

# ATEX Audible Visual Sounder LED

Model WAVS-L



## FEATURES:

- Glass dome with optically enhanced Fresnel Polycarbonate lens
- Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- The sounder & beacon may be connected from a single supply for simultaneous operation or from separate supplies for independent operation.

The flameproof Model WAVS-L combination alarm sounders and high output LED beacons are suitable for Zone 1 & Zone 2 applications.

The WAVS-L features sound level outputs of up to 117dB(A) at 1 meter with a choice of 32 alarm tones and 3 remotely selectable stages.

The beacon contains an array of 32 high output, multi function LEDs with a total of 9 modes of operation - 4 rotating effect modes, 4 flashing modes and a steady mode for use in indicator/ status applications. Based on the mode selected the user can also select two alternative LED modes remotely.

## APPROVALS:

- ATEX certificate: KEMA 01ATEX2223  
EN 60079-0 : 2006 EN 60079-1 : 2007  
EN 61241-0 : 2006 EN 61241-1 : 2004

IECEx certificate: IECEx KEM 10.0025  
IEC 60079-0 : 2004 (Ed4) IEC 60079-1 : 2007 (Ed6)  
IEC 61241-0 : 2004 (Ed1) IEC 61241-1 : 2004 (Ed1)

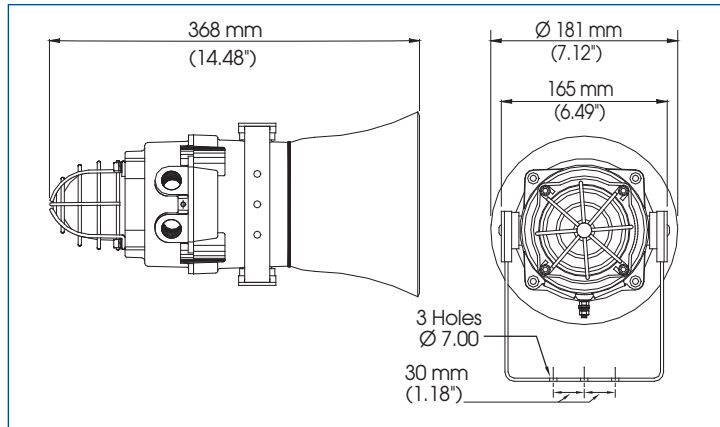
- GOST-R certificate: POCC GB.JB05.B02205
- Safety-integrity suitability: SIL1

- Certificate approvals pending.  
Visit [www.federal-signal-indust.com](http://www.federal-signal-indust.com)  
for the latest information.

Model	Voltage	Alarm Sounder		LED Beacon	
		Voltage Range	Current	Voltage Range	Current
<b>WAVS-L-024</b>	24VDC	+/-25%	265mA	10-50V	400mA
<b>WAVS-L-048</b>	48VDC	+/-25%	130mA	10-50V	210mA
<b>WAVS-L-115</b>	115VAC 50/60Hz	+/-10%	110mA	+/-10%	135mA
<b>WAVS-L-230</b>	230VAC 50/60Hz	+/-10%	56mA	+/-10%	65mA



## ATEX AUDIBLE VISUAL SOUNDER (WAVS-L)



### HOW TO ORDER

#### WAVS-L - 024 - A

TYPE	VOLTAGE	LENS COLOR
WAVS-L	024 - 24VDC	A - Amber
ATEX	048 - 48VDC	B - Blue
Visual	115 - 115VAC	G - Green
Sounder	230 - 230VAC	R - Red
LED		Y - Yellow

### SPECIFICATIONS

ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C  
 GOST-R: 1ExdIIBT4 Ta. -50° to +55°C

#### SOUNDER/HORN:

Maximum output: 117dB(A) @ 1 meter  
 Nominal output: 110dB(A) @ 1m +/- 3dB - Tone 2  
 No. of tones: 32 (UK00A / PFEER compliant)  
 No. of stages: 3  
 Volume control: Max. 110dB(A); Min. 72dB(A) - Tone 2  
 Voltages DC: 24VDC; 48VDC  
 Voltages AC: 115VAC; 230VAC  
 Stage switching: Negative or positive

#### LED BEACON:

Light source: Array of 32 high output LEDs  
 Lens colors: Amber, Blue, Green, Red & Yellow  
 Voltages DC: 10-50VDC  
 Voltages AC: 115VAC; 230VAC (50Hz/60Hz ±10%)

#### GENERAL:

Ingress protection: IP66/67  
 Housing material: Marine grade copper free LM6 Aluminium  
 Housing finish: Phosphated & powder coated  
 WAVS-L flare: High impact UL94 V0 & 5VA FR ABS (Red)  
 Cable entries: Dual M20 ISO (one stopping plug included)  
 Terminals: 0.5 to 4.0mm<sup>2</sup> cables  
 Line monitoring : Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions)  
 Product Weight : DC: 4.00 Kg  
 AC: 4.20 Kg  
 Shipping Weight : DC: 4.70 Kg  
 AC: 4.90 Kg

### TONES

Stage 1	Frequency Description	dB @ 1m*	Stage 2	Stage 3
Tone 1	1000 Hz Continuous - PFEER Toxic Gas	110.0dB(A) @ 1m	Tone 31	Tone 11
Tone 2	800/1000Hz @ 0.25 sec Alternating	110.0dB(A) @ 1m	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	110.5dB(A) @ 1m	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	110.0dB(A) @ 1m	Tone 6	Tone 5
Tone 5	2400Hz Continuous	109.0dB(A) @ 1m	Tone 3	Tone 27
Tone 6	2400/2900Hz @ 7Hz Sweeping	109.0dB(A) @ 1m	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	110.0dB(A) @ 1m	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	110.5dB(A) @ 1m	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	110.5dB(A) @ 1m	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	109.0dB(A) @ 1m	Tone 7	Tone 5
Tone 11	1000Hz @ 0.5Hz Intermittent	110.0dB(A) @ 1m	Tone 31	Tone 1
Tone 12	800/1000Hz @ 0.875Hz Alternating	110.0dB(A) @ 1m	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	109.0dB(A) @ 1m	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	103.0dB(A) @ 1m	Tone 4	Tone 5
Tone 15	800Hz Continuous	103.0dB(A) @ 1m	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	104.0dB(A) @ 1m	Tone 18	Tone 5
Tone 17	544Hz (100mS)/ 440Hz (400mS) - NF S 32-001	107.0dB(A) @ 1m	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	105.0dB(A) @ 1m	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	117.0dB(A) @ 1m	Tone 2	Tone 5
Tone 20	660Hz Continuous	104.0dB(A) @ 1m	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	107.0dB(A) @ 1m	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	107.0dB(A) @ 1m	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	103.0dB(A) @ 1m	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	107.0dB(A) @ 1m	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	109.0dB(A) @ 1m	Tone 29	Tone 5
Tone 26	Bell	117.0dB(A) @ 1m	Tone 2	Tone 1
Tone 27	554Hz Continuous	107.0dB(A) @ 1m	Tone 26	Tone 5
Tone 28	440Hz Continuous	104.0dB(A) @ 1m	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping AS2220: 420Hz repeating 0.625 sec on, 0.625 sec off.	106.0dB(A) @ 1m	Tone 7	Tone 5
Tone 30	0.625 sec off.	104.0dB(A) @ 1m	Tone 32	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	110.5dB(A) @ 1m	Tone 11	Tone 1
Tone 32	AS2220: 500-1200Hz 3.75s on 0.25s off (15 cycles/min)	110.5dB(A) @ 1m	Tone 26	Tone 1