

LIFE SAFETY  INCIDENT MANAGEMENT

Outdoor-Rated Speakers and Speaker-Strobes

Genesis LED WG Series



Overview

Genesis LED WG Series speaker and speaker-strobe appliances are among the most versatile emergency appliances of their kind. They are exceptionally capable as they are designed for outdoor wet applications with a NEMA 4X / IP66 UL listing¹, and IP67 Compliant². Genesis LED WG appliances operate seamlessly in extreme temperatures, with a listed operating temperature range of as low as -40 °F to as high as 151 °F (-40 °C to 66 °C). These features make them suitable for a wide range of wet and harsh environments and applications, such as exposure to rain, snow, and sleet, and challenging conditions such as process areas.

Genesis LED WG Series feature a sleek low-profile design and offer energy-efficient technology that makes them less expensive to install and operate by reducing overhead. Genesis LED WG Series strobes feature 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 have field-selectable 15 or 30 cd light output. They are precision-timed to meet UL 1971 synchronization standards. Candela settings are viewable even after installation through an innovative sealed viewport display.

Compared with Xenon-type strobes, High-Performance LED strobes require fewer power supplies, backup power, batteries, 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, Genesis LED WG Series strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED WG Series ideal for new installations and retrofits alike.

Genesis LED WG Series appliances speakers feature selectable wattage taps to be configured in the field. Settings remain clearly visible — even after final installation. Speakers are also capable of both 25V and 70V and voltage in a single model with a field-selectable switch. All this flexibility allows devices to be easily fine-tuned to exactly how they're needed to perform. All Genesis speakers include a DC blocking capacitor to allow electrical supervision of the audio distribution circuit.

Field-configurable speaker sound output levels provide the flexibility modern life safety projects demand, while the Genesis LED Mass Notification control protocol keeps multiple strobes on compatible NAC circuits synchronized to well within NFPA 72 requirements. The Speakers are approved for low frequency sounder applications when used with compatible tone file and systems, meeting NFPA and UL 520Hz requirements for sleeping areas, making them ideal for new construction or retrofits.

They are available for mounting on the ceiling or the wall. They can be installed to recessed (in-the-pour/block) electrical boxes. Genesis LED WG notification appliances also mount to suitable surface boxes. Replaceable Cover skins are available with FIRE, ALERT, FEU/FIRE (French/English), FUEGO (Spanish), and no marking configurations.

¹UL Listed for Type 4X and IP66 when installed in surface/flush-mount applications as described under "Specifications."

²Device only (standalone) is IP67 compliant.

Standard Features

- **Designed for Outdoor & Wet-Rated Applications**
 - NEMA 4X / IP66¹ UL listing (when installed in surface/flush-mount applications)
 - IP67² Compliant Device only (standalone)
 - Wide Operating Temperature range
 - As low as -40 °F to as high as 151 °F (-40 °C to 66 °C)
- **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 or 30 cd light output
 - LED devices may be mixed with legacy Xenon strobes
- **High Fidelity Performance with Excellent STI**
 - Increased sound fidelity and audio intelligibility with an STI rating of .81 (More than .76 is excellent)
- **Low-Frequency (520Hz) Capable**
 - Low-frequency output meets NFPA standards for newly constructed commercial sleeping areas
- **Field Flexibility**
 - Speakers are also capable of both 25V and 70V voltage in a single model with a field-selectable switch
 - Speakers feature selectable wattage taps for ¼W, ½W, 1W, and 2W to configure sound output levels in the field
- **Low-Profile Design**
 - Ultra-slim ... protrudes about 1.55 in. (3.94 cm) from the mounting surface
 - Attractive appearance ... no visible mounting screws
- **Multiple Marking Options**
 - Order FIRE, ALERT, FEU/FIRE (French/English), FUEGO (Spanish), or no marking configurations
 - Change markings at any time with replaceable quick-swap covers
- **Easy to Install**
 - Suitable for mount on walls or ceilings (indoor or outdoor)
 - Compatible with Model 449 (gray) or 74347U (red) Deep 4-inch-square electrical box
 - Field-selectable settings
 - Fully compatible with Genesis synchronization protocols
 - Speaker-only and speaker-strobe options
- **Current draw is the same for all candela output settings**
 - Easier for new system design
 - Flexible for future changes in light output needs

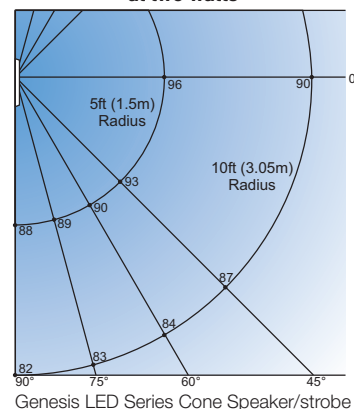
Application

Speaker

The suggested sound pressure level for each signalling 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 at two watts



Strobe

Genesis LED WG Series 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 as defined in the Americans with Disabilities Act.

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 two strobe appliances 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. See the specifications table for a list of compatible sources.

Installation and Mounting

LED WG signals are rated for outdoor use and are suitable for indoor or outdoor applications on walls or ceilings. When installing the notification appliance in flush-mount outdoor or wet applications on a standard 4-inch-square-deep electrical box, WGWMA (white) or WGRMA (red) adapter plate must be ordered separately; remove the trim skirt from the adapter ring by removing the two screws from the back of the adapter ring.

For surface-mount installation in outdoor or wet applications, appliances must be mounted to a 449 (gray) or 74347U (red) weatherproof electrical box, and a WGWMA (white) or WGRMA (red) adapter plate with ring is required and must be ordered separately.

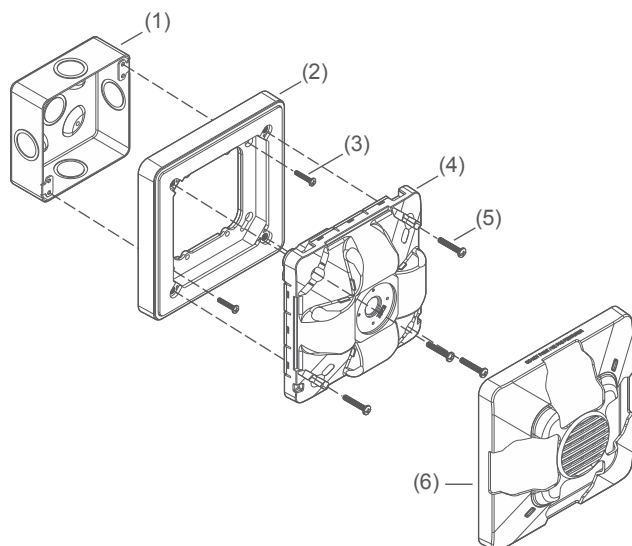
The shallow depth of Genesis LED devices leaves room behind the appliance for extra wiring.

See "Specifications" below for a list of compatible electrical boxes that meet UL/ULC, IP66, and NEMA 4X requirements.

To meet IP66 requirements, plumbing tape (Teflon tape) must be applied to all threaded conduit plugs and connectors.

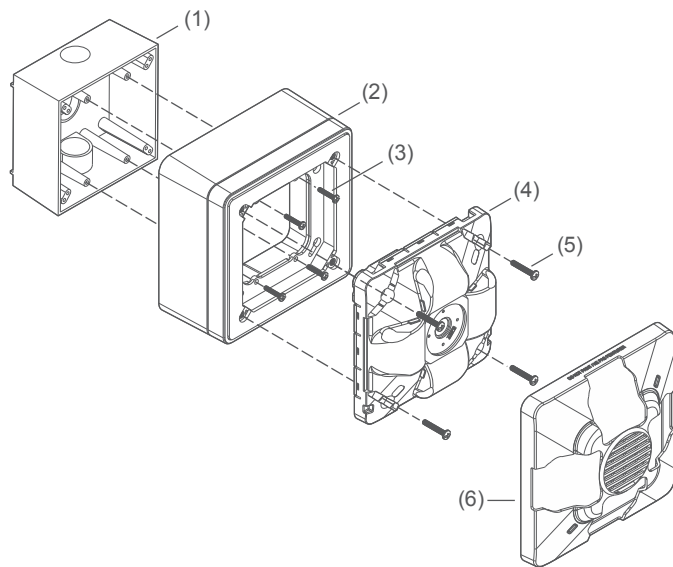
The Genesis LED WG series notification appliances listed in the data sheet are for DC rated operating voltage applications only. See Application Bulletin for details on application requirements requiring FWR operating voltage.

Flush-mount installation – 4-inch square-deep electrical box



- (1) 4-inch-square-deep electrical box
- (2) WGWMA or WGRMA adapter plate (required, ordered separately)
- (3) 8-32 machine screw (2X, supplied with electrical box)
- (4) Notification appliance
- (5) 8-32 machine screws (4X, supplied with appliance)
- (6) Cover

Surface-mount installation – Model 449 (gray) or 74347U (red) weatherproof electrical box



- (1) Model 449 or 74347U weatherproof surface-mount electrical box
- (2) WGWMA or WGRMA adapter plate with ring (required, ordered separately)
- (3) 6-32 machine screw (4X, supplied with appliance)
- (4) Notification appliance
- (5) 8-32 machine screws (4X, supplied with appliance)
- (6) Cover

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.

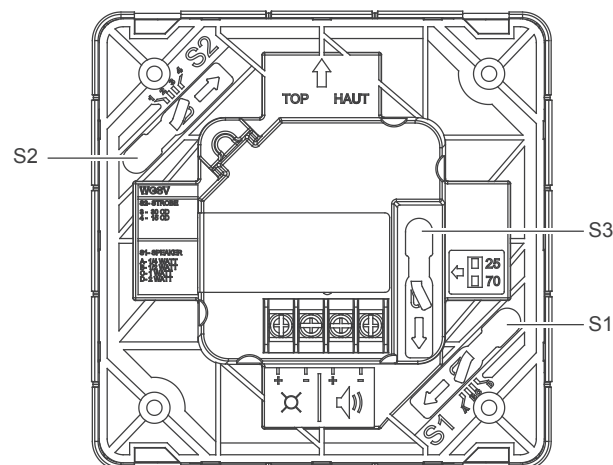
EDWARDS recommends that these devices always be installed in accordance with the latest recognized edition of national and local codes. Refer to the appropriate codes and standards for mounting height information.

Field Configuration

Genesis LED WG speakers may be set to 70- or 25-Volt operation, and for 1/4-, 1/2-, 1-, or 2-watt operation. The wattage setting 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 LED WG speaker-strobes also feature selectable candela output. The candela setting 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.

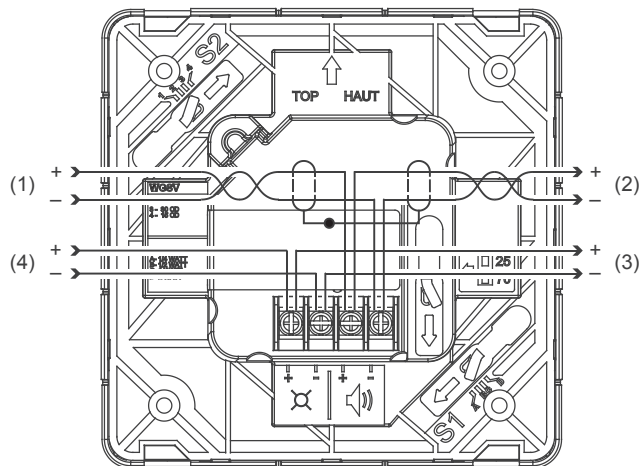
Light and Sound Output Settings



S1 switch settings	S2 switch settings	S3 switch settings
A 1/4 Watt	1 Not used	25 25 VRMS
B 1/2 Watt	2 Not used	70 70 VRMS
C 1 Watt	3 30 candela	
D 2 Watt	4 15 candela	

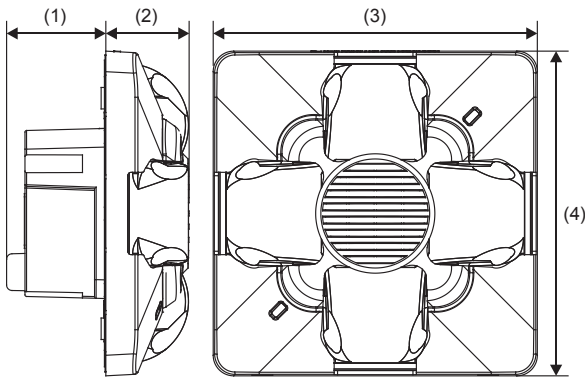
Note: Temporal 3 coding is the required output for fire notification devices per NFPA 72. Any device coding other than temporal 3 is at the discretion and approval of the local authority having jurisdiction (AHJ).

Wiring



- (1) Speaker circuit in (shields, if used, must be continuous and free from earth ground except at the signal source)
- (2) Speaker circuit out
- (3) Strobe circuit out
- (4) Strobe circuit in (signal polarity shown in the active condition)

Dimensions



- (1) 1.8 in. (4.57 cm)
 (2) 1.55 in. (3.94 cm)
 (3) 6.0 in. (15.24 cm)
 (4) 6.0 in. (15.24 cm)

Operating current (speaker-strobe models)

Strobe setting	16 to 33 VDC
15, 30	35 mA

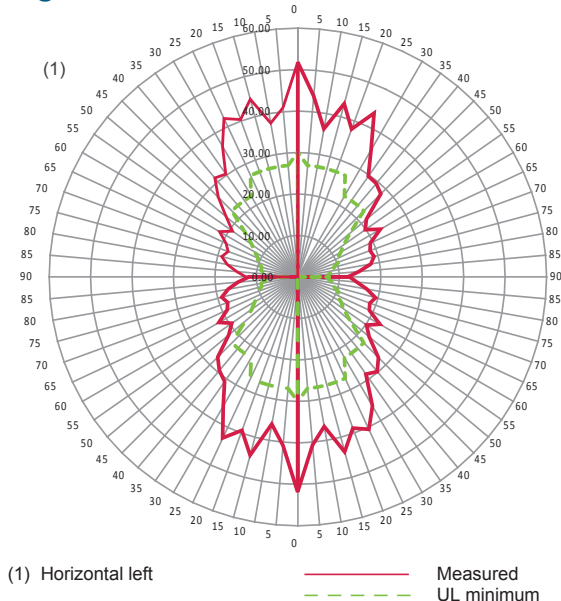
Sound level output (dBA) at 3.05m (10ft.)

Voltage setting	Wattage setting	Reverberant (UL 1480)	Anechoic (CAN/ULC-S541)
25V / 70V	1/4W	78	76
	1/2W	81	79
	1W	84	82
	2W	87	85

Sound pattern (speaker-strobe models)

Axis	Angle	Change in output
Horizontal	± 50°	-3 dBA
	± 73°	-6 dBA
	± 90°	-9 dBA
	± 90°	-9 dBA
Vertical	± 49°	-3 dBA
	± 71°	-6 dBA
	± 90°	-9 dBA
	± 90°	-9 dBA

Light Distribution



Specifications

Operating voltage	Strobe 16 to 33 VDC Speaker 25 VRMS, 70 VRMS (selectable)
Supervisory voltage	30 V max.
Speaker response (UL rated)	400 to 4,000 Hz
Speaker frequency response (nominal)	100Hz-11,000Hz
Resonant frequency	520 Hz
Light output	15, 30 cd
Strobe flash rate	1 fps (flash per second) approx. 20 Ω max. between any two devices.
Synchronization	To determine allowed wire resistance, refer to these specifications, and the specifications for the synchronized signal source. Edwards CC/MCC Series Signal Modules ³ , Universal Class A/B modules ³ , FX-NAC ³ , Booster and Auxiliary Power Supplies, Intelligent Control Panels
Synchronization Sources	
Wire size	12 to 18 AWG (0.75 to 2.50 mm ²)
Screw torque	Mounting screws 15 lbf-in (1.8 N-m) max. Terminal screws 12 lbf-in (1.4 N-m) max.
Compatible electrical boxes ⁴	Surface mount ⁵ UL/ULC, IP66, NEMA 4X – Model 449 (gray) or 74347U (red) electrical box with WGWMA or WGRMA adapter plate with ring Flush mount ⁵ UL/ULC, IP66, NEMA 4X Deep 4-inch square electrical box with WGWMA or WGRMA adapter plate
Compatible adapter rings	WGWMA, WGRMA
Operating environment	Class – Outdoor wet Temperature -40 to 150.8°F (-40 to 66°C) Relative humidity 0 to 95% non-condensing
Storage temperature	-40 to 158°F (-40 to 70°C)
RAL Color	Red=RAL 3013 White=RAL 9002
Environmental compliance	RoHS directive 2011/65/EU

³Compatibility for these modules limited to 3 appliances.

⁴Electrical boxes must be at least 2 in. (5.08 cm) deep.

⁵To meet IP66 requirements, plumbing tape (Teflon tape) must be applied to all threaded conduit plugs and connectors.

Ordering Information

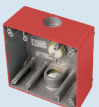
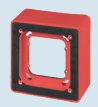
Notification Appliances	Color	Marking
 Speakers	WGSRA	Red ALERT
	WGSRF	Red FIRE
	WGSRF-FR	Red FIRE FEU
	WGSRF-SP	Red FUEGO
	WGSRN	Red None
	WGSWA	White ALERT
	WGSWF	White FIRE
	WGSWF-FR	White FIRE FEU
	WGSWF-SP	White FUEGO
	WGSWN	White None

 Speaker-Strobes	WGSVRA	Red ALERT
	WGSVRF	Red FIRE
	WGSVRF-FR	Red FIRE FEU
	WGSVRF-SP	Red FUEGO
	WGSVRN	Red None
	WGSVWA	White ALERT
	WGSVWF	White FIRE
	WGSVWF-FR	White FIRE FEU
	WGSVWF-SP	White FUEGO
	WGSVWN	White None

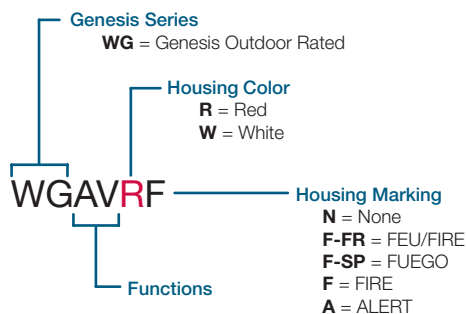
Notification Appliances	Color	Marking
 Speaker Covers	WGAARA-CVR	Red ALERT
	WGARF-CVR	Red FIRE
	WGARF-FR-CVR	Red FIRE FEU
	WGARF-SP-CVR	Red FUEGO
	WGARN-CVR	Red None
	WGAWA-CVR	White ALERT
	WGAWF-CVR	White FIRE
	WGAWF-FR-CVR	White FIRE FEU
	WGAWF-SP-CVR	White FUEGO
	WGAWN-CVR	White None

 Speaker-Strobe Covers	WGAARA-CVR	Red ALERT
	WGAARF-CVR	Red FIRE
	WGAARF-FR-CVR	Red FIRE FEU
	WGAARF-SP-CVR	Red FUEGO
	WGAARN-CVR	Red None
	WGAWA-CVR	White ALERT
	WGAWF-CVR	White FIRE
	WGAWF-FR-CVR	White FIRE FEU
	WGAWF-SP-CVR	White FUEGO
	WGAWN-CVR	White None

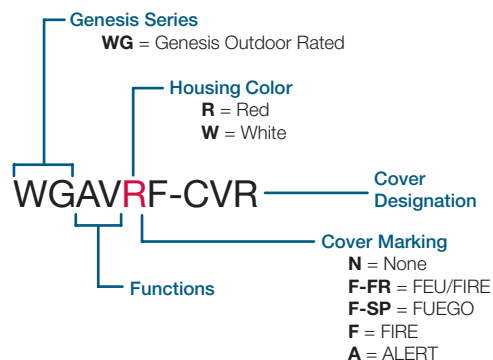
Accessories

	74347U	Surface-mount box, outdoor rated, Red
	449	Surface-mount box, outdoor rated, Gray
	WGWMA	Adapter Plate, White
	WGRMA	Adapter Plate, Red

Model Number Syntax, Appliances



Model Number Syntax, Replacement Covers





LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)

Email: edwards.fire@carrier.com

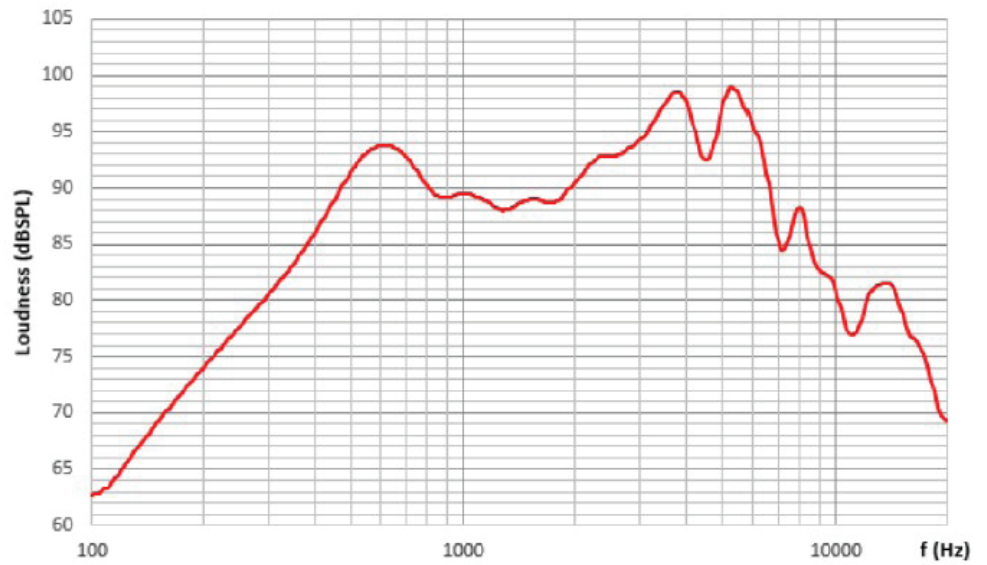
Website: edwardsfiresafety.com

For inquiries regarding Edwards Professional Services & Solutions, contact:

Edwards.PSS@carrier.com

8985 Town Center Pkwy
Bradenton, FL 34202

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Typical Frequency response @ 1W/1m