# CITY OF PORTLAND

**PERMIT ISSUED**

# BUILDING PERMIT

This is to certify that **PORT RETAIL HOLDINGSLLC OLD**

Located At **446 FORE**

Job ID: **2011-03-521-FAFS**

CBL: **032 - - R - 008 - 001 - - - -** City of Portland

has permission to FACP Basement

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 |

**Fire Prevention Officer**

**Code Enforcement Officer / Plan Reviewer**

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

PENALTY FOR REMOVING THIS CARD

# City of Portland, Maine - Building or Use Permit Application

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

| Job No: 2011-03-521-FAFS | Date Applied: 3/3/2011 | CBL: 032 - - R - 008 - 001 - - | **PERMIT ISSUED** |
|---|---|---|---|

| Location of Construction: **446 FORE** | Owner Name: **PORT RETAIL HOLDINGS LLC OLD** | Owner Address: **101 RICHARDSON ST BROOKLYN, NY - NEW YORK 11211** MAR 1 8 2011 City of Portland | Phone: |
|---|---|---|---|
| Business Name: | Contractor Name: **Eastern Fire Protection Co.,Inc, Eastern Fire Protection Co.,Inc** | Contractor Address: **P.O Box 1390  AUBURNMAINE04211** | Phone: **784-1507** |
| Lessee/Buyer's Name: | Phone: | Permit Type: **FIRE ALARM - Fire Alarm** | Zone: **B-3** |

| Past Use: **Mixed Use** | Proposed Use: **Same – Mixed use – to add a fire alarm system** | Cost of Work: **4000.00** | CEO District: |
|---|---|---|---|
| | | Fire Dept: ✓ Approved w/conditions ___ Denied ___ N/A  Signature: BjcwWal (58) | Inspection: Use Group: Type: |
| Proposed Project Description: **446 Fore St FACP Basement** | | Pedestrian Activities District (P.A.D.) | |

| Permit Taken By: Lannie | Zoning Approval |
|---|---|

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.

| Special Zone or Reviews | Zoning Appeal | Historic Preservation Within |
|---|---|---|
| ___ 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  Date: OK with condt 3/7/11 | ___ Denied  Date: | ___ Denied  Any exterior work requires Separate review & Approval |

### 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 |
|---|---|---|

City of Portland
Director of Planning and Urban Development
Penny St. Louis

**Job ID:** 2011-03-521-FAFS        **Located At:** 446 FORE        **CBL:** 032 - - R - 008 - 001 - - - - -

## Conditions of Approval:

**Zoning**

1. ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
2. This permit is being approved under Zoning without regard to current zoning uses in the building. This permit does not legalize any illegal and/or non permitted uses in the building.

**Fire**

Circuits shall be inspected for integrity, t-taps, and location of end-of-line resistors. Conversion of initiation devices to addressable shall be determined.

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.

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

Records cabinate, 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.

**Building**

Fire Alarm systems shall be installed per Sec. 907 of the IBC 2009

# 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.**

1.

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.

# Fire conditions

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3/3/11

| | | | | | |
|---|---|---|---|---|---|
| **Job Type:** | Fire Alarm / Suppression | **Job Description:** | 446 Fore St FACP Basement | **Job Year:** | 2011 |
| **Building Job Status Code:** | Initiate Plan Review | **Pin Value:** | 785 | **Tenant Name:** | |
| **Job Application Date:** | | **Public Building Flag:** | N | **Tenant Number:** | |
| **Estimated Value:** | 4,000 | **Square Footage:** | | | |
| **Related Parties:** | | PORT RETAIL HOLDINGS OLD | | *Property Owner* | |
| | | Eastern Fire Protection Co.,Inc - Eastern Fire Protection Co.,Inc Eastern Fire Protection Co.,Inc | | *SPRINKLER CONTRACTOR* | |

## 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: 4836

#### Location Details

| Alternate Id | Parcel Number | Census Tract | GIS X | GIS Y | GIS Z | GIS Reference | Longitude | Latitude |
|---|---|---|---|---|---|---|---|---|
| S37199 | 032 R 008 001 | | M | | | | -70.254806 | 43.655583 |

| | Location Type | Subdivision Code | Subdivision Sub Code | Related Persons | Address(es) |
|---|---|---|---|---|---|
| | 1 | | | | 446 FORE 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 |
|---|---|---|---|---|---|---|---|---|
| RETAIL & PERSONAL SERVICE | | NOT APPLICABLE B-3 | | | Historic District | | DISTRICT 2 | CENTRAL BUSINESS DISTRICT |

#### Structure Details

### Structure: Loc id 000004835 Alt id 000892

**Occupancy Type Code:**

| Structure Type Code | Structure Status Type | Square Footage | Estimated Value | Address |
|---|---|---|---|---|
| Commerical Mixed Use | 6 | 1873,08 | | 446 FORE STREET WEST |

| Longitude | Latitude | GIS X | GIS Y | GIS Z | GIS Reference | | User Defined Property | Value |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | M | | | | | | |

### Structure: Loc id 000046306 Alt id S37199

**Occupancy Type Code:**

Laurie                    Not in Que

# 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: **446 Fore Street**    CBL: _____

Exact location: (within structure) **FACP in Basement**

Type of occupancy(s) (NFPA & ICC): **Business/Apartment**

Building owner: **Old Port Retail Holdings, LLc**
                Must be
System Designer (point of contact): **Brian Baird**

Designer phone: **207-784-1507**    E-mail: **bairdbw@teameastern.com**

Installing contractor: **Eastern Fire Services**    Certificate of Fitness No: **1024**

Contractor phone: **207-784-1507**    E-mail: **bairdbw@teameastern.com**

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          ☒ Scope of Work              COST OF WORK: **$4,000**

☐ Wiring diagram       ☒ 11 ½ x 17s                 PERMIT FEE: **60**
                                                     ($10 PER $1,000 + $30 FOR THE FIRST $1,000)
☐ Annunciator details  ☒ pdf copy (may be e-mailed)

☒ Input/ Output Matrix ☐ Designer qualifications     RECEIVED

☒ Equipment data sheets ☒ Battery/ voltage drop calcs

☐ Electrical Permit Pulled (check alarm/com)         MAR - 3 2011

Master box approval only:   YES ◯    NO ◯           Dept. of Building Inspections
   (If yes check *New AES Master Box* above)                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: *Brian H Baird*    Date: **3/3/11**

FORE ST.

# I/O MATRIX

| INPUTS | OUTPUTS |
|---|---|

**INPUTS**

SMOKE DETECTOR
MANUAL STATION
WATERFLOW

**OUTPUTS**

ACTIVATE HORN/STROBES
SHOW ALARM ON FACP/ANN
ACTIVATE DIALER - ALARM

SPRINKLER TAMPER
SPRINKLER LOW AIR

ACTIVATE DIALER - SUPERVISORY
SHOW SUPV. ON FACP/ANN

TROUBLE

ACTIVATE DIALER - TROUBLE
SHOW TBL ON FACP/ANN

446 Fore St.

# SCOPE OF WORK

| | |
|---|---|
| 1 | Replace existing defective FACP in basement with new Addressable panel |
| 2 | Install conventional zone modules for existing non-addressable circuits |
| 3 | Connect existing notification appliances to new panel. |
| 4 | Properly connect sprinkler flow, tamper, and low air to fire alarm system |
| 5 | Install new remote annunciator in 1st fl entry lobby to apartments |
| <u>6</u> | Repair/replace existing devices as needed to correct system deficiencies |
| | (new initiating devices to be addressable) |

# SUBMITTAL DOCUMENTS

FOR

## 446 FORE STREET
### PORTLAND, MAINE

## CONTRACT: OLD PORT RETAIL HOLDINGS, LLC.

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# FireSeeker Fire Alarm System

## Addressable Fire Alarm Control Panel
## Model FS-250

### ───── ARCHITECT AND ENGINEER SPECIFICATIONS ─────

- One (1) Intelligent Signaling Line Circuit (Style 4 or Style 6)
- SLC loop supports up to 252 addressable Inputs and signal / relay outputs
  — 504 total inputs / outputs
- *SureWire*™ polarity insensitive addressable-device loop wiring
- Devices operate on standard wire; no twist or shield required
- *FirePrint*™ application-specific fire detection
- Four (4) Class B — Style Y / Two (2) Class A — Style Z notification-appliance circuits
- Up to 6 Amps. — NAC Power
- Built-in strobe synchronization protocol
- 80-character backlit LCD display
- One-man walk test (Silent or Audible)
- Auto Program Feature makes system commissioning more efficient
- Up to four (4) remote LCD displays with control capabilities
- Easily programmable from front keypad or Windows®-based PC configuration tool (not required)
- Maintenance and technician-level passwords for added security
- Optional internal DACT and city-tie module
- Up to 2,000-event history log
- Manual fan-restart feature

- Made in the USA, ISO 9001 quality crafted
- Three (3) on-board, programmable relays, plus one (1) non-programmable *Fail / Safe* relay for *Trouble* events
- ®UL 864 9th Edition Listed; FM, CSFM & NYMEA Approved

## Product Overview

The Model FS-250 Addressable Fire Alarm Control Panel is a low-cost, small panel suited for standalone operation in small-to-medium-sized facilities. Model FS-250 features a single, addressable input-device circuit and four (4) notification-appliance circuits. The Model FS-250 system is available in either a black or red enclosure, with operating controls and indicators behind a locked door. Model FS-250 is ®UL 864 9th Edition Listed by Underwriters Laboratories.

## Specifications

Model FS-250 indicates *Alarm*, *Trouble* and *Supervisory* conditions with an 80-character backlit LCD display and integral system status LEDs. *Acknowledge;*

*Alarm Silence* and *System Reset* commands are accomplished with built-in membrane control buttons. Basic user and maintenance-level functions, such as *Viewing History* or *System Enable / Disable,* are also accomplished through the membrane control buttons. Maintenance-level functions are password protected.

The main system for Model FS-250 can support up to 38 AH battery sets — up to 12 AH will fit inside the enclosure.

The basic Model FS-250 fire alarm control panel features a single, addressable signaling line circuit (Style 4 or 6); capable of supporting up to 252 addressable input devices — whether they are detectors, manual pull stations, or contact monitoring points.

**FireSeeker Fire Alarm Control Panel (FS-250)** **4306**

## Specifications — (continued)

Each detector can also have an optional, audible-detector base, relay-detector base or remote lamp. These auxiliary devices are completely controlled through logic, and are not required to activate simultaneously with the detector.

The Model FS-250 system also has four (4) Class B notification-appliance circuits built into the main board, which can be configured as two (2) Class A circuits. Each circuit has a capacity of 1.5 amps of 24VDC for powering horns, strobes, chimes, and other notification appliances, and the total base-system capacity for the four (4) circuits is 3.0 amps — expandable to 6A max. Each NAC is fully programmable, and supports standard and custom-coded outputs of audible devices.

Model FS-250 control panel has three (3) programmable 'Form C' dry-contact relays. One (1) additional non-programmable 'Form C' dry-contact relay is provided that activates only on *Trouble* events — operating in *Fail / Safe* mode in order to activate if there is a system power failure. Each relay is rated at 1 amp @ 28VDC. Up to 0.5A auxiliary 24VDC power is also available on the Model FS-250 main board.

## Minimum Control Unit Configuration

### Intelligent Signaling Line Circuit (SLC)
The main termination board for Model FS-250 has addressable-loop interface circuitry supporting one (1) SLC loop. Devices are polarity insensitive, and can operate on untwisted, unshielded wire.

### Notification Appliance Circuits (NAC)
The Model FS-250 base panel has four (4) independent NACs. Each circuit can be configured to give continuous output, or one (1) of five (5) sounding patterns. NACs can be configured as: two (2) 'Class A — Style Z' or four (4) 'Class B — 'Style Y.'

### Dry Contacts
Three (3) programmable 'Form C' dry-contact relays are provided on the Model FS-250 fire alarm control panel. One (1) additional 'Form C' dry-contact relay is provided that activates only on *Trouble* events. This relay operates in *Fail / Safe* mode, in order to activate if there is a power failure of the Model FS-250 system.

### Power Supply
This component provides all operating power to the Model FS-250 panel for *Standby* and *Alarm* conditions.

## Optional Control Unit Configuration

### Digital-Alarm Communication Transmitter (FS-DACT)
Communication between the FS-250 fire alarm control panel and a monitoring station is accomplished with Model FS-DACT, which supports two (2) lines and two (2) accounts, and can transmit serial data, by point, to the central or remote station.

Communication protocols available include:
- SIA DCS 8
- SIA DCS 20
- Ademco Contact ID
- 3/1 1400 Hz
- 3/1 2300 Hz
- 4/2 1400 Hz
- 4/2 2300 Hz

Model FS-DACT mounts within the Model FS-250 fire alarm control panel. Neither an external enclosure nor wires are required between the panel and the dialer. Programming of account and dialing data is done as part of the system configuration, and no external programmer for the dialer is required.

### Municipal Tie / Leased Line (FS-MT)
For installations that require connection to a municipal call box or a leased line, the municipal tie module (Model FS-MT) is used. Model FS-MT provides a local-energy output for municipal call-box connection, and gives a reverse-polarity output for lease-line connection. Model FS-MT mounts within the FS-250 enclosure. Model FS-MT parameters are programmed at the time of system configuration.

## Auxiliary Devices

Model FS-250 panel supports up to four (4) remote LCD displays and eight (8) serial annunciators or serial relay units.

### Remote LCD Annunciator (FS-RD2)
Model FS-250 supports a remote LCD display — Model FS-RD2, which uses the same 80-character, backlit LCD display found on the main FS-250 fire alarm control panel. Model FS-RD2 has remote *Acknowledge*, *Alarm Silence*, and *System Reset* capability that is secured with a keyswitch. User-level functions are accessible from Model FS-RD2.

Model FS-RD2 communicates with Model FS-250's main system board, via a RS-485 communication network. Up to four (4) Model FS-RD2 remote displays can be supported on a single FS-250 fire alarm control panel. Model FS-RD2 mounts in a 2"-deep, 6-gang electrical box, and the plate on the display is suitable for flush mounting.

### Programmable Remote Relays (FS-RU2)
Programmable relays are available on the Model FS-250 control panel. A remote processor board (Model FS-RU2) communicates with the main system board, via a RS-485 communication network. Model FS-RU2 processor board controls a relay board mounted adjacent to it.

## Specifications — (continued)

The relay board has eight (8) Form C relay contacts — rated at 1 amp at 28VDC maximum. Model FS-RU2 relay unit contains one (1) processor board and one (1) relay board, totaling eight (8) relays.

Each processor board can support up to three (3) relay boards simultaneously, totaling 24 programmable relays per processor board. Additional relay extender boards are available, Model FS-RE8. A total of eight (8) processor boards can be supported simultaneously by each FS-250 control panel.

### Programmable Serial Annunciator Drivers (FS-SAU2)

Programmable serial annunciator drivers are available on the Model FS-250 control panel. A remote processor board communicates with the main system board, via a RS-485 communication network. This processor board controls a serial-annunciator driver board mounted adjacent to the remote processor board. The driver board has 16 outputs for LEDs. All serial-annunciator outputs are supervised.

Model FS-SAU2 serial-annunciator unit contains one (1) processor board and one (1) serial-annunciator driver board to add 16 LED drivers. Each processor board can support up to four (4) additional driver boards simultaneously, totaling 64 programmable serial-annunciator drivers per processor board.

Additional serial annunciator extender boards are available as Model FS-SAE16. A total of eight (8) processor boards can be supported simultaneously by each Model FS-250 control panel.

### Programming / Configuration Options

Configuration of the FS-250 control panel can be accomplished in two ways: First, the operator interface includes a 16-button keypad. This keypad can be used to configure all system parameters — including custom messages and logic — directly at the panel with no other configuration tools. Secondly, the Model FS-CT2 configuration tool can be used on a laptop computer to upload, download, and edit the system configuration.

Model FS-CT2 configuration tool includes a connection cable for use between the FS-250 fire alarm control panel and a 9-pin serial connection on a laptop computer running Model FS-CT2 software. Use of Model FS-CT2 software requires a computer that runs on a Windows®-based PC operating system. Model FS-CT2 configuration tool can be used to generate configuration reports and download and print history.

Custom messages for system addresses consist of two (2) lines — 20 characters per line. The characters include upper and lower case letters as well as numbers, punctuation marks, and control characters. This 40-character custom message will be displayed for all events at that address.

## Technical Data

| Environmental: | Operating Temperature: 32-120°F (0-49°C) Relative Humidity: up to 93% @ 90°F (32°C) |
|---|---|
| Primary Power Supply: | Primary Input Voltage: 120 VAC (60 Hz.) Maximum Primary Input Current: 2.4 Amps. @ 120 VAC |
| Secondary Power Supply: | 24-volt, lead-acid battery with 7AH - 38AH capacity |
| Auxiliary Power Outputs: | Current - 0.5 Amp with resettable and non-resettable power outputs |
| System Status Relays: | Four (4) relays rated @ 1 Amp, 28 VDC resistive |
| Notification Appliance Circuits: | Rating per NAC circuit, 1.5A each, 6A max. |
| Battery: | Base cabinet accommodates a 12 AH battery set. Larger batteries require separate enclosures. |
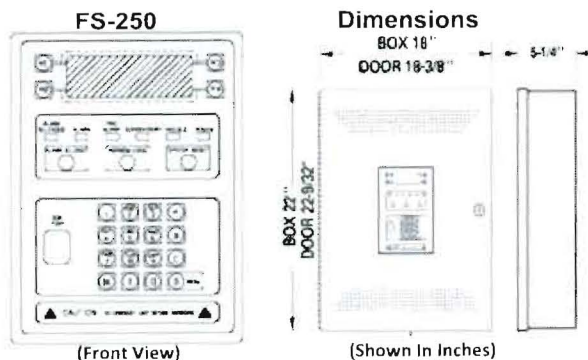
**FS-250**



(Front View)

**Dimensions**



(Shown In Inches)

## Details for Ordering

| Model Number | Part Number | Description |
|---|---|---|
| FS-250-EKIT | 599-050586 | FS-250 Electronics Package Includes: FS-250-CON (1 Qty.) FS-NPE (2 Qty.) |
| FS-250-ENCL | 500-648952 | FS-250 Enclosure, Black |
| FS-250-ENCL-R | 500-648953 | FS-250 Enclosure, Red |

### Optional Accessories

| Model Number | Part Number | Description |
|---|---|---|
| FS-RD2-R | 500-649400 | Remote Annunciator, Red |
| FS-RD2 | 500-648980 | Remote Annunciator, Black |
| FS-RU2 | 500-649308 | Relay Processor Card |
| FS-RE8 | 500-699467 | 8-Relay Extender |
| FS-SAU2 | 500-649307 | Serial Annunciator Processor Card |
| FS-SAE16 | 500-699469 | 16-Output Annunciator Extender |
| FS-DACT | 500-699464 | Serial Digital Alarm Comm. Transmitter (DACT) |
| FS-MT | 500-699462 | Municipal Tie Module |
| FS-SFT-R | 500-648955 | Semi-Flush Trim, Red |
| FS-SFT | 500-648954 | Semi-Flush Trim, Black |
| FS-NPE | 500-649120 | NAC Power Expander Transformer |
| HFPO-11 | 500-034800 | Photo-Only Detector |

# Wiring Diagram
## Main Termination Board

Addressable Loop Circuit

Addressable Device Circuit
Style 4 | Class B | or Style 6 | Class B | Operation
24VDC nominal

Wire Resistance: 50 ohms max.
I See Line Owner's Manual for Resistance Graph |

Supervised, Power Limited
I See Owner's Manual for Compatible Devices |

**NAC Rating:**

| | |
|---|---|
| Alarm Voltage: | 24V FW nominal |
| Max. Alarm Current: | 1 5A/NAC circuit |
| Max. Ripple: | 16VAC |
| Max. Wire Voltage Drop: | 1.0VDC |
| Max. Standby Current: | 3.4mA |

**NOTE:**
The maximum total current for the FS-250 NACs is 3.0A and 6.0A
with the optional additional Transformer P/N FS-NPE

Typical Notification
Appliance Circuit
Style Z, Class A
Supervised, Power Limited
See Owners Manual for
Compatible Devices

Typical Notification
Appliance Circuit
Style Y, Class B
Supervised, Power Limited
See Owners Manual for
Compatible Devices

NAC 3

NAC 1,2

See Typical Wiring

Polarity Shown
In Alarm Condition

Addressable Device Circuit

IN

OUT

Diagnostic Printer Circuit

Auxiliary Power Circuit

Serial Interface Circuit.
I-, -I 24VDC nominal, 0.4 max
IX+, X-I RS-485 levels
Wire Type-Twisted Pair For Data
Wire Resistance-11 ohms/line (4000' max)
Supervised, Power Limited,
See Owner's Manual for
Compatible Devices

Diagnostic Printer Circuit

Programmable Relay Circuit 1
Programmable Relay Circuit 2
Programmable Relay Circuit 3
Trouble Relay Circuit 4
NAC Circuit

Auxiliary Power Outputs
0.4A max. @24VDC nominal
Unsupervised, Power Limited
Maximum current of all auxiliary outputs
circuits, Serial Interface Circuit and
option boards is: 0.5A

Status Relay Contacts
IShown in normal standby condition I
1A 28VDC max Resistive For Power
Limited Source, Unsupervised

# SIEMENS

# FS-DACT

## Digital Alarm Communication Transmitter
## for the FireSeeker FS-250 System

--- **ENGINEER AND ARCHITECT SPECIFICATIONS** ---

- (UL) UL Listed for Central Station/Remote Station Monitoring (NFPA 72 Chapter 4)

- Four separate monitoring accounts available

- Two phone lines available

- Can send serial information to monitoring station

- Reports in 8 standard communication formats

- Automatic 24 hour test available

- Mounts within the FS-250 enclosure directly on the main processor board

- All programming is done as part of the FS-250 configuration
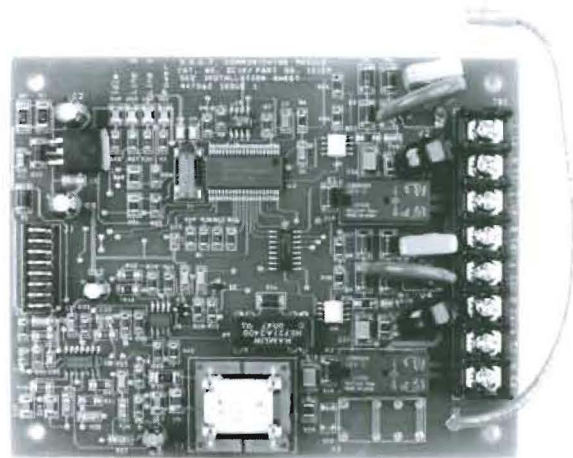
The Model FS-DACT Digital Alarm Communication Transmitter is used to provide communication between the FS-250 and a central or remote monitoring station. The FS-DACT supports two lines and four accounts, and can transmit serial information (including the address of the event) to the monitoring station. Any of the accounts can send alarm, supervisory, trouble, reset, or trouble restore information (or any combination) as required. Communication protocols available include SIA DCS 8, SIA DCS 20, Ademco Contact ID, 3/1 1400 Hz, 3/1 2300 Hz, 4/2 1400 Hz and 4/2 2300 Hz. The FS-DACT can perform the automatic 24 hour test required by NFPA.

The FS-DACT mounts within the FS-250 enclosure on an 8-pin connection point on the main board. No external enclosure is required, and no wires are required between the panel and the dialer. Programming of account and dialing information is done as part of the system configuration. No external programmer for the dialer is required, and dialer information can be downloaded as part of the system configuration.

## Ordering Information

| Model Number | Description | Part Number |
|---|---|---|
| FS-DACT | Digital dialer for the FS-250 | 500-699464 |

# SIEMENS

# FS-RD2

## Remote LCD Annunciator for the FireSeeker FS-250 System

### ENGINEER AND ARCHITECT SPECIFICATIONS

- 4 x 20 Character Backlit Display

- System Status LEDs

- Optional local sounder

- Built-in lamp test button

- Integral System Control Capabilities
  (with keyswitch)

- Integral System Maintenance access
  (with keyswitch and password)

- (UL) UL Listed

The Model FS-RD2 Remote Display is used for annunciating system events remotely from the fire alarm control panel on the FireSeeker FS-250 system. The FS-RD2 will mimic the system status LEDs and the 80-character event message found on the main system panel. The 4 x 20 LCD backlit display will illuminate upon receiving any event from the system, or upon pressing any button on the FS-RD2.

System Acknowledge, Silence and Reset Capabilities are available on the FS-RD2. The control functions must be enabled using the integral keyswitch. Up to sixteen supervised FS-RD2 annunciators can be used simultaneously on the FireSeeker FS-250 system.

Mounting is accomplished using a standard 6 gang 2" deep electrical box. The FS-RD2 requires a 2-wire data connection from the RS-485 port on the FS-250, as well as 24 VDC power. Maximum wire loop resistance is 25 ohms.

## Ordering Information

| Model Number | Description | Part Number |
|---|---|---|
| FS-RD2 | Remote LCD display for the FS-250 | 500-648980 |

# FireFinder XLS

## Remote Conventional Zone Module
## Model HZM

### ──────── ARCHITECT AND ENGINEER SPECIFICATIONS ────────

- Provides distributed conventional zoning
- One (1) conventional initiating device circuit
- Connects to FireFinder XLS circuits
- Powers up to 15 Series 3 or 11 smoke detectors
- Powers one (1) beam detector (PBA-1191) with no additional devices
- Unlimited shorting devices per circuit
- Class A (Style D) or Class B (Style B)
- Multicolor LED for status indication
- 32-character, custom alphanumeric message
- Alarm-verification capability
- *WalkTest* capability
- No mechanical-address programming required
- Includes metal cover plate
- Circuits power limited, per NEC 760
- ®UL 864 9th Edition Listed and ®ULC Listed; FM, CSFM & NYMEA Approved
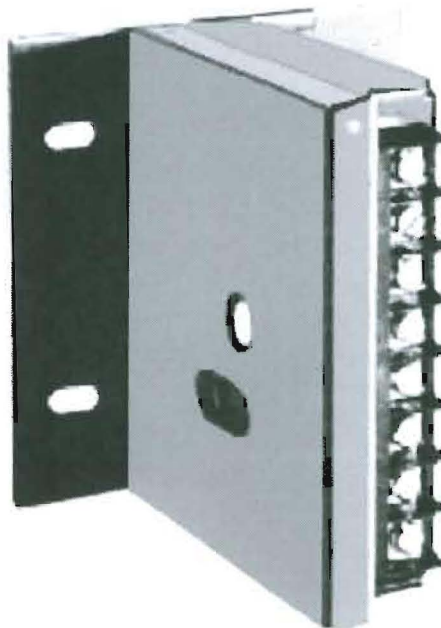
## Product Overview

Model HZM is a FireFinder XLS intelligent device that connects a single zone of conventional devices to an analog loop. Model HZM can power up to 15 Series 3 and Series 11, two-wire ionization and photoelectric smoke detectors. Model HZM can power one (1) beam detector (PBA1191) with no additional devices, and can also monitor listed alarm-causing shorting devices, such as: water-flow switches, thermal detectors, manual stations, etc.

Each Model HZM can be assigned a 32-character, custom alphanumeric message. The multicolor LED — visible through the cover plate — indicates the condition of the circuit. The multicolor LED displays 'red' for *Alarm*, 'yellow' for *Trouble* and 'green' for *Normal* operation.

Model HZM supports Class A (Style D) or Class B (Style B) wiring. Model HZM occupies one (1) address on the Model DLC circuit, and does not require any mechanical address programming. Model HZM is programmed and tested using the Siemens Industry, Inc. — Fire Safety Division's Device Program / Test Unit (Model DPU).

## Application

Use of Model HZM modules allows a system to be designed using a combination of intelligent and conventional devices with a substantial reduction in wire.

Intelligent devices can be employed in those areas requiring pinpoint annunciation, as well as analog-detection features. Common or other areas can be protected using conventional-zone detection connected to Model HZM circuits.

The method of 'distributed conventional zoning' through the use of modules connected to intelligent circuits can result in a substantial installed cost savings.

## Temperature and Humidity Range

Products are ®UL 864 9th Edition listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and at a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/2°C).

**Remote Conventional Zone Module 6330**

## Technical Data
### – HZM Electrical Ratings –

| Initiating Device Zone | |
|---|---|
| Max. Zone Resistance | 35 ohms Total |
| Supervisory Voltage Range | 18-24.5VDC |
| Max. Zone Current | 34mA |
| **24VDC Power** | |
| Voltage Range | 18.8-28.2VDC |
| Max. Current | 100mA |

## Compatibility Devices
### – For use with HZM –

| Detector | Base | Installation Instructions |
|---|---|---|
| DI-3/3H | DB-3S | 315-081943-17 |
| DI-A3/A3H | DB-3S | 315-081943-17 |
| DI-B3/B3H | AD-3I | 315-093234-6 |
| DT-3P-135 | DE-3S | 315-017545-3 |
| DT-11 | DB-11, DB-3S with DB-ADPT | 315-095429-2 |
| PB-1191 | PBB-1191 | 315-095424-3 |
| PE-3 | DB-3S<br>AD-3ILP | 315-090875-7<br>315-093234-6 |
| PE-11/11T | DB-11, DB-3S with DB-ADPT<br>AD-11P | 315-094198-9<br>315-095659-8 |

✓ Use up to 15 detectors, any combination of those listed

✓ Only one (1) Model PB-1191 and no additional devices can be connected to each Model HZM

✓ Detector operated accessories cannot be used with Model HZM

✓ Model DT-3P-135 is considered a shorting device. You may use an unlimited number of shorting devices

✓ The model numbers listed are the ⓊUL Listed compatibility identifiers

## Wiring Diagrams



Model HZM
Initiating Devices Wiring Diagram
Style D (Class A) Installation

Model HZM
Initiating Devices Wiring Diagram
Style B (Class B) Installation
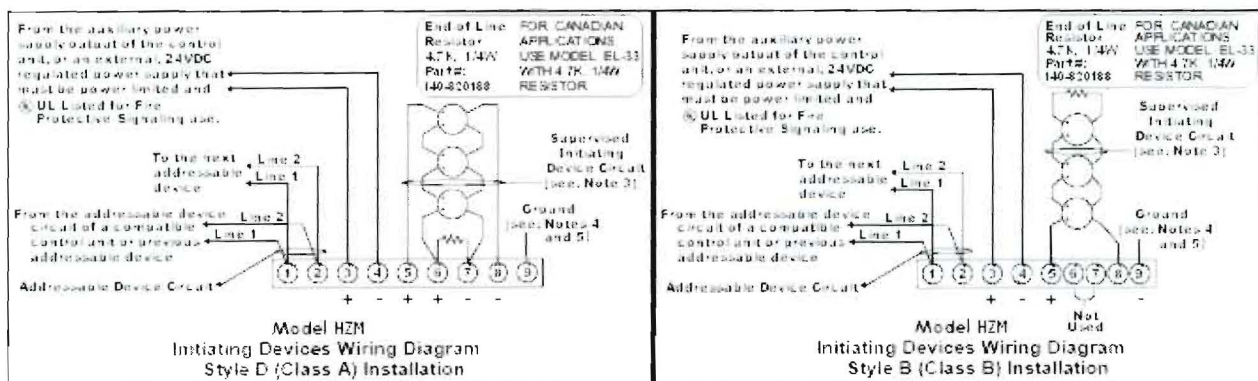
NOTES:
1. All circuits are power limited.
2. Initiating Device Circuit cable requirements: Wire size 18 to 14 AWG
3. If Earth Ground is available, the green wire should be connected to earth ground.
4. If Earth Ground is NOT available, the IDC wiring should be limited to the same room.
5. Model HZM draws 1mA from the addressable device circuit.

**Notice:** This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

# FireFinder XLS & FS-250 Control Panels

## Addressable *FirePrint*™ Detector
## Model HFP-11

### ———ARCHITECT AND ENGINEER SPECIFICATIONS———

- Most sophisticated 'detector intelligence' available
- Multi-criteria fire detection for the price of a photoelectric detector
- *FirePrint*™ technology to differentiate between deceptive phenomena and an actual fire
- Easily programmed to match specific hazard profiles from the control panel
- Polarity insensitive utilizing *SureWire*™ technology
- Pre-alarm reporting based on fire profile selected
- Remote sensitivity-measurement capability
- System logic activation based on any of three (3) inputs from the detector (smoke, heat or neural network)
- Detectors are self-testing:
  - complete diagnostics every four (4) seconds
- Two-wire operation
- Multi-color detector status LED
- Field-cleanable chamber with replaceable chamber parts available
- Compatible with Model DPU (device programmer / tester unit)
- Supports software-based automatic environmental compensation
- Optional fully programmable relay base, audible base and duct housing
- ⓊUL and ⓊULC Listed;
  FM, CSFM & NYMEA Approved
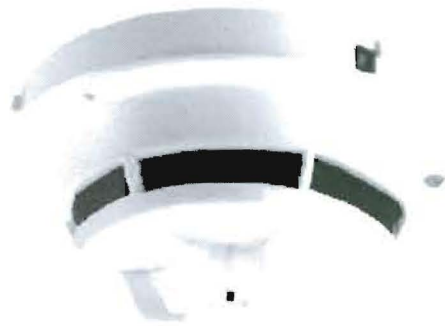
## Product Overview

Model HFP-11 utilizes advanced detection technology that allows the detector to distinguish non-threatening deceptive phenomena — such as cigarette smoke, from actual fire hazards, while optimizing detection for the area it is intended to detect. Model HFP-11 uses state-of-the-art microprocessor circuitry with error check, detector self-diagnostics and supervision programs.

Model HFP-11 is compatible with the Siemens — Fire Safety field device program / test unit (Model DPU), which is a compact, portable, menu-driven accessory for electronically programming and testing detectors, easily and reliably. Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods — such as dials or switches, and reduces installation and service costs by electronically programming and testing the detector prior to installation. Model HFP-11 is compatible with FS-250 and Fire Finder XLS-series control panels.

Model HFP-11 is ⓊUnderwriters' Laboratory and ⓊUnderwriters' Laboratory of Canada listed.

## Specifications

Model HFP-11 is a plug-in, two-wire and multi-sensor detector (with both photoelectric and thermal inputs) that is compatible with Fire Finder XLS and FS-250 series of control-panel systems. Each detector consists of a dust-resistant, field-cleanable and photoelectric chamber; a solid state, non-mechanical thermal sensor, and microprocessor-based electronics with a low-profile plastic housing. Model HFP-11 utilizes state-of-the-art ASIC circuitry and surface-mount technology for maximum reliability.

Every Model HFP-11 fire detector is shipped with a protective dust cover. Model HFP-11 utilizes an infrared light emitting diode (IRLED), and light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

**SIEMENS** Industry, Inc.
Building Technologies Division

## Specifications – (continued)

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles, and is received by the photodiode.

Model HFP-11 also utilizes a modern, accurate and shock-resistant thermistor to sense temperature changes. The 'on-board' *FirePrint*™ technology allows the detector to first gather smoke and thermal data, and then analyze this information in the detector's 'neural network.' By comparing data received with the common characteristics of fires or fire fingerprints, Model HFP-11 can compare these 'fire prints' to those of deceptive phenomena that cause other detectors to false alarm.

### *FirePrint*

The advanced *FirePrint* technology allows Model HFP-11 to accurately determine a true fire hazard from unthreatening, deceptive phenomena. Further, the advanced *FirePrint* technology will not require a need to use alarm-delaying verification and confirmation techniques, which can increase the probability of losses due to fire. Model HFP-11 provides the highest level of detector intelligence available today with a detector / control panel link that allows the user to program the detector for the specific hazard profile, using a simple software menu selection.

Model HFP-11's *FirePrint* application monitors input from both the photo chamber and the thermal sensor, evaluating this information with sophisticated mathematical formulas or algorithms, comparing this input to characteristics of both threatening fires and deceptive phenomena that would mislead any ordinary detector.

Detectors are optimized by selecting one (1) of the following 11 applications:

- Office / Retail
- Lobby
- Computer room
- Dormitory
- Healthcare
- Parking garage
- Utility / Transformer room
- Hostile environment
- Precious storage
- Air Duct
- Warehouse / Light Manufacturing

The control panel programs Model HFP-11 detector for the protected area without hassle and without confirmation delays. Once optimized for the hazards in the protected area, Model HFP-11 provides the best detection. Should the operator or installer forget to program the detector, Model HFP-11 will revert to a default setting, allowing operation as an office-environment detector.

**SIEMENS Industry, Inc.**
Building Technologies Division

The *FirePrint* technology was developed over years of research and reviewing the results of over 20 years of fire test data in one of the world's most advanced fire-research centers.

The results of this research are the mathematical models that form the algorithms used in *FirePrint*. No other fire detector has this level of intelligence or this amount of research and development supporting its design. The microprocessor's software can identify and disregard false input caused by radio frequency (RFI) and electromagnetic (EMI) interference, while validating all *Trouble* conditions before annunciating or reporting to the control panel.

## Model HFP-11

The Model HFP-11 detector's microprocessor uses an integral EEPROM to store the detector's address and other critical operating parameters, which include the assigned program values for *Alarm* and *Trouble* thresholds.

Communication within the detector, as well as between Model HFP-11 and the control panel, or with Model DPU (field device programmer / test unit), are supervised and safe-guarded against disruption by reliable, microprocessor-based error checking routines.

Additionally, the micro-processor supervises all EEPROM memory locations, and provides a high degree of EEPROM-failure fault tolerance. Model HFP-11 determines its operating status to be *Normal* in *Alarm* or in *Trouble* modes, depending on the difference between the alarm threshold values stored in the detector's memory and the detector's latest analog measurement.

The detector then communicates changes in its status to the control panel. In addition, the FireFinder XLS control panel will sample the value of the analog signal for Model HFP-11 over a period of time, in order to determine if those values indicate excessive buildup in the photo chamber. If such is the case, the FireFinder XLS control panel will indicate the particular detector requires maintenance.

Model HFP-11 is listed as a self-testing device. The visible light emitting diode (LED) for Model HFP-11 flashes 'green' every four (4) seconds to indicate it is communicating with the control panel, as well as to indicate it has passed its internal self-test. Should the detector sense a fault or failure within its systems, the LED will flash 'amber,' and the detector will transmit that data to the control panel.

A quick visual inspection is enough to indicate the condition of the detector at any time. If more detailed information is required, a printed report can be provided from the Fire Finder XLS panel, indicating the status and settings assigned to each individual detector. When Model HFP-11 moves to the *Alarm* mode, it will flash 'red,' and will continue flashing until the system is reset at the control panel. Simultaneously, any user-defined, system-alarm functions programmed into the system are activated.

## Specifications – (continued)

Detector sensitivity, calibration and identification are dynamically supervised by the fire-alarm control panel (FACP). Detector sensitivity and pre-alarm levels are a function of the application chosen at the control panel, and are controlled by the panel. If an alternate, non-*FirePrint* mode is selected, then the sensitivity can be changed from the control panel.

All Model HFP-11 detectors use a surface mounting base, Model DB-11, which mounts on a 4-inch octagonal, square or single gang electrical box. The base utilizes screw-clamp contacts for electrical connections and
self-wiping contacts for increased reliability. Model DB-11 can be used with the optional Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has integral decorative plugs to cover the outer mounting screw holes.

Model HFP-11 may be installed on the same initiating circuit with HMS series manual stations, HTRI series interfaces, HCP output control devices, or HZM series of addressable, conventional zone modules. All Model HFP-11 detectors can be cleaned in the field, when required, by simply removing the detector cover and unsnapping the photo chamber. There is also the option of cleaning the interior of the detector with a clean, soft cloth or brush, or by replacing the labyrinth and bug screen included in the detector maintenance kit, Model DMK-11.

All Model HFP-11 detectors are approved for operation within the ®UL-specified temperature range of 32 to 100°F (0 to 38°C).

### Model DPU

The Device Program / Test Unit accessory is used to program and verify the address of the detector. The technician selects the accessory's program mode, and enters the desired address. Model DPU automatically sets and verifies the address and tests the detector.

Model DPU operates on AC power or rechargeable batteries, providing flexibility and convenience in programming and testing equipment from practically any location.

When in the test mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

## Application Data

Installation of the Model HFP-11 series of fire detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model HFP-11 is polarity insensitive, which can greatly reduce installation and debugging time. Model HFP-11 fire detectors can be applied within the maximum 30 foot center spacing (900 sq. ft. areas,) as referenced in NFPA 72. This application guideline is based on ideal conditions, specifically, smooth ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to ventilation or heating and air conditioning outlets. Exposed joints or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens Industry — Fire Safety distributor or sales office whenever you need assistance applying *FirePrint* in unusual applications. Be sure to follow NFPA guidelines and ®UL Listed / ®ULC Listed installation instructions — included with every Siemens – Fire Safety detector — and local codes as for all fire protection equipment.

## Technical Data

| | |
|---|---|
| **Operating Temperatures:** | +32°F (0°C) to 100°F (38°C), per ®UL 268 / 268A |
| **Humidity:** | 0-93% Relative Humidity |
| **Non-condensing Maximum Spacing:** | 30-foot Centers (900 Square Feet), per NFPA 72 Chapter 5 and ®ULC-S524 |

## Mounting Diagram



6" (15.2 cms.)
DIAMETER BASE

HEIGHT
2.3"
(5.8 cms.)

OVERALL
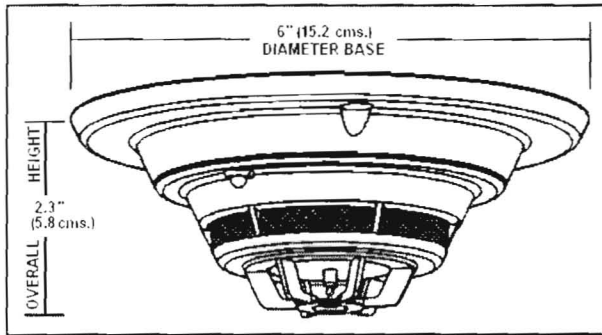
## Details for Ordering

| Model Number | Part Number | Description |
|---|---|---|
| HFP-11 | 500-033290 | Addressable *FirePrint*™ Fire Detector |
| DB-11 | 500-094151 | Detector Mounting Base for Series 11 |
| DB-11E | 500-094151E | Detector Base {small} |
| AD2-P | 500-649706 | Air-Duct Housing |
| AD2-XHR | 500-649708 | Air-Duct Housing {with relay} |
| DB-HR | 500-033220 | Relay Base for H-Series Intelligent Detectors |
| ADBH-11 | 500-033210 | Audible Base |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| LK-11 | 500-695350 | Base Locking Kit for Series 11 Detectors |
| DMK-11 | 500-695338 | Series 11 Maintenance Kit {replacement labyrinth and bug screen} |

### In Canada, order:

| Model Number | Part Number | Description |
|---|---|---|
| DB-11C | 500-095687 | Detector Mounting Base for Series 11 Detectors (ULC) |

**Notice:** This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

# MSM SERIES

## Metal Manual Fire Alarm Box

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### ENGINEER AND ARCHITECT SPECIFICATIONS

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- Rugged Die-Cast Metal Housing

- Reset Key Matches Control Panel

- Optional Break Glass Operation

- Single-Gang Semi-Flush Mount

- Optional Surface Mount Backbox

- Double-Action Institutional, Weather-Proof and Explosion-Proof Models Available

- (UL) UL Listed, ULC Listed, CSFM, FM and NYMEA Approved



**Standard Model Or Weatherproof**

**Institutional Model**

## Description

The MSM Series manual stations feature a rugged die-cast metal housing that satisfies both architectural and code requirements for manual fire alarm box initiation devices. The MSM-Series box features keyed reset using the same key as the control panels.

The MSM Series models are low-profile with all surfaces either painted or plated to inhibit corrosion. These boxes have raised lettering and are shipped with two reset keys and a break glass rod (use of rod is optional.) Options include: double action, institutional, weatherproof, and explosion-proof.

These stations are equipped with a S.P. S.T. switch rated at 10amps @ 120 VAC and all connections are made to a terminal block. The explosion-proof model has a D.P D.T. switch. **Both the weatherproof and explosion-proof models are shipped complete with backbox.** (Backbox is optional with other models, or you can mount to standard single-gang box.)

These models are intended for use with all Siemens Building Technologies, Fire Safety Division conventional zones, but can also be used with addressable zones when used in conjunction with a TRI-Series addressable module.

# Dimensions

Station

|       |                                                            |
|-------|------------------------------------------------------------|
| Width | 3.20 in.                                                   |
| Height| 4.75 in.                                                   |
| Depth | 1.20 in. (2.30 in. overall, including back of switch)      |

Station w/Double Action

|       |                                                            |
|-------|------------------------------------------------------------|
| Width | 3.33 in.                                                   |
| Height| 4.57 in.                                                   |
| Depth | 1.50 in. (2.60 in. overall, including back of switch)      |

Weatherproof Model

|       |          |
|-------|----------|
| Width | 3.20 in. |
| Height| 4.75 in. |
| Depth | 2.75 in. |

Explosion-proof Model

|       |                                                    |
|-------|----------------------------------------------------|
| Width | 3.20 in.                                           |
| Height| 4.75 in. (6.00 in. overall, including mounting ears)|
| Depth | 3.50 in.                                           |



**Double Action Model**

# Ordering Information

| Model Number | Description | Part Number |
|--------------|-------------|-------------|
| MSM-K | Manual Station, Metal w/Key | 500-698215 |
| MSM-KD | Manual Station, Metal w/Key, Double Action | 500-698216 |
| MSM-K-WP | Manual Station, Metal w/Key, Weatherproof | 500-698217 |
| MSM-KD-WP | Manual Station, Metal w/Key, Weatherproof, Double Action | 500-698218 |
| MSM-EXP | Manual Station, Metal w/Key, Explosion-proof | 500-698219 |
| MSM-INST | Manual Station, Metal w/Key, Institutional | 500-698220 |
| MSM-BOX | Surface Backbox for MSM-series Manual Stations | 500-698221 |



**Explosion-proof Model**

# SIEMENS

# HTRI-M Intelligent Device Interface Module

## For Use With the FireFinder-XLS and FS-250 Control Panel

### ENGINEER AND ARCHITECT SPECIFICATIONS

**Intelligent Interface Modules For FireFinder™ XLS and FS-250 Control Panels**

- Interfaces and Supervises Normally Open (Fire Detection) or Normally Closed Contacts (Security Detection)

- Compact Size Allows Mounting in Single Gang Box Behind Equipment

- Polarity Insensitive with SureWire™ Technology

- Operates with FireFinder XLS DLC Circuit

- Innovative Technology Supports Comprehensive System and Interface Communication

- Dynamic Supervision

- Two Wire Operation

- DPU Device Program/Test Unit Electronically Programs and Verifies Device's Address and Tests Device's Functionality

- (UL) ULC Listed
  CSFM, FM and NYMEA Pending

## Introduction

The HTRI-M Intelligent interface module is designed to provide the means of interfacing direct shorting devices to the FireFinder XLS or FS-250 system's DLC loop circuit.

The HTRI-M Intelligent interface module provides the market's most advanced method of address programming and supervision, combined with sophisticated control panel communication. Each HTRI-M interface module incorporates microcomputer chip technology and its sophisticated bi-directional communication capabilities with the control panel.

## Description

The HTRI-M is designed to monitor a normally open or closed dry contact and reports the contact's status to the control panel.

The device's microcomputer chip has the capacity of storing, in memory, identification information as well as important operating status information.

Siemens Building Technologies, Inc. innovative technology allows all HTRI-M intelligent interface modules to be programmed by using the DPU Device Program/Test Unit. The DPU is a compact, portable, menu driven accessory that makes programming and testing an interface device faster, easier and more dependable than previous methods. The DPU eliminates the need for mechanical addressing mechanisms, such as program jumpers, DIP switches or rotary dials, because it electronically sets the HTRI-M interface's address into the interface's microcomputer chip non-volatile memory. Vibration, corrosion and other conditions that deteriorate mechanical addressing mechanisms are no longer a cause for concern. This HTRI-M is connected to the program/tester with the programming cable provided with the tester. This cable (P/N 110-694927) utilizes two (2) alligator clip connectors, to attach to the HTRI-M.

The HTRI-M Series has five leads, one for grounding, which are wired to the system with user supplied wire nuts.

CATALOG NUMBER **6308**

The HTRI-M is fully compatible on the same DLC circuit with all intelligent H Series detectors, HMS Series addressable manual stations or any other H Series addressable intelligent modules, such as the HZM or HCP

All HTRI-M intelligent interface modules have been UL and ULC submitted.

Environmental operating conditions for all HTRI-M modules are 32°F (°C) to 120°F (49°C) with a relative humidity of not greater than 93% non-condensating.

## Ordering Information

| Model Number | Description | Shipping oz. | Weight kg. | Part Number |
|---|---|---|---|---|
| HTRI-M | Single Input | 3.5 | .1 | 500-034000 |
| HTRI-MC | ULC Model for Canada | 3.5 | .1 | 500-034000C |

## Electrical Ratings

Current Draw (Active or Standby): 1.5mA

# FireFinder XLS and FS-250 Panels

## HTRI Series Interface Modules
## Models HTRI-D, HTRI-R and HTRI-S

### —— ARCHITECT AND ENGINEER SPECIFICATIONS ——

- Interfacing and supervising normally open (NO) or normally closed (NC) contacts
- Integral SPDT relay on Model HTRI-R (up to 4 amps)
- Dual input on Model HTRI-D, using a single address
- Polarity insensitive with *SureWire*™ technology
- Multi-color light-emitting diode (LED) indicates status [green / amber / red]
- Easy front access to programming port and wiring terminals
- Mounts 4-inch square, 2-¼"-deep box (or double-gang box)
- Dynamic supervision
- Comes with 5-x-5" faceplate
- Two-wire operation
- Model DPU programs and verifies address of the device and tests for proper functionality
- Electronic address programming is easy and dependable
- ®UL Listed & ®ULC Listed;
  FM, CSFM and NYMEA Approved

## Product Overview

The Siemens Industry, Inc. — Fire Safety HTRI Series Intelligent interface modules are designed to provide the means of interfacing direct shorting devices to the FireFinder XLS and FS-250 Fire Alarm Control Panel loop circuit.

The HTRI Series modules provide the most advanced method of address programming and supervision on the market — combined with sophisticated control panel communication. Each HTRI Series interface module incorporates a microcomputer chip. The HTRI Series microcomputer chip technology and its sophisticated bi-directional communication capabilities with the control panel, achieve the state of an 'intelligent device.'

## Specifications

The HTRI Series intelligent interface modules are available in three (3) models. Models HTRI-S and HTRI-R are designed to monitor a (NO) or (NC) dry contact.

The interface module reports the status of the (NO) or (NC) contact to the control panel. Model HTRI-S can only monitor and report the status of the contact, while Model HTRI-R incorporates an addressable Form C relay.

The Model HTRI-R relay and contact device input are controlled at the same address. For the control panel system, the relay and input contact can be controlled as a separate function. The relay is typically used where control or shunting of external equipment is required.

The Model HTRI-D is a dual-input module that is designed to supervise and monitor two (2) sets of dry contacts. Model HTRI-D only requires one (1) address, but responds independently to each input. Model HTRI-D is ideal for monitoring a water-flow switch and its respective valve tamper switch.

Model HTRI has a multi-color LED that flashes 'green' when operating in *normal*; 'amber' if unit is in *trouble* condition, and 'red' to indicate a change of state.

**FireFinder XLS and FS-250 Panels 6304**

## Specifications (continued)

Model HTRI-D flashes twice — once for each address, and Model HTRI-R LED indicates a change of state in the relay. The device's microcomputer chip has the capacity of storing, in memory, identification information, as well as important operating-status information.

Siemens Industry, Inc., — Fire Safety innovative technology allows all HTRI Series intelligent interface modules to be programmed by using the Device Programming / Test Unit. Model DPU is a compact, portable and menu-driven accessory that makes programming and testing an interface device faster, easier and more dependable than previous methods.

Model DPU eliminates the need for mechanical addressing mechanisms, such as: program jumpers, DIP switches or rotary dials, since Model DPU electronically sets the HTRI Series interface address into the interface microcomputer-chip non-volatile memory. Vibration, corrosion and other conditions that deteriorate mechanical addressing mechanisms are no longer a cause for concern.

The HTRI Series is fitted with screw terminals for connection to an addressable circuit. The HTRI Series is fully compatible on the same FireFinder XLS and FS-250 circuits with all intelligent H-Series detectors, HMS Series addressable manual stations, or any other addressable intelligent modules, such as Model HZM or Model HCP.

All HTRI Series intelligent interface modules are ®UL listed. Environmental operating conditions for all HTRI Series modules are 32°F (°C) to 120°F (49°C) with a relative humidity of no greater than 93%, non-condensing.

## Electrical Ratings

Current Draw
(Active or Standby)                    1mA

Model HTRI-R Relay Ratings
Resistive:                             4 Amps, 125 VAC
                                       4 Amps, 30 VDC
Inductive:                             3.5A, 120 VAC (0.6P.F.)
                                       3.0A, 30 VDC (0.6P.F.)
                                       2.0A, 120 VAC (0.4P.F.)
                                       2.0A, 120 VAC (0.35P.F.)
                                       2.0A, 30 VDC (0.35P.F.)

## Mounting Diagram

Models HTRI-S, HTRI-D and HTRI-R mount directly into a 4-inch square, 2 ¼-deep box or a double-gang box (user supplied). A 5-inch square, off-white faceplate is included with each HTRI Series module.
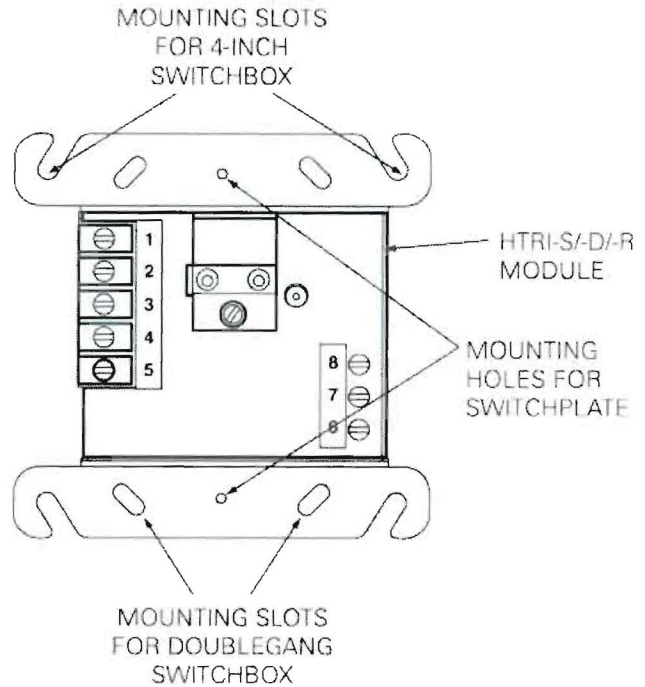


## Details for Ordering

| Model Number | Part Number | Description | Shipping Wgt. Lb. | Kg. |
|---|---|---|---|---|
| HTRI-S | 500-033370 | Single Input | 7 oz. | 2 |
| HTRI-R | 500-033300 | Single Input w/Relay | 7 oz. | 2 |
| HTRI-D | 500-033360 | Dual Input | 7 oz. | 2 |

**Notice**: This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

# '08 Series Notification Appliances

## ZH & ZR – Strobes, Horns, & Horn / Strobes | Application: Indoor



**ZH Series**

**ZR Series**

**(ZR & ZH Mounting)**

## Product Overview

- Strobes can be synchronized using the Siemens DSC sync modules, FS-250 panel, XLS panel, or PAD-3 power supply with built-in sync protocol
- Selectable Continuous Horn or Temporal (Code-3) Tones with 90 or 95 dBA selectable setting (ZH)
- Ceiling-mount models feature field-selectable Candela settings of 15/30/75/95cd and 115/177cd
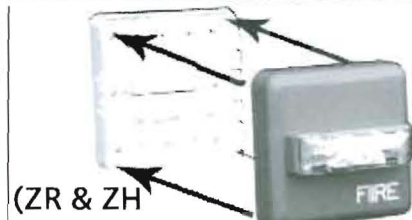- Wall-mount models feature field-selectable Candela settings of 15/30/75/110cd and 135/185cd
- Base plate is protected by a disposable cover, and the appliances can quickly snap onto the base after the walls are painted
- Strobes produce 1 flash per second
- "Special Applications" listed with Siemens panels
- EZ Mount Universal Mounting Plate (ZBB) – uses single plate for ceiling and wall mount installations
- EZ Mount design – with separate base plate – provides ability to pre-wire the base and test the circuit wiring before the walls are covered
- ®UL Listed & ®ULC Listed; FM, CSFM & NYMEA Approved
- ADA / NFPA compliant

## Specifications

- **General**
- Audible/Visual notification appliances shall be listed for indoor use only
- Appliances shall be listed under ®UL Standard 1971 (Standard for Safety Signaling Devices for Hearing Impaired) and ®UL Standard 464 (Fire Protective Signaling)
- Appliances shall use a universal back plate, which shall allow mounting to a single-gang, double-gang, 4-inch-square, 4"-octal, or a 3-1/2"-octal backbox
- Two-wire appliance wiring shall be capable of directly connecting to the mounting back plate
- Continuity check shall occur for entire NAC circuit prior to attaching any audible / visual-notification appliances
- Dust cover shall fit and protect the mounting plate
- Dust cover shall be easily removed when the appliance is installed over the back plate
- Removal of an appliance shall result in a trouble condition by the Fire Alarm Control Panel (FACP)

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Building Technologies Division

## Specifications – (continued)

- **Strobes**
- Strobe appliances shall produce a minimum flash rate of 60 flashes per minute (1 flash per second) over the Regulated Input Voltage Range, and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens
- Strobes shall be available with two or four field-selectable settings in one unit, and shall be rated – per ®UL 1971 – for up to:
  - 15/30/75/110cd for wall mounted
  - 135/185cd for wall mounted
  - 15/30/75/95cd for ceiling mounted
  - 115/177cd for ceiling mounted
- Strobes shall operate over an extended temperature range of 32°F to 120°F (0°C to 49°C), and be listed for maximum humidity of 95% RH
- Strobe inputs shall be polarized for compatibility with standard reverse-polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP)

- **Audibles and Audible / Strobe Combinations**
- Horns and horn / strobes shall be listed for Indoor use under ®UL Standard 464
- Horns shall be able to produce continuous synchronized output or a temporal code-3 synchronized output
- Horns shall have at least 2 sound-level settings of 90 and 95 dBA

- **Synchronization Modules**
- The strobe portion, when synchronization is required, shall be compatible with DSC sync modules, FS-250 panel, XLS panel, or PAD-3 power supply with built-in sync protocol
- The strobes shall not drift out of synchronization at any time during operation
- Audibles and strobes shall be able to synchronize on a 2-wire circuit with the capability to silence the audible, if required
- Strobes shall revert to a non-synchronized flash-rate, if the sync module or Power Supply should fail to operate (i.e. – contacts remain closed)
- All notification appliances shall be listed for Special Applications:
  - Strobes are designed to flash at 1-flash-per-second minimum over their "Regulated Input Voltage Range"
    - ➢ **Note:** NFPA-72 specifies a flash rate of 1-to-2 flashes per second, and ADA Guidelines specify a flash rate of 1-to-3 flashes per second
  - All candela ratings represent minimum-effective Strobe intensity, based on ®UL Standard 1971
  - Series ZH Strobe products are listed under ®UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%)
  - Series ZH horns are listed under ®UL Standard 464 for audible signal appliances (Indoor use only)

## Mounting Diagram
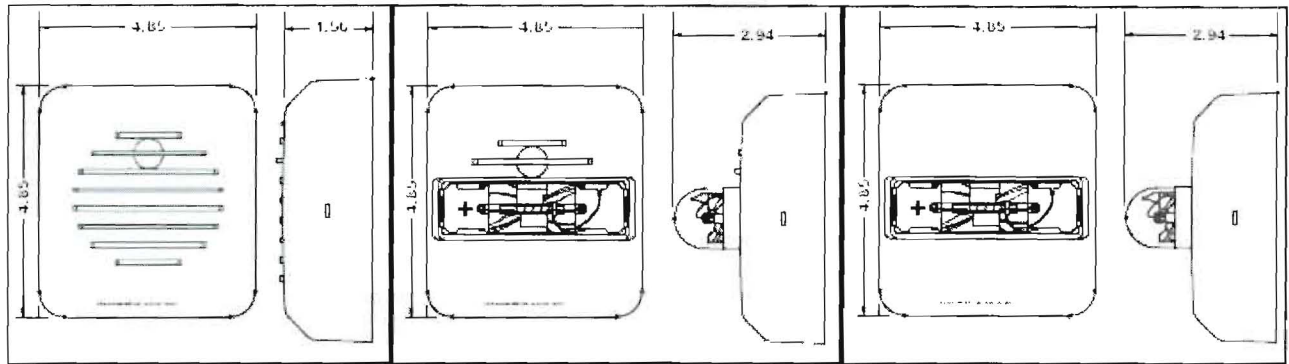


(Shown In Inches)

## Mounting Options



Figure 3: Installation

Figure 4: Removal (See step 8 below)

1. Install mounting plate as shown in figure 1 to a single-gang, double-gang, 4" square, 4" octagon, or a 3 ½" octagon backbox with the provided pan head screws. To remove dust cover, place thumb and index finger on top edges of cover and pull off cover.
2. Connect field wiring per figures 2 and 3.
3. Address wires back into backbox
4. Place dust cover over mounting plate to protect the terminals while performing wiring continuity check.
5. Remove dust cover before snapping or installing the appliance onto the mounting plate per fig 3.

6. Important: Device only has one mounting orientation. Match the top of the base to the top of the device.
7. If it is desired to further secure the device to the base, then two optional screws are provided. To install these screws punch out the screw holes located at the top and bottom of the device.
8. To remove the appliance, push a small flat-bladed screwdriver into the side opening. The screwdriver must clear the snap release opening by ¼" to disengage the snap. Do not pry off housing with the screw driver. Apply pressure with screw driver, inserted in either side opening, as shown in Fig 4 to release the housing.

## Technical Data

| | | ZH and ZH-MC Horn Reverberant dBA per UL464 [ZH-MC and ZH at 24V] | | |
|---|---|---|---|---|
| | | 16.0V | 24V | 33.0V |
| Continuous Horn | High | 83 | 87 | 90 |
| | Low | 77 | 81 | 83 |
| Code 3 Horn or March Time* | High | 79 | 82 | 86 |
| | Low | 72 | 76 | 79 |

*Available in sync mode only

| | ZH Horn Current Draw | |
|---|---|---|
| In (Amps) | Horn Setting | 16-33 Volts |
| DC | High* | 0.044 |
| | Low* | 0.018 |
| FWR | High* | 0.075 |
| | Low* | 0.045 |

*Current Draw is the same for the Continuous Horn, Code 3 Horn, and March Time Settings.

## Technical Data – (continued)

| | ®UL Listed Models and Ratings | | | | |
|---|---|---|---|---|---|
| Models* | Operating Voltage (Special Application) [Per ® UL1971] (VDC/VRMS) | Voltage Range [Per ® ULC-S526-02] (VDC/VRMS) | Horn | Mounting | Strobe Candela (cd) |
| ZR-MC | 16.0-33.0 | 20.0-31.0 | — | Wall | 15/30/75/110 |
| ZR-HMC | 16.0-33.0 | 20.0-31.0 | — | Wall | 135/185 |
| ZR-MC-C | 16.0-33.0 | 20.0-31.0 | — | Ceiling | 15/30/75/95 |
| ZR-HMC-C | 16.0-33.0 | 20.0-31.0 | — | Ceiling | 115/177 |
| ZH-MC | 16.0-33.0 | 20.0-31.0 | X | Wall | 15/30/75/110 |
| ZH-HMC | 16.0-33.0 | 20.0-31.0 | X | Wall | 135/185 |
| ZH-MC-C | 16.0-33.0 | 20.0-31.0 | X | Ceiling | 15/30/75/95 |
| ZH-HMC-C | 16.0-33.0 | 20.0-31.0 | X | Ceiling | 115/177 |
| ZH | 16.0-33.0 | 20.0-31.0 | X | Wall or Ceiling | — — |

*Available in red and white

| | | ®UL Current Ratings (ZR Strobe Only) Maximum RMS Current (AMPS) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MC | | | | HMC | | MC-C | | | | HMC-C | |
| | | 15cd | 30cd | 75cd | 110cd | 135cd | 185cd | 15cd | 30cd | 75cd | 95cd | 115cd | 177cd |
| DC | 16-33VDC | 0.064 | 0.098 | 0.175 | 0.233 | 0.318 | 0.445 | 0.069 | 0.111 | 0.200 | 0.264 | 0.318 | 0.445 |
| FWR | 16-33VRMS | 0.108 | 0.164 | 0.268 | 0.368 | 0.482 | 0.684 | 0.117 | 0.180 | 0.297 | 0.398 | 0.482 | 0.684 |

| | | | ®UL Current Ratings ZH Horn/Strobe Maximum RMS Current (AMPS) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Horn Setting | MC | | | | HMC | | MC-C | | | | HMC-C | |
| | | | 15cd | 30cd | 75cd | 110cd | 135cd | 185cd | 15cd | 30cd | 75cd | 95cd | 115cd | 177cd |
| DC | 16-33VDC | High* | 0.078 | 0.113 | 0.195 | 0.259 | 0.371 | 0.506 | 0.087 | 0.131 | 0.222 | 0.292 | 0.371 | 0.506 |
| | | Low* | 0.070 | 0.107 | 0.188 | 0.246 | 0.324 | 0.455 | 0.075 | 0.121 | 0.213 | 0.277 | 0.324 | 0.455 |
| FWR | 16-33VRMS | High* | 0.141 | 0.200 | 0.302 | 0.406 | 0.521 | 0.722 | 0.149 | 0.216 | 0.331 | 0.436 | 0.521 | 0.722 |
| | | Low* | 0.123 | 0.179 | 0.290 | 0.391 | 0.497 | 0.699 | 0.131 | 0.195 | 0.319 | 0.421 | 0.497 | 0.699 |

* Current Draw is the same for the Continuous Horn;
Code 3 Horn and March Time Settings

## Details for Ordering — (Including Mounting Options & Agency Approvals)

| Model Number | Part Number | Description | Mounting Options* | UL | ULC | FM | CSFM |
|---|---|---|---|---|---|---|---|
| ZH-R | 500-636159 | Z Horn: Red | B,D,E,F | X | X | X | X |
| ZH-W | 500-636160 | Z Horn: White | B,D,E,F | X | X | X | X |
| ZH-MC-R | 500-636161 | Z Horn: Multi Candela (Wall), Red | B,D,E,F | X | X | X | X |
| ZH-MC-W | 500-636162 | Z Horn: Multi Candela (Wall), White | B,D,E,F | X | X | X | X |
| ZH-HMC-R | 500-636163 | Z Horn: Hi Multi Candela (Wall), Red | B,D,E,F | X | X | X | X |
| ZH-HMC-W | 500-636164 | Z Horn: Hi Multi Candela (Wall), White | B,D,E,F | X | X | X | X |
| ZH-MC-CR | 500-636165 | Z Horn: Multi Candela (Ceiling), Red | B,D,E,F | X | X | X | X |
| ZH-MC-CW | 500-636166 | Z Horn: Multi Candela (Ceiling), White | B,D,E,F | X | X | X | X |
| ZH-HMC-CR | 500-636167 | Z Horn: Hi Multi Candela (Ceiling), Red | B,D,E,F | X | X | X | X |
| ZH-HMC-CW | 500-636168 | Z Horn: Hi Multi Candela (Ceiling), White | B,D,E,F | X | X | X | X |
| ZR-MC-R | 500-636169 | Z Strobe: Multi Candela (Wall), Red | B,D,E,F | X | X | X | X |
| ZR-MC-W | 500-636170 | Z Strobe: Multi Candela (Wall), White | B,D,E,F | X | X | X | X |
| ZR-HMC-R | 500-636171 | Z Strobe: Hi Multi-Candela (Wall), Red | B,D,E,F | X | X | X | X |
| ZR-HMC-W | 500-636172 | Z Strobe: Hi Multi-Candela (Wall), White | B,D,E,F | X | X | X | X |
| ZR-MC-CR | 500-636173 | Z Strobe: Multi Candela (Ceiling), Red | B,D,E,F | X | X | X | X |
| ZR-MC-CW | 500-636174 | Z Strobe: Multi Candela (Ceiling), White | B,D,E,F | X | X | X | X |
| ZR-HMC-CR | 500-636175 | Z Strobe: Hi Multi Candela (Ceiling), Red | B,D,E,F | X | X | X | X |
| ZRS-HMC-CW | 500-636176 | Z Strobe: Hi Multi Candela (Ceiling), White | B,D,E,F | X | X | X | X |
| ZBB-R | 500-636193 | Accessory — (Includes base, dust cover, mounting screws and installation sheet) | | | | | |
| ZBB-W | 500-636194 | Accessory — (Includes base, dust cover, mounting screws and installation sheet) | | | | | |

X = listed / approved       * = Refer to catalog sheet #: 2585 for detailed mounting options

**Notice:** This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

## NAC Circuit Voltage Drop Calculation

| Project Name | 446 FORE STREET | | | |
|---|---|---|---|---|
| Date | 2/25/2011 | | | |
| Circuit Number | | | | |
| Area Covered | | | | |
| NAC Source Alarm Voltage | 20.4 | | Wire | Resistance |
| Minimum Device Voltage | 16 | | Gauge | Per MFt Cable |
| Distance to first appliance | 30 | | 14 | 5.84 |
| Total Circuit Current | 1.662 | | | |

| Wire Gauge for balance of circuit | | 14 | 5.84 |
|---|---|---|---|

**Circuit is within limits**

| | Device Current | Distance from previous device | Voltage at Device | Drop from source | Percent Drop |
|---|---|---|---|---|---|
| Appliance 1 | 0.078 | | 20.11 | 0.29 | 1.4% |
| Appliance 2 | 0.078 | 20 | 19.92 | 0.48 | 2.3% |
| Appliance 3 | 0.078 | 20 | 19.75 | 0.65 | 3.2% |
| Appliance 4 | 0.078 | 20 | 19.58 | 0.82 | 4.0% |
| Appliance 5 | 0.078 | 20 | 19.42 | 0.98 | 4.8% |
| Appliance 6 | 0.078 | 20 | 19.27 | 1 13 | 5.5% |
| Appliance 7 | 0.078 | 20 | 19.14 | 1.26 | 6.2% |
| Appliance 8 | 0.078 | 20 | 19.01 | 1.39 | 6.8% |
| Appliance 9 | 0.078 | 20 | 18.88 | 1.52 | 7.4% |
| Appliance 10 | 0.078 | 20 | 18.77 | 1.63 | 8.0% |
| Appliance 11 | 0.078 | 20 | 18.67 | 1.73 | 8.5% |
| Appliance 12 | 0.078 | 20 | 18.57 | 1.83 | 8.9% |
| Appliance 13 | 0.078 | 20 | 18.49 | 1.91 | 9.4% |
| Appliance 14 | 0.078 | 20 | 18.41 | 1.99 | 9.7% |
| Appliance 15 | 0.078 | 20 | 18.35 | 2.05 | 10.1% |
| Appliance 16 | 0.078 | 20 | 18.29 | 2.11 | 10.3% |
| Appliance 17 | 0.078 | 20 | 18.24 | 2.16 | 10.6% |
| Appliance 18 | 0.078 | 20 | 18.20 | 2.20 | 10.8% |
| Appliance 19 | 0.078 | 20 | 18.17 | 2.23 | 10.9% |
| Appliance 20 | 0.078 | 20 | 18.15 | 2.25 | 11.0% |
| Appliance 21 | 0.034 | 20 | 18.14 | 2.26 | 11.1% |
| Appliance 22 | 0.034 | 20 | 18.13 | 2.27 | 11.1% |
| Appliance 23 | 0.034 | 20 | 18.13 | 2.27 | 11.1% |
| END | 0.000 | 0 | 18.13 | 2.27 | 11 1% |
| END | 0.000 | 0 | 18.13 | 2.27 | 11 1% |
| Totals | 1.662 | 470 | | | |

Appliance circuit voltage drop calculations start at "end of battery life" as NAC
Source Alarm Voltage and use 20% below nameplate rating for Minimum
Appliance Voltage.

Note. Wire resistance is based on the 1996 NEC Table 8 Uncoated DC resistance.
Solid conductors except gauges 10 and 12 which are for stranded.

## Siemens FS-250 Battery Calculations

**Job Name:** 446 FORE STREET

**Date:** 2/25/2011

|  | STANDBY | ALARM |
|---|---|---|
| TOTAL SYSTEM CURRENT | **0.262** | **1.903** |

| TOTAL FACP BATTERY CALCULATIONS | | |
|---|---|---|
| **TOTAL STANDBY CURRENT** A/H REQ'D | | A/H STANDBY |
| 0.262 Amps X 24 HRS. | | **6.298** |
| **TOTAL ALARM CURRENT** A/H REQ'D | | A/H ALARM |
| 1.903 Amps X 5 MIN. | | **0.198** |

| Required Battery Capacity | 6.496 |
|---|---|
| Always use a battery with higher AH rating than required. | |

**BATTERY SUPPLIED: 2x12 AH**