



FIRE ALARM SYSTEM SUBMITTAL

SITE ADDRESS:

**CITC SOUTH PUYALLUP
SUITES 101-104
402 VALLEY AVENUE NW
PUYALLUP WA 98371**

PREPARED BY:

Red Hawk Fire Protection
801 Valley Avenue NW Suite D
Puyallup, WA 98371

RED HAWK FIRE PROTECTION JOB # **90076**

SUBMITTAL INCLUDES:

SCOPE OF WORK
EQUIPMENT DATA SHEETS
BATTERY CALCULATIONS
CERTIFICATIONS



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Tab 1 – SCOPE OF WORK



SCOPE OF WORK:

The intended scope of this project is the installation of additional conventional smoke detectors and notification devices in the tenant improvement space. Connect new conventional devices into existing conventional circuit. Connect new notification devices into existing notification circuit.

OCCUPANCY TYPE: GROUP B



Tab 2 – FIRE ALARM CONTROL PANEL (EXISTING)



**SILENT
KNIGHT**

by Honeywell

EXISTING

Model 5208 Fire Alarm Control Panel with Digital Communicator

**The Fire Alarm Control Designed to
Grow with Your Systems Needs,
Without The Growing Pains.**

The SK-5208 is a microprocessor based control panel with built-in UL listed communicator designed for applications requiring smoke detection, manual pull stations, and sprinkler supervision. It features an easy to read LCD display with programmable English readout and user friendly tactile keys. The basic unit offers 10 zones of initiation and is expandable up to 30 zones for larger applications. The SK-5208 has a complete line of supervised accessories that provide remote annunciation, auxiliary control zone expansion. Ideal for new and retrofit applications, the SK-5208 delivers the performance to handle your installation.

Features

- 10 zones, 8 Class B (Style B) and 2 Class A (Style D) or Class B (Style B) zones, expandable to 30 zones
- Supervised zone expanders and I/O modules can be mounted remotely from the main control panel
- Event History Buffer (150 events) with date/time stamp
- All zones are compatible with 2- or 4-wire detectors
- 8 selectable/programmable output patterns for notification appliance circuits
- Built-in Digital Alarm Communicator Transmitter (DACT)
- 4 Notification Appliance Circuits
- 4 programmable general purpose relays
- Programmable smoke verification, pre-alarm delay, cross zoning and enhanced verification mode features that can help minimize false alarms
- Programmable from the built-in control panel touchpad, remote annunciator, or Windows® SKSS downloading software
- Direct connect port for on-site up/downloading with Windows® SKSS downloading software
- Built-in walk test feature
- Single or dual interlock water releasing capability
- Plex door option combines a dead front cabinet door with a clear window, limiting access to the panel while providing single button operation of the reset and silence functions
- Programmable AC trouble relay

- Built-in synchronization for appliances from AMSECO®, Gentex®, Faraday, System Sensor®, and Wheelock®
- Programmable date settings for Daylight Saving Time
- Clock source setting options for 50 Hz, 60 Hz, or internal (uses the panel's internal clock)

Specifications

Operating Voltage:	24 VDC
Primary AC:	120 Vrms @ 60Hz, 2A
Total DC Load:	6 Amp
Current Draw:	
Standby:	140 mA
Alarm:	460 mA
Flush Mounting Dimensions:	
Height:	24.75" (62.9 cm)
Width:	14.5" (36.8 cm)
Depth:	3-7/16" (8.73 cm)
	with 5/8" protruding

Overall Dimensions:	
Height:	26-3/8" (67 cm)
Width:	17-3/16" (43.66 cm)
Total Depth:	4" (10.16 cm)
Operating Temp:	32° to 120° F (0° to 49° C)
Humidity:	10 - 93% noncondensing

Optional Accessories

- SK-5235 LCD Remote Annunciator
- SK-5217 10 Zone Expander (2 max. per system)
- SK-5280 Status Display Module (8 max. per system)
- 5220 Direct Connect Module
- 5824 Serial/Parallel Printer Interface Module
- SKSS Downloading Software



SK-5208

- Plex-2 Door Option
- SK-SCK Seismic Compliance Kit

Listings and Approvals

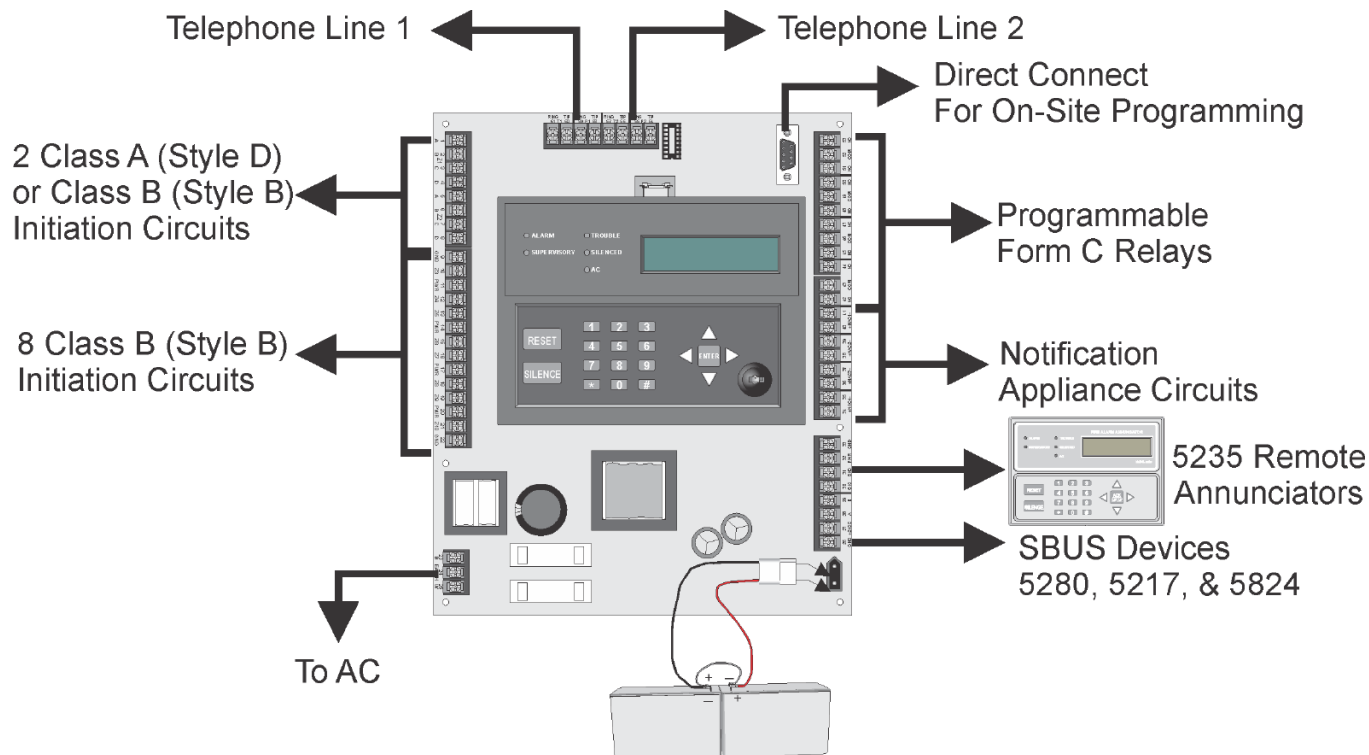
- UL Listed
- CSFM Listed
- MEA approval 429-92-E Vol. XIII
- OSHPD (CA) OSP-0065-10

Model 5208

Fire Alarm Control Panel with Digital Communicator

Engineering Specification

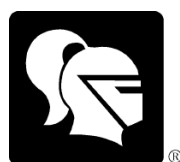
The system shall contain a fire alarm control panel to supervise and operate heat and smoke detection devices, manual fire alarm devices, alarm notification devices and visual annunciators. The system shall also be capable of monitoring for sprinkler supervisory and water flow conditions. The system must have a built in UL listed fire communicator that can be enabled/disabled as needed on a per job basis. In addition, the system will sound alarms locally for purpose of evacuation.





Tab 3 –BOOSTER POWER SUPPLY (EXISTING)

EXISTING


**SILENT
KNIGHT**

by Honeywell

Model 5495 Distributed Power Module

**In an emergency,
you need maximum power**

The 5495 Distributed Power Module by Silent Knight is the most powerful and cost-effective power supply available today. It delivers 6 amps of notification appliance circuit power and built-in synchronization for appliances from System Sensor®, Gentex®, AMSECO®, Wheelock and Faraday — what you need to drive power-hungry components like ADA notification appliances. The 5495's advanced microprocessor design is years ahead of the competition. Its switch mode power supply design is up to 50% more efficient than competitive linear mode power supplies. And, ADA retrofits are easier and less expensive with the 5495 because it integrates into current systems without the costly investment in new components.

For the most sophisticated and cost-effective notification power supply available, you need the 5495. Call Silent Knight today for more information at 1-800-328-0103.

Model 5495 Distributed Power Module

The 5495 is a 6 amp notification power expander that provides its own AC power connection, battery charging circuit, and backup battery for use with fire and security controls such as the Silent Knight Model 5208 Fire Control /Communicator. The 5495 is the cost-effective solution for powering notification appliances required by the Americans with Disabilities Act (ADA). The 5495 has built-in ANSI cadence pattern, which can upgrade older control panels that lack cadence capability.

Features

- UL Listed for 6 amps of notification power
- Power supply's advanced switch mode design reduces damaging heat and manages power up to 50% more efficiently than other systems
- Dip switches allow for easy reconfiguration
- 24 VDC filtered output voltage
- Four power-limited notification outputs; 2 Class A or 4 Class B, or 1 Class A and 2 Class B
- Additional continuous auxiliary output
- 3 amps per output circuit
- 2 inputs; 2 Class B or 2 Class A
- Ground fault detector/indicator
- Independent trouble relay
- AC loss delay option shuts off power

to non-essential high-current accessories like magnetic door holders

- Built-in synchronization for appliances from System Sensor®, Gentex®, AMSECO®, Wheelock and Faraday
- Stand alone operation
- Lightweight design adds to ease of installation and reduces shipping costs
- Operates with most polarized, UL Listed notification devices
- ANSI Cadence pattern output capability built-in

Connection to Local Fire Control

The 5495 may be connected to a local fire control which utilizes Class A or Class B type notification circuits operating between 9 and 32 VDC. The control panel's notification circuit is connected to one of the inputs on the 5495. The control panel's notification circuit end-of-line resistor is also connected across two terminals on the 5495, which provides supervision between the 5495 and the fire control panel. Polarized audible and/or visual notification devices are then connected to the 5495 signal circuits using the 4.7kΩ end-of-line resistors provided. Since the 5495 draws very little power from the control, it is possible to connect one 5495 to each notification circuit on the control panel and still provide full supervision of the notification circuits all the way back to the control panel.



**Model 5495
Distributed Power Module**

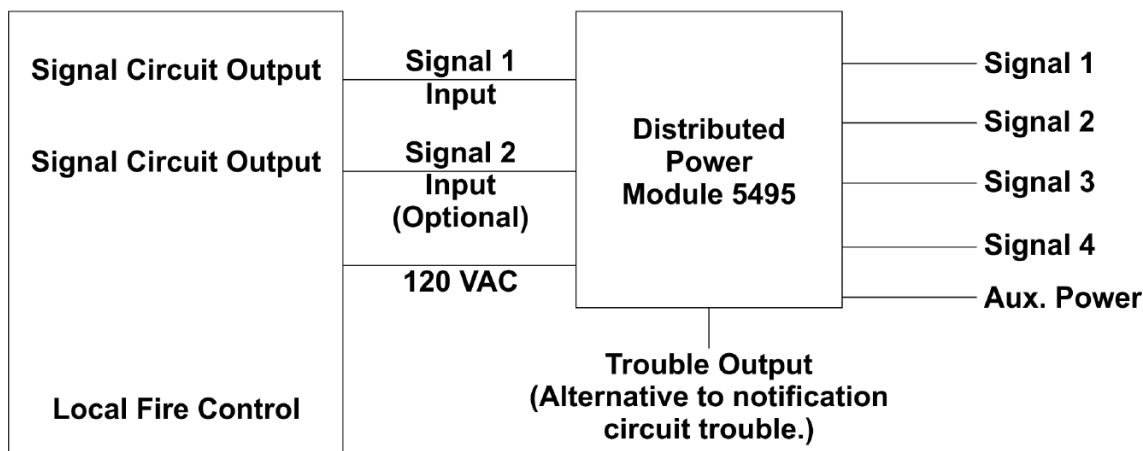
Approvals

- UL Listed
- MEA 429-92-E Vol XII
- CSFM 7300-0559:123
- NFPA 72
- OSHPD (CA) OSP-0065-10 (see accessories)

Model 5495

Distributed Power Module

Model 5495 Block Diagram



Supervision

The 5495 supervises a variety of functions including:

- Low AC power
- Low battery condition
- Earth ground fault
- Auxiliary output power limit condition
- EOL supervision trouble or power limited condition at an output

When a trouble condition occurs, the 5495 creates a trouble condition on the host control signal circuits to which it is connected. the 5495 still maintains the ability to be activated by the host control. In addition, the 5495 provides a Form C trouble relay output as an alternative to using the notification circuit trouble.

Electrical Specification

AC input: 120 VAC at 2 amps
Output: 24 VDC at 6 amps

Current:

Standby 75 mA
Alarm 205 mA

Auxiliary power circuit: 1

Notification circuits: 4

Output configuration: 2 Class A (Style Z)
4 Class B (Style Y)
(1 Class A & 2 Class B)

Amps per output circuit: 3.0 (6.0 amps total)

Notification circuit output: 20.4 to 27.3 VDC @ 3.0 amps each, 4.7 kΩ EOL resistor required on each Class B circuit

No. of inputs 2

Input configuration: 2 Class B or 2 Class A

Input

voltage range: 9 - 32 VDC

Battery charging capacity: 35.0 AH

Ambient temp.: 32° to 120° F (0° to 49° C)

Mechanical

Dimensions: 12.25" W x 16" H x 3" D (30.88 cm W x 40.64 cm H x 7.62 D cm)

Indicator Lights

AC power on : Green
Battery trouble: Yellow
Ground fault: Yellow
Aux trouble: Yellow
Output troubles (1-4): Yellow

Ordering Information

5495 Distributed Power Module

Accessories:

SK-SCK Seismic Compliance Kit



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www.silentknight.com

MADE IN AMERICA

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Tab 4– SMOKE DETECTORS

i³ Series

Photoelectric Smoke Detectors



Conventional Initiating Devices

General

System Sensor's i³™ Series photoelectric and photoelectric/thermal smoke detectors represent a significant advancement in conventional detection, incorporating three key features: installation ease, intelligence, and instant inspection.

Installation ease. The i³ Series redefines installation ease with its plug-in design. This allows an installer to pre-wire the bases included with the heads. The large wire-entry port and in-line terminals provide ample room for neatly routing the wiring inside the base. The base accommodates a variety of backbox mounting methods, as well as direct mounting with drywall anchors. To complete the installation, i³ Series heads plug into the base with a simple Stop-Drop 'N Lock™ action.

Intelligence. i³ Series detectors offer a number of intelligent features to simplify testing and maintenance. Drift compensation and smoothing algorithms, to minimize nuisance alarms, are standard in the i³ Series. When connected to the 2W-MOD loop test/maintenance module, two-wire i³ detectors are capable of generating a remote maintenance signal when they need cleaning. This signal is indicated by LEDs located at the module and at the panel. To read the sensitivity of i³ detectors, the SENS-RDR is a wireless device that displays sensitivity in terms of percent-per-foot obscuration.

Instant inspection. The i³ Series provides wide-angle red and green LED indicators for instant inspection of detector condition. The LEDs indicate: normal standby, out-of-sensitivity, alarm, or freeze trouble conditions. The "EZ Walk" loop test feature is available on two-wire i³ Series detectors when connected to the 2W-MOD loop test/maintenance module. The "EZ Walk" feature verifies the initiating loop wiring by providing LED status indication at each detector.

Features

- Plug-in detector line — mounting base included.
- Large wire-entry port.
- In-line terminals with SEMS screws.
- Mounts to octagonal and single-gang backboxes, 4" (101.6 mm) square backboxes, or directly to ceiling.
- Stop-Drop 'N Lock attachment to base.
- Removable detector cover and chamber for easy cleaning.
- Built-in remote maintenance signaling.
- Drift compensation and smoothing algorithms.
- Simplified sensitivity measurement.
- Wide-angle, dual-color LED indication.
- Loop testing via "EZ Walk" feature.
- Built-in test switch.

Specifications

PHYSICAL SPECIFICATIONS

Operating Temperature Range: For models 2W-B and 4W-B: 32°F to 120°F (0°C to 49°C); for thermal models 2WT-B and 4WT-B: 32°F to 100°F (0°C to 37.8°C).

Operating Humidity Range: 0% – 95% RH, non-condensing.

Thermal Sensor: 135°F (57.2°C) fixed (models 2WT-B, 4WT-B).



6885photo1.jpg

Freeze Trouble: 41°F (5°C) (models 2WT-B and 4WT-B).

Sensitivity: 2.5%/foot (0.762%/meter) nominal.

Input Terminals: Utilize 14 to 22 AWG wire.

Dimensions (including base): 5.3" (134.62 mm) diameter, 2.0" inches (50.8 mm) high.

Weight: 6.3 oz. (178.6 grams).

Mounting Options: 3.5" (88.9 mm) octagonal backbox; 4" (101.6 mm) octagonal backbox; single-gang backbox; 4" (101.6 mm) square backbox with a plaster ring; or direct mount to ceiling.

ELECTRICAL SPECIFICATIONS

Operating Voltage: 12/24 V non-polarized nominal; 8.5 V minimum; 35 V maximum.

Maximum Alarm Current For two-wire models: 130 mA limited by control panel; For four-wire models: 20 mA @ 12 V, 23 mA @ 24 V.

Alarm Contact Ratings: For four-wire models: 0.5 A @ 30 VAC/VDC; not applicable for two-wire models.

LED Modes	Green LED	Red LED
Power Up	Blink every 10 seconds	Blink every 10 seconds
Normal (Standby)	Blink every 5 seconds	OFF
Out of Sensitivity	OFF	Blink every 5 seconds
Freeze Trouble	OFF	Blink every 10 seconds
Alarm	OFF	Solid ON
Power Up Sequence for LED Indication		
Condition		Duration
Initial LED Status Indication		80 Seconds

Architectural/Engineering Specifications

Smoke detector shall be a System Sensor i³ Series model number _____, Listed to Underwriters Laboratories UL 268 Fire Protection Signaling Systems. The detector shall be a photoelectric type (models 2W-B, 4W-B) or a combination photoelectric/thermal (models 2WT-B, 4WT-B) with thermal sensor rated at 135°F (57.2°C). The detector shall include a mounting base for mounting to 3.5" (88.9 mm) and 4" (101.6 mm) octagonal, single-gang, and 4" (101.6 mm) square backboxes with a plaster ring, or directly mount to the ceiling using drywall anchors. Wiring connections shall be made by means of SEMS screws. The detector shall allow pre-wiring of the base and the head shall be a plug-in type. The detector shall have a nominal sensitivity of 2.5%/foot (0.762%/meter) as measured in the UL smoke box. The detector shall be capable of automatically adjusting its sensitivity by means of drift compensation and smoothing algorithms. The detector shall provide dual-color LED indication which blinks to indicate power-up, normal standby, out-of-sensitivity, alarm, and freeze trouble (models 2WT-B, 4WT-B) conditions. When used in conjunction with the 2W-MOD module, two-wire models shall include a maintenance signal to indicate the need for maintenance at the alarm control panel, and shall provide a loop testing capability to verify the circuit without testing each detector individually.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL/ULC Listed:** S911
- **FM Approved**
- **CSFM:** 7272-1653:152
- **MEA:** 290-01-E
- **Maryland State Fire Marshal:** Permit # 2093

Product Line Information

2W-B: Two-wire photoelectric smoke detector.

C2W-BA: Same as 2W-B, ULC listing.

2WT-B: Two-wire photoelectric smoke detector with 135°F (57.2°C) fixed thermal sensor.

C2WT-BA: Same as 2WT-B, ULC listing.

4W-B: Four-wire photoelectric smoke detector.

C4W-BA: Same as 4W-B, ULC listing.

4WT-B: Four-wire photoelectric smoke detector with 135°F (57.2°C) fixed thermal sensor.

C4WT-BA: Same as 4WT-B, ULC listing.

ACCESSORIES:

2W-MOD2: Two-wire loop test/maintenance module.

SENS-RDR: Sensitivity reader.

A77-AB2: Retrofit adapter bracket, 6.6" (167.7cm) diameter.

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For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com



Tab 5- PULL STATIONS (EXISTING)

BG-12 Series

Manual Fire Alarm Pull Stations



Conventional Initiating Devices

General

The Fire-Lite **BG-12 Series** is a cost-effective, feature-packed series of non-coded manual fire alarm pull stations. It was designed to meet multiple applications with the installer and end-user in mind. The BG-12 Series features a variety of models including single- and dual-action versions.

The BG-12 Series provides Fire-Lite Alarm Control Panels (FACPs), as well as other manufacturers' controls, with a manual alarm initiating input signal. Its innovative design, durable construction, and multiple mounting options make the BG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word "ACTIVATED" appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words "NORMAL" and "ACTIVATED" are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-I/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions (*FUEGO*) available (**BG-12LSP**, **BG-12LPSP**).
- Designed to replace the Fire-Lite legacy **BG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.



Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor's popular SpectrAlert® Advance horn/strobe series.

Operation

The BG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word "ACTIVATED" appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key, twist one quarter-turn, then open the station's front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station's front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

	pull station	SB-I/O	SB-10
Height	5.5 inches (13.97 cm)	5.601 inches (14.23 cm)	5.5 inches (13.97 cm)
Width	4.121 inches (10.47 cm)	4.222 inches (10.72 cm)	4.121 inches (10.47 cm)
Depth	1.39 inches (3.53 cm)	1.439 inches (3.66 cm)	1.375 inches (3.49 cm)

52004dim.tbl

ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: *The words "FIRE/FUEGO" on the BG-12LSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.



Agency Listings and Approvals

The listings and approvals below apply to the BG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US:** S711
- **FM Approved**
- **CSFM:** 7150-0075:184
- **MEA:** 67-02-E
- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

BG-12S: Single-action pull station with pigtail connections, hex lock.

BG-12SL: Same as BG-12 with key lock.

BG-12: Dual-action pull station with SPST N/O switch, screw terminal connections, **hex lock**.

BG-12L: Same as BG-12 with key lock.

BG-12LSP: Same as BG-12L with English/Spanish (**FIRE/FUEGO**) labeling.

BG-12LOB: Same as BG-12L with "outdoor use" listing. Includes outdoor listed backbox, and sealing gasket.

BG-12LO: Same as BG-12L with "outdoor use" listing. Does not include backbox.

BG-12LA: Same as BG-12L with auxiliary contacts.

BG-12LPS: Dual-action pull station with pre-signal option.

BG-12LPSP: Same as BG-12LPS with English/Spanish (**FIRE/FUEGO**) labeling.

SB-10: Surface-mount backbox, metal.

SB-I/O: Surface-mount backbox, plastic. (Included with BG-12LOB.)

BG12TR: Optional trim ring for semi-flush mounting.

17003: Keys, set of two. (Included with key-lock pull stations.)

17007: Hex lock, 9/64". (Included with hex-lock pull stations.)

NOTE: For addressable BG-12LX models, see data sheet DF-52013.

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www.firelite.com



Tab 6- NOTIFICATION DEVICES

GES3 / GEC3 Series

Selectable Candela Evacuation Signals

12 VDC and 24 VDC Commander3 Strobe and Horn/Strobe

24 units per carton, 28 pounds per carton

Applications

The Commander3 Series is a low profile strobe and horn/strobe combination that offers dependable audible and visual alarms and the absolute lowest current available.

The GE3 Series 24 VDC offers tamperproof field selectable candela options of 15, 30, 60, 75, and 110 candela. The 12 VDC offers tamperproof field selectable candela options of 15, 30, 60, and 75 candela. The GEC3 horn/strobe offers a continuous or synchable temporal 3 in 2400Hz, mechanical and chime as well as a whoop tone. All tones are easy for the professional to change in the field by the use of switches.

The Commander3 Series is shipped with a standard 4" metal mounting plate which incorporates the popular Super-Slide® feature that allows the installer to easily test for supervision. The product also features a locking mechanism which secures the product to the bracket without any screws showing. The Commander3 also features the patented Checkmate® instant voltage verification feature which allows the installer to check the voltage drop draw and match it to the blueprint.

The GE3 Series appliances are ANSI/UL 464, ANSI/UL 1971, CAN/ULC S525 (24 VDC only) and/or CAN/ULC S526 (24 VDC only), is listed for use with fire protective systems and are warranted for three years from date of purchase.

Standard Features

- Nominal voltage 12 VDC and 24 VDC
- 24 VDC field selectable candelas: 15, 30, 60, 75 & 110
- 12 VDC field selectable candelas: 15, 30, 60 & 75
- Unit Dimensions: 5" (12.7 cm) high x 4.5" (11.43 cm) wide x 2.5" (6.35 cm) deep
- Super-Slide® Bracket, Ease of Supervision Testing
- Checkmate® Instant Voltage Verification
- Prewire entire system, install mounting bracket, then install signals
- Documented lower installation and operating costs
- Input terminals accept 12 to 18 AWG
- Horn/strobe switch selection for high or low dBA
- Horn/strobe switch for 2400 Hz, mechanical, chime and whoop tones
- Horn/strobe switch for continuous or temporal 3 (not available on whoop tone)
- Synchronize strobe and/or horn with Gentex AVSM Control Module
- Silence audible while visual appliance will remain flashing
- Tamperproof re-entrant style grill and locking screw (optional use)
- Surface mount with the GSB (Gentex Surface Mount Box)
- Faceplate available in red or off-white
- Wall mount



Product Listings



- ANSI/UL 464 and ANSI/UL 1971 Listed
- CAN/ULC S525 and/or CAN/ULC S526 Listed (24 VDC only)
- CSFM: 7135-0569:122 (GEC3-24 & GEH-24)
7125-0569:123 (GES3-24)
7125-0569:129 (GES3-12)
7135-0569:130 (GEC3-12 & GEH-12)
- MEA: 285-91-E (GEC3-24 & GES3-24)
580-06-E (GEC3-12 & GES3-12)

Patents

- 7,375,617 May 20, 2008

Product Compliance

- NFPA 72
- Americans with Disabilities Act (ADA)
- IBC/IFC/IRC
- Quality Management System is certified to: ISO 9001:2008

GES3 12 VDC / GES 24 VDC Selectable Candela, Low Profile Evacuation Strobe

Model	Part Number	Voltage (VDC)	Candela
GES3-12WR	904-1235-002	12	15, 30, 60, 75
GES3-12WW	904-1237-002	12	15, 30, 60, 75
GES3-24WR	904-1321-002	24	15, 30, 60, 75, 110
GES3-24WW	904-1319-002	24	15, 30, 60, 75, 110

GEC3 12VDC / GEC3 24VDC Selectable Candela, Low Profile Evacuation Horn/Strobe

Model	Part Number	Voltage (VDC)	Candela	Reverberant dBA at 10ft.	Anechoic Room dBA at 10ft.
GEC3-12WR	904-1231-002	12	15, 30, 60, 75	62-82 dBA	100 dBA
GEC3-12WW	904-1233-002	12	15, 30, 60, 75	62-82 dBA	100 dBA
GEC3-24WR	904-1317-002	24	15, 30, 60, 75, 110	62-82 dBA	100 dBA
GEC3-24WW	904-1315-002	24	15, 30, 60, 75, 110	62-82 dBA	100 dBA

R = Red Faceplate, W = White Faceplate

All units are available in plain (no lettering)

Plain units are not returnable

ALERT and AGENT bezels available for order

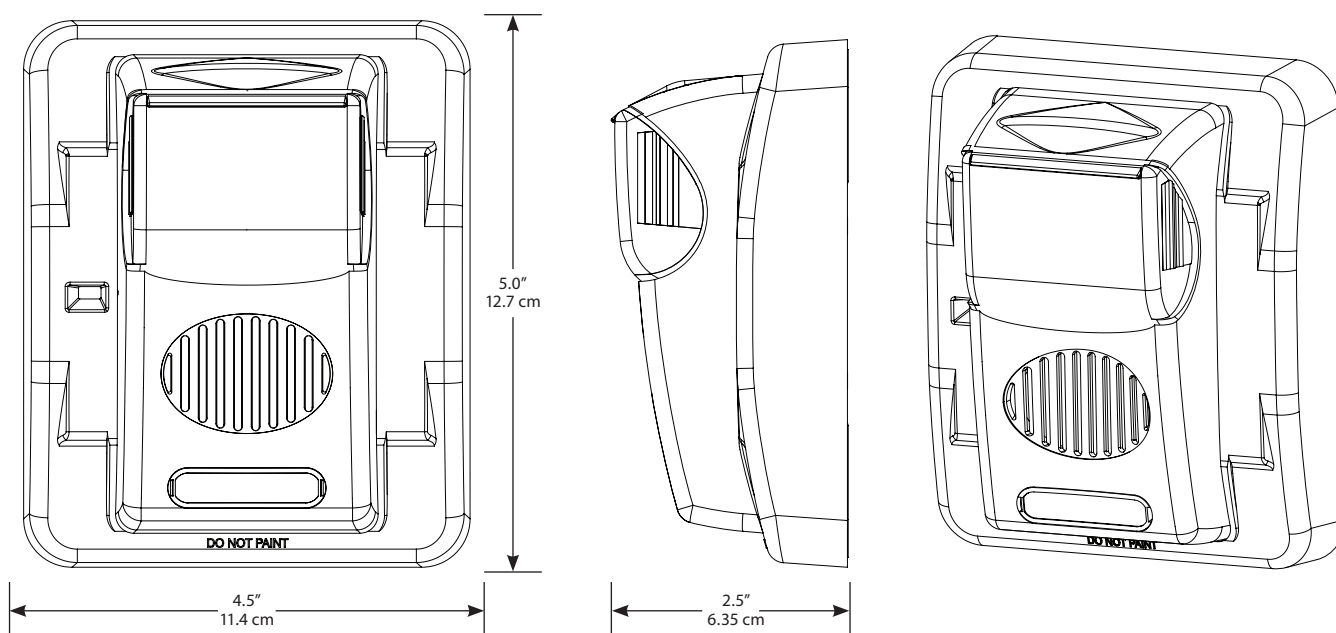
GE3 12 VDC / 24 VDC Strobe Current Ratings (mA)

	12 VDC (8-17.5 Volts)		24 VDC (16-33 Volts)	
Candela	12 VDC	UL Max	24 VDC	UL Max
15cd	106 mA	92 mA	30 mA	42 mA
30cd	131 mA	141 mA	42 mA	58 mA
60cd	186 mA	260 mA	66 mA	97 mA
75cd	237 mA	312 mA	80 mA	116 mA
110cd			103 mA	161 mA

GE3 12 VDC / 24 VDC Horn Decibel (dBA) and Current Ratings (mA)

12 VDC (8-17.5 Volts)				24 VDC (16-33 Volts)		
Horn Mode	Horn Decibel Levels (dBA)		Horn Current Ratings (mA)	Horn Decibel Levels (dBA)		Horn Current Ratings (mA)
	Minimum SPL at 10ft., per ANSI/UL 464 (HIGH)	Minimum SPL at 10ft., per ANSI/UL 464 (LOW)	UL MAX Regulated 12 VDC Operating Current (HIGH)	Minimum SPL at 10ft., per ANSI/UL 464 (HIGH)	Minimum SPL at 10ft., per ANSI/UL 464 (LOW)	UL MAX Regulated 24 VDC Operating Current (HIGH)
Temporal 3 2400 Hz	76 dBA	69 dBA*	29 mA	78 dBA	71 dBA*	28 mA
Temporal 3 Mechanical	75 dBA	68 dBA*	26 mA	76 dBA	70 dBA*	25 mA
Temporal 3 Chime	62 dBA*	60 dBA*	13 mA	70 dBA*	66 dBA*	15 mA
Continuous 2400 Hz	79 dBA	74 dBA*	29 mA	81 dBA	74 dBA*	28 mA
Continuous Mechanical	78 dBA	72 dBA*	26 mA	80 dBA	72 dBA*	25 mA
Continuous Chime	63 dBA*	61 dBA*	13 mA	70 dBA*	66 dBA*	15 mA
Whoop	78 dBA	71 dBA*	55 MA	82 dBA	69 dBA*	56 mA

* Operating the horn in this mode at this voltage will result in not meeting the minimum ANSI/UL 464 reverberant sound level required for public mode fire protection service. These settings are acceptable only for private mode fire alarm use. Use the high dBA setting for public mode application (not applicable when using the chime tone. The chime tone is always private mode).



Gentex Super-Slide® Mounting Bracket

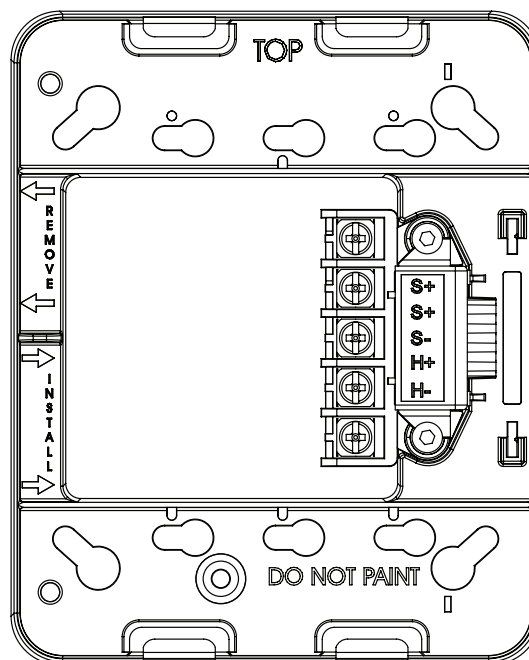
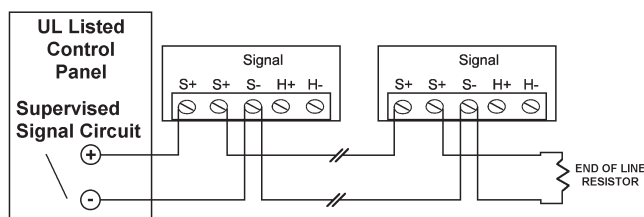
Allows the installer to prewire the system, test for system supervision, remove the signal head until occupancy, switch out Gentex signals without changing mounting brackets and has locking edge connector for snap-in-place installation.

Gentex Checkmate® Instant Voltage Verification

It is often necessary to confirm the voltage drop along a line of devices. The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically this would be done at the end of the line to confirm design criteria. Most measurements will be taken using the S+ and S- locations although access is provided to other locations. *Notice: Care should be taken to not short the test probes.*

Notes

- Operating temperature: 32° to 120°F (0° to 49°C)
- The GES3/GEC3 Series is not listed for outdoor use
- For nominal and peak current across ANSI/UL regulated voltage range for filtered DC power and unfiltered (FWR [Full Wave Rectified]) power, see installation manual
- The sound output for the temporal 3 tone is rated lower since the time the horn is off is averaged into the sound output rating. While the horn is producing a tone in the temporal 3 mode, its sound pressure is the same as the continuous mode.
- This appliance is not recommended for use on coded or pulsing signaling circuits



GES3 / GEC3 Series

Selectable Candela Evacuation Signals

Architect & Engineering Specifications

The audible and/or visible signal shall be Gentex GES3, GEC3 Series or approved equal and shall be listed by Underwriters Laboratories (ANSI/UL) for use with fire protective signaling systems (ANSI/UL 1971 and/or ANSI/UL 464) and with CAN/ULC S526 (24 VDC only) and/or CAN/ULC S525 (24 VDC only) with intended use in fire alarm systems. The notification appliance (GEC3) shall produce a peak sound output of 100 dBA or greater at 12 VDC or 24 VDC as measured in an anechoic chamber and shall also have the capability to silence the audible signal while leaving the visible signal energized with the use of a single pair of power wires. Additionally, the user shall be able to select either continuous or temporal tone output with the temporal signal having the ability to be synchronized. The unit shall be capable of being installed so that any unauthorized attempt to change the candela setting will result in a trouble signal at the fire alarm control panel. The audible/visible and visible signaling appliance shall also maintain a minimum flash rate of 1 Hz or up to 2 Hz regardless of power input voltage. The strobe appliance shall have an operating current of 42 mA or less at 24 VDC for the 15 Cd strobe circuit and 92 mA or less at 12 VDC for the 15 Cd strobe circuit. The appliance shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with a mounting bracket with terminals and barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox without the use of an adapter plate. The GE3 Series shall be mounted on the wall. The unit shall have an input voltage range of 16-33 volts with either direct current or full wave rectified power at 24 VDC or a voltage range of 8-17.5 volts at 12 VDC. The appliance shall be capable of testing supervision without disconnecting wires, verify voltage without removing unit and be capable of mounting to a surface back box.

GCS / GCC Series

Selectable Candela Evacuation Signals

24 VDC Commander4 Strobe and Horn/Strobe

24 units per carton, 29 pounds per carton

Applications

The Commander4 Series is a ceiling mount strobe or horn/strobe combination that offers dependable audible and visual alarms and the lowest current consumption.

The GCS/GCC offers tamperproof field selectable candela options of 15, 30, 75, 95, 115 and 150 candela. The GCC horn offers a continuous or synchable temporal three in 2400Hz and mechanical tones. All tones are easy for the professional to change in the field by using switches.

The Commander4 Series comes standard with the 4" mounting plate which incorporates the popular Super-Slide® feature that allows the installer to easily test for supervision. The product also features a locking mechanism which secures the product to the bracket without any screws showing. The Commander4 also features the patented Checkmate® instant voltage verification feature which allows the installer to check the voltage drop draw and match it to the blueprint.

The GC Series appliances are ANSI/UL 464, ANSI/UL 1971, CAN/ULC S525 and/or CAN/ULC S526 listed for use with fire protective systems and are warranted for three years from the date of purchase.

Standard Features

- Nominal voltage 24 VDC
- Tamperproof field selectable candela options of 15, 30, 75, 95, 115 & 150
- Unit Dimensions: 6" (15.24 cm) x 2.6" (6.604 cm)
- Super-Slide® Bracket, Ease of Supervision Testing
- Checkmate® Instant Voltage Verification
- Prewire entire system, install mounting bracket, then install signals
- Documented lower installation and operating costs
- Input terminals 12 to 18 AWG
- Horn/strobe switch selection for high or low dBA
- Horn/strobe switch selection for 2400Hz or mechanical tone
- Horn/strobe switch selection for continuous or temporal 3
- Synchronize strobe and/or horn with Gentex AVSM Control Module
- Silence audible while visual appliance will remain flashing
- Tamperproof re-entrant grill
- Surface mount with the GCSB (Gentex Ceiling Surface Mount Box)
- Faceplate available in red or off-white
- Ceiling mount



Product Listings



- ANSI/UL 464 and ANSI/UL 1971 Listed
- CAN/ULC S525 and/or CAN/ULC S526 Listed
- FM Approved
- CSFM: 7135-0569:122 (GCC)
7125-0569:123 (GCS)
- MEA: 285-91-E

Patents

- 7,375,617 May 20, 2008

Product Compliance

- NFPA 72
- Americans with Disabilities Act (ADA)
- IBC/IFC/IRC
- City & State ordinances/Laws/Regulations
- Quality Management System is certified to:
ISO 9001:2008

GCS 24VDC Selectable Candela, Low Profile Evacuation Strobe

Model	Part Number	Voltage (VDC)	Candela
GCS24CR	904-1213-002	24	15, 30, 75, 95, 115, 150
GCS24CW	904-1215-002	24	15, 30, 75, 95, 115, 150
GCS24PCR	904-1214-002	24	15, 30, 75, 95, 115, 150
GCS24PCW	904-1216-002	24	15, 30, 75, 95, 115, 150

GCC 24VDC Selectable Candela, Low Profile Evacuation Horn/Strobe

Model	Part Number	Voltage (VDC)	Candela	Reverberant dBA @ 10ft.	Anechoic Room dBA @ 10ft.
GCC24CR	904-1209-002	24	15, 30, 75, 95, 115, 150	81-86 dBA	90 dBA
GCC24PCR	904-1210-002	24	15, 30, 75, 95, 115, 150	81-86 dBA	90 dBA
GCC24CW	904-1211-002	24	15, 30, 75, 95, 115, 150	81-86 dBA	90 dBA
GCC24PCW	904-1212-002	24	15, 30, 75, 95, 115, 150	81-86 dBA	90 dBA

R = Red Faceplate, W = White Faceplate.

All units are available in plain (no lettering).
Plain units are not returnable.

ALERT bezel available for order.

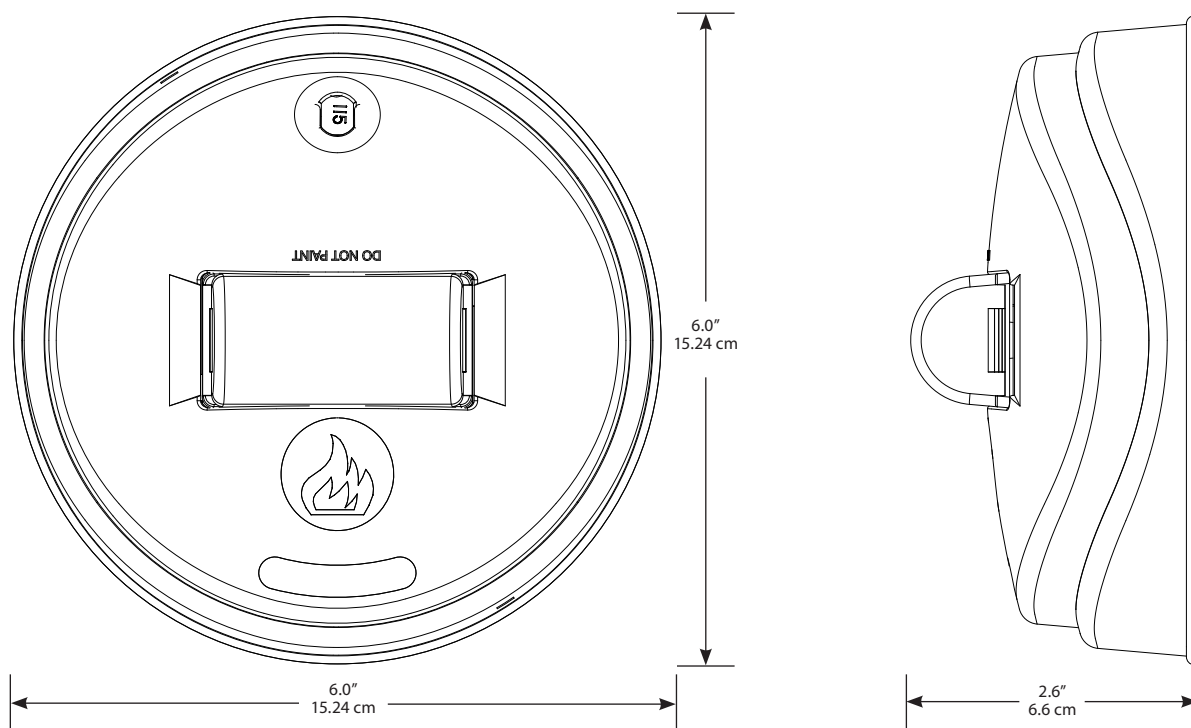
GCS / GCC 24 VDC Strobe Current Ratings (mA)

24 VDC (16-33 Volts)		
Candela	24 VDC	UL Max
15 Cd	97 mA	120 mA
30 Cd	97 mA	120 mA
75 Cd	143 mA	200 mA
95 Cd	148 mA	220 mA
115 Cd	201 mA	290 mA
150 Cd	205 mA	321 mA

GCC24 Product Horn Decibel (dBA) and Current Ratings (mA)

Horn Mode	Minimum SPL @ 10ft. per ANSI/UL 464 (HIGH)	Minimum SPL @ 10ft. per ANSI/UL 464 (LOW)	UL Max 24 VDC Operating Current (HIGH)
Temp 3 2400Hz	83 dBA	75 dBA	23 mA
Temp 3 Mechanical	81 dBA	73 dBA*	22 mA
Continuous 2400Hz	86 dBA	78 dBA	23 mA
Continuous Mechanical	84 dBA	76 dBA	22 mA

* Operating the horn in this mode at this voltage will result in not meeting the minimum ANSI/UL 464 reverberant sound level required for public mode fire protection service. These settings are acceptable only for private mode fire alarm use. Use the high dBA setting for public mode application (not applicable when using the chime tone. The chime tone is always private mode).



Gentex Super-Slide® Mounting Bracket

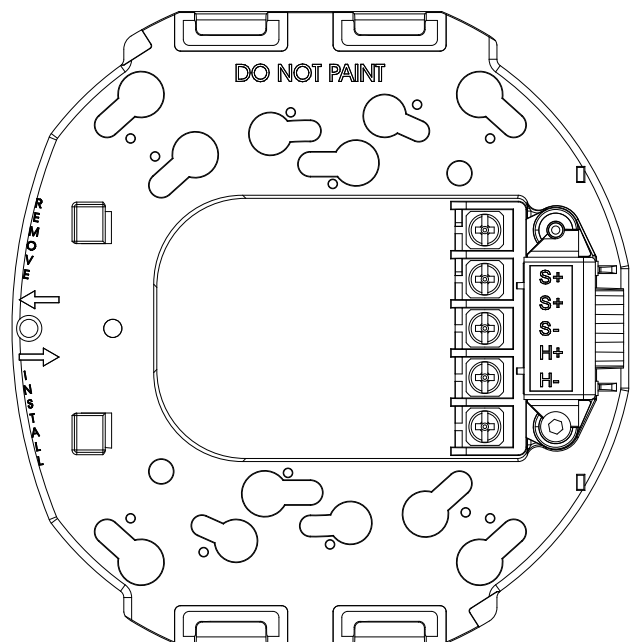
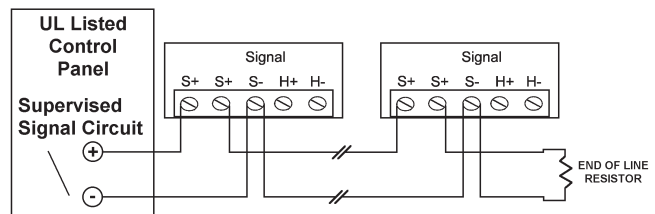
Allows the installer to prewire the system, test for system supervision, remove the signal head until occupancy, switch out Gentex signals without changing mounting brackets and has locking edge connector for snap-in-place installation.

Gentex Checkmate® Instant Voltage Verification

It is often necessary to confirm the voltage drop along a line of devices. The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically this would be done at the end of the line to confirm design criteria. Most measurements will be taken using the S+ and S- locations although access is provided to other locations. *Notice: Care should be taken to not short the test probes.*

Notes

- Operating temperature: 32° to 120°F (0° to 49°C)
- The GCS/GCC Series is not listed for outdoor use
- For nominal and peak current across ANSI/UL regulated voltage range for filtered DC power and unfiltered (FWR [Full Wave Rectified]) power, see installation manual
- The sound output for the temporal 3 tone is rated lower since the time the horn is off is averaged into the sound output rating. While the horn is producing a tone in the temporal 3 mode, its sound pressure is the same as the continuous mode.
- This appliance is not recommended for use on coded or pulsing signaling circuits



GCS / GCC Series

Selectable Candela Evacuation Signals

Architect & Engineering Specifications

The audible and/or visible signal shall be Gentex model GCS, GCC or approved equal and shall be listed by Underwriters Laboratories (ANSI/UL) for use with fire protective signaling systems (ANSI/UL 1971 and/or ANSI/UL 464) and with CAN/ULC S526 and/or CAN/ULCS525 with intended use in fire alarm systems. The notification appliance (GCC) shall produce a peak sound output of 90 dBA or greater as measured at 24 VDC in an anechoic chamber and shall also have the capability to silence the audible signal while leaving the visible signal energized with the use of a single pair of power wires. Additionally, the user shall be able to select either continuous or temporal tone output with the temporal signal having the ability to be synchronized. The audible/visible and visible signaling appliance shall also maintain a minimum flash rate of 1Hz or up to 2Hz regardless of power input voltage. The strobe appliance shall have an operating current of 97 mA or less at 24 VDC for the 15 candela strobe circuit. The unit shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with a mounting bracket with terminals with barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox with the use of an adapter plate. The GC Series shall be mounted on the ceiling. The unit shall have an input voltage range of 16-33 volts with either direct current or full wave rectified power. The appliance shall be capable of test supervision without disconnecting wires, verify voltage without removing unit and be capable of mounting to a surface back box.



Tab 7- BATTERY CALCULATIONS



**SILENT
KNIGHT**

SK-5208 Calculations
Version 02.26.09

Global Project Values:

Project Name: CITC

Project ID: 90075

Prepared By: RED HAWK FIRE PROTECTION

Date: 8/31/2023

Standby Hours: 24

Alarm Mins: 5

Derating Factor: 1.2

Voltage Drop Warning
Threshold % : 10

Panel ID: SK-5208

Location: RISER - EXISTING

Model: SK-5208 Fire Alarm Control Panel

Volts: 24 VDC

Max NAC Current: 3.0 Amps

Max Panel Current: 6.0 Amps

Ckt.#	Circuit Name	Qty	Current Standby	Draw Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop	
SK-5208	SK-5208 Main Control	1	0.140	0.550	NA						
SK-5217	SK-5217 Zone Expdr		0.000	0.000							
SK-5235	SK-5235 LCD Remote		0.000	0.000							
SK-5280	SK-5280 Display Mod		0.000	0.000							
SK-5220	SK-5220 Dir Con Mod		0.000	0.000							
SK-7181	SK-7181 Zn Cnvtr		0.000	0.000							
IDC-1	Initiating Device Ckt 1		0.002	NA**							
IDC-2	Initiating Device Ckt 2		0.000	NA**							
IDC-3	Initiating Device Ckt 3		0.000	NA**							
IDC-4	Initiating Device Ckt 4		0.000	NA**							
IDC-5	Initiating Device Ckt 5		0.000	NA**							
IDC-6	Initiating Device Ckt 6		0.000	NA**							
IDC-7	Initiating Device Ckt 7		0.000	NA**							
IDC-8	Initiating Device Ckt 8		0.000	NA**							
IDC-9	Initiating Device Ckt 9		0.000	NA**							
IDC-10	Initiating Device Ckt 10		0.000	NA**							
IDC-11	Inactive, Add SK-5217		0.000	NA**							
IDC-12	Inactive, Add SK-5217		0.000	NA**							
IDC-13	Inactive, Add SK-5217		0.000	NA**							
IDC-14	Inactive, Add SK-5217		0.000	NA**							
IDC-15	Inactive, Add SK-5217		0.000	NA**							
IDC-16	Inactive, Add SK-5217		0.000	NA**							
IDC-17	Inactive, Add SK-5217		0.000	NA**							
IDC-18	Inactive, Add SK-5217		0.000	NA**							
IDC-19	Inactive, Add SK-5217		0.000	NA**							
IDC-20	Inactive, Add SK-5217		0.000	NA**							
IDC-21	Inactive, Add SK-5217		0.000	NA**							
IDC-22	Inactive, Add SK-5217		0.000	NA**							
IDC-23	Inactive, Add SK-5217		0.000	NA**							
IDC-24	Inactive, Add SK-5217		0.000	NA**							
IDC-25	Inactive, Add SK-5217		0.000	NA**							
IDC-26	Inactive, Add SK-5217		0.000	NA**							
IDC-27	Inactive, Add SK-5217		0.000	NA**							
IDC-28	Inactive, Add SK-5217		0.000	NA**							
IDC-29	Inactive, Add SK-5217		0.000	NA**							
IDC-30	Inactive, Add SK-5217		0.000	NA**							
NAC-1	Notification Appl Ckt 1		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%	
NAC-2	Notification Appl Ckt 2		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%	
NAC-3	Notification Appl Ckt 3		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%	
NAC-4	Notification Appl Ckt 4		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%	
Aux	Aux Power Out		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%	
Total Standby Current (Amps)			0.142	0.550	Total Alarm Current (Amps)						
Standby Time In Hours			24	0.083	Alarm Time In Minutes / 60 (5 Mins)						
Total Standby AH Required			3.410	0.046	Total Alarm AH Required						
Total Combined AH Required				3.46	Command Shortcuts						
Multiply By The Derating Factor				1.20							
Minimum Battery AmpHours Required				4.15							
					Configure Circuits		Print Page				

** The SK-5208 and SK-5217 limits alarm current to 95mA per zone. The SK-5208 alarm current includes 10% of system zones in alarm, but in no case less than three zones per UL 864.



**SILENT
KNIGHT**

5495 Power Expander Calculations
Version 02.18.09

Global Project Values:

Project Name: CITC
Project ID: 90076
Prepared By: RED HAWK FIRE PROTECTION
Date: 8/31/2023

Standby Hours: 24
Alarm Mins: 5
Derating Factor: 1.2
Voltage Drop Warning
Threshold %: 10

Panel ID: 5495
Location: SUITE 101-104

Model: 5495 Power Expander
Volts: 24 VDC

Max NAC Current: 3.0 Amps
Max Panel Current: 6.0 Amps

Ckt.#	Circuit Name		Current Draw Standby	Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
5495	5495 Pwr Module	1	0.075	0.205						
NAC #1	5495 Circuit 1		0.000	0.620	#14 Solid	2.52	85	0.43	20.13	1.30%
NAC #2	5495 Circuit 2		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%
NAC #3	5495 Circuit 3		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%
NAC #4	5495 Circuit 4		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%
Aux	5495 Aux Power Out		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%
Total Standby Current (Amps)			0.075	0.825	Total Alarm Current (Amps)					
Standby Time In Hours			24	0.083	Alarm Time In Minutes / 60		(5 Mins)			
Total Standby AH Required			1.800	0.069	Total Alarm AH Required					
Total Combined AH Required			1.87		Wire resistances are based upon an ambient temperature of 72 degrees F. Because of the minimal difference between solid and stranded wire no differential was made.					
Multiply By The Derating Factor			1.20							
Minimum Battery AmpHours Required			2.24							

Configure Circuits

Print Page



Circuit Configuration

Project Information

Project Name: CITC

Project ID: 90076

Prepared By: RED HAWK FIRE PROTECTION

Date: 8/31/2023

Ckt. Number: NAC #1		Panel ID: 5495			
Ckt. Name: 5495 Circuit 1		Max Circuit Current: 3 Amps			
Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
1	System Sensor P2/PC2 Horn/Strobe (15cd)	0.000	0.091	0.000	0.091
1	System Sensor P2/PC2 Horn/Strobe (75cd)	0.000	0.176	0.000	0.176
1	System Sensor P2/PC2 Horn/Strobe (110cd)	0.000	0.221	0.000	0.221
2	System Sensor S/SC Strobe (15cd)	0.000	0.066	0.000	0.132
				0.000	0.000
Totals				0.000	0.620

Ckt. Number: NAC #2		Panel ID: 5495			
Ckt. Name: 5495 Circuit 2		Max Circuit Current: 3 Amps			
Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
Totals				0.000	0.000

Ckt. Number: NAC #3		Panel ID: 5495			
Ckt. Name: 5495 Circuit 3		Max Circuit Current: 3 Amps			
Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
Totals				0.000	0.000

Ckt. Number: NAC #4		Panel ID: 5495			
Ckt. Name: 5495 Circuit 4		Max Circuit Current: 3 Amps			
Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
Totals				0.000	0.000

Ckt. Number: Aux		Panel ID: 5495			
Ckt. Name: 5495 Aux Power Out		Max Circuit Current: 3 Amps			
Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
Totals				0.000	0.000



Tab 8- CERTIFICATIONS

DEPARTMENT OF LABOR & INDUSTRIES

Certified as provided by Law as:

Electrician
(EL06) - LIMITED ENERGY

DILDIHC850W1

Eff Date: 3/20/2015

Exp Date: 4/11/2023

DILDINE, HEATHER C

SPANAWAY, WA 98387



**NATIONAL INSTITUTE FOR CERTIFICATION
IN ENGINEERING TECHNOLOGIES®**

Heather C Mattioli

Fire Alarm Systems Level III

CERT NO. 147931 VALID THROUGH 08/01/2024



This card certifies that

HEATHER MATTIOLI

has satisfactorily completed the cognitive and performance testing required by the standards of the **COYNE FIRST AID, INC.** Course of Instruction in:
BASIC LIFE SUPPORT

Jun 2, 2021

Date of Issue

Jun 2, 2022

Date of Expiration



This card certifies that

HEATHER MATTIOLI

has satisfactorily completed the cognitive and performance testing required by the standards of the **COYNE FIRST AID, INC.** Course of Instruction in:
BASIC FIRST AID

Jun 2, 2021

Date of Issue

Jun 1, 2024

Date of Expiration

HEATHER MATTIOLI



M-09118
MATTIHC151J

**Seattle
Fire
Department**



Fire & Life Safety Examination

CERTIFICATE



CERTIFICATE OF TRAINING

Heather Mattioli

has successfully completed the safety training program

Confined Spaces

Training was completed on: 12/20/19

Authorized Signature: *Joseph*



NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES®

Providing Certification Programs Since 1961

BE IT KNOWN THAT

Jeffrey Marshall Gordon

IS HEREBY AWARDED THE FOLLOWING CERTIFICATION

Fire Alarm Systems Level II

Certification Number **145454**

Valid Through **2026-08-01**

VERIFY ONLINE

nicet.org/verify

**BASED UPON SUCCESSFUL DEMONSTRATION OF REQUISITE KNOWLEDGE,
EXPERIENCE AND WORK PERFORMANCE AS SET FORTH BY THIS INSTITUTE.**

CHAIR OF THE NICET BOARD OF GOVERNORS

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JEFFREY GORDON



G-07952

Seattle
Fire
Department



Fire & Life Safety Examination

CERTIFICATE

DEPARTMENT OF LABOR & INDUSTRIES

Certified as provided by Law as:

Electrician

(EL06) - LIMITED ENERGY



GORDOJ M908KD

Eff Date: 6/16/2010

Exp Date: 12/6/2021

GORDON, JEFFREY M

ELM, WA 98597-2431