

**BUILDING CLASSIFICATIONS AND CODES**

OCCUPANCY GROUP: B  
 USE: BUSINESS  
 CONSTRUCTION TYPE: IIB  
 STORIES: BASEMENT + 4 FLOORS  
 SPRINKLERED: FULLY SPRINKLED

APPLICABLE CODES: 2015 IBC 2015 IFB 2015 IMC 2013 NFPA 72 2020 NFPA 70 

**SYSTEM TYPE AND MONITORING**

SYSTEM CLASSIFICATION: (NFPA 72, CHAPTER 26), REMOTE STATION  
 SYSTEM TYPE: ADDRESSABLE  
 WIRING CLASSIFICATION: NAC - CLASS B  
 SLC - CLASS B  
 COMMUNICATION RISER - CLASS B  
 NOTIFICATION TYPE: TEMPORAL PATTERN  
 MONITORING: THIS SYSTEM IS AND WILL CONTINUE TO BE MONITORED BY A REMOTE SUPERVISING STATION, PER NFPA 72 CHAPTER 26, SECTION 3.

**SCOPE OF WORK**

PROVIDE THE FOLLOWING FIRE ALARM SYSTEM MODIFICATIONS TO ACCOMMODATE THE PROPOSED CONSTRUCTION FOR THE SPEC SUITE 250 PROJECT LOCATED AT 1411 SOUTH POTOMAC STREET:

**PARTS**

1. PROVIDE AND INSTALL NINE (9) NEW STROBES
2. PROVIDE AND INSTALL THREE (3) NEW HORN/STROBES

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# 1411 S POTOMAC STREET

## FIRE ALARM SYSTEM SHOP DRAWINGS FOR:

**PROJECT:**  
 SPEC SUITE 250  
 1411 S POTOMAC ST  
 AURORA, CO 80012

**FIRE ALARM CONTRACTOR**  
 FIRE ALARM SERVICES, INC.  
 4800 W. 60TH AVENUE  
 ARVADA, CO 80003  
 PH:(303)466-8800  
 FAX:(303)466-8820  
 CONTACT:SHANNON SMITH

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**Fire Alarm Services, Inc.**  
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 contactus@fasonline.cc (E-Mail)  
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 VERTEX CONSTRUCTION  
 2420 WEST 26TH AVE, SUITE 100  
 DENVER, CO 80211  
 PH:(303) 623-9116  
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NO.	DATE	REVISIONS
1	11/3/20	rev 1 - codes

DRAWN BY: B. COWDEN DATE: 10/22/2020  
 APPR. BY: DATE:

FIRE ALARM SYSTEM TENANT FINISH FOR: SPEC SUITE 250	1411 S POTOMAC STREET AURORA, CO 80012	2014359
PROJECT TITLE	BUILDING NAME & ADDRESS	PROJECT NUMBER

Provide a full size set of legible approved construction documents **PRINTED IN COLOR** for review by the Field Inspector.

City of Aurora  
 Adopted Codes & Standards for this project:  
 2015-ICC - 2020-NEC  
 2013 NFPA 13 - 2013 NFPA 72  
 Amendments to include Chapters 22 & 66

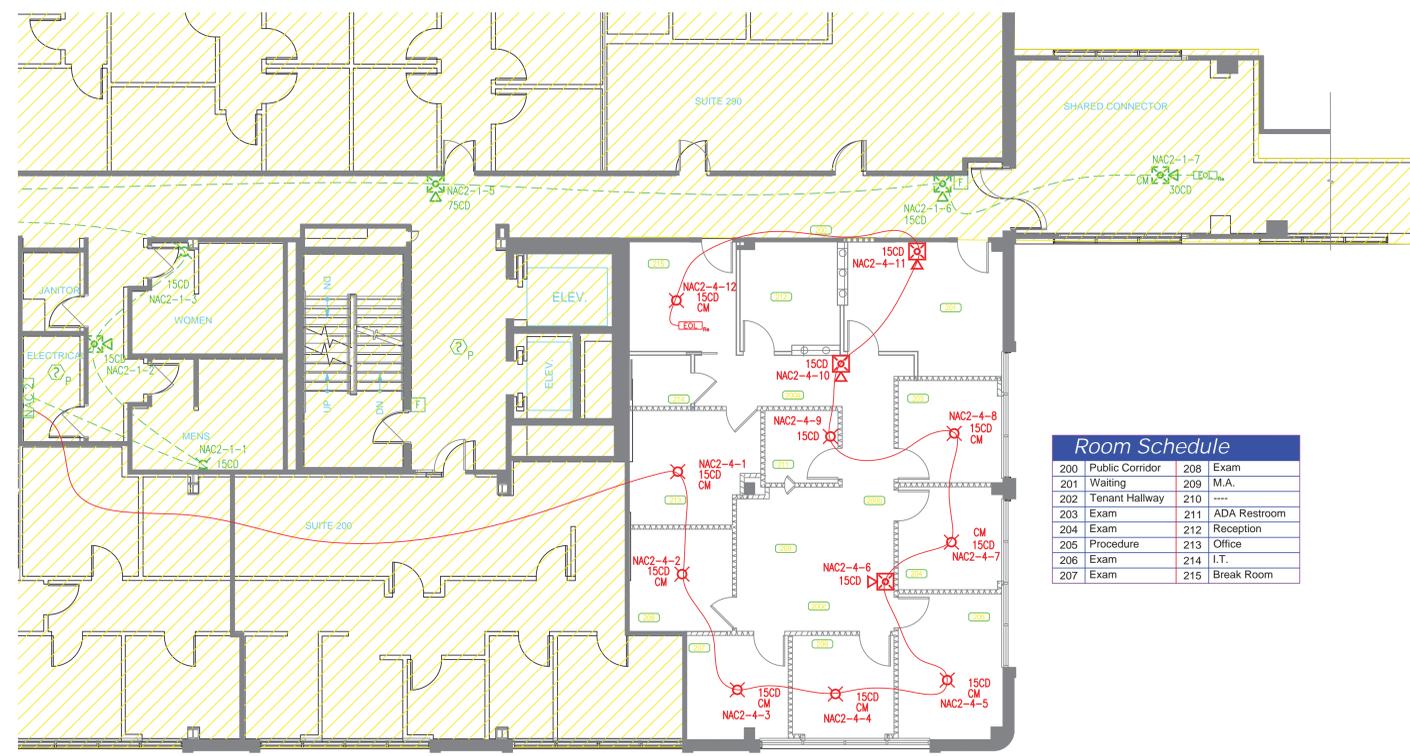
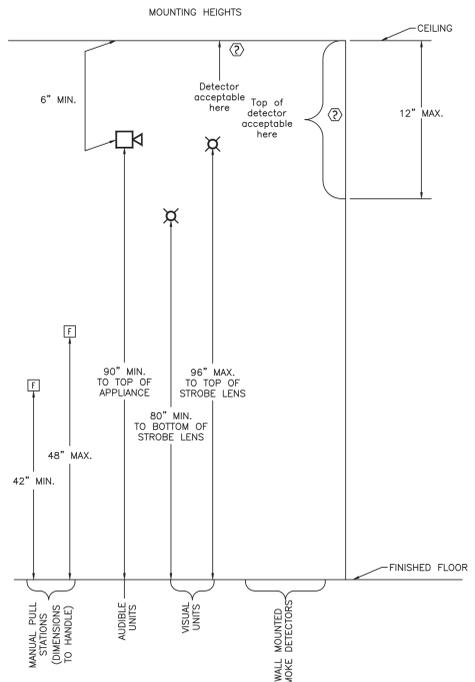
Items determined to be in violation of code during inspection are required to be corrected; this review does not grant approval of code violations.

City of Aurora Building Division  
 Counter Permit Intake by: TAC  
 Date: Nov 06, 2020  
 RSN: 149922  
 Permit: 2020-1889747-CT  
2015 INTERNATIONAL CODES & 2009 IBC Code of America, Inc. (ICC)

Raymond P. Breeland  
 NICET Certification #111006  
 Fire Alarm Systems Level III  
 Certification Expires 04/01/22

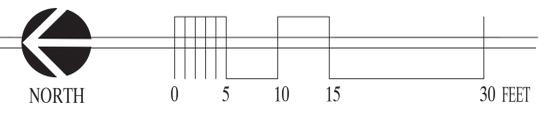
10/22/2020  


FIRE ALARM & DETECTION SYSTEM	DRAWING TITLE: SUITE 250 COVER PAGE	SCALE: N/A
PROJECT SHEET TITLE	FA-00	



# SUITE 250 FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"



## FIRE ALARM SYMBOLS LEGEND

EXISTING	DESCRIPTION	PROPOSED
	STROBE - Wall Mount or CM = Ceiling Mount	
	SMOKE DETECTOR - x = photo, ion	
	Speaker/strobe - Wall Mount or Ceiling Mount	
	Speaker only = Wall Mount or CM = Ceiling Mount	
	Horn/strobe = Wall Mount or Ceiling Mount	
	Horn only = Wall Mount or CM = Ceiling Mount	
	REMOTE LED	
	END OF LINE RESISTOR	
	BOOSTER PANEL	
	PULL STATION	
	FIREMAN'S PHONE JACK	
	HEAT DETECTOR - x = 135, 200, ROR	
	FLOW SWITCH	
	TAMPER SWITCH	
	DUCT DETECTOR - x = photo, ion	
	MONITOR MODULE	
	MONITOR MODULE	

## GENERAL NOTES:

- ROUGH-IN INSPECTION IS REQUIRED FOR ALL WORK ON FIRE ALARM SYSTEMS. PRIOR TO INSPECTION, DO NOT INSTALL: DEVICES (DETECTORS, PULL STATIONS, STROBES, ETC.) - CEILING TILES OR WALLBOARD WHICH CONCEAL CABLES OR OTHER WIRING METHODS. - COVERS ON CABINETS, JUNCTION OR SPLICE BOXES, DEVICE BACKBOXES, ETC.
- SYSTEM WIRING SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, ARTICLE 760 (NEC) AND 2013 NFPA 72.
- THE CEILING IN ALL AREAS IS A TYPICAL 9' A.F.F. DROPPED CEILING WITH NO SLOPES.
- THERE ARE NO PENETRATIONS THROUGH FIRE RATED WALL IN THIS PROJECT



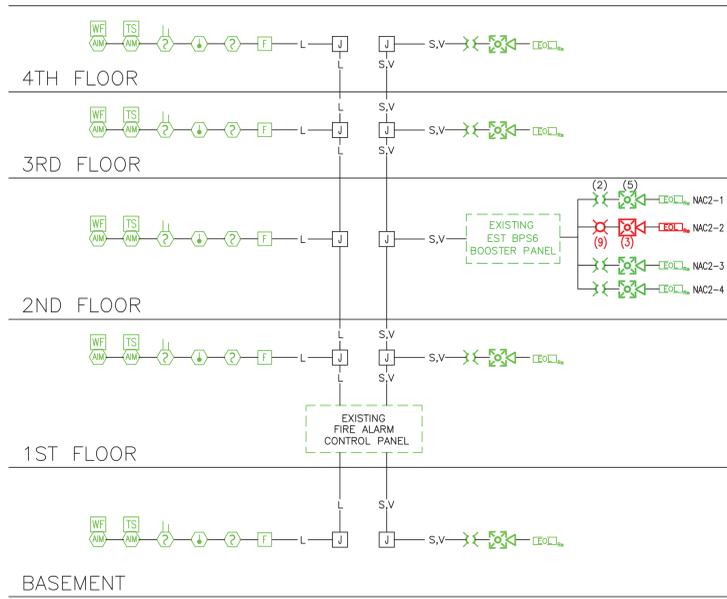
BOOSTER LOCATION

SCOPE OF WORK



Raymond P. Breeland  
 NICET Certification #111006  
 Fire Alarm Systems Level III  
 Certification Expires 04/01/22  
 10/22/2020

FIRE ALARM & DETECTION SYSTEM DRAWING TITLE: SUITE 250 FIRE ALARM PLAN	PROJECT TITLE: FIRE ALARM SYSTEM TENANT FINISH FOR: SPEC SUITE 250	BUILDING NAME & ADDRESS: 1411 S POTOMAC STREET AURORA, CO 80012	PROJECT NUMBER: 2014359
	NO. DATE 11/3/20	REVISIONS rev 1 - codes	DRAWN BY: B. COWDEN
DATE: 10/22/2020	APPRO. BY: (Signature)	DATE:	DATE:
PROJECT SHEET TITLE: FA-01		FIRE ALARM SERVICES, INC. 4800 W. 80TH AVENUE ARVADA, CO 80003 www.fasonline.cc phone: 303-466-8800 fax: 303-466-8820 email: contactus@fasonline.cc	



# ONE-LINE RISER DIAGRAM

**INCREMENTAL VOLTAGE DROP CALCULATIONS FOR AUDIBLE/VISUAL CIRCUITS**  
**MINIMUM UL RATED VOLTAGE: 16 VOLTS**  
 Current shown in calculations is RMS current at 16 volts.

Resistance:	12 Gauge	2.01
	14 Gauge	3.19
	16 Gauge	5.08

Circuit Number: NAC2-4  
Location: Floor 2 Booster Panel

Notification Circuit	Current (In Amps)	Wire Distance (in Feet)	Total Distance (in feet)	Wire Size (AWG)	Resistance (Ohms)	Voltage Drop	From Baseline Voltage
CM Strobe 15CD	0.0350	45	45	14	0.2871	0.1306	19.5694
CM Strobe 15CD	0.0350	20	65	14	0.1276	0.0536	19.5158
CM Strobe 15CD	0.0350	26	91	14	0.1659	0.0639	19.4519
CM Strobe 15CD	0.0350	19	110	14	0.1212	0.0424	19.4095
CM Strobe 15CD	0.0350	22	132	14	0.1404	0.0442	19.3653
Horn Strobe 15CD	0.0500	24	156	14	0.1531	0.0429	19.3224
CM Strobe 15CD	0.0350	19	175	14	0.1212	0.0279	19.2945
CM Strobe 15CD	0.0350	20	195	14	0.1276	0.0249	19.2696
Strobe 15CD	0.0240	23	218	14	0.1467	0.0235	19.2462
Horn Strobe 15CD	0.0500	19	237	14	0.1212	0.0165	19.2297
Horn Strobe 15CD	0.0500	28	265	14	0.1786	0.0154	19.2143
CM Strobe 15CD	0.0350	38	303	14	0.2424	0.0087	19.2056
End of Line Resistor	0.0010	0	303	14	0.0000	0.0000	19.2056
<b>Totals:</b>	<b>0.455</b>	<b>303</b>			<b>1.9331</b>	<b>0.4944</b>	<b>19.2056</b>
Total Devices:	12						

FIRE ALARM WIRE CODE CHART						
Code	Description	Wire Type	Wire Tag	Jacket Color	Color (+)	Color (-)
AC	120VAC Power Wiring	3#12 AWG Solid (w/ Green Ground)			Black (hot)	White (neu)
A	Annunciator Wiring	#18 AWG Twisted/Shielded Pair			Red	Black
D	Door Holder Wiring	2#14 AWG Solid	Door Holder	Red	Red	Black
L	SLC Wiring (Signaling Line Circuit)	2#18 AWG Solid Shielded Pair	SLC	Red	Red	Black
P	24VDC Power Wiring	2#16 AWG Solid	24 VDC	Red	Red	Black
R	Remote Light/Test Wiring	2#18 AWG Solid	R	Red	Red	Black
S	Notification Appliance (Horns) Wiring	2 or 4#14 AWG Solid		Yellow	Red	Black
SA	Notification Appliance (A Speaker) Wiring	2#16 AWG Twisted/Shielded Pair		Gray	Red	Black
SB	Notification Appliance (B Speaker) Wiring	2#16 AWG Twisted/Shielded Pair		Blue	Red	Black
T	Telephone Circuit Wiring	2#16 AWG Twisted/Shielded Pair	Circuit #	Red	Red	Black
V	Notification Appliance (Strobe) Wiring	2 or 4#14 AWG Solid		Yellow	Red	Black
Z	IDC Wiring (Initiating Device Circuit)	2#18 AWG Solid	Zone #	Red	Red	Black
Wire Type Class & Style		SLC - Class B			NAC - Class B	

### BOOSTER CALCULATIONS

FOR: Aurora Medical Center  
1411 S. Potomac Street

HOURS OF SUPERVISION: 24 HOURS  
MINUTES OF ALARM: 5 MINUTES

PANEL: EST BPS6

ITEM	QTY	PART NUMBER	DESCRIPTION	Device Supervisory Current	Device Alarm Current	Total Supervisory Current	Total Alarm Current
1	1	EXISTING	Notification Booster Panel	0.070000	0.190000	0.070000	0.190000
TOTAL:						0.070000	0.190000

PERIPHERAL:

ITEM	QTY	PART NUMBER	DESCRIPTION	Device Supervisory Current	Device Alarm Current	Total Supervisory Current	Total Alarm Current
1	2	EXISTING	15cd Strobe	0.000000	0.028000	0.000000	0.056000
2	1	EXISTING	75cd Strobe	0.000000	0.028000	0.000000	0.028000
3	2	EXISTING	15cd Horn/Strobe	0.000000	0.040000	0.000000	0.080000
4	1	EXISTING	75cd Horn/Strobe	0.000000	0.040000	0.000000	0.040000
5	1	EXISTING	30cd Ceiling Mt. Horn/Strobe	0.000000	0.050000	0.000000	0.050000
6	1	G1RF-VM	15cd Strobe	0.000000	0.028000	0.000000	0.028000
7	3	G1RF-HDVM	15cd Horn/Strobe	0.000000	0.040000	0.000000	0.120000
8	8	GCF-VM	30cd Ceiling Mt. Strobe	0.000000	0.035000	0.000000	0.280000
TOTAL:						0.000000	0.682000

SUPERVISORY:  
 PANEL: 0.070000 AMPS  
 PERIPHERAL: 0.000000 AMPS  
 SUB-TOTAL: 0.070000 AMPS  
 X HOURS OF SUPERVISORY: 24.0000 HOURS  
 SUB-TOTAL: 1.680000 AMP HOURS

ALARM:  
 PANEL: 0.190000 AMPS  
 PERIPHERAL: 0.682000 AMPS  
 SUB-TOTAL: 0.872000 AMPS  
 X MINUTES OF ALARM: 0.08333 HOURS  
 SUB-TOTAL: 0.072667 AMP HOURS

TOTALS:  
 TOTAL SUPERVISORY: 1.680000 AMP HOURS  
 TOTAL ALARM: 0.072667 AMP HOURS  
 TOTAL: 1.752667 AMP HOURS  
 TOTAL PLUS SAFETY FACTOR(20%): 2.10320 AMP HOURS  
 Batteries Supplied - 1 Set of: 7.00000 AMP HOURS

### \*\*1411 S. POTOMAC BUILDING\*\* SEQUENCE OF OPERATIONS

SYSTEM INPUTS	FACP Annunciation				Notification				Fire Safety				Monitoring							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1 Manual Pull Station	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1
2 Low Temp Heat Sensor - Basement Elev Machine/Pis	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2
3 High Temp Heat Sensor - Basement Elev Machine/Pis	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3
4 Smoke Sensor - Basement Elev Lobby	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	4
5 Smoke Sensor - 1st Floor Elev Lobby	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	5
6 Smoke Sensor - 2nd Floor Elev Lobby	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	6
7 Smoke Sensor - 3rd Floor Elev Lobby	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	7
8 Smoke Sensor - 4rd Floor Elev Lobby	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	8
9 Smoke Sensor - Top of Elevator Shaft	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	9
10 Smoke Sensor - All Other Locations	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	10
11 Duct Smoke Sensor			X	X																11
12 Heat Sensor	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	12
13 Sprinkler Waterflow	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	13
14 Sprinkler Control Valve			X	X																14
15 FACP AC Power Failure					X	X	X	X												15
16 FACP Low Battery					X	X	X	X												16
17 Open Circuit					X	X	X	X												17
18 Ground Fault					X	X	X	X												18
19 Notification Appliance Circuit Short					X	X	X	X												19
20 Alarm Signal Silence									X											20

Raymond P. Breeland  
 NICET Certification #111006  
 Fire Alarm Systems Level III  
 Certification Expires 04/01/22

10/22/2020

*RPB*

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NO.	DATE	REVISIONS
1	11/3/20	rev 1 - codes

DRAWN BY: B. COWDEN  
 DATE: 10/22/2020  
 APPR. BY:  
 DATE:

FIRE ALARM SYSTEM TENANT FINISH FOR:  
 SPEC SUITE 250

BUILDING NAME & ADDRESS:  
 1411 S POTOMAC STREET  
 AURORA, CO 80012

PROJECT NUMBER:  
 2014359

FIRE ALARM & DETECTION SYSTEM  
 DRAWING TITLE:  
 SUITE 250  
 CALCULATIONS

SCALE: N/A

PROJECT SHEET TITLE:  
 FA-02



Fire Alarm Services, Inc.  
4800 West 60th Avenue  
Arvada, CO 80003

Phone (303) 466-8800  
Fax (303) 466-8820  
contactus@fasonline.cc

Fire Alarm System Addition at:

Spec Suite 250  
1411 South Potomac Street  
Aurora, CO 80012

Scope of Work:

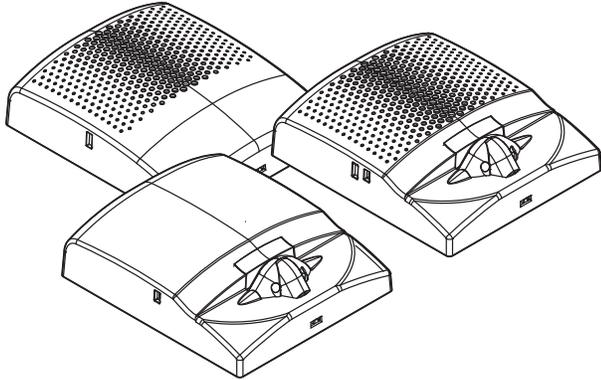
Provide the following fire alarm system modifications to accommodate the proposed construction for the Spec Suite 250 located at 1411 S Potomac St:

1. PROVIDE AND INSTALL NINE (9) NEW STROBES
2. PROVIDE AND INSTALL THREE (3) NEW HORN/STROBES

Raymond P. Breeland Certification Expires 04/01/22 Fire Alarm Systems Level III NICET Certification #111006	
<b>Date</b>	10/22/2020



# Genesis G4 Series Signaling Appliance Installation Sheet



Number	Description
G4AVRF-FR	Wall horn-strobe, red, FEU
G4AVRF-SP	Wall horn-strobe, red, FUEGO
G4AVRN	Wall horn-strobe, red, no marking
G4AVWF	Wall horn-strobe, white, FIRE
G4AVWF-FR	Wall horn-strobe, white, FEU
G4AVWF-SP	Wall horn-strobe, white, FUEGO
G4AVWN	Wall horn-strobe, white, no marking

## Description

Genesis G4 Series horns, strobes, and horn-strobes are wall-mounted plug-in fire alarm signaling appliances designed for indoor dry applications. See Table 1 to Table 3 for a list of models.

**Table 1: Horn models**

Number	Description
G4ARF	Wall horn, red, FIRE
G4ARF-FR	Wall horn, red, FEU
G4ARF-SP	Wall horn, red, FUEGO
G4ARN	Wall horn, red, no marking
G4AWF	Wall horn, white, FIRE
G4AWF-FR	Wall horn, white, FEU
G4AWF-SP	Wall horn, white, FUEGO
G4AWN	Wall horn, white, no marking

**Table 2: Strobe models**

Number	Description
G4VRF	Wall strobe, red, FIRE
G4VRF-FR	Wall strobe, red, FEU
G4VRF-SP	Wall strobe, red, FUEGO
G4VRN	Wall strobe, red, no marking
G4VWF	Wall strobe, white, FIRE
G4VWF-FR	Wall strobe, white, FEU
G4VWF-SP	Wall strobe, white, FUEGO
G4VWN	Wall strobe, white, no marking

**Table 3: Horn-strobe models**

Number	Description
G4AVRF	Wall horn-strobe, red, FIRE

Genesis G4 Series signaling appliances feature:

- Field-configurable horn and strobe outputs. See Figure 2.
- Enhanced synchronization circuitry to comply with the latest requirements of UL 1638 and CAN/ULC-S526.
- Input wiring test points on the front of the appliance when the cover is removed.

**Note:** Synchronized operation requires a separately installed synchronization device. See the control unit or power supply compatibility list for compatible synchronization devices.

## Configuration

**Caution:** Equipment damage hazard. Using excessive force when removing the appliance cover may damage the cover and prevent it from latching in place.

**To configure the signaling appliance:**

1. Remove the appliance cover. See Figure 1.
  - Insert a small, flat-bladed screwdriver into the slot at the bottom of the appliance.
  - Gently pull up on the screwdriver to pry the bottom of the appliance cover down and away from the appliance.
  - Lift the bottom of the cover out and over the top of the appliance.
2. Set the light and sound output switches. See Figure 2.
3. Replace the appliance cover.

**Figure 1: Removing and replacing the cover**

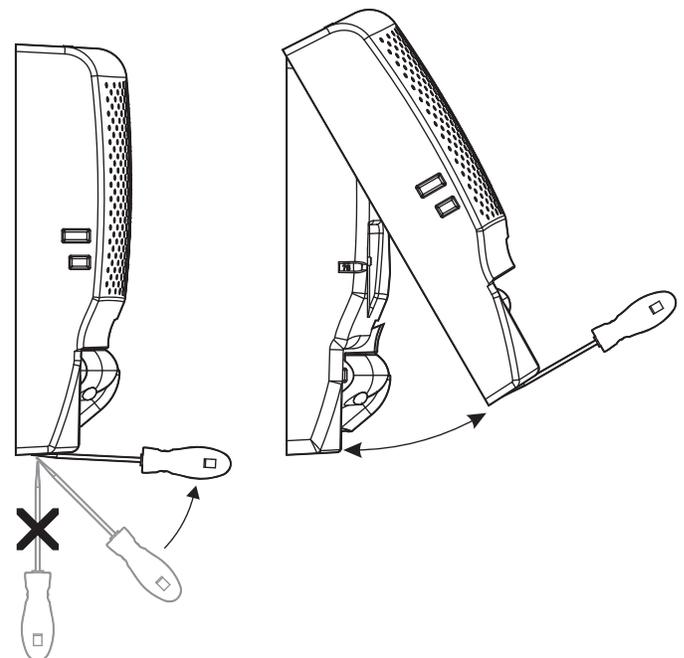
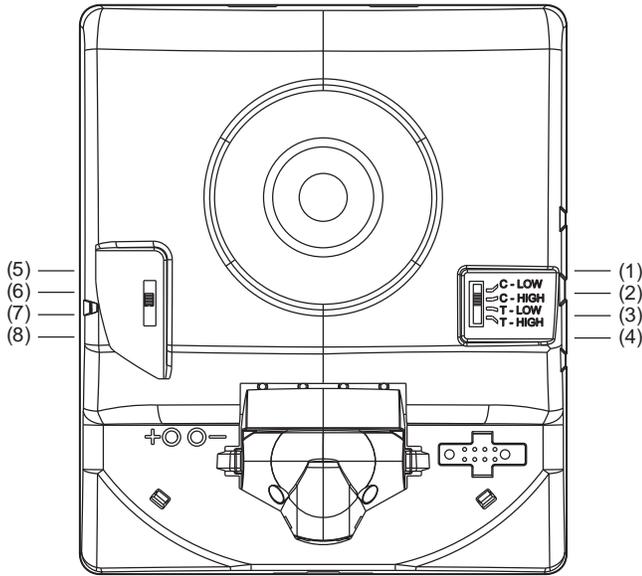


Figure 2: Light and sound output settings



- |                          |                 |
|--------------------------|-----------------|
| (1) Constant, low dB     | (5) 110 candela |
| (2) Constant, high dB    | (6) 75 candela  |
| (3) T3 temporal, low dB  | (7) 30 candela  |
| (4) T3 temporal, high dB | (8) 15 candela  |

**Installation**

Install and wire this device in accordance with applicable national and local codes, ordinances, and regulations.

**Caution:** Electrical supervision requires that you break the wire run at each terminal. Do not loop the signaling circuit field wires around the terminals.

**Note:** Do not use Genesis G4 Series strobe and horn-strobe signaling appliances in applications where signal power is cycled on and off, such as in coded or private mode signaling systems.

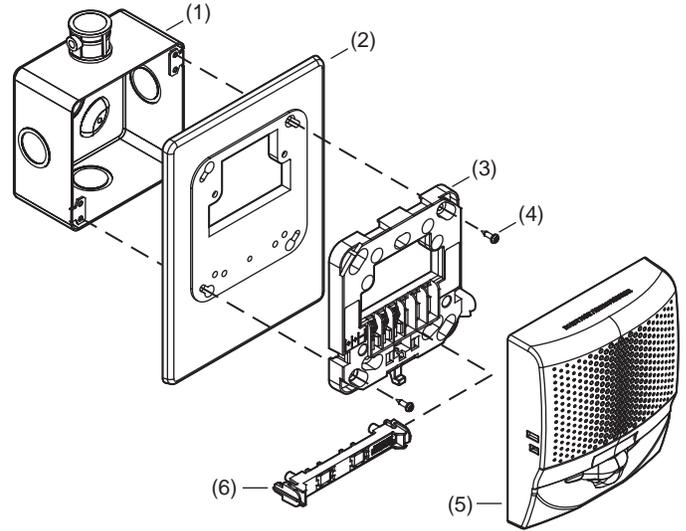
**To install the appliance:**

- Using the screws supplied with the mounting plate, attach the mounting plate and, if used, the trim plate to the electrical box. See Figure 3. The mounting plate is ordered separately.
- Connect the field wiring. Observe signal polarity for the appliance to operate properly. See Figure 4.
- Remove the shorting clip (Figure 3, item 6). Retain for future use.
- Plug the appliance into the mounting plate by setting the appliance on the top of the mounting plate, and then snapping the bottom into place. See Figure 5.

To unplug the appliance, press the spring clip on the bottom, and then lift the appliance away from the mounting plate.

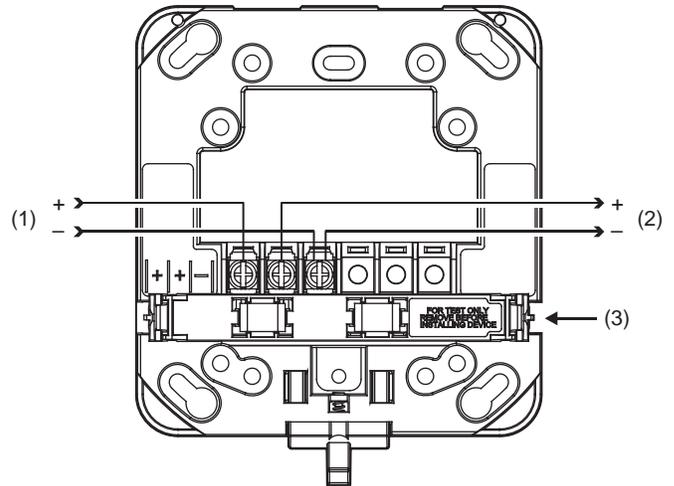
- Test the unit for proper operation.

Figure 3: Mounting on a 4-in. square electrical box



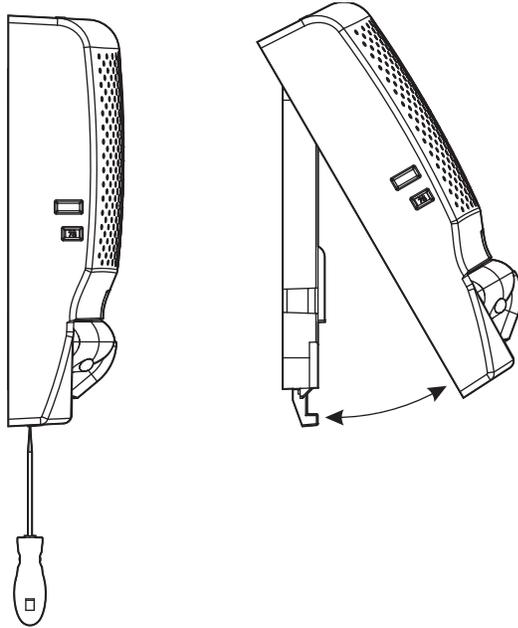
- Electrical box
- Trim plate (optional)
- Mounting plate
- Machine screw (2X, supplied with mounting plate)
- G4 Series signaling appliance
- Shorting clip

Figure 4: Wiring



- Horn/strobe circuit in (signal polarity shown in the active condition)
- Horn/strobe circuit out
- Shorting clip

Figure 5: Removing and replacing the appliance



## Maintenance and testing

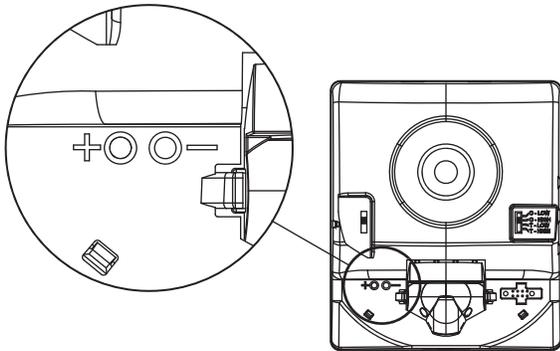
**Caution:** Equipment damage hazard. To maintain the required agency listings, do not change factory-applied finishes.

This unit is not serviceable or repairable. If the unit fails to operate, contact the supplier for a replacement.

Perform a visual and operational inspection in accordance with applicable codes and standards or as directed by the local authority having jurisdiction.

Input wiring test points are available on the front of the appliance when the cover is removed. The test points let you easily spot check the field circuit wiring without the need to remove the appliance from the wall. See Figure 6.

Figure 6: Test points



**Note:** Marking indicates signal polarity when the circuit is active.

## Specifications

Operating voltage	16 to 33 VDC, 16 to 33 VFWR
Operating current	See Table 4 to Table 6
Horn signal type	Constant or temporal (TC3)
Sound output	See Table 7
Sound pattern	See Table 8

Light output	15, 30, 75, or 110 candelas
Strobe flash rate	1 fps (flash per second) approx.
Light distribution	See Figure 7
Synchronization	20 $\Omega$ max. between any two devices. To determine allowed wire resistance, refer to these specifications, and the specifications for the synchronized signal source.
Dimensions (WxHxD)	4.95 x 5.78 x 1.62 in. (12.57 x 14.68 x 4.11 cm) See Figure 8
Strobe-to-box center offset	-1.70 in (-4.32 cm)
Compatible electrical boxes	1-gang, 2-gang, 4-inch octagon 4-inch square
Trim plates	G4TR, G4TW
Replacement covers	See Table 9 to Table 11
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)

Table 4: Operating current (horn models)

Sound setting	16 to 33 VDC	16 to 33 VFWR
C-LOW, T-LOW	18 mA	22 mA
C-HIGH, T-HIGH	28 mA	38 mA

Table 5: Operating current (strobe models)

Strobe setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 110	28 mA	36 mA

Table 6: Operating current (horn-strobe models)

Strobe setting	Sound setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 110	C-LOW, T-LOW	40 mA	48 mA
	C-HIGH, T-HIGH	50 mA	60 mA

Table 7: Sound output (horn and horn-strobe models)

Sound setting	Reverberant (UL 464)	Anechoic (CAN/ULC-S525)
C-LOW, T-LOW	80 dBA	86 dBA
C-HIGH, T-HIGH	86 dBA	92 dBA

Table 8: Sound pattern (ULC)

Axis	Angle	Change in output
Horizontal	135° and 45°	-3 dBA
	150° and 30°	-6 dBA
Vertical	135° and 40°	-3 dBA
	150° and 30°	-6 dBA

**Table 9: Horn replacement covers**

Number	Description
G4ARA-CVR	Cover, wall horn, red, ALERT
G4ARF-CVR	Cover, wall horn, red, FIRE
G4ARF-FR-CVR	Cover, wall horn, red, FEU
G4ARF-SP-CVR	Cover, wall horn, red, FUEGO
G4ARN-CVR	Cover, wall horn, red, no marking
G4AWA-CVR	Cover, wall horn, white, ALERT
G4AWF-CVR	Cover, wall horn, white, FIRE
G4AWF-FR-CVR	Cover, wall horn, white, FEU
G4AWF-SP-CVR	Cover, wall horn, white, FUEGO
G4AWN-CVR	Cover, wall horn, white, no marking

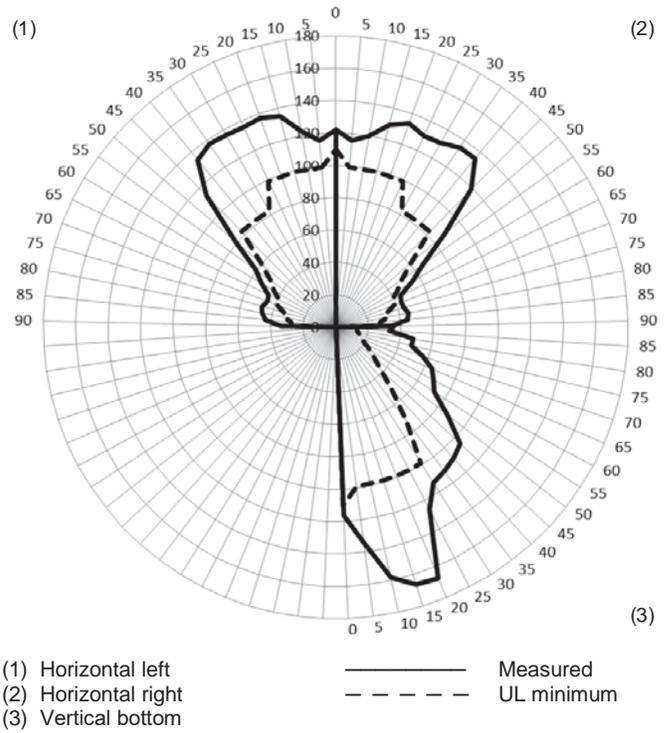
**Table 10: Strobe replacement covers**

Model	Description
G4VRA-CVR	Cover, wall strobe, red, ALERT
G4VRF-CVR	Cover, wall strobe, red, FIRE
G4VRF-FR-CVR	Cover, wall strobe, red, FEU
G4VRF-SP-CVR	Cover, wall strobe, red, FUEGO
G4VRN-CVR	Cover, wall strobe, red, no marking
G4VWA-CVR	Cover, wall strobe, white, ALERT
G4VWF-CVR	Cover, wall strobe, white, FIRE
G4VWF-FR-CVR	Cover, wall strobe, white, FEU
G4VWF-SP-CVR	Cover, wall strobe, white, FUEGO
G4VWN-CVR	Cover, wall strobe, white, no marking

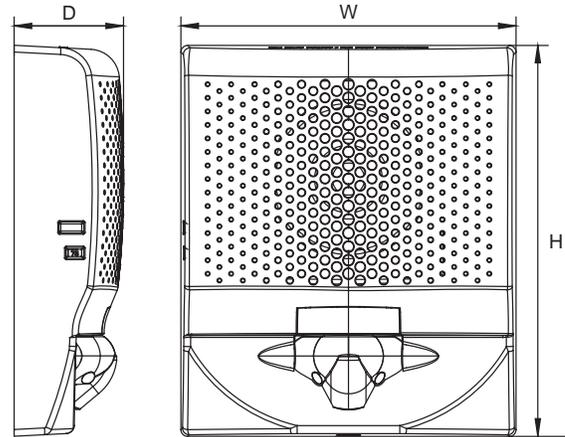
**Table 11: Horn-strobe replacement covers**

Model	Description
G4AVRA-CVR	Cover, wall horn-strobe, red, ALERT
G4AVRF-CVR	Cover, wall horn-strobe, red, FIRE
G4AVRF-FR-CVR	Cover, wall horn-strobe, red, FEU
G4AVRF-SP-CVR	Cover, wall horn-strobe, red, FUEGO
G4AVRN-CVR	Cover, wall horn-strobe, red, no marking
G4AVWA-CVR	Cover, wall horn-strobe, white, ALERT
G4AVWF-CVR	Cover, wall horn-strobe, white, FIRE
G4AVWF-FR-CVR	Cover, wall horn-strobe, white, FEU
G4AVWF-SP-CVR	Cover, wall horn-strobe, white, FUEGO
G4AVWN-CVR	Cover, wall horn-strobe, white, no marking

**Figure 7: Light distribution**



**Figure 8: Dimensions**



**Regulatory information**

UL rating	Regulated 24 DC and 24 FWR
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Industry Canada compliance	This Class A digital apparatus complies with Canadian ICES-003.
Environmental class	Indoor, dry

**Contact information**

For contact information, see [www.edwardsfiresafety.com](http://www.edwardsfiresafety.com).



# Genesis GC Series Signaling Appliance Installation Sheet

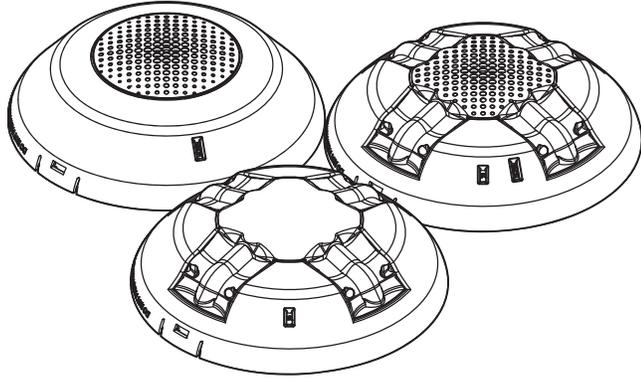


Table 3: Horn-strobe models

Number	Description
GCAVRF	Ceiling horn-strobe, red, FIRE
GCAVRF-FR	Ceiling horn-strobe, red, FEU
GCAVRF-SP	Ceiling horn-strobe, red, FUEGO
GCAVRN	Ceiling horn-strobe, red, no marking
GCAVWF	Ceiling horn-strobe, white, FIRE
GCAVWF-FR	Ceiling horn-strobe, white, FEU
GCAVWF-SP	Ceiling horn-strobe, white, FUEGO
GCAVWN	Ceiling horn-strobe, white, no marking

Genesis GC Series signaling appliances feature:

- Field-configurable horn and strobe outputs. See Figure 2.
- Enhanced synchronization circuitry to comply with the latest requirements of UL 1638 and CAN/ULC-S526.
- Input wiring test points on the front of the appliance when the cover is removed.

**Note:** Synchronized operation requires a separately installed synchronization device. See the control unit or remote booster/auxiliary power supply compatibility list for compatible synchronization devices.

## Description

Genesis GC Series horns, strobes, and horn-strobes are ceiling- or wall-mounted plug-in fire alarm signaling appliances designed for indoor dry applications. See Table 1 through Table 3 for a list of models.

Table 1: Horn models

Number	Description
GCARF	Ceiling horn, red, FIRE
GCARF-FR	Ceiling horn, red, FEU
GCARF-SP	Ceiling horn, red, FUEGO
GCARN	Ceiling horn, red, no marking
GCAWF	Ceiling horn, white, FIRE
GCAWF-FR	Ceiling horn, white, FEU
GCAWF-SP	Ceiling horn, white, FUEGO
GCAWN	Ceiling horn, white, no marking

Table 2: Strobe models

Number	Description
GCVRF	Ceiling strobe, red, FIRE
GCVRF-FR	Ceiling strobe, red, FEU
GCVRF-SP	Ceiling strobe, red, FUEGO
GCVRN	Ceiling strobe, red, no marking
GCVWF	Ceiling strobe, white, FIRE
GCVWF-FR	Ceiling strobe, white, FEU
GCVWF-SP	Ceiling strobe, white, FUEGO
GCVWN	Ceiling strobe, white, no marking

## Configuration

**Caution:** Equipment damage hazard. Using excessive force when removing the appliance cover may damage the cover and prevent it from latching in place.

To configure the signaling appliance:

1. Remove the appliance cover. See Figure 1.  
 Insert a small, flat-bladed screwdriver into the slot at the bottom of the appliance.  
 Gently pull up on the screwdriver to pry the bottom of the appliance cover down and away from the appliance.  
 Lift the bottom of the cover out and over the top of the appliance.
2. Set the light and sound output switches. See Figure 2.
3. Replace the appliance cover.



Figure 1: Removing and replacing the cover

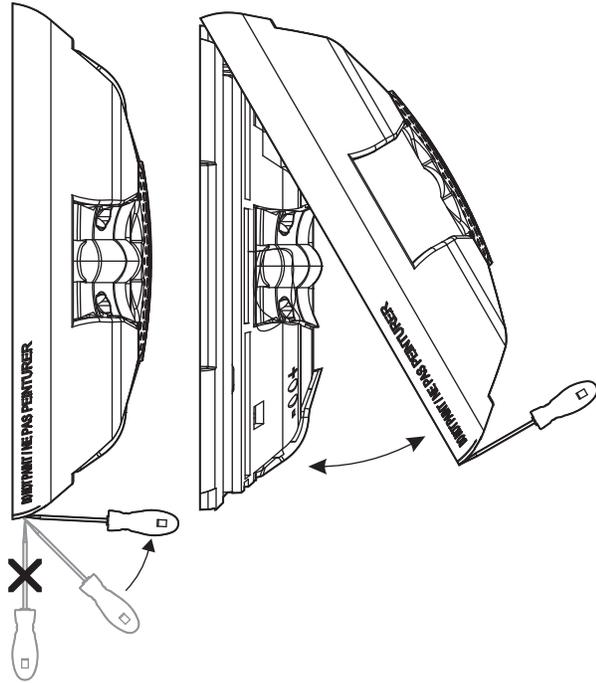
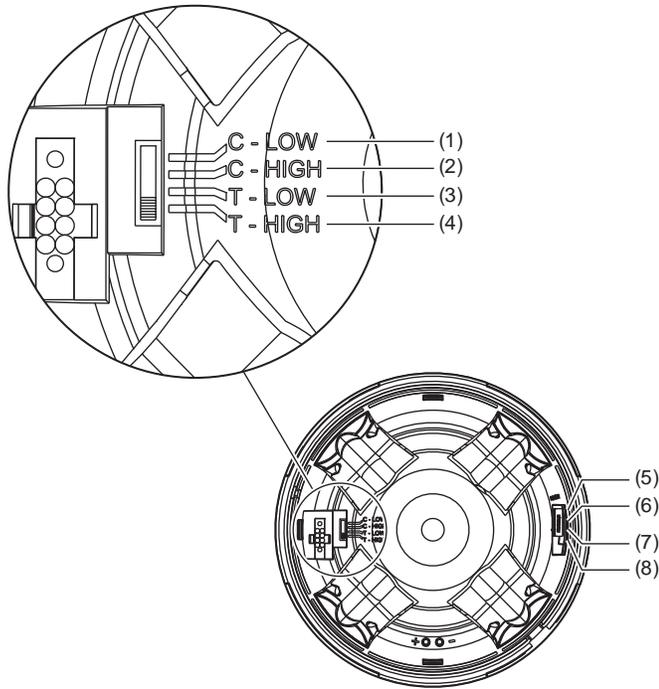


Figure 2: Light and sound output settings



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

## Installation

Install and wire this device in accordance with applicable national and local codes, ordinances, and regulations.

**Caution:** Electrical supervision requires that you break the wire run at each terminal. Do not loop the signaling circuit field wires around the terminals.

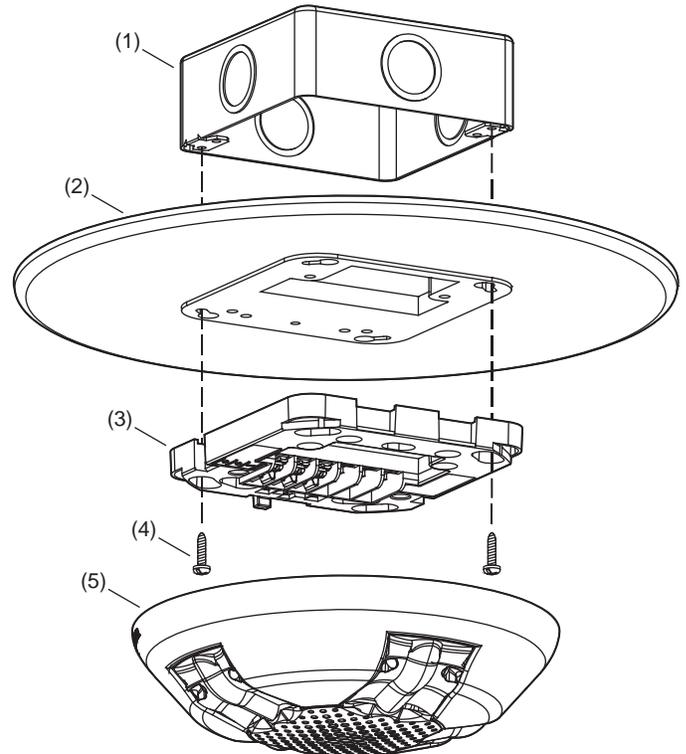
### To install the appliance:

1. Attach the wiring plate and, if used, the trim plate to the electrical box. See Figure 3. The wiring plate and the trim plate are both ordered separately.
2. Connect the field wiring. Observe signal polarity for the appliance to operate properly. See Figure 4.
3. Remove the shorting clip (Figure 4, item 3). Retain for future use.
4. Plug the appliance into the wiring plate by setting the appliance on the top of the wiring plate, and then snapping the bottom into place. See Figure 5.

To unplug the appliance, press the spring clip on the bottom, and then lift the appliance away from the wiring plate.

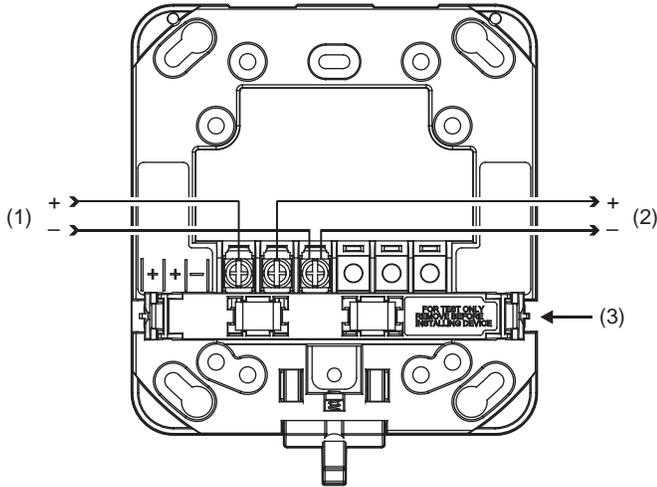
5. Test the unit for proper operation.

Figure 3: Mounting diagram



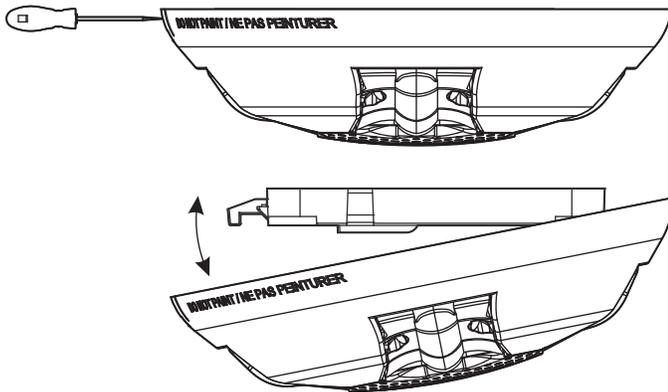
- (1) Electrical box
- (2) Trim plate (optional)
- (3) Wiring plate (required, ordered separately)
- (4) Machine screw (2X, supplied with wiring plate)
- (5) GC Series signaling appliance

Figure 4: Wiring



- (1) Horn/strobe circuit in (signal polarity shown in the active condition)
- (2) Horn/strobe circuit out
- (3) Shorting clip

Figure 5: Removing and replacing the appliance



## Maintenance and testing

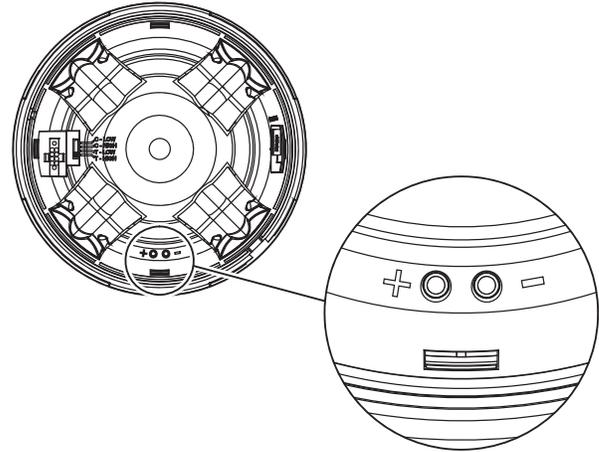
**Caution:** Equipment damage hazard. To maintain the required agency listings, do not change factory-applied finishes.

This unit is not serviceable or repairable. If the unit fails to operate, contact the supplier for a replacement.

Perform a visual and operational inspection in accordance with applicable codes and standards or as directed by the local authority having jurisdiction.

Input wiring test points are available on the front of the appliance when the cover is removed. The test points let you easily spot check the field circuit wiring without the need to remove the appliance from the wall. See Figure 6.

Figure 6: Test points



**Note:** Marking indicates signal polarity when the circuit is active.

## Specifications

Operating voltage	16 to 33 VDC, 16 to 33 VFWR	
Operating current	See Table 4 to Table 6	
Horn signal type	Constant or T3 temporal	
Sound output	See Table 7 and Table 8	
Sound pattern	See Table 9 and Table 10	
Light output	15, 30, 75, or 115 cd	
Strobe flash rate	1 fps (flash per second) approx.	
Light distribution	See Figure 7	
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.	
Dimensions (Ø x D)	6.8 x 1.82 in. (17.27 x 4.62 cm) See Figure 8	
Strobe-to-box center offset	0 in (0 cm)	
Compatible electrical boxes	1-gang, 2-gang, 4-inch octagon, 4-inch square	
Wiring plate	GP10 (pack of ten)	
Trim rings	GCTR, GCTW	
Replacement covers	See Table 11 to Table 13	
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)	

Table 4: Operating current (horn models)

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

**Table 5: Operating current (strobe models)**

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

**Table 6: Operating current (horn-strobe models)**

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

**Table 7: Sound output (horn models)**

Sound setting	Reverberant (UL 464)	Anechoic (CAN/ULC-S525)
C-LOW, T-LOW	80 dBA	86 dBA
C-HIGH, T-HIGH	86 dBA	92 dBA

**Table 8: Sound output (horn-strobe models)**

Sound setting	Reverberant (UL 464)	Anechoic (CAN/ULC-S525)
C-LOW, T-LOW	80 dBA	86 dBA
C-HIGH, T-HIGH	86 dBA	92 dBA

**Table 9: Sound pattern – horn models (ULC)**

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

**Table 10: Sound pattern – horn-strobe models (ULC)**

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

**Table 11: Horn replacement covers**

Model	Description
GCARA-CVR	Cover, ceiling horn, red, ALERT
GCARF-CVR	Cover, ceiling horn, red, FIRE
GCARF-FR-CVR	Cover, ceiling horn, red, FEU
GCARF-SP-CVR	Cover, ceiling horn, red, FUEGO
GCARN-CVR	Cover, ceiling horn, red, no marking
GCAWA-CVR	Cover, ceiling horn, white, ALERT
GCAWF-CVR	Cover, ceiling horn, white, FIRE
GCAWF-FR-CVR	Cover, ceiling horn, white, FEU
GCAWF-SP-CVR	Cover, ceiling horn, white, FUEGO
GCAWN-CVR	Cover, ceiling horn, white, no marking

**Table 12: Strobe replacement covers**

Model	Description
GCVRA-CVR	Cover, ceiling strobe, red, ALERT
GCVRF-CVR	Cover, ceiling strobe, red, FIRE
GCVRF-FR-CVR	Cover, ceiling strobe, red, FEU
GCVRF-SP-CVR	Cover, ceiling strobe, red, FUEGO
GCVRN-CVR	Cover, ceiling strobe, red, no marking
GCVWA-CVR	Cover, ceiling strobe, white, ALERT
GCVWF-CVR	Cover, ceiling strobe, white, FIRE
GCVWF-FR-CVR	Cover, ceiling strobe, white, FEU
GCVWF-SP-CVR	Cover, ceiling strobe, white, FUEGO
GCVWN-CVR	Cover, ceiling strobe, white, no marking

**Table 13: Horn-strobe replacement covers**

Model	Description
GCAVRA-CVR	Cover, ceiling horn-strobe, red, ALERT
GCAVRF-CVR	Cover, ceiling horn-strobe, red, FIRE
GCAVRF-FR-CVR	Cover, ceiling horn-strobe, red, FEU
GCAVRF-SP-CVR	Cover, ceiling horn-strobe, red, FUEGO
GCAVRN-CVR	Cover, ceiling horn-strobe, red, no marking
GCAVWA-CVR	Cover, ceiling horn-strobe, white, ALERT
GCAVWF-CVR	Cover, ceiling horn-strobe, white, FIRE
GCAVWF-FR-CVR	Cover, ceiling horn-strobe, white, FEU
GCAVWF-SP-CVR	Cover, ceiling horn-strobe, white, FUEGO
GCAVWN-CVR	Cover, ceiling horn-strobe, white, no marking

**Figure 7: Light distribution**

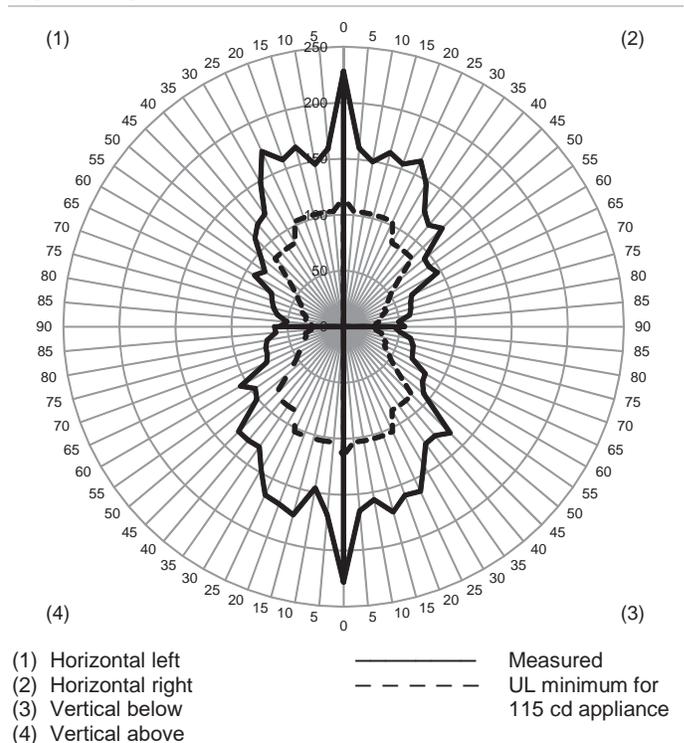
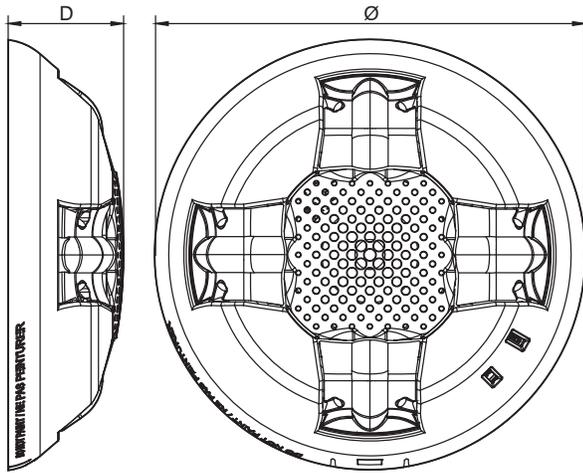


Figure 8: Dimensions



### Regulatory information

UL rating	Regulated 24 DC and 24 FWR
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Industry Canada compliance	This Class A digital apparatus complies with Canadian ICES-003.
Environmental class	Indoor, dry

### Contact information

For contact information, see [www.edwardsfiresafety.com](http://www.edwardsfiresafety.com).