

BUILDING CLASSIFICATIONS AND CODES

OCCUPANCY GROUP: B
 USE: OFFICE
 CONSTRUCTION TYPE: II-B
 STORIES: BASEMENT + 4 FLOORS
 SPRINKLERED: FULLY SPRINKLED

APPLICABLE CODES: 2015 IBC 2013 NFPA 72
 2015 IFC 2017 NFPA 70
 2015 IMC

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 140 PROJECT LOCATED AT 1411 SOUTH POTOMAC STREET:

PARTS

1. REPLACE ONE (1) OLD HORN/STROBE WITH NEW HORN/STROBE
2. REPLACE ONE (1) OLD STROBE WITH NEW HORN/STROBE
3. REPLACE ONE (1) OLD STROBE WITH NEW STROBE
4. PROVIDE AND INSTALL TWO (2) NEW HORN/STROBES
5. PROVIDE AND INSTALL FIVE (5) NEW STROBES
6. PROVIDE AND INSTALL ONE (1) NEW BOOSTER PANEL

INDEX

FA-00 COVER PAGE
 SCOPE OF WORK
 GENERAL INFORMATION
 BUILDING REQUIREMENTS AND CODES

FA-01 FIRE ALARM PLAN
 LEGEND
 KEY MAP
 GENERAL NOTES
 MOUNTING HEIGHTS

FA-02 CALCULATIONS
 VOLT DROP
 BOOSTER CALCULATIONS
 ONE-LINE RISER DIAGRAM
 WIRE CODE CHART
 MATRIX - SEQUENCE OF OPS

1411 SOUTH POTOMAC STREET

FIRE ALARM SYSTEM SHOP DRAWINGS FOR:

PROJECT:
 SPEC SUITE 140
 1411 SOUTH POTOMAC STREET
 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

FIRE ALARM DESIGNER:
 FIRE ALARM SERVICES, INC.
 4800 W. 60TH AVENUE
 ARVADA, CO 80003
 PH:(303)466-8800
 FAX:(303)466-8820
 BRITAINY COWDEN
 BRITAINYC@FASONLINE.CC

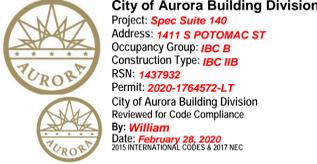
OWNER/GC:
 EJMC, INC.
 111 KALAMATH ST.
 DENVER, CO 80223
 PH:(303)573-5678
 FAX:(303)573-5823
 TODD BUHR

ARCHITECT
 TPS TENANT PLANING SERVICES
 1660 LINCOLN ST.
 DENVER, CO 80110
 PH:(303)861-4800
 FAX:(303)861-1621



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

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



City of Aurora
 Adopted Codes & Standards for this project:
 2015-ICC - 2017-NEC
 2013 NFPA 13 - 2013 NFPA 72
 Amendments to include Chapters 22 & 66

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



| | |
|-----------|--------------|
| REVISIONS | REVISION - 1 |
| NO. | DATE |
| 1 | 2/27/20 |
| DATE: | 2/14/20 |
| APPR. BY: | DATE: |

| | |
|-------------------------|---|
| PROJECT TITLE | FIRE ALARM SYSTEM TENANT FINISH FOR: SPEC SUITE 140 |
| BUILDING NAME & ADDRESS | 1411 SOUTH POTOMAC STREET AURORA, CO 80012 |
| PROJECT NUMBER | 2014027 |

| | |
|--|----------------------|
| FIRE ALARM & DETECTION SYSTEM DRAWING TITLE: | SUITE 140 COVER PAGE |
| SCALE: | N/A |

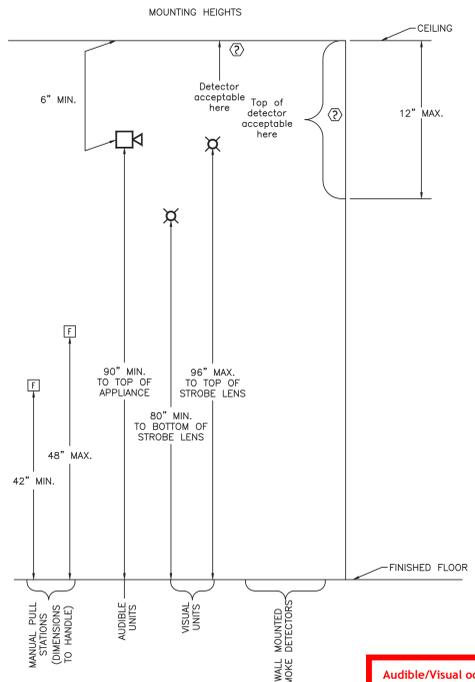
Raymond P. Breeland
 NICET Certification #111006
 Fire Alarm Systems Level III
 Certification Expires 04/01/22

2/14/20

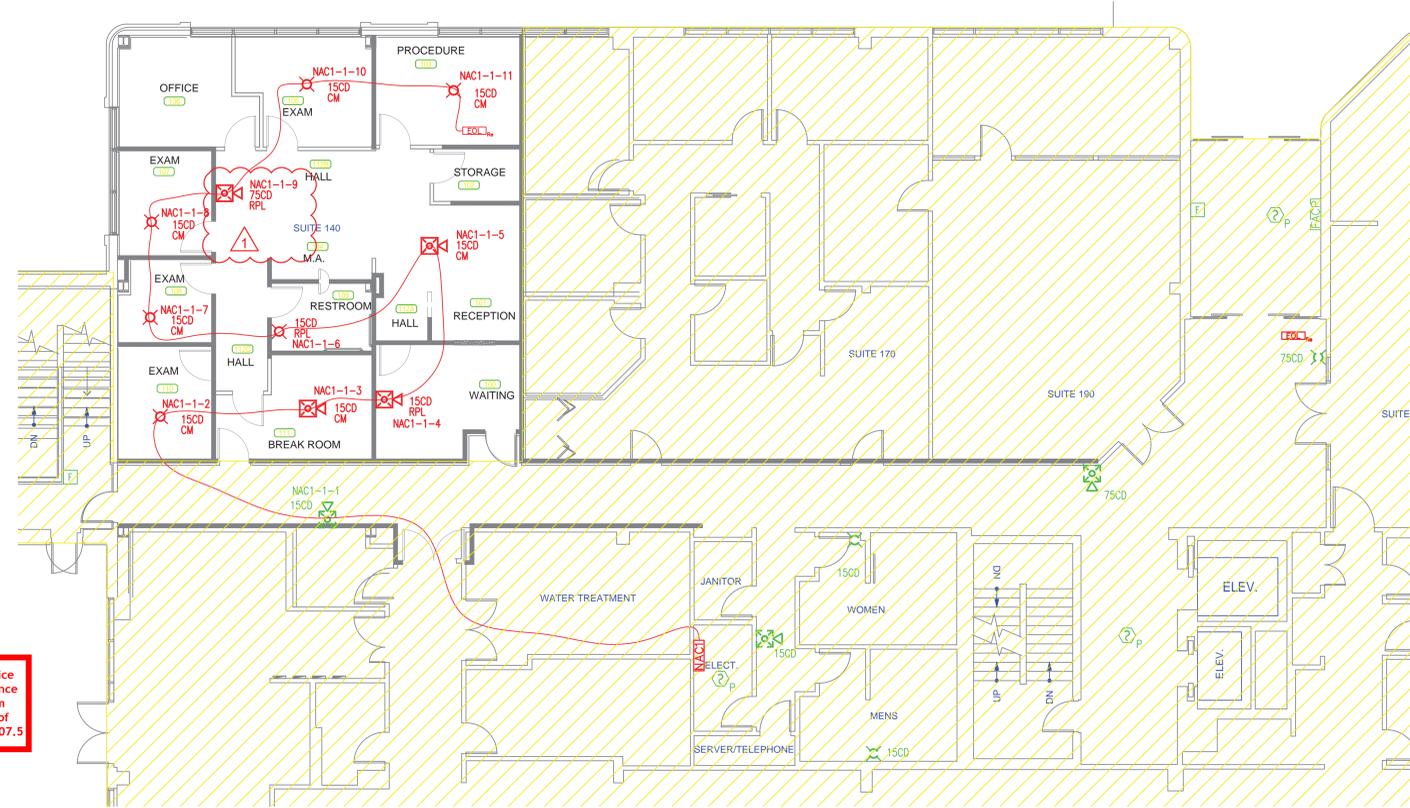
RPB

PROJECT SHEET TITLE
 FA-00

Fire Alarm Services, Inc.
4800 W. 80TH AVENUE phone: 303-466-8800
ARVADA, CO 80003 fax: 303-466-8820
www.fasonline.cc email: contactus@fasonline.cc



Audible/Visual occupant notification device spacing shall be field verified for compliance in Public Use/Common Use Areas. Exam rooms and shared offices are examples of Public Use/Common Use Areas. 2015 IFC 907.5



FIRE ALARM SYMBOLS LEGEND

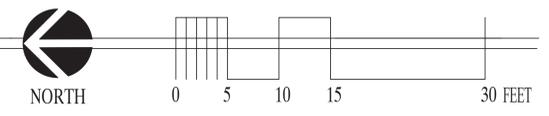
| EXISTING | DESCRIPTION | PROPOSED |
|----------|---|----------|
| | STROBE - Wall Mount or CM = Ceiling Mount | |
| | SMOKE DETECTOR - x = photo, ion | |
| | Speaker/strobe - Wall Mount or Ceiling Mount | |
| | Speaker only = Wall Mount or CM = Ceiling Mount | |
| | Horn/strobe = Wall Mount or Ceiling 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 | |

NOTIFICATION APPLIANCE CIRCUIT NUMBER _____ DEVICE NUMBER _____
NOTIFICATION APPLIANCE PANEL NUMBER _____
NAC1-2-3
POWER EXPANDER NUMBER _____
SPEAKER LINE "A" _____ SPEAKER LINE "B" _____

RL = RELOCATED DEVICES
RR = REMOVE AND REINSTALL
RPL = REMOVE AND REPLACE
J = J-BOX

SUITE 140 FIRE ALARM PLAN

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



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 2016 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



City of Aurora Building Division
Reviewed for Code Compliance
By: William
Date: February 26, 2020
2015 INTERNATIONAL CODES & 2017 NEC

Raymond P. Breeland
NICET Certification #111006
Fire Alarm Systems Level III
Certification Expires 04/01/22
2/14/20

RPB

REVISIONS

| NO. | DATE | REVISIONS |
|-----|---------|--------------|
| 1 | 2/27/20 | REVISION - 1 |

DRAWN BY: B. COMDEN
DATE: 2/14/20
APPR. BY:
DATE:

FIRE ALARM SYSTEM TENANT FINISH FOR:
SPEC SUITE 140

| | | |
|---------------|---|----------------|
| PROJECT TITLE | BUILDING NAME & ADDRESS | PROJECT NUMBER |
| | 1411 SOUTH POTOMAC STREET AURORA, CO 80012 | 2014027 |

| | |
|--|---------------------------|
| FIRE ALARM & DETECTION SYSTEM DRAWING TITLE: | SUITE 140 FIRE ALARM PLAN |
| SCALE: | AS SHOWN |

PROJECT SHEET TITLE
FA-01



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 140
1411 South Potomac Street, suite 140
Aurora, CO 80012

Scope of Work:

Provide the following fire alarm system modification to accommodate the proposed construction for spec suite 140 project located at 1411 South Potomac Street:

1. REPLACE ONE (1) OLD HORN/STROBE WITH NEW HORN/STROBE
2. REPLACE ONE (1) OLD STROBE WITH NEW HORN/STROBE
3. REPLACE ONE (1) OLD STROBE WITH NEW STROBE
4. PROVIDE AND INSTALL TWO (2) NEW HORN/STROBES
5. PROVIDE AND INSTALL FIVE (5) NEW STROBES
6. PROVIDE AND INSTALL ONE (1) NEW BOOSTER PANEL

| | |
|---|-----------|
| Raymon P. Breeland NICET Certification # 111006 Fire Alarm System Level III Certification Expires 04/01/22 | |
| Date | 2/14/2020 |
|  | |



LIFE SAFETY & INCIDENT MANAGEMENT

Wall Mount Signaling Appliances

Genesis LED G4 Series



Overview

Genesis LED G4 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 G4 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 110 cd light output.

Compared with Xenon-type strobes, Genesis LED G4 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, G4 strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED G4 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 G4 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. G4 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 110 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, 3.5-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 G4 Series 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*.

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. Horn-only models may be ceiling-mounted or wall-mounted.

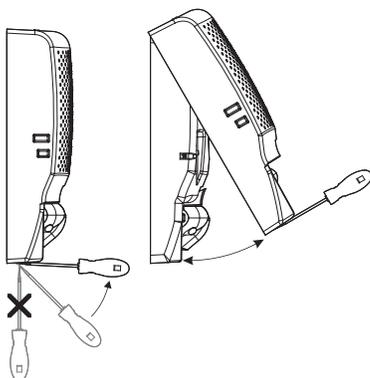
The suggested sound pressure level for each signaling zone used with alarm signals is at least 15 dBA above the average ambient sound level, or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater. These values are measured at five feet (1.5 m) above the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

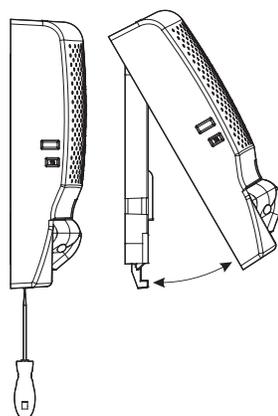
Installation

Genesis G4 horns and strobes mount to the required GP10 room side wiring plate. The GP10 mounting plate is ordered separately from the G4 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

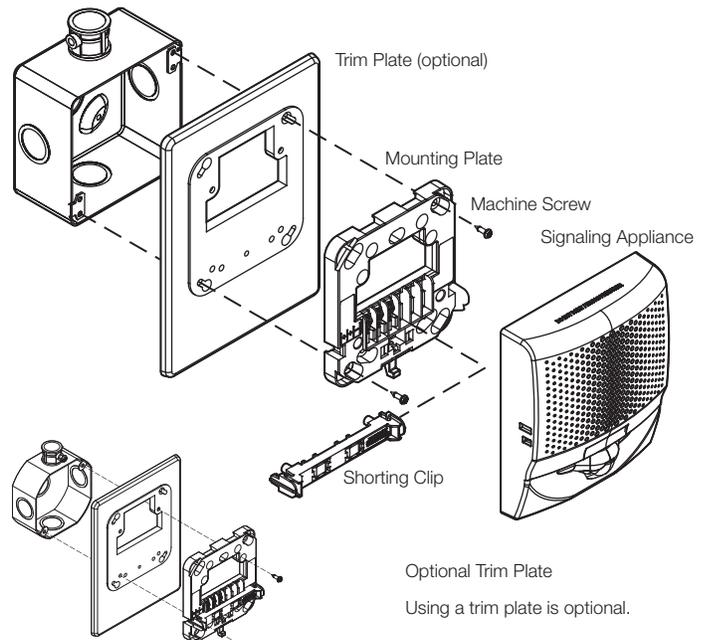


Removing Device

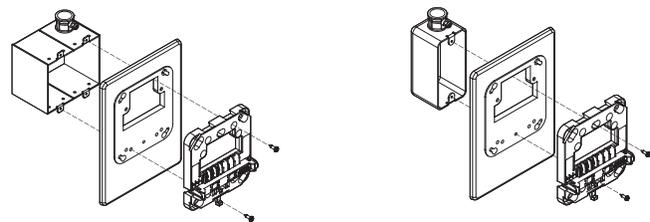


Genesis LED G4 Series horns, strobes, and horn-strobes mount to any standard one-gang, two-gang, 3.5-inch octagon, and 4-inch square electrical box. Matching optional G4T trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available.

Double Gang Electrical Box



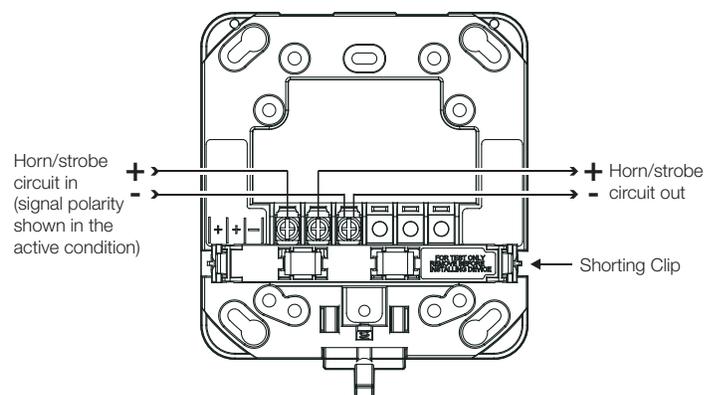
3.5-inch Octagon Electrical Box



Two-gang Electrical Box

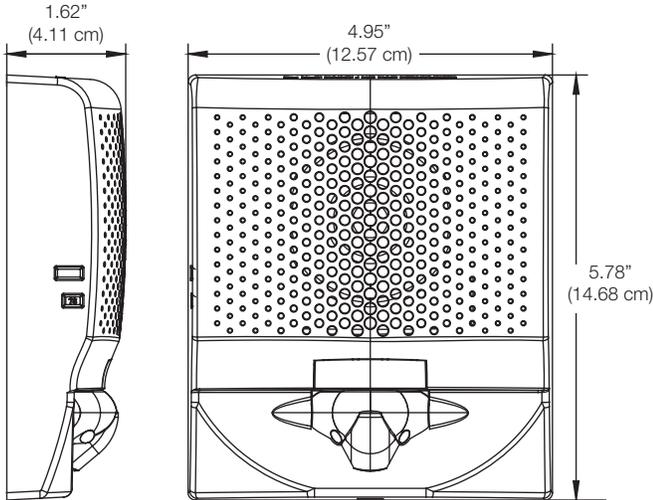
One-gang Electrical Box

Wiring

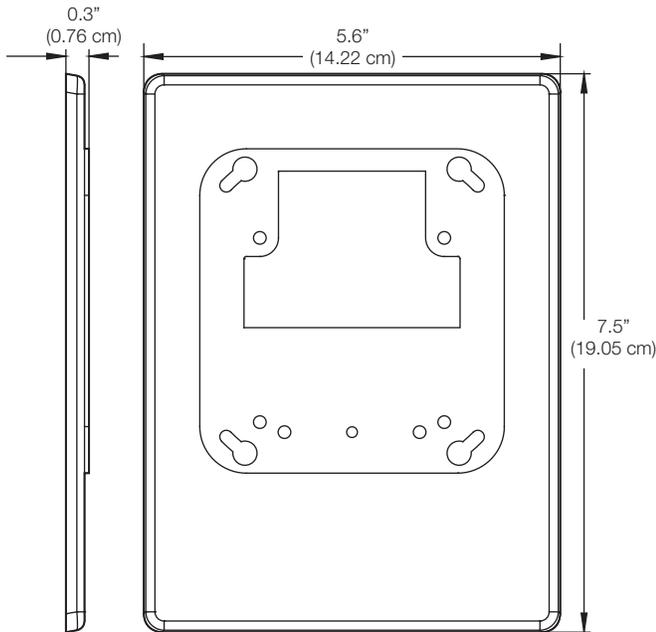


Dimensions

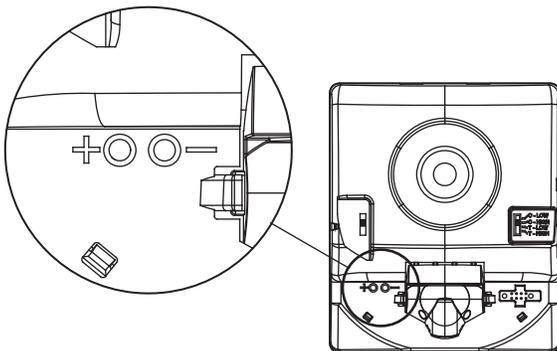
G4 Notification Appliances



G4T Trim Plate (optional)



Diagnostics



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

Field Configuration

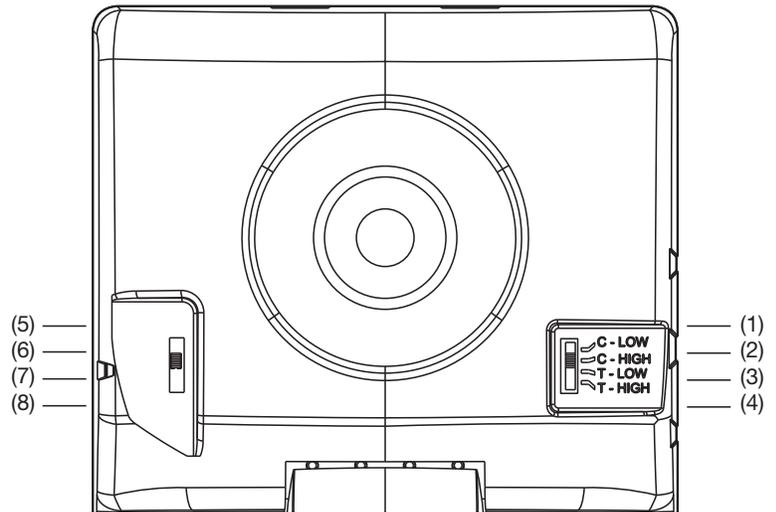
Temporal horn and horn-strobe models are factory set to sound in a three-pulse temporal pattern. By sliding the tone selector switch, horn only models may be configured for constant horn output that can be coded at precise intervals by EDWARDS control panels and control modules.

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 110 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 left-hand side of the device after the cover is closed.

Light and Sound Output Settings



- (1) Constant, low dB
- (2) Constant, high dB
- (3) T3 temporal, low dB
- (4) T3 temporal, high dB
- (5) 110 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 | 18 mA | 22 mA |
| C-High, T-High | 28 mA | 38 mA |

Strobes

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

Horn-Strobes

| 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 |

Sound Output

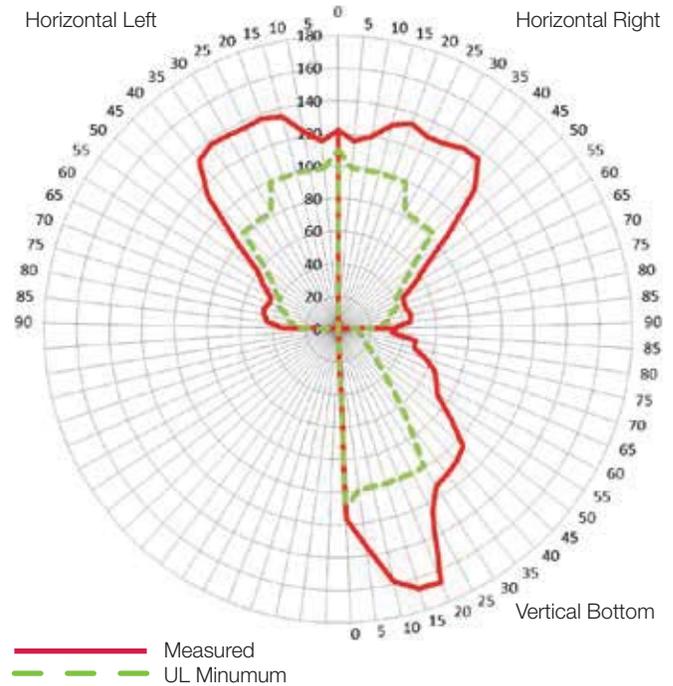
Horn & Horn-Strobe

| Sound setting | Reverberant (UL464) | Anechoic (CAN/ULC - 5925) |
|----------------|---------------------|---------------------------|
| C-Low, T-Low | 80 dBA | 86 dBA |
| C-High, T-High | 85 dBA | 92 dBA |

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 |

Light Distribution



Specifications

| | |
|---------------------------------|--|
| Operating voltage | 16 to 33 VDC, 16 to 33 VFWR |
| Horn signal type | Constant or TC3 temporal |
| Light output | 15, 30, 75, or 110 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) |
| Dimensions (W×H×D) | 4.95 x 5.78 x 1.62 in (12.57 x 14.68 x 4.11 cm) |
| Strobe-to-box center offset | -1.70 inches (-4.32 cm) |
| Compatible electrical boxes [1] | 1-gang, 2-gang, 3.5-inch octagon, 4-inch square |
| Trim plates | G4TR, G4TW (5.6 x 7.5 x 0.3 in (14.22 x 19.05 x 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

FOR REFERENCE ONLY

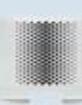
| Notification Appliances | Color | Marking |
|---|----------|-------------|
|  Horns | G4ARF | Red FIRE |
| | G4ARF-FR | Red FEU |
| | G4ARF-SP | Red FUEGO |
| | G4ARN | Red None |
| | G4AWF | White FIRE |
| | G4AWF-FR | White FEU |
| | G4AWF-SP | White FUEGO |
| | G4AWN | White None |

| Replacement Appliance Covers | Color | Marking |
|---|--------------|-------------|
|  Horn Covers | G4ARA-CVR | Red ALERT |
| | G4ARF-CVR | Red FIRE |
| | G4ARF-FR-CVR | Red FEU |
| | G4ARF-SP-CVR | Red FUEGO |
| | G4ARN-CVR | Red None |
| | G4AWA-CVR | White ALERT |
| | G4AWF-CVR | White FIRE |
| | G4AWF-FR-CVR | White FEU |
| | G4AWF-SP-CVR | White FUEGO |
| | G4AWN-CVR | White None |

| | | |
|---|----------|-------------|
|  Strobes | G4VRF | Red FIRE |
| | G4VRF-FR | Red FEU |
| | G4VRF-SP | Red FUEGO |
| | G4VRN | Red None |
| | G4VWF | White FIRE |
| | G4VWF-FR | White FEU |
| | G4VWF-SP | White FUEGO |
| | G4VWN | White None |

| | | |
|---|--------------|-------------|
|  Strobe Covers | G4VRA-CVR | Red ALERT |
| | G4VRF-CVR | Red FIRE |
| | G4VRF-FR-CVR | Red FEU |
| | G4VRF-SP-CVR | Red FUEGO |
| | G4VRN-CVR | Red None |
| | G4VWA-CVR | White ALERT |
| | G4VWF-CVR | White FIRE |
| | G4VWF-FR-CVR | White FEU |
| | G4VWF-SP-CVR | White FUEGO |
| | G4VWN-CVR | White None |

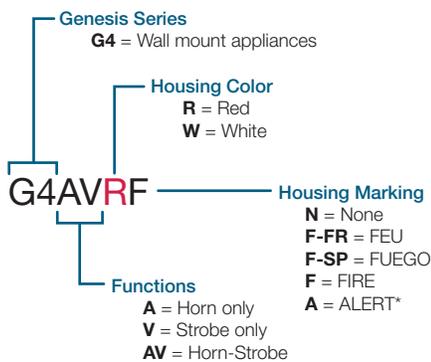
| | | |
|--|-----------|-------------|
|  Horn-strobes | G4AVRF | Red FIRE |
| | G4AVRF-FR | Red FEU |
| | G4AVRF-SP | Red FUEGO |
| | G4AVRN | Red None |
| | G4AVWF | White FIRE |
| | G4AVWF-FR | White FEU |
| | G4AVWF-SP | White FUEGO |
| | G4AVWN | White None |

| | | |
|--|---------------|-------------|
|  Horn-strobe Covers | G4AVRA-CVR | Red ALERT |
| | G4AVRF-CVR | Red FIRE |
| | G4AVRF-FR-CVR | Red FEU |
| | G4AVRF-SP-CVR | Red FUEGO |
| | G4AVRN-CVR | Red None |
| | G4AWA-CVR | White ALERT |
| | G4AVWF-CVR | White FIRE |
| | G4AVWF-FR-CVR | White FEU |
| | G4AVWF-SP-CVR | White FUEGO |
| | G4AVWN-CVR | White None |

Accessories

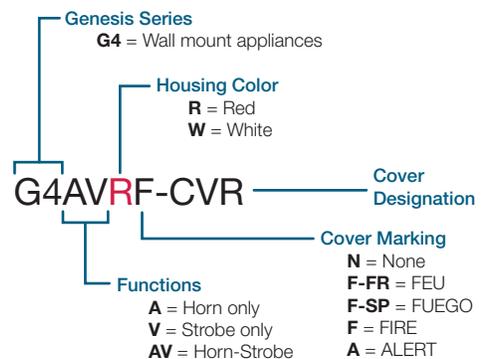
| | | | | | | | | |
|---|------|---|---|---------------------------------|----------------------------|---|-----------------------------------|------------------------------|
|  | GP10 | Room Side Wiring Plate (required, ordered separately) |  | G4TR | Trim plate, G4 Series, red |  | G4TW | Trim plate, G4 Series, white |
| | | | 27193-21 | Two-gang surface mount box, red | | 27193-26 | Two-gang surface mount box, white | |

Model Number Syntax, Appliances



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

Model Number Syntax, Replacement Covers





LIFE SAFETY & INCIDENT MANAGEMENT

Contact us...

Email: edwards.fire@fs.utc.com
Web: edwards-fire.com

1016 Corporate Park Drive
Mebane, NC 27302

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United States and other countries.

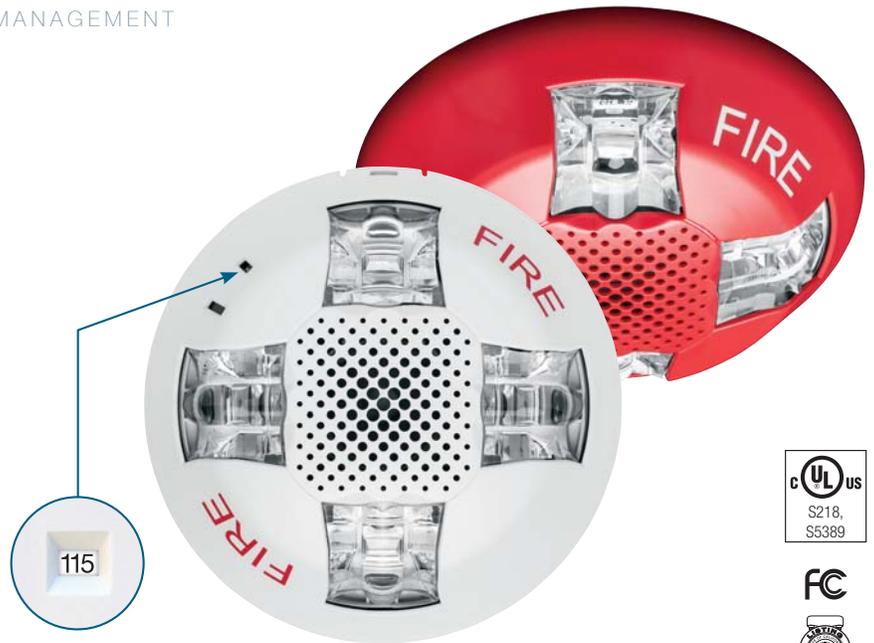
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LIFE SAFETY & INCIDENT MANAGEMENT

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.

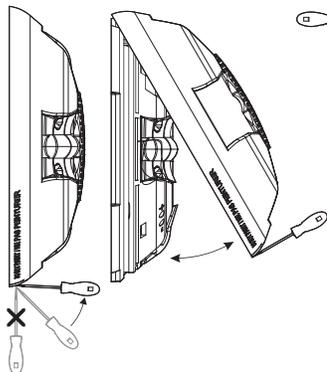
The suggested sound pressure level for each signaling zone used with alarm signals is at least 15 dBA above the average ambient sound level, or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater. These values are measured at five feet (1.5 m) above the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

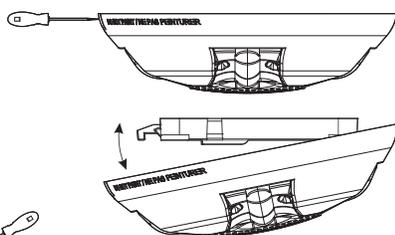
Installation

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.

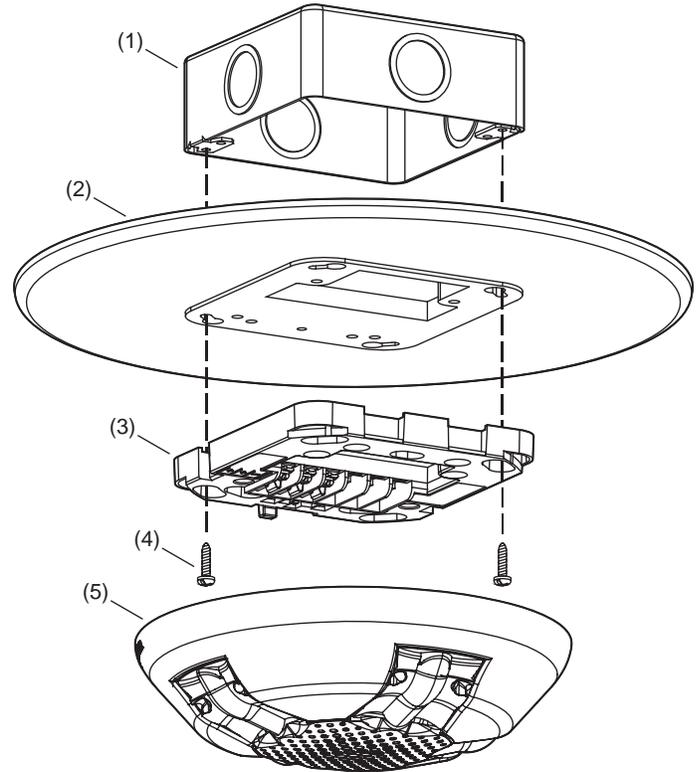
Removing Cover



Removing Device

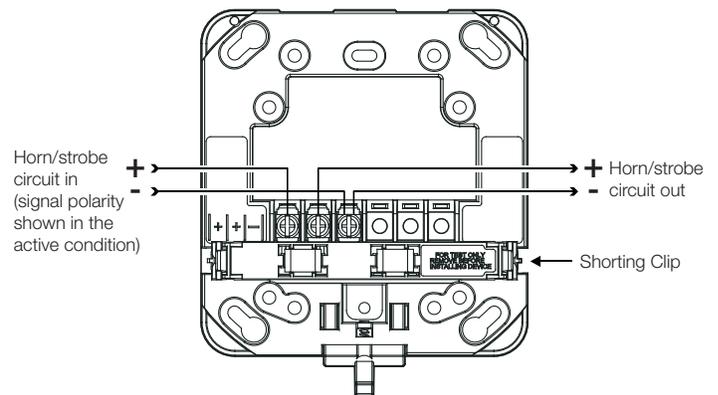


Genesis LED GC Series horns, strobes, and horn-strobes mount to any standard one-gang, two-gang, 4-inch octagon, and 4-inch square electrical box. Matching optional GCT trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available. Genesis LED GC series are listed to be both wall mounted or ceiling mounted.



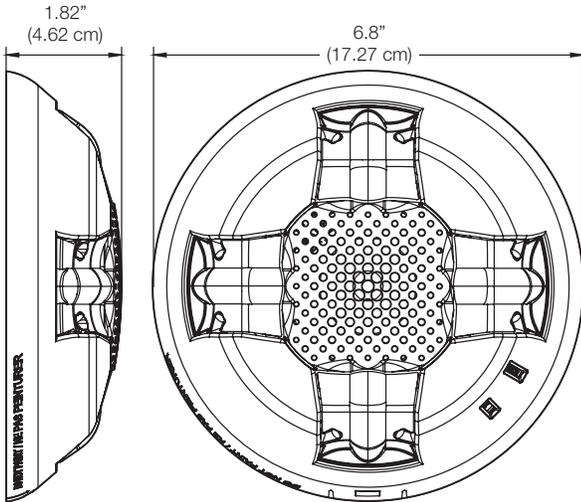
- (1) Electrical Box
- (2) Trim Plate (optional)
- (3) Wiring plate (required, ordered separately)
- (4) Machine screw (2X, supplied with wiring plate)
- (5) GC signaling appliance

Wiring

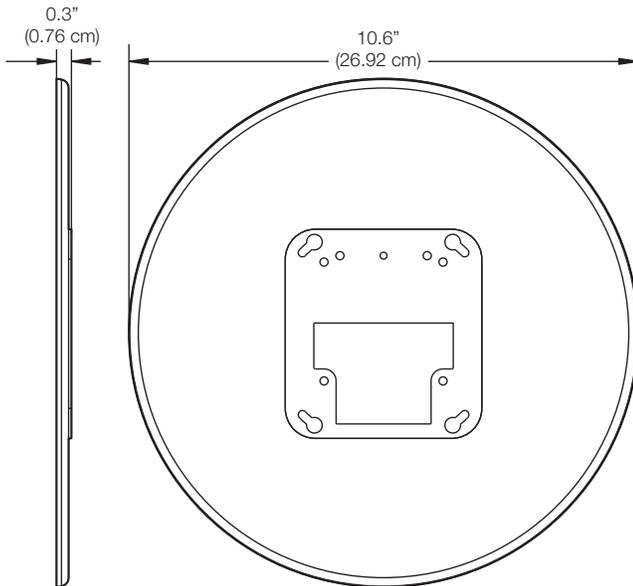


Dimensions

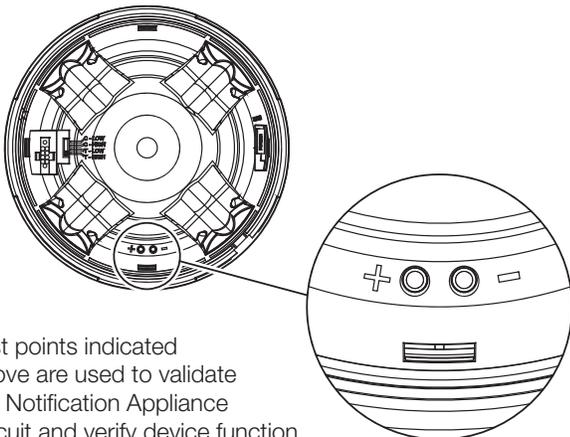
GC Notification Appliances



GCT Trim Plate (optional)



Diagnostics



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

Field Configuration

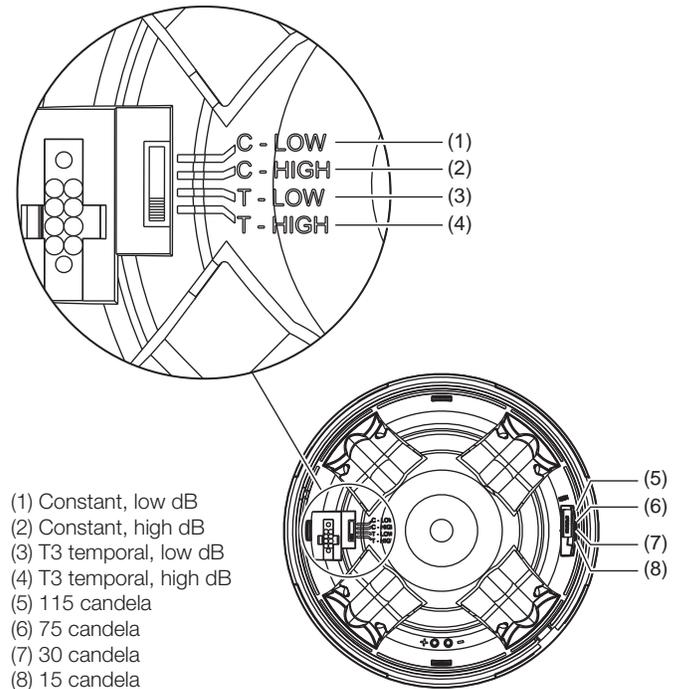
Temporal horn and horn-strobe models are factory set to sound in a three-pulse temporal pattern. By sliding the tone selector switch, horn only models may be configured for constant horn output that can be coded at precise intervals by EDWARDS control panels and control modules.

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



- (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 |

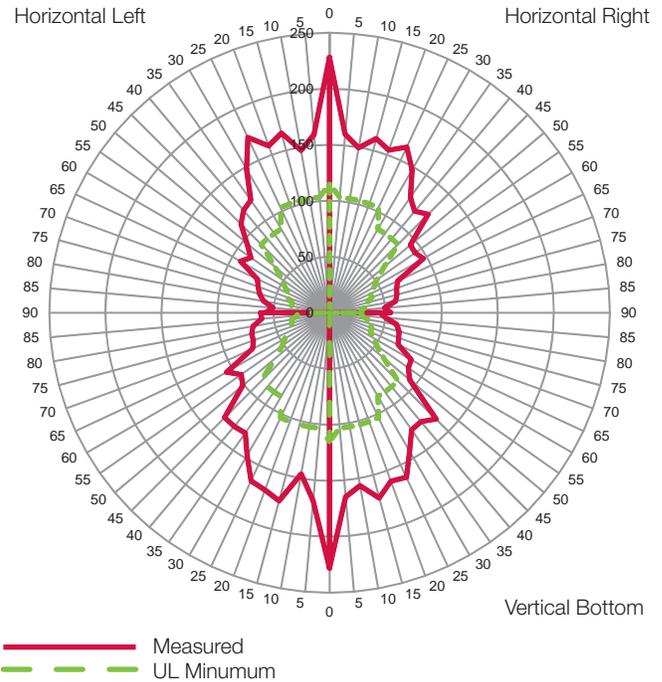
Sound pattern – Horn Models (ULC)

| 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 |

Light Distribution



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 |
| | GCWVF | White | FIRE |
| | GCWVF-FR | White | FEU |
| | GCWVF-SP | White | FUEGO |
| | GCWWN | White | None |

| | | | |
|--|-----------|-------|-------|
|  Horn-strobes | GCAVRF | Red | FIRE |
| | GCAVRF-FR | Red | FEU |
| | GCAVRF-SP | Red | FUEGO |
| | GCAVRN | Red | None |
| | GCAWVF | White | FIRE |
| | GCAWVF-FR | White | FEU |
| | GCAWVF-SP | White | FUEGO |
| | GCAWWN | 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 |
| | GCWVF-CVR | White | FIRE |
| | GCWVF-FR-CVR | White | FEU |
| | GCWVF-SP-CVR | White | FUEGO |
| | GCWWN-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 |
| | GCAWA-CVR | White | ALERT |
| | GCAWVF-CVR | White | FIRE |
| | GCAWVF-FR-CVR | White | FEU |
| | GCAWVF-SP-CVR | White | FUEGO |
| | GCAWWN-CVR | White | None |

Accessories



GP10

Room Side Wiring Plate (required, ordered separately)



GCTR

Trim plate, GC Series, red



GCTW

Trim plate, GC Series, white

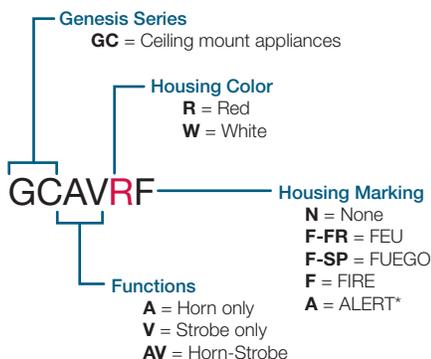
27193-21

Two-gang surface mount box, red

27193-26

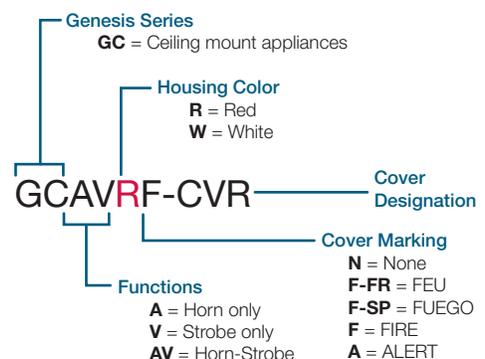
Two-gang surface mount box, white

Model Number Syntax, Appliances



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

Model Number Syntax, Replacement Covers





LIFE SAFETY & INCIDENT MANAGEMENT

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LIFE SAFETY & INCIDENT MANAGEMENT

Remote Booster Power Supplies

BPS6A, BPS10A



Overview

The Booster Power Supply (BPS) is a UL 864, 9th Edition listed power supply. It is a 24 Vdc filtered-regulated, and supervised unit that can easily be configured to provide additional notification appliance circuits (NACs) or auxiliary power for Mass Notification/Emergency Communication (MNEC), as well as life safety, security, and access control applications.

The BPS contains the circuitry to monitor and charge internal or external batteries. Its steel enclosure has room for up to two 10 ampere-hour batteries. For access control-only applications, the BPS can support batteries totaling up to 65 ampere-hours in an external enclosure. The BPS has four Class B (convertible to two Class A) NACs. These can be activated in one or two groups from the BPS's unique dual input circuits.

The BPS is available in 6.5 or 10 ampere models. Each output circuit has a capacity of three amperes; total current draw cannot exceed the unit's rating.

The BPS meets current UL requirements and is listed under the following standards:

| Standard (CCN) | Description |
|---------------------------|--|
| UL864 9th ed.ition (UOXX) | Fire Alarm Systems |
| UL636 (ANET, UEHX7) | Holdup Alarm Units and Systems |
| UL609 (AOTX, AOTX7) | Local Burglar Alarm Units and Systems |
| UL294 (ALVY, UEHX7) | Access Control Systems |
| UL365 (APAW, APAW7) | Police Station Connected Burglar Alarm Units and Systems |
| UL1076 (APOU, APOU7) | Proprietary Burglar Alarm System Units |
| UL1610 (AMCX) | Central Station Alarm Unit |
| ULC-S527 (UOXXC) | Control Units, Fire Alarm (Canada) |
| ULC-S303 (AOTX7) | Local Burglar Alarm Units and Systems (Canada) |
| C22.2 No. 205 | Signaling Equipment (Canada) |

Standard Features

- Allows for reliable filtered and regulated power to be installed where needed
- Cost effective system expansion
- Provides for Genesis and Enhanced Integrity notification appliance synchronization
- Supports coded output operation
- Self-restoring overcurrent protection
- Multiple signal rates
- Can be cascaded or controlled independently
- Easy field configuration
- On-board diagnostic LEDs identify wiring or internal faults
- Standard EDWARDS keyed lockable steel cabinet with removable door
- 110 and 230 Vac models available
- Accommodates 18 to 12 AWG wire sizes
- Optional tamper switch
- Dual battery charging rates
- Optional earthquake hardening: OSHPD seismic pre-approval for component Importance Factor 1.5

Application

The BPS provides additional power and circuits for notification appliances and other 24 Vdc loads. It is listed for indoor dry locations and can easily be installed where needed.

Fault conditions are indicated on the on-board diagnostic LEDs, opening the BPS input sense circuit and the trouble relay (if programmed). While this provides indication to the host system, the BPS can still be activated upon command. A separate AC Fail contact is available on the BPS circuit board, which can be programmed for trouble or AC Fail. There are seven on-board diagnostic LEDs: one for each NAC fault, one for battery fault, one for ground fault, and one for AC power.

The unique dual-input activation circuits of the BPS can be activated by any voltage from 6 to 45 VDC (filtered-regulated) or 11 to 33 Vdc (full-wave rectified, unfiltered). The first input circuit can be configured to activate 1-4 of the four possible outputs. The second input circuit can be configured to control circuits 3 and 4. When outputs are configured for auxiliary operation, these circuits can be configured to stay on or automatically deactivate 30 seconds after AC power is lost. This feature makes these circuits ideal for door holder applications. The BPS also has a separate 200 mA 24 Vdc output that can be used to power internal activation modules.

BPS NACs can be configured for a 3-3-3 temporal or continuous output. California temporal rate outputs are also available on certain models. This makes the BPS ideal for applications requiring signaling rates that are not available from the main system.

In addition to the internally generated signal rates, the BPS can also be configured to follow the coded signal rate of the main system NACs. This allows for the seamless expansion of existing NACs.

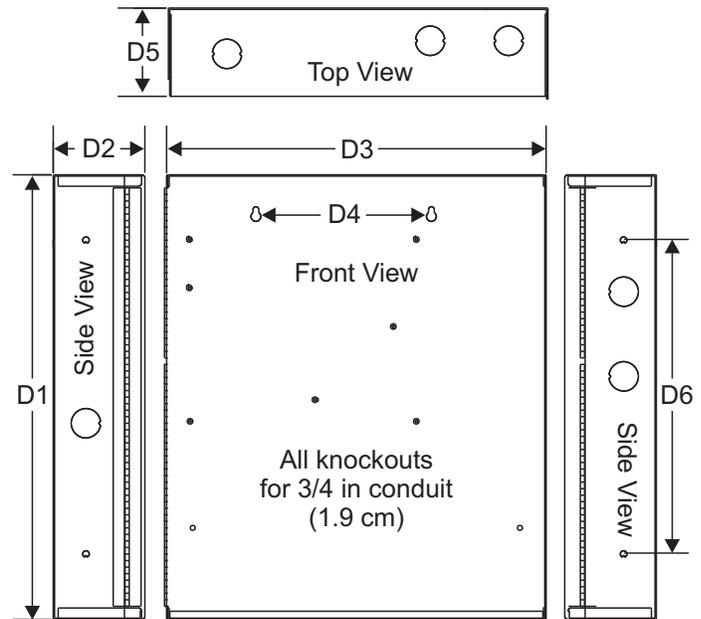
The BPS enclosure has mounting brackets for up to three Signature modules to the right of the circuit board.

Engineering Specification

Supply, where needed, EDWARDS BPS Series Booster Power Supplies (BPS) that are interconnected to and supervised by the main system. The BPS shall function as a stand-alone auxiliary power supply with its own fully-supervised battery compliment. The BPS battery compliment shall be sized to match the requirements of the main system. The BPS shall be capable of supervising and charging batteries having the capacity of 24 ampere-hours for Mass Notification/Emergency Communication (MNEC), life safety and security applications, and the capacity of 65 ampere-hours for access control applications.

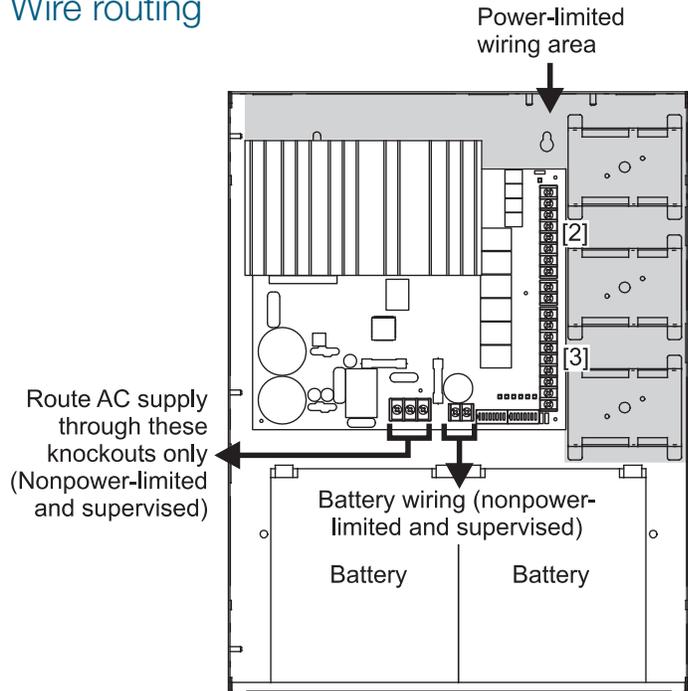
<<The BPS shall be capable of installation for a seismic component Importance Factor of 1.5.>> The BPS shall provide a minimum of four independent, fully supervised Class B circuits that can be field configurable for notification appliance circuits or auxiliary 24 Vdc power circuits. BPS NACs shall be convertible to a minimum of two Class A NACs. Each BPS output circuit shall be rated at 3 amperes at 24 Vdc. Each output circuit shall be provided with automatically restoring overcurrent protection. The BPS shall be operable from the main system NAC and/or EDWARDS Signature Series control modules. BPS NACs shall be configurable for continuous, 3-3-3 temporal or optionally, California rate. Fault conditions on the BPS shall not impede operation of main system NAC. The BPS shall be provided with ground fault detection circuitry and a separate AC fail relay.

Dimensions



| D1 | D2 | D3 | D4 | D5 | D6 |
|----------------------|--------------------|----------------------|---------------------|----------------------|----------------------|
| 17.0 in (43.2 cm) | 3.5 in (8.9 cm) | 13.0 in (33.0 cm) | 6.5 in (16.5 cm) | 3.375 in (8.6 cm) | 12.0 in (30.4 cm) |

Wire routing



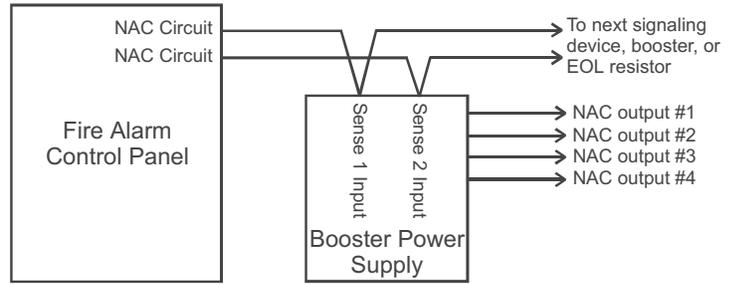
Notes

1. Maintain 1/4-inch (6 mm) spacing between power-limited and nonpower-limited wiring or use type FPL, FPLR, or FPLP cable per NEC.
2. Power-limited and supervised when not configured as auxiliary power. Non-supervised when configured as auxiliary power.
3. Source must be power-limited. Source determines supervision.
4. When using larger batteries, make sure to position the battery terminals towards the door.

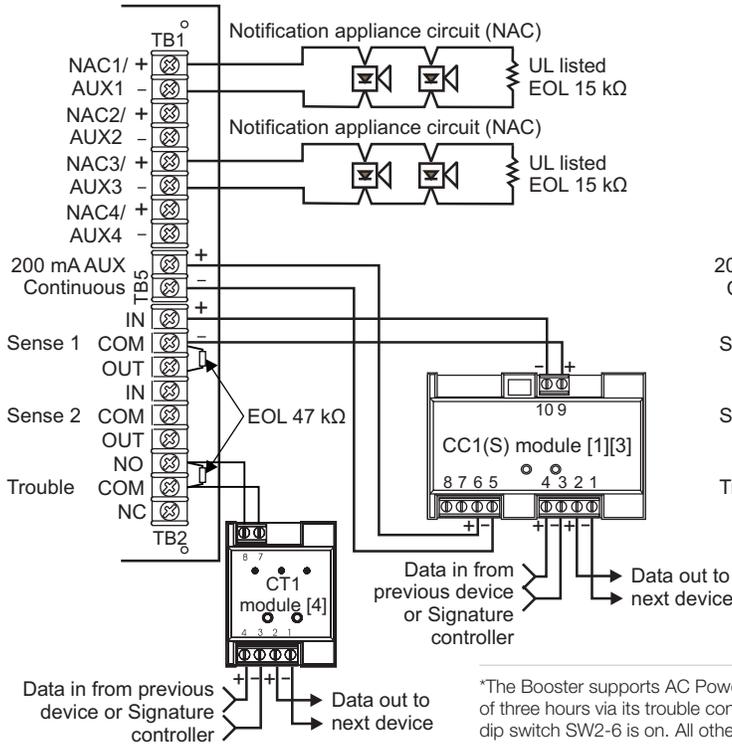
Typical Wiring

Single or cascaded booster anywhere on a notification appliance circuit

Existing NAC end-of-line resistors are not required to be installed at the booster's terminals. This allows multiple boosters to be driven from a single NAC circuit without the need for special configurations.

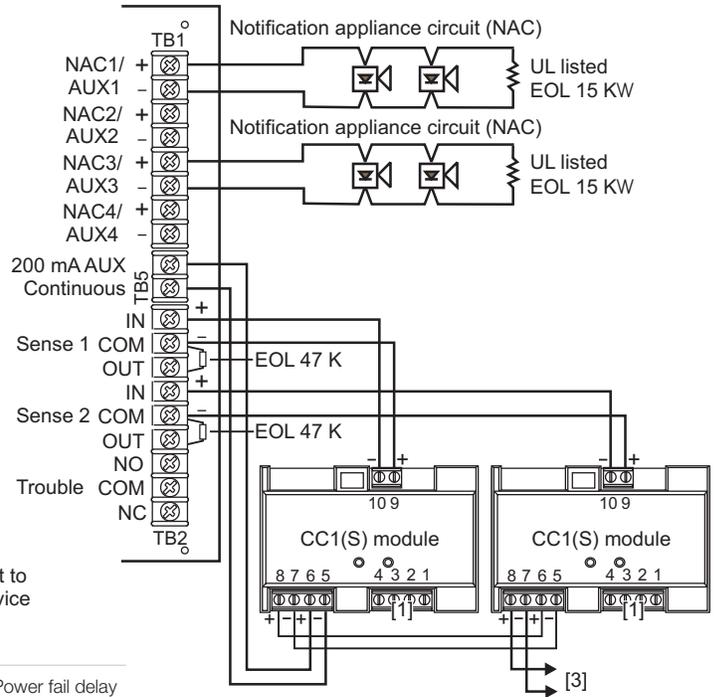


Configuring the Booster for AC Power Fail delay operation*

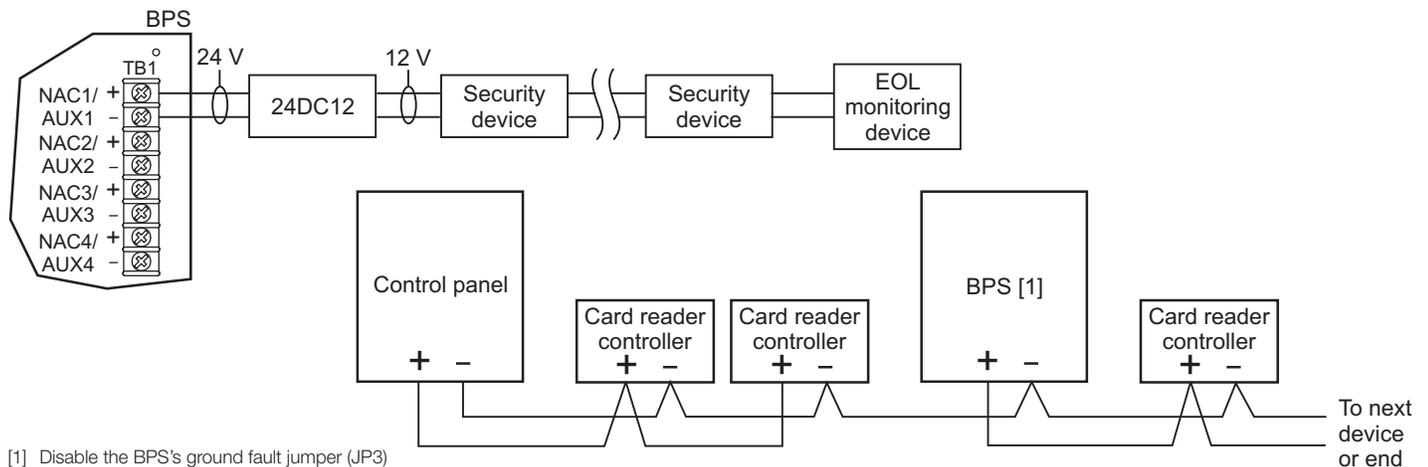


*The Booster supports AC Power fail delay of three hours via its trouble contact when dip switch SW2-6 is on. All other troubles are reported to supervising module or panel without delay via Sense inputs.

Multiple CC1(S) modules using the BPS's sense inputs



Security and access



[1] Disable the BPS's ground fault jumper (JP3)



LIFE SAFETY & INCIDENT MANAGEMENT

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 Web: Edwards-fire.com

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Specifications

| Model | 6.5 amp Booster | 10 amp Booster |
|---|--|---|
| AC Line Voltage | 120VAC or 220-240VAC 50/60Hz 390 watts | 120VAC or 220-240VAC 50/60Hz 580 watts |
| Notification Appliance Circuit Ratings | 3.0A max. per circuit @ 24Vdc nominal 6.5A max total all NACs | 3.0A max. per circuit @ 24Vdc nominal 10A max total all NACs |
| Trouble Relay | 2 Amps @ 30Vdc | |
| Auxiliary Outputs | Four configurable outputs replace NACs 1, 2, 3 or 4. as auxiliary outputs and 200 mA dedicated auxiliary. (See note 2.) | |
| Input Current (from an existing NAC) | 3mA @ 12Vdc, 6mA @ 24Vdc | |
| Booster Internal Supervisory Current | 70mA + 35 mA for each circuit set to AUX | |
| Booster Internal Alarm Current | 270mA | |
| Signature Mounting Space | Accommodates three two-gang modules. | |
| Maximum Battery Size | 10 Amp Hours (2 of 12V10A) in cabinet up to 24 Amp hours with external battery cabinet for fire and security applications; up to 65 Amp hours for access control applications in external battery box. | |
| Terminal Wire Gauge | 18-12 AWG | |
| Relative Humidity | 0 to 93% non condensing @ 32°C | |
| Temperature Rating | 32° to 120°F (0° to 49°C) | |
| NAC Wiring Styles | Class A or Class B | |
| Output Signal Rates | Continuous, California rate, 3-3-3 temporal, or follow installed panel's NAC. (See note 1.) | |
| Ground Fault Detection | Enable or Disable via jumper | |
| Agency Listings | UL, ULC, CSFM | |

1. Model BPS*CAA provides selection for California rate, in place of temporal.
2. Maximum of 8 Amps can be used for auxiliary output.

Ordering Information

| Catalog Number | Description | Shipping Wt. lb (kg) |
|----------------|---|----------------------|
| BPS6A | 6.5 Amp Booster Power Supply | 13 (5.9) |
| BPS6AC | 6.5 Amp Booster Power Supply (ULC) | 13 (5.9) |
| BPS6A/230 | 6.5 Amp Booster Power Supply (220V) | 13 (5.9) |
| BPS6CAA | 6.5 Amp Booster Power Supply with California rate | 13 (5.9) |
| BPS10A | 10 Amp Booster Power Supply | 13 (5.9) |
| BPS10AC | 10 Amp Booster Power Supply (ULC) | 13 (5.9) |
| BPS10A/230 | 10 Amp Booster Power Supply (220V) | 13 (5.9) |
| BPS10CAA | 10 Amp Booster Power Supply with California rate | 13 (5.9) |

Related Equipment

| | | |
|--------|---|------------|
| 12V6A5 | 7.2 Amp Hour Battery, two required | 3.4 (1.6) |
| 12V10A | 10 Amp Hour Battery, two required | 9.5 (4.3) |
| 3-TAMP | Tamper switch | |
| BC-1EQ | Seismic Kit for BC-1. Order BC-1 separately. See note 3. | |
| BPSEQ | Seismic kit for BPS6A or BPS10 Booster Power Supplies. See note 3 | |
| BC-1 | Battery Cabinet (up to 2 - 40 Amp Hour Batteries) | 58 (26.4) |
| BC-2 | Battery Cabinet (up to 2 - 17 Amp Hour Batteries) | 19 (8.6) |
| 12V17A | 18 Amp Hour Battery, two required (see note 1) | 13 (5.9) |
| 12V24A | 24 Amp Hour Battery, two required (see note 1) | 20 (9.07) |
| 12V40A | 40 Amp Hour Battery, two required (see notes 1, 2) | 32 (14.5) |
| 12V50A | 50 Amp Hour Battery, two required (see notes 1, 2) | 40 (18.14) |
| 12V65A | 65 Amp Hour Battery, two required (see notes 1, 2) | 49 (22.2) |

1. Requires installation of separate battery cabinet.
2. BPS supports batteries greater than 24 Amp hours for access control applications only.
3. For earthquake anchorage, including detailed mounting weights and center of gravity detail, refer to Seismic Application Guide 3101676. Approval of panel anchorage to site structure may require local AHJ, structural or civil engineer review.