City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No:	Date Applied:	CBL:	
2011-04-864-FAFS	4/222011	326 - - B - 004 - 002 - - - - -	
Location of Construction: 899 RIVERSIDE ST	Owner Name: SPURWINK SCHOOL	Owner Address: 899 RIVERSIDE ST PORTLAND, ME - MAINE 04103	Phone:
Business Name: Spurwink School	Contractor Name: Cunningham Security,	Contractor Address: 10 Princes Point Rd, Yarmouth, Maine 04096	Phone: ( ) - 846-3350
Lessee/Buyer's Name:	Phone:	Permit Type: FIRE ALARM - Fire Alarm	Zone: I-M
Past Use: Spurwink School and Group Home	Proposed Use: Same: Spurwink School and Group Home – To add fire alarm in the basement of the Group Home	Cost of Work: $6,000.00	CEO District:
		Fire Dept: ✓ Approved w/conditions ___ Denied ___ N/A Signature:	Inspection: Use Group: Type: Signature:
Proposed Project Description: 899 Riverside St. –fire alarm		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Gayle			

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
___ Shoreland	___ Variance	✓ Not in Dist or Landmark
___ Wetlands	___ Miscellaneous	___ Does not Require Review
___ Flood Zone	___ Conditional Use	___ Requires Review
___ Subdivision	___ Interpretation	___ Approved
___ Site Plan	___ Approved	___ Approved w/Conditions
___ Maj ___ Min ___ MM	___ Denied	___ Denied
Date: 4/25/11	Date:	Date:

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHON

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that SPURWINK SCHOOL

Located At 899 RIVERSIDE ST

Job ID: 2011-04-864-FAFS

CBL: 326 - - B - 004 - 002 - - - - -

has permission to install fire alarm updates to third floor
provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

(58)

Fire Prevention Officer

4-27-11

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY.
PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCU0PIED.

PORTLAND MAINE
Strengthening a Remarkable City, Building a Community for Life • *www.portlandmaine.gov*

Director of Planning and Urban Development
Penny St. Louis

Job ID: 2011-04-864-FAFS **Located At:** 899 RIVERSIDE ST **CBL:** 326 - - B - 004 - 002 - - - - -

Conditions of Approval:

Fire

The fire alarm system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.

Fire alarm shall supervise the sprinkler system.

In field installation shall be installed per code as conditions dictate.

Records cabinet, FACP, annunciator(s), and pull stations shall be keyed alike.

Central Station monitoring for addressable fire alarm systems shall be by point.

All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP labeled "FIRE ALARM RECORDS".

Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Fire Alarm system shall be maintained. If system is to be off line over 4 hours a fire watch shall be in place. Dispatch notification required 874-8576.

Job Summary Report
Job ID: 2011-04-864-FAFS

Job Type:	Fire Alarm / Suppression	**Job Description:**	899 Riverside St.	**Job Year:**	2011
Building Job Status Code:	Initiate Plan Review	**Pin Value:**	1208	**Tenant Name:**	
Job Application Date:		**Public Building Flag:**	N	**Tenant Number:**	
Estimated Value:	6,000	**Square Footage:**			
Related Parties:		SCHOOL SPURWINK		*Property Owner*	
		Cunningham Security - Cunningham Security Cunningham Security		*FIRE ALARM INSTALLER*	

Job Charges

Fee Code Description	Charge Amount	Permit Charge Adjustment	Net Charge Amount	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Net Payment Amount	Outstanding Balance

Location ID: 34602

Location Details

Alternate Id	Parcel Number	Census Tract	GIS X	GIS Y	GIS Z	GIS Reference	Longitude	Latitude
S43927	326 B 004 002		M				-70.318345	43.705405

Location Type	Subdivision Code	Subdivision Sub Code	Related Persons	Address(es)
1				899 RIVERSIDE STREET WEST

Location Use Code	Variance Code	Use Zone Code	Fire Zone Code	Inside Outside Code	District Code	General Location Code	Inspection Area Code	Jurisdiction Code
BENEVOLENT & CHARITABLE		INDUSTRIAL-MODERATE IMPCT					DISTRICT 8	RIVERSIDE

Structure Details

Structure: office building

G6

Occupancy Type Code:

Structure Type Code	Structure Status Type	Square Footage	Estimated Value	Address
Office & Professional Buildings	0			899 RIVERSIDE STREET WEST

Longitude	Latitude	GIS X	GIS Y	GIS Z	GIS Reference

User Defined Property	Value
Alarms Commercial	1
Fixtures-Fluorescent	22
Fixtures-Incandescent	3
Number of Showers (standalone)	1

not in Q

Taxes OK

Office Bldg.

Fire Alarm Permit

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

Installation address: 899 Riverside Street CBL: 326B004002

Exact location: (within structure) Basement

Type of occupancy(s) (NFPA & ICC): Residential Facility

Building owner: Spurwink Services

System Designer (point of contact): Michael Major (Must be)

Designer phone: 207-846-3350 E-mail: mmajor@cunninghamsecurity.cc

Installing contractor: Cunningham Security Systems Certificate of Fitness No: 1004

Contractor phone: 07-846-3350 E-mail: michelle@cunninghamsecurity.c

This is a new application: YES ○ NO ○ New AES Master Box: YES ○ NO ◉
(Include Master Box approval form)

Amendment to an existing permit: YES ◉ NO ○ Permit no: _____

The following documents shall be provided with this application:

- ☑ Floor plans
- ☑ Wiring diagram
- ☑ Annunciator details
- ☑ Input/ Output Matrix
- ☑ Equipment data sheets
- ☑ Electrical Permit Pulled (check alarm/com)
- ☑ Scope of Work
- ☑ 11 ½ x 17s
- ☑ pdf copy (may be e-mailed)
- ☑ Designer qualifications
- ☑ Battery/ voltage drop calcs

Master box approval only: YES ○ NO ○
(If yes check *New AES Master Box* above)

COST OF WORK: $5040.00

PERMIT FEE: 480.00
($10 PER $1,000 + $30 FOR THE FIRST $1,000)

RECEIVED
APR 22 2011
Dept. of Building Inspections
City of Portland Maine

The designer shall be the responsible party for this application. Download a new copy of this application at www.portlandmaine.gov/fire for every submittal. Submit all plans in electronic PDF in addition to readable 11 ½ x 17s to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire alarm system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with the *City of Portland Technical Standard for Signaling Systems for the Protection of Life and Property*, available at www.portlandmaine.gov/fire .

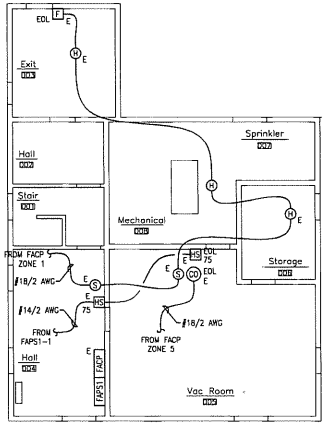
Applicant signature: [signature] Date: 4·21·11

CUNNINGHAM

Security Systems
10 Princes Point Road Yarmouth Maine 04096
207-846-3350

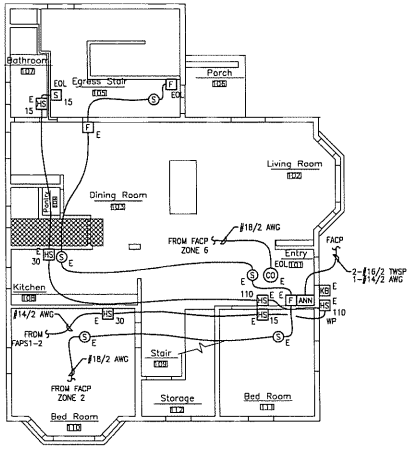
Scope Of Work

The project at 899 Riverside Street includes the installation of additional occupant notification devices and initiation devices for a third floor addition to the property. There is an existing two year old system in the building that provides smoke detection, manual pull stations and occupant notification for the basement, first and second floors. There is sufficient zoning in the panel to complete the project and we will be adding a NAC extender to provide the additional occupant notification.



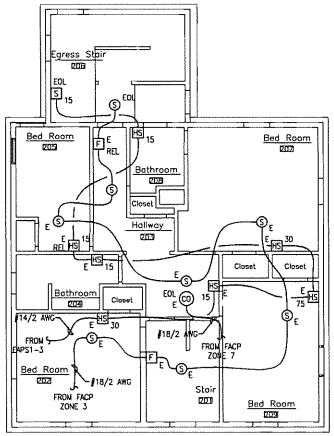
BASEMENT FIRE ALARM PLAN

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



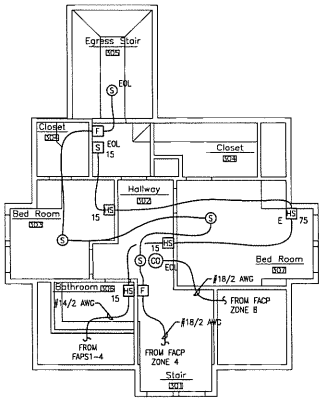
FIRST FLOOR FIRE ALARM PLAN

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



SECOND FLOOR FIRE ALARM PLAN

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



THIRD FLOOR FIRE ALARM PLAN

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

GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
2. INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
3. WIRING DEPICTED ON THESE PLANS IS SCHEMATIC – ACTUAL WIRE LOCATIONS MAY DIFFER FROM THESE PLANS. WIRING SHALL BE PERFORMED AS ACTUAL BUILDING CONSTRUCTION CONDITIONS ALLOW AND TO MINIMIZE PENETRATIONS THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
4. FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
5. POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT.
6. POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
7. WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
8. WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
9. ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
10. SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
11. LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL-MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MINIMUM OF 4" AND A MAXIMUM OF 12" FROM CEILING. CEILING-MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON CEILINGS AND NOT ON THE BOTTOMS OF BEAMS OR JOISTS.
12. PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
13. VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
14. UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM, PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
15. PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.15 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
16. INSTALLING CONTRACTOR SHALL, PHYSICALLY, LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHEN WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.

FIRE ALARM SYMBOL LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

SYMBOL	DESCRIPTION	MOUNTING
FACP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66" AFF
FAPS	FIRE ALARM POWER SUPPLY	FIELD VERIFY
ANN	REMOTE ANNUNCIATOR	WALL-TOP @ 66" AFF
H	HEAT DETECTOR	CEILING
S	SMOKE DETECTOR	CEILING
CO	CARBON MONOXIDE DETECTOR	IN DUCT
F	MANUAL PULL STATION	WALL @ 48" AFF
CM	CONTROL MODULE	FIELD VERIFY
DH	MAGNETIC DOOR HOLDER	FIELD VERIFY
MM	MONITOR MODULE	FIELD VERIFY
R	MULTI-VOLTAGE RELAY	FIELD VERIFY
RM	ADDRESSABLE RELAY MODULE	FIELD VERIFY
FS	FLOW SWITCH	BY OTHERS
TS	TAMPER SWITCH	BY OTHERS
KB	KNOX BOX	FIELD VERIFY
ST	STROBE	CEILING
HS	HORN / STROBE	CEILING
SS	SPEAKER STROBE	CEILING
H	HORN	WALL @ 90" AFF
HS	HORN / STROBE	WALL 80"-96" AFF
S	STROBE	WALL 80"-96" AFF
SP	SPEAKER	WALL @ 90" AFF
SS	SPEAKER STROBE	WALL 80"-96" AFF
B	FIRE BELL (110V)	FIELD VERIFY

ABBREVIATION	DESCRIPTION
E	EXISTING
REL	RELOCATED
P	PENDENT MOUNT
R	RESIDENTIAL (110V)
S	SOUNDER BASE
WP	WEATHERPROOF
EOL	END OF LINE RESISTOR
EOLR	END OF LINE RELAY
AWG	AMERICAN WIRE GAUGE
TWP	TWISTED PAIR
TWSP	TWISTED SHIELDED PAIR
FPLP	FIRE POWER LIMITED PLENUM
FPLR	FIRE POWER LIMITED RISER
AFF	ABOVE FINISHED FLOOR

SPEAKER WATTAGE (3W) 75 STROBE CANDELA 30 HS SS

S DEVICE ADDRESS H
L10001 OR D01
(L = ISOLATED LOOP #)
(D or M = DENOTES DETECTOR OR MODULE #)

1-16/2 TWP
WIRE TYPE ABBREVIATED
CONDUCTOR COUNT
WIRE SIZE
OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

OPERATIONS MATRIX

FIRE ALARM INPUT	FIRE ALARM OUTPUT	ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT TROUBLE SIGNAL
SMOKE DETECTORS	●	●	●			●	
HEAT DETECTORS	●	●	●			●	
CARBON MONOXIDE DETECTORS	●	●	●			●	
PULL STATIONS	●	●	●			●	
FIRE ALARM AC POWER FAIL				●	●		●
FIRE ALARM LOW BATTERY				●	●		●
OPEN CIRCUIT				●	●		●
GROUND FAULT				●	●		●
NAC SHORT CIRCUIT				●	●		●
LOSS OF AC TO BUILDING				●	●		●

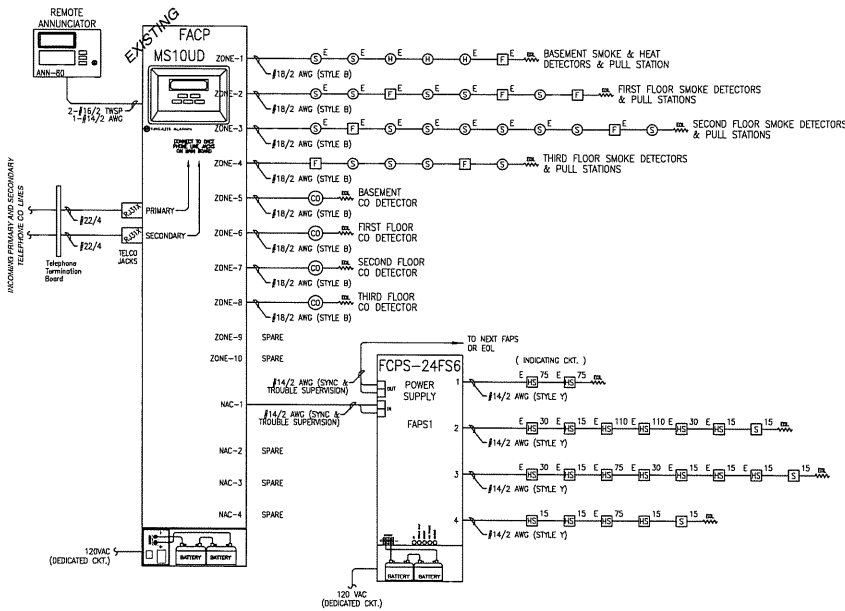
REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	4/22/2011
1	SMOKE DETECTORS REVISED PER REVIEW	4/25/2011

CUNNINGHAM
Security Systems
10 Princes Point Road, Yarmouth, Maine 04096
Office: 207.846.3350 • Fax: 207.846.6080

SUE WRIGHT HOUSE
899 RIVERSIDE STREET
PORTLAND, MAINE
FIRE ALARM PLAN

DRAWN	JPB UNICAD JOB #11150
CHECKED	WAYNE B. HAWS NICET IV 90496
DATE	4/21/2011
REVISION	1
SCALE	1/8" = 1'-0"

FA-1



FIRE ALARM RISER DIAGRAM

SCHEMATIC: NO SCALE

FACP Battery Calculation

4/25/2011

PROJECT NAME: SUE WRIGHT HOUSE
Required Standby Time: 24 Hours
Required Alarm Time: 5 Minutes

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board (MS-10UD)	1	X	0.08500	=	0.08500
ANN-80	1	X	0.01500	=	0.01500
Smoke Detectors, 2W-B	19	X	0.00005	=	0.00095
Heat Detectors	3	X	0.00000	=	0.00000
CO Detectors	4	X	0.02000	=	0.08000
Pull Stations	8	X	0.00000	=	0.00000
TOTAL STANDBY LOAD					0.18095

Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board (MS-10UD)	1	X	0.17500	=	0.17500
ANN-80	1	X	0.04000	=	0.04000
Smoke Detectors, 2W-B	19	X	0.13000	=	2.47000
Heat Detectors	3	X	0.00000	=	0.00000
CO Detectors	4	X	0.04000	=	0.16000
Pull Stations	8	X	0.00000	=	0.00000
TOTAL ALARM LOAD					2.84500

Battery Requirements

Standby Load			Required Standby Time in Hours		
Current (Amps)	0.18095	X	24.00000	=	4.34280
Alarm Load			Required Alarm Time in Hours		
Current (Amps)	2.84500	X	0.08333	=	0.23708
Total Ampere Hours (before derating factor)					4.57988
Derating Factor				X	1.2
TOTAL AMPERE HOURS REQUIRED				=	5.49586
BATTERIES TO BE PROVIDED (2 - 12v)					7 AH

FAPS1 Battery Calculation

4/22/2011

PROJECT NAME: SUE WRIGHT HOUSE
Required Standby Time: 24 Hours
Required Alarm Time: 5 Minutes

AC Branch Current

AC Branch Current:	3.2	Amps @	120V

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board (FCPS-24FS6)	1	X	0.06500	=	0.06500
TOTAL STANDBY LOAD					0.06500

Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board (FCPS-24FS6)	1	X	0.14500	=	0.14500
FAPS1-1	1	X	0.35200	=	0.35200
FAPS1-2	1	X	0.86200	=	0.86200
FAPS1-3	1	X	0.77200	=	0.77200
FAPS1-4	1	X	0.47900	=	0.47900
TOTAL ALARM LOAD					2.61000

Battery Requirements

Standby Load			Required Standby Time in Hours		
Current (Amps)	0.06500	X	24.00000	=	1.56000
Alarm Load			Required Alarm Time in Hours		
Current (Amps)	2.61000	X	0.08333	=	0.21750
Total Ampere Hours (before derating factor)					1.77750
Derating Factor				X	1.2
TOTAL AMPERE HOURS REQUIRED				=	2.13300
BATTERIES TO BE PROVIDED (2 - 12v)					7 AH

NAC Circuit Voltage Drop Calculation — 4/22/2011

Project Name: SUE WRIGHT HOUSE
Circuit Number: FAPS1-1

			Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4	volts		
Minimum Device Voltage	16	volts		
Distance from source to 1st device	13		14	6.14
Wire Gauge for balance of circuit			14	6.14
Max Output Current	1.5	amps		
Total Circuit Current	0.352	amps		

Circuit is within limits

	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.176		20.37	0.03	0%
Device 2	0.176	21	20.35	0.05	0%
Totals	0.352	34			

NAC Circuit Voltage Drop Calculation — 4/22/2011

Project Name: SUE WRIGHT HOUSE
Circuit Number: FAPS1-2

			Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4	volts		
Minimum Device Voltage	16	volts		
Distance from source to 1st device	24		14	6.14
Wire Gauge for balance of circuit			14	6.14
Max Output Current	1.5	amps		
Total Circuit Current	0.862	amps		

Circuit is within limits

	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.107		20.27	0.13	1%
Device 2	0.079	23	20.17	0.23	1%
Device 3	0.212	11	20.12	0.28	1%
Device 4	0.212	10	20.09	0.31	2%
Device 5	0.107	37	20.03	0.37	2%
Device 6	0.079	23	20.01	0.39	2%
Device 7	0.066	4	20.01	0.39	2%
Totals	0.862	132			

NAC Circuit Voltage Drop Calculation — 4/22/2011

Project Name: SUE WRIGHT HOUSE
Circuit Number: FAPS1-3

			Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4	volts		
Minimum Device Voltage	16	volts		
Distance from source to 1st device	32		14	6.14
Wire Gauge for balance of circuit			14	6.14
Max Output Current	1.5	amps		
Total Circuit Current	0.772	amps		

Circuit is within limits

	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.107		20.25	0.15	1%
Device 2	0.079	21	20.16	0.24	1%
Device 3	0.176	16	20.11	0.29	1%
Device 4	0.107	14	20.07	0.33	2%
Device 5	0.079	28	20.02	0.38	2%
Device 6	0.079	8	20.01	0.39	2%
Device 7	0.079	26	19.99	0.41	2%
Device 8	0.066	18	19.98	0.42	2%
Totals	0.772	161			

NAC Circuit Voltage Drop Calculation — 4/22/2011

Project Name: SUE WRIGHT HOUSE
Circuit Number: FAPS1-4

			Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4	volts		
Minimum Device Voltage	16	volts		
Distance from source to 1st device	46		14	6.14
Wire Gauge for balance of circuit			14	6.14
Max Output Current	1.5	amps		
Total Circuit Current	0.479	amps		

Circuit is within limits

	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.079		20.26	0.14	1%
Device 2	0.079	13	20.23	0.17	1%
Device 3	0.176	23	20.19	0.21	1%
Device 4	0.079	27	20.16	0.24	1%
Device 5	0.066	11	20.16	0.24	1%
Totals	0.479	120			

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	4/22/2011
1	SMOKE DETECTORS REVISED PER REVIEW	4/25/2011

CUNNINGHAM
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Office: 207.846.3350 • Fax: 207.846.6080

SUE WRIGHT HOUSE
899 RIVERSIDE STREET
PORTLAND, MAINE
CALCULATIONS & RISER DIAGRAM

DRAWN	JPB UNICAD JOB #11150
CHECKED	WAYNE B. HAHN NICET IV 90496
DATE	4/21/2011
REVISION	1
SCALE	NONE

FA-2

FIRE·LITE® ALARMS
by Honeywell

July 12, 2004 DF-51492 • A3-400

MS-5210UD(C/E)

Fire Alarm Control Panel with built-in DACT and remote-site Upload/Download capability

Section: Control/Communicators

GENERAL

The **Fire•Lite MS-5210UD** is a 24-volt, ten-zone fire alarm control panel with built-in communicator and remote-site Upload/Download capability *(requires panel software revision #MS52103.0 or greater)*. The integral communicator transmits event information (alarms, troubles, supervisories, faults, etc.) to a UL listed central station. Selectable transmission formats allow the MS-5210UD to communicate to virtually all central stations.

FEATURES

- Ten programmable Initiating Device Circuits (zones). Each zone may be programmed for:
  - ✓ Two-wire smoke detectors.
  - ✓ N.O. contact devices (pull, heat).
  - ✓ Four-wire smoke detectors.
  - ✓ Waterflow operation (silenceable or nonsilenceable).
  - ✓ Supervisory operation.
  - ✓ Auto-reset supervisory operation.
  - ✓ Remote switch for Reset, Drill, Silence and Acknowledge.
  - ✓ Auto-reset or latching, critical and noncritical process monitoring.
- Zones programmed for process monitoring require a contact closure for activation and can be used to monitor:
  - ✓ Temperature (high/low temp).
  - ✓ Water level.
  - ✓ Refrigeration.
  - ✓ Gas detection.
  - ✓ Tamper (non-fire).
  - ✓ Loss of air flow.
  - ✓ Open/Close.
- Two built-in, Class B (Style Y) Notification Appliance Circuits (NACs) — expandable to four.
- Notification Appliance Circuits may be programmed:
  - ✓ Silenceable.
  - ✓ Non-Silenceable (a strobe circuit can keep flashing after the panel is silenced).
  - ✓ Auto-Silence (program 5 to 30 minutes).
  - ✓ Silence Inhibit (60 seconds).
  - ✓ Coding (March Time, Temporal, California).
- 3.0 Amps of Notification Appliance power, expandable to 6.0 amps (meets the critical power requirements for ADA and UL-1971 devices).
- Two built-in, fully programmable Form-A relays - expandable to four with two Form-C relays.
- Dual-line rotary- or Touch-Tone®-dial DACT interfaces to public telephone network *(leased phone lines are **not** required)*.
- 24-Volt operation.

UL LISTED S5624

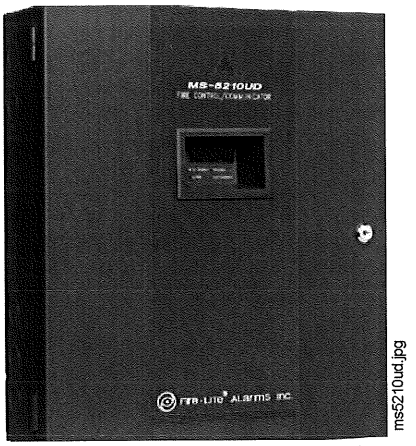
MEA 122-96-E

California State Fire Marshal 7165-0075:177

FCC 1W6USA-20723-AL-E

INDUSTRY CANADA 21325785A

FM APPROVED



ms5210ud.jpg

MS-5210UD

- Built-in voltmeter measures:
  - ✓ Zone voltage.
  - ✓ Primary AC line voltage.
  - ✓ Battery voltage.
  - ✓ Notification Appliance Circuit(s) voltage.
  - ✓ Resettable 24-volt power.
- Surface Mount Technology (SMT).
- Fully programmable via built-in keypad (no costly external programmers necessary).
- Complies with NFPA 72 (Local, Central Station and Remote Station *[DACT only - not polarity reversal]* Fire Alarm Systems).
- Reporting Formats include Ademco Contact ID and 14 others.
- Integral battery charger for up to 60 hours of standby power.
- Fuseless, power-limited technology meets new UL power-limiting requirements, effective May 1, 1995.
- Programmable Alarm Presignal Timer, Alarm Verification Timer and Optional Trouble Reminder.
- Single-person walk test with 256-event walk-test buffer.
- Fire drill function.
- Zone disable capability (software).
- 256-Event history buffer with time and date stamp, stored in permanent memory.
- Accurate real-time clock/calendar.

- Electronics and operational controls fully enclosed in a lockable cabinet capable of housing up to 12 AH batteries.
- Optional LED-10 Series Remote Annunciators operate off serial two-wire EIA-485 interface.
- Optional contact-by-zone module and printer interface for on- or off-line printing.
- 230 VAC, 50 Hz international version available.

REMOTE SITE UPLOAD/DOWNLOAD

The MS-5210UD may be downloaded or uploaded *(requires panel software revision #MS52103.0 or greater)* without compromising the system fire protection at the protected premises.

- Download system programming.
- Upload key system information:
  - ✓ Current system status, history + walk test files.
  - ✓ Zone, AC line, NAC1, 2, 3 and 4, resettable power and battery voltages.
  - ✓ System programming.
- Upload or download within one minute without affecting normal fire panel functions.
- Multiple security techniques.
- Requires **PK-5210UD** programming kit, which works with most Hayes-compatible modems *(consult factory for listing)*.

SPECIFICATIONS

Single PC board design using Surface Mount Technology (SMT). Two modular telephone jacks for connection to RJ31X/Modules.

AC Power

- 120 VAC, 50/60 Hz, 2.3 amps.
- 230 VAC, 50 Hz, 1.2 amps ("E" suffix).
- Wire size: minimum 14 AWG with 600-volt insulation.
- Built-in brownout circuitry.
- Built-in voltmeter.

Communicator

- One line-active indicator for each of two phone lines.
- "Kiss-Off" signal LED.
- Dual "low telephone voltage detect" circuitry.
- Programmable event codes per each format.
- Up to 100 transmitted events/messages.
- Selectable/deselectable transmissions of 100 events.

Communication Formats

Express and Ademco Contact ID formats allow complete transaction to be communicated in under five seconds.

- Ademco Contact ID.
- 20 PPS, 3+1 standard and expanded.
- 20 PPS, 4+1 standard and expanded.
- 20 PPS, 4+2 standard and expanded.
- 4+1 and 4+2 Ademco Express.

INITIATING DEVICE CIRCUITS (ZONES)

The MS-5210UD includes ten programmable Class B Initiating Device Circuits (zones). Use the CAC-10F Class A converter module to convert ***all*** Class B IDC's/NAC's to Class A.

Each zone may support two-wire smoke detectors. Programming options include:

- Normally Open Contact devices (pull, heat).
- Four-wire smoke detectors.
- Waterflow (silenceable/non-silenceable) operation.
- Supervisory (standard/auto-reset) operation.
- Remote switch for Reset, Drill, Silence, Acknowledge.
- Critical and Noncritical Process Monitoring (standard/auto-reset).

All circuits are power-limited and fully supervised. They allow up to 100 ohms of line resistance and allow for use of 12 to 18 AWG wire.

NOTIFICATION APPLIANCE CIRCUITS

- Two Style Y (Class B) @ 3.0 amps each. Use the CAC-10F Class A Converter Module to convert ***all*** Class B NAC's and IDC's to Class A.
- Option module adds two Style Z (Class A) NACs @ 1.5 amps each.
- All circuits are fully power-limited and meet the new UL power-limiting requirements effective May 1, 1995, using fuseless technology.

AUXILIARY OUTPUTS

- Resettable four-wire smoke detector power @ 500 mA.
- Non-resettable power @ 500 mA.
- Two fully programmable Form-A/B relays.
- Option module adds two fully programmable Form-C relays.

COMPATIBLE DEVICES, EIA-485 PORT

LED-10IM: EIA-485 Interface Module. Provides MS-5210UD with EIA-485 output, capable of supporting up to 32 compatible EIA-485 devices (listed below).

LED-10 Series: LED-type fire annunciators capable of displaying Alarm (red) and Trouble (yellow) LEDs for all ten Initiating Device Circuits (IDCs). ***NOTE:*** *For Canadian Supervisory Service, use LED-10LS2 only.*

AFM-16AF: LED-type fire annunciator capable of providing up to 16 zones of Alarm (red) annunciation and common system trouble LED. Mounts to 4-gang electrical box *ONLY*.

LDM Series: Lamp Driver Module series for use with custom graphic annunciators.

ACM-8RF: Remote Form-C relay module. Provides eight mappable Form-C relays driven by EIA-485 for contact-by-zone capability (two minimum required for contact-by-zone). Each requires ABS-8RF for mounting.

NOTE: *For more detailed information on* ***Compatible EIA-485 Devices*** *for use with the MS-5210UD, please refer to the* ***LED-10, AFM/AFM-X, LDM*** *or* ***ACM-8RF*** *data sheets, document numbers DF-51500, DF-51465, DF-51384, and DF-51555 respectively.*

CABINET SPECIFICATIONS

The cabinet is red with a dark blue overlay. Knockouts on the top, sides, and back provide ease of wire entry. The cabinet can be surface or semi-flush mounted and is compact in design.

Dimensions:

Door: 17.11" high x 14.71" wide (43.46 cm high x 37.36 cm wide).

Backbox: 16.90" high x 14.50" wide x 4.50" deep (42.93 cm high x 36.83 cm wide x 11.43 cm deep).

Trim Ring: ***Part # TR-4-R,*** 20.020" high x 17.620" wide (50.85 cm high x 44.75 cm wide).

PRODUCT LINE INFORMATION

MS-5210UD Ten-zone, 24-volt Fire Alarm Control Communicator (includes backbox, transformer, technical manual, and a frame & post operating instruction sheet).

MS-5210UDC Same as above with ULC listing and DP-4-R dress panel included.

MS-5210UDE Same as MS-5210UD with 230 VAC, 50 Hz transformer (UL listed).

XRM-24 120 VAC, 100 VA transformer. Expands NAC power from 3.0 to 6.0 amps and system power from 3.6 amps to 6.6 amps.

NAC-REM Notification Appliance (Signal) Circuit, Relay Expander Module. Adds two (Class A) NACs and two Form-C relays.

CAC-10F Class A Converter Module. Converts all Class B Initiating Device Circuits (zones) and standard Notification Appliance Circuits to Class A.

PRT-24 Printer Interface Module. Provides an EIA-232 printer output. Includes cable, DB9F and DB25 adapter.

PK-CD Contains programming software for Windows-based PC computer.

DP-4-R Internal Dress Panel *(included when ordering MS-5210UDC).*

MCBL-7 DACT phone cord, 7 feet long *(two required).*

BB-17F UL listed battery backbox. Required for batteries over 12 AH.

ABS-8RF Metal enclosure for mounting each ACM-8RF module.

TR-4-R Trim ring.

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

BAT-12120 Battery, 12 volt, 12.0 AH *(two required).*

BAT-12180 Battery, 12 volt, 18.0 AH *(two required, requires BB-17F backbox).*

5210UDRB Replacement motherboard.

UL LISTED RECEIVERS COMPATIBLE WITH THE MS-5210UD

	Format # (Addresses 16 & 42)	Ademco 685 (1)	Silent Knight 9000	ITI CS-4000 (3)	FBI CP220FB	Osborne Hoffman Models 1 & 2	Radionics 6000/6500 (5)	Sescoa 3000R (7)	SurGuard MLR-2 (9)
0	4+1 Ademco Express	✔			✔				✔
1	4+2 Ademco Express	✔			✔	4 (8)		✔	✔
2	3+1/Standard/1800/2300	✔	✔ (2)	✔	✔ (4)	✔	✔ (5,6)	✔	✔
3	3+1/Expanded/1800/2300	✔	✔ (2)	✔	✔ (4)	✔		✔	✔
4	3+1/Standard/1900/1400	✔	✔ (2)		✔ (4)	✔		✔	✔
5	3+1/Expanded/1900/1400	✔	✔ (2)		✔ (4)	✔		✔	✔
6	4+1/Standard/1800/2300	✔	✔ (2)	✔	✔ (4)	✔	✔ (5)	✔	
7	4+1/Expanded/1800/2300	✔	✔ (2)		✔ (4)	✔		✔	✔
8	4+1/Standard/1900/1400	✔	✔ (2)		✔ (4)	✔		✔	✔
9	4+1/Expanded/1900/1400	✔	✔ (2)		✔ (4)	✔		✔	✔
A	4+2/Standard/1800/2300	✔	✔ (2)	✔	✔ (4)	✔	✔ (5)	✔	✔
B	4+2/Expanded/1800/2300	✔	✔ (2)		✔ (4)	✔		✔	✔
C	4+2/Standard/1900/1400	✔	✔ (2)		✔ (4)	✔		✔	✔
D	4+2/Expanded/1900/1400	✔	✔ (2)		✔ (4)	✔		✔	✔
E	Ademco Contact ID	✔			✔	✔			✔

51492t1.tbl

KEY:

(1) With 685-8 Line Card with Rev 4.4d software.
(2) With 9002 Line Card Rev 9035 software or 9032 Line Card with 9326A software.
(3) Rev. 4.0 software.
(4) FBI CP220FB Rec-11 Line Card with Rev 2.6 software and a memory card with Rev 3.8 software.
(5) Model 6500 with Rev 600 software.
(6) Model 6000 with Rev 204 software.
(7) With Rev B control card at Rev 1.4 software and Rev C line card at Rev 1.5 software.
(8) Model 2 only.
(9) Version 1.62 software.

FIRE-LITE® ALARMS

www.firelite.com

July 13, 2004 DF-51500 •B-400

LED-10 Series

Remote LED Fire Annunciators for use with MS-5210UD

Section: Annunciators

GENERAL

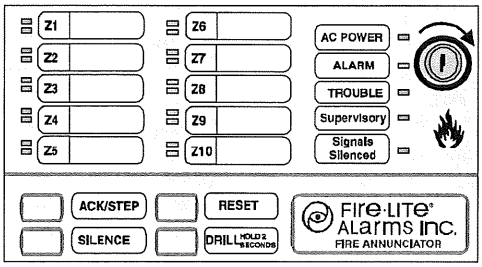
The **Fire•Lite LED-10 Series** are compact, cost-effective LED Fire Annunciators for use with the **MicroScan-5210UD** ten-zone Fire Alarm Control/Communicator. The LED-10 Series consists of three models: the basic LED-10, the low-cost LED-10L and the Canadian LED-10LS2. The LED-10(L) is capable of illuminating Alarm (red) and Trouble (yellow) LEDs for all ten Initiating Device Circuits (IDCs). The LED-10LS2 is primarily designed for Canadian applications, and includes two yellow LEDs on zones 9 and 10 for annunciating supervisory conditions. The LED-10 Series also provides system status LEDs to display Power (green), Alarm (red), Trouble (yellow), Supervisory (yellow) and Signals Silenced (yellow). Remote control of critical system functions, such as Reset, Silence, Acknowledge and Drill, can be accomplished with the model LED-10 only.

UL LISTED S2424

ULC CS635

California State Fire Marshal 7120-0075:171

MEA 122-96-E Vol. II



LED-10

FEATURES

- Control Switches for System Acknowledge, Signal Silence, Drill and Reset with enable key are included on model LED-10 only (shown).
- All models include system status LEDs for Power (green), Alarm (red), Trouble (yellow), Supervisory (yellow) and Signals Silenced (yellow).
- No programming necessary.
- Aesthetically pleasing, semi-flush-mount design.
- Serial EIA-485 interface for reduced installation cost (see reverse side for wiring diagram).
- May be powered by 24 VDC from the host FACP or by remote power supplies (requires filtered, regulated power).
- Up to 32 LED-10 Series annunciators per MS-5210UD.
- Plug-in terminal blocks for ease of installation and service.
- Can be remotely located up to 6,000 feet from host control panel.
- Local piezo sounder with alarm and trouble resound.
- ***Semi-flush-mounts*** to 2-3/16" deep (minimum), three-gang electrical box (Fire•Lite P/N 10103 or equivalent); or ***surface-mounts*** to Fire•Lite SBB-3 surface backbox.

OPERATION

The LED-10 Series annunciators provide the MS-5210UD Conventional Fire Alarm Control/Communicator with a series of annunciators meeting most applications. All models provide an array of LEDs to indicate system status, while the LED-10 includes control switches for remote control of critical system functions.

The LED-10 Series annunciators provide the MS-5210UD with up to 32 remote serially connected annunciators. All field-wiring terminations on the LED-10 Series use removable, compression-type terminal blocks for ease of wiring and circuit testing.

Communications between the FACP and the annunciators are accomplished over an EIA-485 serial interface, greatly reducing wire and installation cost over traditional systems. Four wires total are required: two for the EIA-485 communications in (twisted-pair) and two for 24 VDC regulated power. Dip switches control local functions such as: piezo disable, control switches/key-switch disable, transmit/receive mode. Annunciators may be powered from the host MS-5210UD (up to 7) or remote power supplies (requires filtered, regulated power).

PRODUCT LINE INFORMATION

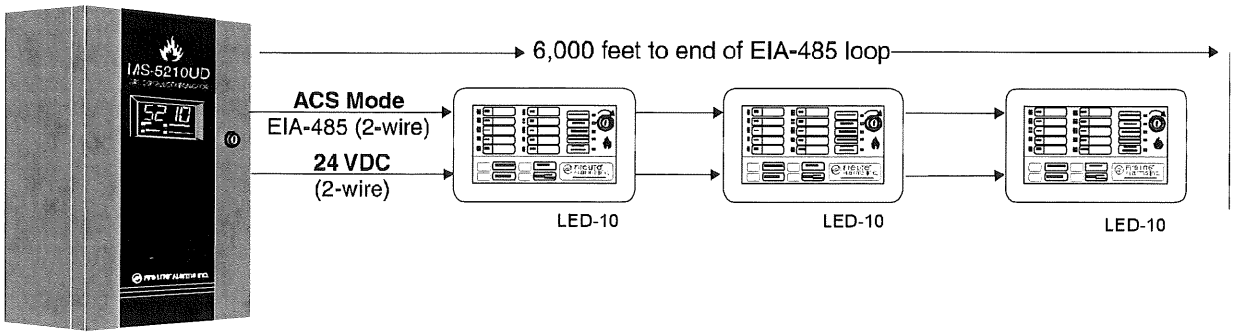
LED-10	Remote LED-type fire annunciator with ten Alarm (red) and Trouble (yellow) LEDs for displaying initiating device circuit (zone) status. Includes control switches for remote control of critical system functions and key switch lock.
LED-10LS2	Same as LED-10 without control switches and key switch lock, and with dual yellow LEDs for zones 9 and 10 to annunciate supervisory (only) conditions (*Canadian Supervisory Service requirement*).
LED-10IM	LED-10 Interface Module (one required per MS-5210UD; supports up to 32 LED-10's).
10103	Three-gang electrical box, 2-3/16" (min.) deep, for semi-flush-mount application.
SBB-3	Three-gang surface backbox for surface-mount applications.

For more information, contact Fire•Lite Alarms, One Fire-Lite Place, Northford, Connecticut 06472. Phone: (800) 627-3473, Toll-Free FAX: (877) 699-4105.

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Made in the U.S.A.

LED-10 SERIES ACS MODE WIRING



MS-5210UD

Notes:

1) EIA-485: Maximum of 6,000 feet total cable length from FACP to LED-10 Series annunciators. Circuit is power limited.
2) Up to 32 LED-10 Series annunciators may be used on the EIA-485 circuit. The MS-5210UD can power a maximum of seven LED-10 Series annunciators. If additional LED-10 Series annunciators are connected, the Fire•Lite FCPS-24F may be used to supply additional power. ***NOTE:*** *Power supplies used for this purpose must have their negative terminals commoned together.*
3) Between each LED-10 Series annunciator are four wires: a twisted-shielded pair for data communications, and a pair for 24 VDC power.
4) Each model LED-10 (only) may have ACK, SIGNAL SILENCE, DRILL and SYSTEM RESET switches.
5) Displays all ten initiating device circuits (zones) of MS-5210UD.
6) No programming required for LED-10 Series annunciators.

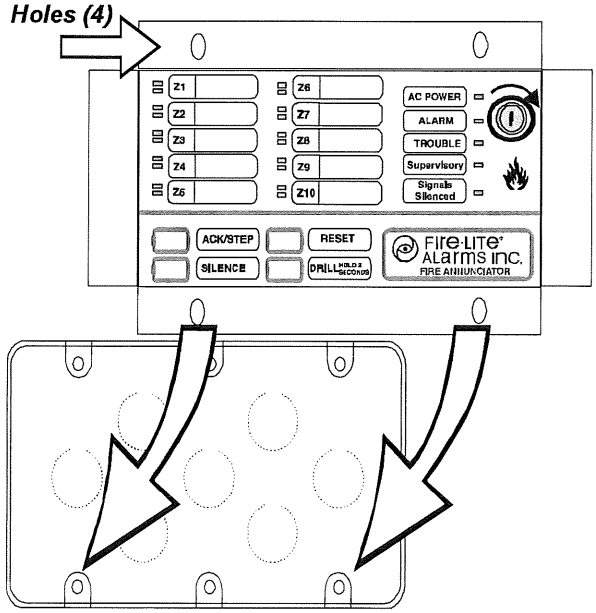
MOUNTING TO BACKBOX(ES)

CAUTION! The LED-10 Series annunciators can ***ONLY*** be ***semi-flush-mounted*** in a three-gang electrical box with a ***minimum*** depth of 2-3/16" (Fire•Lite P/N 10103 or equivalent).

The LED-10 Series annunciators ***CANNOT*** be mounted in three gangable electrical switch boxes connected together.

NOTE: Alternately, the LED-10 Series annunicators can be mounted to the SBB-3 surface backbox for ***surface-mount*** applications.

Mounting Holes (4)



5-13/16" wide x 4" high x 2-3/16" deep, three-gang electrical box (Fire•Lite P/N 10103 or equivalent). 10103 shown at right.

SpectrAlert® Advance

Indoor Selectable Output Speaker Strobes and Dual Voltage Evacuation Speakers

FIRE-LITE® Alarms by Honeywell

Audio/Visual Devices

General

The SpectrAlert Advance Series of speakers and speaker strobes is designed to reduce ground faults. The plug-in design allows the installer to pre-wire mounting plates and dress the wires before plugging in the speakers. The plastic cover prevents nicked wires by covering exposed speaker components.

This design also allows faster installations with instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 11 field selectable candela settings for wall and ceiling speaker strobes.

The low total harmonic distortion of the SP speaker offers high fidelity sound output while the SPV speaker offers high volume sound output for use in high ambient noise applications.

SpectrAlert Advance makes installation easy

- Attach a universal mounting plate to a 4" x 4" x 2-1/8" back box. Flush mount applications are achievable without the need for an extension ring.
- Connect the notification appliance circuit or speaker wiring to the PEMS terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Rotate the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

Features

- Plug-in design
- Protective cover isolates speaker components, reduces ground faults
- Electrical compatibility with existing SpectrAlert products
- Field selectable candela settings on wall and ceiling units:
  - Standard: 15, 15/75, 30, 75, 95, 110, 115
  - High: 135, 150, 177, 185
- Shorting spring on mounting plate tests continuity before installation
- Rotary switch simplifies field selection of speaker voltage and power settings
- Universal mounting plate for wall- and ceiling-mount units
- Compatible with System Sensor synchronization protocol
- SP speakers offer high fidelity sound output
- SPV speakers offer high volume sound output
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela
- No extension ring required
- Ceiling and wall mount application
- Optional tamper resistant Torx head screw included

Specifications

PHYSICAL SPECIFICATIONS

Operating Temperature: 32°F to 120°F (0°C to 49°C)

Humidity Range: 10 to 93% non-condensing

Dimensions, Wall-Mount:

SPS Speaker Strobe: 6.0"L x 5.0"W x 4.7"D (includes lens and speaker)

SPSV Speaker Strobe: 6.0"L x 5.0"W x 4.9"D (includes lens and speaker)

SP Speaker: 6.0"L x 5.0"W x 2.8"D

SPSV Speaker: 6.0"L x 5.0"W x 2.9"D

Dimensions, Ceiling-Mount:

SPS Speaker Strobe: 6.8"Dia x 4.7"D (includes lens and speaker)

SPSV Speaker Strobe: 6.8"Dia x 4.8"D (includes lens and speaker)

SP Speaker: 6.8"Dia x 2.8"D

SPSV Speaker: 6.8"Dia x 2.9"D

ELECTRICAL/OPERATING SPECIFICATIONS

Nominal Voltage (speakers): 25 Volts or 70.7 Volts (nominal)

Maximum Supervisory Voltage (speakers): 50VDC

Strobe Flash Rate: 1 flash per second

Nominal Voltage (strobes): Regulated 12VDC/FWR or regulated 24DC/FWR

Operating Voltage Range (includes fire alarm panels with built-in sync): 8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)

Operating Voltage with MDL Sync Module: 9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)

Frequency Range: 400 to 4000 Hz

Power: ¼, ½, 1, 2 watts

Agency Listings and Approvals

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

- **UL/ULC Listed:** S4048
- **MEA:** 10-08-E
- **CSFM:** 7320-1653:201
- **FM Approved**

UL Maximum Strobe Current Draw (mA RMS)					
	Candela	8 to 17.5 Volts		16 to 33 Volts	
		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

Sound Output				
UL Reverberant (dBA @ 10ft)	2W	1W	½W	¼W
Wall Mount SP Series	86	83	80	77
Wall Mount SPV Series	90	87	84	81
Ceiling Mount SPC Series	86	83	80	77
Ceiling Mount SPCV Series	90	87	84	81
Wall Mount SPS Series	85	82	79	76
Wall Mount SPSV Series	89	86	83	80
Ceiling Mount SPSC Series	85	82	79	76
Ceiling Mount SPSCV Series	89	86	83	80

Architectural/Engineering Specifications

GENERAL

SpectrAlert Advance speaker and speaker strobes shall mount to a 4" x 4" x 2-1/8" backbox. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance speaker strobes, 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 24volts. When used with the Sync.Circuit Module, 12 volt rated notification appliance circuit outputs shall operate between nine and 17.5 volts; 24 volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

SPEAKER

The speaker shall be a System Sensor SpectrAlert Advance model _____ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. It should be listed to UL/ULC 1480 and shall be approved for fire protective service. The speaker shall have a frequency range of 400 to 4000Hz and shall have an operating temperature between 32°F and 120°F. Speaker shall have power taps and voltage that are selected by rotary switches.

SPEAKER STROBE COMBINATION

The speaker strobe shall be a System Sensor SpectrAlert Advance model _____ listed to UL1480 and UL/ULC 1971 and be approved for fire protective signaling systems. Speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4000Hz. Speaker shall have power taps which are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

SYNCHRONIZATION MODULE

The module shall be a System Sensor Sync Circuit model MDL listed to UL/ULC 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1Hz. The module shall mount to a 4-11/16" x 4-11/16" x 2-1/8" backbox. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Ordering Information

NOTE: *(W) indicates white coloring; (R), red.*
NOTE: *"A" suffix indicates ULC-Listed model.*

WALL MOUNT

SP(W)(R)(A): Speaker only.

SP(W)(R)V(A): Speaker only, high dB; white.

SPS(W)(R)(A)*: Speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 110, 115).

SPS(W)(R)H(A)*: Speaker strobe, selectable candela, high cd (135, 150, 177, 185).

SPS(W)(R)V(A)*: Speaker strobe, selectable candela, high dB.

CEILING MOUNT

SPC(W)(R)(A): Speaker only.

SPC(W)(R)V(A): Speaker only, high dB.

SPSC(W*)(R)(A): Speaker strobe, selectable candela (15, 15/75, 30, 50, 75, 95, 110, 115)

SPSC(W*)(R)H(A): Speaker strobe, selectable candela, high cd (135, 150, 177, 185)

SPSC(W*)(R)V(A): Speaker strobe, selectable candela, high dB (15, 15/75, 30, 50, 75, 95, 110, 115).

SPSC(W*)(R)VH(A): Speaker strobe, selectable candela, high dB, high cd (135, 150, 177, 185).

ACCESSORIES

RFP(A): Retrofit plate (5 pack), red.

RFPW(A): Retrofit plate (5 pack), white.

SPBBSC(A): Ceiling mount backbox skirt, red.

SPBBSCW(A): Ceiling mount backbox skirt, white.

SPBBS(A): Wall mount backbox skirt, red.

SPBBSW(A): Wall mount backbox skirt, white.

TR(A): Wall mount trim ring, red.

TRW(A): Wall mount trim ring, white.

TRC(A): Ceiling mount trim ring, red.

TRCW(A): Ceiling mount trim ring, white.

***NOTE:** Add -P to model number for plain housing (no 'FIRE' marking on the cover), e.g. SPSW-P*

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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Made in the U.S. A.

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

i³ Series

Photoelectric Smoke Detectors

FIRE·LITE ALARMS by Honeywell

Conventional Initiating Devices

General

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

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

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

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

Features

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

Specifications

PHYSICAL SPECIFICATIONS

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

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

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

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

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

Input Terminals: Utilize 14 to 22 AWG wire.

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

Weight: 6.3 oz. (178.6 grams).

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

ELECTRICAL SPECIFICATIONS

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

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

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

Architectural/Engineering Specifications

Smoke detector shall be a System Sensor i³ Series model number _____, Listed to Underwriters Laboratories UL 268 Fire Protection Signaling Systems. The detector shall be a photoelectric type (models 2W-B, 4W-B) or a combination photoelectric/thermal (models 2WT-B, 4WT-B) with thermal sensor rated at 135°F (57.2°C). The detector shall include a mounting base for mounting to 3.5" (88.9 mm) and 4" (101.6 mm) octagonal, single-gang, and 4" (101.6 mm) square backboxes with a plaster ring, or directly mount to the ceiling using drywall anchors. Wiring connections shall be made by means of SEMS screws. The detector shall allow pre-wiring of the base and the head shall be a plug-in type. The detector shall have a nominal sensitivity of 2.5%/foot (0.762%/meter) as measured in the UL smoke box. The detector shall be capable of automatically adjusting its sensitivity by means of drift compensation and smoothing algorithms. The detector shall provide dual-color LED indication which blinks to indicate power-up, normal standby, out-of-sensitivity, alarm, and freeze trouble

(models 2WT-B, 4WT-B) conditions. When used in conjunction with the 2W-MOD module, two-wire models shall include a maintenance signal to indicate the need for maintenance at the alarm control panel, and shall provide a loop testing capability to verify the circuit without testing each detector individually.

Agency Listings and Approvals

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

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

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

Product Line Information

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

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

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

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

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

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

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

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

ACCESSORIES:

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

SENS-RDR: Sensitivity reader.

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

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www.firelite.com

BG-12 Series

Manual Fire Alarm Pull Stations

FIRE·LITE ALARMS by Honeywell

Conventional Initiating Devices

General

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

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

Features

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

52004p4c.jpg

Construction

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

Operation

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

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

Specifications

PHYSICAL SPECIFICATIONS:

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

52004dim.tbl

ELECTRICAL SPECIFICATIONS:

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

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

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

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

Agency Listings and Approvals

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

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

Product Line Information

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

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

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

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

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

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

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

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

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

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

SB-10: Surface-mount backbox, metal.

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

BG12TR: Optional trim ring for semi-flush mounting.

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

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

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

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ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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www.firelite.com

Form # P 01

ELECTRICAL PERMIT
City of Portland, Me.

To the Chief Electrical Inspector, Portland Maine:
The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the City of Portland Electrical Ordinance, National Electrical Code and the following specifications:

Date 4/12/2011
Permit #
CBL# 326-B-004

LOCATION: 864 Riverside ST
METER MAKE & #
CMP ACCOUNT #
OWNER Spurwink School
TENANT
PHONE #

								TOTAL	EACH FEE
OUTLETS	20	Receptacles		Switches	12	Smoke Detector		.20	
FIXTURES	10	Incandescent	3	Fluorescent		Strips		.20	
SERVICES		Overhead		Underground		TTL AMPS	<800	15.00	
		Overhead		Underground			>800	25.00	
Temporary Service		Overhead		Underground		TTL AMPS		25.00	
METERS		(number of)						25.00	
MOTORS		(number of)						1.00	
RESID/COM		Electric units						2.00	
HEATING		oil/gas units		Interior		Exterior		1.00	
APPLIANCES		Ranges		Cook Tops		Wall Ovens		5.00	
		Insta-Hot		Water heaters		Fans		2.00	
		Dryers		Disposals		Dishwasher		2.00	
		Compactors		Spa		Washing Machine		2.00	
		Others (denote)						2.00	
MISC. (number of)		Air Cond/win						3.00	
		Air Cond/cent				Pools		10.00	
		HVAC		EMS		Thermostat		5.00	
		Signs						10.00	
		Alarms/res						5.00	
		Alarms/com						15.00	
		Heavy Duty(CRKT)						2.00	
		Circus/Carnv						25.00	
		Alterations						5.00	
		Fire Repairs						15.00	
		E Lights						1.00	
		E Generators						20.00	
PANELS		Service		Remote		Main		4.00	
TRANSFORMER		0-25 Kva						5.00	
		25-200 Kva						8.00	
		Over 200 Kva						10.00	
						TOTAL AMOUNT DUE			
		MINIMUM FEE/COMMERCIAL 55.00				MINIMUM FEE	45.00		

B 4
326

RECEIVED
APR 12 2011
Dept. of Building Inspections
City of Portland Maine

CONTRACTORS NAME Greg Gould Elect Inc
ADDRESS 13 Pari Pl Port.
TELEPHONE 207 8380879 / 797 2773

MASTER LIC. # [redacted] 15533
LIMITED LIC. #

SIGNATURE OF CONTRACTOR Greg Gould

White Copy - Office • Yellow Copy - Applicant

Form # P 01

ELECTRICAL PERMIT
City of Portland, Me.

To the Chief Electrical Inspector, Portland Maine:
The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the City of Portland Electrical Ordinance, National Electrical Code and the following specifications:

Date 4/12/11
Permit # 20110368
CBL# 326 B004002

LOCATION: 899 Riverside St **METER MAKE & #** Tuks OK
CMP ACCOUNT # _____ **OWNER** _____
TENANT Spurwink Services **PHONE #** _____

						TOTAL	EACH	FEE
OUTLETS		Receptacles		Switches		Smoke Detector	.20	
FIXTURES		Incandescent		Fluorescent		Strips	.20	
SERVICES		Overhead		Underground		TTL AMPS <800	15.00	
		Overhead		Underground		>800	25.00	
Temporary Service		Overhead		Underground		TTL AMPS	25.00	
							25.00	
METERS		(number of)					1.00	
MOTORS		(number of)					2.00	
RESID/COM		Electric units					1.00	
HEATING		oil/gas units		Interior		Exterior	5.00	
APPLIANCES		Ranges		Cook Tops		Wall Ovens	2.00	
		Insta-Hot		Water heaters		Fans	2.00	
		Dryers		Disposals		Dishwasher	2.00	
		Compactors		Spa		Washing Machine	2.00	
		Others (denote)					2.00	
MISC. (number of)		Air Cond/win					3.00	
		Air Cond/cent				Pools	10.00	
		HVAC		EMS		Thermostat	5.00	
		Signs					10.00	
		Alarms/res					5.00	
	1	Alarms/com					15.00	
		Heavy Duty(CRKT)					2.00	
		Circus/Carnv					25.00	
		Alterations					5.00	
		Fire Repairs					15.00	
		E Lights					1.00	
		E Generators					20.00	
PANELS		Service		Remote		Main	4.00	
TRANSFORMER		0-25 Kva					5.00	
		25-200 Kva					8.00	
		Over 200 Kva					10.00	
						TOTAL AMOUNT DUE		
		MINIMUM FEE/COMMERCIAL				**MINIMUM FEE** 45.00		55.00

RECEIVED
APR 12 2011
Dept. of Building Inspection
City of Portland Maine

CONTRACTORS NAME Cunningham Security **MASTER LIC. #** MS6000894
ADDRESS 10 Princess Point Road 04096 **LIMITED LIC. #** _____
TELEPHONE 846-3350

SIGNATURE OF CONTRACTOR _____

White Copy - Office • Yellow Copy - Applicant

Department of Health and Human Services
Division of Environmental Health

PLUMBING APPLICATION

PROPERTY ADDRESS

Town or Plantation	Portland
Street / Subdivision Lot #	Riverside - 899

PROPERTY OWNERS NAME

Last: Russell First: E

Applicant Name:	Ed Russell
Mailing Address of Owner/Applicant (If Different)	462 Cony Rd Portland, ME 04103

PORTLAND
Date Permit Issued: 3/09/11

PERMIT # 11587 TOWN COPY

$ 41.00 FEE ☐ If Double Fee Charged

Tammy Munson
Local Plumbing Insector Signature

L.P.I. # 3,6,01

Owner/Applicant Statement

I certify that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Local Plumbing Inspectors to deny a Permit.

Ed Russell — 3/09/11
Signature of Owner/Applicant — Date

Caution: Inspection Required

I have inspected the installation authorized above and found it to be in compliance with the Maine Plumbing Rules.

Local Plumbing Inspector Signature — Date Approved

PERMIT INFORMATION

This Application is for

1. ☐ NEW PLUMBING
2. ☐ RELOCATED PLUMBING

Type of Structure To Be Served:

1. ☐ SINGLE FAMILY DWELLING
2. ☐ MODULAR OR MOBILE HOME
3. ☐ MULTIPLE FAMILY DWELLING
4. ☐ OTHER – SPECIFY

Plumbing To Be Installed By:

1. ☐ MASTER PLUMBER
2. ☐ OIL BURNERMAN
3. ☐ MFG'D. HOUSING DEALER/MECHANIC
4. ☐ PUBLIC UTILITY EMPLOYEE
5. ☐ PROPERTY OWNER

LICENSE # 6232V

Hook-Up & Piping Relocation Maximum of 1 Hook-Up	Column 2 Number	Column 2 Type of Fixture	Column1 Number	Column1 Type of Fixture
HOOK-UP: to public sewer in those cases where the connection is not regulated and inspected by the local Sanitary District.		Hosebib / Sillcock		Bathtub (and Shower)
OR		Floor Drain	1	Shower (Separate)
HOOK-UP: to an existing subsurface wastewater disposal system.		Urinal		Sink
		Drinking Fountain	1	Wash Basin
PIPING RELOCATION: of sanitary lines, drains, and piping without new fixtures.		Indirect Waste	1	Water Closet (Toilet)
		Water Treatment Softener, Filter, etc.		Clothes Washer
		Grease / Oil Separator		Dish Washer
OR		Roof Drain		Garbage Disposal
TRANSFER FEE [$6.00]		Bidet		Laundry Tub
		Other:		Water Heater
		Fixtures (Subtotal) Column 2	3	Fixtures (Subtotal) Column 1
				Fixtures (Subtotal) Column 2
			3	**Total Fixtures**
				Fixture Fee
				Transfer Fee
				Hook-Up & Relocation Fee
			50.00	**Permit Fee (Total)**

SEE PERMIT FEE SCHEDULE FOR CALCULATING FEE

APPLICANT COPY