Edwards Signaling

Outdoor Rated Speakers and Strobes

Genesis WG4 Series

Patents pending

Overview

Genesis WG4 Series speakers and speaker-strobe appliances are among the most versatile emergency appliances of their kind. Rated for indoor or outdoor use, they are suitable for a wide range of wet and harsh environments with a listed operating temperature range of as low as -31°F to as high as 151°F (-35°C to 66°C).

Field-configurable light and sound output settings add to their on-site flexibility, while optional FIRE markings make them ideal for fire alarm applications.

These appliances are suitable for indoor and outdoor applications, and are ideal for challenging conditions such as parking garages and process areas. They are listed for mounting on the ceiling or the wall, and thanks to an ingenious full backplane sealing gasket, can be installed to recessed (in-the-pour/block) electrical boxes. WG4 signals also mount to suitable surface boxes served by race-ways. Optional color-matched trim skirts provide a clean, finished appearance. All appliance wiring is accomplished room-side for easy installation.

WG4 Series appliances feature highly intelligible and efficient mylar-cone loudspeakers. These are dual-voltage (25.2V or 70.7V), and have field-selectable output taps ranging from 80.8 dBA to 90.0 dBA. The multi-candela strobes are available with clear lenses and in two output categories – standard and high-output. They are precision-timed to meet UL 1971 synchronization standards, and field-configurable for one of four candela intensities. Wattage and candela settings are viewable even after installation through an innovative sealed viewport display.
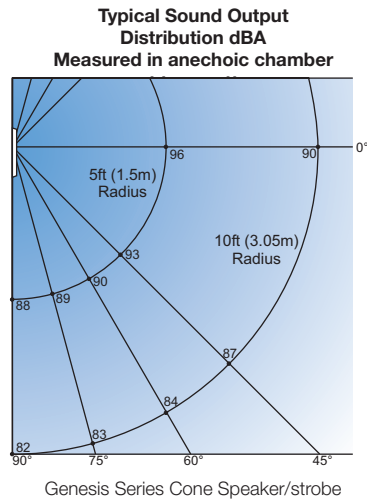
Standard Features

- Outdoor and indoor rated
- Low-profile design
- Wall or ceiling mount
- Room-side wiring accepts 18 to 12 AWG (0.75 to 2.5 mm²)
- Wide operating temperature range
- Field-selectable speaker wattage, voltage, and strobe candela settings
- Field-configurable temporal strobe output option
- Fully-compatible with Genesis synchronization protocols
- Standard and high-output strobe intensities
- Speaker only and Speaker/Strobe appliance options

DATA SHEET **S85001-0626**
Issue 1

Application

Speaker Application

The suggested sound pressure level for each signaling zone used with alert or alarm signals is a minimum of 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater. This is measured 5 feet (1.5 m) above the floor.

Doubling the distance from the signal to the ear will theoretically cause a 6dB reduction in the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. Doubling the power output of a device (e.g.: a speaker from 1W to 2W) will increase the sound pressure level by 3dBA.

Typical Sound Output Distribution dBA Measured in anechoic chamber

Genesis Series Cone Speaker/strobe

Strobe Application

Genesis clear-lensed strobes are UL 1971-listed for use indoors as wall- or ceiling-mounted public-mode notification appliances for the hearing impaired, and UL 1638-listed for outdoor applications. Prevailing codes require strobes to be used where ambient noise conditions exceed specified levels, where occupants use hearing protection, and in areas of public accommodation.

Visible appliance synchronization is required to avoid causing issues with people who have Photosensitive Epilepsy (PSE). Notification appliance synchronization is also generally required when more than one strobe appliance are in the same field of view from any one location. All Genesis strobes meet UL synchronization requirements (within 10 milliseconds over a two-hour period) when used with a synchronization source.

> **WARNING:** These devices will not operate without electrical power. As fires frequently cause power interruptions, we suggest you discuss further safeguards with your local fire protection specialist.
>
> Edwards recommends that these devices always be installed in accordance with the latest recognized edition of national and local codes. Refer to the appropriate codes and standards for mounting height information.

Installation and Mounting
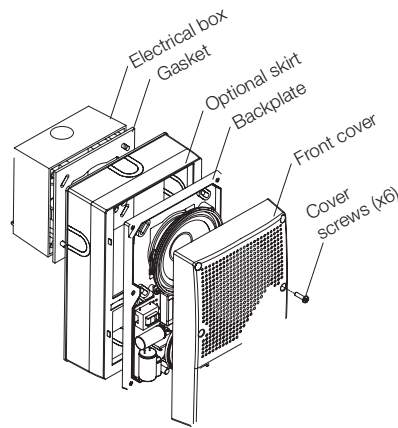
WG4 signals are rated for outdoor use and are suitable for indoor or outdoor applications on walls or ceilings. For surface-mounting in outdoor or wet applications, appliances must be mounted to an Edwards 449 electrical box. In dry conditions, they are compatible with standard 4-inch by 1½-inch deep electrical boxes. When using the optional WG4WTS or WG4RTS trim skirt, a 449 or 2-1/8" deep box must be used.

The Genesis WG4 Speaker-Strobe may be wall- or ceiling-mounted, and may be placed in one of four positions: strobe above, strobe below, and strobe to either side. The shallow depth of Genesis devices leaves room behind the appliance for extra wiring.

Field Configuration

Genesis WG4 speakers may be set to 70- or 25-Volt operation, and for ¼, ½, 1, or 2 watt operation. The wattage setting (represented by the letters Z,Y, X, and T) is changed by removing the cover and simply sliding the *S1* switch until the desired setting appears. The setting remains visible through a small window on the front of the device after the cover is installed. The voltage setting (70V or 25V) is toggled at *S3*. This setting is not visible after the cover is replaced.

Genesis WG4 speaker-strobes also feature selectable candela output. The actual light output for a given selection depends on whether it is a high output model or a standard output model. Refer to the specification tables for corresponding settings. The candela setting (represented by the letters D, C, B, and A) is changed by removing the cover and simply sliding the *S2* switch until the desired setting appears. The setting remains visible through a small window on the front of the device after the cover is installed.
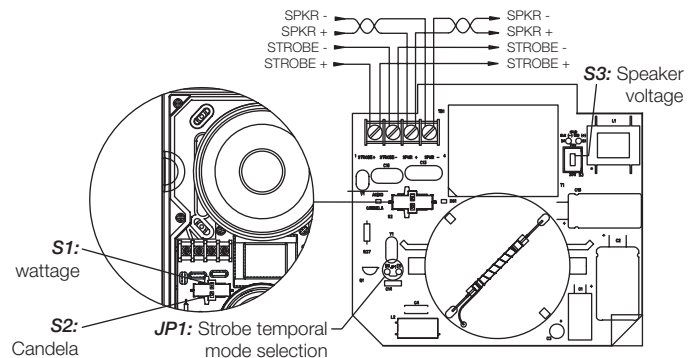
Genesis speaker-strobes may also be configured for temporal flash. This power-saving feature is intended for private mode signaling only. To set the device for temporal flash, snip the jumper at *JP1*.

Specifications

Operating voltage	
Speaker	25 VRMS or 70 VRMS, switch selectable
Default	70 VRMS
Strobe	24 VDC, 24 VFWR nominal

Supervisory voltage	30 V max.
Speaker response	400 to 4,000 Hz
Wire size	12 to 18 AWG (0.75 to 2.50 mm²)
Compatible strobe synchronization sources	E-NAC, EG1M-RM, EBPS6A, EBPS10A, E-FSC 3, 5, and 10 zone, E-FSA64, E-FSA250
Compatible electrical boxes	*Wet:* Model 449 (WG4 trim skirt recommended) *Dry:* 4" square by 1-1/2" deep box when used without a trim skirt. When trim skirt is used, box must be 4" square by 2-1/8" deep.

Operating environment	Wet
Temperature	-31 to 151 °F (-35 to 66 °C)
Relative humidity	0 to 95% noncondensing

Sound level output (dBA)

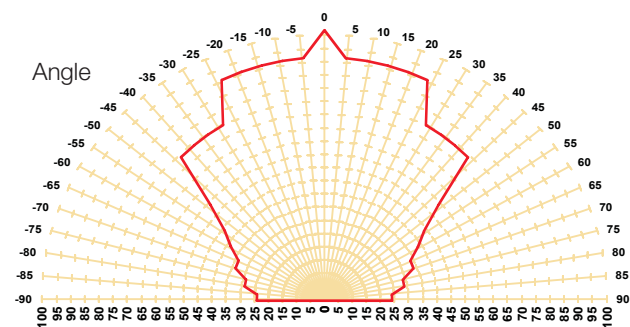| Wattage	Switch Position	25 V	70 V
2 W	T	90.0	89.7
1 W	X	87.1	86.9
½ W	Y	84.0	83.9
¼ W	Z	80.8	80.8

dBA = Decibels, A-weighted.
UL 1480: Sound level output at 10 ft. (3.05 m) measured in a reverberant room using 400 to 4,000 Hz band-limited pink noise.

Wiring

Field wiring is connected to Genesis signals with terminals that accommodate #18 to #12 AWG (0.75 mm² to 2.5 mm²) wiring.

Speaker-only Wiring

Speaker-Strobe Wiring

Light output

Angle
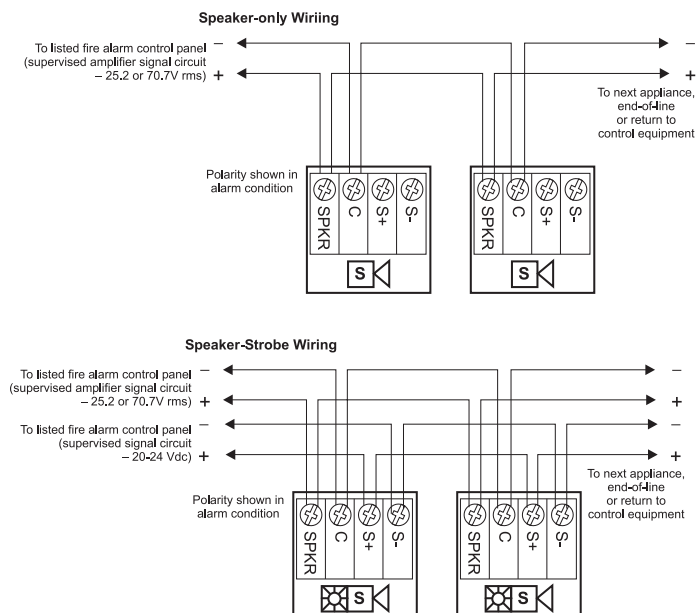
UL off-axis candela requirements as a percent of the UL rated output

Indoor rating per UL 1971 (candela)		Strobe Switch Position			
		A	B	C	D
Standard Output Models (-SVM)	Candela	87	70	29	15
	Current VDC	319	167	144	106
	Current FWR	386	347	178	120
High Output Models (-SVMH)	Candela	161	147	123	102
	Current VDC	495	494	390	324
	Current FWR	646	607	487	412

Outdoor rating per UL 1638 (candela)		Strobe Switch Position			
		A	B	C	D
Standard Output Models (-SVM)	Candela	35	28	12	6
	Current VDC	319	167	144	106
	Current FWR	386	347	178	120
High Output Models (-SVMH)	Candela	65	60	50	41
	Current VDC	495	494	390	324
	Current FWR	646	607	487	412

Ordering Information

WG4RF-S | WG4RF-SVMC / WG4RF-SVMHC | WG4WF-S | WG4WF-SVMC / WG4WF-SVMHC | WG4RN-S | WG4RN-SVMC / WG4RN-SVMHC | WG4WN-S | WG4WN-SVMC / WG4WN-SVMHC

All speakers include field-selectable ¼, ½, 1, or 2 watt taps and selectable 25V or 70V operation.

Model	Housing	Marking	Lens	Strobe Output*	Ship Wt.
Life safety Appliances					
WG4RF-SVMC	Red	FIRE	Clear	Selectable standard output 15/29/70/87 cd	1.5 lbs. (0.68 kg)
WG4WF-SVMC	White	FIRE			
WG4RN-SVMC	Red	None			
WG4WN-SVMC	White	None			
WG4RF-SVMHC	Red	FIRE		Selectable high output 102/123/147/161 cd	
WG4WF-SVMHC	White	FIRE			
WG4RN-SVMHC	Red	None			
WG4WN-SVMHC	White	None			
WG4RF-S	Red	FIRE		Speaker Only	
WG4WF-S	White	FIRE			
WG4RN-S	Red	None			
WG4WN-S	White	None			

Accessories

WG4WTS	Surface Skirt for Genesis WG4 appliance family, white.
WG4RTS	Surface Skirt for Genesis WG4 appliance family, red.
WG4GSKT	Replacement Mounting Gasket
449	Surface mount box, outdoor rated