Genesis LED GC Series

Ceiling Mount
Notification Devices

Overview

Genesis LED GC Series horns and LED strobes feature a sleek low profile design and energy-efficient technology that makes them less expensive to install and operate by reducing overhead. High performance LEDs require fewer power supplies, backup power, and batteries. These new appliances are designed with, energy-efficiency, and life safety in mind.

Genesis LED GC Series uses high efficiency optics, combined with patented electronics, to deliver a highly controlled and efficiently focused light distribution pattern in exchange for lower current requirements. Strobes feature field-selectable 15, 30,75, or 115 cd light output.

Compared with Xenon-type strobes, Genesis LED GC Series appliances need fewer power supplies and often smaller wire gauge, which lightens conduit requirements. They are also backwards compatible with legacy strobes, so there's no need to replace all your existing devices to upgrade to new LED technology. In fact, GC strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED GC Series ideal for new installations and retrofits alike.

Field-configurable sound output levels provide the flexibility modern life safety projects demand, while the Genesis LED control protocol keeps multiple strobes on compatible NAC circuits synchronized to well within NFPA 72 requirements.

Serviceability is another area where GC Series appliances shine. The universal room side wiring plate allows for pre-installation and electrical wiring as well as checking continuity with the included diagnostics check bar. GC Series devices can then be easily snapped into place with the confidence of knowing the wiring is correct. The innovative under-cover diagnostic test points provide easy access to device circuit testing while mounted.

Standard Features

- **High Performance LED Strobe Technology**
  - Ultra low device current consumption allows:
    - More devices per circuit
    - Ability to use lower gauge wire
    - Longer wire runs
    - Fewer booster power supplies
  - High efficiency optics
  - Selectable 15, 30, 75, or 115 cd light output
  - LED devices may be mixed with legacy Xenon strobes

- **Efficient Audible Output**
  - Selectable high or low dB horn output
  - Selectable temporal or steady horn output
  - Improved audio frequency range for better wall penetration

- **Low-profile Design**
  - Ultra-slim... protrudes about 1.5" from the mounting surface
  - Attractive appearance... no visible mounting screws

- **Multiple "FIRE" Marking Options**
  - Order English, French, Spanish or no FIRE markings
  - Change markings at any time with replaceable quick-swap covers

- **Easy to Install**
  - Pre-install and pre-wire with convenient universal room side wiring plate
  - Check electrical continuity on room side wiring plate with included diagnostics check bar
  - Diagnostics port streamlines device circuit testing
  - Fits 1-gang, 2-gang, 4-inch octagon, and 4-inch square electrical boxes
  - Optional red and white trim plates available
  - Slide switches for field configuration
  - 12 to 18 AWG in-out screw terminals for quick wiring

Application

Strobes

Genesis GC Series strobes are UL 1971-listed for use indoors as ceiling-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*.

Synchronization is important in order to avoid triggering seizures in people with photosensitive epilepsy. All Genesis strobes exceed UL synchronization requirements (within 10 milliseconds over a two-hour period) when used with a synchronization source. See the specifications table for a list of compatible sources.

Horns

Genesis horn output reaches as high as 92 dBA and features an improved audio frequency range compared with other Genesis horns. This results in excellent sound penetration through walls and a clear warning of danger. Horn only models may be configured for either coded or non-coded notification appliance circuits. They can also be set for high or low dBA output. This setting reduces horn output by about 6 dBA.

The suggested sound pressure level for each signaling zone used with alarm signals is at least 15 dBA above the average ambient sound level, or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater. These values are measured at five feet (1.5 m) above the floor. The average ambient sound level is A-weighted, fast response sound pressure measured over a 24-hour period.

Doubling the distance from the signal to the ear will theoretically result in a 6 dBA reduction of the received sound pressure level. The actual effect depends on the acoustic environment in the space. A 3 dBA difference represents a barely noticeable change in volume.

Installation

Genesis GC horns and strobes mount to the required GP10 room side wiring plate. The GP10 mounting plate is ordered separately from the GC device in packs of 10 for convenient pre-installing and pre-wiring. The device can be removed easily from the room side wiring plate by pushing up with a screwdriver. The cover can also be removed from the device easily with a screwdriver to access the light and sound output settings and a diagnostics test port for voltage testing.
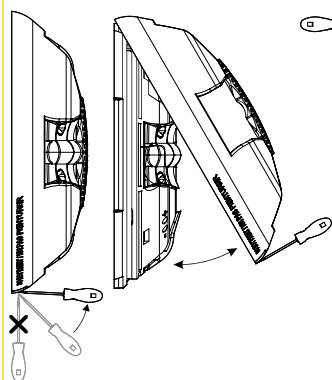
Removing Cover   Removing Device
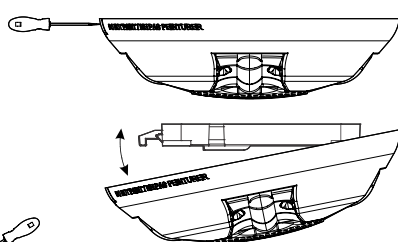
Genesis LED GC Series horns, strobes, and horn-strobes mount to any standard one-gang, two-gang, 4-inch octagon, and 4-inch square electrical box. Matching optional GCT trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available. Genesis LED GC series are listed to be both wall mounted or ceiling mounted.
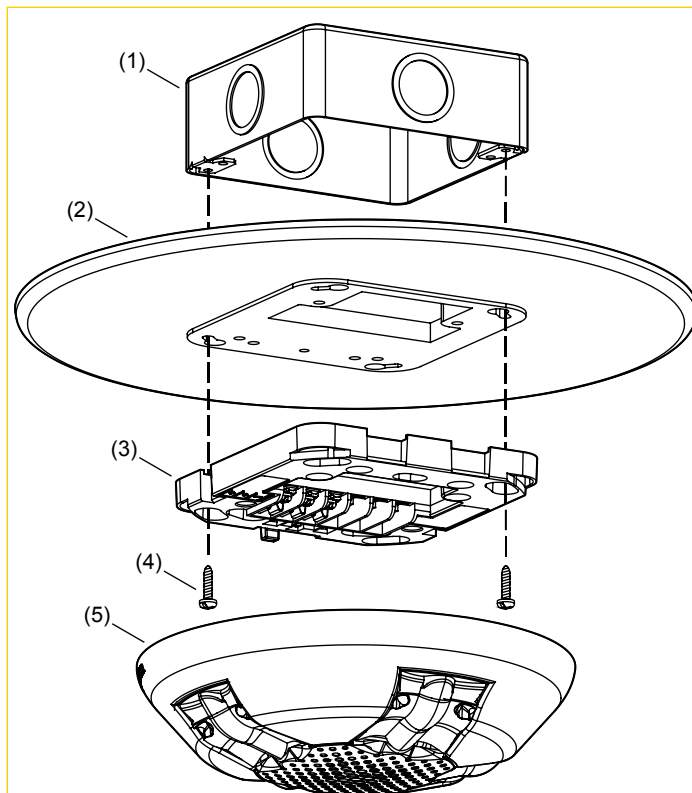
(1) Electrical Box
(2) Trim Plate (optional)
(3) Wiring plate (required, ordered separately)
(4) Machine screw (2X, supplied with wiring plate)
(5) GC signaling appliance

Wiring

Horn/strobe circuit in (signal polarity shown in the active condition)

Horn/strobe circuit out

Shorting Clip
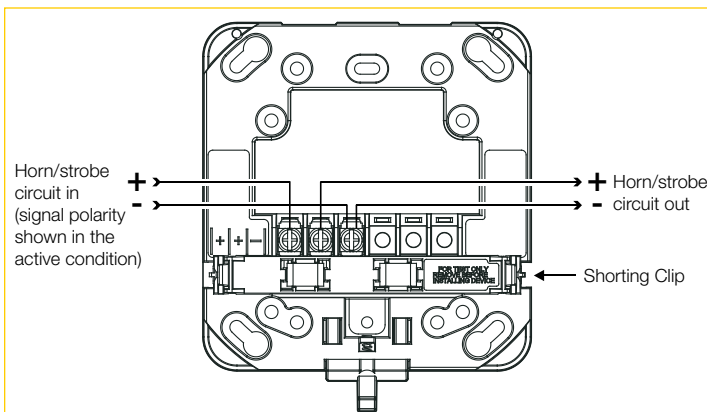
Dimensions

GC Notification Appliances

1.82"
(4.62 cm)

6.8"
(17.27 cm)

GCT Trim Plate (optional)

0.3"
(0.76 cm)

10.6"
(26.92 cm)

Diagnostics

Test points indicated above are used to validate the Notification Appliance Circuit and verify device function.
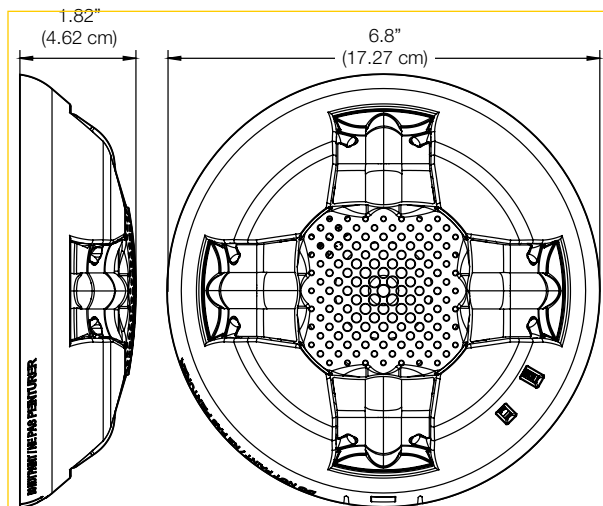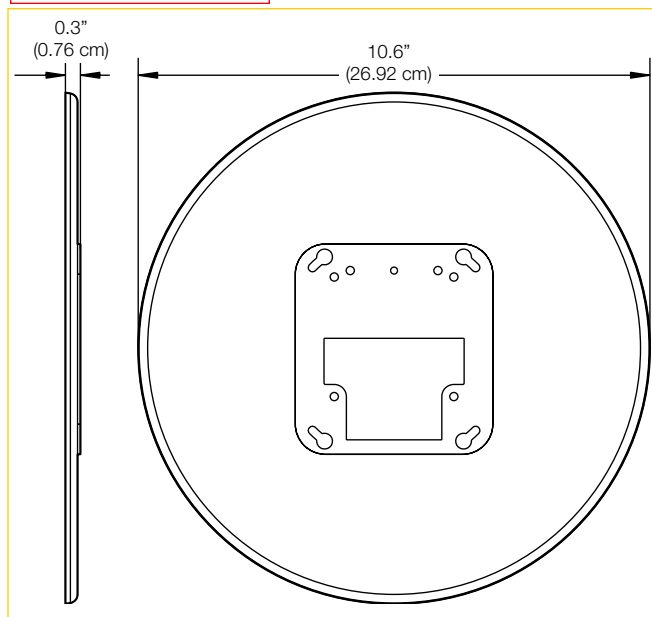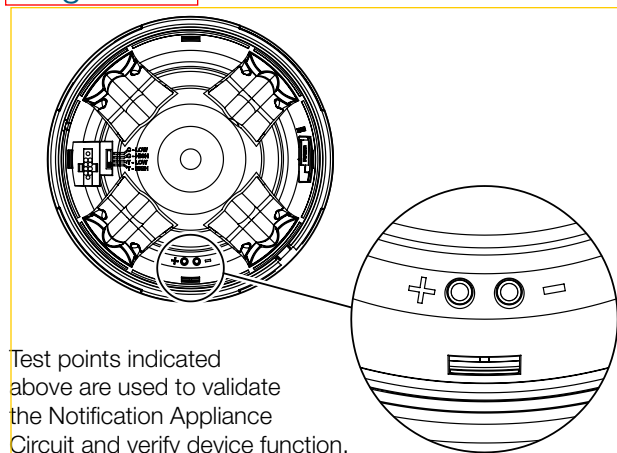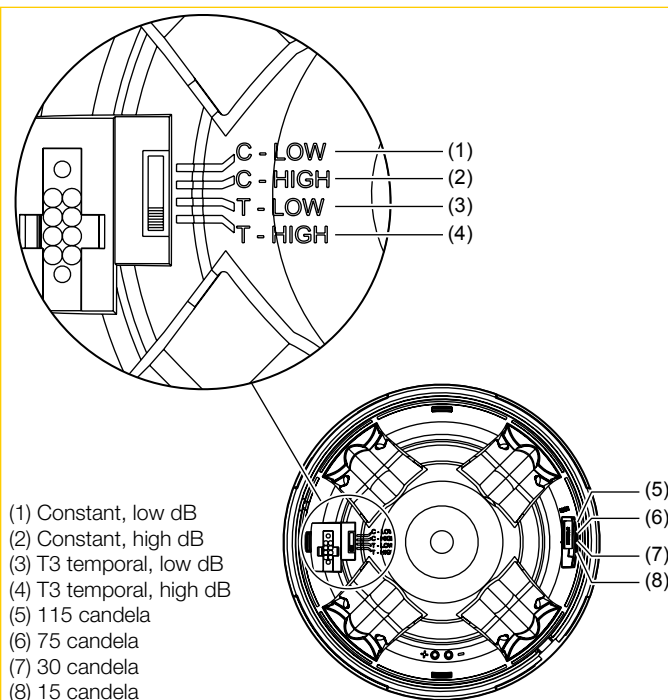
Field Configuration

Temporal horn and horn-strobe models are factory set to sound in a three-pulse temporal pattern. By sliding the tone selector switch, horn only models may be configured for constant horn output that can be coded at precise intervals by EDWARDS control panels and control modules.

Note: Temporal 3 coding is the required output for fire notification devices per NFPA 72. Any device coding other than temporal 3 is at the discretion and approval of the local authority having jurisdiction (AHJ).

Horns and horn-strobes are factory set for high dB output. Low dB output may be selected by sliding the tone selector switch. This reduces the output by about 6 dBA.

Genesis LED clear strobes and horn-strobes may be set for 15, 30, 75, or 115 candela output. The output setting is changed by simply removing the cover and sliding the candela switch to the desired setting. The device does not have to be removed from the wall to change the output setting. The setting remains visible through a small window on the device after the cover is closed.

Light and Sound Output Settings

C - LOW — (1)
C - HIGH — (2)
T - LOW — (3)
T - HIGH — (4)

(5)
(6)
(7)
(8)

(1) Constant, low dB
(2) Constant, high dB
(3) T3 temporal, low dB
(4) T3 temporal, high dB
(5) 115 candela
(6) 75 candela
(7) 30 candela
(8) 15 candela

Operating current

Horns

Sound setting	16 to 33 VDC	16 to 33 VFWR
C-Low, T-Low	20 mA	25 mA
C-High, T-High	30 mA	40 mA

Strobes

Strobe setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 115	35 mA	45 mA

Horn-Strobes

Strobe setting	Sound setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 115	C-Low, T-Low	50 mA	60 mA
	C-High, T-High	60 mA	75 mA

Sound Output

Horn & Horn-Strobe

Sound setting	Reverberant (UL464)	Anechoic (CAN/ULC - 5925)
C-Low, T-Low	80 dBA	86 dBA
C-High, T-High	86 dBA	92 dBA

Sound pattern – Horn Models (ULC)

Axis	Angle (°)	Output (dBA)
Horizontal	115 and 55	93.3
Vertical	125 and 50	91.7

Sound pattern – Horn-Strobe Models (ULC)

Axis	Angle (°)	Output (dBA)
Horizontal	145 and 35	93.0
	155 and 35	90.8
Vertical	135 and 35	92.0
	155 and 25	85.4

Specifications

Operating voltage	16 to 33 VDC, 16 to 33 VFWR
Horn signal type	Constant or TC3 temporal
Light output	15, 30, 75, or 115 candela
Strobe flash rate	1 fps (flash per second) approx.
Synchronization	20 Ω max. between any two devices. To determine allowed wire resistance, refer to these specifications, and the specifications for the synchronized signal source.
Synchronization Sources	Edwards CC Series Signal Modules, Booster and Auxiliary Power Supplies, Intelligent and Conventional Control Panels
Wire size	12 to 18 AWG (0.75 to 2.50 mm^2)
Mounting	Wall or Ceiling mount
Dimensions (Ø × D)	6.8 × 1.82 in. (17.27 × 4.62 cm)
Strobe-to-box center offset	-1.70 inches (-4.32 cm)
Compatible electrical boxes [1]	1-gang, 2-gang, 4-inch octagon, 4-inch square
Trim plates	GCTR, GCTW 10.6 × 0.3 in. (26.92 × 0.76 cm)
Operating environment	
Temperature	32 to 122°F (0 to 50°C)
Relative humidity	0 to 93% noncondensing
Storage Temperature	-40 to 158 F (-40 to 70 C)

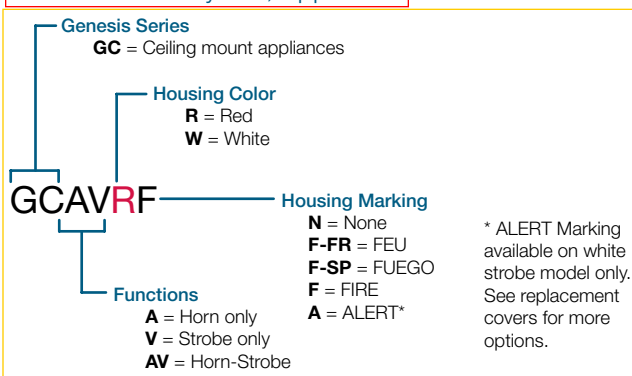[1] Electrical boxes must be at least 1-1/2 in. (3.81 cm) deep.

Ordering Information

Notification Appliances		Color	Marking
Horns	GCARF	Red	FIRE
	GCARF-FR	Red	FEU
	GCARF-SP	Red	FUEGO
	GCARN	Red	None
	GCAWF	White	FIRE
	GCAWF-FR	White	FEU
	GCAWF-SP	White	FUEGO
	GCAWN	White	None
Strobes	GCVRF	Red	FIRE
	GCVRF-FR	Red	FEU
	GCVRF-SP	Red	FUEGO
	GCVRN	Red	None
	GCVWF	White	FIRE
	GCVWF-FR	White	FEU
	GCVWF-SP	White	FUEGO
	GCVWN	White	None
Horn-strobes	GCAVRF	Red	FIRE
	GCAVRF-FR	Red	FEU
	GCAVRF-SP	Red	FUEGO
	GCAVRN	Red	None
	GCAVWF	White	FIRE
	GCAVWF-FR	White	FEU
	GCAVWF-SP	White	FUEGO
	GCAVWN	White	None

Replacement Appliance Covers		Color	Marking
Horn Covers	GCARA-CVR	Red	ALERT
	GCARF-CVR	Red	FIRE
	GCARF-FR-CVR	Red	FEU
	GCARF-SP-CVR	Red	FUEGO
	GCARN-CVR	Red	None
	GCAWA-CVR	White	ALERT
	GCAWF-CVR	White	FIRE
	GCAWF-FR-CVR	White	FEU
	GCAWF-SP-CVR	White	FUEGO
	GCAWN-CVR	White	None
Strobe Covers	GCVRA-CVR	Red	ALERT
	GCVRF-CVR	Red	FIRE
	GCVRF-FR-CVR	Red	FEU
	GCVRF-SP-CVR	Red	FUEGO
	GCVRN-CVR	Red	None
	GCVWA-CVR	White	ALERT
	GCVWF-CVR	White	FIRE
	GCVWF-FR-CVR	White	FEU
	GCVWF-SP-CVR	White	FUEGO
	GCVWN-CVR	White	None
Horn-strobe Covers	GCAVRA-CVR	Red	ALERT
	GCAVRF-CVR	Red	FIRE
	GCAVRF-FR-CVR	Red	FEU
	GCAVRF-SP-CVR	Red	FUEGO
	GCAVRN-CVR	Red	None
	GCAVWA-CVR	White	ALERT
	GCAVWF-CVR	White	FIRE
	GCAVWF-FR-CVR	White	FEU
	GCAVWF-SP-CVR	White	FUEGO
	GCAVWN-CVR	White	None

Accessories

GP10	Room Side Wiring Plate (required, ordered separately)	GCTR	Trim plate, GC Series, red	GCTW	Trim plate, GC Series, white
		27193-21	Two-gang surface mount box, red	27193-26	Two-gang surface mount box, white

Model Number Syntax, Appliances

Genesis Series
GC = Ceiling mount appliances

Housing Color
R = Red
W = White

GCAVRF

Housing Marking
N = None
F-FR = FEU
F-SP = FUEGO
F = FIRE
A = ALERT*

Functions
A = Horn only
V = Strobe only
AV = Horn-Strobe

* ALERT Marking available on white strobe model only. See replacement covers for more options.

Model Number Syntax, Replacement Covers

Genesis Series
GC = Ceiling mount appliances

Housing Color
R = Red
W = White

GCAVRF-CVR

Cover Designation

Cover Marking
N = None
F-FR = FEU
F-SP = FUEGO
F = FIRE
A = ALERT

Functions
A = Horn only
V = Strobe only
AV = Horn-Strobe