications

Electrical*

| | |
|---|-------------------------------|
| Maximum power | 54 W |
| Rated power | 36 / 18 / 9 W |
| Sound pressure level at 36 W / 1 W (1 kHz, 1 m) | 114 dB / 98 dB (SPL) |
| Effective frequency range (-10 dB) | 160 Hz to 19 kHz |
| Opening angle | 1 kHz / 4 kHz (-6 dB) |
| horizontal | 190° / 88° |
| vertical | 30° / 8° |
| Rated input voltage | 100 V |
| Rated impedance | 278 ohm |
| Connector | 4-pole push-in terminal block |

* Technical performance data acc. to IEC 60268-5

Mechanical

| | |
|------------------------|--|
| Dimensions (H x W x D) | 841x 151 x 129 mm (33.1 x 5.9 x 5.1 in) |
| Weight | 6 kg (13.2 lb) |
| Color | Black (D) or white (L) |
| cabinet / cloth (D) | Matches RAL 9004 / RAL 9004 |
| cabinet / cloth (L) | Matches RAL 9010 / RAL 7044 |

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-UW36-D Column Loudspeaker 36 W, black | LA1-UW36-D |
| LA1-UW36-L Column Loudspeaker 36 W, white | LA1-UW36-L |

LA1-UMx0E-1 Metal Column Loudspeakers



Features

- ▶ **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 70/100 V line and 8 Ohms**
- ▶ **Provision for inside mounting of the optional line/loudspeaker supervision board**
- ▶ **EN 54-24 certified**
- ▶ **BS 5839-8 and EN 60849 compliant**

The LA1-UM20E-1 and LA1-UM40E-1 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-1 and LA1-UM40E-1 are designed for voice alarm systems.

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.

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 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.

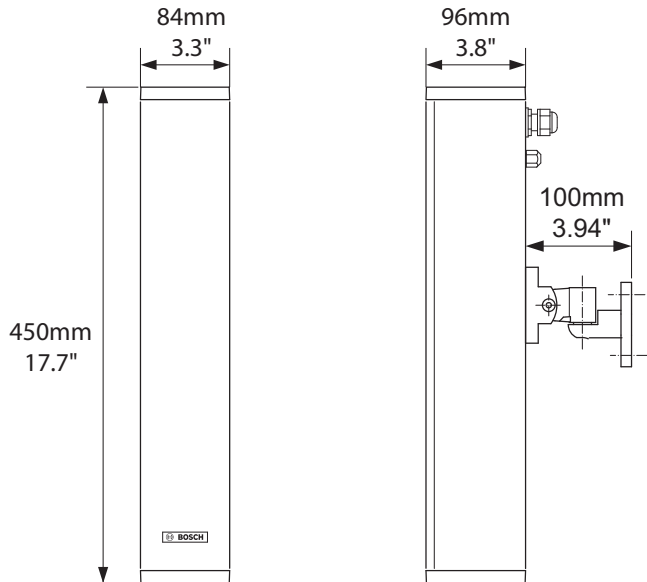
| Region | Certification |
|---------------------------|---|
| Poland | CNBOP |
| Safety | acc. to EN 60065 |
| Emergency | acc. to EN 54-24 |
| | acc. to EN 60849 |
| | acc. to BS 5839-8 |
| Water and dust protection | acc. to EN 60529 IP 65 |
| Wind-force | Acc. to NEN 6702:2007 + A1: 2008, Bft11 |

Installation/Configuration Notes

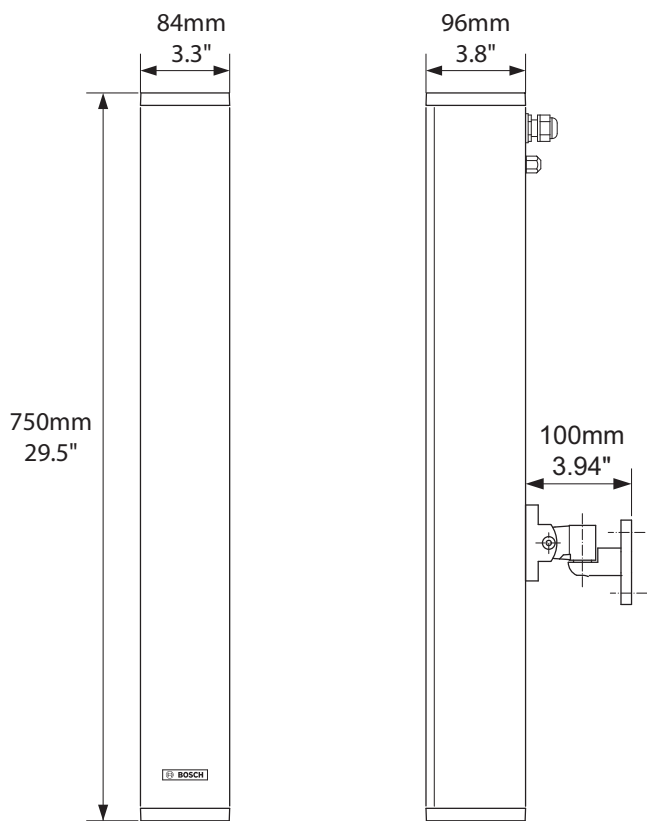
The column loudspeakers can be wall mounted using the swivel wall bracket standard supplied, or directly onto a floor stand LBC 1259/01 with an M10 threaded bolt without additional accessories. The bracket is attached on a slider, which can be placed and secured in any desired position along the rear 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.



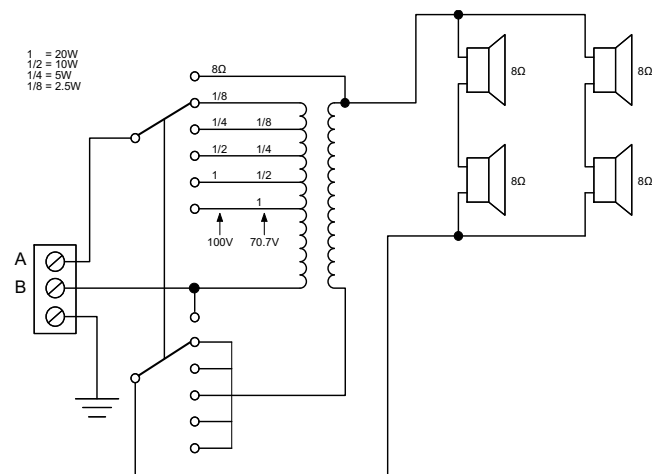
LA1-UM20E-1 Dimensions mm (in)



LA1-UM40E-1 Dimensions mm (in)



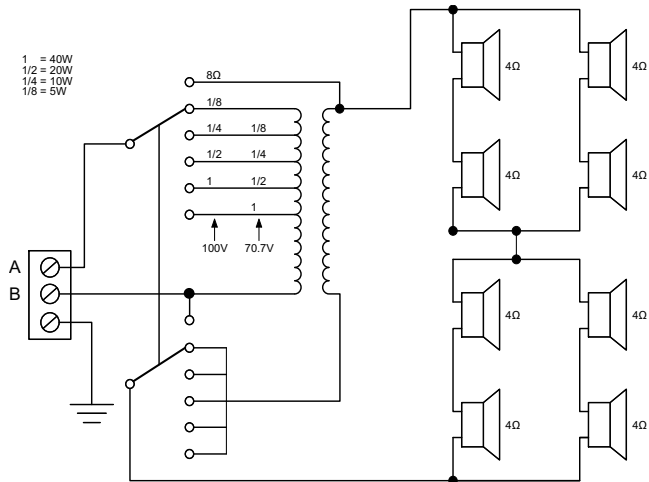
LA1-UM20E-1 / LA1-UM40E-1 Rear view



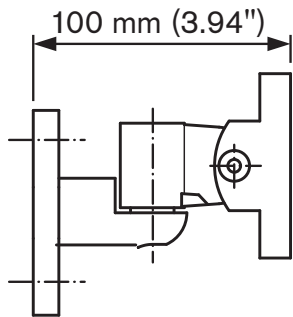
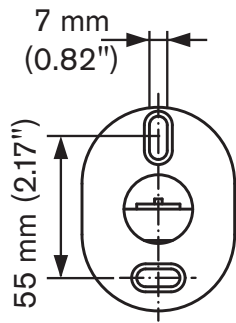
LA1-UM20E-1 Circuit diagram (A: Phase, B: Common)

232 | Loudspeakers | Column

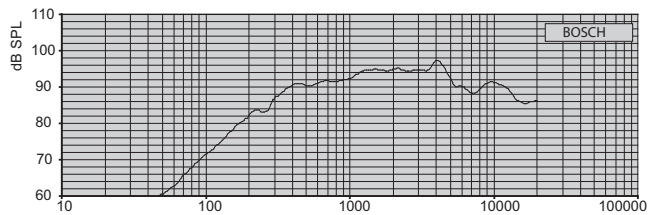
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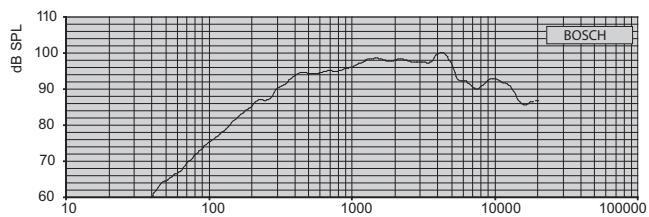
LA1-UM40E-1 Circuit diagram (A: Phase, B: Common)



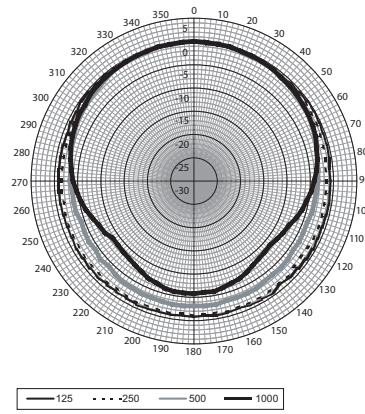
Details mounting bracket



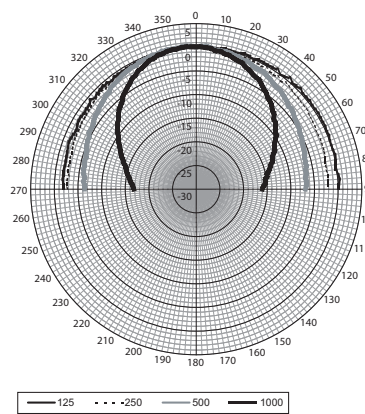
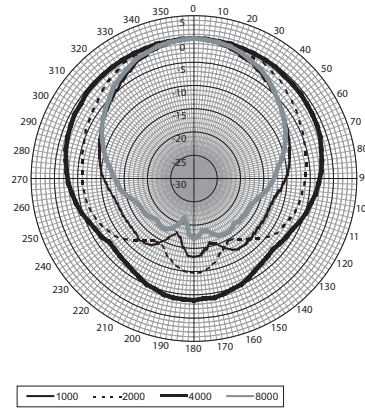
LA1-UM20E-1 Frequency response



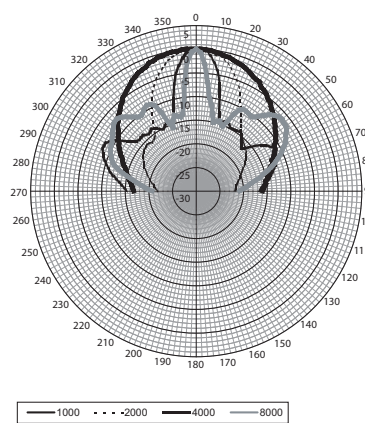
LA1-UM40E-1 Frequency response

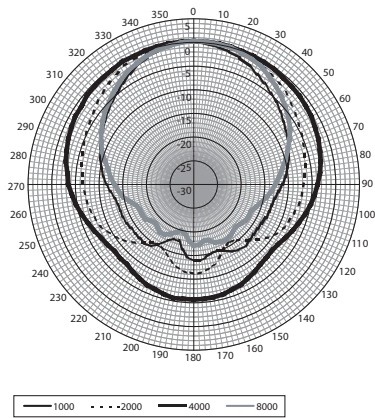
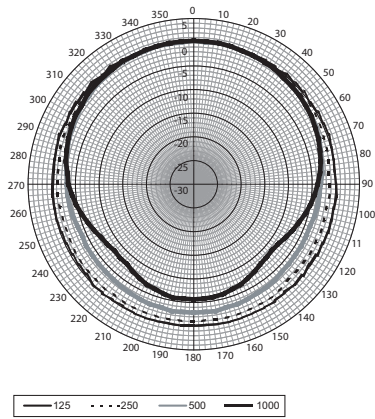


LA1-UM20E-1 Polar-diagram (horizontal)

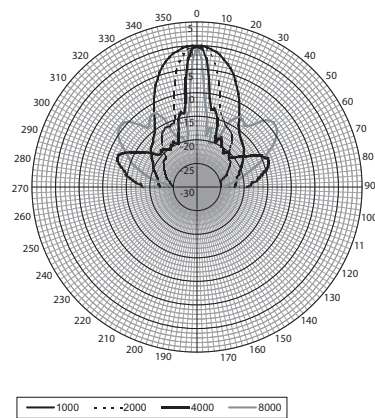
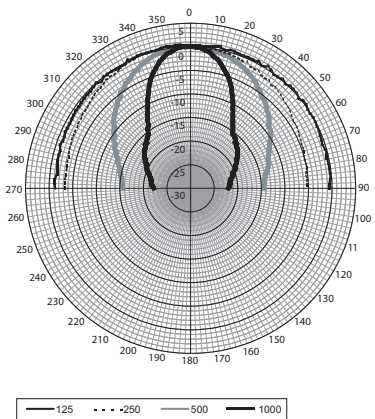


LA1-UM20E-1 Polar diagram (vertical)





LA1-UM40E-1 Polar diagram (horizontal)



LA1-UM40E-1 Polar diagram (vertical)

Octave band sensitivity LA1-UM20E-1

| | Octave SPL 1W/1m | Total octave SPL 1W/1m | Total octave SPL Pmax/1m |
|--------------|---------------------|---------------------------|-----------------------------|
| 125 Hz | 75.9 | - | - |
| 250 Hz | 82.9 | - | - |
| 500 Hz | 88.7 | - | - |
| 1000 Hz | 91.5 | - | - |
| 2000 Hz | 93.9 | - | - |
| 4000 Hz | 94.5 | - | - |
| 8000 Hz | 89.6 | - | - |
| A-weighted | - | 89.7 | 101.5 |
| Lin-weighted | - | 89.6 | 101.6 |

Octave band opening angles LA1-UM20E-1

| | Horizontal | Vertical |
|---------|------------|----------|
| 125 Hz | 360 | >180 |
| 250 Hz | 360 | >180 |
| 500 Hz | 360 | 160 |
| 1000 Hz | 210 | 80 |
| 2000 Hz | 148 | 43 |
| 4000 Hz | 94 | 22 |
| 8000 Hz | 95 | 10 |

Octave band sensitivity LA1-UM40E-1

| | Octave SPL 1W/1m | Total octave SPL 1W/1m | Total octave SPL Pmax/1m |
|--------------|---------------------|---------------------------|-----------------------------|
| 125 Hz | 78.5 | - | - |
| 250 Hz | 86.7 | - | - |
| 500 Hz | 92.2 | - | - |
| 1000 Hz | 95.2 | - | - |
| 2000 Hz | 97.4 | - | - |
| 4000 Hz | 97.8 | - | - |
| 8000 Hz | 90.7 | - | - |
| A-weighted | - | 93.0 | 107.6 |
| Lin-weighted | - | 92.3 | 107.5 |

Octave band opening angles LA1-UM40E-1

| | Horizontal | Vertical |
|---------|------------|----------|
| 125 Hz | 360 | >180 |
| 250 Hz | 360 | >180 |
| 500 Hz | 360 | 82 |
| 1000 Hz | 210 | 40 |
| 2000 Hz | 146 | 22 |
| 4000 Hz | 92 | 12 |
| 8000 Hz | 97 | 6 |

Acoustical performance specified per octave * (all measurements are done with a pink noise signal; the values are in dB SPL).

234 | Loudspeakers | Column

Parts Included

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

Technical Specifications**Electrical***

| Description | LA1-UM20E-1 | LA1-UM40E-1 |
|--|---------------------|--------------------|
| 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 rated power / 1 W (1 kHz, 1 m) | 105 / 92 dB (SPL) | 111 / 95 dB (SPL) |
| Sound pressure level at rated power / 1 W (4 kHz, 1 m) | 108 / 95 dB (SPL) | 114 / 98 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°/ 94° | 210°/ 92° |
| Vertical opening angle at 1 kHz / 4 kHz (-6 dB) | 80°/ 22° | 40°/ 12° |
| Rated input voltage | 12.65/70/100 V | 17.89/70/100 V |
| Rated impedance | 8/251/500 ohm | 8/125/250 ohm |

* Technical performance data acc. to IEC 60268-5

Mechanical

| | LA1-UM20E-1 | LA1-UM40E-1 |
|----------------------------------|---|---|
| Dimensions (L x 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 (78.8 in) 3-wire cable | 2 m (78.8 in) 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-1 Metal Column Loudspeaker 20 W | LA1-UM20E-1 |
| LA1-UM40E-1 Metal Column Loudspeaker 40 W | LA1-UM40E-1 |