LCP-20MWE Ceiling loudspeaker with firedome, 20W

Ceiling performance level



- 4” coaxial 2-way loudspeaker with bass reflex
- Modern bezel-less design with magnetic grill
- Front baffle wattage tap adjustment
- Includes tile bridge and C-ring for easy installation
- EN54-24, UL 1480, UL 1480A, CSA C22.2 No. 205 certified, safe for use in air-handling spaces per UL 2043

The LCP-20MWE loudspeaker is a complete 4-inch coaxial two-way loudspeaker that offers excellent sound quality and outstanding reliability with first-class aesthetics. The LCP-20MWE utilizes a transformer that offers a selection of 1.25 (70 V only), 2.5, 5, 10 or 20 watts delivered to the loudspeaker system using either 70 V or 100 V lines. Selection is via a convenient switch on the front baffle.

Construction

The perforated grille is finished in semi-gloss white powder-coated enamel. The baffle is constructed from UL 94V-0 rated ABS. The rear enclosure is constructed from heavy gauge coated steel. The low-profile enclosure makes it easy to mount in very tight spaces. A side terminal cover provides access to a 4-pin terminal block that allows direct connection to the speaker with 12 gauge and 3.3 mm^2 wire and provides pass through to additional speakers. A mounting ring and a tile bridge are included for safe suspension of the LCP-20MWE ceiling systems in a drop ceiling that uses mineral wool, or other fiber-based ceiling tiles.

Functions

Voice alarm

The LCP-20MWE is designed for voice alarm and public address applications and is EN54-24, UL 1480, UL 1480A and CSA C22.2 No. 205 certified, safe for use in air-handling spaces per UL 2043 and compliant to BS 5839-8. This full-range loudspeaker is suitable for speech and music reproduction in mid-height ceilings in shops, stores, schools, offices, sport halls, hotels and restaurants.

Connection

The loudspeaker has a 4-pin Euroblock connector (input + pass through) for easy loop-through connections. The connector is accessed via a side terminal cover.

Regulatory information

Regulatory information

All Bosch loudspeakers are designed to withstand operating at their rated power for 100 continuous hours in accordance with IEC 60268-5 Power Handling Capacity (PHC) standards. This ensures improved reliability under extreme conditions, leading to higher customer satisfaction and longer operating life and lessen the chance of failure or performance deterioration.

Safety	EN 62368-1:2014+A11 IEC 62368-1:2018 Ed.3 UL 1480A UL 2043
Emergency	EN54-24 UL 1480
Water and dust protection	EN 60529, IP34

Region	Regulatory compliance/quality marks
Europe	DoP
	CE
UAE	UAE CoC
USA	UL 1480 certified

Installation/configuration notes

Mounting

The loudspeaker features a push-and-lock mounting mechanism for quick, precise and secure attachment to the ceiling, allowing fast and reliable installation or replacement. A mounting ring (C-ring) and a tile bridge (ceiling tile rails) are included for safe suspension in a drop ceiling that uses mineral wool, or other fiber-based ceiling tiles. A circular template for the 183 mm cut-out hole is included with the loudspeaker. The grille can be secured after the loudspeaker is mounted in the ceiling.

Terminal block

A side terminal cover provides access to a 4-pin terminal block that allows direct connection to the speaker with 12 gauge and 3.3 mm^2 wire and provides pass through to additional speakers. The power tap is selected via a convenient switch on the front baffle.

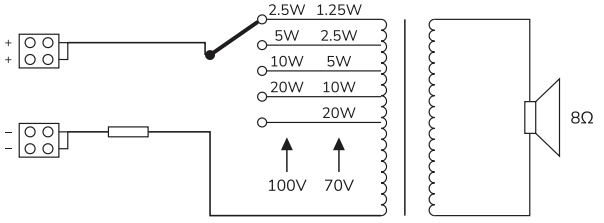


Fig. 1: Terminal block

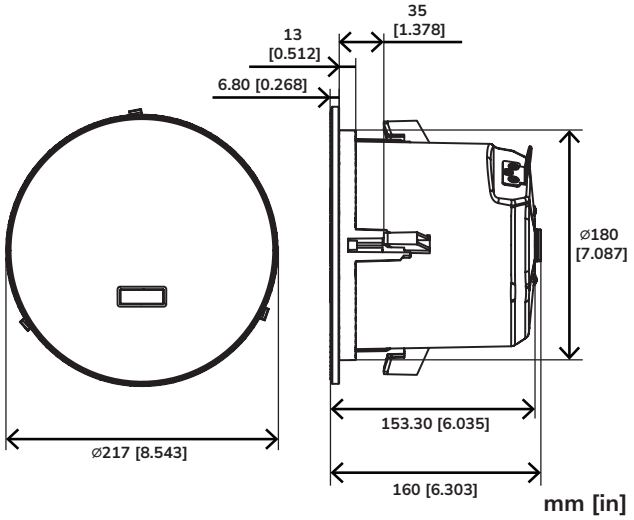


Fig. 2: Dimensions

Parts included

Quantity	Component
2	LCP-20MWE Ceiling loudspeaker with firedome, 20 W
2	Loudspeaker connection cover (installed)
2	Magnetic grille
4	Ceiling tile rail
2	C-ring
4	Tile bridge screw
1	Cutout template
2	Paint cover
1	Quick installation guide

Technical specifications

Acoustic[1]

Rated power (W)	20 W
Transformer taps 100 V line (W)	20 W; 10 W; 5 W; 2.5 W
Transformer taps 70 V line (W)	20 W; 10 W; 5 W; 2.5 W; 1.25 W
Rated input voltage (V)	70 V; 100 V
Connector type	4-pin Euroblock Input + Pass through
Wire gauge	0.8 mm^2 - 3.3 mm^2 AWG 18 - AWG 12
Sensitivity (1 W, 1 m, 1 kHz Octave) (dB)[3]	85.5 dB
Sensitivity (1 W, 1 m, 100 Hz - 10 kHz) (dB)[3]	88.4 dB
Sensitivity (1 W, 1 m, 80 Hz - 20 kHz)	89 dB
Sensitivity (1 W, 4 m, 100 Hz - 10 kHz) (dB), acc. EN54-24[2;3]	74 dB
SPL (Rated power, 1 m, 1 kHz Octave) calculated (dB)	98.5 dB
SPL (Rated power, 1 m, 100 Hz - 10 kHz) calculated (dB)	101.4 dB
SPL (Rated power, 4 m, 100 Hz - 10 kHz) (dB), acc. EN54-24[2;3]	88 dB
Effective frequency range (1 kHz Octave, -10 dB)[3]	70 Hz - 20 kHz
Effective frequency range (100 Hz - 10 kHz, -10 dB)[3]	73 Hz - 20 kHz
Transducer impedance (Ω)	8 Ω
Coverage angle conical (°)	130°
Coverage angle HxV (-6 dB, 500 Hz) (°)[2;3]	180° x 180°
Coverage angle HxV (-6 dB, 1 kHz) (°) [2;3]	160° x 160°
Coverage angle HxV (-6 dB, 2 kHz) (°)[2;3]	120° x 120°

Coverage angle HxV (-6 dB, 4 kHz) (°) [2,3]	66° x 66°
Rated impedance 70 V line (Ω)	4000 Ω @1.25 W
	2000 Ω @2.5 W
	1000 Ω @5 W
	500 Ω @10 W
	250 Ω @20 W
Rated impedance 100 V line (Ω)	4000 Ω @2.5 W
	2000 Ω @5 W
	1000 Ω @10 W
	500 Ω @20 W

[1]Technical performance data acc. to IEC 60268-5.
[2]EN54-24 measured with the required DSP EQ applied (see Fig. 3).
[3]Not evaluated by UL.
Note:

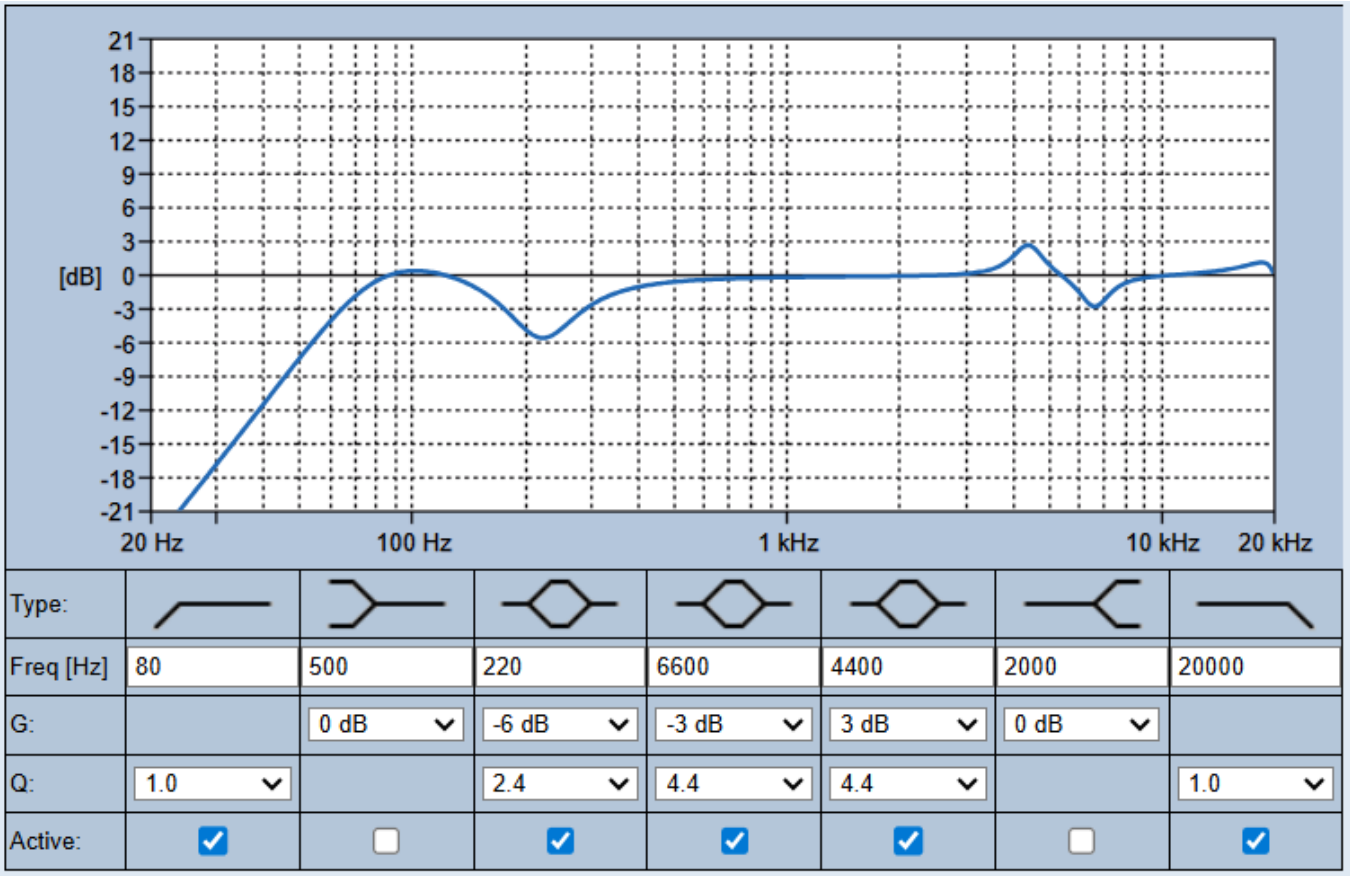
- The specification data was measured in an anechoic chamber, mounted in an IEC-baffle.
- The reference plane is on the grille surface and perpendicular to the reference axis.
- The reference axis is perpendicular to the center point of the front grille surface.
- The horizontal plane contains the reference axis and is perpendicular to the reference plane.

Mechanical

Dimensions (Ø x D) (mm)	217 mm x 160 mm
Dimensions (Ø x D) (in)	8.54 in x 6.30 in
Mounting cutout (mm)	183 mm
Mounting cutout (in)	7.2 in
Mounting method	Push-and-lock mounting mechanism
Material	Frame: Steel Grill: Powder coated steel Fire dome: Metal
Color (RAL)	Grill: RAL 9003 Signal white Fire dome: RAL 3001 Signal red
Weight (kg) (single product)	1.95 kg
Weight (lb) (single product)	4.3 lb

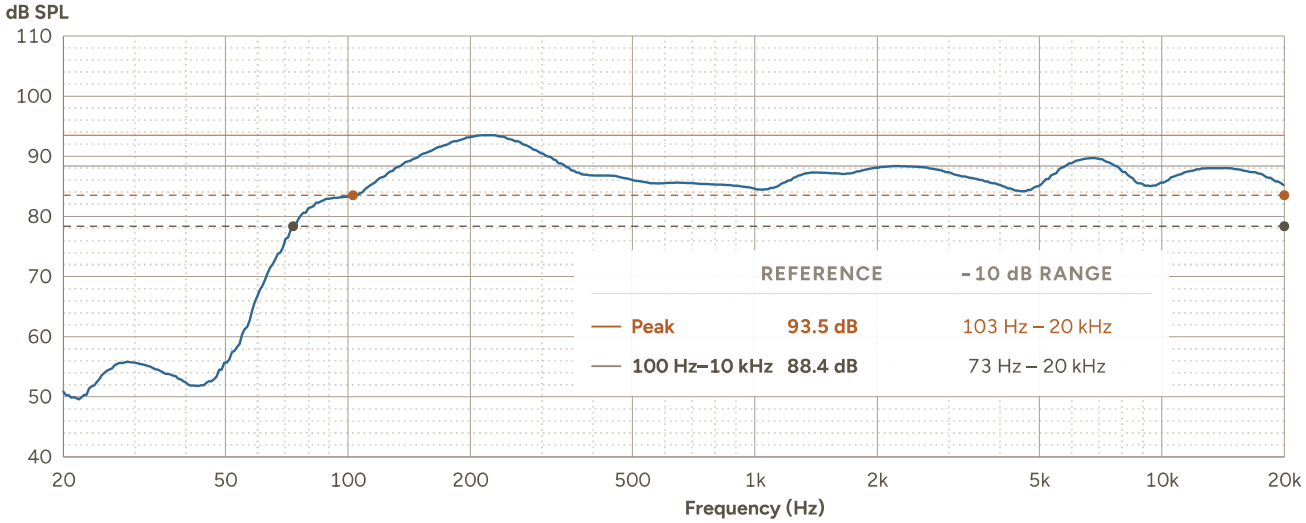
Environmental

Operating temperature (°C)	0 °C – 50 °C
Operating temperature (°F)	32 °F – 122 °F
Storage temperature (°C)	-40 °C – 70 °C
Storage temperature (°F)	-40 °F – 158 °F
IP rating	IP34
Operating relative humidity, non-condensing (%)	0% - 95%

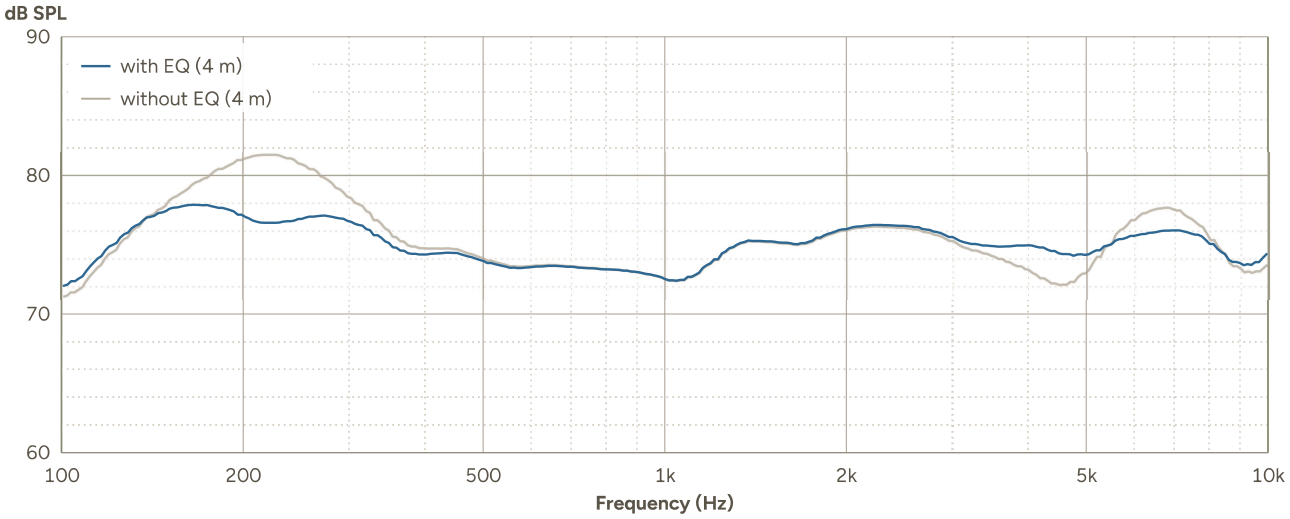


Type:							
Freq [Hz]	80	500	220	6600	4400	2000	20000
G:		0 dB	-6 dB	-3 dB	3 dB	0 dB	
Q:	1.0		2.4	4.4	4.4		1.0
Active:	☑	☐	☑	☑	☑	☐	☑

Fig. 3: Required DSP EQ for all EN54-24 installations



Frequency response — SPL @ 1 W, 1 m, running 1/3-octave smoothing (each point averaged over ±1/6 octave). Effective range from the peak and the energy-averaged (RMS pressure) reference over 100 Hz–10 kHz. NOTE: dips <1/9 octave disregarded per IEC 60268-5.



Frequency response — SPL @ 1 W, 4 m (calculated, EN 54-24), running 1/3-octave smoothing (each point averaged over ±1/6 octave), with the required DSP EQ (Fig. 2) applied. Light grey trace shows the same 4 m calculation without EQ. EN 54-24 bandwidth limits marked at 100 Hz and 10 kHz.

Ordering information

LCP-20MWE Ceiling loudspeaker with firedome, 20W
Two-way 4-inch coaxial ceiling speaker, with internal up to 20 W 70/100 volt line transformer, packaged in pairs, white.
Order number **LCP-20MWE | Z.01X.000.812**

https://www.keenfinity-group.com

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