BOSCH

LHN-UC15L-SIP Horn loudspeaker 15W, long throw, SIP

- ▶ 2-way audio communication using SIP systems and/or ONVIF based VMS
- ▶ Excellent speech reproduction
- ▶ Integrated class D amplifier, DSP and microphone
- ▶ Remotely configurable via Web-GUI

The LHN-UC15L-SIP is a long throw IP horn loudspeaker designed for excellent speech reproduction.
It is ideal for outdoor and severe indoor applications. The housing is rugged, and it is water and dust protected. The IP horn is standard supplied with a stainless steel mounting bracket.
The LHN-UC15L-SIP features a build-in class D amplifier and Digital Signal Processing (DSP) to optimize the speech intelligibility in the environment where it is necessary.
It features an integrated microphone used for two-way audio communication, ambient noise level trigger and automatic volume control. The microphone can be switched off via a hardware button.

Functions

- Power over Ethernet (PoE), allowing easy and cost effective single cable operation.
- ONVIF streaming and backchannel supported for 2-way audio integration with VMS.
- Native 2-way VoIP SIP communication.
- Direct Bosch camera integration via Alarm Task Script Language (ATSL).
- Internal storage for pre-recorded messages.
- Third party integration by easy to use HTTPS REST API.
- GPIO for generic third party integration.
- Audio line-in for supporting live speech from other devices e.g., audio line-out of a camera.
- Device discoverable via ONVIF.
- Remote health/self-test.
- Digital Signal Processing (DSP) on board.

- Ambient Noise Control (ANC) for automatic volume adaption.

Architects' and engineers' specifications

- The IP horn speaker shall be used to deter unwanted events by means of live speech, 2-way audio communication or by triggering a stored message based on an event.
- For integration with VoIP systems it shall support SIP with the following audio codes: G.711 (u-law and a-law), G.722 and Opus.
- For SIP integration it shall support on premise IP-PBX servers as well as cloud based IP-PBX servers for 2-way audio communication.
- For VMS integration it shall support ONVIF audio backchannel and ONVIF audio streaming allowing 2-way audio communication.
- For ONVIF integration it shall support up to 32 ONVIF outputs for direct triggering and playback of stored messages.
- The ONVIF audio streaming (talk back) shall support the following audio codecs: G.711 and AAC.
- The ONVIF audio backchannel (talk down) shall support the following audio codecs: G.711 and AAC.
- The IP horn loudspeaker shall support PoE IEEE 802.3af Class 3 and PoE+ IEEE 802.3at Class 4.
- The built-in amplifier shall be a class D delivering up to 15 watt.
- The effective frequency range (-10 dB) shall be between 380 Hz — 11 kHz.

- A maximum Sound Pressure Level (SPL) measured at one meter of 119 dB across the 500 Hz — 8 kHz frequency range when powered by POE.
- A maximum Sound Pressure Level (SPL) measured at one meter of 122 dB across the 500 Hz — 8 kHz frequency range when powered by PoE+.
- The IP horn speaker shall have a line-level audio input and output.
- The IP horn speaker shall have one GPI and one GPO for generic interfacing to other devices.
- The IP horn speaker shall have an integrated Electret Condenser microphone.
- The working condition of the SIP speaker can be tested remotely via audio closed loop being speaker out and microphone in.
- It shall offer a Web-GUI for configuration, uploading messages and customization of the speaker settings.
- It shall have built-in Digital Signal Processor (DSP) for adjusting volume level, equalization.
- User shall be able to create their own recorded message and store them in the speaker. It shall support the following formats: WAV, MP3, Ogg Vorbis and Opus. The storage capacity for recorded messages should be 300 MB.
- Pre-recorded message can be virtually triggered based on alarm condition, ambient noise above threshold level, via contact input or internal schedule.
- The speaker shall be able to automatically adjust the output volume level based on the ambient noise level to ensure highest speech intelligibility.
- The IP horn loudspeaker shall be made from Acrylonitrile Styrene Acrylate (ASA) material with a stainless steel (grade 316) bracket.
- The operating temperature of the IP horn speaker shall be between -40 °C to +55 °C (-40 °F to +131 °F).

Regulatory information

All Bosch powered loudspeakers are designed to withstand operation at their rated power for 100 continuous hours in accordance with IEC 60268-21 Power Handling Capacity (PHC) standards.

Parts included

Quantity	Component
1	Horn loudspeaker with one mounted gland and bracket
1	M20 gland (for optional cabling)
1	Quick installation guide
1	Safety information

Technical specifications

Electrical

Power transfer

Power over Ethernet	PoE IEEE 802.3af Class 3 PoE+ IEEE 802.3at Class 4	
Power consumption	PoE	<5 W in Idle <7 W at 1/8th of rated power <13 W at rated power
	PoE+	<6 W in Idle <9 W at 1/8th of rated power <26 W at rated power

Speaker*

Rated power	7 W with PoE 15 W with PoE+
Maximum sound pressure level (500 Hz — 8 kHz, 1 m)	119 dB with PoE 122 dB with PoE+
Effective frequency range (-10 dB)	380 Hz — 11 kHz
Coverage angle HxV (-6 dB, 1 kHz)	100°x130°
Coverage angle HxV (-6 dB, 4 kHz)	30°x30°

*Technical performance data acc. to IEC 60268-21

Amplifier

Type	15 W class D amplifier

Microphone

Type	Integrated omnidirectional Electret Condenser Microphone (can be disabled via hardware switch)

Network

Ethernet	100BASE-TX, 1000BASE-T
Protocols	IPv4, SIP, NTP, TCP, UDP, HTTP, HTTPS, IPv4 link local, UPnP
SIP audio codecs	G.711 (u-law and a-law), G.722, Opus
Ports	1x RJ45

Analog audio input/output

Type	1 line-level input, 1 line-level output; unbalanced
Connector	3-pin screw terminals

Analog audio input/output

Wire gauge	AWG 28 — AWG 14
Maximum level line input	1 V
Maximum level line output	1 V
Input impedance	>10 kΩ
Output impedance	<100 Ω

Digital signal processing (DSP)

Sample rate	48 kHz
Signal latency (typically)	<45 ms
Processing	User PEQ (3 bands), Speaker PEQ (6 bands), Compressor, Noisegate, RMS-limiter, Peak limiter, Level, Mute, Delay

Reliability

MTBF (active part calculated according to Telcordia SR-332 Issue 3, passive part based on field data)	1.000.000 h

Stored messages

Uploadable	Via web-GUI
Capacity	300 MB
Supported file formats	WAV, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz MP3, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz Ogg Vorbis, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz Opus, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz

GPIO

Type	Terminal block with screw terminals
Connector	3-pin screw terminals
Wire gauge	AWG 28 — AWG 14
Ports and operating modes	1x supervised/non-supervised GPI, 1x GPO
Digital inputs	Non-supervised
	Normal: On: =<0.75 V Off: >0.75 V
	Inverted: On: =>2 V Off: <2 V
	Supervised
	Normal: Shorted: =<0.75 V Open: >2 V On: 0.75 V — 1.25 V Off: 1.25 V — 2 V Inverted: Shorted: =<0.75 V Open: >2 V On: 1.25 V — 2 V Off: 0.75 V — 1.25 V
Digital outputs	On: Output switched to GND, max. 48 V/500 mA Off: Open collector (>10 MΩ to GND)

Mechanical

Horn

Material	Acrylonitrile Styrene Acrylate (ASA)
Dimension (HxWxD) (mm)	200 mm x 274 mm x 348 mm
Dimension (HxWXD) (in)	7.87 in x 10.79 in x 13.70 in
Weight (kg)	2 kg
Weight (lb)	4.41 lb
Ingress Protection (IP)	IP66
Color in RAL	RAL 7035 Light gray
Cable gland (standard supplied)	M20 Polyamide (Nylon)
Cable diameter (mm)	5 mm — 12 mm
Cable diameter (in)	0.20 in — 0.47 in

Bracket

Material	Stainless steel (grade 316)

Environmental

Climatic conditions

Operating temperature (°C)	-40 °C — 55 °C
Operating temperature (°F)	-40 °F — 131 °F

Climatic conditions

Storage temperature (℃)	-40 ℃ — 70 ℃
Storage temperature (℉)	-40 ℉ — 158 ℉
Operating relative humidity, non-condensing (%)	5% — 95%

Ordering information

LHN-UC15L-SIP Horn loudspeaker 15W, long throw, SIP
IP Horn loudspeaker 15 W, long throw, Integrated class D amplifier, DSP and microphone.
Order number **LHN-UC15L-SIP | F.01U.389.835**

Services

EWE-LSPHRN-IW 12 mths wrty ext horn losuspeaker
12 months warranty extension
Order number **EWE-LSPHRN-IW | F.01U.417.535**