

LH2-UC15E Horn loudspeaker, 15W, marine



- ▶ Suitable for marine and industrial applications in humidity-, chlorine- and salty environments
- ▶ ABS housing with fire-retardant properties
- ▶ Water- and dust-protected to class IP67
- ▶ Provisions for internal mounting of the optional supervision boards
- ▶ Type approval certified EN 60945 and EN54-24 certified

The Horn Loudspeaker LH2-UC15E is specifically designed for excellent sound reproduction in marine applications (meeting standards such as IEC 60068-2-11) and other industrial environments. The housing is rugged, water- and dust-protected, and resistant to the corrosive effects of seawater and most industrial atmospheres. The horn loudspeaker is made from plastic (ABS). The horn is standard supplied with a stainless steel mounting bracket.

Functions

The horn loudspeaker is standard supplied with a sturdy mounting bracket allowing the sound beam to be accurately directed. The mounting bracket has a ratchet facility to ensure it stays correctly positioned. The connection cable is fed out through an ABS cable gland (PG13.5 standard supplied) in the rear cover, which can be removed for entering the inside connection terminal. For loop-through connection, the rear cover is fitted with a second hole (covered with a blanking plug as standard supplied). The horn loudspeaker includes a transformer for both 70 V and 100 V input voltage, with taps on the primary winding for different power settings. Nominal full-power, half-power, quarter-power or eight-power radiation (i.e. in 3 dB steps) can easily be selected by connecting to the appropriate terminal of the 6-way screw terminal block. The horn loudspeaker has built-in protection to ensure that, in the event of a fire, damage to the loudspeaker does not result in failure of the circuit

to which it is connected. In this way, system integrity is maintained; ensuring loudspeakers in other areas can still be used to inform people of the situation. The horn loudspeaker has ceramic screw-terminal connection blocks, thermal fuse, heat-resistant high temperature wiring and has a provision for internal mounting of the optional line/loudspeaker supervision boards. For enabling loudspeaker supervision, a wire loop from the secondary side of the horn loudspeaker is available in the connection area. This wire loop is normally closed, but when used with the supervision board, it is cut and connected.

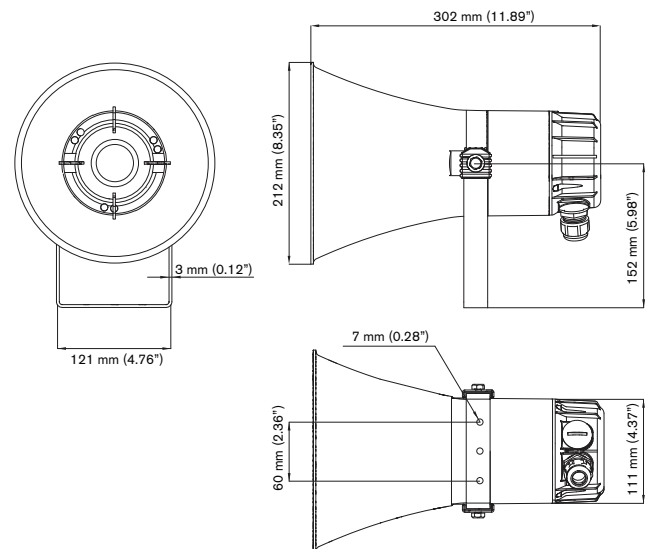


Fig. 1: Dimensions in mm (inch)

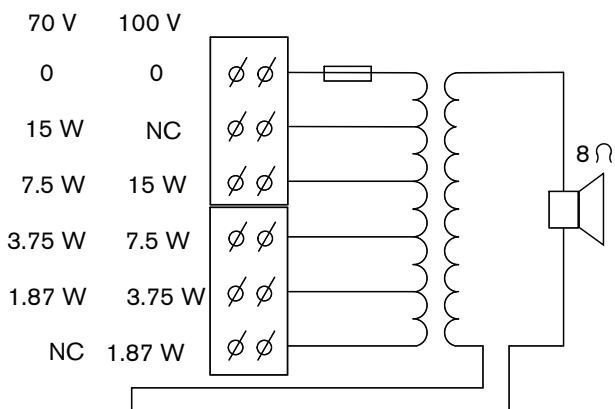


Fig. 2: Circuit diagram

Regulatory information

Quality assurance

All Bosch loudspeakers are designed to withstand operating at their rated power for 100 hours in accordance with IEC 60268-5 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 improved reliability under extreme conditions, leading to higher customer satisfaction, longer operating life, and lessens the chance of failure or performance deterioration.

Safety	According to EN 60065
Emergency	According to EN 54-24 / compliant to BS 5839-8
Type approval certified	According to EN 60945
Water and dust protection	According to EN 60529, IP 67
Salt mist	According to IEC 60068-2-11
Chlorine resistant	According to IEC 60068-2-60
Wind force	According to Bft 11

Parts included

Quantity	Component
1	LH2-UC15E Horn Loudspeaker
1	Installation instruction

Technical specifications

Electrical

Maximum power (W)	22.50 W
Rated power (W)	15 W

Transformer taps 70 V line (W)	15 W; 7.5 W; 3.75 W; 1.9 W
Transformer taps 100 V line (W)	15 W; 7.5 W; 3.75 W; 1.9 W
Sensitivity (1 W, 1 m, 1 kHz octave) (dB)	107 dB
Sensitivity (1 W, 4 m, 100 Hz - 10 kHz) (dB), acc. EN 54-24	90 dB
Sound pressure level (rated power, 1 m, 1 kHz octave) (dB)	118 dB
Sound pressure level (rated power, 4 m, 100 Hz - 10 kHz) (dB), acc. EN 54-24	102 dB
Frequency range (-10 dB) (Hz)	300 Hz - 9,000 Hz
Coverage angle Horizontal (-6 dB, 500 Hz) (°)	360°
Coverage angle Horizontal (-6 dB, 1 kHz) (°)	119°
Coverage angle Horizontal (-6 dB, 2 kHz) (°)	68°
Coverage angle Horizontal (-6 dB, 4 kHz) (°)	38°
Rated input voltage (V)	70 V; 100 V
Rated impedance 70 V line (Ω)	2667 Ω @1.9 W
	1333 Ω @3.75 W
	667 Ω @7.5 W
	334 Ω @15 W
Rated impedance 100 V line (Ω)	5347 Ω @1.9 W
	2667 Ω @3.75 W
	1333 Ω @7.5 W
	667 Ω @15 W

*Technical performance data acc. to IEC 60268-5

Note:

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

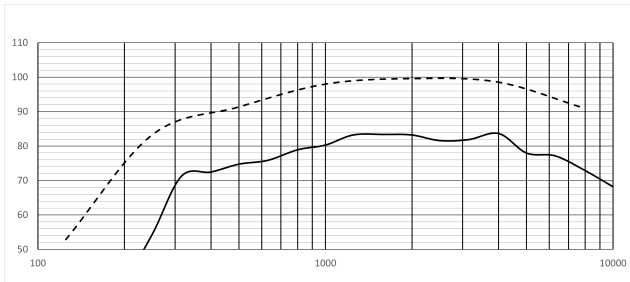


Fig. 3: Frequency response graph (— 1/3rd octave dB SPL @1 W(100 Hz – 10 kHz), 4 m; -- 1/1th octave dB SPL @1 W(100 Hz – 10 kHz), 1 m)

(1/3) rd octave band	dB SPL at 4 m, 1 W (100 Hz – 10 kHz)
100	33.9
125	38.5
160	34.2
200	41.2
250	54.4
315	71.2
400	72.5
500	74.7
630	75.9
800	78.9
1000	80.3
1250	83.2
1600	83.4
2000	83.2
2500	81.6
3150	81.9
4000	83.6
5000	78
6300	77.1
8000	72.9
10000	68.2

(1/1) th octave band	dB SPL at 1 m, 1 W (100 W – 10 kHz)
125	52.9
250	83.3
500	91.4
1000	98
2000	99.6
4000	98.6
8000	90.9

To meet EN 54-24 requirements, below stated 1/3 octave band equalization is required:

1/3 octave band (Hz)	EQ setting
1250 Hz	-2 dB
1600 Hz	-3 dB
2000 Hz	-1 dB
6300 Hz	+3 dB

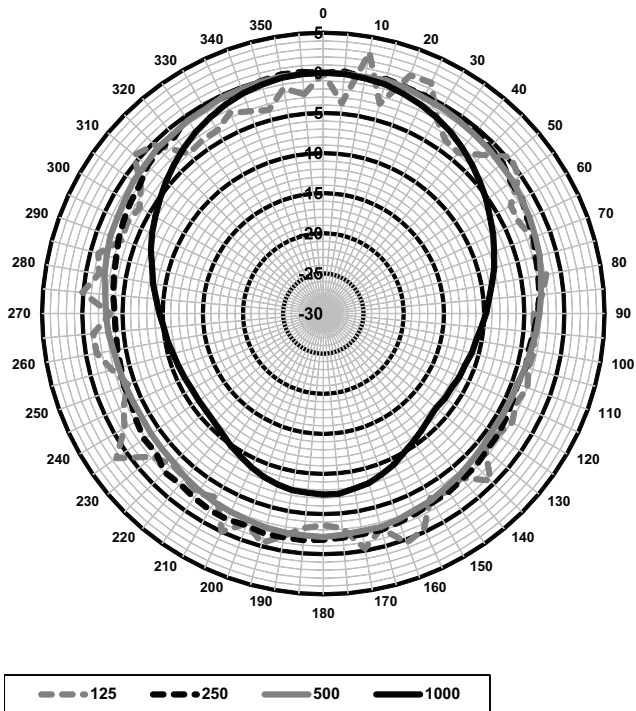


Fig. 4: Polar diagram 1 (measured with pink noise)

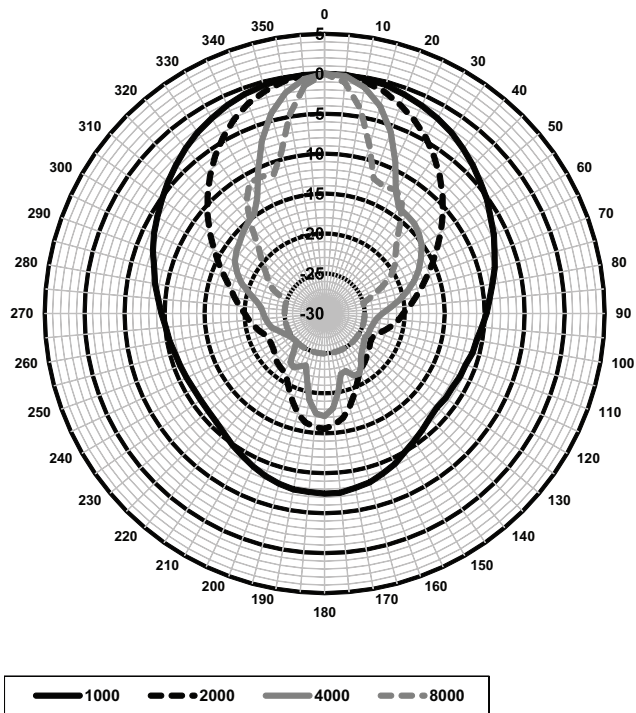


Fig. 5: Polar diagram 2 (measured with pink noise)


Mechanical

Dimensions (Ø x D) (mm)	212 mm x 302 mm
Dimensions (Ø x D) (in)	8.35 in x 11.89 in

Weight (kg)	2.25 kg
Weight (lb)	4.96 lb
Color (RAL)	RAL 7035 Light gray
Material (horn)	Plastic (ABS)
Material (mounting bracket)	Stainless steel (grade 316)
Connector type	6-pole screw terminal
Acceptable wire gauge	1.0 mm – 2.3 mm
Cable diameter	6 mm – 12 mm (0.24 in – 0.47 in)

Environmental

Operating temperature (°C)	-55 °C – 70 °C
Operating temperature (°F)	-67 °F – 158 °F
Storage temperature (°C)	-40 °C – 70 °C
Storage temperature (°F)	-40 °F – 158 °F
Transportation temperature (°C)	-40 °C – 70 °C
Transportation temperature (°F)	-40 °F – 158 °F
Operating relative humidity, non-condensing (%)	0% – 95%



0560

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EN 54-24:2008

Loudspeaker for voice alarm systems
for fire detection and fire alarm systems for buildings

Horn Loudspeaker 15W
LH2-UC15E
Type B

Ordering information

LH2-UC15E Horn loudspeaker, 15W, marine
 Horn Loudspeaker 15 W, Plastic (ABS), high-quality speech and music reproduction, IP67 water and dust protected, salt mist and chlorine resistant, EN 60945 and EN54-24 certified, light grey RAL7035.
 Order number **LH2-UC15E | F.01U.304.395**

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