

## LH3-UC25XL Horn loudspeaker, Ex-proof, long flare



The LH3-UC25XL horn loudspeaker is specifically designed and certified for installations where explosive gas-air mixtures are likely to be present. The horn is constructed from anti-static Polyamid material, making the horn sturdy and light weighted. The longer flare design of the horn results in a higher sound pressure level where longer distance areas can be covered.

### Functions

The horn loudspeaker is standard supplied with a sturdy stainless steel mounting bracket allowing the sound beam to be accurately directed. The mounting bracket has a ratchet facility to ensure it stays correctly positioned.

- ▶ IECEx/ATEX, US, CSA and INMETRO certified
- ▶ Constructed from sturdy, lightweight, anti-static Polyamid material
- ▶ Water- and dust-protected to class IP67
- ▶ Provision for connection of the optional supervision boards

The connection cable is fed out through an ABS EX cable gland (M20) in the rear cover, which can be removed for entering the inside connection terminal block. 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 100 V input voltage, with taps on the primary winding for different power settings.

The different power taps can easily be selected by connecting to the appropriate terminal of the 6-way terminal block.

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 if used with the supervision board, cut and connected.

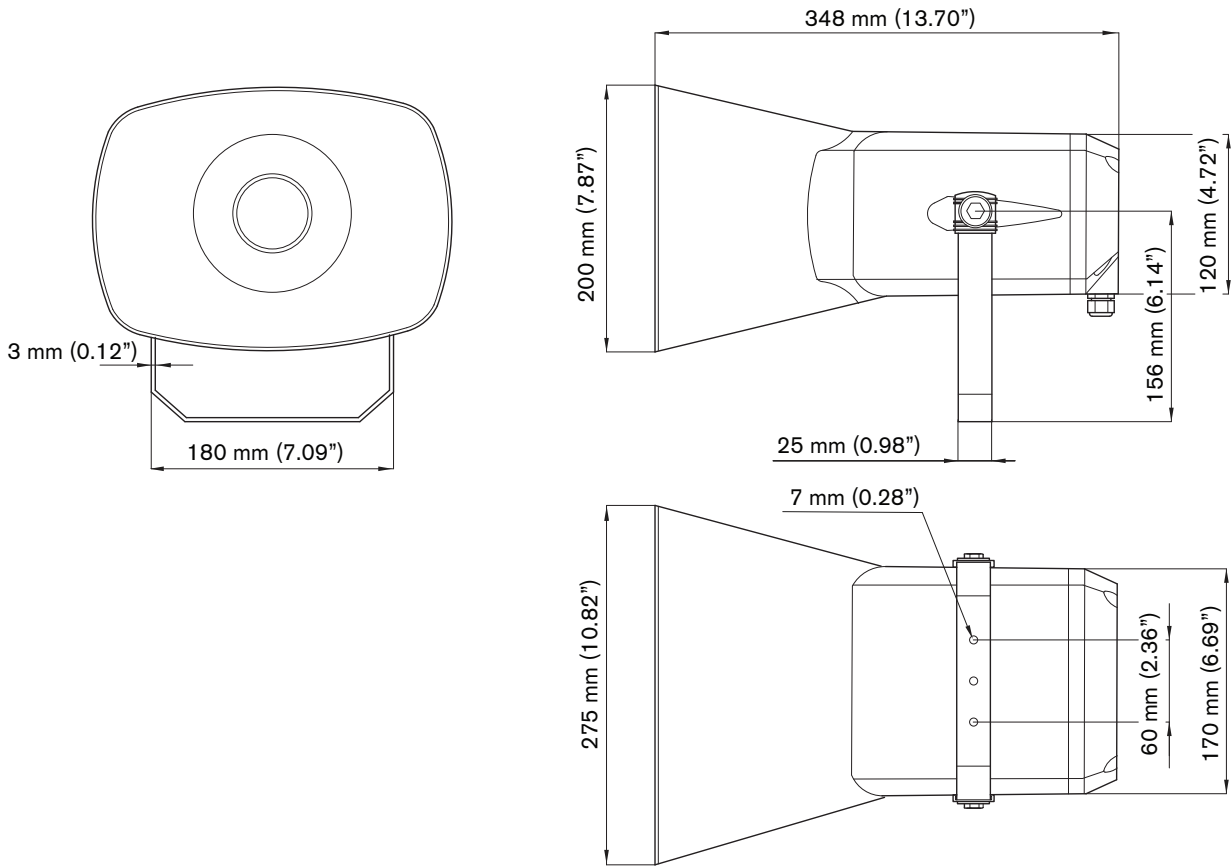


Fig. 1: Dimensions in mm (inch)

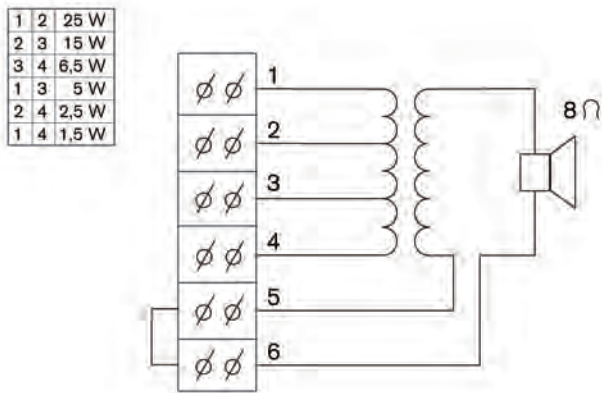


Fig. 2: Circuit diagram

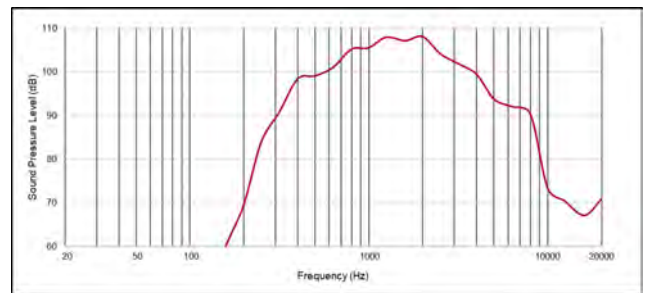


Fig. 3: Frequency response

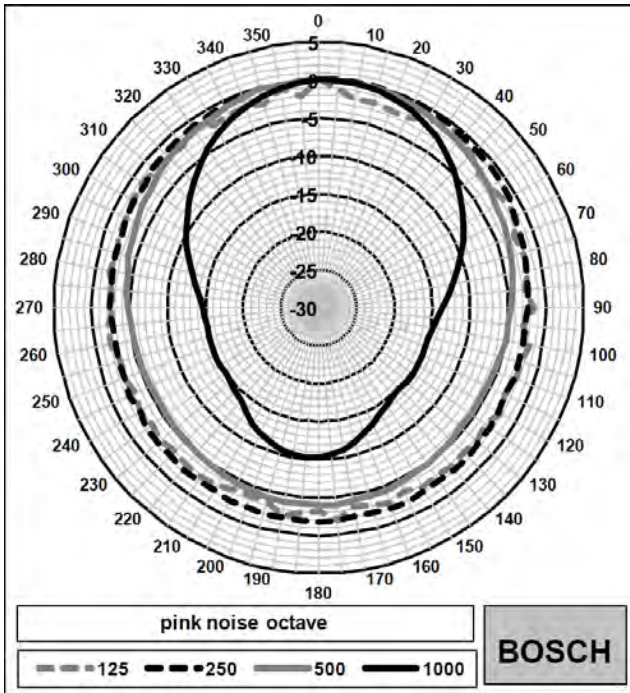


Fig. 4: Horizontal polar diagram (low frequency part)

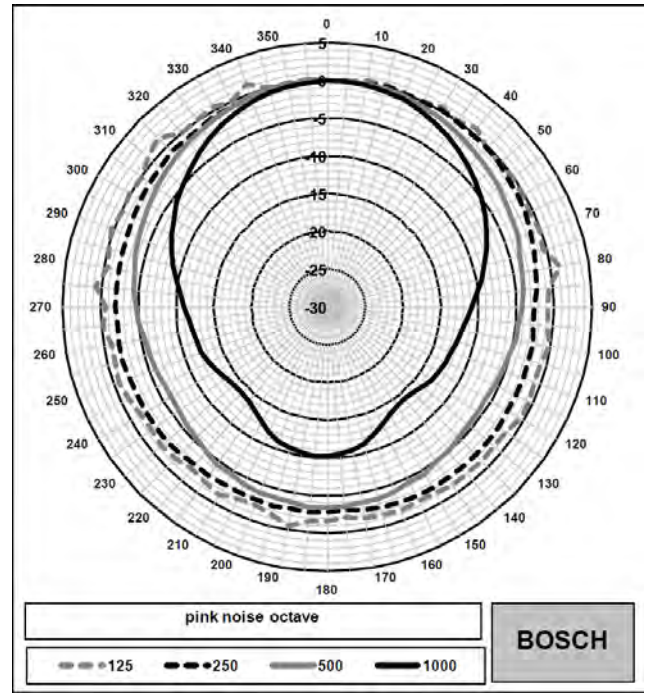


Fig. 6: Vertical polar diagram (low frequency part)

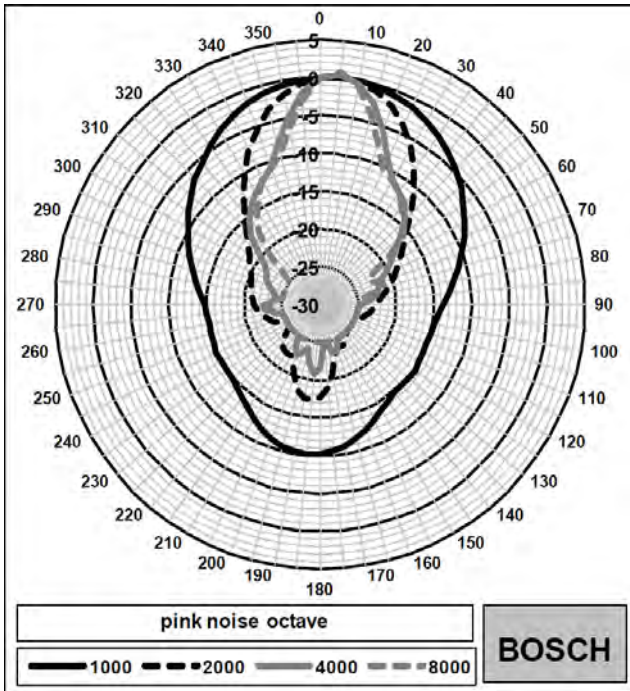


Fig. 5: Horizontal polar diagram (high frequency part)

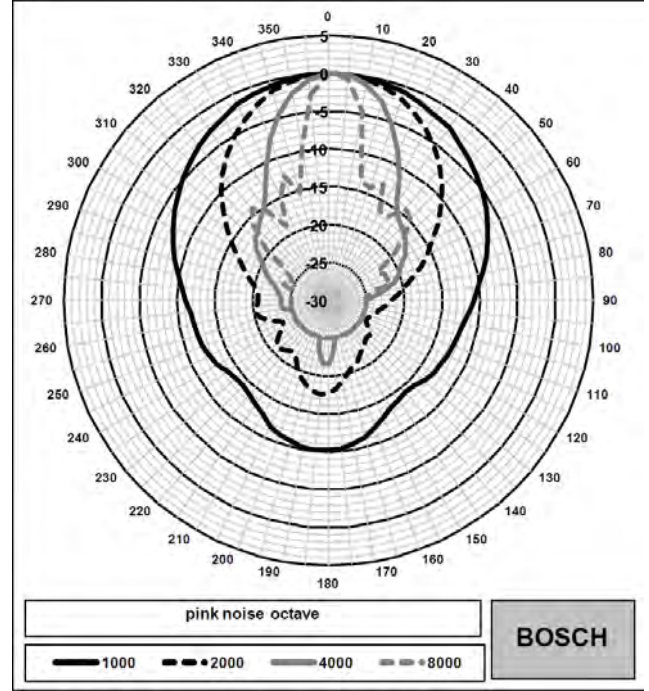


Fig. 7: Vertical polar diagram (high frequency part)

Octave band sensitivity*			
	Octave SPL 1W/1m	Total octave SPL 1W/1m	Total octave SPL Pmax/1m
125 Hz	62.1	-	-
250 Hz	92.0	-	-
500 Hz	102.0	-	-
1000 Hz	107.1	-	-
2000 Hz	107.0		
4000 Hz	100.4	-	-
8000 Hz	95.3	-	-
A-weighted	-	101.5	113.3
Lin-weighted	-	101.2	113.2

Octave band opening angles			
	Horizontal	Vertical	
125 Hz	360	360	
250 Hz	360	360	
500 Hz	360	360	
1000 Hz	93	117	
2000 Hz	52	70	
4000 Hz	32	39	
8000 Hz	27	18	

Acoustical performance specified per octave  
\* (all measurements are done with a pink noise signal; the values are in dB SPL).

### Certifications and approvals

#### 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 62368-1
Water and dust	According to EN 60529, IP 66/67
IECEX / ATEX	IECEX DNV 21.0015X & Presafe 20 ATEX 05429X II 2G Ex db eb mb IIB+H2 T4 Gb II 2D Ex tb IIIC T105 °C Db
CSA	Ex db eb mb IIB + H2 T4 Gb LC19,17779 (Canada) Ex tb IIIC T105°C Db IP66/67
US	Class 1 Zone 1 AEx db eb mb IIB + H2 T4 LC19A17779 Gb (US) Zone 21 AEx tb mb IIIC T105°C Db IP66/67
INMETRO	NCC 16.0195X Ex db eb mb IIB + H2 T4 Gb Ex tb IIIC T105°C Db IP66/67

Region	Regulatory compliance/quality marks	
Europe	CE	DECL EC LH3-UC25XL

### Parts included

Quantity	Component
1	LH3-UC25XL Horn Loudspeaker
1	Installation instruction
1	M20 Ex Cable gland PG13

### Technical specifications

#### Electrical\*

Rated power (PHC)	25 W
Rated power	25 / 15 / 6.5 / 5 / 2.5 / 1.5 W
Sound pressure level at rated power / 1 W (1 kHz, 1 m)	122 dB / 109 dB
Opening angle at 1 kHz/ 4 kHz (- 6 dB)	100 / 30 degrees
Effective frequency range (-10 dB)	380 Hz to 7000 Hz

Rated voltage	100 V
Rated impedance	400 ohm
Electrical connection	2 x 6 pole push terminal
Acceptable wire gauge	0.5 mm - 2.5 mm <sup>2</sup> (AWG 20-12)

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

#### **Mechanical**

Material horn	Polyamide (PA)
Material bracket	Stainless Steel (Grade 316)
Dimensions (H x W x D)	200 x 270 x 348 mm (7.87 x 10.62 x 13.70 in)
Weight	2.72 kg (5.99 lb)
Color	Black (RAL 9005)
Cable gland (standard supplied)	M20 Polyamide (PA)
Cable diameter	11 mm to 14 mm (0.43 in to 0.55 in)

#### **Environmental**

Operating temperature	-50 °C to +60 °C (-58 °F to +140 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Relative humidity	<95%

## Ordering information

### LH3-UC25XL Horn loudspeaker, Ex-proof, long flare

Flameproof horn loudspeaker with long flare.

Order number **LH3-UC25XL | F.01U.318.944**

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