



# EX Flameproof Horn Loudspeakers

LH3-UC25XS | LH3-UC25XL



**BOSCH**

**en** Installation note



# 1 Installation

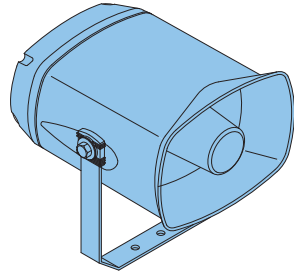


Figure 1.1

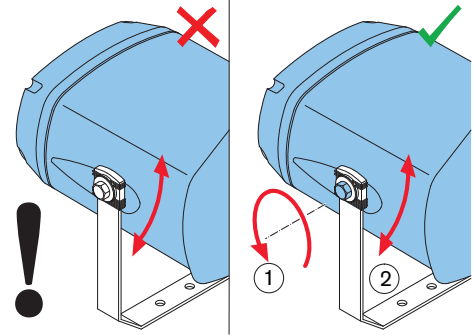


Figure 1.2

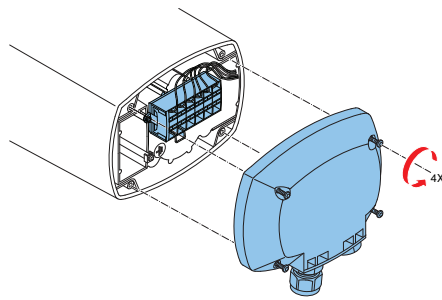


Figure 1.3

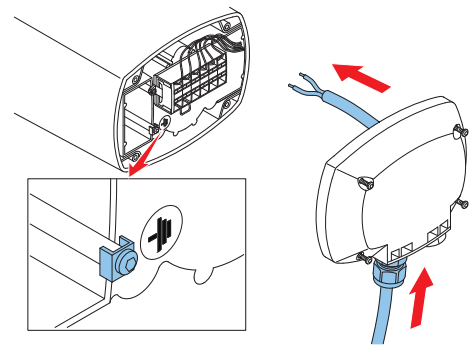


Figure 1.4

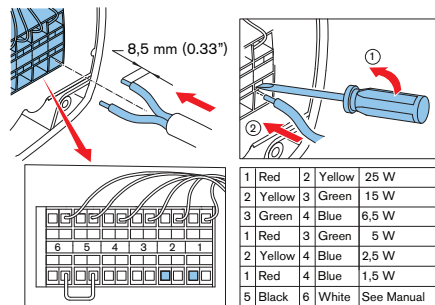


Figure 1.5

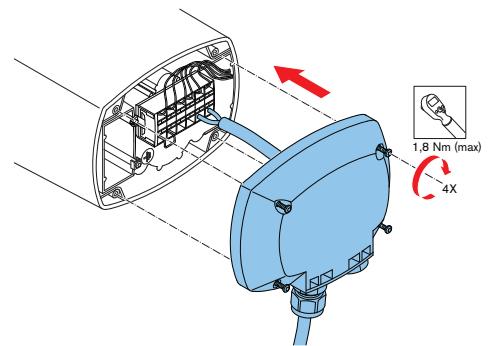


Figure 1.6

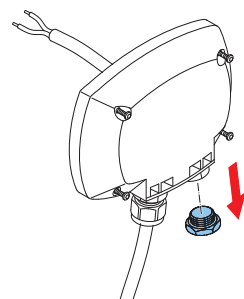


Figure 1.7

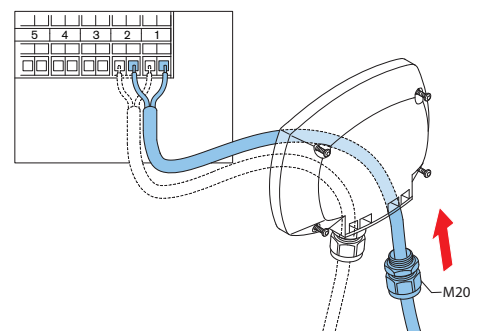


Figure 1.8

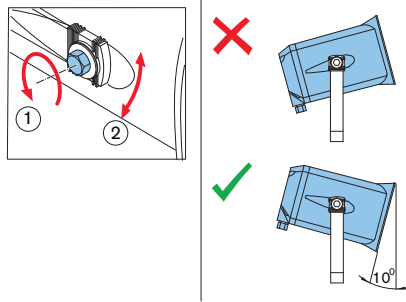


Figure 1.9

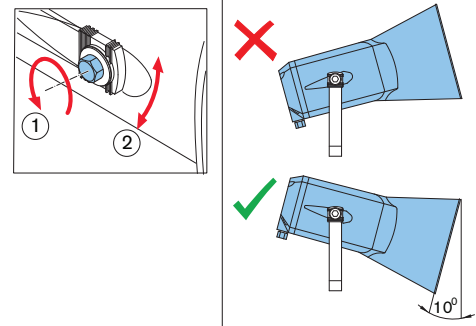


Figure 1.10

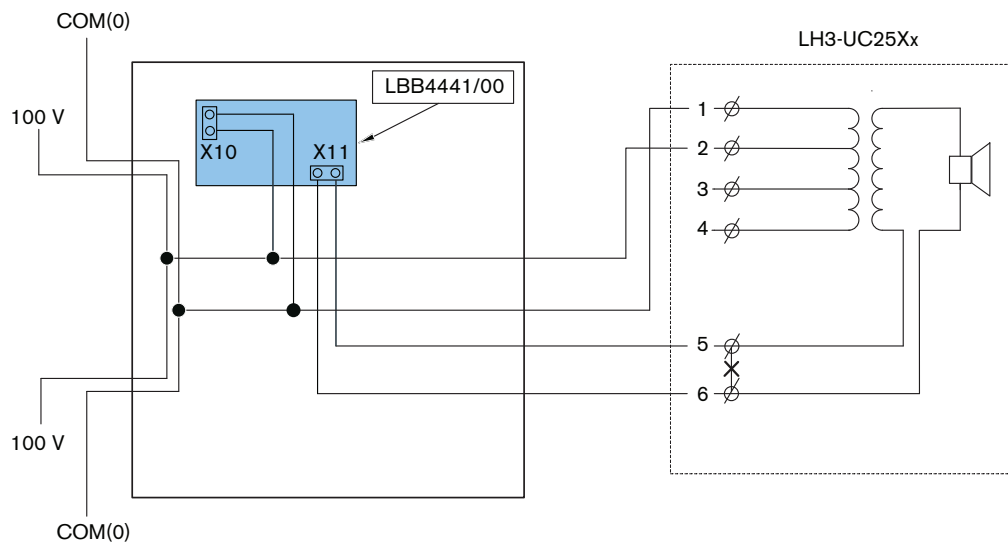


Figure 1.11

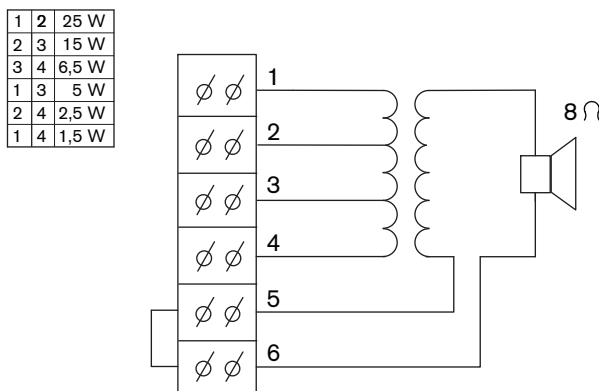


Figure 1.12: Circuit diagram

## 2 Technical data

### LH3-UC25XS: Technical Specifications

#### Electrical\*

Maximum power	30 W
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)	118 dB / 104 dB
Opening angle at 1 kHz/ 4 kHz (- 6 dB)	155 / 47 degrees
Effective frequency range (-10 dB)	480 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 – 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)	144 x 170 x 207 mm (5.66 x 6.69 x 8.15 in)
Weight	2.37 kg (5.22 lb)
Color	Black (RAL 9005)
Cable gland (standard supplied)	M20 Polyamide (PA)
Cable diameter	8 mm to 13 mm (0.31 in to 0.51 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%

#### Certification and Approvals

Safety	acc. to EN 60065
Water and dust protected	acc. to EN 60529 IP 66/67

**LH3-UC25XL: Technical Specifications****Electrical\***

Maximum power	30 W
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)	121 dB / 107 dB
Opening angle at 1 kHz/ 4 kHz (- 6 dB)	93 / 32 degrees
Effective frequency range (-10 dB)	415 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 – 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 248 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	8 mm to 13 mm (0.31 in to 0.51 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%

**Certification and Approvals**

Safety	acc. to EN 60065
Water and dust protected	acc. to EN 60529 IP 66/67

## 2.1 Certification and approvals

### INSTALLATION, OPERATION, MAINTENANCE AND CHECKOUT PROCEDURES FOR BOSCH-ATEX/IECEx CERTIFIED Ex-LOUDSPEAKER

1. If the Ex- loudspeaker is to be earthed use marked earth screws inside of the loudspeaker (see fig. 4).
2. Be sure that the Ex- loudspeaker is connected to the correct voltage, frequency and power stated on labels on the model.
3. The lid screws for the termination chamber should be fastened with a torque of 1.8 Nm to assure the IP-rating (see fig. 6).
4. Use only correct certified cable glands/blind plugs reflecting the same specifications as the rest of the loudspeaker with respect to IP rating and environmental temperature (ATEX/IECEx approved.)
5. The EEx loudspeakers should remain in position so that entering water will be drained from the sound channel (see fig. 9 and 10). Be sure that the environmental temperature is within the certified temperature range.







#### Caution!

Do not open the Ex loudspeaker when the speaker is energized.

Consequences

6. In general the polyamide PA 12 housing material used in these Ex-loudspeakers, is suitable for all kinds of different climatic conditions, including heavy marine environments. Use suitable cleaning materials. Make sure the loudspeaker does not come into contact with foreign elements, such as chemicals, soaps, acids and dust.
7. The loudspeaker is tested according to Directive 94/9/EC and EN 60079-0; 2012 EN 60079-1; 2007, EN 60079-7; 2007, EN 60079-18; 2009, EN 60079-31; 2009, IEC 60079-0; 2011, IEC 60079-1; 2014, IEC 60079-7; 2006, IEC 60079-18; 2009 and IEC 60079-31; 2008.
8. Special conditions for Safe Use: the loudspeaker should only be installed in areas where there is a low risk of impact. When the bracket of the loudspeaker is mounted onto the construction, the bracket must be connected to earth potential through the construction.

 <b>BOSCH</b>		Bosch Security Systems BV Torenlaan 46, NL-5617 BA Eindhoven Engineering and Quality by Bosch Made in Norway	
Max. Power: 30W Freq.: 150-20000Hz -50°C ≤ Ta ≤ 60°C IP 66/67 Ⓜ II 2G Ex d e mb IIB+H2 T4 Gb Ⓜ II 2D Ex tb IIIC 105°C		<input checked="" type="checkbox"/> LH3-UC25XS <input type="checkbox"/> LH3-UC25XL NEMKO 09ATEX1322X IECEx NEM 05.0005X Rated Voltage: 100 V Rated Current: 0,25 A  0470	
Manufactured by <b>DNH</b> 3770 Kragemo Norway		Warning: Do not open while energized	
Potência max 30W Tensão Nominal 100V Freq. 150-20000 Hz -50°C ≤ Tamb ≤ +60°C IP 66/67 Ex d e mb IIB+H2 T4 Gb		NCC 16.0195X Segurança 	
ATENÇÃO: NÃO ABRA QUANDO ENERGIZADO			
Max. Power: 30W Rated Current: 0,25 A Rated Voltage: 100 V Freq. Range: 150-20000Hz		 Marking Canada: Ex d e mb IIB+H2 T4 Gb LC15.13026 -50°C ≤ Ta ≤ +60°C, IP66/IP67 Marking US: Class 1 Zone 1 AEx d e mb IIB+H2 T4 Gb LC15.13026, -50°C ≤ Ta ≤ +60°C IP66/IP67	
Conforms to: CANCSA-C22.2 No. 60079-0; 2011 & UL 60079-0; 2013, CANCSA-C22.2 No. 60079-1; 2011 & UL 60079-1; 2015 (Ed.7) CANCSA-C22.2 No. 60079-7; 2012 & UL 60079-7; 2008 (Ed.8) CANCSA-C22.2 No. 60079-18; 2012 & UL 60079-18; 2012 (Ed.3) CANCSA-C22.2 No. 60079-31; 2012 & AN SVISA 60079-31; 2013 CANCSA-C22.2 No. 60065-03; 2012 & UL 60065; 2007			
Warning: Do not open while energized ATTENTION: Ne pas ouvrir quand l'appareil est sous tension			

## 2.2 Additional technical data

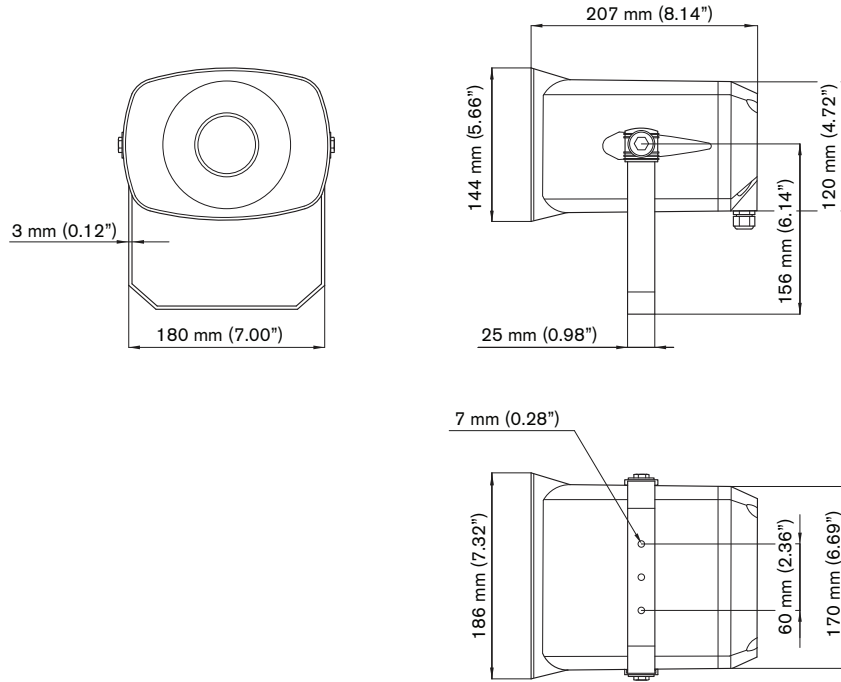


Figure 2.1: LH3-UC25XS

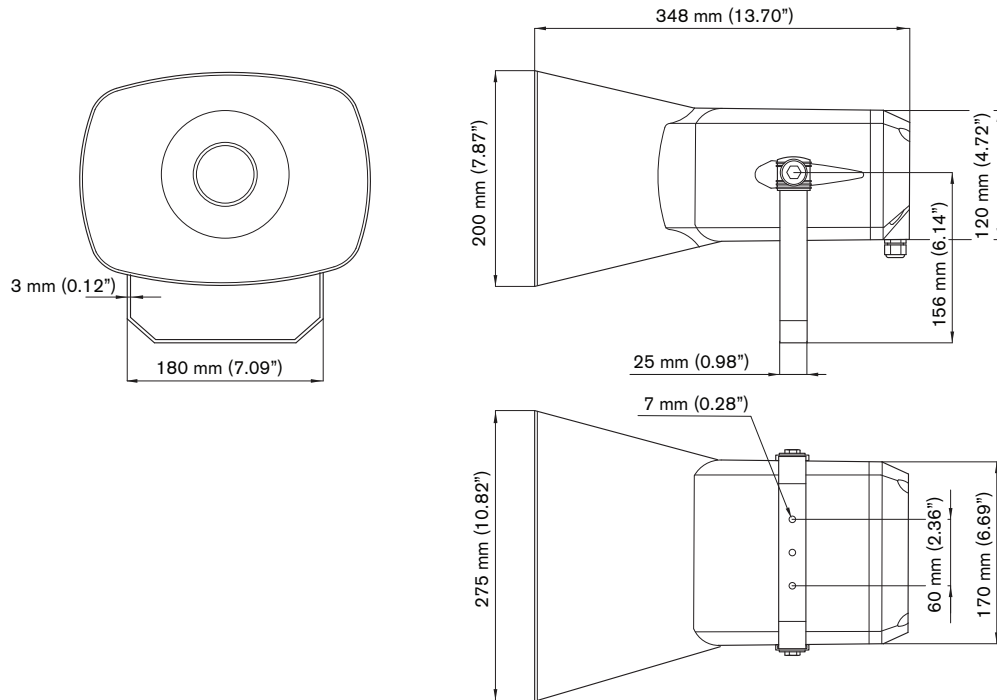


Figure 2.2: LH3-UC25XL



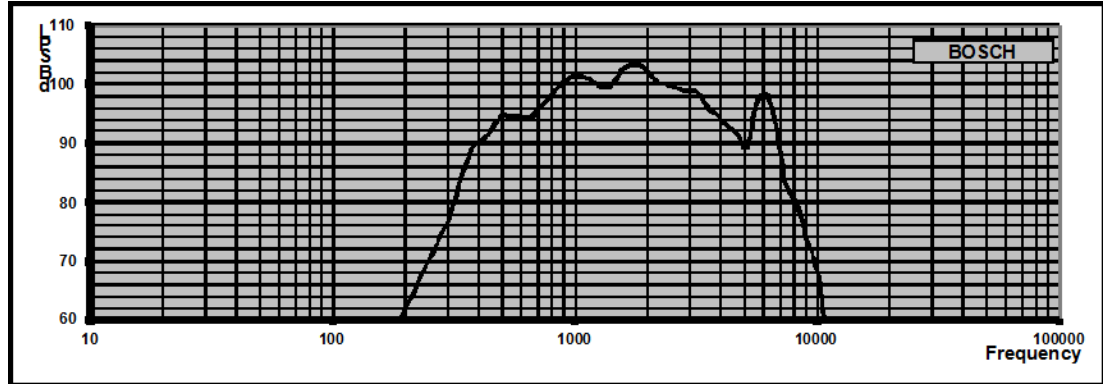
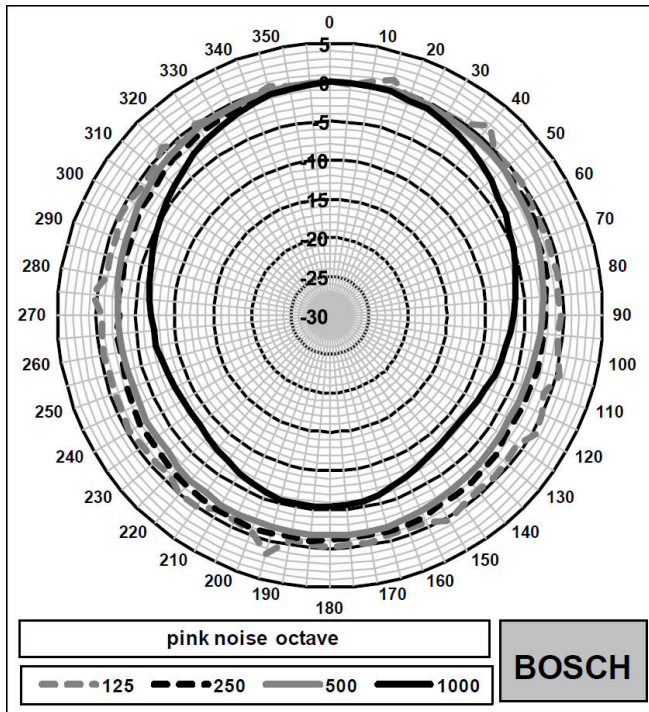
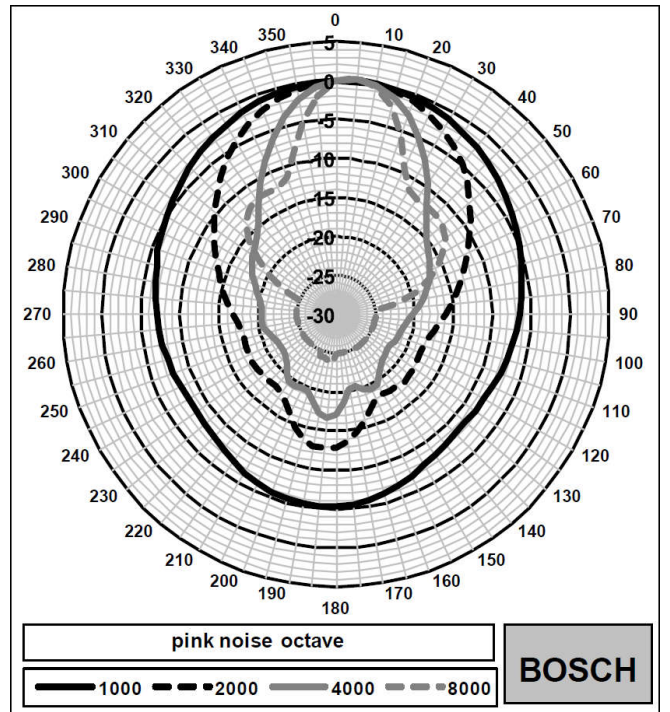


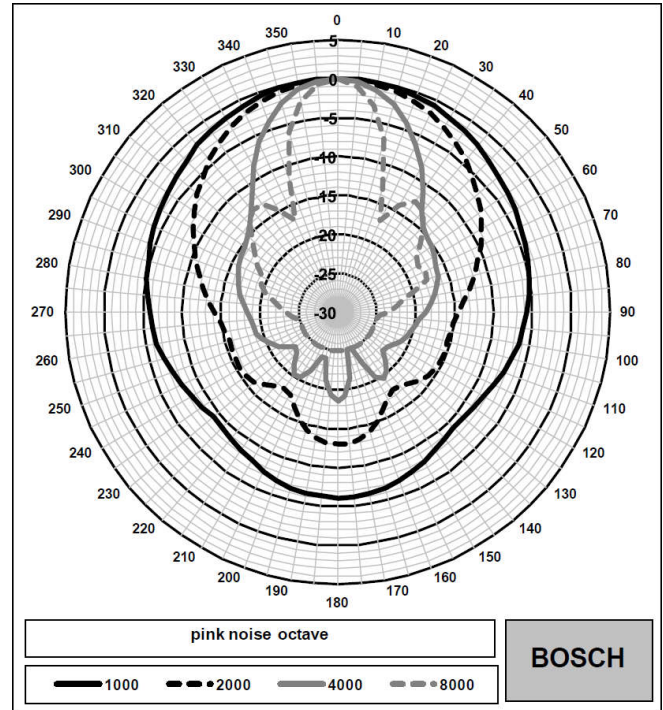
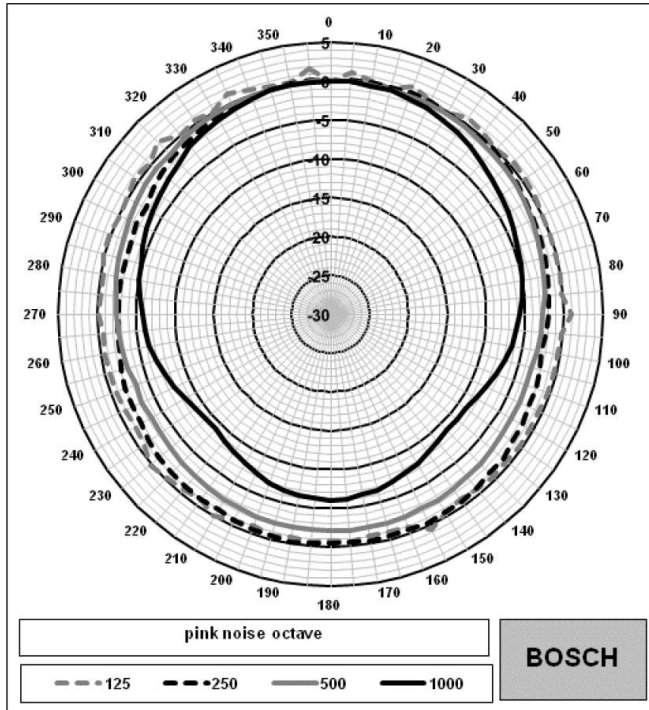
Figure 2.3: Frequency response LH3-UC25XS



Horizontal polar diagram (low frequency part)



Horizontal polar diagram (high frequency part)



Vertical polar diagram (low frequency part)

Vertical polar diagram (high frequency part)

LH3-UC25XS

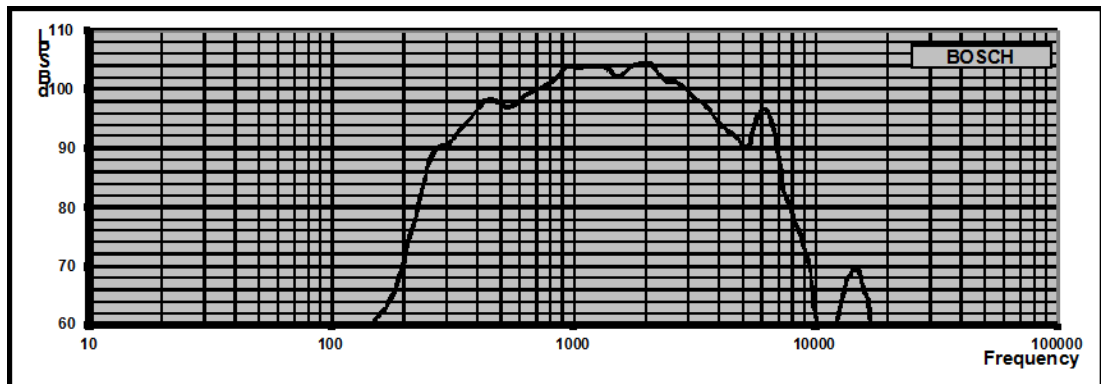
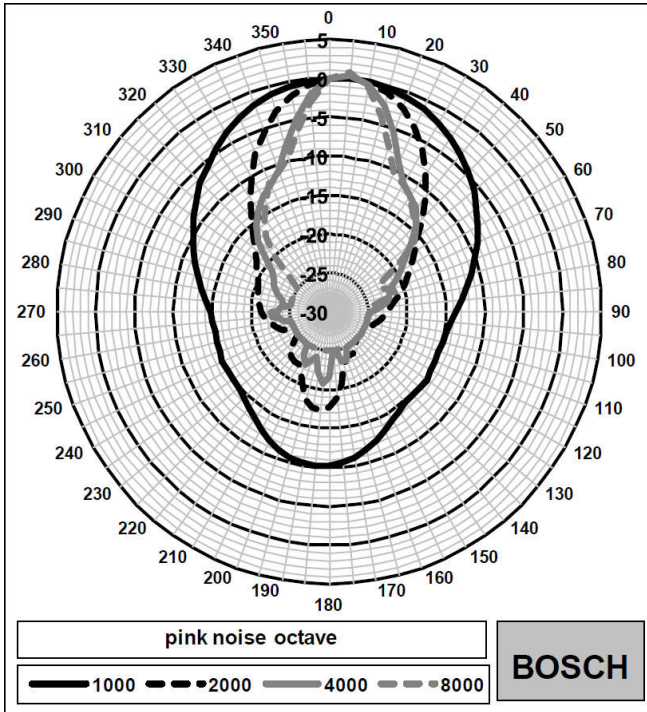
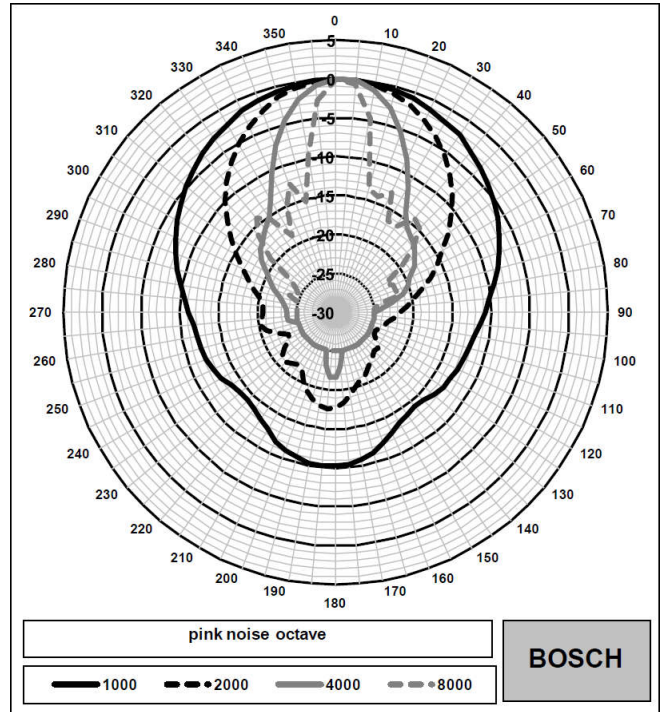


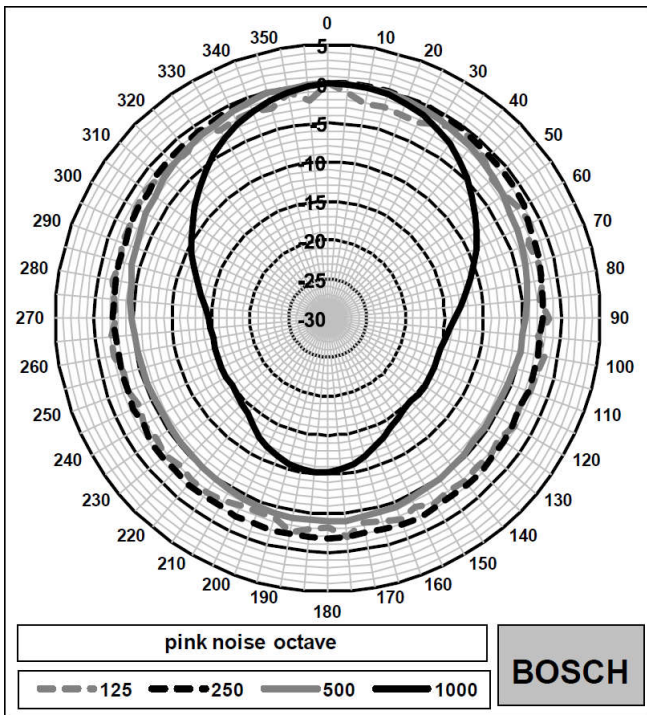
Figure 2.4: Frequency response LH3-UC25XL



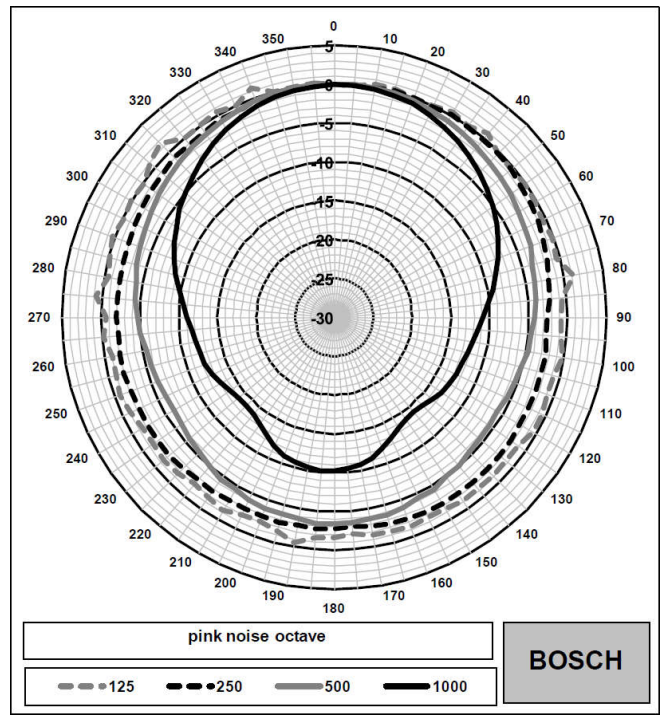
Horizontal polar diagram (low frequency part)



Horizontal polar diagram (high frequency part)



Vertical polar diagram (low frequency part)



Vertical polar diagram (high frequency part)

LH3-UC25XL

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