

# LH1-10M10E Horn loudspeaker, 10W, 7x8"

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Invented for life



- ▶ High efficiency driver
- ▶ Excellent speech reproduction
- ▶ Provision for inside mounting of the optional line / loudspeaker supervision board
- ▶ Water-and dust protected to IP 65
- ▶ EN 54-24 certified

The LH1-10M10E high-efficiency horn loudspeaker, provides excellent speech reproduction and sound distribution for a wide scope of indoor and outdoor applications. It is ideal for sports grounds, parks, exhibitions, factories and swimming pools.

The LH1-10M10E is a rectangular shaped 10 W horn loudspeaker, made from aluminum. The edge of the horn is covered with a PVC profile for protection against impact damage. The rear cover of the horn is made from self-extinguishing ABS (acc. to class UL 94 V0).

The housing color is light grey (RAL 7035), and is water and dust protected.

## Functions

### Voice Alarm

Voice alarm loudspeakers are specifically designed for use in buildings, where the performance of PA systems is subject to official regulations. The LH1-10M10E is designed for voice alarm systems and is EN 54-24 certified and compliant with BS 5839-8 and EN 60849.

### Protection

The horn loudspeaker has 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 horn loudspeaker has a ceramic terminal block, thermal fuse, and heat-resistant, high-temperature wiring. Four primary taps are provided on the built-in matching transformer to allow selection of the output power.

The horn loudspeaker has a provision for internally mounting the optional line/loudspeaker supervision board.

## 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                                                |                    |
|---------------------------|-----------------------------------------------------------------|--------------------|
| Emergency                 | acc. to EN 54-24 / BS 5839-8 / EN 60849                         |                    |
| Water and dust protection | acc. to IEC 60529, IP 65<br>IP34C verified for EN54-24 by CNBOP |                    |
| Wind-force                | acc. to Bft 11                                                  |                    |
| Region                    | Regulatory compliance/quality marks                             |                    |
| Europe                    | CE                                                              | DOP                |
|                           | CE                                                              | DECL EC LH1-10M10E |

### Installation/configuration notes

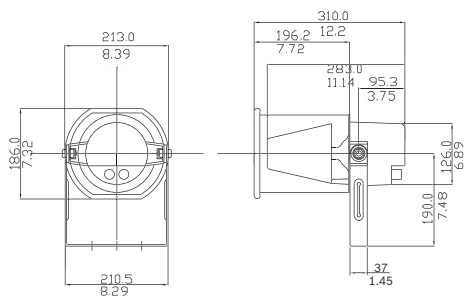
The connection cable could be fed through a cable gland (PG 13.5) in the rear cover. For loop- through connection, the rear cover is fitted with a second hole (covered as standard supplied).

### Mounting

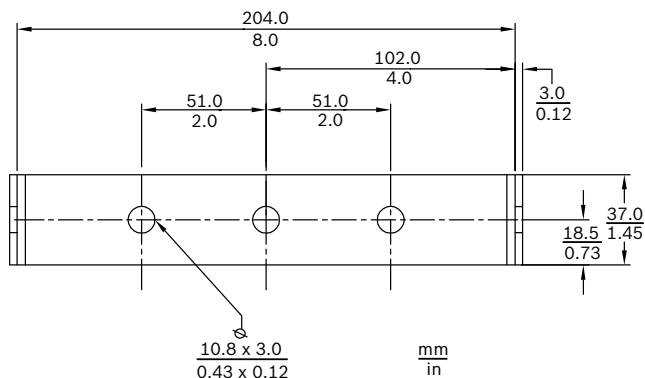
The horn loudspeaker is supplied, complete with sturdy adjustable steel U-shape bracket for mounting onto walls or ceilings, allowing the sound beam to be accurately directed.

### Simple Power Setting

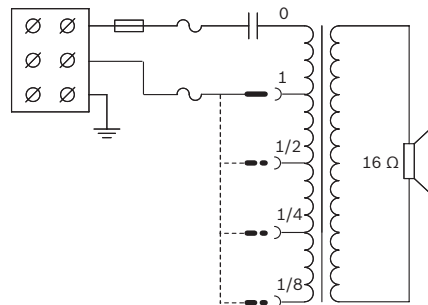
The horn has a three-way ceramic terminal block with screw connection (including earth). Four primary taps are provided on the matching transformer to allow selection of nominal full-power, half-power or quarter-power and eighth-power radiation (in 3 dB steps).



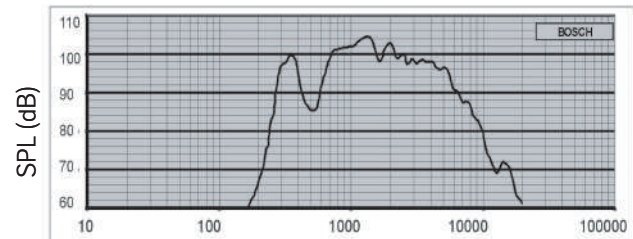
Dimensions in mm (in)



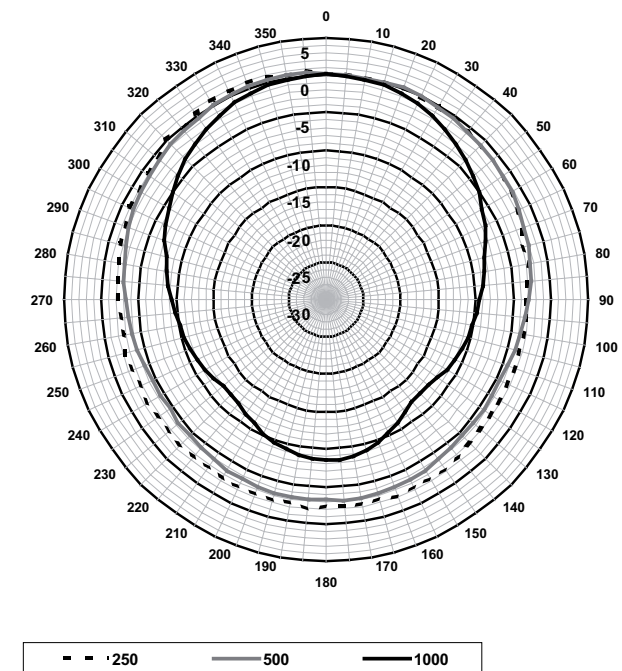
Mounting bracket. Dimensions in mm (in)

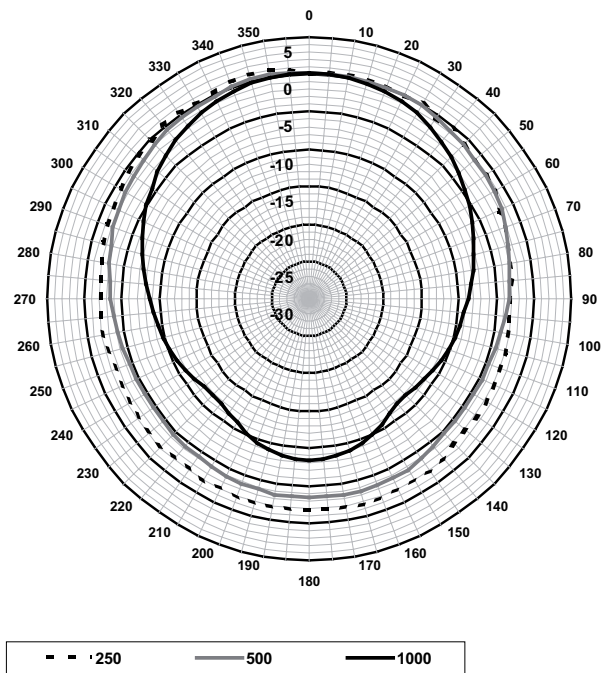


Circuit diagram

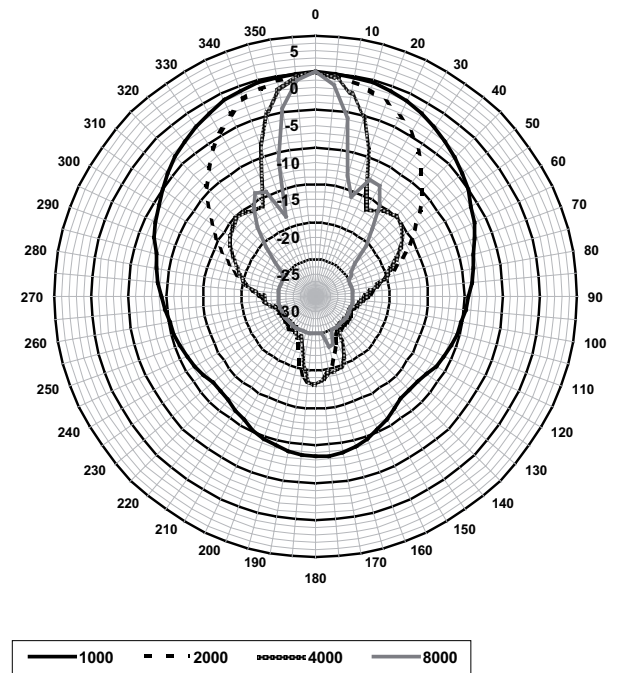
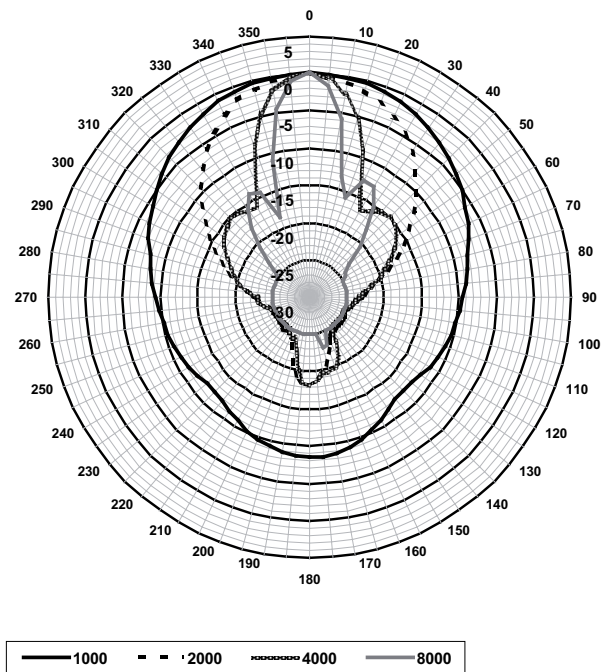


Frequency response





Polar diagrams (Horizontal and Vertical, measured with pink noise)



Polar diagrams (Horizontal and Vertical, measured with pink noise)

Octave band sensitivity \*

|              | Octave SPL<br>1W/1m | Total octave<br>SPL<br>1W/1m | Total octave<br>SPL<br>Pmax/1m |
|--------------|---------------------|------------------------------|--------------------------------|
| 125 Hz       | 55.1                | -                            | -                              |
| 250 Hz       | 93.1                | -                            | -                              |
| 500 Hz       | 93.9                | -                            | -                              |
| 1000 Hz      | 102.0               | -                            | -                              |
| 2000 Hz      | 100.1               | -                            | -                              |
| 4000 Hz      | 97.2                | -                            | -                              |
| 8000 Hz      | 87.4                | -                            | -                              |
| A-weighted   | -                   | 95.8                         | 105.7                          |
| Lin-weighted | -                   | 95.6                         | 104.6                          |

Octave band opening angles

|         | Horizontal | Vertical |  |
|---------|------------|----------|--|
| 125 Hz  | -          | -        |  |
| 250 Hz  | 360        | 360      |  |
| 500 Hz  | 360        | 360      |  |
| 1000 Hz | 120        | 125      |  |
| 2000 Hz | 72         | 76       |  |

|         |    |    |  |
|---------|----|----|--|
| 4000 Hz | 35 | 36 |  |
| 8000 Hz | 22 | 24 |  |

Acoustical performance specified per octave

\* (all measurements are done with a pink noise signal; the values are in dB SPL)

### Parts included

| Quantity | Component                    |
|----------|------------------------------|
| 1        | LH1-10M10E Horn loudspeaker  |
| 1        | PG 13.5 cable gland (fitted) |

### Technical specifications

#### Electrical\*

|                                                 |                       |
|-------------------------------------------------|-----------------------|
| Rated power (PHC)                               | 10 W                  |
| Power tapping                                   | 10 / 5 / 2.5 / 1.25 W |
| Sound pressure level at 10 W / 1 W (1 kHz, 1 m) | 112 / 102 dB (SPL)    |
| Sound pressure level at 10 W / 1 W (1 kHz, 4 m) | 87 / 76 dB (SPL)      |
| Effective frequency range (-10 dB)              | 280 Hz to 5800 Hz     |
| Opening angle at 1 kHz / 4 kHz (-6 dB)          |                       |
| Horizontal                                      | 120° / 35°            |
| Vertical                                        | 125° / 35°            |
| Rated input voltage                             | 100 V                 |
| Rated impedance                                 | 10 W 1000 Ohm         |
|                                                 | 5 W 2000 Ohm          |
|                                                 | 2.5 W 4000 Ohm        |
|                                                 | 1.25 W 8000 Ohm       |
| Connector                                       | Screw terminal block  |

\* Technical performance data acc. to IEC 60268-5

#### Mechanical

|                              |                                                  |
|------------------------------|--------------------------------------------------|
| Dimensions (W x D)           | (213 x 186) x 310 mm<br>(8.39 x 7.32) x 12.2 in) |
| Weight                       | 3.6 kg (7.93 lb)                                 |
| Color                        | Light grey (RAL 7035)                            |
| Material (horn / rear cover) | Aluminum / ABS                                   |
| Cable diameter               | 6 mm to 12 mm (0.24 in to 0.47 in)               |

### Environmental

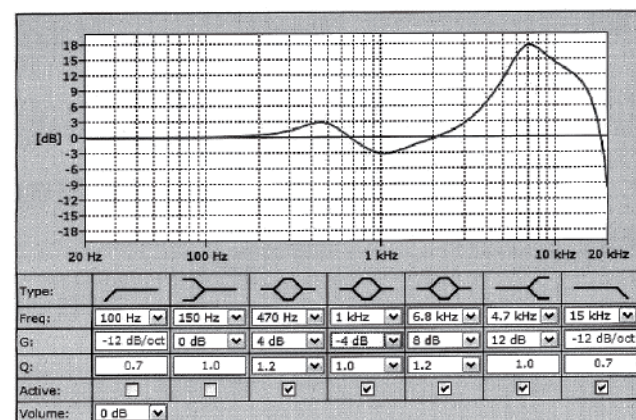
|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Operating temperature             | -25 °C to +55 °C (-13 °F to +131 °F) |
| Storage and transport temperature | -40 °C to +70 °C (-40 °F to +158 °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

|                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>1438                                                                                               |
| Bosch Security Systems BV<br>Torenallee 49, 5617 BA Eindhoven, the Netherlands<br>12<br>1438/CPD/0260                                                                                     |
| EN 54-24:2008<br><br>Loudspeaker for voice alarm systems<br>for fire detection and fire alarm systems for buildings<br><br>Horn Loudspeaker 10 W<br>LH1-10M10E<br>Type B<br>DoP: LP062923 |

#### CE-label



Specified active equalization, required for EN54-24

### Ordering information

#### LH1-10M10E Horn loudspeaker, 10W, 7x8"

Horn loudspeaker 10 W, rectangular, 8 x 7", aluminum/ABS material, U-bracket mounting, water and dust protected IP 65, EN54-24 certified, light gray RAL 7035.

Order number **LH1-10M10E**

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