



Hemidirectional Loudspeaker 100W

LS-OC100E-1



BOSCH

en Installation note

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1 Important safeguards

**Caution!**

Suspending any object is potentially dangerous and should only be attempted by individuals who have a thorough knowledge of the techniques and regulations of rigging objects overhead. Bosch strongly recommends that loudspeakers be suspended taking into account all current national, federal, state and local regulations. It is the responsibility of the installer to ensure that loudspeakers are safely installed in accordance with all such regulations. If loudspeakers are suspended, Bosch strongly recommends that the installation is inspected at least once a year. If any sign of weakness, damage or corrosion is detected, remedial action should be taken immediately. Do not use mounting material and supporting structures of stainless steel in a chlorine-rich environment such as indoor swimming pools. Bosch strongly recommends to use mounting material of thermogalvanized steel for this kind of environments. All non-Bosch associated hardware items used to suspend the Bosch loudspeaker are the responsibility of others.

**Caution!**

In case the 8 Ohm connection of loudspeaker is used, be sure that the 8 Ohm output of the connected amplifier is DC free. If this is not the case, connecting a suitable bipolar condenser (47 μ F -100 μ F) in series with the loudspeaker is recommended.

**Caution!**

Make sure that you use the safety eye and the main M8 rigging point when you install the loudspeaker

**Notice!**

The mounting materials marked with an asterisk (*) in the drawings are not supplied, but are generally available in your local DIY-store. Make sure that the minimum tensile strength of these mounting materials (e.g. suspension chain, suspension cable, safety cord and shackle[s]) is 1,500 N.

2 System overview

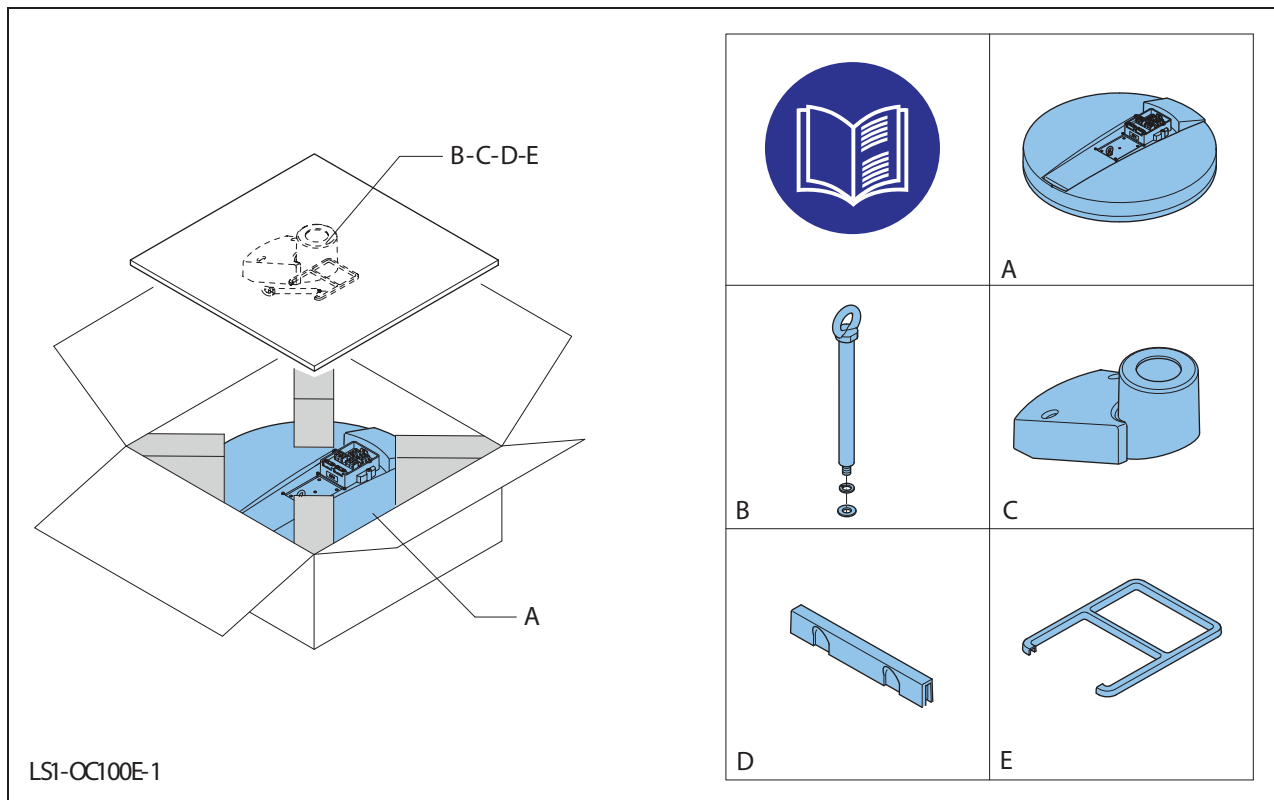


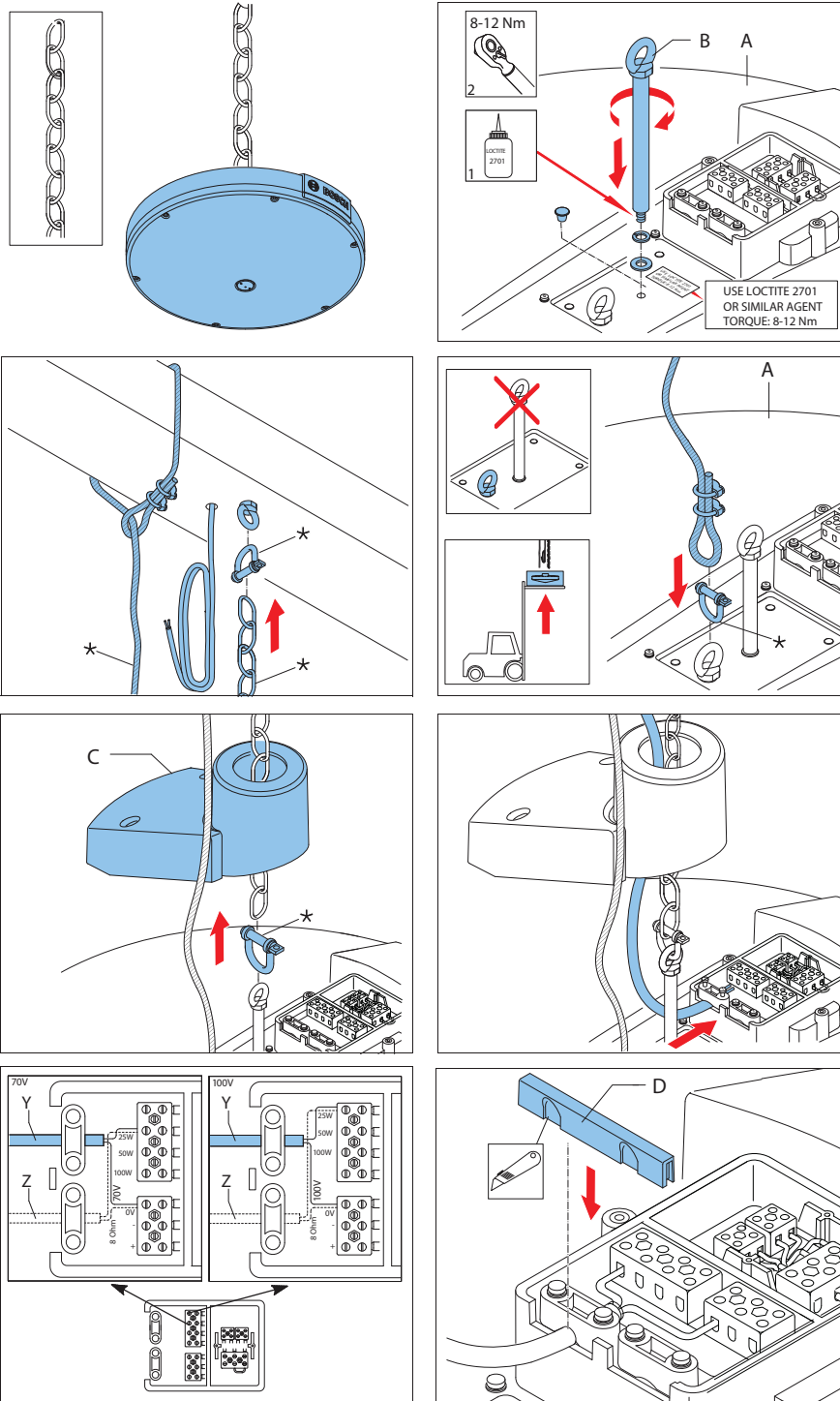
Figure 2.1: Box contents

There are various ways to mount the LS1-OC100E-1:

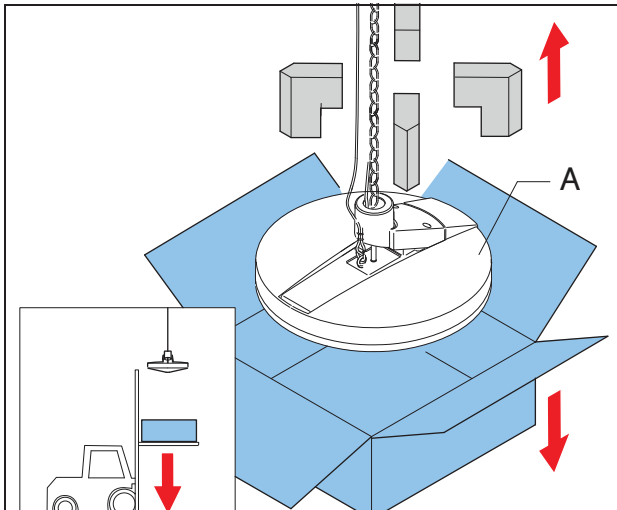
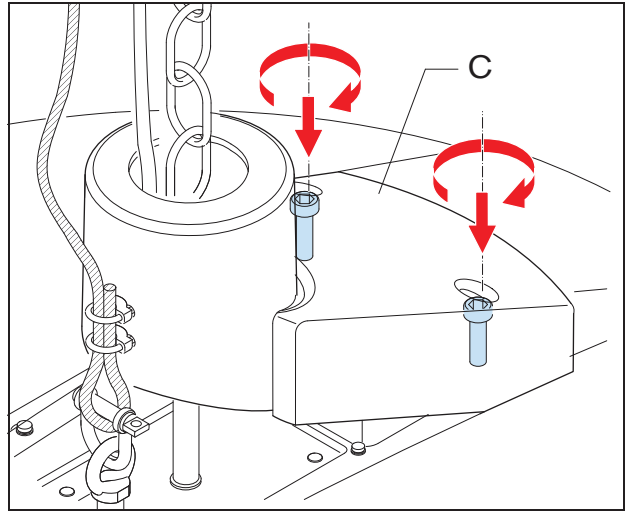
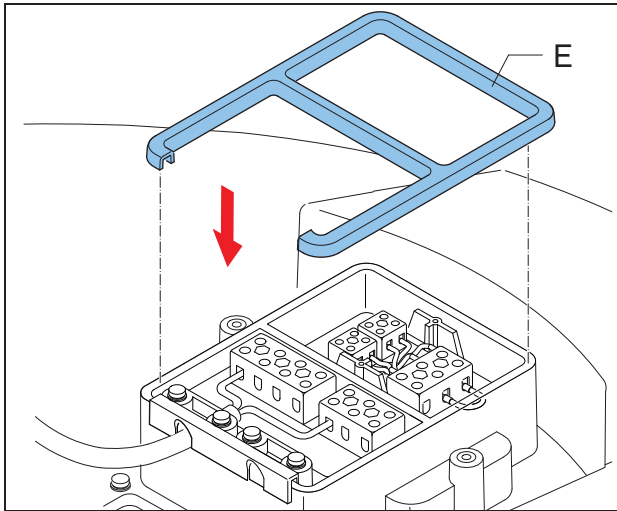
1. Chain mounting
2. Steel cable mounting
3. Bracket mounting

3 Chain mounting

Installation

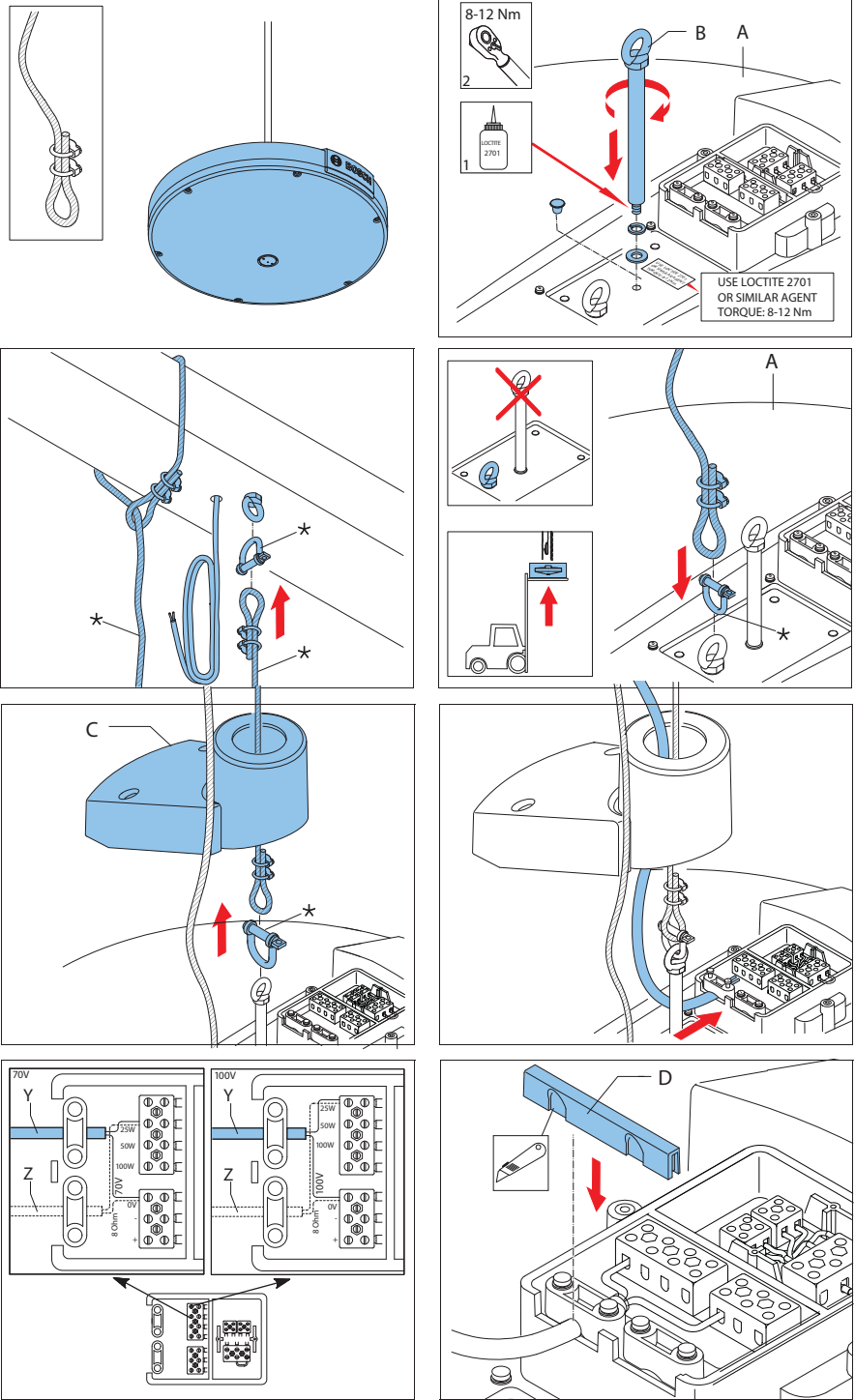


Y: The figure is an example of a connection for 25 W.
 Z: Optional loop through connection.

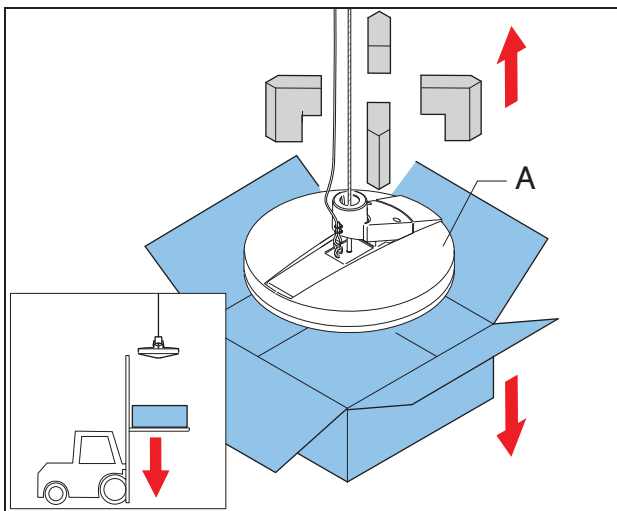
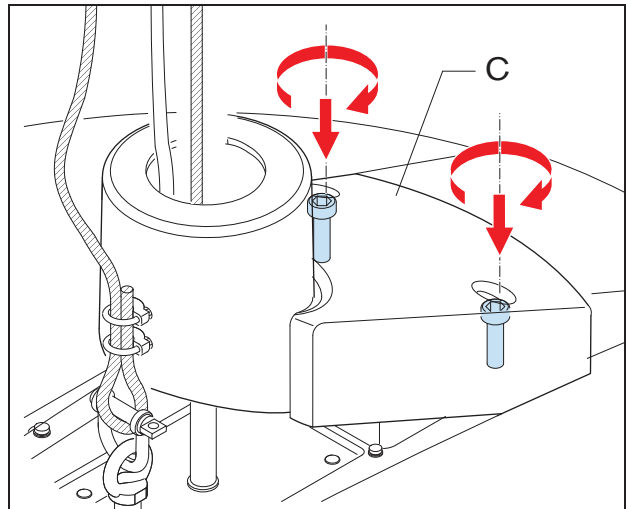
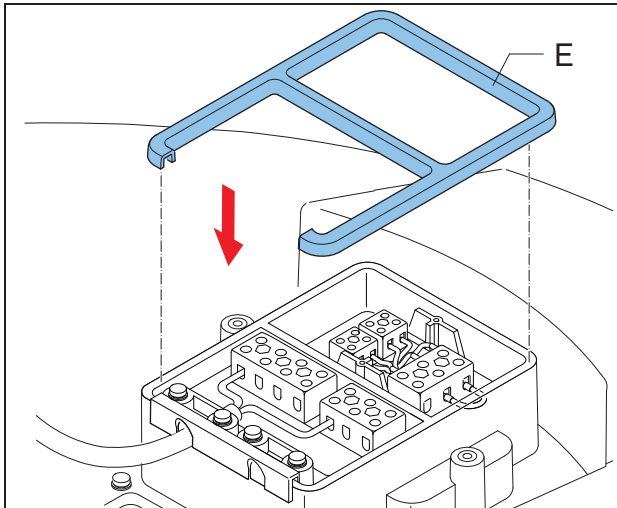


4 Steel cable mounting

Installation

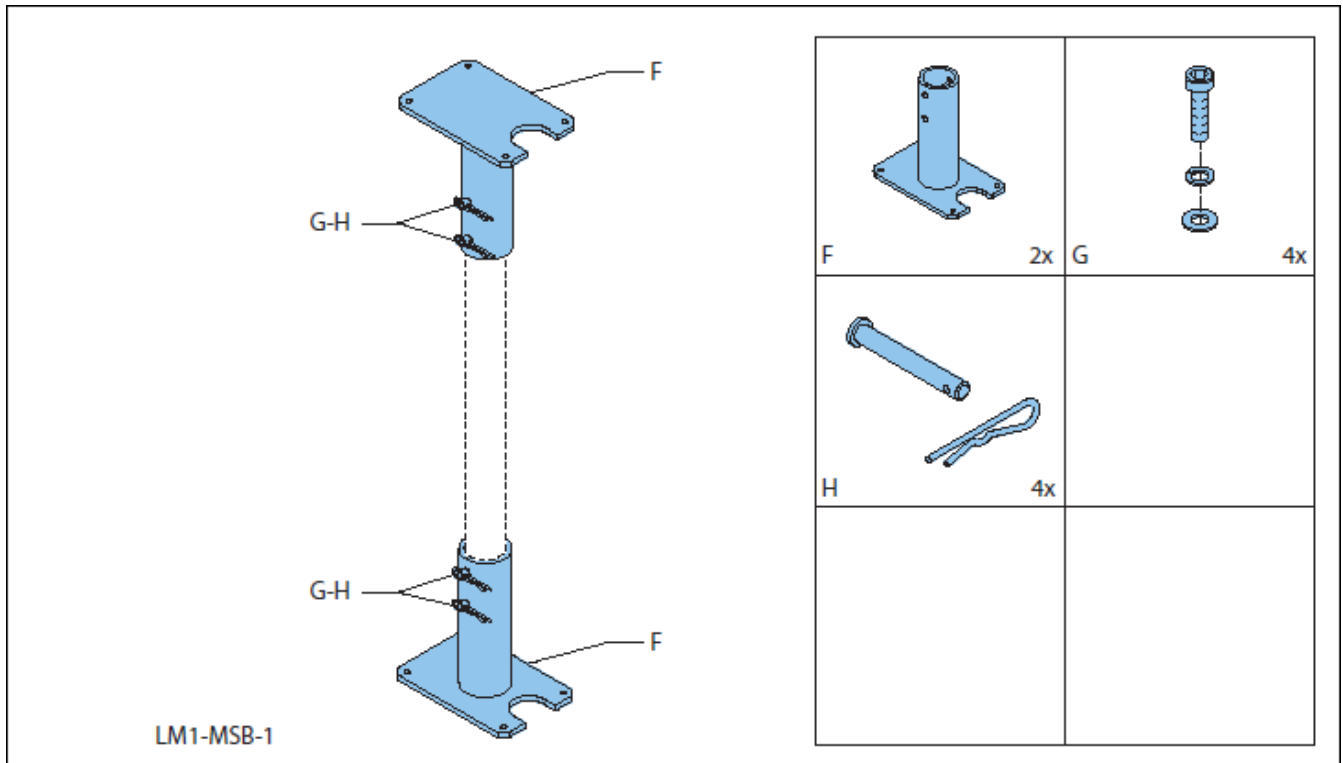


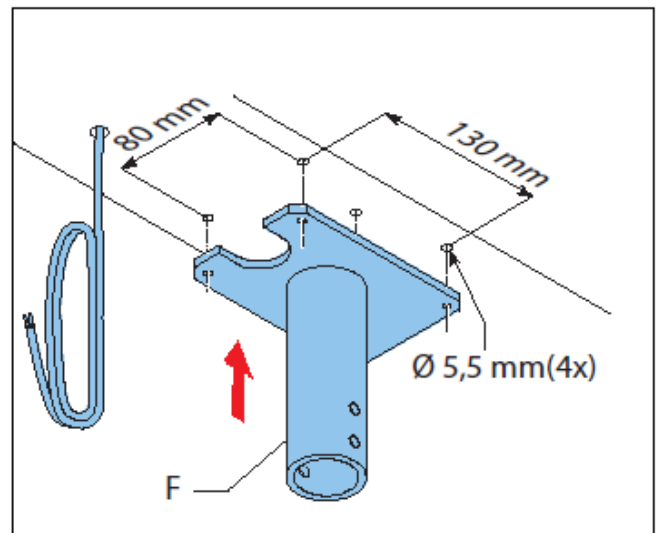
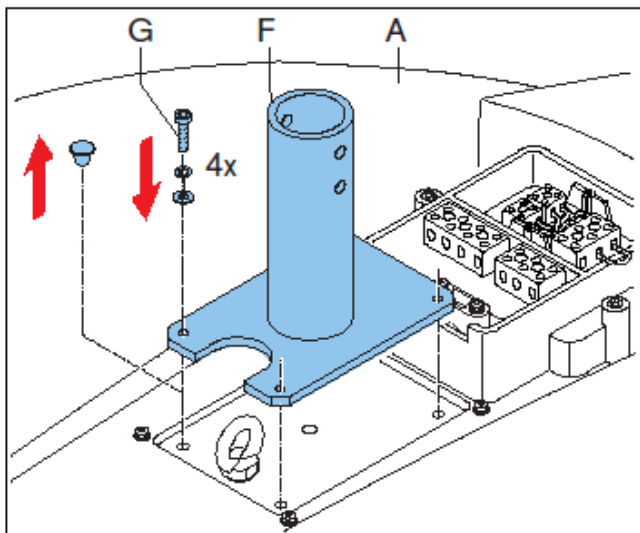
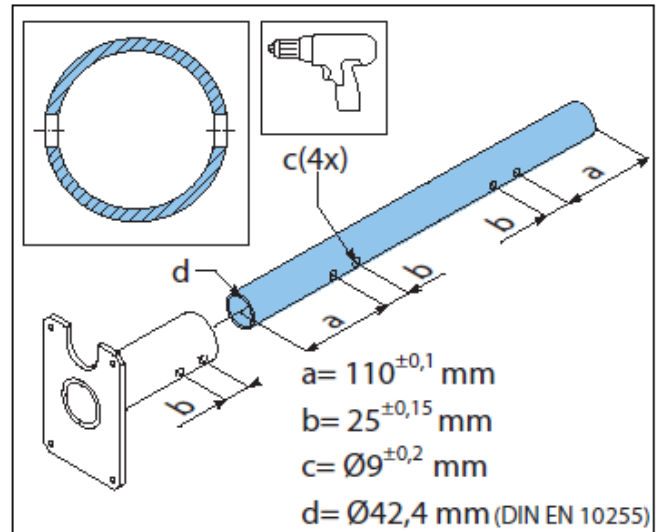
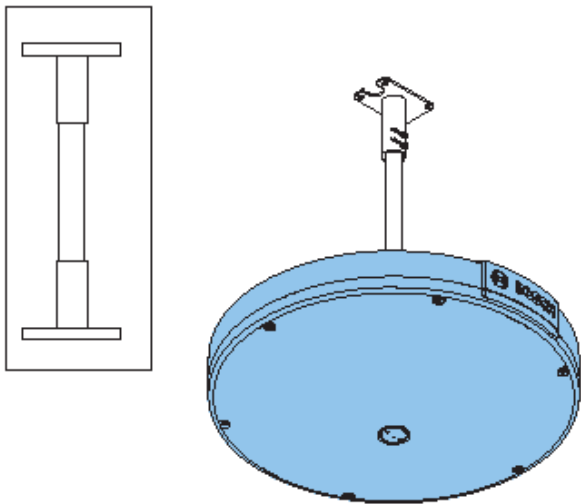
Y: The figure is an example of a connection for 25 W.
 Z: Optional loop through connection.

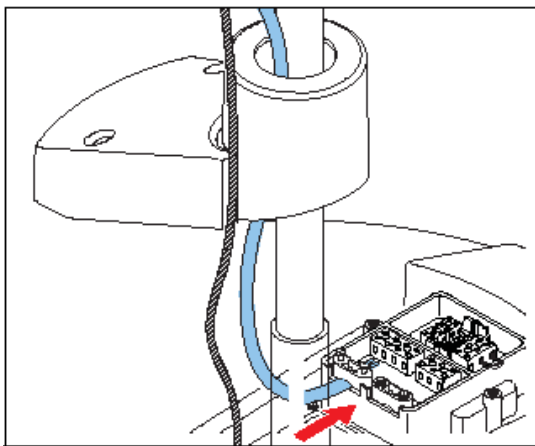
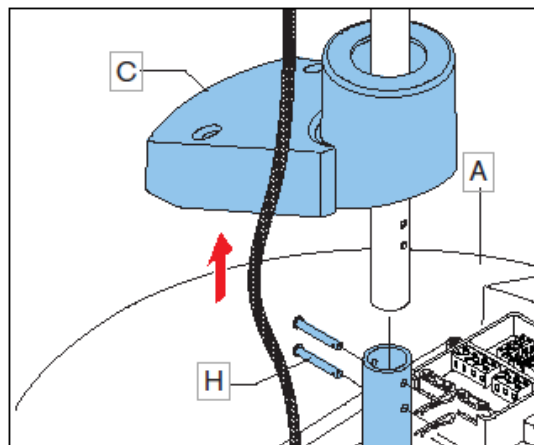
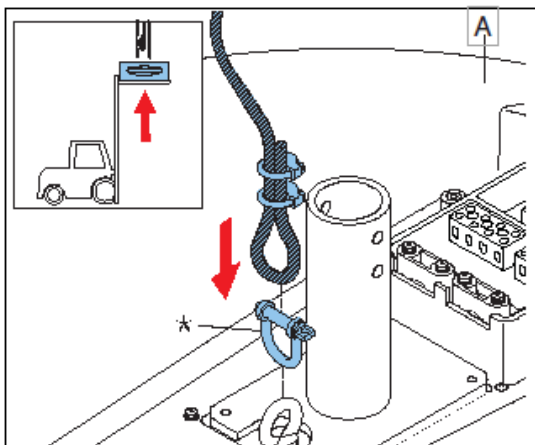
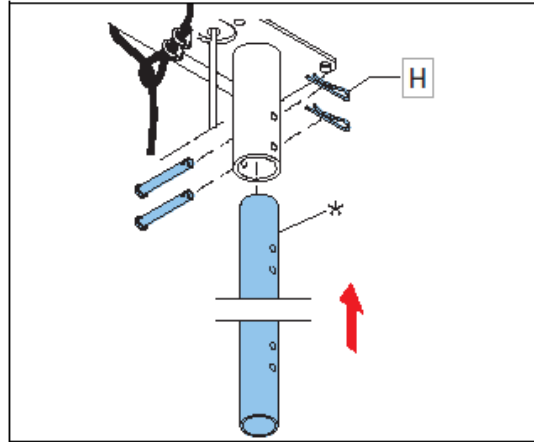
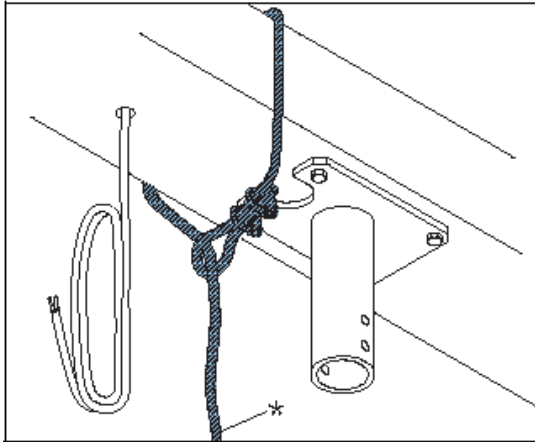


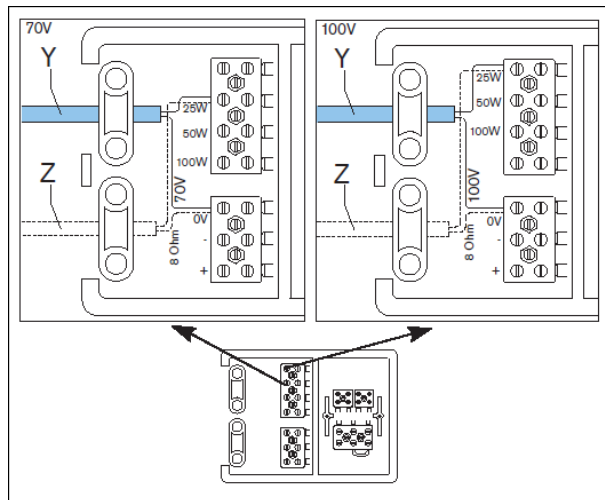
5 Bracket mounting

Installation

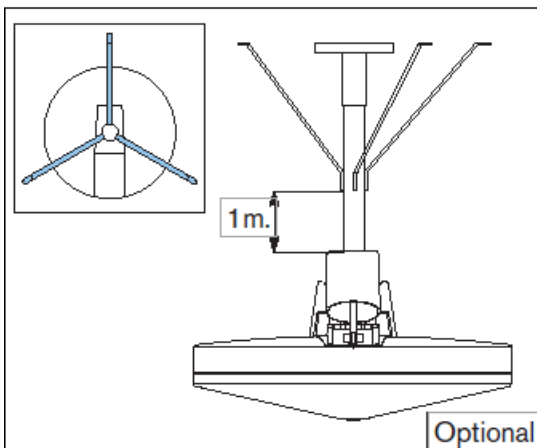
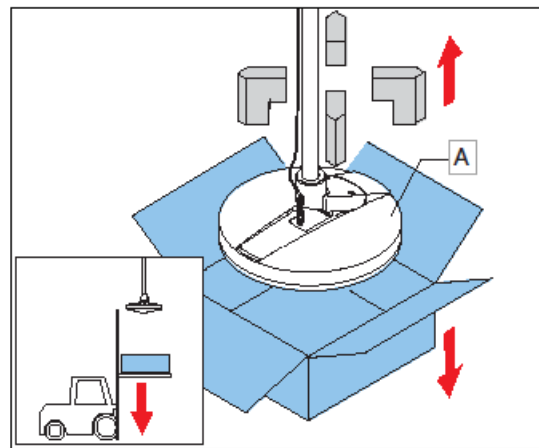
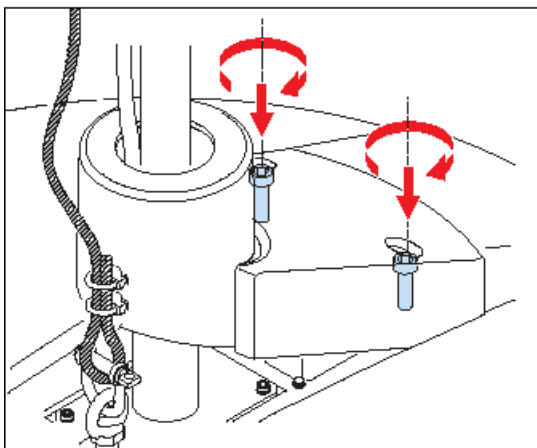
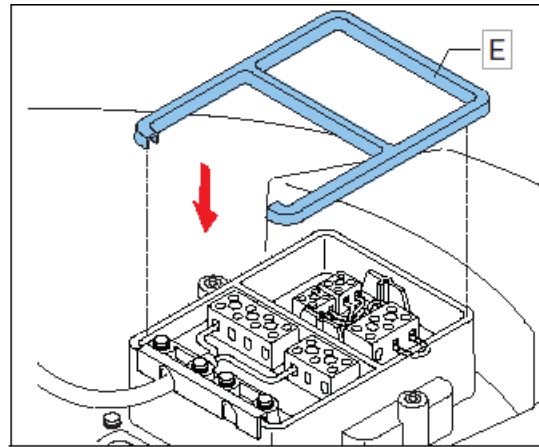
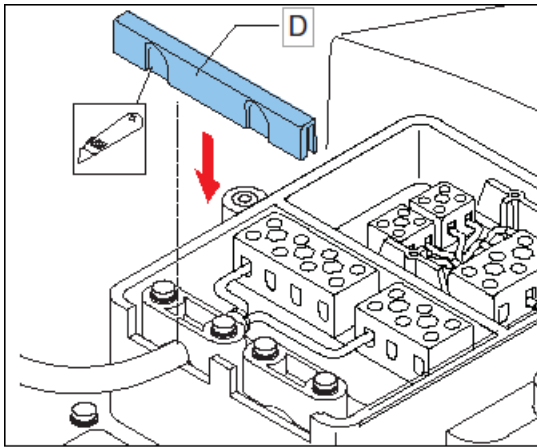






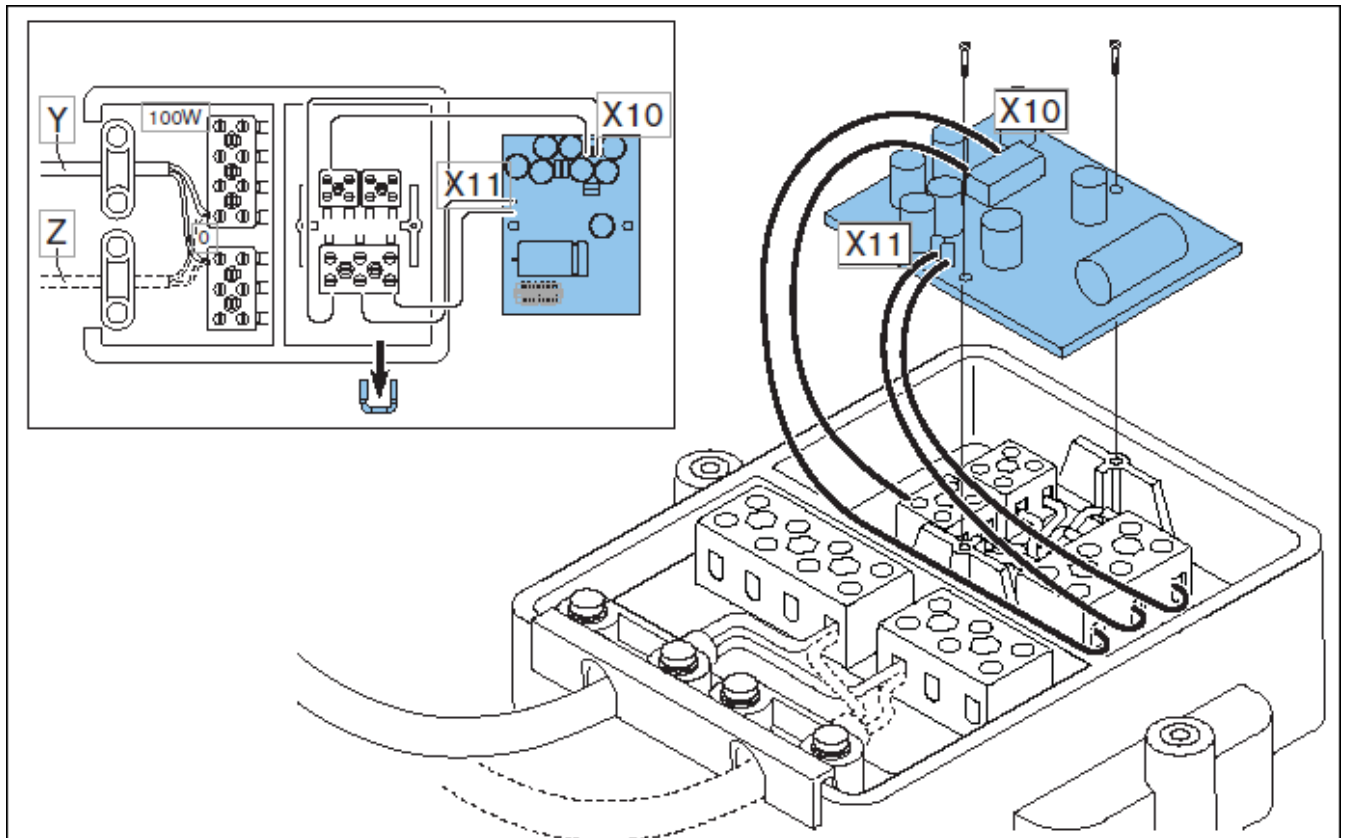


Y: The figure is an example of a connection for 25 W.
 Z: Optional loop through connection.



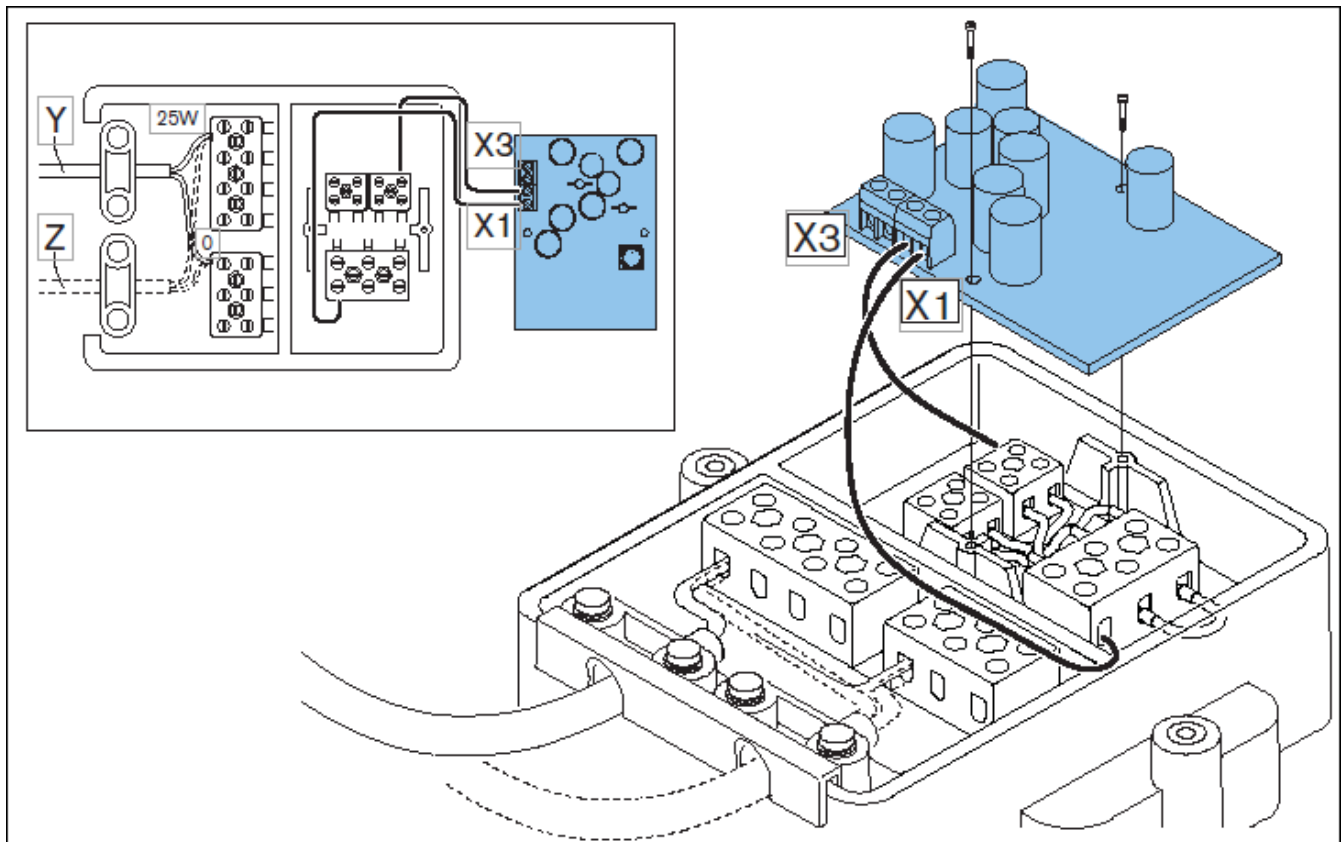
6 Options

LBB4441/00 Loudspeaker Supervision Board



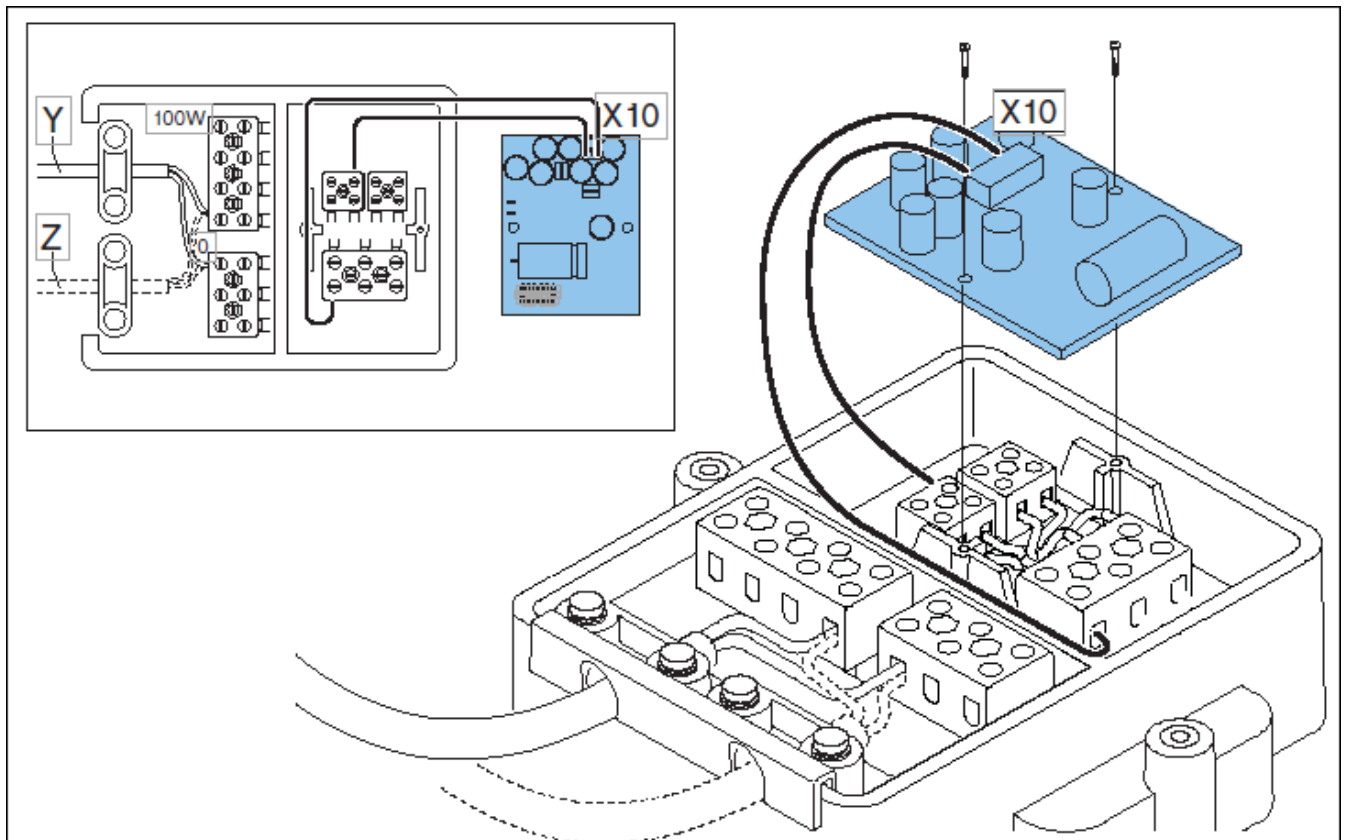
Y: The figure is an example of a connection for 100 W / 70 V.

Z: Optional loop through connection.

LBB4442/00 Loudspeaker Supervision Board

Y: The figure is an example of a connection for 25 W / 100 V.

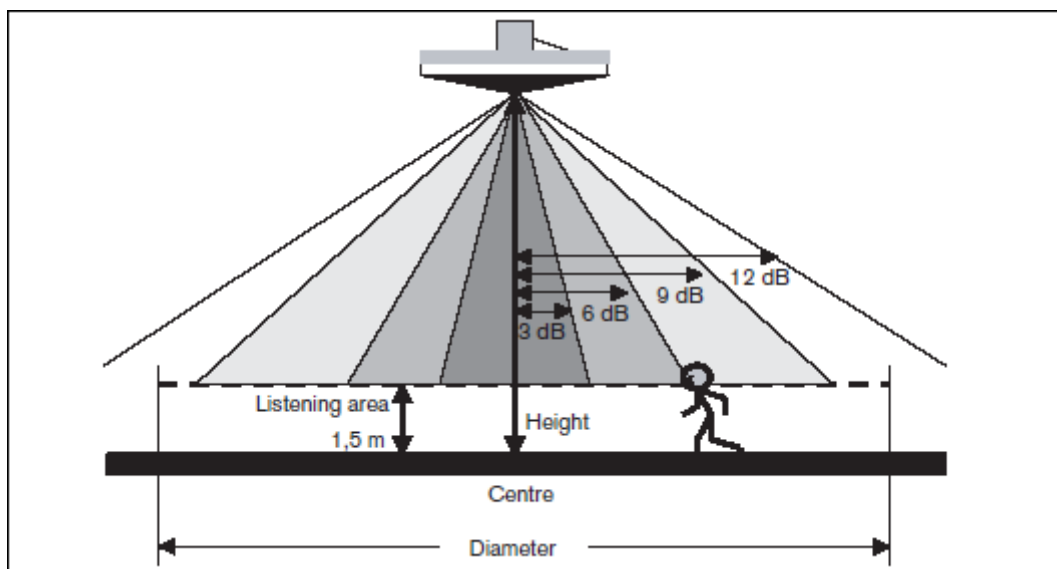
Z: Optional loop through connection.

LBB4443/00 End of Line (EOL) Supervision Board

Y: The figure is an example of a connection for 100 W / 100 V.

Z: Optional loop through connection.

7 Listening area and related mounting height



How to define a listening area?

1. Define the height between the loudspeaker and the floor.
2. What is the desired maximum SPL variation from center to the edge of the listening area?
3. Look, in the table below, in the column for the specified height and in the row for the specified maximum SPL variation.
4. At the intersection of the row and column the diameter and the surface is given of the listening area.

Height [m]	Max SPL centre [dB SPL]	Maximum sound pressure variation from centre to the edge of the listening area											
		3dB		6dB		9dB		12dB		15dB		18dB	
		diameter [m]	surface [m ²]	diameter [m]	surface [m ²]	diameter [m]	surface [m ²]	diameter [m]	surface [m ²]	diameter [m]	surface [m ²]	diameter [m]	surface [m ²]
4,5	100,4	4,36	15	7,40	43	11,28	100	15,64	192	20,92	344	28,22	625
5,0	99,2	5,08	20	8,64	59	13,16	136	18,24	261	24,42	468	32,94	852
5,5	98,2	5,82	27	9,88	77	15,04	178	20,84	341	27,90	611	37,64	1113
6,0	97,3	6,54	34	11,12	97	16,92	225	23,44	432	31,38	773	42,34	1408
6,5	96,5	7,26	41	12,34	120	18,80	278	26,06	533	34,88	956	47,04	1738
7,0	95,7	8,00	50	13,58	145	20,68	336	28,66	645	38,36	1156	51,76	2104
7,5	95,0	8,72	60	14,82	172	21,64	368	31,26	767	41,84	1375	56,46	2504
8,0	94,4	9,44	70	16,06	203	23,46	432	33,86	900	45,34	1615	61,16	2938
8,5	93,8	10,18	81	17,28	235	25,26	501	36,48	1045	48,82	1872	65,86	3407
9,0	93,3	10,90	93	18,52	269	27,06	575	37,12	1082	52,32	2150	70,56	3910
9,5	92,8	11,62	106	19,76	307	28,86	654	39,60	1232	55,80	2445	75,28	4451
10,0	92,3	12,36	120	21,00	346	30,66	738	42,08	1391	55,60	2428	79,98	5024
10,5	91,9	13,08	134	22,22	388	32,48	829	44,56	1559	58,88	2723	84,68	5632
11,0	91,4	13,80	150	23,46	432	34,28	923	47,02	1736	62,14	3033	82,30	5320
11,5	91,0	14,54	166	23,84	446	36,08	1022	49,50	1924	65,42	3361	86,62	5893
12,0	90,6	15,26	183	25,02	492	37,88	1127	51,98	2122	68,68	3705	90,96	6498
13,0	89,9	16,72	220	27,42	591	41,50	1353	56,92	2545	75,22	4444	99,62	7794
14,0	89,2	17,50	241	29,80	697	45,10	1598	61,88	3007	81,78	5253	108,28	9208

The color indicates the range of minimum dB SPL for the listening area at maximum power:

- 90 dB SPL and higher
- from 85 dB SPL up to 90 dB SPL
- from 80 dB SPL up to 85 dB SPL
- from 75 dB SPL up to 80 dB SPL
- lower than 75 dB SPL

8 Technical data

Electrical*

Maximum power	150 W			
Rated power	100 W (100 – 50 – 25 W)			
Sound pressure level at 100 W / 1 W (1 kHz, 1 m)	110 / 90 dB			
Sound pressure level at 100 W / 1 W (1 kHz, 4 m)	98 / 77 dB			
Opening angle at 1 kHz / 4 kHz (-6 dB)	175° / 96° (horizontal) 180° / 137° (vertical)			
Effective frequency range (-10 dB)	60 Hz to 20 kHz			
Rated input voltage		28.3 V	70 V	100 V
Rated impedance	100 W	8 Ohm	50 Ohm	100 Ohm
	50 W	N.A.	100 Ohm	200 Ohm
	25 W	N.A.	200 Ohm	400 Ohm
Connector	Ceramic screw terminal			

* Technical performance data acc. to IEC 60268-5

Mechanical

LS1-OC100E-1	
Dimensions (dia. x H)	800 x 425 mm (31.50 x 16.74 in)
Weight	27 kg (59.52 lb)
Color baffle	White (RAL 9010)
Color top cover	Pearl dark gray (RAL 9023)
Color grille	White aluminum (RAL 9006)
Material	ABS TSG


LM1-MSB-1	
Dimensions (H x W x D)	150 x 100 x 150 mm (5.90 x 3.94 x 5.90 in)
Weight	2.9 kg (6.39 lb)
Color	Pearl dark gray (RAL 9023)
Material	Zinc plated steel

Environmental

Operating temperature	-25 to +55 °C (-13 to 131 °F)
Storage and transport temperature	-40 to +70 °C (-40 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 12 1438/CPD/0255
EN 54-24:2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings Hemi-directional loudspeaker LS1-OC100E-1 Type A DoP: LP052912

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