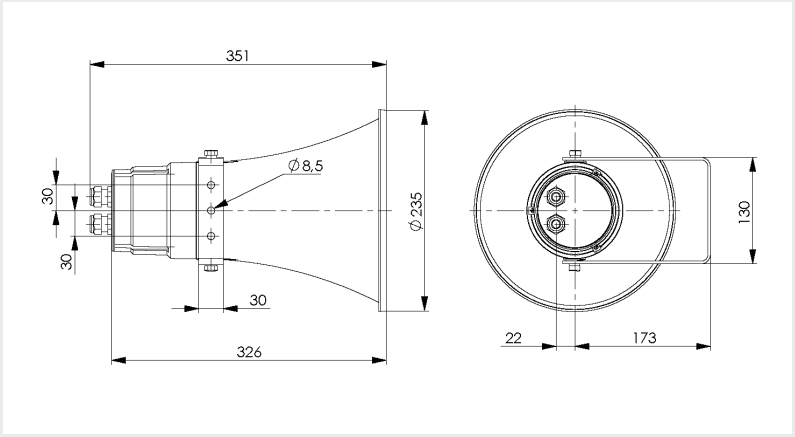
INSTRUCTION MANUAL

HORN SPEAKER



AC-930EN

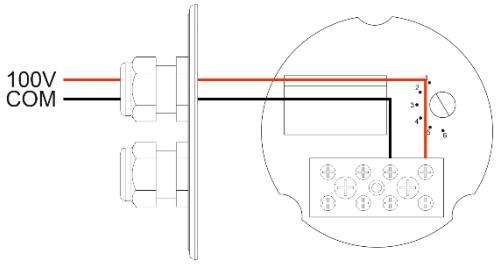
WARNING:

- Installation by qualified personnel only.
- Speakers must be wired in parallel and connected to the correct line terminals of amplifier.
- Ensure that all speakers have the same polarity with respect to each other.
- Do not select another tapings if the speaker is in use.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.

SPECIFICATIONS

Model	AC-930EN
Rated Power (RMS)	30 W
Power Taps 100 V	30 W, 20 W, 10 W & 5 W
Impedance	333 Ω, 500 Ω, 1k Ω, 2k Ω & 20 Ω
Sensitivity (SPL at 1 W / 1 m)	97.9 dB, IEC268-5 / 110.1 dB, peak
Sound Pressure (SPL at 30 W / 1 m)	112.7 dB, IEC268-5 / 124.9 dB, peak
Sensitivity EN54-24	85 dB SPL at 1 W / 4 m
Freq. Response	250 ~ 15000 Hz
Dispersion 1kHz / 4kHz	110º / 35º (-6 dB)
Operating temperature	-20ºC ~ +70ºC
Protection range (IP / IK)	IP66 / IK07
Dimension (mm) and Weight	Ø 235 x 351 (length), 2,27 kg
Finish	ABS, color light gray (RAL7035)
Mounting	U type stainless steel mounting bracket
Power selection	Rotary switch
EN54 standard	CE EN 54-24:2008 Ref. No.: DOP_AC930EN ID-Code: A174EN 1438/CPR/0461 Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings Horn speaker, 30W, Type B CE-Symbol according 93/68EWG
Other standards	VA special. In compliance with BS-5839, part 8.

INSTALLATION GUIDE



Impedance	100 V	70 V
333 Ω	30 W	15 W
500 Ω	20 W	10 W
1k Ω	10 W	5 W
2k Ω	5 W	2.5 W
20 Ω	–	–
–	Common	Common

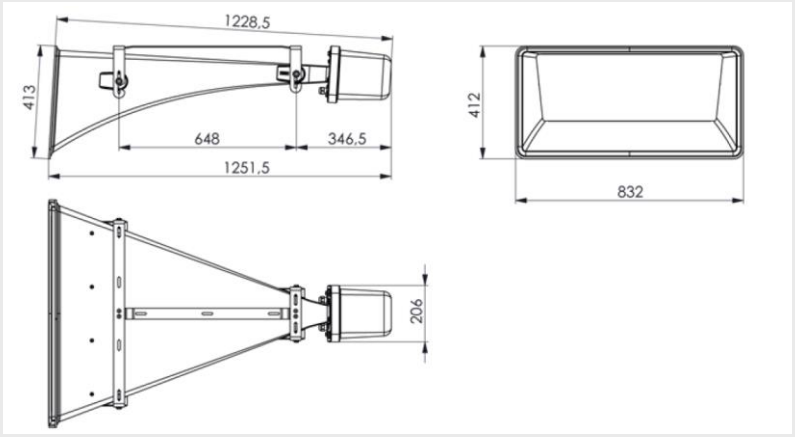
- Insert the 100V cables from the amplifier output through the cable gland of the connection cover and connect them to the 100V and COM terminals. Select the desired power using the rotary switch. Close the connection cover.
- To operate the product according to the EN54-24 standard, an equalizer has to be inserted into the signal path, which has a frequency response as specified in the next table. Since horn type speakers should not be driven with full power below their low end response, adding a high-pass filter 200Hz/-3dB with a 6 dB/octave slope is recommended (Shelving filter).

Frequency [Hz]	Relative Level to 1kHz [dB]	Tolerance [dB]
100	-13.6	+2/-10
125	-10	+2/-10
160	-5.7	+2/-10
200	-0.6	+2/-10
250	+5.5	+2/-10
315	+9.6	+2/-10
400	+11.3	+2/-10
500	+9.8	+2/-4
630	+5.2	+2/-2
800	+0.4	+2/-2
1k	0	+2/-2
1.25k	-1.0	+2/-2
1.6k	-2.7	+2/-2
2k	-1.9	+2/-2
2.5k	+0.4	+4/-2
3.15k	+2.8	+4/-2
4k	+6.1	+4/-2
5k	+9.2	+4/-2
6.3k	+11.2	+4/-2
8k	+13.3	+4/-2
10k	+13.2	+4/-6

OPTIMUS SOUND INNOVATION

INSTRUCTION MANUAL

TUNEL SPEAKER



AET-100

WARNING:

- Installation by qualified personnel only.
- Speakers must be wired in parallel and connected to the correct line terminals of amplifier.
- Ensure that all speakers have the same polarity with respect to each other.
- Do not select another tapings if the speaker is in use.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.

SPECIFICATIONS

Model	**AET-100**
Rated Power (RMS) 100 V	100 W, 50 W & 25 W
Impedance	100 Ω, 200 Ω & 400 Ω
Sensitivity	113 dB SPL at 1 W / 1 m IEC268-5
Sound Pressure	133 dB SPL at 100 W / 1 m IEC268-5
Sensitivity EN54-24	101 dB SPL at 1 W / 4 m
Freq. Range	280 ~ 9.000 Hz
Freq. Response	250 ~ 10.000 Hz
Dispersion 1kHz / 4kHz	h=35º v=25º / h=54º v=15º (-6 dB)
Operating temperature	-25ºC ~ +70ºC
Protection range	IP65
Dimension (mm) and weight	1228 x 832 x 413 mm, 16 kg
Finish	Plastic (UL 94 V-0), black color
Mounting	Stainless steel brackets (not included)
Power selection	Terminals (4-pin)
EN54 standard	CE EN 54-24:2008 Ref. No.: DOP_AET-100 ID-Code: A133T54 1438-CPR-0965
	Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings
	Horn speaker, 100W, Type B
	CE-Symbol according 93/68EWG
Other	Thermal fuse and ceramic terminals
Accessories (not included)	AET-100PH (Premium bracket, single piece) AET-100WH (Standard bracket, 4 pieces)

INSTALLATION GUIDE

- Mount the brackets to the ceiling with suitable fixing material (not included).
- Secure the speaker to the brackets with M8 x 20 screws and M8 washers. Please use a torque of 16 Nm for tightening the screws of the brackets.
- Feed the speaker cable through the PG gland and connect the cable to the ceramic terminal block according to your required power.
- Place the cover on the horn driver and screw it with the screws M8 x 25 and the steel and rubber washers M8.
- Tightening the screws of the rear cover of the horn driver is done in 2 passes: Tighten all 8 screws with a torque of 2.0 Nm. Then retighten to 2.0 Nm again, to check that they all have the same torque.

Recommended setting of EQ / DSP when using a STIPA test signal at maximum load: High pass (HP) 300 Hz to 400 Hz with 12 dB slew rate (Butterworth).