Technology that saves lives

Low Frequency Audible Signals

Genesis G4LF Series

S218

Overview

G4LF Series notification appliances provide the benefits of Genesis life safety signals with output suitable for applications requiring low frequency audible tones. These high-performance appliances generate a crisp 520 Hz tone in the standard 3-3 temporal pattern. An optional setting configures the appliance for continuous audible output — a critical feature for notification appliance circuits that are coded with a CDR-3 coder module. G4LF appliances also feature field-configurable high and low dB output settings.

When connected to compatible control equipment, G4LF Series audible output remains synchronized with all Genesis audible signals on the same Notification Appliance Circuit, including standard 3.2 kHz Genesis audible signals.

Available G4LF models include audible-only appliances, as well as combination audible-visible signals. Combination appliances feature Genesis FullLight™ strobe technology, which produces a smooth light distribution pattern without the spikes and voids that characterize bulky specular reflectors. This ensures the entire coverage area receives consistent illumination exceeding UL-1971 light distribution requirements. It also results in a slim, low profile device that blends with any decor. Candela output is field configurable.

When connected to a compatible synchronization source, Genesis appliances synchronize (strobes to UL 1971) to within 10 milliseconds indefinitely without the need for external modules or other equipment. See the Specifications section for a list of synchronization sources.

Standard Features

- **Unique low-profile design...**
  - Compact UL listed audible and audible-visible appliances
  - Ultra-slim: protrudes an inch from the mounting surface
  - Attractive appearance: no visible mounting screws
- **Choice of colors and markings...**
  - White or red housings
  - With or without FIRE markings
- **Easy to install...**
  - Room side wiring accepts #18 - #12 AWG (0.75 to 2.5 mm^2)
  - Fits standard 4-inch square electrical boxes or standard Gensis EG4B or EG4RB surface-mount boxes
- **Easy to configure without removing the device...**
  - High or low dB output
  - Temporal or continuous audible tone
  - Temporal or continuous visible output
  - 15, 30, 75, or 110 candela intensity
- **High performance output...**
  - Exclusive FullLight™ strobe output distribution pattern
  - Meets tough synchronization standards for strobes and audible signals

Application

Genesis G4LF Series appliances are UL 464-listed for low-frequency audible requirements. Models are also available in combination with a UL 1971-listed strobe light for indoor wall-mounted public-mode notification applications. Many codes and regulations now call for low-frequency audible appliances (520 Hz) in newly constructed sleeping rooms and also require strobe lights under some of these circumstances. Consult with your Authority Having Jurisdiction for details.

Combination audible-visible appliances are installed in accordance with guidelines established for visible (strobe) devices.

When used with a compatible synchronization source, all Genesis xenon-based strobes — audible units, and combination appliances — maintain fully synchronization indefinitely. This exceeds the UL synchronization requirements of 10 milliseconds over a two-hour period.

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.

Kidde 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.

Audible Signal Application

Genesis low-frequency audible output features a code-compliant 520 Hz signal. Audible signals may be configured for either coded or non-coded signal circuits. They can also be set for low dB output with a jumper cut that reduces audible output by about 5 dB. Audible-only models may be ceiling-mounted or wall-mounted.

For sleeping rooms, most codes and standards require 75 dBA-fast at the pillow.

For non-sleeping rooms, the suggested sound pressure level for each signaling zone used with alarm signals is at least 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 result in a 6 dB reduction of the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. A 3 dBA difference represents a barely noticeable change in volume.

Visible Signal Application

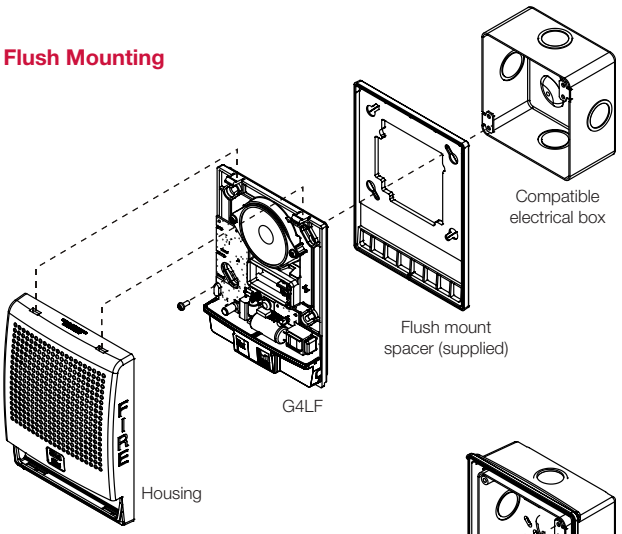
For sleeping rooms covered by NFPA, a strobe light is typically required within 16 feet of the pillow. If the strobe light is wall-mounted and at or farther than 24 inches (610 mm) from the ceiling, it should be 110 cd or greater. If the strobe light is ceiling-mounted or wall-mounted closer than 24 inches (610 mm) to the ceiling, it must be 177 cd or greater.

Installation

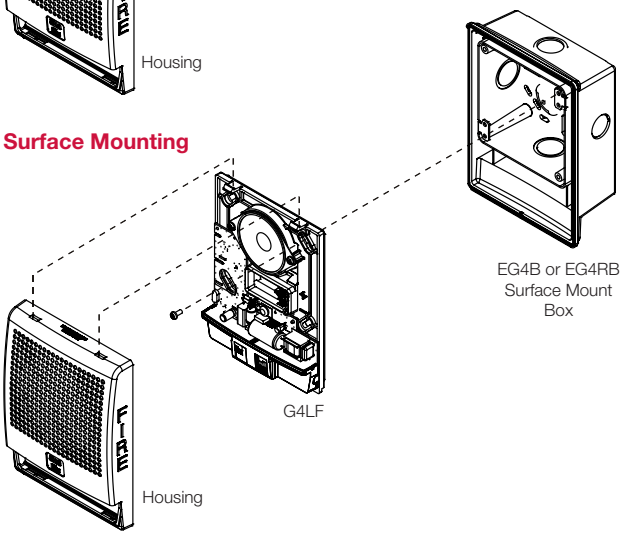
Genesis G4LF Series appliances mount to a standard 4 inch (102 mm) square electrical box using the provided mounting spacer or directly to a Genesis G4 surface mount box.

All Genesis appliances have two tabs at the top of the signal. Unlock the cover to reveal the mounting hardware. The shallow depth of Genesis devices leaves ample room behind the signal for extra wiring. Once installed with the cover in place, no mounting screws are visible.

Flush Mounting

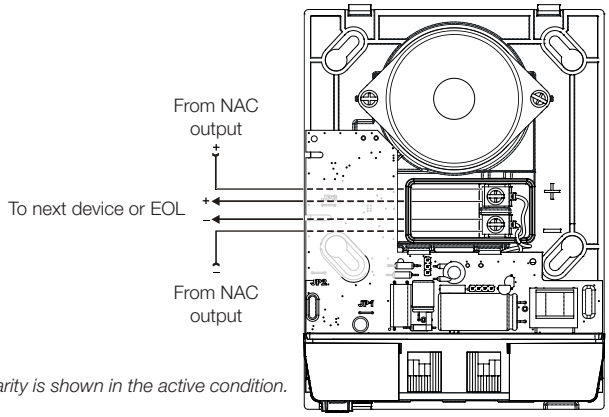


Surface Mounting



Typical Wiring

Room-side field wiring terminals accommodate #18 to #12 AWG (0.75 mm² to 2.5 mm²) wiring. Audible appliances, strobes, and combination audible-visual appliances are interconnected with a single pair of wires as shown.



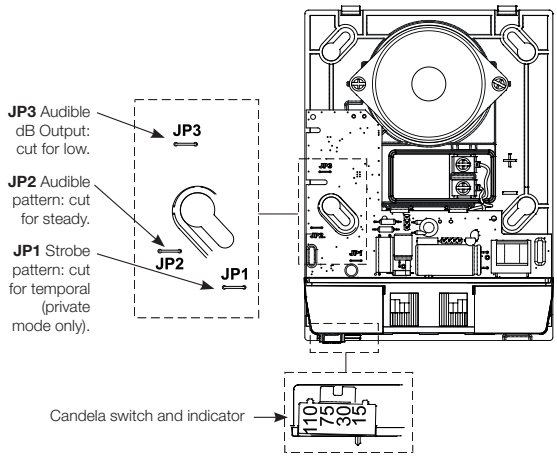
Note: Polarity is shown in the active condition.

Field Configuration

Genesis G4LF Series audible appliances are factory set to operate in a Temporal 3 (three-pulse) pattern. Units may be configured for use with coded systems by cutting jumper JP2 on the circuit board. This results in a steady output that can be turned on and off (coded) as the system applies and removes power to the signal circuit. A Genesis Signal Master is required to maintain G4LF strobe light synchronization when connected to a coded system.

Audible signals and combination audible-visible appliances are factory set for high dB output. Low dB output may be selected by cutting jumper JP3 on the circuit board. This reduces the output by about 5 dB.

Genesis G4LF Series strobe lights are shipped from the factory ready for use as UL 1971 compliant signals for public mode operation. These signals may be configured for temporal flash by cutting jumper JP1 on the circuit board. This battery-saving feature may be used for private mode signaling only.



Genesis G4LF Series strobe lights may be set for 15, 30, 75, or 110 candela output. The output setting is changed by simply opening the device and sliding the switch to the desired setting. The appliance does not have to be removed to change the output setting. The setting remains visible through a small window on the side of the device after the cover is closed.

Nominal Sound Level Output

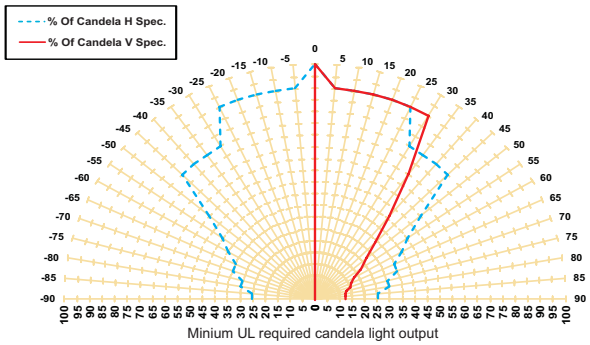
UL (dBA)

Signal and voltage		Low	High
Temporal	16 VDC	72.4	76.0
	24 VDC	72.3	75.7
	33 VDC	73.3	75.4
Continuous	16 VDC	75.7	79.8
	24 VDC	76.1	78.6
	33 VDC	75.4	78.8

UL 464: Sound level output at 10 ft. (3.05 m) measured in a reverberant room.

Light Output

Per cent of UL rating versus angle



Minium UL required candela light output

Current Draw

Audible-Visible Appliances

Operating horn-strobe current in RMS (mA) with audible set to standard (high) output				
Strobe output (cd)	**15**	**30**	**75**	**110**
Temporal				
16 VDC	219	266	381	437
16 VFWR	308	362	510	579
24 VDC	151	176	243	278
24 VFWR	228	258	349	395
33 VDC	112	132	177	199
33 VFWR	186	208	267	291
Continuous				
16 VDC	221	258	371	433
16 VFWR	305	358	514	576
24 VDC	147	171	239	274
24 VFWR	211	247	335	377
33 VDC	110	179	175	196
33 VFWR	178	199	257	282

VDC = Volts direct current, regulated and filtered
VFWR = Volts full wave rectified

Operating Current

RMS (mA) Audible appliance only

Signal and voltage		Low	High
Temporal	16 VDC	86	166
	24 VDC	43	112
	33 VDC	36	87
	16 VFWR	97	215
	24 VFWR	78	159
	33 VFWR	76	140
Continuous	16 VDC	36	160
	24 VDC	45	109
	33 VDC	36	86
	16 VFWR	92	212
	24 VFWR	80	168
	33 VFWR	77	141

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Technology that saves lives

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Specifications

Genesis G4LF Audible and Visible Signals	
Operating voltage	24 VDC or 24 VFWR [1]
Housing	Red or white textured UV stabilized, color impregnated engineered plastic.
Dimensions	Height: 6.5" (165 mm). Width: 5" (127 mm). Depth to wall: 1" (25 mm).
Mounting (indoor wall mount only)	Flush: North-American 4" square box, 2 1/8" (54 mm) deep. Requires supplied spacer. Surface: model EG4B (white) or EG4RB (red) surface mount box.
Synchronization Sources	FACPs: VM and VS Series life safety systems, FX Series fire alarm control panels. Moduels: GSA-CC1S, GSA-MCC1S, SIGA-CC2A, GSA-MCC2A, EG1M-RM. Power supplies: MIRBPS6A, MIRBPS10A, APS6A, APS10A.
Wire Size	12 to 18 AWG (0.75 to 2.50 mm²).
Operating environment	32-120° F (0-49° C) ambient temperature; 0-93% relative humidity, noncondensing.

Audible Signal	
Audible pulse rate	Temporal rate with compatible synchronization source: indefinitely within 10 milliseconds.
Temporal audible pattern	½ sec ON, ½ sec OFF, ½ sec ON, ½ sec OFF, ½ sec ON, 1½ sec OFF, then repeat cycle.

Visible Signal	
Strobe Output Rating	UL 1971: selectable 15 cd, 30 cd, 75 cd, or 110 cd output
Strobe Operating Voltage	16 - 33 Vdc Regulated, 16-33 V Full wave rectified (UL Voltage Designations "Regulated 24" and "24 fwr")
Strobe Flash Rate	One flash per second.
Strobe Flash Synchronization	One flash per second (fps) within 10 milliseconds over a 2 hour time period on a common circuit. Synchronization source required to comply with UL 1971 synchronization standard. Temporal setting (private mode only): synchronized to temporal output on the same circuit.
Strobe Lens Material	Polycarbonate

[1] This device was tested to the Regulated 24 DC/FWR operating voltage limits of 16 V and 33 V. Do not apply 80% and 110% of these values for system operation.

Ordering Information

Model	Housing	Marking	Audible Signal	Visible Signal	Ship Wt. lbs (kg)
Fire Alarm Appliances (520 Hz screen printed on housing)					
G4LFWN-HVM	White	None	Low Frequency (520 Hz) with selectable High/Low dB output.	Selectable 15, 30, 75, or 110 cd.	1.5 lbs. (0.68 kg)
G4LFWF-HVM	White	FIRE			
G4LFRN-HVM	Red	None			
G4LFRF-HVM	Red	FIRE			
G4LFWN-H	White	None		Audible only.	
G4LFWF-H	White	FIRE			
G4LFRN-H	Red	None			
G4LFRF-H	Red	FIRE			

Accessories

GSA-CC1S	Intelligent Synchronization Output Module (2-gang)	0.5 (0.23)
GSA-MCC1S	Synchronization Output Module (Plug-in UIO)	0.18 (0.08)
SIGA-CC2A	Dual Input Signal Module with Class A Operation (2-gang)	0.5 (0.23)
GSA-MCC2A	Dual Input Signal Module with Class A Operation (Plug-in UIO)	0.18 (0.08)
EG4B	Surface mount box, white	0.7 (0.32)
EG4RB	Surface mount box, red	0.7 (0.32)