Permit: 2021-2019770-LT
RSN: 1562968
Sheet 1 of 10

BATTERY CALCULATION

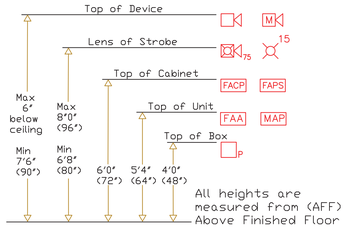
HOURS OF SUPERVISION: 24 HOURS
MINUTES OF ALARM: 5 MINUTES

PANEL B: FIRELITE FCPS 24FS6

ITEM	QTY	PART NUMBER	DESCRIPTION	Device Supervisory Current	Device Alarm Current	Total Supervisory Current	Total Alarm Current
1	1	FCPS-24S6	POWER SUPPLY BOARD	0.065000	0.145000	0.065000	0.145000
2	7	GCS24C	15cd STROBE CEILING	0.000000	0.120000	0.000000	0.840000
3	1	GCC24C	30cd HORN/STROBE CEILING	0.000000	0.143000	0.000000	0.143000
4	2	GCC24C	75cd HORN/STROBE CEILING	0.000000	0.223000	0.000000	0.446000
					TOTAL:	0.065000	1.574000

SUPERVISORY:		
SUB-TOTAL:	0.065000	AMPS
24 HOURS OF SUPERVISORY:	24.000000	HOURS
SUB-TOTAL:	1.560000	AMP HOURS
ALARM:		
SUB-TOTAL:	1.574000	AMPS
5 MINUTES OF ALARM:	0.083333	HOURS
SUB-TOTAL:	0.131167	AMP HOURS
TOTALS:		
TOTAL SUPERVISORY:	1.560000	AMP HOURS
TOTAL ALARM:	0.131167	AMP HOURS
TOTAL:	1.691167	AMP HOURS
SPARE OF 20% (SPARE)	0.338233	AMP HOURS
MINIMUM BATTERY SIZE REQUIRED	2.029400	AMP HOURS
BATTERIES SUPPLIED	7.000	AMP HOURS

BATTERY CALCULATIONS POWER SUPPLY



DEVICE MOUNTING HEIGHTS

POWER SUPPLY

VOLTAGE DROP CALCULATION

PANEL B: FIRELITE FCPS 24FS6

TOTAL CURRENT AVAILABLE FOR DEVICES	CIRCUIT NUMBER	CIRCUIT TYPE	CURRENT PER CIRCUIT	DEVICES	QUAN	CURRENT PER DEVICE	TOTAL CURRENT PER DEVICE	CURRENT PER CIRCUIT REMAINING	CIRCUIT OUTPUT VOLTAGE	WIRE GAGE	ESTIMATED ONE-WAY WIRE DISTANCE	VOLTAGE DROP	CIRCUIT FINAL VOLTAGE	MIN. OPERATE VOLTAGE
6.000	Circuit 1B	NAC	3.000	15cd STROBE C	7	0.12	0.840	2.160	20.4	14				
				15cd H/S C	1	0.143	0.143	2.017	20.4	14				
				75cd H/S C	2	0.223	0.446	1.571	20.4	14	210	1.915	18.485	16.000

PANEL TOTALS

TOTAL POWER USED	1.429
TOTAL CURRENT AVAIL:	6.000
TOTAL CURRENT REMAINING	4.571

NOTES:
Current draws are Average (RMS) amperes.
All voltage calculations are in volts D.C.
Voltage drops are calculated assuming all of the load is at the end of the circuit.
Voltage Drop = Resistance X (one way wire Distance X2) X circuit Amps
C=CEILING MOUNTED

NEC 2020 TABLE 8

wire gage	resistance ohms per 1000 feet
12	2.01
14	3.19
16	5.08
18	8.08

VOLTAGE DROP CALCULATIONS POWER SUPPLY

Tenant remodel in existing sprinkled building.
Existing EST Quickstart fire alarm system.
Installation of new synchronized temporal sounding horn/strobes.
Occupancy Group: B Area: 1,955sf. Construction Type: II-B
Codes Used: 2015ed. IFC, 2013ed NFPA 72, 2020ed. NEC

SCOPE OF WORK

GENERAL NOTES

- THE FIRE ALARM SYSTEM CANNOT BE COMBINED WITH BURGLAR ALARM SYSTEMS.
- THE INSTALLER IS REQUIRED TO COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE INSTALLATION OF SMOKE DETECTORS OR SENSORS (I.E., NOT CLOSER THAN 3 FEET FROM ANY SUPPLY/RETURN DEFFUSER AND THAT ADDITION DETECTION MAY BE REQUIRED DUE TO THE RELOCATION OR SPACING ADJUSTMENT OF DETECTORS, AS A RESULT.)
- FIRE ALARM DEVICES MUST BE PLACED IN PROTECTED AREAS WITH AMBIENT TEMPERATURE RANGING FROM 32° TO 120° F.
- DO NOT PLACE DETECTORS WITHIN 3 FEET OF AIR SUPPLY REGISTERS AND DEFFUSIERS.
- FIRE ALARM SYSTEMS SHALL BE MONITORED BY A CLASS I CENTRAL STATION.
- FIRE ALARM CONTROL PANEL WILL BE PLACED IN THE LOCATION SPECIFIED WITHIN THE PLAN SUBMITTAL UNLESS APPROVED BY THE LIFE SAFETY FIELD INSPECTOR.
- CITY OF AURORA BUILDING CODES DIVISION DOES NOT GRANT APPROVAL FOR ANY VIOLATIONS OF ADOPTED FIRE CODE. CODE VIOLATIONS UNCOVERED DURING FIELD INSPECTIONS MUST BE CORRECTED.
- PER THE 2015 IFC AND THE 2020 NEC THE INSTALLER MUST REQUEST A ROUGH WIRING INSPECTION ON THE FIRE ALARM SYSTEM PRIOR TO REQUESTING A FIRE ALARM FINAL INSPECTION.
- THE CONTRACTOR SHALL CONDUCT A "PRE-TEST" OF THE PROJECT AREA PRIOR TO AN ACCEPTANCE TEST WITH THE BUILDING CODES DIVISION.
- REMOTE ALARM INDICATORS SHALL BE PROVIDED FOR ANY FIRE ALARM DETECTOR LOCATED IN A CONCEALED LOCATION WITH A NORMALLY LOCKED DOOR.
- AT THE TIME OF FINAL FIRE ALARM INSPECTION, THE SYSTEM MUST BE SUPERVISED/MONITORED BY A CLASS I CENTRAL MONITORING AGENCY.
- THE INSTALLING CONTRACTOR (OR DESIGNEE) MUST PROVIDE ALL NECESSARY TESTING EQUIPMENT AND PERFORM ALL TESTING REQUIRED BY THE LIFE SAFETY FIELD INSPECTOR.
- IN-DUCT SMOKE DETECTORS INSTALLED IN CONCEALED LOCATIONS OR, WHERE THE DETECTORS ALARM INDICATOR IS NOT READILY VISIBLE TO RESPONDING PERSONNEL SHALL BE PROVIDED WITH REMOTE INDICATOR(S), REMOTE TEST STATION AND PLACARDING.
- ALL NEW OR EXISTING FIRE ALARM SYSTEMS MUST BE CONNECTED TO AN EXTERIOR HORN AND STROBE DEVICE. IF THE BUILDING IS SPRINKLED, A GENERAL ALARM ACTIVATION AT THE FIRE ALARM CONTROL PANEL WILL ACTIVATE THE EXTERIOR HORN AND STROBE. SILENCING THE PANEL MUST ALLOW THE VISUAL DEVICE TO CONTINUE UNTIL THE PANEL IS RESET.
- FIRE ALARM SYSTEMS SHALL INCLUDE BOTH AUDIBLE AND VISUAL ALARMS. VISUAL ALARMS WILL BE REQUIRED IN ALL ACCESSIBLE PUBLIC AND COMMON-USE AREAS PER THE 2015 IFC AND THE 2009 ANSI A117.1 STANDARD.
- PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2015 IFC, SECTION 907.5 AND THE 2013 NFPA 72.
- THE FIRE ALARM INSTALLATION CONTRACTOR MUST COMPLETE THE NFPA 72 "RECORD OF COMPLETION" PRIOR TO SCHEDULING THE AHJ ACCEPTANCE TEST.
- FIELD INSPECTION CONSULTATION IS AVAILABLE ON REQUEST. CALL 303.739-7420 TO REQUEST CONSULTATION.
- AUDIBLE ALARM SIGNALING SHALL EXCEED THE PREVAILING SOUND LEVEL IN A ROOM OR SPACE BY 15 DBA. SOUND LEVELS FOR FIRE ALARM SIGNALS SHALL BE 120 DBA MAXIMUM. IFC SECTION 907.10.2. ON REQUEST. CALL 303.739-7420 TO REQUEST AN INSPECTION

SYMBOL	DESCRIPTION
NAC A	FIRE ALARM POWER SUPPLY
P	SMOKE DETECTOR (PHOTOELECTRIC)
C 30	STROBE (NUMBER INDICATES CANDELA) C INDICATES CEILING MOUNTED
C 75	HORN WITH STROBE (NUMBER INDICATES CANDELA) C INDICATES CEILING MOUNTED
EOL RE	END OF LINE RESISTOR

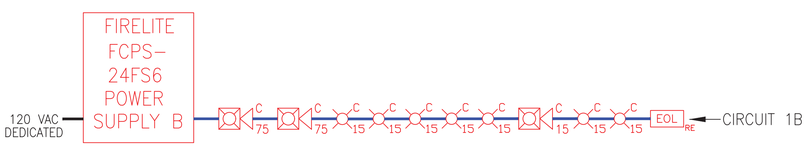
LEGEND

DESCRIPTION	CLASS	TYPE
HORN/STROBE CIRCUITS	B	2 #14 AWG FPLP

WIRE CHART

QUAN.	PART #	DESCRIPTION
1	FCPS-24FS6	FIRELITE POWER SUPPLY
7	GCS24C	GENTEX MULTI CANDELA STROBE CEILING
3	GCC24C	GENTEX MULTI CANDELA HORN/STROBE CEILING
2	PS-1270	POWER SONIC 7 AMP HOUR BATTERY

NEW MATERIALS LIST



ONE LINE DIAGRAM

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

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

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

System Outputs

System Inputs	Control Panel Annunciation										Notification										Safety Control									
	Actuate General Alarm Audible Sounder	Actuate General Alarm Visual Indicator	Actuate Supervisory Alarm Audible Sounder	Actuate Supervisory Alarm Visual Indicator	Actuate Trouble Alarm Audible Sounder	Actuate Trouble Alarm Visual Indicator	Actuate Panel LCD Display	Actuate Exterior Horn/Strobe Above FDC	Actuate all Interior Horn/Strobes	Transmit Waterflow Signal To Supervisory Station	Transmit General Fire Alarm Signal To Supervisory Station	Transmit Supervisory Signal To Supervising Station	Transmit Trouble Signal To Supervising Station	Primary Elevator Recall	Secondary Elevator Recall	Shunt Elevator Power	Shut Down Air Handling Unit												
1 Smoke Detector	X	X					X	X	X	X		X																		
2 Pull Station	X	X					X	X	X	X		X																		
3 Sprinkler Water Flow Switch	X	X					X	X	X	X																				
4 Sprinkler Tamper Valve			X	X			X				X																			
5 Ground Fault					X	X	X						X																	
6 Open Circuit					X	X	X						X																	
7 Notification Circuit Trouble					X	X	X						X																	
8 Low Battery					X	X	X						X																	
9 AC Power Failure					X	X	X						X																	
10 Communicator Trouble Condition					X	X	X						X																	

Note: The existing elevator has recall and power shunt.

SEQUENCE OF OPERATIONS

City of Aurora Building Division
Project: *1444 S Potomac St-Unit 235*
Address: *1444 S Potomac St-Unit 235*
Occupancy Group: *IBC B*
Construction Type: *IBC Type IIB-Spk*
RSN: *1562968*
Permit: *2021-2019770-LT*
City of Aurora Building Division
Reviewed for Code Compliance
By: *Ted Caviness*
Date: *August 5, 2021*
2015 INTERNATIONAL CODES & 2020 NEC

Meridian Fire and Security, LLC
10200 E. EASTER AVE
CENTENNIAL, CO 80112
Ph: 303.790.2520
Fx: 303.790.2528

SPECULATIVE SUITE 235
1444 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

SUBMITTAL PREPARED BY:
Alarm Design Solutions Inc.
105 Red Wing Court
Mead, CO 80542
(303) 828-0802
alarmdesignsolu@cs.com

JOB NUMBER: 8169

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
Fire Protection Engineering Technology
Fire Alarm Systems

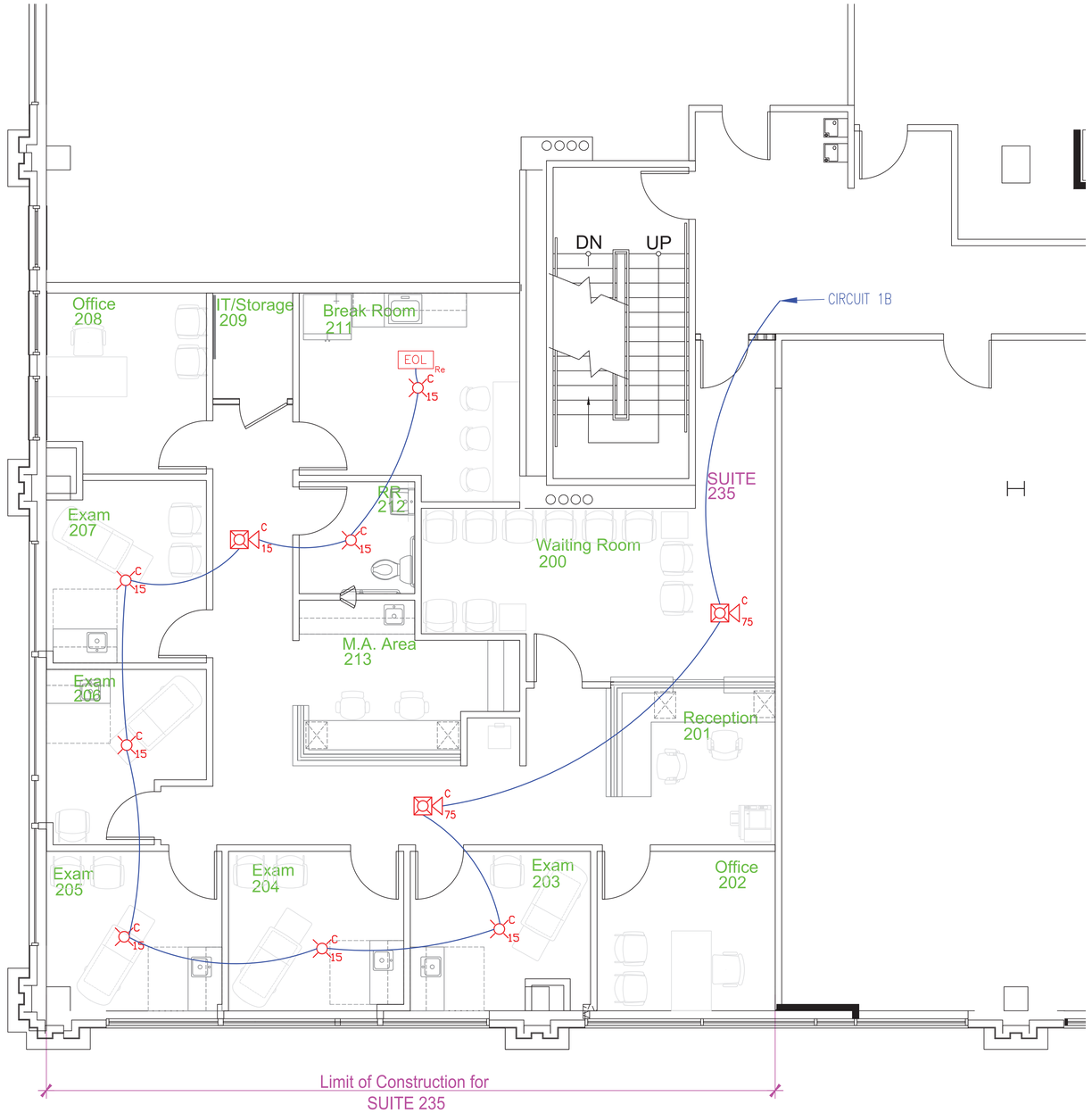
Joel Blatt S.E.T.
NICET #103704 Level IV
EXP. 10/1/2022

DATE: 07/26/21 SCALE: N.T.S.
REVISION:
PAGE NAME: TITLE PAGE

FA—1

SHEET 1 OF 2

Permit: 2021-2019770-LT
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Sheet 2 of 10



SYMBOL	DESCRIPTION
NAC A	FIRE ALARM POWER SUPPLY
C 30	STROBE (NUMBER INDICATES CANDELA) C INDICATES CEILING MOUNTED
C 75	HORN WITH STROBE (NUMBER INDICATES CANDELA) C INDICATES CEILING MOUNTED
EOL RE	END OF LINE RESISTOR

LEGEND

PARTIAL 2ND FLOOR FIRE ALARM PLAN

SCALE: 1/4" = 1'-0"

NORTH

0 5 10 15 FEET

NOTE: FLAT DROP CEILING AT 9'

Meridian Fire and Security, LLC
10200 E. EASTER AVE
CENTENNIAL, CO 80112
Ph: 303.790.2520
Fx: 303.790.2528

SPECULATIVE SUITE 235
1444 SOUTH POTOMAC STREET
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NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
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Fire Alarm Systems

Joel Blatt S.E.T.
NICET #103704 Level IV
EXP. 10/1/2022

DATE: 07/26/21 SCALE: 1/4"=1'0"

REVISION:

PAGE NAME: FLOOR PLAN

FA-2

SHEET 2 OF 2

City of Aurora Building Division
Reviewed for Code Compliance
By: Ted Caviness
Date: August 5, 2021
2015 INTERNATIONAL CODES & 2020 NEC

Permit: 2021-2019770-LT
RSN: 1562968
Sheet 2 of 10

FCPS-24FS6

24 Volt, 6 Amp Power Supply

FIRE·LITE ALARMS by Honeywell

Power Supplies/Accessories

General

The **Fire•Lite FCPS-24FS6(C/E)** is a compact, cost-effective, 6-amp remote power supplies with battery charger. The FCPS-24FS6(C/E) may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may stand-alone. Primary applications include notification appliance (bell) circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS provides *regulated and filtered* 24 VDC power to four notification appliance circuits configured as either two Class B (Style Y) and Class A (Style Z, with ZNAC-4 option module) or four class B only. Alternately, the four outputs may be configured as any combination of resettable/non-resettable power outputs (optimal for powering four-wire smoke detectors. The FFCPS-24FS6(C/E) also contains a battery charger capable of charging up to 7.0 Amp hour batteries. FCPS-24FS6(C/E) is ULC-listed.

NOTE: *Unless otherwise specified, the term FCPS-24FS6 used in this document refers to the standard FCPS-24FS6, FCPS-24FS6C, FCPS-24FS6E*



Features

- UL-Listed Notification Appliance Circuit (NAC) synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Two Class B (Style Y) or Class A (Style Z, with ZNAC-4 module) NACs (circuits 1 & 3)
- 6-amp full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated bell power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24FS6: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24FS6/E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control 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).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  – FCPS-24F: 4.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  – FCPS-24F: 6.0 A maximum.

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.
- Float-charge voltage: 27.6 VDC.
- Maximum current charge: 250 mA.
- Maximum battery capacity: 7.0 AH.

Applications

Example 1: Expand notification appliance power an additional 6.0 A. Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A. Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 10,000 feet (3,046 meters) .*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24FS6 can track (i.e. “follow”) the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24FS6 is configured (via DIP switch settings) as a “sync follower,” the FCPS’s NAC outputs track the strobe synchronization pulses present at the FCPS’s sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24FS6 is configured (via DIP switch settings) as a “sync generator,” the FCPS’s sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS’s NAC outputs. In “sync generator” mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

Standards and Codes

The FCPS-24FS6 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:** S2424, S1287
- **ULC Listed:** S2424
- **CSFM Approved:** 7315-0076:176
- **MEA:** 387-94E

Ordering Information

FCPS-24FS6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15”H x 14.5”W x 2.75”D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24FS6 is ULC-listed.

FCPS-24FS6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15”H x 14.5”W x 2.75”D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

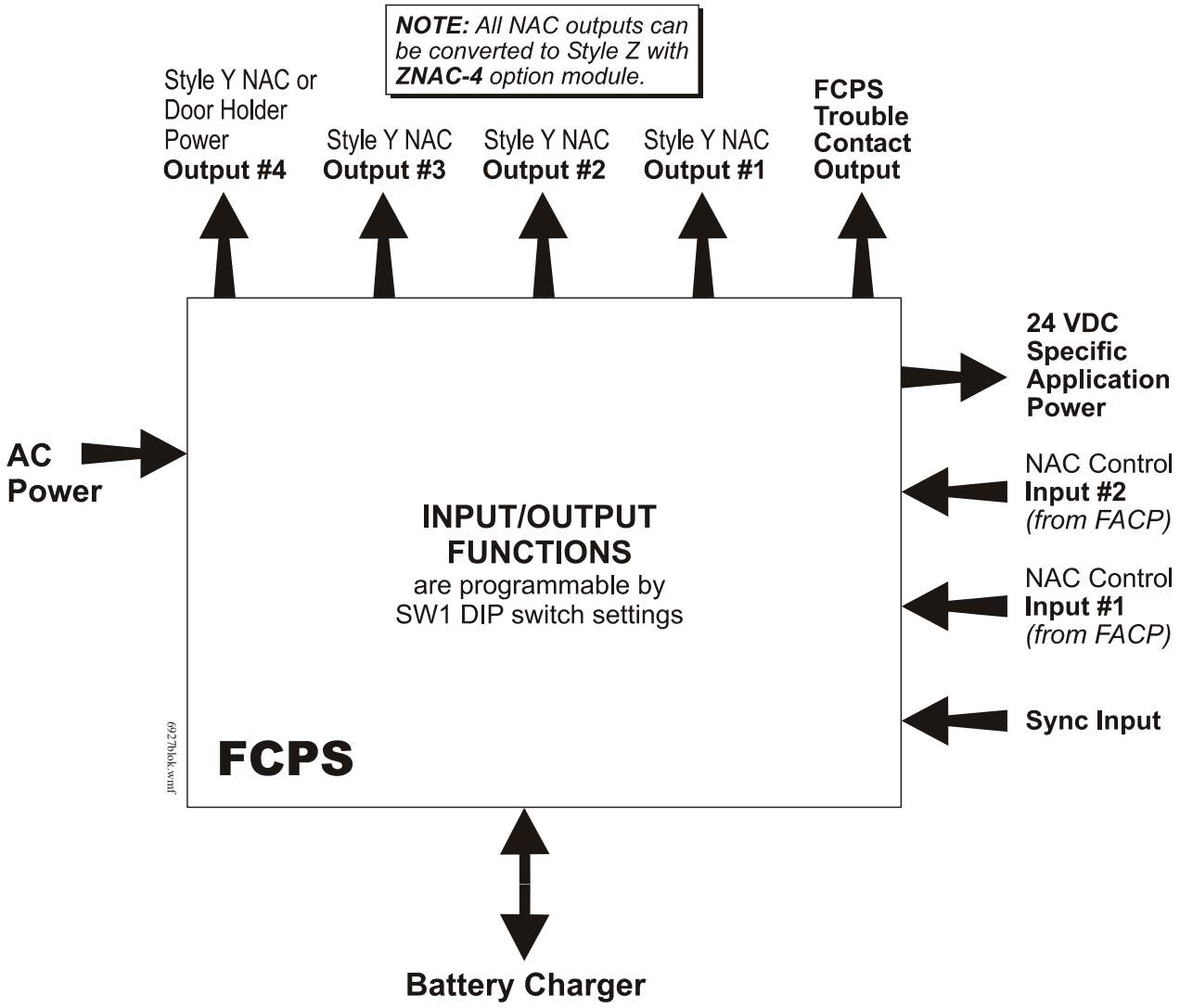
ZNAC-4: Class A (Style Y) NAC option module.

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

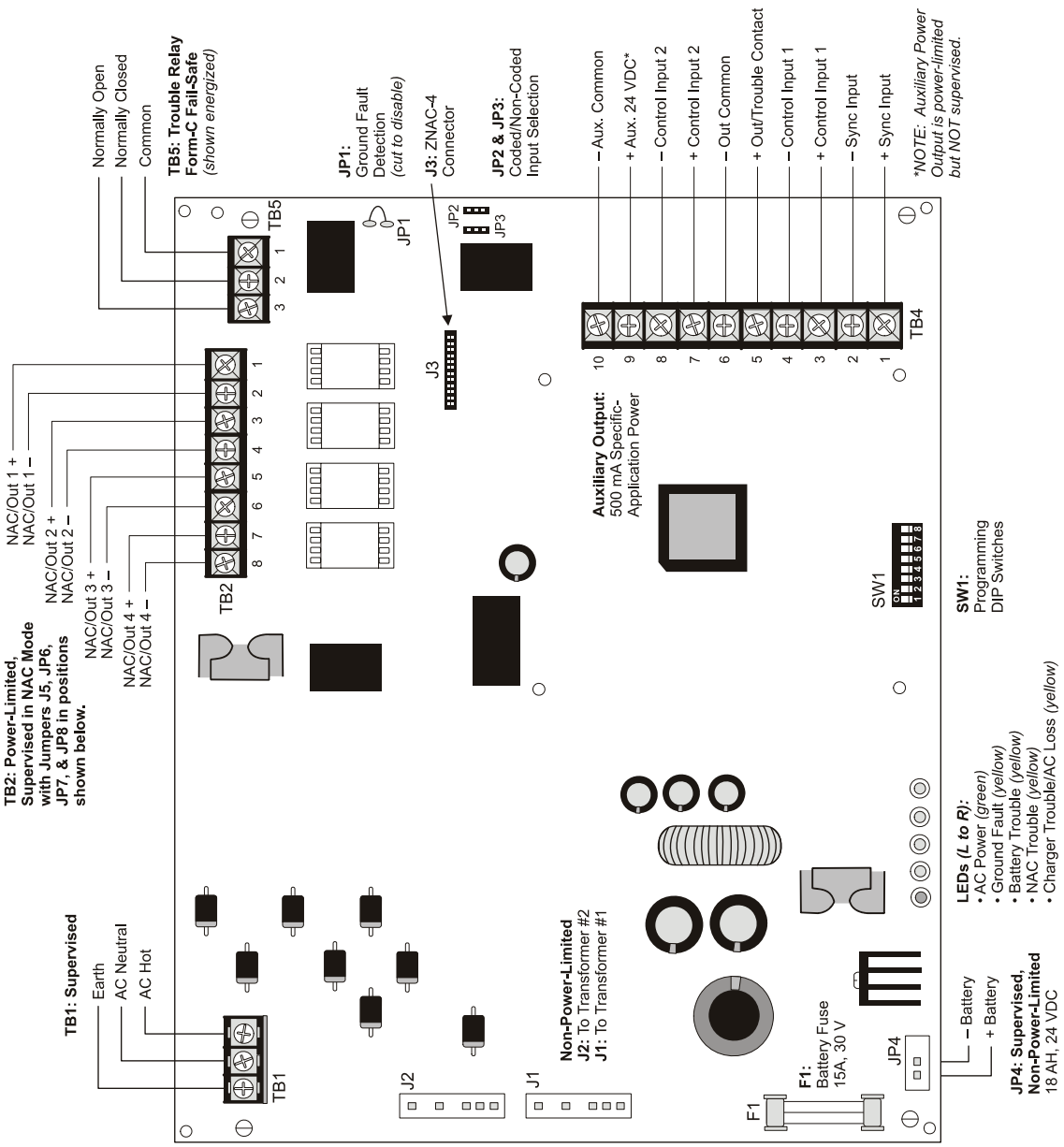
BAT-1270: Battery, 12-volt, 7.0 AH (two required).

PS-1270: Battery, 12-volt, 7.0 AH (two required).

90286: Optional module mounting kit, is required to install an addressable module on the power supply main circuit board.



Simplified Block Diagram



Board Layout

System Sensor® and FireLite® Alarms are registered trademarks of Honeywell International Inc.
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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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.

Made in the U.S. A.

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

Permit: 2021-2019770-LT
RSN: 1562968
Sheet 7 of 10

GENTEX CORPORATION

Commander[4] Series Selectable Candela Evacuation Signals

GCS/GCC
24VDC
SERIES

Applications

The GCS/GCC 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 tone. All tones are easy for the professional to change in the field by using switches. The models are shipped from the factory in the temporal three alarm mode.

The GC Series has a very minimal operating current and has a minimum flash rate of 1Hz regardless of input voltage.

The Commander[4] 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 Commander[4] also features the patented Checkmate® - Instant Voltage Verification feature which allows the installer to check the voltage drop draw without removing the signal.

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



Product Listings

SIGNALING UL LISTED

FM APPROVED

- ANSI/UL 464 and ANSI/UL 1971 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

NEMA MEMBER

ASSEMBLED IN THE USA

Standard Features

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

GCS Series 24 Volt Ceiling Mount Selectable Strobe

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

GCC Series 24 Volt Ceiling Mount Selectable Horn/Strobe

Model Number	Part Number	Nominal Voltage	Candela	Reverberant dBA @ 10ft. per ANSI/UL 464	In Anechoic Room dBA @ 10ft.
GCC24CR	904-1209-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90
GCC24PCR	904-1210-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90
GCC24CW	904-1211-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90
GCC24PCW	904-1212-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90

Model Designations:
C = Ceiling Mount
R = Red Faceplate W = White Faceplate

All units are available in plain (no lettering).
Plain units are non-returnable.

GC24 Product Strobe Current Ratings (mA)

	Candela	15cd	30cd	75cd	95cd	115cd	150cd
24VDC (16-33 Volts)	24VDC	72mA	101mA	167mA	200mA	214mA	286mA
	UL Max[1]	120mA	120mA	200mA	220mA	290mA	321mA

GCC24 Product Horn Decibel and Current Ratings (mA)

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

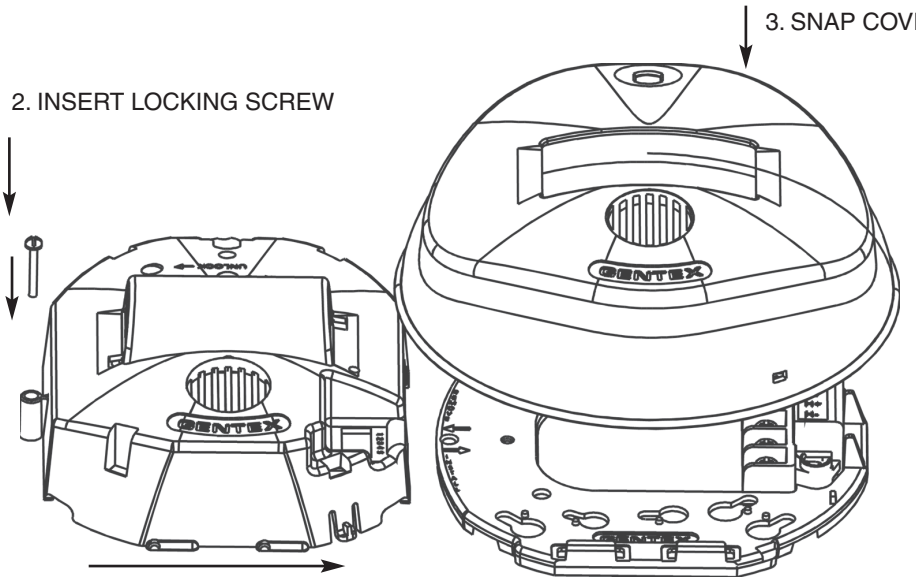
NOTES:

- Operating temperature: 32°to 120°F (0° to 49°C). The GC Series is not listed for outdoor use.
- 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.
- For nominal and peak current across UL regulated voltage range for filtered DC power and unfiltered (FWR [Full Wave Rectified]) power, see installation manual.
- Gentex does not recommend using a coded or pulsing signaling circuit with any of our strobe products (see Technical Bulletin Number 014).

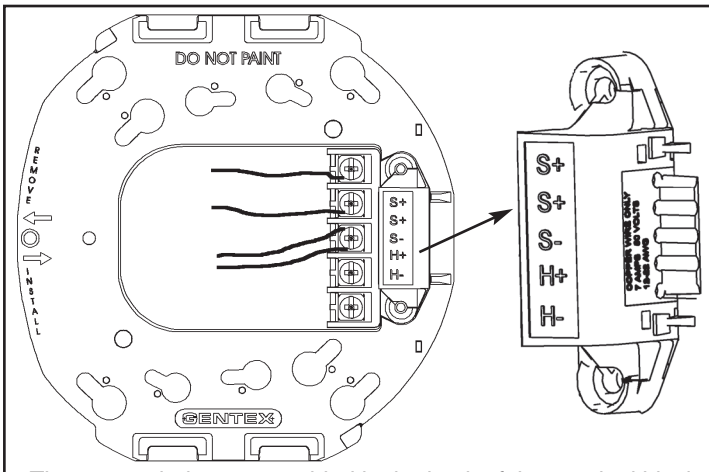
* Operating the horn in this mode at this voltage will result in not meeting the minimum ANSI/UL 464 reverberant sound level required for public mode fire protection service. These settings are acceptable only for private mode fire alarm use. Use the high dBA setting for public mode application (not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

[1] RMS current ratings are per UL average RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33VDC for 24VDC units). For strobes the UL max current is usually at the minimum listed voltage (16VDC for 24VDC units). For audibles the max current is usually at the maximum listed voltage. For unfiltered FWR ratings, see installation manual.

Mounting Super-Slide®

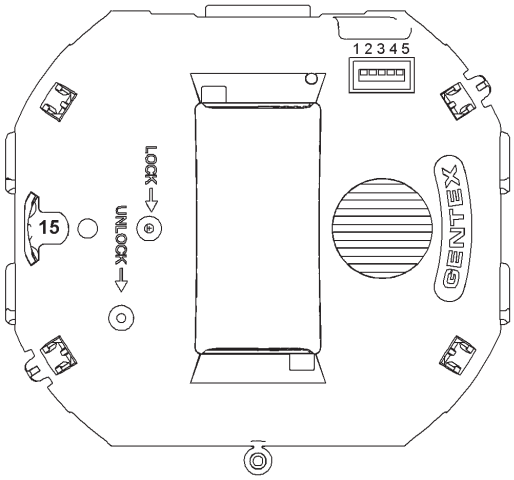


Checkmate® Instant Voltage Verification



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.

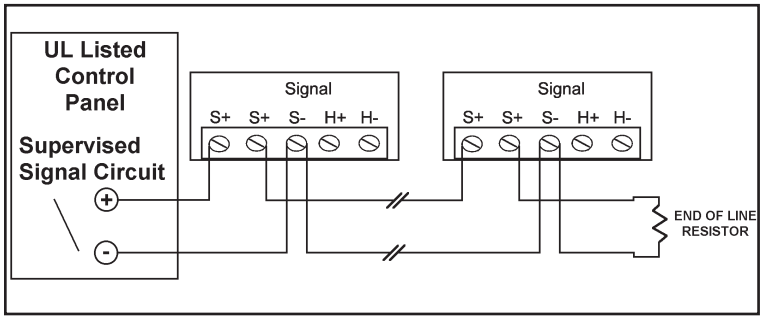
Switch Locations

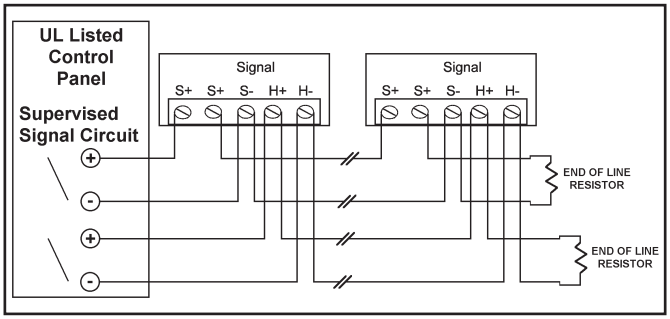


Switch positions 1 and 2 in the down position to select isolated horn and strobe power inputs. Switch 3 selects between temporal or non-temporal tone. Up is temporal. Switch 4 selects between mechanical or high frequency tone. Up is mechanical. Switch 5 selects between high or low dBA. Up is high dBA.

GCS/GCC
24VDC
SERIES

Conventional GC Series Wiring Diagrams





NOTES:

- All strobes are designed to flash as specified with continuous applied voltage. Strobes should not be used on coded or pulsing signaling circuits. However, use of the Gentex AVSM control module or Gentex synchronization protocol is permitted to synchronize the strobe, horn and/or mute the horn. See Technical Bulletin 014 for additional information.
- **FOR SYNCHRONIZATION WIRING INFORMATION, REFERENCE AVSM CONTROL MODULE DATA SHEET (551-0031) AND/OR AVSM CONTROL MODULE MANUAL (550-0284) FOR SYNCHRONIZATION MODULE WIRING DIAGRAMS. AVSM CONTROL MODULE DATA SHEET AND MANUAL CAN BE OBTAINED AT http://www.gentex.com OR CALL GENTEX CORPORATION AT 1-800-436-8391.**

Architect & Engineering Specifications

The visible and audible/visible signal shall be Gentex model GCS or GCC or approved equal and shall be listed by Underwriters Laboratories Inc. per ANSI/UL 1971 for the GCS and ANSI/UL 464 for the GCC. The notification appliance shall also be listed with the California State Fire Marshal (CSFM) and the Bureau of Standards and Appeals (NYC).

The notification appliance (combination audible/visible units and audible units only) shall produce a peak sound output of 90dBA or greater as measured at 24VDC in an anechoic chamber. The signaling appliance 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 appliance shall have an operating current of 72mA or less at 24VDC for the 15 candela 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 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 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.

24 units per carton 29 pounds per carton

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Gentex Corporation reserves the right to make changes to the product data sheet at their discretion.

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