Premier Low Voltage Systems by:

E-SQUARED SYSTEMS, LLC.

Fire • Security • Card Access • CCTV

PSD PHS Portables

711 W Main
Puyallup, WA 98371

Fire Alarm System

Equipment Datasheets
Battery Calculations
Certifications

E2 JOB

1430C

Prepared by:

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License: ESQUASL963BR

Premier Low Voltage Systems by:
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Fire - Security - Card Access - CCTV

FIRE ALARM
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Premier Low Voltage Systems by:

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TAB 1

FIRE ALARM CONTROL PANEL

SILENT KNIGHT by Honeywell

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

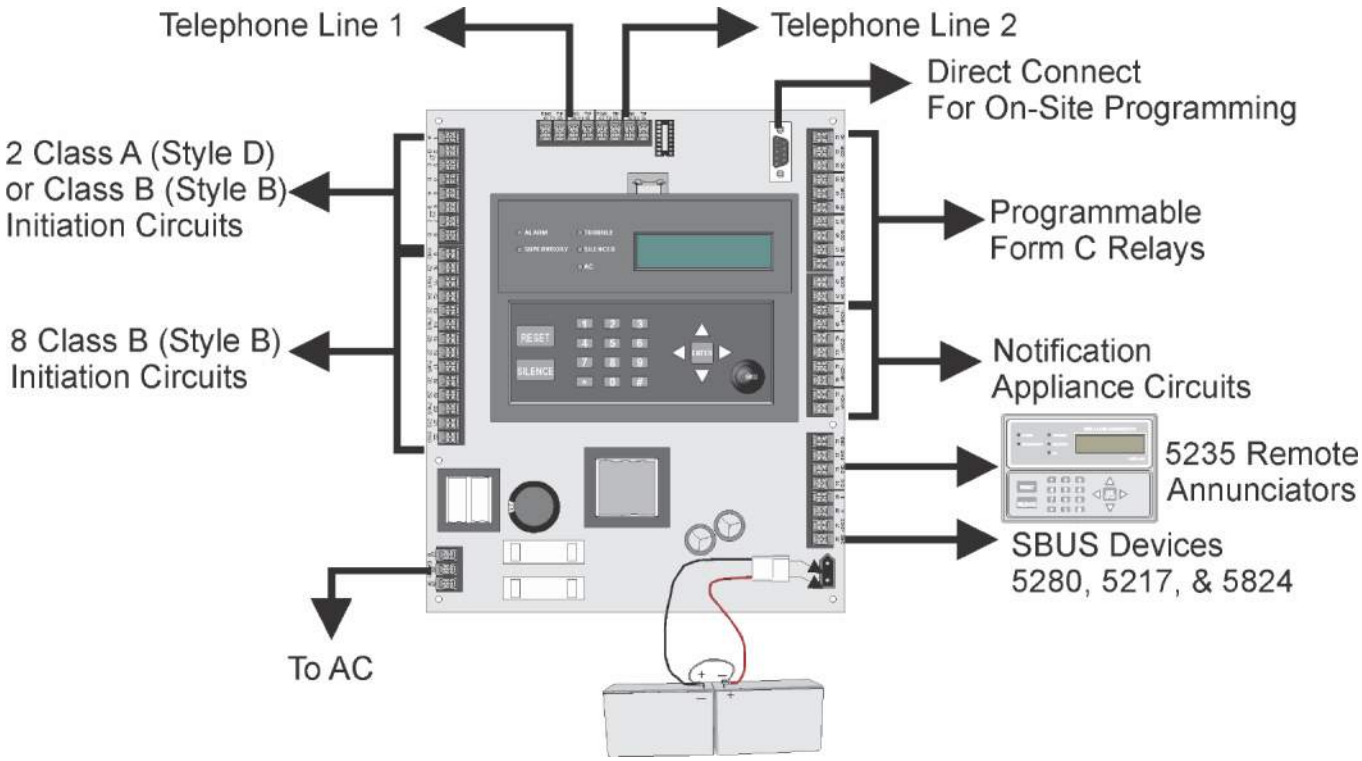
Listings and Approvals

- 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.



SILENT KNIGHT
by Honeywell

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact Silent Knight 12 Clintonville Road, Northford, CT 06472-1610 Phone: (800) 328-0103, Fax: (203) 484-7118. For Technical support, Please call 800-446-6444.
www.silentknight.com

MADE IN AMERICA

FORM# 350318 Rev E

SILENT KNIGHT
by Honeywell

SK-5217 Zone Expander

The cost effective way to expand your SK-5208 system

The Model SK-5217 provides the SK-5208 with ten additional Class B (style B) zones. The SK-5217 can be installed in the SK-5208 control cabinet or remotely (up to 1500 ft.) in a SK-2190 accessory cabinet. The SK-5217 communicates to the SK-5208 control panel via a 4-wire connection to the SBUS.

SK-5217 Zone Expander

Adds 10 Class B zone inputs to the SK5208 FACP. Two SK-5217 expanders can be used with the SK-5208 for a total of 30 zones.

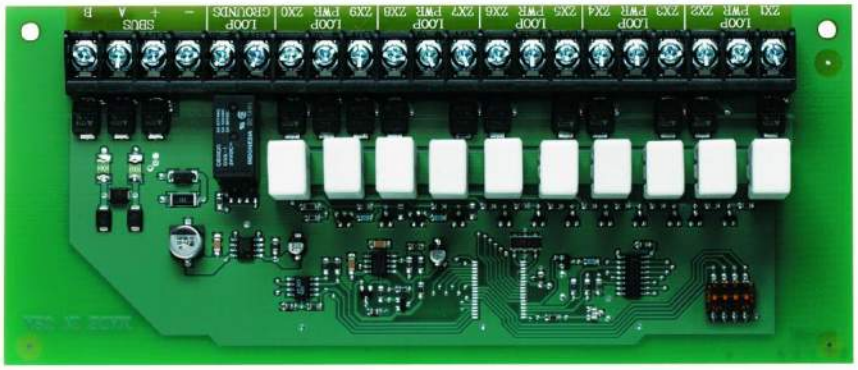
The SK-5217 can be installed in the SK-5208 cabinet or remotely using a SK-2190 accessory cabinet.

Features

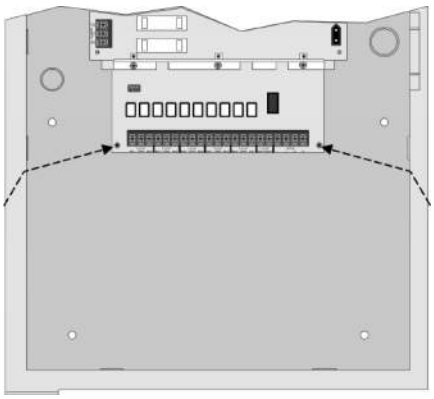
- Adds 10 zone inputs to the SK-5208 FACP
- Can be remotely mounted from control (up to 1500 ft.)
- Easy to install using a 4-wire SBUS connection
- Supervised
- UL Listed

Specifications

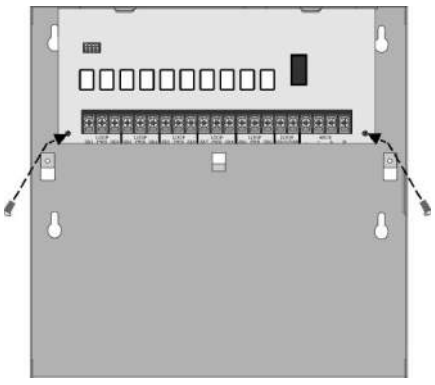
Operating Voltage: Nominal	24 VDC
Current Draw:	
Max. Total:	1 Amp
Standby per Zone:	3.0 mA
Alarm per Zone:	95 mA
Max. Initiation Circuit Resistance:	50Ω
Max. Wiring Distance From FACP:	1500 ft.
Operating Temp.:	32° to 120° F (0° to 49° C)
Humidity:	10 to 85% RH



SK-5217 Zone Expander



Mounted in SK-5208 Cabinet



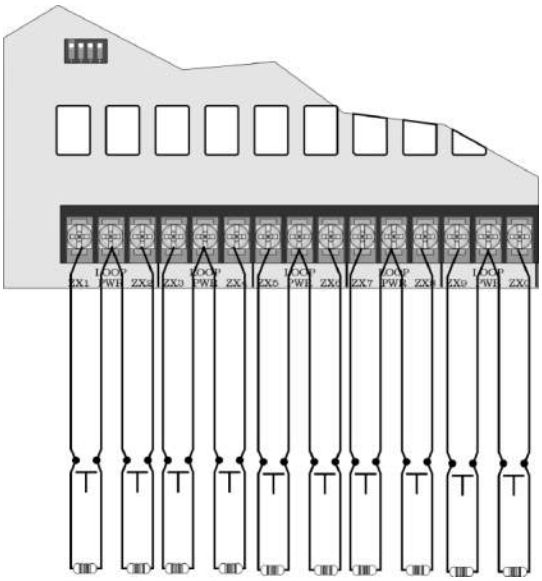
Mounted in SK-2190 Accessory Cabinet

SK-5217
Zone Expander

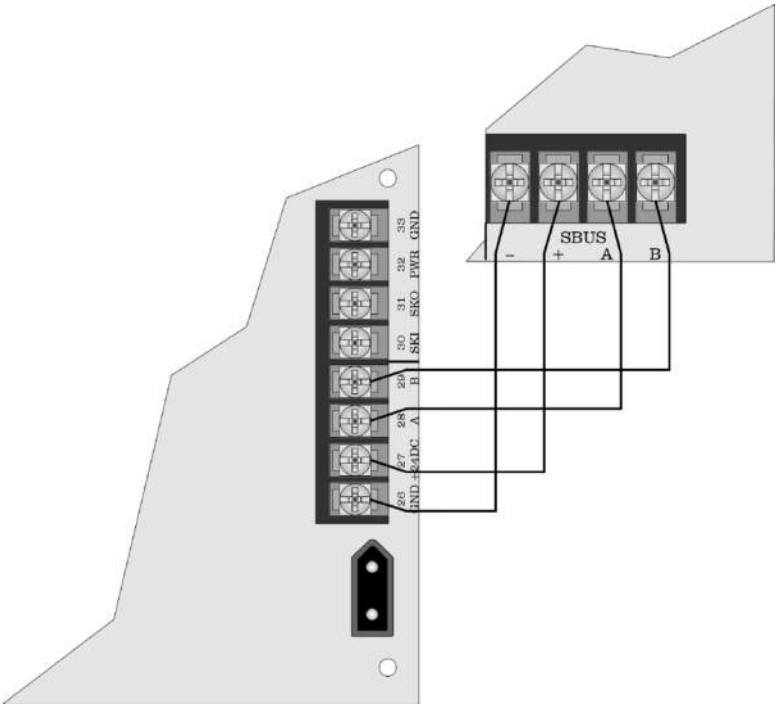
Engineering Specification

The contractor shall furnish and install where indicated on the plans, the module SK-5217 Zone expander.

Module shall be capable of supporting 10 zones of Class B including smoke detectors and dry contacts with a maximum of 50 ohms of resistance per circuit. Module shall have provisions for mounting in the main control panel or in the SK-2190 Accessory cabinet. Module shall be programmed by a 4 position dip switch with a maximum of 3 module per panel and connect to the main fire alarm panel via SBUS .



Class B (Style B) Input Wiring



SBUS Wiring to FACP

SILENT KNIGHT by Honeywell

MADE IN AMERICA

FORM# 350322 Rev D

Premier Low Voltage Systems by:

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TAB 2

ANNUNCIATOR

DOES NOT APPLY TO THIS SYSTEM

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TAB 3

BOOSTER POWER SUPPLY

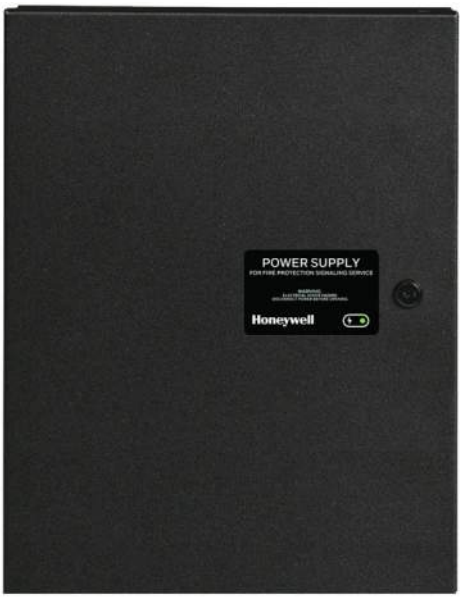
PS SERIES

6 Amp and 10 Amp, 24 Volt Power Supplies

The PS Series are independently configurable power supplies, allowing you to pair any input with any output, and feature LED diagnostics for troubleshooting.

The PS Series is a remote power supply line from Gamewell-FCI and is a direct replacement for the GFPS6/9. The HPF-PS6 is a 6 amp and the HPF-PS10 is a 10 amp, remote power supply with battery charger that may be connected to any 12 or 24 volt fire alarm control panel (FACP) or used as a standalone power supply. The PS Series provides 24 VDC power for NACs (notification appliance circuits) configured as either Class B or Class A (requires the ZNAC-PS option card) with multiple sync protocol options. The PS Series also provides auxiliary power, constant or resettable, suited for detectors, annunciators, door holders, and other fire alarm system peripherals. The PS Series cabinet can hold two 7 AH or 18 AH batteries and can charge up to 33 AH batteries in a separate cabinet.

HPF-PS6/10



HPF-PS6/10B

FEATURES AND BENEFITS

- Up to five (6 amp model) or seven (10 amp model) independently-configurable, power-limited output circuits for:
  –Class B and/or Class A NACs
  –Class B and/or Class A resettable or non-resettable 24V auxiliary power
  –door holder power
- Converts from Class B to Class A wiring without losing any outputs using the ZNAC-PS converter card (sold separately)
- Optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated power
- Optional addressable control, monitor, and relay modules and power-supervision relay (EOLR-1)
- Configurable for ANSI® Temporal 3 or Temporal 4 coded output
- UL-Listed NAC synchronization using System Sensor®, Wheelock®, Gentex®, or AMSECO® appliances
- Synchronization can be triggered from FACP NAC/remote sync outputs, cascaded power supply, or a control module, single or multi, which may be housed within the power supply cabinet
- Ability to cascade up to four power supplies
- Two (6 amp model) or three (10 amp model) fully-isolated input/control circuits which can be programmed to any output
- Two Form C normally-closed trouble relays for AC Trouble and General Trouble
- 6 or 10 amp full load output, respectively, with 3 A maximum/circuit
- Individual NAC power and trouble LEDs for diagnostic efficiency
- Trouble history mode for diagnostic support
- Wide range end-of-line supervision value (normal: 2-27K ohms)
- Selectable earth fault detection (enable or disable)
- AC trouble report delay timer
- Completely configurable via onboard DIP switches, no extra software required
- Self-contained in compact, locking cabinet constructed of heavy gauge steel with a corrosion-resistant powder coat chip and scratch-resistant finish
- Cabinet designed with ten double knockouts and a removable door for ease of installation and wiring
- Includes integral battery charger capable of charging up to 33 AH batteries
- Cabinet can house two 7 AH or 18 AH batteries
- Battery charger may be disabled via DIP switch for applications requiring larger batteries and external battery charger
- Removable terminal blocks accommodate up to 12 AWG (3.1mm^2) wire
- Works with any UL 864 FACP which utilizes an industry-standard reverse-polarity notification circuit
- HPF-PS6/10 include the - Honeywell Power Products lock set (PN: 17059) and key (PN: 17051)

Honeywell

Gamewell FCI FIRE CONTROL INSTRUMENTS

ORDERING INFORMATION

HPF-PS6: 6.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, red

HPF-PS6B: 6.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, black

HPF-PS10: 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, red

HPF-PS10B: 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, black

ZNAC-PS: Optional Class A converter card, sold separately

AOM-2SF: Addressable Control Module for one Class B or Class A zone of supervised, polarized Notification Appliances. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

AOM-2RF: Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch

AMM-4F: Addressable Monitor Module for one zone of normally open dry-contact initiating devices. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Class B or Class A

AMM-2IF: Dual Monitor Module. Same as AMM-4F except it provides two inputs for Class B wiring only

AMM-2RIF: Provides two monitored inputs and two Form-C relays. Functions in Class B wiring only

MMO-6SF: Six-circuit supervised control module

MMO-6RF: Six Form-C relay control module

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power

BAT-1270-BP: Battery, 12 volt, 7.0 AH, 5-pack (two required)

BAT-12180-BP: Battery, 12 volt, 18AH, 2-pack

BAT-12330: Battery, 12 volt, 33AH

SEISKIT-MULTI-1: Seismic kit for the PS Series. Includes bracket and hardware for two 7AH or two 18AH batteries.

17070: Alternate Honeywell Gamewell-FCI lock set, PK-625, 3/8" cam

PS SERIES TECHNICAL SPECIFICATIONS

PRIMARY (AC) POWER

HPF-PS6(B): 120 VAC, 50/60 Hz, 5.0A maximum

HPF-PS10(B): 120VAC, 50/60 Hz, 6.2 A maximum

Wire Size: #12-14 AWG with 600 V insulation

COMMAND INPUT CIRCUIT

Trigger Input Voltage: 9 to 32 VDC

Trigger Current: 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V)

RELAY CIRCUITS

Trouble Contact Rating: 4 A at 24 VDC

OUTPUT CIRCUITS

- 24 VDC filtered
- HPF-PS6B: TB8-TB9 – 1A Regulated, 3A special applications; TB10-TB12 – 0.3A Regulated, 3A special applications
- HPF-PS10B: TB8-TB11 – 1.5A Regulated, 3A special applications; TB12-TB14 – 0.3A Regulated, 3A special applications
- 6.0 A (HPF-PS6B) or 10.0 (HPF-PS10B) maximum total continuous current for all outputs

SECONDARY POWER (BATTERY) CHARGING CIRCUIT

- Supports lead-acid batteries only
- Float-charge voltage: 27.6 VDC
- Maximum current charge: 1.5 A
- Maximum battery capacity: 18 AH (inside cabinet)
- Maximum battery charging capacity: 33 AH (external cabinet)

PHYSICAL

Dimensions: 20.0"H x 14.5"W x 3.5"D (cm: 50.8H x 36.83W x 8.9D)

Weight: with two 7Ah batteries is 24 pounds (10.9 kg), with two 18 AH batteries is 39 pounds (17.7 kg)

STANDARDS AND CODES

The HPF-PS complies with the following standards:

NFPA 72: National Fire Alarm Code

UL 864: Standard for Control Units for Fire Alarm Systems (NAC expander mode)

UL 1481: Power Supplies for Fire Alarm Systems

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

UL Listed: S24562

CSFM: 7315-1637:0505

FDNY Approved

FM Approved

Country of origin: USA

Honeywell Gamewell-FCI
12 Clintonville Road
Northford, CT 06472-1610
203.484.7161
www.gamewell-fci.com

9021-61096 | C | 03/21

Premier Low Voltage Systems by:

E² Systems

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TAB 4

PULL STATIONS

Addressable Devices

MS-7 Series

Manual Fire Alarm Pull Stations

General

The Gamewell-FCI, MS-7 Series manual fire alarm pull stations are available in a wide variety of configurations. The pull stations comply with the Americans with Disabilities Act (ADA) 5-lb. maximum pull force requirement. Operating instructions and Braille text are engraved in the handle. All pull stations include a key lock/reset which is keyed alike with the Gamewell-FCI fire alarm control panels and other manual fire alarm pull stations.

MS-7 Series

MS-7AF Velociti Addressable Station

The MS-7AF Velociti® Series addressable station is a double action pull station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the pull station causes its assigned address to register at the fire alarm control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

MS-7ASF Velociti Addressable Station

The MS-7ASF Velociti® Series addressable pull station is a single action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the pull station is activated.* The station features screw terminals.

The Velociti® Series pull stations use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and focuses on the single device. The net effect offers a response speed up to five times greater than earlier designs.

MS-7 Double Action Station

The MS-7 double action pull station is used with conventional fire alarm control panels. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

FEATURES & BENEFITS

- Addressable stations compatible with all Gamewell-FCI analog addressable fire alarm controls
- Conventional stations suitable for use with any UL® Listed control panel
- The pull stations (MS-7LOB) are Listed for outdoor applications
- Complies with ADA pull force requirements
- Offers surface or semi-flush mounting
- Shock and vibration resistant
- Both single and double action pull stations available
- Includes a tumbler lock for test and reset keyed alike with analog addressable fire alarm controls

*Only the red LED is operative in panels that do not operate in Velociti mode

MS-7S Single Action Station

The MS-7S single action pull station is used with conventional fire alarm control panels. It features a set of single pole contacts and wire leads for connection to an initiating circuit.

MS-7SP Double Action Station

The MS-7SP is a double action pull station similar to the MS-7 station, with the additional feature of including both English and Spanish instructions molded into the unit.

MS-7LR Dual-action Agent Release Station

The MS-7LR is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems. It features a set of single pole contacts and screw terminals used to connect to an initiating circuit.

MS-7LRA Agent Release Station with Abort

The MS-7LRA is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems where system abort capabilities are required. It consists of the following:

- An MS-7LR mounted on a plate with an abort switch
- LED indicators that signal system normal and system activated status

MS-7LOB Double Action Station (Listed for Outdoor Applications)

The MS-7LOB station must be mounted on a Model SB-I/O backbox. In retrofit applications, the pull station is UL Listed for use with the WP-10 backbox. It is intended for use with conventional control panels and has a set of single pole contacts and screw terminals.

Mounting

The MS-7 interior pull stations may be surface mounted or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box. An optional trim ring (BG12TR) may also be used for semi-flush mounting.

NYC-Plate

The NYC-Plate provides the backplate for the manual pull station. (See Figure 1).

Figure 1 NYC-Plate

Ordering Information

MS-7: Double action station

MS-7AF:** Velociti addressable double action station

MS-7ASF:** Velociti addressable single action station

MS-7S: Single action station, wire leads

MS-7SP: Double action station, English and Spanish instructions

MS-7LR: Agent release station, dual-action

MS-7LRA: Agent release station with abort switch, LED indicators, dual- action

MS-7LOB: Double action station, outdoor use (Includes SB-I/O - Indoor/outdoor use backbox)

SB-I/O: Indoor/outdoor use backbackbox

SB-10: Surface backbox

BG12TR: Trim ring for semi-flush mount, plastic

NY-PLATE: NYC backplate for manual pull station

**For use with the Gamewell-FCI analog addressable control panels only.

MS-7 Series Technical Specifications

SYSTEMS

Material: Lexan®
Contact Ratings: 0.25 amps. @ 30 VAC/VDC (resistive)
Dimensions: 5 5/8" H x 4 1/4" W x 1 1/4" D
(14 x 10.1 x 3.2 cm)
Operating Temperature:
(MS-7AF, MS-7ASF): 32° to 120° F (0° to 49° C)
(MS-7LOB): -30° to 150° F (-35° to 66° C)
Relative Humidity :
(MS-7AF, MS-7ASF): 10 to 93% (non-condensing)
(MS-7LOB): 85% ± 5% @ 86° ± 3.6° (30° ± 2° C)
Alarm Current: .0030 amp. 0.007 for LED
Supervisory Current:
(MS-7AF, MS-7ASF): .00030 amps.

TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

STANDARDS

The MS-7 Series is designed to comply with the following standard:
UL Standard: UL 864 9th Edition

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S2465
FM: 3023594
MEA FDNY: 67-02-E Vol. VII
CSFM:
7160-1703:0119
7160-1703:0170
7160-1703:0109
ISO 9001 Certification

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information
Learn more about Gamewell-FCI's MS-7 Series and other products available by visiting www.Gamewell-FCI.com

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9020-0616 | F | 11/17

Honeywell

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TAB 5

SMOKE DETECTORS

Photoelectric Smoke Detectors

System Sensor i³™ series smoke detectors represent significant advancement in conventional detection. The i³ family is founded on three principles: installation ease, intelligence, and instant inspection.

Features

- Plug-in detector line, mounting base included
- Large wire entry port
- In-line terminals with SEMS screws
- Mounts to octagonal and single-gang back boxes, 4-square back boxes, or direct to ceiling
- Stop-Drop 'N Lock attachment to base
- Removable detector cover and chamber
- 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

Installation ease. The i³ line redefines installation ease with its plug-in design. This allows an installer to pre-wire bases (included with 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 back box mounting methods as well as direct mounting with drywall anchors. To complete the installation, i³ heads plug into the base with a simple Stop-Drop 'N Lock™ action.

Intelligence. i³ detectors offer a number of intelligent features to simplify testing and maintenance. Drift compensation and smoothing algorithms are standard with the i³ line to minimize nuisance alarms. 2-wire i³ detectors can generate a remote LED-indicated maintenance signal when connected to the 2W-MOD2 loop test/maintenance module or a panel equipped with the i³ protocol. The SENS-RDR, a wireless device, displays the sensitivityof i³ detectors in terms of percent-per-foot obscuration.

Instant inspection. The i³ series provides wide-angle red and green LED indicators for instant inspection of the detector's condition: normal standby, out-of-sensitivity, alarm, or freeze trouble. When connected to the 2W-MOD2 loop test/maintenance module or a panel with the i³ protocol, the EZ Walk loop test feature is available on 2-wire i³ detectors. This feature verifies the initiating loop wiring by providing LED status indication at each detector.

Agency Listings

UL LISTED	FM APPROVED		MEA approved	MSFM approved	ETL C LISTED US
S911	3011446	7272-1653:152	290-01-E	2093	3180932

Smoke Detector Specifications

Architectural/Engineering Specifications

Smoke detector shall be a System Sensor i³ Series model number_____, listed to Underwriters Laboratories UL 268 for Fire Protection Signaling Systems. The detector shall be a photoelectric type (Model 2W-B, 4W-B) or a combination photoelectric/thermal (Model 2WT-B, 4WT-B) with thermal sensor rated at 135°F (57.2°C). The detector shall include a mounting base for mounting to 3½-inch and 4-inch octagonal, single-gang, and 4-inch square back boxes with a plaster ring, or direct 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 percent-per-foot nominal 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 that blinks to indicate power up, normal standby, out of sensitivity, alarm, and freeze trouble (Model 2WT-B, 4WT-B) conditions. When used in conjunction with the 2W-MOD2 module, 2-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.

Electrical Specifications

Operating Voltage	Nominal: 12/24 V non-polarized Minimum: 8.5 V Maximum: 35 V
Maximum Ripple Voltage	30% peak to peak of applied voltage
Standby Current	2-wire: 50 μA maximum average; 4-wire: 50 μA maximum average
Maximum Alarm Current	2-wire: 130 mA limited by control panel; 4-wire: 20 mA @12 V, 23 mA @ 24 V
Peak Standby Current	2-wire: 100 μA; 4-wire: n/a
Alarm Contact Ratings	2-wire: n/a; 4-wire: 0.5 A @ 30 V AC/DC

Physical Specifications

Dimensions (including base)	5.3 inches (127 mm) diameter; 2.0 inches (51 mm) height
Weight	6.3 oz (178 g)
Operating Temperature Range	2W-B and 4W-B: 32°F to 120°F (0°C to 49°C); 2WT-B and 4WT-B: 32°F to 100°F (0°C to 37.8°C)
Operating Humidity Range	0 to 95% RH non-condensing
Thermal Sensor	135°F (57.2°C) fixed
Freeze Trouble	2WT-B and 4WT-B only: 41°F (5°C)
Sensitivity	2.5%/ft nominal
Input Terminals	14 to 22 AWG
Mounting	3½-inch octagonal back box 4-inch octagonal back box Single-gang back box 4-inch square back box with a plaster ring Direct mount to ceiling

LED Modes			**Power-Up Sequence for LED Indication**	
LED Mode	**Green LED**	**Red LED**	**Condition**	**Duration**
Power up	Blink every 10 seconds	Blink every 10 seconds	Initial LED status indication	80 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		

Ordering Information

Model	Thermal	Wiring	Alarm Current
2W-B	No	2-wire	130 mA max. limited by control panel
2WT-B	Yes	2-wire	130 mA max. limited by control panel
4W-B	No	4-wire	20 mA @ 12 V, 23 mA @ 24 V
4WT-B	Yes	4-wire	20 mA @ 12 V, 23 mA @ 24 V

Accessories

2W-MOD2	2-wire loop test / maintenance module	RT	Removal / replacement tool
SENS-RDR	Sensitivity reader	A77-AB2	Retrofit adapter bracket, 6.6 inch (16.76 cm) diameter

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5600 Series Mechanical Heat Detectors

System Sensor's 5600 series mechanical heat detectors offer a low-cost means for property protection against fire, and for non-life-safety installations where smoke detectors are inappropriate.

5601P

5621

Features

- Multiple configurations for installations:
  – Single- and dual-circuit models
  – Fixed temp and combination fixed- temp/rate-of-rise 135°F or 194°F ratings.
- Plain housing for residential installations (Model 5601P)
- Easy-to-use terminal screws
- A broad range of back box mounting options:
  – Single gang
  – 3.5″ and 4″ Octagonal
  – 4″ square with square to round plaster ring
- Reversible mounting bracket

Multiple configurations. The 5600 series offers a full-line of configurations to accommodate a broad range of applications. Both single- and dual-circuit models are available for low- and high-temperature ratings with either fixed temperature or combination fixed temperature/rate-of-rise (ROR) activation. The ROR element of the fixed/ROR models is restorable to accommodate field-testing.

Installation flexibility. To satisfy a variety of installation needs, the 5600 series easily mounts to single-gang and octagonal back boxes. And these models accommodate four-square back boxes, when used with a square to round plaster ring. The reversible mounting bracket permits both flush- and surface-mount back box installations.

Visual identification. The 5600 series provides clear markings on the exterior of the unit to ensure that the proper detector is being used. Alphanumeric characters identify the activation method, as well as the temperature rating, in Fahrenheit and Celsius degrees. Fixed temperature models are identified FX, while combination fixed/rate-of-rise units are marked FX/ROR. The 5600 series also provides a post-activation indicator in the form of a collector. When the detector is activated, the collector drops from the unit, making it easy to identify the unit in alarm.

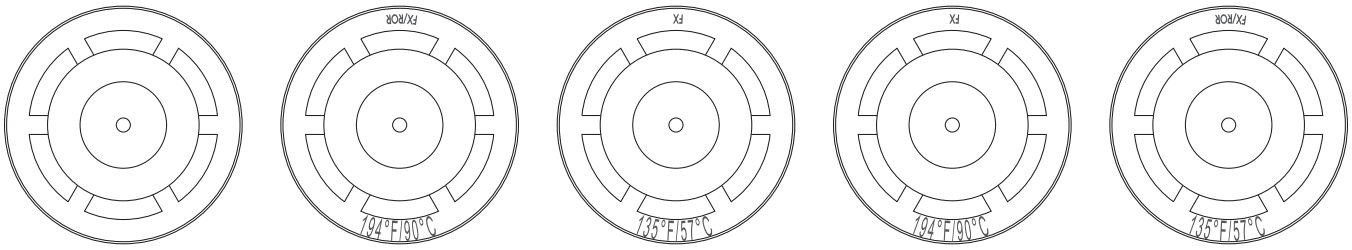
Agency Listings

UL LISTED S2101 · FM APPROVED 3016008 · ULC CS630 · 7270-1653:0167

Specifications

Architectural/Engineering Specifications
Mechanical heat detector shall be a System Sensor 5600 series model number _____, listed to Underwriters Laboratories UL 521 for Heat Detectors for Fire Protective Signaling Systems. The detector shall be either a single-circuit or a dual-circuit type, normally open. The detector shall be rated for activation at either 135°F (57°C) or 194°F (90°C), and shall activate by means of a fixed temperature thermal sensor, or a combination fixed temperature/rate-of-rise thermal sensor. The rate-of-rise element shall be activated by a rapid rise in temperature, approximately 15°F (8.3°C) per minute. The detector shall include a reversible mounting bracket for mounting to 3½-inch and 4-inch octagonal, single gang, and 4-inch square back boxes with a square to round plaster ring. Wiring connections shall be made by means of SEMS screws that shall accommodate 14–22AWG wire. The detector shall contain alphanumeric markings on the exterior of the housing to identify its temperature rating and activation method. The rate-of-rise element of combination fixed temperature/rate-of-rise models shall be restorable, to allow for field-testing. The detectors shall include an external collector that shall drop upon activation to identify the unit in alarm.

Physical/Operating Specifications	
Maximum Installation Temperature	5601P, 5603, 5621, and 5623: 100°F (38°C) 5602, 5604, 5622, and 5624: 150°F (65.6°C)
Operating Humidity Range	5 to 95% RH non-condensing
Dimensions with mounting bracket	Diameter: 4.57 inches (11.6cm) Height: 1.69 inches (4.3cm)
Alarm Temperature	5601P, 5603, 5621, and 5623: 135°F (57°C) 5602, 5604, 5622, and 5624: 194°F (90°C)
Weight	6 oz. (170 grams)
Rate-of-Rise Threshold	15°F (8.3°C) rise per minute (models 5601P, 5602, 5621, and 5622 only)
Mounting	3½-inch octagonal back box 4-inch octagonal back box Single gang back box 4-inch square back box with a square to round plaster ring
Electrical Specifications	
Operating Voltage / Contact Ratings	6–125VAC / 3A 6–28VDC / 1A 125VDC / 0.3A 250VDC / 0.1A
Input Terminals	14–22 AWG



5601P **5602, 5622** **5603, 5623** **5604, 5624** **5621**

Ordering Information

Model	Circuit	Identification Method on Exterior	Temperature Rating	Activation	UL Protected Spacing – 10 Foot Ceiling*
5601P	Single	None	135°F (57°C)	Fixed Temperature / Rate-of-Rise	50 feet × 50 feet (15.24m × 15.2m)
5602	Single	Lettering	194°F (90°C)	Fixed Temperature / Rate-of-Rise	50 feet × 50 feet (15.24m × 15.2m)
5603	Single	Lettering	135°F (57°C)	Fixed Temperature	25 feet × 25 feet (7.62m × 7.62m)
5604	Single	Lettering	194°F (90°C)	Fixed Temperature	25 feet × 25 feet (7.62m × 7.62m)
5621	Dual	Lettering	135°F (57°C)	Fixed Temperature / Rate-of-Rise	50 feet × 50 feet (15.24m × 15.2m)
5622	Dual	Lettering	194°F (90°C)	Fixed Temperature / Rate-of-Rise	50 feet × 50 feet (15.24m × 15.2m)
5623	Dual	Lettering	135°F (57°C)	Fixed Temperature	25 feet × 25 feet (7.62m × 7.62m)
5624	Dual	Lettering	194°F (90°C)	Fixed Temperature	25 feet × 25 feet (7.62m × 7.62m)

*NOTE: Refer to NFPA72 guidelines for spacing reductions when ceiling heights exceed 10 feet.

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TAB 6

NOTIFICATION DEVICES

Outdoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

SPECTRAlert ADVANCE from System Sensor

SpectrAlert® Advance outdoor audible visible products are rich with features that cut installation times and maximize profits.

Features

- Weatherproof per NEMA 4X, IP56
- Listed to UL 1638 (strobe) and UL 464 (horn)
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products
- Field-selectable candela settings: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch for horn tone and three volume selections
- Horn rated at 88+ dBA at 16 volts
- Rated from –40°F to 151°F
- Universal mounting plate with an onboard shorting spring that tests wiring continuity before devices are installed
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S3593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

7300-1653:187 (outdoor strobes)
7125-1653:188 (horn strobes, chime strobes)
7135-1653:189 (horns, chimes)

SpectrAlert Advance offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white or red plastic housings, wall or ceiling mounting options, and plain or FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement, including indoor, outdoor, wet, and dry applications in temperatures from –40°F to 151°F.

Like the entire SpectrAlert Advance line, outdoor horns, strobes, and horn strobes for wall applications include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including candela, automatic selection of 12- or 24-volt operation, horn tones, and three volume options enable installers to easily adapt devices to meet requirements.

Next, SpectrAlert Advance devices use a universal mounting plate for both wall and ceiling applications. This mounting plate includes an onboard shorting spring that ensures wiring continuity before devices are installed, so installers can verify proper wiring without mounting the devices and exposing them to potential construction damage. Once the plates are mounted, all SpectrAlert Advance devices utilize a plug-in design with a single captured screw to speed installation and virtually eliminate costly ground faults.

Outdoor devices ship with weatherproof plastic back boxes (metal back boxes are available separately) that accommodate in-and-out wiring for daisy chaining devices. Plastic back boxes feature removable side flanges and improved resistance to saltwater corrosion. Knock-outs located on the back eliminate the need to drill holes for screw-in mounting. Plastic and metal weatherproof back boxes come with ¾-inch top and bottom conduit entries and ¾-inch knock-outs at the back. A screw-in NPT plug with an O-ring gasket for a watertight seal is included with each back box.

SpectrAlert Advance Outdoor Horn, Strobe, and Horn Strobe Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance outdoor horns, strobes, and horn strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The strobe shall be suitable for use in wet environments.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options shall be set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn or horn strobe models shall operate on a coded or non-coded power supply. The horn strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The horn strobe shall be suitable for use in wet environments.

Physical/Electrical Specifications

Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6˝ L × 4.7˝ W × 2.5˝ D (142 mm L × 119 mm W × 64 mm D)
Horn Dimensions	5.6˝ L × 4.7˝ W × 1.3˝ D (142 mm L × 119 mm W × 33 mm D)
Wall-Mount Weatherproof Back Box Dimensions (SA-WBB)	5.7˝ L × 5.1˝ W × 2.0˝ D (145 mm L × 130 mm W × 51 mm D)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
	Candela	DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
Sound Pattern	dB	DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-Temporal	High	57	56	69	75
Non-Temporal	Medium	42	50	60	69
Non-Temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	15	15/75	15	15/75	30	75	95	110	115
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	77	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)

	16–33 Volts					16–33 Volts			
DC Input	135	150	177	185	FWR Input	135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)

Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

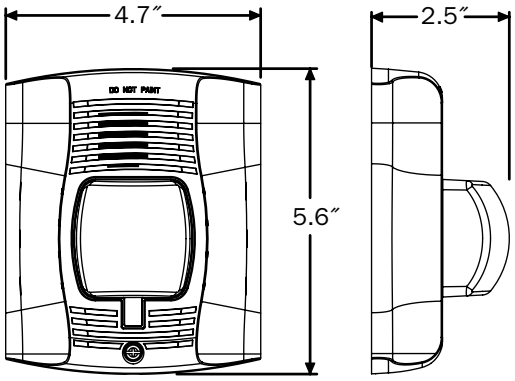
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

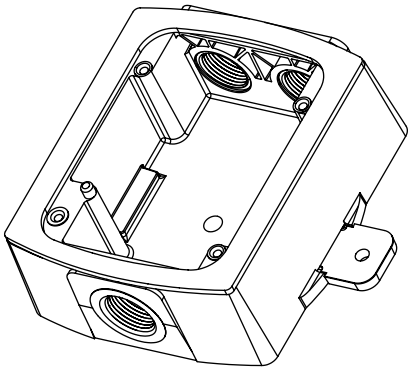
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobe.

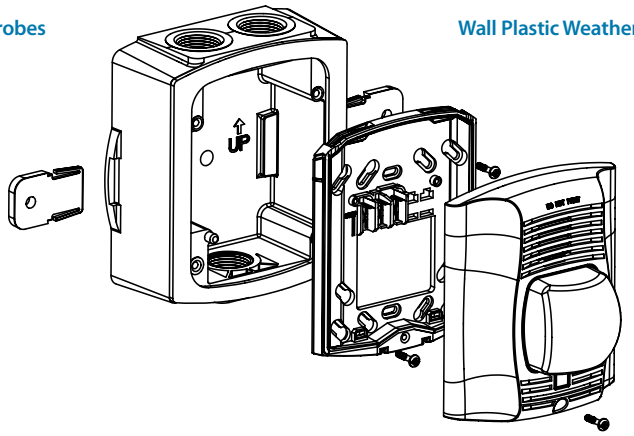
SpectrAlert Advance Diagrams



Wall-Mount Horn Strobes



Wall Plastic Weatherproof Back Box



Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2RK*†	2-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic outdoor back box)
P2RHK*†	2-Wire Horn Strobe, High cd, Red, Outdoor (includes plastic outdoor back box)
P2WK*†	2-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic outdoor back box)
P2WHK*†	2-Wire Horn Strobe, High cd, White, Outdoor (includes plastic outdoor back box)
P4RK†	4-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic outdoor back box)
P4WK	4-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic outdoor back box)
P2RHK-120	2-Wire Horn Strobe, High cd, Red, Outdoor, 120 V (includes plastic outdoor back box)
Wall Strobes	
SRK*†	Strobe, Standard cd, Red, Outdoor (includes plastic outdoor back box)
SRHK*†	Strobe, High cd, Red, Outdoor (includes plastic outdoor back box)
SWK*†	Strobe, Standard cd, White, Outdoor (includes plastic outdoor back box)
SWHK*†	Strobe, High cd, White, Outdoor (includes plastic outdoor back box)
Horns	
HRK†	Horn, Red, Outdoor (includes plastic outdoor back box)
Accessories	
SA-WBB	Red Separate Ship, Wall-Mount, Outdoor Back Box, Metal
SA-WBBW	White Separate Ship, Wall-Mount, Outdoor Back Box, Metal

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2RK-P.

† Add "-R" to model number for weatherproof replacement device (no back box included), only for use with weatherproof outdoor flush mounting plate, WTP and WTPW.

"Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings.

When replacing standard outdoor units both the device and back box must be replaced.

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L-Series and L-Series with LED Indoor Selectable Horns, Strobes and Horn Strobes

System Sensor L-Series and L-Series with LED audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- LED technology provides lower current draw
- Digital Voltage Meter (DVM) diagnostic test points for Horn Strobes and Strobes
- Common aesthetics across the L-Series platform
- Standard and compact sizes
- Tamper-resistant construction
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Rotary switches for candela, tone and volume selections
- Mounting plate provides plug-in design for easier installation and shorting springs to check wiring continuity
- Electrically compatible with legacy SpectrAlert, SpectrAlert Advance and L-series devices
- Synchronization through use of UL approved power supplies that support System Sensor Sync protocol or System Sensor MDL3 Sync Module
- Horns, Strobes and Horn Strobes listed for wall or ceiling use

Agency Listings

SIGNALING c UL us LISTED	SIGNALING UL LISTED	ULC LISTED	FM APPROVED	
Horn Strobes and Strobes: S5512, S4011	Horns: S4011	Horns: S4011	3057072 FM23FPUS0195	7300-1653:0525 7135-1653:0503 7135-1653:0526

The System Sensor L-Series and L-Series with LED platform offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draw and modern aesthetics. LED lighting technology offers significantly lower current draw compared to older Xenon bulbs across a full candela range. This improves design flexibility for notification appliance circuits (NACs) while also reducing power supply requirements allowing for simpler and lower cost installations.

Flexible design options meet virtually any application requirement: wall or ceiling mount, standard or compact sizes, red or white color choices, bezel kits for alternate markings and languages, and LED color lenses for distinctive visual signaling. In addition, installers can easily adapt devices using field selectable candela, tone and volume settings using rotary switches.

The L-Series and L-Series with LED line is developed to simplify installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults. The universal mounting plate includes an onboard shorting spring, so installers can test wiring continuity before the device is installed.

In addition, the System Sensor L-Series with LED notification appliances offer a new diagnostic test point feature that allows you to measure device voltage with a digital voltage meter (DVM) without removing the appliance from the wall or ceiling. The DVM test points are discreetly located on the face of the notification appliance which enable faster troubleshooting and end of line (EOL) voltage checks while greatly reducing the risk of misplacing or damaging appliances during troubleshooting.

L-Series and L-Series with LED Specifications

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage, LED Strobes and Horn Strobes	Regulated 24 VDC
Nominal Voltage, Horns	Regulated 12 VDC or regulated 24 DC/FWR
Operating Voltage Range, LED Strobes and Horn Strobes	16 to 33 V (24 V nominal)
Operating Voltage Range, Horns	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG

UL/ULC Current Draw Data, Horn Tones, and Sound Output Data

UL/ULC Maxmimum Strobe Current Draw (mA)

	Candela Rating	16–33 Volts	
		Wall	Ceiling
Candela Range	15	18	18
	30	22	22
	75	70	70
	95	75	75
	110	85	—
	115	—	90
	135	105	—
	150	—	110
	177	—	115
	185	120	—

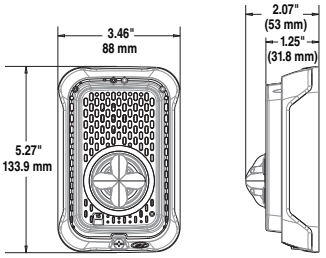
UL/ULC Maxmimum Horn Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL/ULC Maximum Horn Strobe Current Draw (mA) and Sound Output (dBA)

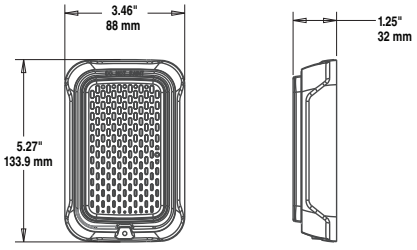
			Current Draw (mA RMS), Horn Strobe, Candela Range (15-185 cd)										Sound Output (dBA)
			16-33 Volts										16-33V
Switch Pos.	Sound Pattern	Volume Setting	15cd	30cd	75cd	95cd	110cd WALL	115cd CEILING	135cd WALL	150cd CEILING	177cd CEILING	185cd WALL	DC
1	Temporal 3	High	35	38	87	92	94	120	189	189	190	190	87
2	Temporal 3	Low	35	38	87	92	94	120	135	135	145	145	79
3	Non-Temporal	High	50	52	87	92	94	120	127	127	135	135	87
4	Non-Temporal	Low	35	38	87	92	94	120	125	125	130	130	79
5	3.1KHz Temporal 3	High	35	38	87	89	91	115	155	155	165	165	86
6	3.1KHz Temporal 3	Low	35	38	87	89	91	115	128	130	135	135	80
7	3.1KHz Non-Temporal	High	40	42	87	89	91	115	125	125	135	135	86
8	3.1KHz Non-Temporal	Low	35	38	87	89	91	115	120	120	130	130	80

L-Series with LED Dimensions: Wall-Mounted Equipment



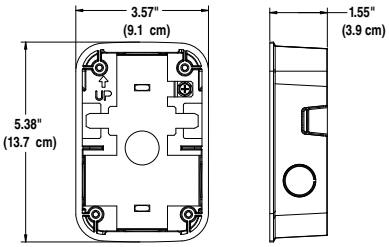
A0617-00

Compact Strobe, Horn Strobe for Wall



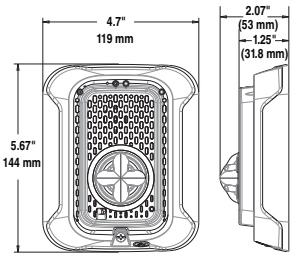
A0547-00

Compact Horn



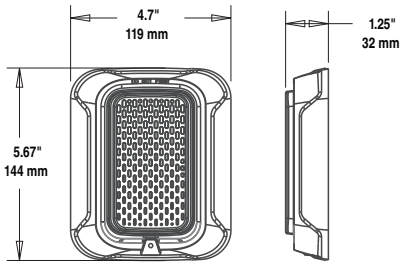
A0557-00

Compact Surface Mount Back Box for Walls (SBBGRL, SBBGWL)



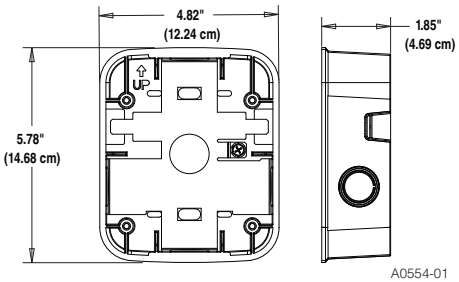
A0613-00

Strobes, Horn Strobes for Walls



A0549-00

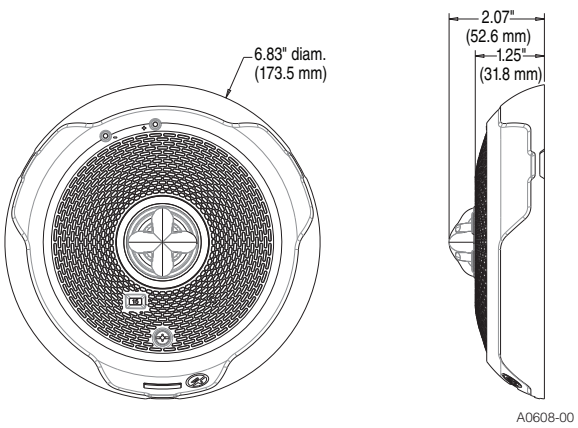
Horn



A0554-01

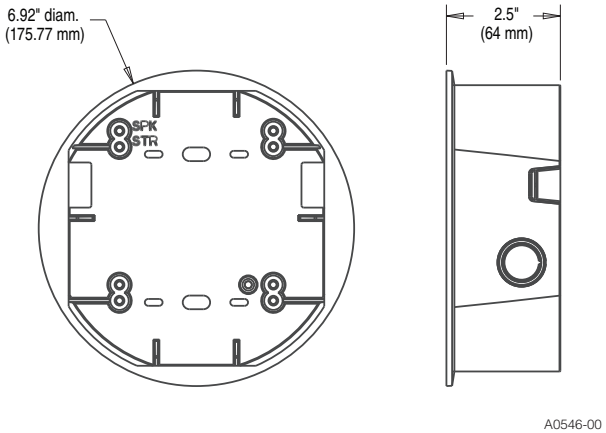
Surface Mount Back Box for Walls (SBBRL/SBBWL)

L-Series with LED Dimensions: Ceiling-Mounted Equipment



A0608-00

Strobes and Horn Strobes for Ceilings



A0546-00

Surface Mount Back Box for Ceilings (SBBCRL, SBCWL)

L-Series with LED: Ordering Information

Model	Description
L-Series with LED Horn Strobes	
P2RLED	2-Wire, Horn Strobe, Wall, Red
P2RLED-B	2-Wire, Horn Strobe, Wall, Red, Bilingual
P2WLED	2-Wire, Horn Strobe, Wall, White
P2WLED-B	2-Wire, Horn Strobe, Wall, White, Bilingual
P2GRLED	2-Wire, Compact Horn Strobe, Wall, Red
P2GRLED-B	2-Wire, Compact Horn Strobe, Wall, Red, Bilingual
P2GWLED	2-Wire, Compact Horn Strobe, Wall, White
P2GWLED-B	2-Wire, Compact Horn Strobe, Wall, White, Bilingual
P2RLED-P	2-Wire, Horn Strobe, Wall, Red, Plain
P2WLED-P	2-Wire, Horn Strobe, Wall, White, Plain
P2RLED-SP	2-Wire, Horn Strobe, Wall, Red, FUEGO
P2WLED-SP	2-Wire, Horn Strobe, Wall, White, FUEGO
PC2RLED	2-Wire, Horn Strobe, Ceiling, Red
PC2RLED-B	2-Wire, Horn Strobe, Ceiling, Red, Bilingual
PC2WLED	2-Wire, Horn Strobe, Ceiling, White
PC2WLED-B	2-Wire, Horn Strobe, Ceiling, White, Bilingual
L-Series with LED Strobes	
SRLED	Strobe, Wall, Red
SRLED-B	Strobe, Wall, Red, Bilingual
SWLED	Strobe, Wall, White
SWLED-B	Strobe, Wall, White, Bilingual
SGRLED	Strobe, Compact, Wall, Red
SGRLED-B	Strobe, Compact, Wall, Red, Bilingual
SGWLED	Strobe, Compact, Wall, White
SGWLED-B	Strobe, Compact, Wall, White, Bilingual
SRLED-P	Strobe, Wall, Red, Plain
SWLED-P	Strobe, Wall, White, Plain
SRLED-SP	Strobe, Wall, Red, FUEGO
SWLED-CLR-ALERT	Strobe, Wall, White, ALERT
SWLED-ALERT	Strobe, Wall, White, ALERT, Amber Lens
SCRLED	Strobe, Ceiling, Red
SCRLED-B	Strobe, Ceiling, Red, Bilingual
SCRLED-P	Strobe, Ceiling, White, Plain
SCWLED	Strobe, Ceiling, White
SCWLED-B	Strobe, Ceiling, White, Bilingual
SCWLED-P	Strobe, Ceiling, White, Plain
SCWLED-CLR-ALERT	Strobe, Ceiling, White, ALERT
L-Series Horns	
HRL*	Horn, Red
HRLA*	Horn, Red, Plain, ULC
HWL*	Horn, White
HWLA*	Horn, White, Plain, ULC
HGRL*	Compact Horn, Red
HGRLA*	Compact Horn, Red, Plain, ULC
HGWL*	Compact Horn, White
HGWLA*	Compact Horn, White, Plain, ULC

Model	Description
LED Lenses	
LENS-A3	Lens LED Amber Wall/Ceiling
LENS-B3	Lens LED Blue Wall/Ceiling
LENS-G3	Lens LED Green Wall/Ceiling
LENS-R3	Lens LED Red Wall/Ceiling
Accessories	
TR-2	Universal Wall Trim Ring Red
TR-2W	Universal Wall Trim Ring White
SBBRL	Wall Surface Mount Back Box, Red
SBBWL	Wall Surface Mount Back Box, White
SBBGRL	Compact Wall Surface Mount Back Box, Red
SBBGWL	Compact Wall Surface Mount Back Box, White
TRC-2	Universal Ceiling Trim Ring, Red
TRC-2W	Universal Ceiling Trim Ring, White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White
Bezels†	
BZR	Wall Red Bezel Kit
BZW	Wall White Bezel Kit
BZGR	Compact Wall Red Bezel Kit
BZGW	Compact Wall White Bezel Kit
BZRC	Horn Strobe Ceiling Red Bezel Kit
BZWC	Horn Strobe Ceiling White Bezel Kit

Notes for L-Series With LED Horn Strobes and Strobes:

All -P models have a plain housing (no “FIRE” marking on cover).
All -SP models have “FUEGO” marking on cover.
All -ALERT models have “ALERT” marking on cover.
All -B models have “FIRE/FEU” marking on cover for use in Canadian applications.
Amber lenses are not for use in Canadian applications

Notes for L-Series Horns:

*Horn-only models are listed for wall or ceiling use.

Notes for Bezels:

†Each bezel pack ships in a package of 5.
Add one of the following extensions for print/language options: -F (FIRE), -AL (ALERT), -EV (EVAC), -AG (AGENT), -P (Plain), -FR (FEU), -PG (FOGO), -SP (FUEGO), -SPE (FUEGO/FIRE).

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Phone: 800-SENSOR2 • Fax: 630-377-6495
www.systemsensor.com

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Phone: 800-SENSOR2 • Fax: 905-812-0771
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Premier Low Voltage Systems by:

E² Systems

E-SQUARED SYSTEMS, LLC.

Fire - Security - Card Access - CCTV

TAB 7

ADDRESSABLE INITIATING DEVICES

Premier Low Voltage Systems by:

E² Systems

E-SQUARED SYSTEMS, LLC.

Fire - Security - Card Access - CCTV

DOES NOT APPLY TO THIS SYSTEM

Premier Low Voltage Systems by:

E² Systems

E-SQUARED SYSTEMS, LLC.

Fire - Security - Card Access - CCTV

TAB 8

SYSTEM BATTERIES

DURACELL®
ULTRA

General Purpose
DURA12-8F

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	8.0Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 2.26 Kg (Tolerance±4%)
Max. Discharge Current	80 A (5 sec)
Internal Resistance	Approx. 25 mΩ
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C±5°C
Float charging Voltage	13.7 to 13.9 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	2.4 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	Duracell® Ultra Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.
Terminal	Faston Tab 187(F1)/Faston tab 250(F2)
Constainer Material	A.B.S. UL94-HB, UL94-V0 Optional.

MH20720

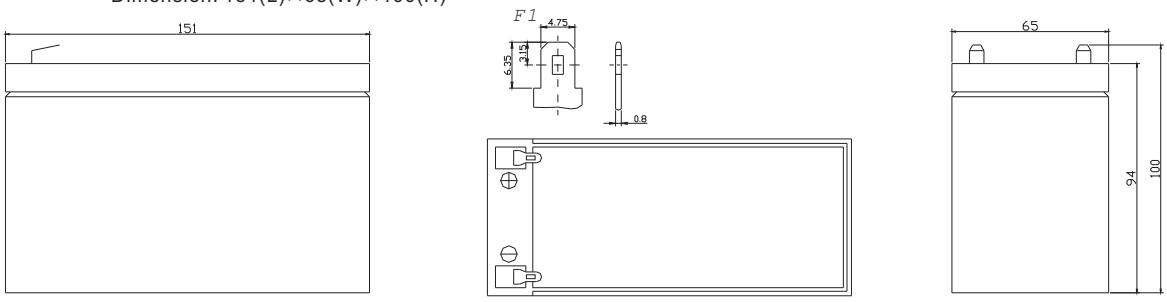
G4M20206-0910-E-16

IQNet CERTIFICATE
ISO 14001:2004 Standard

IQNet CERTIFICATE
OHSAS 18001:1999 Standard

Dimensions

Unit: mm Dimension: 151(L)×65(W)×100(H)



Constant Current Discharge Characteristics : A(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	31.55	20.69	15.41	8.202	5.199	3.179	2.095	1.706	1.402	0.924	0.800	0.428
10.0V	30.41	20.17	14.91	8.097	5.130	3.115	2.056	1.682	1.390	0.920	0.792	0.424
10.2V	28.63	19.17	14.50	7.973	5.081	3.082	2.038	1.665	1.381	0.912	0.779	0.413
10.5V	25.73	17.93	13.68	7.753	5.019	3.042	2.020	1.641	1.369	0.904	0.776	0.404
10.8V	23.06	16.72	12.90	7.497	4.949	3.017	1.996	1.585	1.362	0.900	0.763	0.388
11.1V	20.17	15.33	11.90	7.212	4.832	2.896	1.957	1.562	1.357	0.893	0.751	0.381

Constant Power Discharge Characteristics : W(25°C)

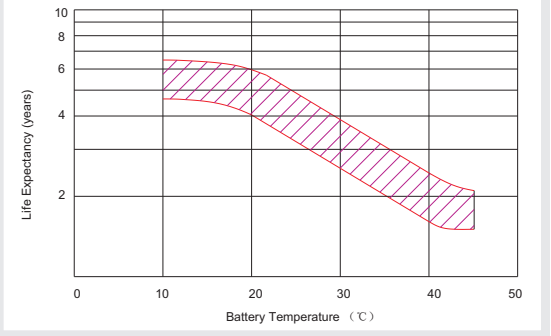
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	342.2	226.8	170.0	93.9	62.16	37.47	25.05	20.43	16.80	11.06	9.580	5.136
10.0V	333.3	222.1	167.6	92.9	61.24	36.97	24.64	20.14	16.65	11.02	9.490	5.095
10.2V	317.0	213.3	165.4	92.1	60.79	36.65	24.43	19.95	16.55	10.94	9.368	4.964
10.5V	289.4	204.5	156.8	90.2	59.97	36.25	24.25	19.68	16.42	10.84	9.302	4.880
10.8V	261.1	191.3	148.1	88.1	59.19	36.00	23.97	19.02	16.34	10.80	9.161	4.684
11.1V	230.2	178.1	139.5	85.67	57.89	34.74	23.50	18.74	16.28	10.72	9.025	4.610

All mentioned values are average values(Tolerance±2%).

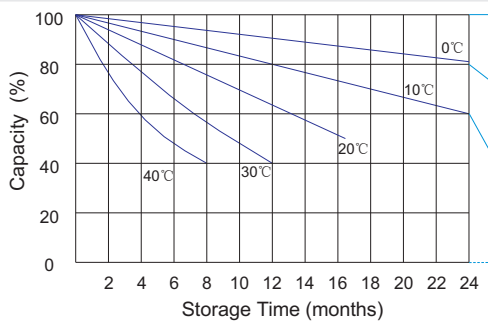
DURACELL®
ULTRA

General Purpose
DURA12-8F

Effect of temperature on long term float life



Storage characteristic



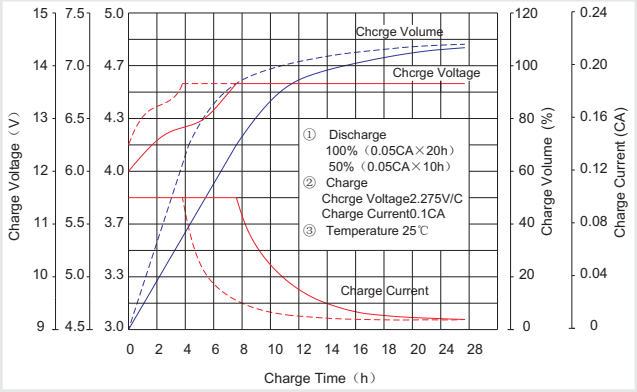
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

Supplementary charge required before use.
This supplementary charge will help to recover the capacity and should be made as early as possible.

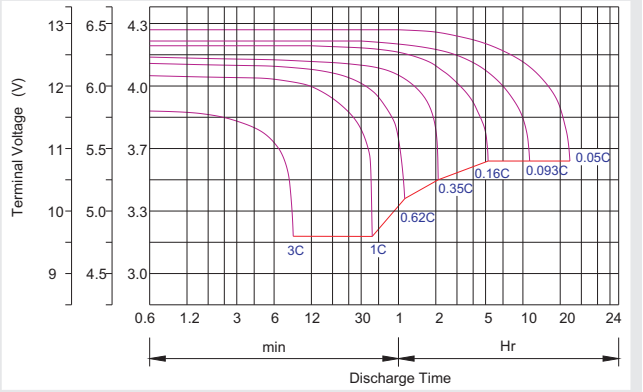
Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

Charge characteristic Curve for standby use



Discharge characteristic Curve



Capacity Factors With Different Temperature

BATTERY TYPE		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
AGM Battery	12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1.75V	1.70V	1.60V
Discharge Current (A)	（A）≤0.2C	0.2C＜（A）＜1.0C	（A）≥1.0C

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2Cx2h+2.4-2.45V/cellx24h,Max. Current 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

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SILENT KNIGHT
by Honeywell

Power Supplies/Accessories

BAT Series Batteries

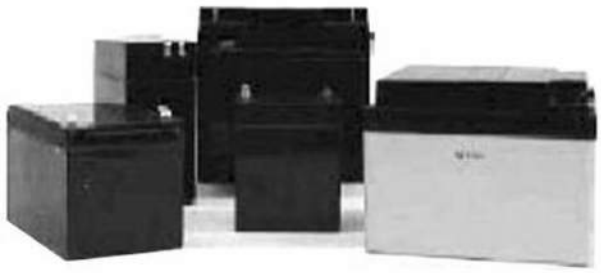
Sealed Lead-Acid

General

BAT Series Batteries are Power Sonic brand batteries. BAT Series (or Power Sonic brand) batteries are recommended for secondary power or backup power for all Silent Knight fire alarm control equipment.

Features

- Provide secondary power for control panels
- Sealed and maintenance-free
- Overcharge protected
- Easy handling with leakproof construction
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models)
- Long service life
- Compact design



BAT Series Batteries

Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. 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.

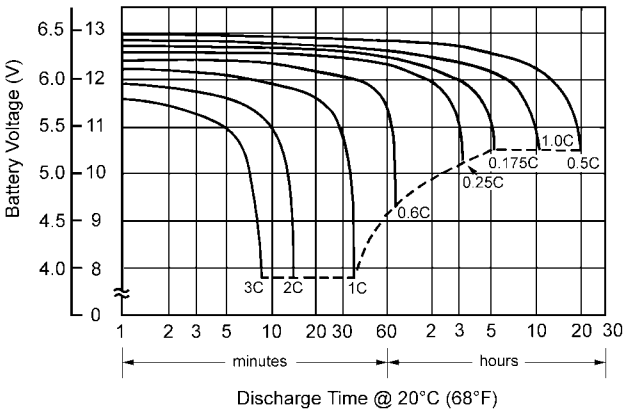
• **UL Recognized Components**: MH20845 (Power-Sonic)

Part Number Reference & Specifications

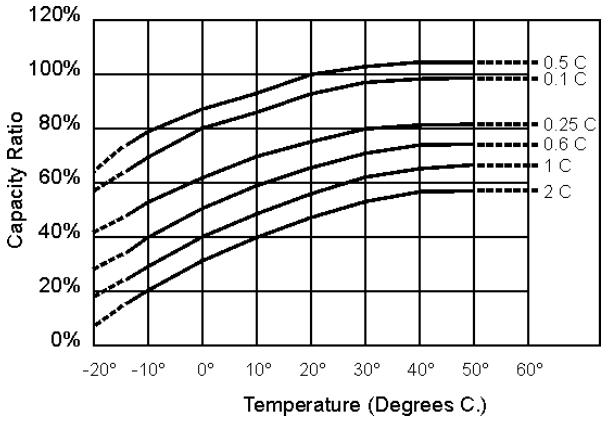
Current Part Number	Power Sonic Part Number	Battery Description			Dimensions									
		Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.		Width		Depth		Height		Height over terminal		Weight	
					in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg.
BAT-1250	PS-1250	12	5	sealed	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
BAT-1270	PS-1270	12	7	sealed	5.95	151	2.56	65	3.7	94	3.86	98	4.8	2.18
BAT-12120	PS-12120	12	12	sealed	5.95	151	3.86	98	3.7	94	3.94	100	7.92	3.59
BAT-12180	PS-12180	12	18	sealed	7.13	181	2.99	76	6.57	167	6.57	167	12.6	5.8
BAT-12260	PS-12260	12	26	sealed	6.56	167	6.97	177	4.92	125	4.92	125	17	7.71
BAT-12330	PS-12330	12	33	sealed	7.72	196	5.14	131	6.22	158	7.00	176	23.10	10.5
BAT-12550	PS-12250	12	55	sealed	9.04	230	654	138	8.2	208	8.98	228	36	16.33
BAT-121000	PS-121000	12	100	sealed	12	305	6.6	168	8.2	208	8.98	228	68	30.84

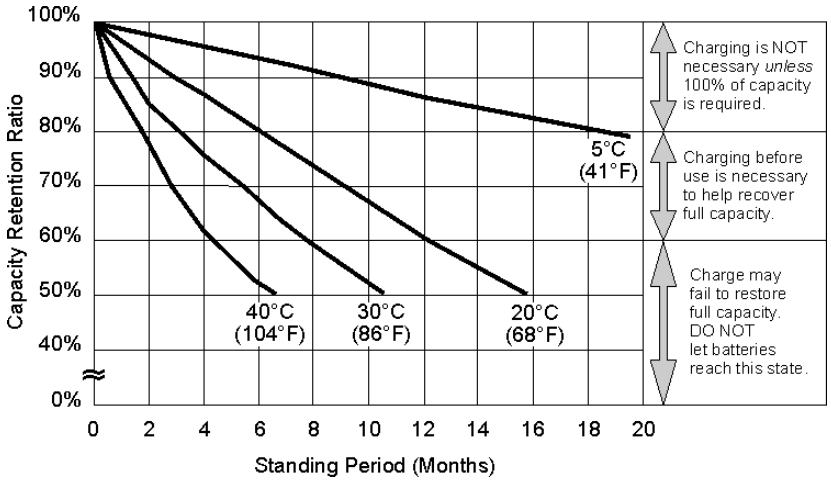
P/N 351551 Rev A
ECN: 11-0228 4/11

Characteristic Discharge Curves

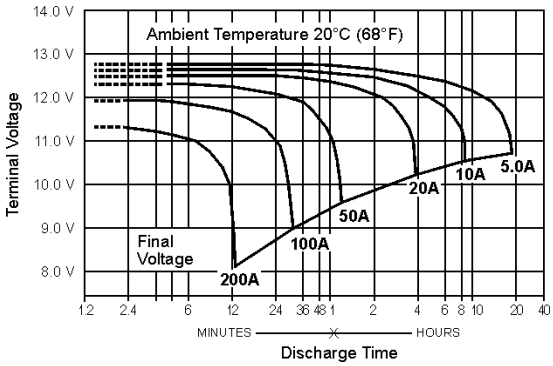


Effect of Temperature on Capacity





at left:
PS-121000
Shelf-Life
and Storage



at left:
PS-121000
Discharge
Characteristics

Ordering Information

BAT-12330	Battery, 12 V, 33AH
BAT-121000	Battery, 12 V, 100 AH
BAT-12120	Battery, 12 V, 12 AH
BAT-12180	Battery, 12 V, 18 AH
BAT-12260	Battery, 12 V, 26 AH
BAT-1250	Battery, 12 V, 5.0 AH
BAT-12550	Battery, 12 V, 55 AH
BAT-1270	Battery, 12 V, 7.0 AH

SILENT KNIGHT
by Honeywell

Premier Low Voltage Systems by:

E² Systems

E-SQUARED SYSTEMS, LLC.

Fire • Security • Card Access • CCTV

TAB 9

BATTERY CALCULATIONS

11/6/2024

1430C PHS PORTABLES 14-19 2025 VOLTAGE BPD VOLTAGE DROPS

Panel	HPF-PS6B#2					
Circuit	**Device**	**Current**		**# of Devices**		**Current**
N1	**P2RLED 95CD**	0.092	**X**	2	**=**	0.184
	P2RK	0.194	**X**	1	**=**	0.194
			X		**=**	0
			X		**=**	0
					Total Current	0.378

Ohms Per Foot	X Total Wire Length		Current		VDC	EOL Voltage
3.07	**60**	**X**	**0.378**	**=**	**0.070**	20.330

Panel	HPF-PS6B#2					
Circuit	**Device**	**Current**				**Current**
N2	**P2RLED 95CD**	0.092	**X**	2	**=**	0.184
			X		**=**	0
			X		**=**	0
			X		**=**	0
					Total Current	0.184

Ohms Per Foot	X Total Wire Length		Current		VDC	EOL Voltage
3.07	**90**	**X**	**0.184**	**=**	**0.051**	20.349

Panel	HPF-PS6B#2					
Circuit	**Device**	**Current**				**Current**
N3	**P2RLED 95CD**	0.092	**X**	2	**=**	0.184
		0	**X**		**=**	0
		0	**X**		**=**	0
			X		**=**	0
					Total Current	0.184

Ohms Per Foot	X Total Wire Length		Current		VDC	EOL Voltage
3.07	**125**	**X**	**0.184**	**=**	**0.071**	20.329

Panel	HPF-PS6B#2					
Circuit	**Device**	**Current**				**Current**
N4	**NOT USED**	0	**X**		**=**	0
		0	**X**		**=**	0
		0	**X**		**=**	0
			X		**=**	0
					Total Current	0

Ohms Per Foot	X Total Wire Length		Current		VDC	EOL Voltage
3.07	**0**	**X**	**0**	**=**	**0.000**	20.400

Panel	HPF-PS6B#2					
Circuit	**Device**	**Current**				**Current**
N5	**NOT USED**	0	**X**		**=**	0
		0	**X**		**=**	0
		0	**X**		**=**	0
			X		**=**	0
					Total Current	0

Ohms Per Foot	X Total Wire Length		Current		VDC	EOL Voltage
3.07	**0**	**X**	**0**	**=**	**0.000**	20.400

PSE-6 Battery Calculation

Secondary Power Source Requirements

	Standby Current (amps)					Secondary Alarm Current (amps)				
Device Type	**Qty**		**Current Draw**		**Total**	**Qty**		**Current Draw**		**Total**
Main Circuit Board										
Choose EOLR used ↓										
4.7k	1	X	0.1390	=	0.1390	1	X	0.1570	=	0.1570
Main Circuit Board with ZNAC-PS Class A card	0	X	0.1350	=	0.0000	0	X	0.1420	=	0.0000
NAC / Output # 1	1	X	0.0000	=	0.0000	1	X	0.3780	=	0.3780
NAC / Output # 2	1	X	0.0000	=	0.0000	1	X	0.1840	=	0.1840
NAC / Output # 3	1	X	0.0000	=	0.0000	1	X	0.1840	=	0.1840
NAC / Output # 4	1	X	0.0000	=	0.0000	1	X	0.0000	=	0.0000
NAC / Output # 5	1	X	0.0000	=	0.0000	1	X	0.0000	=	0.0000
Total Standby Load					**0.1390**	**Total Alarm Load**				**0.9030**

PSE-6 Battery Calculation

Note 1: You are **fully responsible for verifying these calculations**.
Note 2: You only need to make entries in the **yellow** cells

Calculation in Total Sheet

		Required Standby Time in Hours			
		24 Hours			
Standby Load Current (Amps)	**0.1390 Amps**	X	24	=	3.336 AH
		Required Alarm Time in Hours			
		5 Minutes			
Alarm Load Current (Amps)	**0.9030 Amps**	X	0.084	=	0.076 AH
			Total Current Load		**3.41 AH**
	*Multiply by the Derating Factor		1.2	=	x 1.20
			Total Ampere Hours Required		**4.09 AH**

Recommended Batteries:	**BAT-1270 - 7AH Batteries**

* Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

PSE-6 Circuit Detail

NAC / Output # 1

Device	Qty		Non-Alarm Draw		Total	Qty		Alarm Draw		Total
P2RLED (95CD)	2	x	0.000000	=	0.000000	2	x	0.092000	=	0.184000
P2RK (95CD)	1	x	0.000000	=	0.000000	1	x	0.194000	=	0.194000
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
			Total Standby Load		**0.000000**			**Total Alarm Load**		**0.378000**

NAC / Output # 2

Device	Qty		Non-Alarm Draw		Total	Qty		Alarm Draw		Total
P2RLED (95CD)	2	x	0.000000	=	0.000000	2	x	0.092000	=	0.184000
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
			Total Standby Load		**0.000000**			**Total Alarm Load**		**0.184000**

NAC / Output # 3

Device	Qty		Non-Alarm Draw		Total	Qty		Alarm Draw		Total
P2RLED (95CD)	2	x	0.000000	=	0.000000	2	x	0.092000	=	0.184000
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
			Total Standby Load		**0.000000**			**Total Alarm Load**		**0.184000**

NAC / Output # 4										
Device	**Qty**		**Non-Alarm Draw**		**Total**	**Qty**		**Alarm Draw**		**Total**
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
Total Standby Load					**0.000000**	**Total Alarm Load**				**0.000000**

NAC / Output # 5										
Device	**Qty**		**Non-Alarm Draw**		**Total**	**Qty**		**Alarm Draw**		**Total**
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
	0	x	0.000000	=		0	x	0.000000	=	
Total Standby Load					**0.000000**	**Total Alarm Load**				**0.000000**

SILENT KNIGHT

SK-5208 Calculations

Version 02.26.09

Global Project Values:

Project Name:	PHS Gym Portable 14-19	Standby Hours:	24
Project ID:	1430C	Alarm Mins:	5
Prepared By:	Sandifer Deer NICET IV (FAS)	Derating Factor:	1.2
Date:	11/6/2024	Voltage Drop Warning Threshold % :	10

Panel ID: SK-5208 Model: SK-5208 Fire Alarm Control Panel Max NAC Current: 3.0 Amps

Location: Gym Boiler Room Volts: 24 VDC Max Panel Current: 6.0 Amps

Ckt.#	Circuit Name	Qty	Current Draw Standby	Current 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						
SK-5217	SK-5217 Zone Expdr	1	0.060	0.260						
SK-5235	SK-5235 LCD Remote		0.000	0.000						
SK-5280	SK-5280 Display Mod	1	0.100	0.700						
SK-5220	SK-5220 Dir Con Mod		0.000	0.000						
SK-7181	SK-7181 Zn Cnvtr		0.000	0.000						
IDC-1	Portables 14-19		0.001	NA**						
IDC-2	Pool W. Entry Area		0.000	NA**						
IDC-3	Gym		0.000	NA**						
IDC-4	Gym boys Locker Rm		0.000	NA**						
IDC-5	Free Weights Area		0.000	NA**						
IDC-6	gym South Upper Area		0.000	NA**						
IDC-7	Gym Upper Girls Gym		0.000	NA**						
IDC-8	Gym Upper North Area		0.000	NA**						
IDC-9	Gym Upper Boys Gym		0.000	NA**						
IDC-10	Pool North Entry Area		0.000	NA**						
IDC-11	Pool Area		0.000	NA**						
IDC-12	Pool East Lobby/Lockers		0.000	NA**						
IDC-13	Portables 1-9		0.000	NA**						
IDC-14	Portable 10-13		0.000	NA**						
IDC-15	BPS Monitor		0.000	NA**						
IDC-16	Sprinklers		0.000	NA**						
IDC-17	Gym Lobby		0.000	NA**						
IDC-18	Gym Girls Lockers		0.000	NA**						
IDC-19	Spare		0.000	NA**						
IDC-20	Spare		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	0.001	#12 Solid	1.59		0.00	20.40	0.00%
Aux	Aux Power Out		0.000	0.000	#12 Solid	1.59	1000	3.18	20.40	0.00%
	Total Standby Current (Amps)		0.304	1.511	Total Alarm Current (Amps)					
	Standby Time In Hours		24	0.083	Alarm Time In Minutes / 60		(5 Mins)			
	Total Standby AH Required		7.298	0.126	Total Alarm AH Required					
	Total Combined AH Required		7.42							
	Multiply By The Derating Factor		1.20							
	Minimum Battery AmpHours Required		**8.91**							

N/A

Command Shortcuts

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

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-1 Panel ID: SK-5208

Ckt. Name: Portables 14-19

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
12	System Sensor 2W-B	0.000	0.095	0.001	1.140
12	Unused	0.000	0.000	0.000	0.000
6	Unused	0.000	0.000	0.000	0.000
	System Sensor 2W-B	0.000	0.095	0.000	0.000
				0.000	0.000
			Totals	0.001	0.095

Ckt. Number: IDC-2 Panel ID: SK-5208

Ckt. Name: Pool W. Entry Area

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
5	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.475
7	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
4	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-3 Panel ID: SK-5208

Ckt. Name: Gym

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
5	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.475
7	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
4	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-4 Panel ID: SK-5208

Ckt. Name: Gym boys Locker Rm

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
7	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
4	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-5 Panel ID: SK-5208

Ckt. Name: Free Weights Area

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
7	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
4	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-6 Panel ID: SK-5208

Ckt. Name: gym South Upper Area

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
7	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-7 Panel ID: SK-5208

Ckt. Name: Gym Upper Girls Gym

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
7	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-8 Panel ID: SK-5208

Ckt. Name: Gym Upper North Area

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-9 Panel ID: SK-5208

Ckt. Name: Gym Upper Boys Gym

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
0	Unused	0.000	0.000	0.000	0.000
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-10 Panel ID: SK-5208

Ckt. Name: Pool North Entry Area

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-11 Panel ID: SK-5208

Ckt. Name: Pool Area

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-12 Panel ID: SK-5208

Ckt. Name: Pool East Lobby/Lockers

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-13 Panel ID: SK-5208

Ckt. Name: Portables 1-9

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-14 Panel ID: SK-5208

Ckt. Name: Portable 10-13

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-15 Panel ID: SK-5208

Ckt. Name: BPS Monitor

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-16 Panel ID: SK-5208
Ckt. Name: Sprinklers

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-17 Panel ID: SK-5208
Ckt. Name: Gym Lobby

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

Ckt. Number: IDC-18 Panel ID: SK-5208
Ckt. Name: Gym Girls Lockers

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
4	System Sensor 2W-B Smoke Det	0.000	0.095	0.000	0.380
6	System Sensor 5603 Heat Det	0.000	0.000	0.000	0.000
3	Silent Knight MS-7 Pull Station	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
				0.000	0.000
			Totals	0.000	0.095

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-19 Panel ID: SK-5208
Ckt. Name: Spare

Qty	Device	Current Draw Each Standby	Current Draw Each Alarm	Current Draw Total Standby	Current Draw Total 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: IDC-20 Panel ID: SK-5208
Ckt. Name: Spare

Qty	Device	Current Draw Each Standby	Current Draw Each Alarm	Current Draw Total Standby	Current Draw Total 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: IDC-21 Panel ID: SK-5208
Ckt. Name: Inactive, Add SK-5217

Qty	Device	Current Draw Each Standby	Current Draw Each Alarm	Current Draw Total Standby	Current Draw Total 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

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-22 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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: IDC-23 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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: IDC-24 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-25 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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: IDC-26 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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: IDC-27 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: NAC-1 Panel ID: SK-5208

Ckt. Name: Notification Appl Ckt 1 Max NAC Current: 3.0 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-2 Panel ID: SK-5208

Ckt. Name: Notification Appl Ckt 2 Max NAC Current: 3.0 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: SK-5208

Ckt. Name: Notification Appl Ckt 3 Max NAC Current: 3.0 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

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: NAC-4 Panel ID: SK-5208

Ckt. Name: Notification Appl Ckt 4 Max NAC Current: 3.0 Amps

Qty	Device	Current Draw Each		Current Draw Total	
		Standby	Alarm	Standby	Alarm
1	HPF-PS8 TRIGGER	0.000	0.001	0.000	0.001
	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	0.001

Ckt. Number: Aux Panel ID: SK-5208

Ckt. Name: Aux Power Out Max Aux Current: 1.0 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

SILENT KNIGHT

Circuit Configuration

Project Information

Project Name: PHS Gym Portable 14-19 **Project ID:** 1430C

Prepared By: Sandifer Deer NICET IV (FAS) **Date:** 11/6/2024

Ckt. Number: IDC-28 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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: IDC-29 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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: IDC-30 Panel ID: SK-5208

Ckt. Name: Inactive, Add SK-5217

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

Premier Low Voltage Systems by:

E² Systems

E-SQUARED SYSTEMS, LLC.

Fire • Security • Card Access • CCTV

TAB 10

CERTIFICATIONS

Washington State Department of Labor & Industries (https://lni.wa.gov)

Contractors

DEER, SANDIFER M

Owner or tradesperson DEER, SANDIFER M
Doing business as
DEER, SANDIFER M

WA UBI No.

TENINO, **WA 98589**
THURSTON County

License

Verify the contractor's active registration / license / certification (depending on trade) and any past violations.

Electrician

Active
Meets current requirements.

License specialties
LIMITED ENERGY
HVAC/RFRG
License no.
DEER*SM021PC
Effective — expiration
10/03/1998— 03/27/2025

License Violations
No license violations during the previous 6 year period.

Continuing education
Course title
First Aid CPR

Completed
05/18/2022

Course code
WA2021-310

Course Hours
4.00 FirstAid

Course title
2020 Grounding and Bonding

Completed
03/22/2022

Course code
WA2021-254

Course Hours
4.00

Affidavit hours
No affidavit hours reported.

Workplace Safety & Health

Check for any past safety and health violations found on jobsites this business was responsible for.

No inspections during the previous 6 year period.

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