

Genesis® Speakers and Strobes

XLSG4 SERIES

Excel Life Safety
S Y S T E M

SPECIFICATION DATA



FEATURES

- Unique low-profile design.
- Field configurable sound and light output—no need to remove device.
- Temporal strobe output option.
- Indefinite synchronization to within 10 milliseconds.
- FullLight™ smooth light distribution pattern.
- Sealed, mylar cone design.
- Easy to install—fits all standard 4 in. square electrical boxes.
- UL 1638 and UL 1971 listed for public and private mode applications.

APPLICATION

The Genesis® line of audible-visible emergency signaling devices are compact and extremely versatile. Protruding no more than one inch from the wall, Genesis speakers and speaker/strobes blend with any decor.

Signals feature textured housings in architecturally neutral white or traditional fire alarm red. An iconographic symbol indicates the purpose of the device. This universal symbol is code-compliant and is easily recognized by all building occupants, regardless of what language they speak.

Genesis devices are fully compatible with Honeywell Enhanced Integrity signals. The two product lines may be mixed on the same circuit.

Strobes

Genesis strobes do not require bulky specular reflectors. Instead, an exclusive mask-and-cavity design channels and conditions light to produce a highly controllable distribution pattern. Intensive development efforts employing this new technology have given rise to a new benchmark in strobe performance—FullLight™ technology.

FullLight strobe technology produces a smooth light distribution pattern without the spikes and voids characteristic of specular reflectors. This ensures that the entire coverage area receives consistent illumination from the strobe flash.

All Genesis strobes self-synchronize when installed with the Honeywell Genesis Signal Master or SIGA-CC1S module. Strobe flashes from devices on the same circuit synchronize to within 10 milliseconds (ms) of each other indefinitely. This exceeds the revised UL standards in effect as of November, 2000 which specify this level of synchronization over only two hours.

Speaker/strobes feature 15, 30, 75 or 110 candela (cd) output, selectable with a conveniently located switch on the bottom of the device. The candela setting remains clearly visible even after final installation.

Speakers



All Genesis speakers include a DC blocking capacitor to allow electrical supervision of the audio distribution circuit. Models for 25 Vrms and 70 Vrms circuits are available. The mylar speaker—with its sealed back construction—provides extra durability and improved audibility. One-fourth watt to two watt operation is selectable with a conveniently located switch on the bottom of the device. The wattage tap setting remains clearly visible even after final installation.



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 ft (1.5m) above the floor. The average ambient sound level is the RMS—A-weighted sound pressure measured over a 24-hour period.

Doubling the distance from the signal to the ear theoretically causes a 6 dB 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 (for example, a speaker from 1W to 2W) increases the sound pressure level by 3 dBA. A 3 dBA difference represents a barely noticeable change in volume. See Fig. 1.

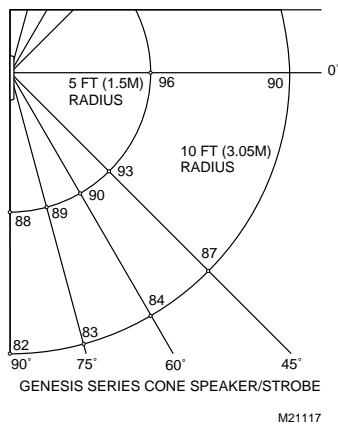


Fig. 1. Typical sound output distribution dBA (measured in anechoic chamber).

Strobe Application

Genesis strobes are UL 1971 listed for use indoors as wall-mounted public-mode notification appliances for the hearing impaired. Prevailing codes require strobes to be used where ambient noise conditions exceed 105 dBA (87 dBA in Canada), where occupants use hearing protection and in areas of public accommodation as defined in the *Americans with Disabilities Act*.

Genesis strobes are synchronized and UL-listed for use in both sleeping and non-sleeping areas. They are intended for indoor wall-mount applications only. Combination speaker/strobe signals must be installed in accordance with guidelines established for strobe devices.

The fire alarm audible signal is supplemented by fire alarm strobes in any floor area where the ambient noise level exceeds 87 dBA, or where the occupants of the floor area use ear protective devices, are located within an audiometric booth, or are located within sound insulating enclosures. This also applies to assembly occupancies in which music and other sounds associated with performances could exceed 100 dBA. Strobes should be installed in a building so that the flash from one device is visible throughout the floor area, or portion thereof, in which they are installed. For maximum safety, Honeywell recommends that strobes be installed as per the guidelines in the Strobe Spacing section.

Strobe Spacing

The following guidelines are based on ANSI/NFPA 72 National Fire Alarm Code (1999). When applied and installed in accordance with that code, Genesis strobes meet or exceed the illumination produced by the ADA specified 75 candela (cd) strobe at 50 ft. See Table 1.

NON-SLEEPING ROOMS AND CORRIDORS

Genesis strobes rated at less than 110 cd per UL 1971 are only intended for use in non-sleeping areas. Install with the bottom of the device at least 80 in. (2m), and no more than 96 in. (2.4m), above the finished floor. No point in any space (including corridors) required to have strobes should be more than 50 ft (15.2m) from the signal (in the horizontal plane).

In large rooms or spaces (such as auditoriums) that exceed 100 ft (30.4m) across and without obstructions more than 72 in. (1.8m) above the finished floor, strobes may be placed around the perimeter, spaced a maximum of 100 ft (30.4m) apart. This is an alternative to suspending strobes from the ceiling. See Table 1 to determine required strobe type(s) based on area size.

Table 1. Strobe Requirements Based on Area.

Area	Strobe (wall mounted)
Non-Sleeping Rooms	
Up to 20 ft x 20 ft (6.1m x 6.1m)	One 15 cd
Up to 30 ft x 30 ft (9.1m x 9.1m)	One 30 cd, or two 15 cd
Up to 40 ft x 40 ft (12.2m x 12.2m)	One 75 cd, or two 30 cd
Up to 50 ft x 50 ft (15.2m x 15.2m)	One 110 cd or two 75 cd
Corridors	
Any length. Maximum width, 20 ft (6.1m).	15 cd strobes spaced at 100 ft (30.5m) max. Strobes must be placed within 15 ft (4.5m) from an end wall.

NOTE: ADA suggests using 75 cd strobes throughout an area, with spacing that never exceeds 50 ft (15.2m) from the strobe to any point in the protected area.

SLEEPING ROOMS

Genesis 110 cd Strobes are intended for use in sleeping rooms and should be installed with a smoke detector. Strobes must be wall mounted at least 80 in. (2m) above floor level, but no closer than 24 in. (610 mm) to the ceiling. The distance from the strobe to the pillow must not exceed 16 ft (4.8m).

SPECIFICATIONS

Speakers and Speaker/Strobes

Models:

- XLSG4-S2, White, 25V Speaker.
- XLSG4-S2VM, White, 25V Speaker/strobe with selectable 15, 30, 75, or 110 cd output.
- XLSG4-S7, White, 70V Speaker.
- XLSG4-S7VM, White, 70V Speaker with selectable 15, 30, 75, or 110 cd output.

NOTES:

- All models available in Red by adding the letter *R* to the XLSG4 prefix; for example, XLSG4R-XX.
- To specify housings with *FIRE* markings, add the letter *F* to the XLSG4 prefix; for example, XLSG4F-XX (white), XLSG4RF-XX (red).

Temperature Ratings: 32°F to 120°F (0°C to 49°C).

Humidity Ratings: 0 to 93%, RH.

Wire connections: Screw terminals with separate polarized inputs for speaker and strobe, 18 AWG to 12 AWG (0.75 sq mm to 2.5 sq mm) wire size.

Mounting (indoor wall mount only):

Flush: North American 4 in. square box, 2-1/8 in. (54 mm) deep.

Surface: Model XLSG4B (white) or XLSG4RB (red) surface mount box.

Dimensions: 6-1/2 in. (165 mm) high x 5 in. (127 mm) wide x 1 in. (25 mm) deep.

Housing: Red or white textured UV stabilized, impregnated plastic. Exceeds 94V-0 UL flammability rating.

Approvals: UL 1971, UL 1638, UL1480, ULC S526, ULC S541, CSFM (FM and MEA pending). (All models comply with ADA Code of Federal Regulation Chapter 28 Part 36 Final Rule.)

Speakers

Electrical Ratings:

Input/Operating Volts: 25 Vrms or 70 Vrms (see Ordering Information section).

Speaker Taps/Output: 2W = 90 dBA; 1W = 87 dBA; 1/2W = 84 dBA; 1/4W = 81 dBA.

DC Blocking Capacitor: 1.0 µF for 25 volt models, 0.1 µF for 70 volt models.

NOTE: Measured in reverberation room using 400 to 4,000 Hz band limited pink noise per UL1480.

Speaker Cone:

Speaker Frequency Response: 250 to 5,000 Hz. Optimized for voice intelligibility. 4 in. (102 mm) mylar cone, sealed back construction, rated for 8W, 8 ohm voice coil.

Strobes

Electrical Ratings:

Strobe Operating Voltage: 20 to 31 Vdc (continuous), 20 to 27 Vdc Fwr (full wave rectified).

Strobe Operating Current: See Table 2.

Strobe Output Rating (see Fig. 2): UL 1971, UL1638, ULC S526: 15 cd, 30 cd, 60 cd, 75 cd or 110 cd.

Strobe Flash Rate: 1 flash per second (fps).

Strobe Flash Synchronization:

All strobes: 1 fps within 200 milliseconds (ms) over 30 minutes (min), on common circuit.

With optional synchronization module: 1 fps within 10 ms indefinitely (exceeds UL 1971). Temporal setting (private mode only); synchronized to temporal output on the same circuit.

Compatible Synchronization Modules: XLSG1M-RM, SIGA-CC1S, SIGA-MCC1S.

Flash Tube Enclosure: Clear polycarbonate.

Table 2. Genesis Strobe Operating Current—Mean (RMS).

Candela Rating	15 cd	30 cd	75 cd	110 cd
20 Vdc	65 (78)	93 (101)	182 (188)	238 (245)
24 Vdc	55 (65)	78 (86)	153 (159)	196 (203)
31 Vdc	45 (53)	63 (69)	120 (124)	151 (157)
20 Vfwr	56 (106)	79 (147)	147 (264)	197 (342)
24 Vfwr	50 (95)	68 (130)	121 (225)	155 (283)
27 Vfwr	44 (84)	60 (115)	107 (200)	137 (251)

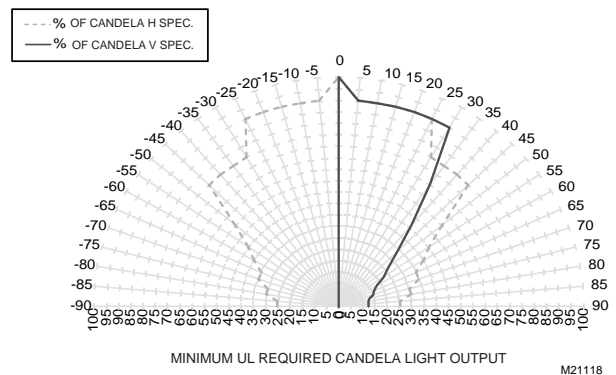


Fig. 2. Light output (percent of UL rating versus angle).

FIELD CONFIGURATION

Genesis speakers may be set for 1/4, 1/2, 1 or 2 W operation. The wattage setting is visible through a small window on the bottom of the device and is changed by sliding the switch until the desired setting appears in the window. The speaker does not have to be removed to change the wattage.

Genesis speaker/strobes may be set for 15, 30, 75, or 110 candela output. The output setting is visible through a small window on the bottom of the device and is changed by sliding the switch until the desired setting appears in the window. The speaker/strobe does not have to be removed to change the output.

Genesis speaker/strobes may also be configured for temporal flash. This battery-saving feature is only intended for private mode signaling. To set the device for temporal flash, cut jumper JP1 on the circuit board.

WIRING

⚠ WARNING

Fire Hazard.
These devices do not operate without electrical power.

As fires frequently cause power interruptions, we suggest you discuss further safeguards with your local fire protection specialist.

IMPORTANT

Research indicates that the strobe intensity needed to awaken 90% of sleeping persons is approximately 100 cd. Honeywell recommends that strobes in sleeping rooms be set to 110 cd minimum. Field wiring is connected to Genesis signals with terminals that accommodate 18 AWG to 12 AWG (0.75 sq mm to 2.5 sq mm) wiring.

NOTE: NOT TO BE USED FOR INSTALLATION PURPOSES.

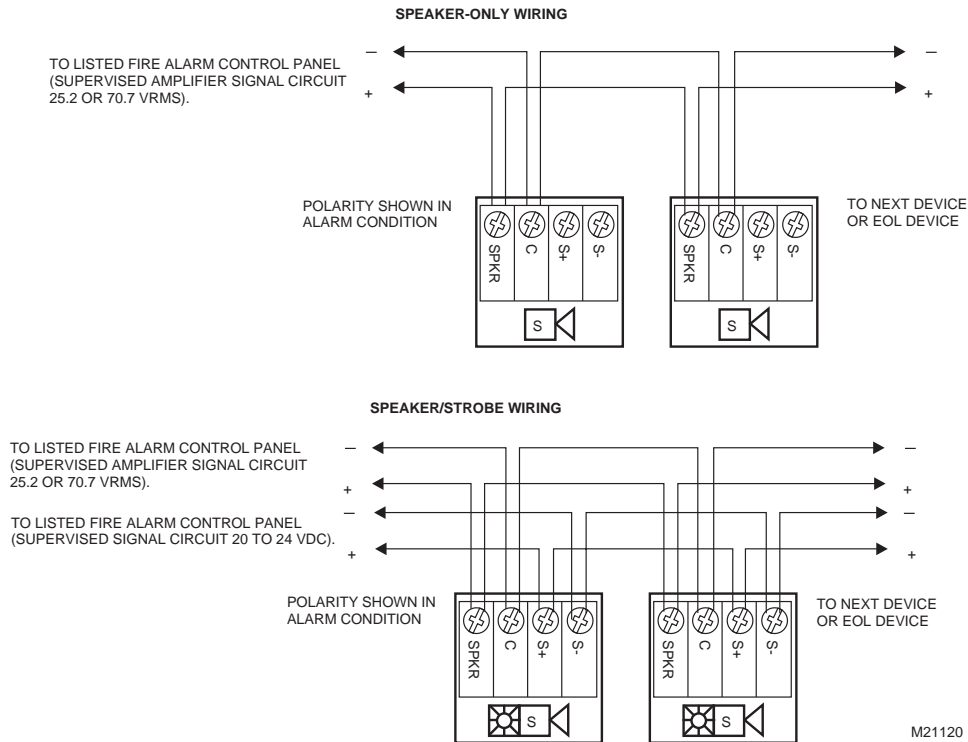


Fig. 3. Speaker-only, Speaker/Strobe wiring.

ORDERING INFORMATION

Catalog Number		Description	Shipping Wt. lb (kg)
White	Red		
Speakers and Speaker/Strobes			
XLSG4-S2	XLSG4R-S2	25 Volt Speaker.	1.5 (0.68)
XLSG4-S2VM	XLSG4R-S2VM	25 Volt Speaker/Strobe with selectable 15, 30, 75 or 110 cd output.	
XLSG4-S7	XLSG4R-S7	70 Volt Speaker.	
XLSG4-S7VM	XLSG4R-S7VM	70 Volt Speaker/Strobe with selectable 15, 30, 75, or 110 cd output.	
Accessories			
XLSG1M-RM		Synchronization Output Module (1-gang).	0.1 (0.5)
SIGA-CC1S		Intelligent Synchronization Output Module (2-gang).	0.5 (0.23)
SIGA-MCC1S		Synchronization Output Module (Plug-in UIO).	0.18 (0.08)
XLSG4B	XLSG4RB	Surface Mount Box.	0.7 (0.32)

Notes:

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