

LB3-PCx50 Premium Cabinet Loudspeakers

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BOSCH
Invented for life



- ▶ High-quality speech and music reproduction
- ▶ Weatherized, suited for sheltered outside use
- ▶ Prepared for Bosch WLS, EOL and DMY pcb's
- ▶ Attachment points for (suspended) mounting, pole mount
- ▶ BS 5839-8 compliant

The Bosch premium loudspeakers are full range passive loudspeakers for a wide range of applications where high output, wide controlled dispersion and wide frequency are required, as well as the flexibility of mounting inside and sheltered outside.

The Bosch line of large premium loudspeakers consists of two sizes; 12" and 15" models. All models feature a two-way loudspeaker in a molded ABS VO enclosure. The loudspeakers have a 1" compression driver coupled to an impedance transformer with constant directivity characteristics and a direct radiating 12" or 15" loudspeaker.

Typical uses include fixed installations in auditoriums, conference venues, community centers, theaters, areas of assembly, factories multipurpose halls and sports facilities.

A self-restoring protection device protects the high-frequency driver against incidental overload. The transformer accepts signals between 40 Hz and 22 kHz at 100 V or 70 V.

System overview

The LB3-PC250 features a 12" woofer and 1" exit compression driver. The LB3-PC350 features a 15" woofer and 1" exit compression driver. The premium loudspeaker is fitted with a specially designed horn that provides constant coverage independent of frequency. The handle locations and position of rig-points are placed to make the loudspeaker easy to carry and align when installing. There is an integrated pole mount on the bottom of the cabinet and a weather-resistant steel grille. All screws and bolts are stainless steel or treated to resist rust. The cabinet has been designed to provide the possibility of mounting the loudspeaker close to a side wall or on the floor. The enclosure features high dampening, is impact resistant and weather proof (sheltered).

The LB3-PC250 and LB3-PC350 are suited for locations where high sound pressure, wide-band audio is needed and where there is no mains power or where active loudspeakers are not desired, like outside applications or applications where the

benefits of the 100 V technique comes into play like easy connection of multiple speakers and long cable runs. The LB3-PC250 and LB3-PC350 have a 100/70 V transformer with power tapping. The speakers are weatherproof (IP44, able to be mounted sheltered outside).

Functions

The loudspeaker has two SPEAKON connectors wired in parallel. The input from the SPEAKON is available under a waterproof cover at the rear side of the loudspeaker. To protect against moisture, dirt and tampering a splash proof cover is fitted over the control part of the rear panel. Below the cover you can find the input from the SPEAKON, you can choose to wire either channel 1 or channel 2 to the ceramic terminal block. Alternatively it is possible to wire E30 wire directly through PG11 waterproof feed through to the ceramic block (with thermal fuse). The loudspeaker has two PG11 locations to enable loop-through of direct wires. From the ceramic block it is possible to select the speaker tapping. Full, half and quarter power is available at 100 V and 70 V. The cover has a dedicated location for the EOL (End Of Line) LED, if the Bosch EOL pcb is used, the Bosch proprietary line supervision set for individual loudspeaker monitoring or line monitoring can also be used at this location. Internally the loudspeaker has a dedicated notch filter to filter out a 20 kHz pilot-tone. This will reduce the 20 kHz pilot-tone. The filter is bypassed by a bridge as standard delivery. Safety features include a thermal fuse in the transformer, thermal fuse at the ceramic input block in accordance with evacuation standards and an auto resetting current limiting circuit between the HF filter output and the HF driver. The coverage of the speaker is 90° x 60° (H x V). Wires are connected from the drivers to the metal rear panel, where a hoist/tether point for safety wire is located.

Certifications and approvals

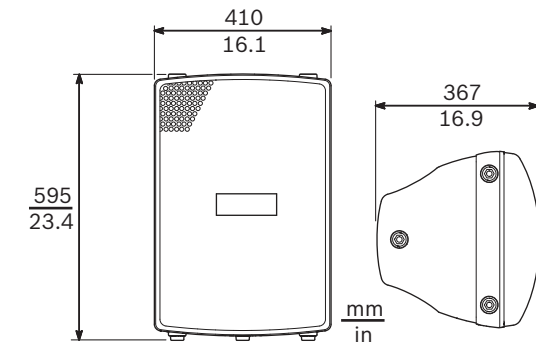
All Bosch loudspeakers are designed to withstand operating at their rated power for 100 hours in accordance with IEC 268-5 Power Handling Capacity (PHC) standards. Bosch has also developed the Simulated Acoustical Feedback Exposure (SAFE) test to demonstrate that the speakers can withstand two times 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 | According to EN 60065 |
| Emergency | According to BS 5839-8 |

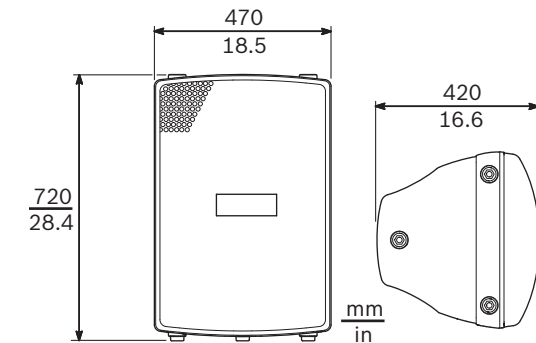
| | |
|---------------------------|----------------------------|
| | According to EN 60849 |
| Water and dust protection | According to EN 60529 IP44 |
| Self-extinguishing ABS | According to UL 94 V 0 |

| Region | Certification | |
|--------|---------------|-----|
| Europe | CE | DOP |
| | CE | |
| | CPD | |
| Poland | CNBOP | |

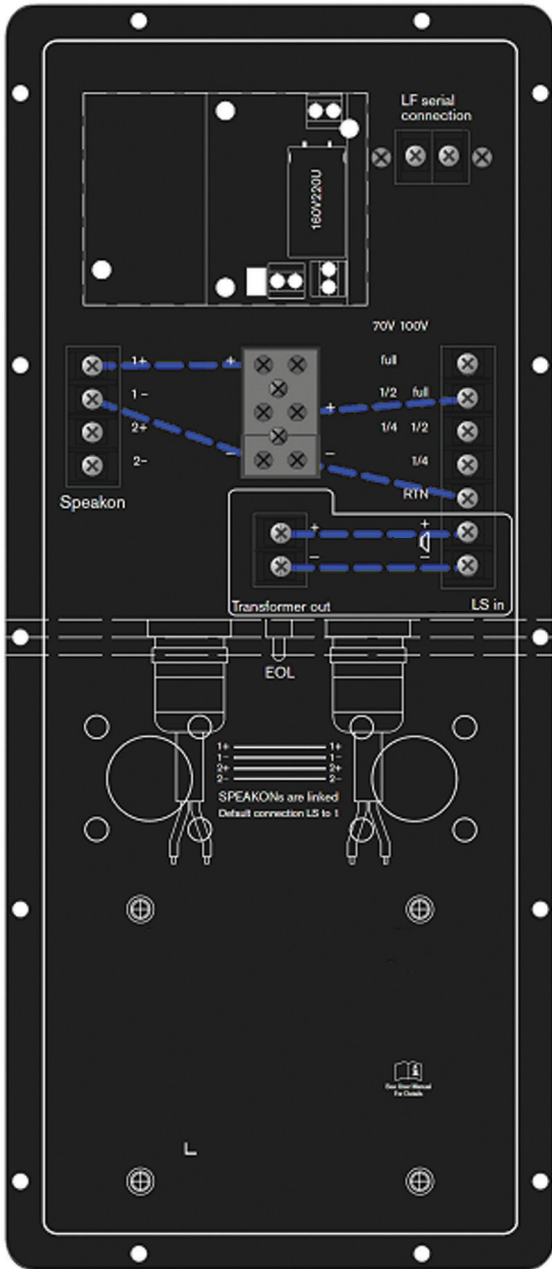
Installation/configuration notes



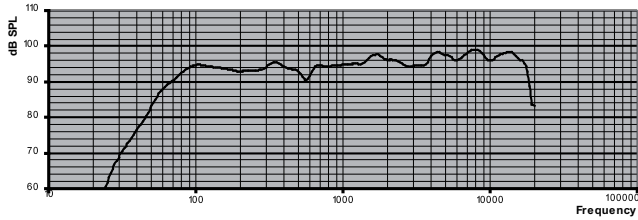
Dimensions LB3-PC250



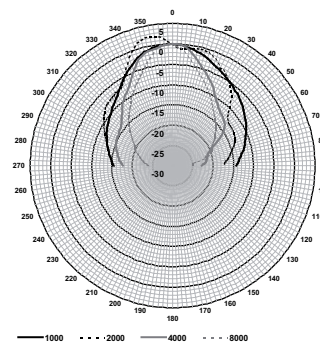
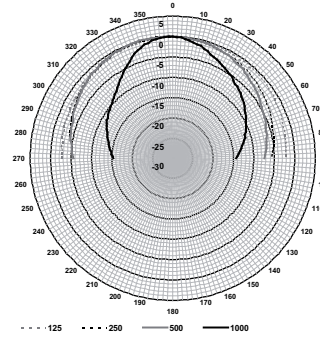
Dimensions LB3-PC350



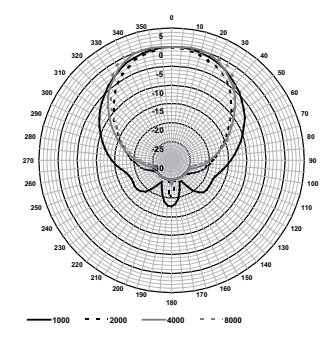
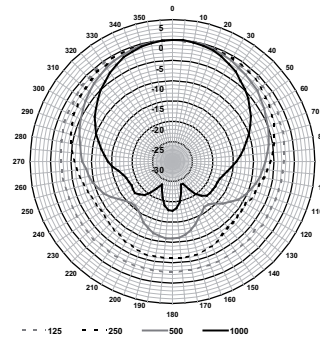
Connection panel on the rear side



Frequency response LB3-PC250



Vertical polar diagrams of LB3-PC250 (pink noise octave, normalized at 0° axis)



Horizontal polar diagrams of LB3-PC250 (pink noise octave, normalized at 0° axis)

Octave band sensitivity*

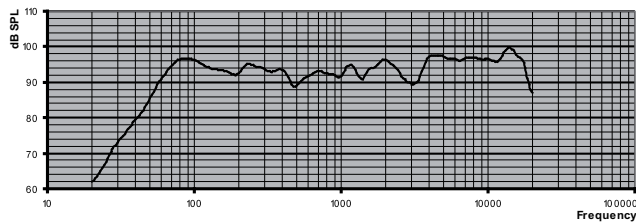
| Octave SPL 1W/1m | Total octave SPL 1W/1m | Total octave SPL Pmax/1m |
|------------------|------------------------|--------------------------|
| | | |

| | | | |
|--------------|------|------|---|
| 125 Hz | 92.8 | - | - |
| 250 Hz | 93.3 | - | - |
| 500 Hz | 93.6 | - | - |
| 1000 Hz | 94.7 | - | - |
| 2000 Hz | 97 | - | - |
| 4000 Hz | 96.8 | - | - |
| 8000 Hz | 98 | - | - |
| A-weighted | - | 93.7 | - |
| Lin-weighted | - | 95.1 | - |

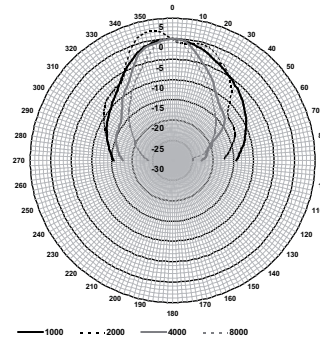
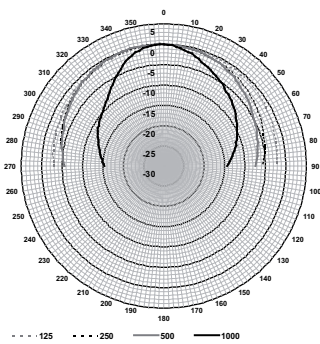
Octave band opening angles

| | Horizontal | Vertical | |
|---------|------------|----------|--|
| 125 Hz | 360 | 360 | |
| 250 Hz | 183 | 180 | |
| 500 Hz | 152 | 162 | |
| 1000 Hz | 100 | 70 | |
| 2000 Hz | 77 | 66 | |
| 4000 Hz | 87 | 44 | |
| 8000 Hz | 86 | 32 | |

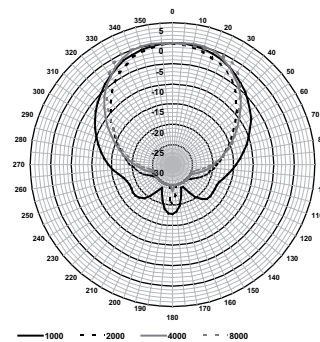
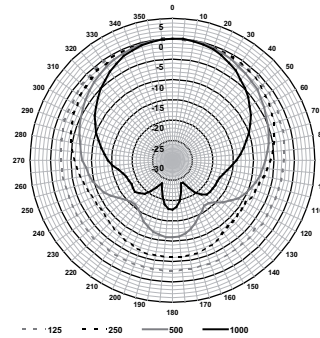
LB3-PC250. Acoustical performance specified per octave. *all measurements are done with a pink noise signal; the values are in dB SPL



Frequency response LB3-PC350



Vertical polar diagrams of LB3-PC350 (pink noise octave, normalized at 0° axis)



Horizontal polar diagrams of LB3-PC350 (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 | 93.3 | - | - |
| 250 Hz | 93.8 | - | - |
| 500 Hz | 93.0 | - | - |
| 1000 Hz | 93.6 | - | - |
| 2000 Hz | 95.2 | - | - |
| 4000 Hz | 96.6 | - | - |
| 8000 Hz | 98.4 | - | - |

| | | | |
|--------------|---|------|---|
| A-weighted | - | 93.3 | - |
| Lin-weighted | - | 95.3 | - |

| Octave band opening angles | | | |
|----------------------------|------------|----------|--|
| | Horizontal | Vertical | |
| 125 Hz | 360 | 360 | |
| 250 Hz | 183 | 180 | |
| 500 Hz | 152 | 162 | |
| 1000 Hz | 100 | 70 | |
| 2000 Hz | 77 | 66 | |
| 4000 Hz | 87 | 44 | |
| 8000 Hz | 86 | 32 | |

LB3-PC350. Acoustical performance specified per octave. *all measurements are done with a pink noise signal; the values are in dBSPL

Parts included

| Quantity | Components |
|----------|--------------------------|
| 1 | LB3-PCx50 |
| 1 | Installation instruction |

Technical specifications

Electrical*

| Product | LB3-PC250 | LB3-PC350 |
|--|-----------------------------------|-----------------------------------|
| Description | Premium 250 W Cabinet Loudspeaker | Premium 350 W Cabinet Loudspeaker |
| Maximum power | 500 W | 700 W |
| Rated power (PHC) | 250 W | 350 W |
| Power tapping | 250 / 125 / 62.5 W | 350 / 175 / 87.5 W |
| Sound pressure level at rated power / 1 W (1 kHz, 1 m) | 117 dB / 94 dB (SPL) | 122 dB / 97 dB (SPL) |
| Sound pressure level at rated power / 1 W (1 kHz, 4 m) | 108 dB / 85 dB (SPL) | 111 dB / 86 dB (SPL) |
| Effective frequency range (-10 dB) | 55 Hz to 18 kHz | 48 Hz to 18 kHz |

| | | |
|--|--|--|
| Opening angle at 1 kHz / 4 kHz (-6 dB) | | |
|--|--|--|

| | | |
|------------|----------|----------|
| horizontal | 100°/87° | 100°/87° |
| vertical | 70°/44° | 70°/44° |

| Product | LB3-PC250 | | | |
|---------------------|-----------|--------|--------|---------|
| Rated input voltage | | 44.7 V | 70 V | 100 V |
| Rated impedance | 250 W | 8 Ohm | 20 Ohm | 40 Ohm |
| | 125 W | N.A. | 40 Ohm | 80 Ohm |
| | 62.5 W | N.A. | 80 Ohm | 160 Ohm |

| Product | LB3-PC350 | | | |
|---------------------|-----------|--------|--------|---------|
| Rated input voltage | | 52.9 V | 70 V | 100 V |
| Rated impedance | 350 W | 8 Ohm | 14 Ohm | 28 Ohm |
| | 175 W | N.A. | 29 Ohm | 57 Ohm |
| | 87.5 W | N.A. | 57 Ohm | 114 Ohm |

* Technical performance data acc. to IEC 60268-5

Mechanical


| Product | LB3-PC250 | LB3-PC350 |
|------------------------|---|---|
| Dimensions (W x D x H) | 410 x 367 x 595 mm (16.1 x 16.9 x 23.4 in) | 470 x 420 x 720 mm (18.5 x 16.6 x 28.4 in) |
| Connectors | SPEAKON | SPEAKON |
| | 3-pole ceramic screw block | 3-pole ceramic screw block |
| Loudspeaker diameter | | |
| Woofer | 305 mm (12 in) | 381 mm (15 in) |
| Driver | 25.4 mm (1 in) | 25.4 mm (1 in) |
| Material | | |
| Cabinet | ABS VO | ABS VO |
| Front grille | Powder coated steel | Powder coated steel |
| Color | Charcoal (RAL 7021) (D) | Charcoal (RAL 7021) (D) |
| Weight | 19 kg (42 lb) | 34 kg (74 lb) |

Environmental

| | |
|-----------------------------------|--------------------------------------|
| Operating temperature | -10 °C to +40 °C (-14 °F to +104 °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

| |
|--|
|  1438 |
| Bosch Security Systems BV Torenallee 49, 5617 BA Eindhoven, the Netherlands 11 1438/CPD/0208 |
| EN 54-24:2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings Premium loudspeaker cabinet LB3-PC250 and LB3-PC350 Type B DoP: LP032921 |

Ordering information**LB3-PC250 Premium 250W Cabinet Loudspeaker**

Premium cabinet loudspeaker, 12 inch, 250 W.
Order number **LB3-PC250**

LB3-PC350 Premium 350W Cabinet Loudspeaker

Premium cabinet loudspeaker, 15 inch, 350 W.
Order number **LB3-PC350**

Accessories**LM1-MBX12 Mounting Bracket**

For LB3-PC250

Order number **LM1-MBX12**

LM1-MBX15 Mounting bracket

For LB3-PC350

Order number **LM1-MBX15**

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