CITY OF PORTLAND

BUILDING PERMIT

This is to certify that
PROTECTION PROFESSIONALS
325 US Route One
FALMOUTH, ME 04105

For installation at
38 PREBLE ST
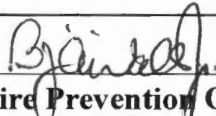**THE JOE KREISLER TEEN SHELTER**

Job ID: **2012-04-3738-CH OF USE**

CBL: **037- F-020-001**

has permission to <u>install new master box fire alarm system</u>

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

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.**

Final Fire

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 OCCUPIED.

Director of Planning and Urban Development
Jeff Levine

Job ID: 2012-04-3738-CH OF USE
install new master box fire alarm
system

For installation at:
38 PREBLE ST
THE JOE KREISLER TEEN SHELTER

CBL: 037- F-020-001

Conditions of Approval:

Fire

The installation shall comply with the following:

City of Portland Chapter 10, Fire Prevention and Protection;
NFPA 1, *Fire Code* (2009 edition), as amended by City Code;
NFPA 101, *Life Safety Code* (2009 edition), as amended by City Code;
City of Portland Fire Department Rules and Regulations;
NFPA 72, *National Fire Alarm and Signaling Code* (2010 edition), as amended by Fire
Department Rules and Regulations;
NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment* (2009 edition), as amended by Fire Department Rules and Regulations; and
NFPA 70, *National Electrical Code* (2011 edition) as amended by the State of Maine.

The fire alarm system shall be certified by a master fire alarm company and have a new fire alarm inspection sticker.

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

All smoke detectors and smoke alarms shall be photoelectric.

System CO detectors shall be located on the ceiling in the same room as permanently installed fuel-burning appliances and centrally located on every habitable level and in every HVAC zone of the building per NFPA 720:5.5.5.3.1. System CO detectors shall activate an audible alarm at the detector and FACP, and send an alarm signal the remote station. It shall not trip the master box.

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".

A Knox Box is required.

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.

A master box connection and drill switch is required. AES Zones shall be:

1. Water flow
2. City Disconnect: Water flow
3. Pull stations and detectors
4. City Disconnect: Pull stations and detectors
5. Not assigned
6. Not assigned
7. Not assigned
8. AES tamper switch

Master Box Approval

Applicant: Protection Professionals

App Phone #: 207-775-5755

Building Name: The Joe Kreisler Teen Shelter

Building Address: 38 Preble St

Occupancy: Shelter
Assembly OL>300, 20 unit apartment building, etc.

Emergency Contact: Kristopher Voisine

Emergency phone #: 207-329-6673

Date of Application: 8/22/12

Billing Address: The Joe Kreisler Teen Shelter
38 Preble Street
Portland, ME 04101

Comments:

Applicant completes red box and submits with Fire Alarm Permit

1

FIRE PREVENTION: ☑ Approved ☐ Denied

9 / 10 / 12
Date

BjaWally Jr.
Fire Prevention Officer

Zone 1: Water flow

Zone 2: City disconnect – Water flow

Zone 3: Pulls and detectors

Zone 4: City disconnect – Pulls and Detectors

Zone 5: Unassigned

Zone 6: Unassigned

Zone 7: Unassigned

Zone 8: AES Tamper switch

Modify City Box response to alarm sounding in CAD: ☐ YES ☑ NO

2

FIRE ALARM: Box #: _____

3

ELECTRICAL DIVISION: ☐ Approved ☐ Denied

Box Type: AES Radio Box / _____
New   Other

Test Date: ____ / ____ / ____ In Service Date: ____ / ____ / ____ _____
Fire Alarm Technician

AES / Circuit if applicable: _____

4

FIRE ALARM: Same Running Assignment As Box: _____

Notifications: ☐ All Stations ☐ Run Books ☐ Digitizer ☐ Computer ☐ Cad Box Test

☐ South Portland ☐ _____ _____
Other   Dispatcher

5

BILLING: ☐ Entered _____
Financial Officer

City of Portland, Maine - Building or Use Permit Application

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

Job No: **2012-04-3738-CH OF USE** **2012-47431-FIRE ALARM**	Date Applied: **8/23/2012**	CBL: **037- F-020-001**	
Location of Construction: **38 PREBLE ST**	Owner Name: **PREBLE STREET**	Owner Address: **38 PREBLE ST** **PORTLAND ME 04101**	Phone:
Business Name:	Contractor Name: **Protection Professionals** **Bay Electric Company, Inc. - installer**	Contractor Address: **325 Us Route 1, Falmouth ME 04105** **140 Thadeus St., South Porltand, ME 04106**	Phone: **(207) 775-5755**
Lessee/Buyer's Name:	Phone:	Permit Type: **BLDG – FIRE ALARM**	Zone: **B-3**

Past Use: Teen Shelter	Proposed Use: Same – Teen Shelter – install a fire alarm	Cost of Work: **939000.00**	CEO District:
		Fire Dept: 9/27/12 ☑ Approved *w/ conditions* ___ Denied ___ N/A Signature: *Bjawoff* (59)	Inspection: Use Group: Type: Signature:

Proposed Project Description: **Fire Alarm for Teen Shelter**	Pedestrian Activities District (P.A.D.)

Permit Taken By: **Brad**	**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
___ 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
	___ Denied	___ Denied
___ Maj ___ Min ___ MM		
Date: OK w/ conditions 8/30/12 *AFM*	Date:	Date: *Any exterior work requires a separate review & approval thru historic preservation.* 8/4/12 *Andw*

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   PHONE

B-3   Child 202-47431   Entered 8/23/12

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.

2012-04-3738-CoV

Installation address: **38 Preble Street**   CBL: **037-F020**

Exact location: (within structure) **Teen Shelter, 38 Preble Street** 04101

Type of occupancy(s) (NFPA & ICC): **Dormitory**

Building owner: *Preble Street Resource*

System Designer (point of contact): Must be **Engineer** *Harold Thomas*

Designer phone: *828-4402*   E-mail: _____

Installing contractor: **Bay Electric Company, Inc.**   Certificate of Fitness No: **M1001**

Contractor phone: *799-0350*   E-mail: *bayelec e maine.rr.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
☑ Wiring diagram   ☑ 11 ½ x 17s
☑ Annunciator details ☑ pdf copy (may be e-mailed)
☑ Input/ Output Matrix ☑ Designer qualifications
☑ Equipment data sheets ☑ Battery/ voltage drop calcs
☑ Electrical Permit Pulled (check alarm/com)

RECEIVED AUG 23 2012 Dept. of Building Inspections City of Portland Maine

COST OF WORK: **$21,300.—**
PERMIT FEE: **$240.00**
($10 PER $1,000 + $30 FOR THE FIRST $1,000)

$30,—
21√10 = $210.00
_____
240.00

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

The <u>designer</u> shall be the responsible party for this application. Download a new copy of this application at <u>www.portlandmaine.gov/fire</u> 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 <u>www.portlandmaine.gov/fire</u>.

Applicant signature: *Don O. Mailman V.P.*   Date: *8-22-12*

Receipts Details:

Tender Information: Check , Check Number: 3456
Tender Amount: 240.00

Receipt Header:

Cashier Id: bsaucier
Receipt Date: 8/23/2012
Receipt Number: 47432

Receipt Details:

Referance ID:	7763	Fee Type:	BP-FIRE
Receipt Number:	0	Payment Date:	
Transaction Amount:	240.00	Charge Amount:	240.00
Job ID: Job ID: 2012-04-3738-CH OF USE - COU to Teen Shelter			
Additional Comments: 38 Preble			

Thank You for your Payment!

Receipts Details:

Tender Information: Check , Check Number: 3365
Tender Amount: 169.00

Receipt Header:

Cashier Id: bsaucier
Receipt Date: 7/16/2012
Receipt Number: 45975

Receipt Details:

Referance ID:	7264	Fee Type:	BP Elec Comm
Receipt Number:	0	Payment Date:	
Transaction Amount:	169.00	Charge Amount:	169.00
Job ID: Job ID: 2012-04-3738-CH OF USE - COU to Teen Shelter			
Additional Comments: 38 Preble			

Thank You for your Payment!

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 7/16/12

Permit # 2012-15973

CBL# 037 F015

LOCATION: 38 Preble Street

METER MAKE & # DD # 300976505

CMP ACCOUNT # 0147 008-2-7?

OWNER Preble Street Resource

TENANT Teen Shelter

PHONE # Courtney Woman 773-3695

OUTLETS		Receptacles		Switches		Smoke Detector	TOTAL	EACH FEE
OUTLETS	140	Receptacles	79	Switches	0	Smoke Detector	.20	46.00
FIXTURES		Incandescent	62	Fluorescent		Strips	.20	12.40
SERVICES		Overhead		Underground		TTL AMPS <800	15.00	
		Overhead		Underground		>800	25.00	
Temporary Service		Overhead		Underground		TTL AMPS	25.00	
							25.00	
METERS	2	(number of)					1.00	2.00
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	1	Water heaters		Fans	2.00	2.00
	1	Dryers		Disposals		Dishwasher	2.00	2.00
		Compactors		Spa	1	Washing Machine	2.00	2.00
		Others (denote)					2.00	
MISC. (number of)		Air Cond/win					3.00	
		Air Cond/cent				Pools	10.00	
	4	HVAC		EMS		Thermostat	5.00	20.00
		Signs					10.00	
		Alarms/res					5.00	
	1	Alarms/com					15.00	15.00
		Heavy Duty (CRKT)					2.00	
		Circus/Carnv					25.00	
		Alterations					5.00	
		Fire Repairs					15.00	
		E Lights					1.00	20.00
		E Generators					20.00	
PANELS	5	Service		Remote		Main	4.00	20.00
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		161.00

RECEIVED
JUL 18 2012
Dept. of Building Inspections
City of Portland Maine

CONTRACTORS NAME CH Electric U.L.C.

ADDRESS Hutchins St. So Portland

TELEPHONE 799-2260

MASTER LIC. #

LIMITED LIC. #

SIGNATURE OF CONTRACTOR

Sequence of Operations

	Audio/visual activation	Activate audible/visual signal at FACP & Annunciator	Device Description at FACP & Annunciator	Shutdown of HVAC equipment	Log event in system history	Activate Elevator Fire Hat	Activate Elevator primary or secondary control	Activate Elevator shunt trip	Silence of audible devices Including FACP & annunciator	Release door holders	Release locked doors	Event acknowledgement	Reset of all system functions and all visual devices	Remote transmission to Central Station A=alarm; T=trouble; S=Supervisory; L = log only	Remote indicator
Manual Pull Stations	X	X	X		X					X	X			A	
Smoke detectors common area	X	X	X		X					X	X			A	
Smoke detectors elevator lobbies	X	X	X		X		X			X	X			A	
Smoke Detectors elevator shaft/machine room	X	X	X		X	X	X			X	X			A	
Duct mounted Smoke Detectors		X	X	X	X									S	X
Heat Detectors common area/inside apartments	X	X	X		X					X	X			A	
Heat Detectors Elevator shaft/machine room	X	X	X		X	X		X		X	X			A	
Sprinkler flow or pressure switches	X	X	X		X					X	X			A	
Sprinkler Tamper, low temp, or low air		X	X		X									S	
Secondary fire panel such as kitchen hood	X	X	X		X					X	X			A	
FACP/annunciator silence button		X	X		X				X					L	
FACP/annunciator acknowledge button		X	X		X							X			
FACP/annunciator reset button		X	X		X								X	L	
Removal of any device		X	X		X									T	
Ground fault		X	X		X									T	
System wiring "open"		X	X		X									T	
AC Power loss		X	X		X									T	
Secondary power loss		X	X		X									T	
Telephone line loss		X	X		X									T	

1 of 1

Fire Alarm sequence of operations

MPC-6000

Quantity	Part #	Description	Standby	Alarm	Total standby	Total alarm
1	MPC-6000	Fire Panel	0.190	0.190	0.190	0.190
1	RDC-2	Annunicator	0.020	0.085	0.020	0.085
	RS-485	Graphic driver	0.005	0.085	0.000	0.000
1	MPC-DACT	Dialer	0.038	0.054	0.038	0.054
	CT-1K	City Tie Module	0.007	0.020	0.000	0.000
	SRU-2	Relay card	0.032	0.192	0.000	0.000
	SRE-8	Relay expander	0.000	0.160	0.000	0.000
	SLU-2	Annunicator card	0.018	0.040	0.000	0.000
	SLE-16	Annunicator card expander	0.005	0.000	0.000	0.000
10	8700-Series	Pull Station	0.001	0.001	0.010	0.010
5	8701	Mini Module	0.001	0.001	0.005	0.005
3	8702	Single input module	0.001	0.001	0.003	0.003
3	8703	Dual Module	0.001	0.001	0.003	0.003
7	8704	Relay module	0.001	0.001	0.007	0.007
	8705	Conventional (34mA aux)	0.001	0.001	0.000	0.000
	8706	NAC module	0.001	0.001	0.000	0.000
	8709	Isolator module	0.001	0.001	0.000	0.000
	8710	Smoke	0.001	0.001	0.000	0.000
13	8713	Smoke FireSmart	0.001	0.001	0.013	0.013
2	8712	Heat	0.001	0.001	0.002	0.002
	8853	Basic base	0.001	0.001	0.000	0.000
	8715	Audible base	0.001	0.001	0.000	0.000
3	8743	Duct Detector	0.001	0.001	0.003	0.003
	8713	Duct smoke	0.001	0.001	0.000	0.000
	8704	Duct relay	0.001	0.001	0.000	0.000
	8730	Duct Remote	0.001	0.001	0.000	0.000
	8727	Remote light	0.001	0.001	0.000	0.000
		.	0.020	0.000	0.000	0.000
			0.000	0.000	0.000	0.000
1		NAC power maximum	0.000	6.000	0.000	6.000
					0.000	0.000
					0.000	0.000
					0.000	0.000
		Miscellaneous			0.000	0.000
TOTAL			0.353	6.844	0.294	6.375

	Hours	Standby current				Total
	24		0.2940			7.056
Minutes		Alarm current				
5	0.08333333		6.3750			0.531
		Battery Capacity				
	20%		7.5873			9.105

Teen Shelter Battery Calcuations

IIIIIFARADAY

MPC-6000 Intelligent Fire Alarm Panel

Features

- One intelligent Signaling Line Circuit

- SLC loop supports up to 252 addressable Inputs AND signal/relay outputs (504 inputs/outputs total)

- Addressable devices are polarity insensitive

- Devices operate on standard wire-no twist or shield required

- FireSmart Application Specific fire detection

- 4 Class B/2 Class A notification appliance circuits

- Up to 6A NAC Power

- Built in strobe synchronization protocol

- 80 Character backlit LCD display

- Optional Peer-to-Peer networking using MPC-Net

- One man walk test (Silent or Audible)

- Auto Program Feature

- UP to 16 remote LCD Displays with control capabilities

- Programmable from front keypad, or Windows based PC programming software

- Maintenance and technician level passwords

- Optional internal DACT

- 2000 event history log

- Made in the USA, ISO 9001 quality crafted

- (UL) UL 864 , MEA & CSFM Listed

MPC-6000

Description

The MPC-6000 is an advanced modular fire alarm panel. It features analog/addressable detection, programming, and memory capability. It's base configuration includes one analog/addressable loop, with four notification appliance output circuits.

Operating controls and indicators are mounted behind a locked cabinet door and an 80-character LCD display provides specific indications for addressable devices, while LEDs indicate general panel status.

Hardware Configuration

The main termination board mounts in the rear of the panel. The main power supply is physically contiguous with the main termination board. The MPC-6000 main termination board provides the interface for external system connections, the SLC loop interface PCB, four NAC circuits, remote signaling circuits and indicating interfaces.

The front Display Board mounts on a hinged front plate, which is located behind a locked cabinet door. Displays for any number of zones are handled through this board.

All normal operation is controlled from the front of the panel via membrane switches. Displays are provided by an 80-character, alphanumeric, backlit LCD display and by discrete LED indicators for major panel functions.

9400

The 80-character LCD display is used to display event data, including alarms and troubles, supervisory identification of zone or device, and presentation of history. The menus are controlled by a set of four membrane switches commanding the control processor. A back light is included to assure visibility in low light, but to conserve power, it is only activated during a reported event.
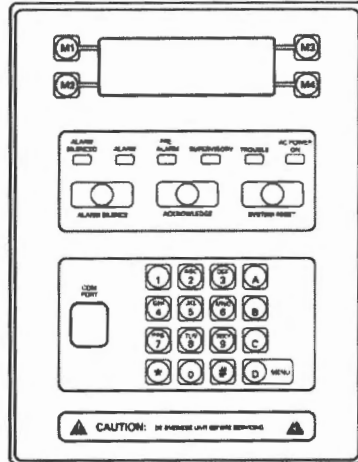
Minimum Control Unit Configuration

A. Intelligent Signaling Line Circuit –
   The main termination board has addressable loop interface circuitry supporting one SLC loop Devices are polarity insensitive and can operate on untwisted, unshielded wire.

B. Notification Appliance Circuits –The base panel has four independent NACs. Each circuit can be selected to give continuous output, one of eight sounding patterns. NACs are style Z or Y capable, without additional modules.

C. Dry Contacts – Four programmable form "C" dry relay contacts are provided.

D. Remote Annunciation –The MPC-6000 panel will drive up to 16 annunciators and 8 remote processors on an RS-485 communication line.

E. Power Supply – A 7A, 24V nominal power supply provides all operating power to the panel for both standby and alarm conditions.

Auxiliary Devices

A. Remote LCD Annunciator (RDC-2) –The remote LCD annunciator consists of a backlit 80 character, alphanumeric display, 4 menu buttons, 4 dedicated buttons for operator interaction, 6 LED indicators, and a security key switch.

B. Serial Annunciator (SLU-2) – Consists of one remote processor and one annunciator driver board capable of providing 16 supervised outputs for LEDs or incandescent lamps. Expansion to drive 512 LEDs or lamps is via additional processor boards and annunciator drive boards (SLE-16).

C. Serial Relay Unit (SRU-2) – Consists of remote processor and relay board which provides 8 relays with form "C" dry contacts rated at 1 amp. Expansion to 192 relays is via additional remote processor boards and relay boards (SLE-8).

Optional Control Unit Configuration

A. MPC-DACT – The MPC-DACT provides a dual line digital alarm communications transmitter. It's parameters are set via the control unit programming sequence.

   The MPC-DACT is compatible with the following formats: SIA DCS 8, SIA DCS 20, Ademco Contact ID, 3/1 1400 Hz., 3/1 2300 Hz.,

Wiring, Main Termination Board

Addressable
Loop Circuit

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

Faraday
P/N 10807
24K 1/2W

NAC 3

NAC 1,2

TB12

TB13

See Typical
Wiring

Polarity Shown
In Alarm Condition
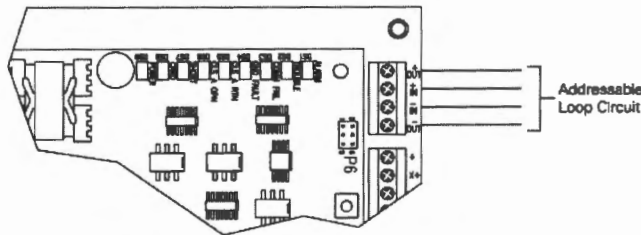
Addressable Device Circuit
Style 4 or 6 Operation
24VDC nominal
Wire Resistance-50 ohms max
(see Line Resistance Graph)
Supervised, Power Limited
See Owner's Manual for Compatible Devices

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: 1.0mA
NOTE:
The maximum total current for the MPC-6000 NACs is 3.0A and 6.0A
with the optional additional Transformer P/N NPE-1

Addressable
Device Circuit

IN

OUT

Printer/Network
Circuit

Auxiliary Power
Circuit

Printer/Network
Circuit

Relay Circuit 1

Relay Circuit 2

Relay Circuit 3

Relay Circuit 4

NAC
Circuit
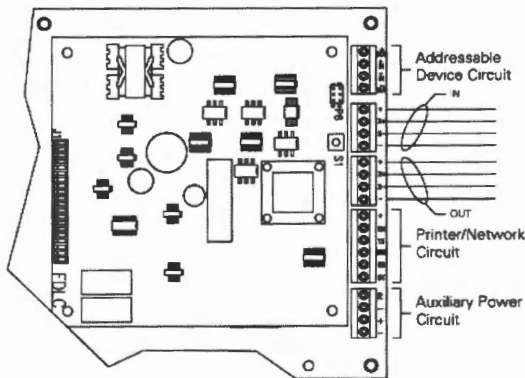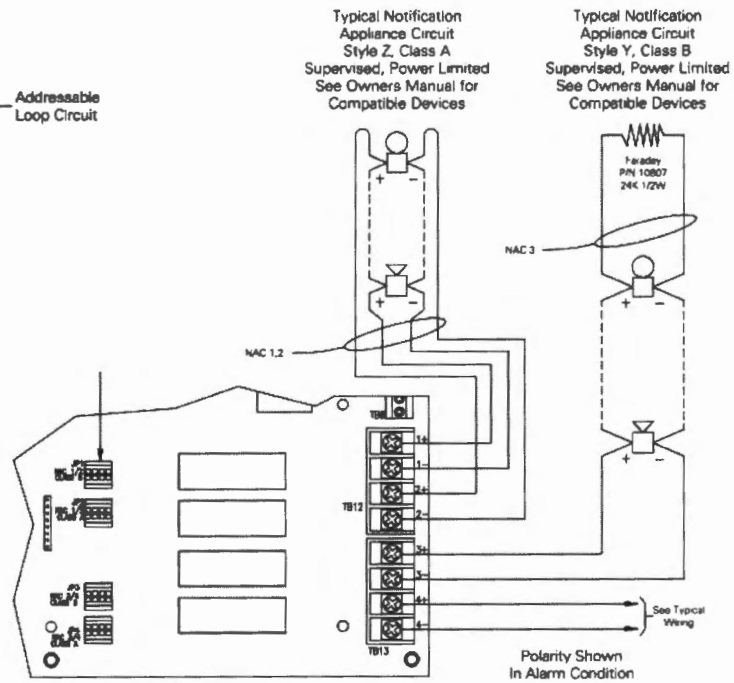
Serial Interface Circuit,
(=, -) 24VDC nominal, 0.4 max
(X+, X-) RS-485 levels
Wire Type-Twisted Pair For Data
Wire Resistance-11 ohms/line (4000' max)
Supervised, Power Limited,
See Owner's Manual for
Compatible Devices.
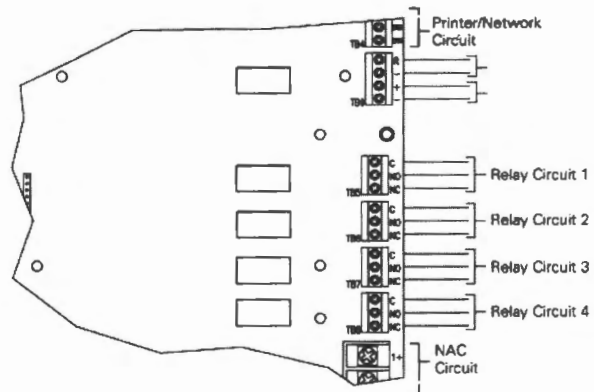
Auxiliary Power Outputs
0.4A max. @24VDC nominal
Unsupervised, Power Limited
Maximum current of all auxiliary outputs
circuits, Serial Interface Circuit and
option boards is: 0.5A for the 6000
                   1.0 A for the 7000

Status Relay Contacts
(Shown in normal standby condition)
1A 28VDC max Resistive For Power
Limited Source, Unsupervised

General Specifications

Environmental
Operating temperature: 32-120°F (0-49°C)
Relative Humidity - 85% @ 86°F

Primary Supply
Primary input voltage -
120 Vac (50/60 Hz.), 240 Vac (50/60 Hz.)
Maximum primary input current -
1.3 amp @ 120 Vac

Secondary and Trouble Power Supply
24 volt lead-acid battery with 7 AH-38 AH capacity

Auxiliary Power Outputs
Current - 0.5 amp resettable/non-resettable
power outputs

Status System Relays
4 relays rated @ 1 amp, 28 Vdc resistive

NAC Circuits
Rating per NAC circuit, 1.5A ea., 6 max.

Battery
Base cabinet will accommodate a 10 A battery
set. Larger batteries will require separate enclosure

Dimensions

BOX 18"
DOOR 18 3/8"

5 1/4"

BOX 22"
DOOR 22 9/32"
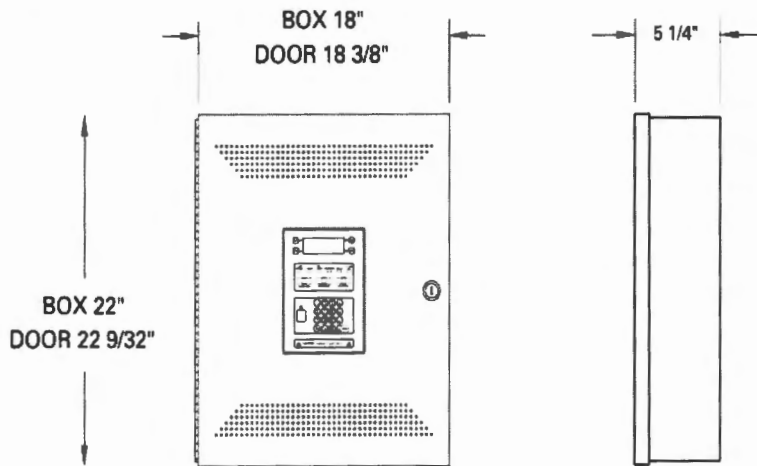
Ordering Information

Model	Description	Part No.
MPC-6000	MPC-6000 Single Loop Addressable Fire Alarm Panel, Red	599-049304FA
MPC-6000B	MPC-6000 Single Loop Addressable Fire Alarm Panel, Black	599-049303FA
Options		
RDC-2	Remote Annunciator	500-648980FA
NPE-1	Transformer to expand NAC power	500-649120FA
SRU-2	RS-485 Relay Card	500-649308FA
SRE-8	8 Relay Extender	500-649337FA
SLU-2	RS-485 LED Driver Card (16 Outputs)	500-649307FA
SLE-16	16 LED Driver Extender	500-649339FA
FAE-21	ACC. Enclosure for RS-485 Devices	500-401403014FA
MPC-DACT	Dialer for MPC-6000 and MPC-7000	500-649330FA
CT-1K	City Tie Module for MPC-6000 and MPC-7000	500-649336FA
SFTK-6R	Semi-Flush Trim for MPC-6000, Red	500-648955FR
SFTK-6B	Semi-Flush Trim for MPC-6000, Black	500-648954FA

IIIII FARADAY

Model RDC-2 Remote 80 Character LCD Annunciator

Features

- 80 character, alphanumeric backlit display

- Mounts to 6 gang or 12411 surface box

- Contains four (4) menu buttons, four (4) dedicated buttons for operator interaction, six (6) LED indicators and a security key switch

- UL listed, standard 864
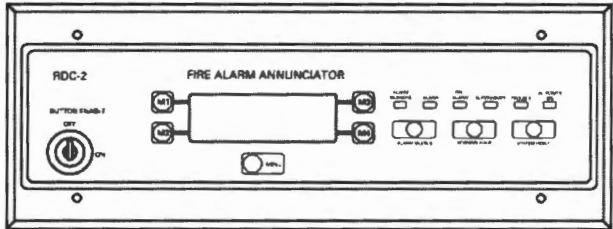
RDC-2 Annunciator

Description

The RDC-2 remote LCD annunciator is an optional accessory for the MPC-6000 and MPC-7000 Fire Alarm Control Panels from Faraday. It provides a 80 character LCD display along with the system status LEDs. The button enable keyswitch allows system reset, trouble silence/acknowledge, alarm silence and menu access. The lamp test operation is also enabled by the keyswitch, but the function is limited to the annunciator. The annunciator mounts to a horizontally mounted 6-gang box, 2" deep minimum. The Faraday part number 12411 Surface Backbox may be used for surface mounting.

Up to 16 annunciators may be addressed by the communications circuit.

Typical Wiring
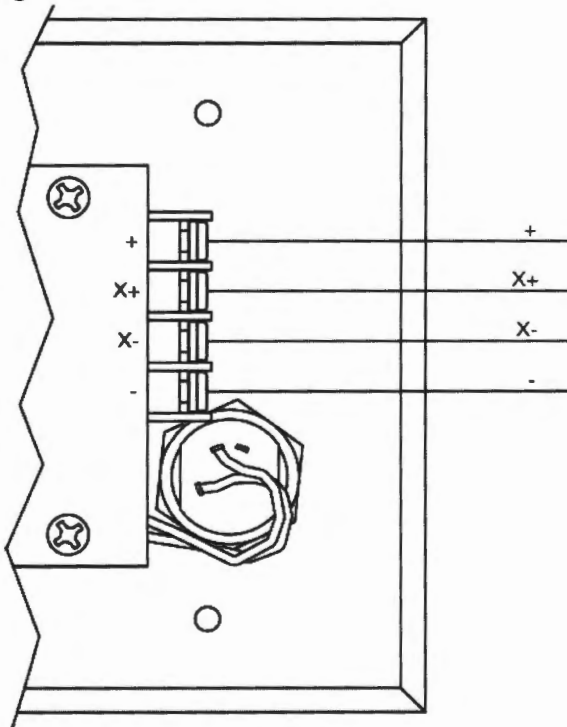
Cable for power (+ & -) and Twisted pair Cable for data (X+ & X-)-) from panel or previous remote and to next remote or 120 ohm termination resistor on the last remote.

9404

General Specifications

Environmental
Operating Temperature:
    32-120°F (0-49°C)
Relative Humidity: 85% @ 86°F

Power Consumption
    Alarm: .025 Amp
    Standby: .020 Amp

Transmission Format
    Multiplexed, supervised style "W", power limited

Display
    80 character, alphanumeric, backlit

Wiring
    (2) pair, no. 18 awg. min., 4000 ft. max.,
    daisy chained, no t-taps

Mounting
    6 gang box (supplied by others)

Shipping Weight
    2 lbs. approx.

Dimensions
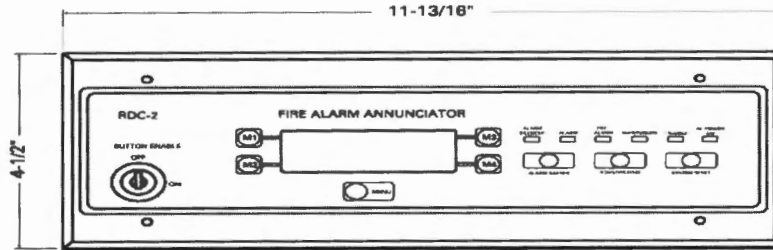
Ordering Information

Model	Description	Part No.
RDC-2	Remote 80 character LCD annunciator	500-648980FA
Options		
12411014	Surface mount back box	500-699639FA

Series PM6600 & PM6700 Manual Non-Code Keyed Stations

Features

- MM101 Key Switch Cover

- Sturdy Metal Construction

- Enclosed Switch with Optional Glass Rod

- 10 Amp @ 120 Vac, 5 Amp @ 24 Vdc Switch Contact Rating

- Stations Available are: Single Action, Dual Action, Pre-Signal / General Alarm, Institutional, Weatherproof, and Explosion Proof

- UL, CSFM Listed & MEA approved

- Made in USA

PM6608/
PM6700 (right) &
PM 6696 (below)

Description

The PM6600/6700 series meets the requirements of the keyed reset station in every way. By using the standard Faraday MM101 series key, the user eliminates the need to search through many different reset keys. All stations are constructed of a solid die cast housing and come painted glossy red. The back switch plate is made of thick 14 Ga. plated steel and comes in a one gang size.

The electrical switch has a hefty 10 Amp @ 120 Vac normally open contact rating. All stations come with terminal block connections with the exception of the single action stations. These may be ordered with terminal blocks or pigtails (See ordering information for a more detailed description).

Explosion proof and weatherproof units come complete with their own back box. Optional PM6767 matching red surface interior back boxes are also available.

Operation

Alarm

To activate the manual station, a firm downward pull of the recessed pull lever is required. Such action locks the lever in the down position, breaks the glass rod, (if used) and actuates the switch creating an alarm condition.

Reset

To restore an operated manual station to normal standby condition requires the use of a standard Faraday MM101 key. The lock, located at the top of the station, is turned with an inserted MM101 key.

This lets the front of the station swing down and allows the recessed pull down lever to be reset in the normal up position. Replacement of the glass rod (if used) is not necessary to reset the station. However, spare glass rods can be stored inside the station. To lock the station swing the front of the station back up to its original position and turn the MM101 key in the previously operated position.

Engineering Specification

Furnish and install where located on the drawings Faraday non-code pull stations. The stations should be pull down operation type with operation instructions provided on the station in raised letters. The station should be of metal construction, finished in fire alarm red/white, and shall be capable of proper operation with or without a break glass rod. Stations using any plastic parts other than the switch body, or requiring the use of a break glass rod to maintain a standby condition shall not be acceptable.

9628

Upon operation the pull down lever shall lock into the alarm position and remain so until manually reset. A common Faraday MM101 key shall be required to gain access for resetting the station, testing the station or replacing the glass rod. Stations with test features that do not test the actual station actuating switch shall not be acceptable.

Stations shall contain one or more normally open alarm contacts. Wiring to the fire alarm system initiating circuit shall be via pressure type screw terminals or pigtail wires with in and out wiring required.

Specifications

Electrical
Contacts – All contacts except General Alarm: 10A @ 120 Vac, General Alarm: 5A @ 30 Vdc

Dimensions
4-3/4" (H) x 3-3/16" (W) x 7/8" (D)

Weight
15-1/2 oz.

Mounting
Single gang box

Wiring
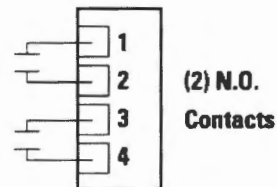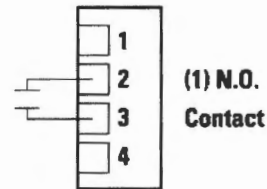
Ordering Information

Model	Description	Part No.
Single Action Stations		
PM6700	(RMS-1P-KL) Station, N.O., Pigtails	500-648504FA
PM6608	(RMS-1T-KL) Station, N.O., Terminals	500-648505FA
Dual Action Stations		
PM6696	(RMS-2T-LP-KL) Station, (2) N.O., Terminals	500-648507FA
Pre-Signal/General Alarm Stations		
PM6695	(RMS-1T-KS-KL) N.O. Pre-sig, N.O. Terminals	500-648265FA
Weatherproof Stations		
PM6699	(RMS-2T-WP-KL) (2) N.O. Terminals	500-648266FA
Accessories		
PM6698	(BB) Surface Back Box, Interior	500-648506FA
PM7601	Glass Rods (pack of 10)	500-648245FA
10531	(STI1130) Cover, surface mount w/horn	500-648563FA
10538	(STI1130) Cover, flush mount, w/ horn	500-648591FA
10539	(STI1200) Cover, flush mount, w/o horn	500-648253FA

FARADAY

8709 Line Isolator Module for Use With MPC-6000 & 7000 Control Panels

Features

- Short Circuit Isolation

- Used on MPC-6000 & 7000 Intelligent Device Circuits

- Increased Fault Tolerance

- Style 4 or Style 6

- Up to 12 Per Loop

- Requires no Programming

- Does Not Occupy a Device Address

- Mounts in Either 4" Square, 2 1/8" Deep
  or a 3 1/2" Deep Double Gang Electrical Box

- Local LED Indicator

- Cover Plate Included

- (UL) Listed, NYMEA and CSFM Submitted

Description

The 8709 loop isolator module provides short circuit protection on MPC-6000 & 7000 intelligent device circuits (FDLC). When a short is detected by the 8709, it isolates the affected segment of the circuit, allowing the remaining devices to continue operation. The 8709 is self-restoring, automatically reconnecting to circuit segment when the fault is removed.

The 8709 also includes a yellow LED which illuminates to indicate that the device has been activated. The 8709 mounts in either a 4" square, 2 1/8" deep or a 3 1/2" deep double gang electrical box and is supplied with a cover plate with an opening for the LED.

It can be wired in either a Style 4 or Style 6 configuration.

The 8709 does not occupy a device address on the intelligent device circuit and requires no programming. Up to twelve 8709s may be installed on each loop.

Ordering Information

Model	Description	Part No.
8709	Line Isolator Module	500-033170FA

FARADAY

Models 8710, 8712, 8713 (FireSmart™) X1 Series Detectors

Features

Intelligent Detectors for use with MPC 6000 and 7000 Control Panels

- Three models available Photo (8710), Photo-Thermal (8713) and 135°F Thermal, fixed and rate of rise (8712)

- High-Speed, Fault-Tolerant Communication

- Multi-color status L.E.D (green, amber, red)

- Field cleanable photo chamber

- Electronic addressing with field programmer model 8720

- Mounts in standard 8853 Series Base

- Low Profile Design

- Optional fully programmable relay base, audible base and duct housing

- Two Wire Operation

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

8712 135°F Thermal

8710

8713 Photo Thermal

Introduction

The 8710 and 8713 intelligent photoelectric smoke detectors provide reliable smoke detection to meet today's critical life safety and property protection needs. The FireSmart series of detectors provide an extremely high degree of resistance to RFI, EMI and humidity. The FireSmart series detector utilizes a microprocessor with "on-board" EEPROM supporting the detectors sophisticated programming, error checking and self-diagnostic capabilities.

The 8710 is an intelligent smoke detector, the 8713 is a smoke detector with thermal assist, and the 8712 is a heat detector. The thermal sensors respond at 135°F. These devices are designed for use with the MPC-6000 and 7000 control panels and use the 8853 detector base.

Description

The 8710, 8712 and 8713 are two-wire, plug-in detectors that are compatible with the MPC-6000 and 7000 control panels. Each 8710 and 8713 have a dust resistant, field cleanable photo chamber and micro-processor based electronics. The 8712 and 8713 utilize a state-of-the-art thermistor for heat sensing. All detectors have low profile, high-temperature plastic covers for maximum protection of components and use surface mount electronic components for increased reliability. Every smoke detector is shipped with a red protective dust cover.

Smoke detectors utilize an infrared light emitting diode (IRLED) and a 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. 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 chamber, light emitted from the IRLED is scattered by the smoke particles and is received by the photodiode.

When an alarm condition occurs, the detector "latches" in alarm and informed the control panel of its status. The detector is reset upon command from the control panel. The control panel also sets the detector's sensitivity.

Every time the control panel polls the detector, the multi-color LED will flash green to indicate that it has passed the internal self test and has communicated its status to the control panel. If the detector does not pass the self test, is dirty beyond the limits of its environmental compensation, or is in "trouble" in any way, the LED flashes amber and informs the panel of its status, allowing for easy identification of which detector is in trouble. When in alarm, the detector LED flashes red.

9604

Detectors are assigned their address using the 8720 Field Programmer/Tester, which electronically stores address information in the detectors non-volatile memory. The 8720 can also be used for device testing and diagnostics.

The FireSmart series detectors can be on the same circuit as other 8700 series initiating devices such as manual stations, TRI Monitoring/Relay Modules, etc. Detectors are mounted in the standard 8853 or 8716 Relay Base, 8715 Audible Base, or 8840/8717 Duct Housing. Use the standard 8727C or 8727W (red) Remote Lamps when remote annunciation is required.

Smoke detectors are field cleanable per the instructions included on the installation sheet provided with the product. X1 series detectors are UL listed for operation within the standard UL specified temperature range of 32 to 100 degrees F (0 to 38 degrees C).

Application Data

Installation of X1 series detectors require detector bases 8853, 8715, 8716, or 8840.

The 8710 and 8713 detectors can be applied within a maximum 30-foot center spacing (900 square foot area) as referenced in NFPA 72. This applications guideline is based on ideal conditions; specifically, smooth ceiling surfaces, minimal air movement and no physical obstructions between potential fire sources and the 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 of detectors. Should any questions arise regarding detector placement, observe NFPA 72 guidelines. Locating in close proximity to "noisy" electronic light ballasts or other sources of high level EMI or RFI should be avoided.

Good fire protection system engineering and common sense dictate how and when fire detection devices are installed and used. Contact your local Faraday authorized sales outlet whenever you need assistance applying these devices. Be sure to follow NFPA guidelines, the UL approved installation instructions provided with the product and local codes, as with any other fire protection equipment.

Dimensions
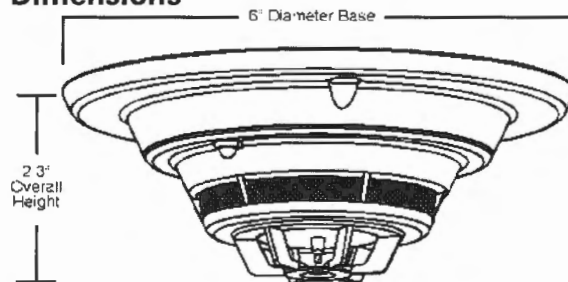
Technical Specifications

Operating Temperature
+32°F (0°C) to 100°F (38°C) per UL 269/268A

Humidity
0-93% Relative Humidity Non-Condensing

Current Draw
1 mA in alarm or stand-by mode

Ordering Information

Model	Description	Part No.
8710	Photoelectric Detector	500-034800FA
8713	Photo-Thermal Detector (FireSmart™)	500-033290FA
8712	135°F Fixed Thermal Detector	500-033380FA
8715	Audible Base	500-033210FA
8853	Detector Base	500-094151FA
8840	Air Duct Housing	500-095656FA
8717	Air Duct Housing with Relay	500-033280FA
8716	Relay Base	500-033220FA
8727W	Remote Lamp (red) for 4" octagon box	500-033310FA
8727C	Remote Lamp (red) for single gang box	500-033230FA
8720	Field Programmer	500-033260FA
8846	Detector base lock (Pkg. of 50)	500-695350FA

IIII⊫FARADAY

8701 Intelligent Monitoring Module

Features

Intelligent Interface Modules for use with MPC-6000 & 7000 Control Panels

• Interfaces and Supervises Normally Open Contacts

• Compact Size Allows Mounting in Single Gang Box Behind Equipment

• Polarity Insensitive Technology

• Innovative Technology Supports Comprehensive System and Interface Communication

• Dynamic Supervision

• Two Wire Operation

• 8720 Device Program/Test Unit Electronically Programs and Verifies Device's Address and Tests Device's Functionality

• (UL) Listed, CSFM and NYMEA Approved

Introduction

The FARADAY 8701 Intelligent interface module is designed to provide the means of interfacing direct shorting devices to the MPC-6000 & 7000 initiating circuit.

The 8701 Intelligent interface module provides the market's most advanced method of address programming and supervision, combined with sophisticated control panel communication. Each 8701 interface module incorporates microcomputer chip technology and its sophisticated bi-directional communication capabilities with the control panel.

Description

The 8701 is designed to monitor a normally open 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.

FARADAY innovative technology allows all 8701 intelligent interface modules to be programmed by using the 8720 Device Program/Test Unit. The 8720 is a compact, portable, menu driven accessory that makes programming and testing an interface device faster, easier and more dependable than previous methods. The 8720 eliminates the need for mechanical addressing mechanisms, such as program jumpers, DIP switches or rotary dials, because it electronically sets the 8701 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 8701 is connected to the program/ tester with the programming cable provided with the tester. This programming cable utilizes two (2) alligator clip connectors to attach to the 8701.

The 8701 Series has five leads, one for grounding, which are wired to the system with user supplied wire nuts.

9610

The 8701 is fully compatible on the same circuit with detectors, addressable manual stations or any addressable intelligent modules.

All 8701 intelligent interface modules have been UL and ULC Listed.

Environmental operating conditions for all 8701 modules are 32°F (°C) to 120°F (49°C) with a relative humidity of not greater than 93% non-condensating.

Ordering Information

Model	Description	Shipping oz.	Weight kg.	Part No.
8701	Single Input	3.5	.1	500-034000FA

Electrical Ratings

Current Draw (Active or Standby): 1mA

Monitoring Modules for MPC-6000 & 7000 Control Panels

Features

Intelligent Interface Modules for 8702, 8703 and 8704

• Interfaces and Supervises Normally Open Contacts

• Integral SPDT Relay (up to 4 amps) on 8704 Model

• Dual Input on 8703 Model using a single address

• Polarity InsensitiveTechnology

• Multi-color L.E.D. 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 5x5 inch faceplate

• Two wire operation

• 8720 Device Program/Test Unit programs andVerifies Device's Address andTests Devices functionality

• Electronic Address Programming is Easy and Dependable

• (UL) Listed, CFSM, NYMEA Approved

Introduction

The 8702, 8703 and 8704 Intelligent interface modules are designed to provide the means of interfacing direct shorting devices to the MPC-6000 & 7000 Control Panels.

The X1 Series Intelligent interface modules provide the market's most advanced method of address programming and supervision, combined with sophisticated control panel communication. Each X1 Series interface module incorporates a microcomputer chip. The X1 Series microcomputer chip technology and its sophisticated bi-directional communication capabilities with the control panel, achieve the state of an "Intelligence Device."

Description

The X1 Series intelligent interface modules are available in three models. The 8702 and 8704 are designed to monitor a normally open dry contact. The interface module reports the contact's status to the control panel. The 8702 model can only monitor and report the status of the contact, while the 8704 incorporates an addressable Form C relay. The

8704 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 8703 is a dual input module and is designed to supervise and monitor two sets of dry contacts. The Dual Input Module only requires one address but responds independently to each input. The 8703 is ideal for monitoring a water flow switch and its respective valve tamper switch.

The module has a multi-color Light Emitting Diode that flashes green when operating normally, amber if unit is in trouble condition, and red to indicate a change of state. The 8704 red L.E.D. 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.

FARADAY innovative technology allows all X1 Series intelligent interface modules to be programmed by using the 8720 Device Programming/Test Unit. The 8720 is a compact, portable, menu driven accessory that makes programming and testing an interface device faster, easier and more dependable than previous methods. The 8720 eliminates the need for mechanical addressing mechanisms, such as program jumpers, DIP switches or rotary dials, because the 8720 electronically sets the address into the interface's microcomputer chip nonvolatile memory. Vibration, corrosion and other conditions that deteriorate mechanical addressing mechanisms are no longer a cause for concern.

The X1 Series modules are fitted with screw terminals for connection to an addressable circuit.

The X1 Series modules are fully compatible on the same circuit with intelligent detectors, addressable manual stations or other addressable intelligent modules.

All X1 Series intelligent interface modules are UL listed.

Environmental operating conditions for all 8700 Series modules are 32°F (°C) to 120°F (49°C) with a relative humidity of not greater than 93% non-condensating.

Mounting Data

Addressable Interface Model 8702, 8703, 8704 mounts 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 module.
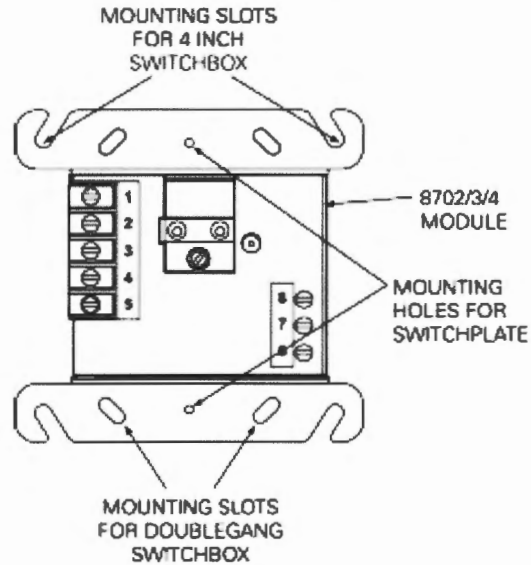
Figure A
Mounting the 8702/3/4

Electrical Ratings

Current Draw (Active or Standby):
  1mA

8704 Relay Ratings
Resistive:
  4A, 125 VAC
  4A, 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.)

Ordering Information

Model	Description	Shipping Weight Lb.	Kg.	Part No.
8702	Single Input	7 oz.	2	500-033370FA
8703	Dual Input	7 oz.	2	500-033360FA
8704	Single Input w/Relay	7 oz.	2	500-033300FA

Specifications

Carbon monoxide detector shall be a System Sensor model number CO1224, listed to Underwriters Laboratories UL 2075 for Gas and Vapor Detectors and Sensors. The detector shall be equipped with a sounder and a trouble relay. The detector's base shall be able to mount to a single-gang electrical box or direct (surface) mount to the wall or ceiling. Wiring connections shall be made by means of SEMS screws. The detector shall provide dual color LED indication, which blinks to indicate normal standby, alarm, or end-of-life. When the sensor supervision is in a trouble condition, the detector shall send a trouble signal to the panel. When the detector gives a trouble or end-of-life signal, the detector shall be replaced.

Electrical Specifications

Operating Voltage	12/24 VDC
Audible Signal	85 dB in alarm
Standby Current	20 mA
Alarm Current	40 mA (75 mA test)
Alarm Contact Ratings	0.5 A @ 30 VDC
Trouble Contact Ratings	0.5 A @ 30 VDC

Physical Specifications

Size	Length: 5.1″, Width: 3.3″, Height: 1.3″
Approximate Weight	7 oz
Operating Temperature Range	0° – 40° C (32° – 104° F)
Operating Humidity Range	22 – 90% RH
Input Terminals	14 – 22 AWG
Mounting	Single-gang back box; surface mount to wall or ceiling

Operation Modes

Operation Mode	Green LED	Red LED	Sounder
Normal (standby)	Blink 1 per minute	—	—
Alarm	—	Blink in temp 4 pattern	Sound in temp 4 pattern

Hush Feature: Pushing the Test/Hush button will silence the sounder for 5 minutes.

Trouble Feature: When the detector is in a trouble condition, it will send a trouble signal to the panel.

End-of-life Timer: After the sensor inside the detector has reached the end of its useful life, a trouble signal will be sent to the panel. This will indicate that it is time to replace the detector. An electrochemical carbon monoxide detector lifespan is approximately six years, and the detector must be replaced by the date marked on the inside of the product.

Ordering Information

Part No.	Description
CO1224	12/24 volt, 4-wire system-monitored carbon monoxide detector

(I) WPBBS (ORDER CODE: RED 500-636137)

Plastic backbox for surface mounting series AS weather-proof outdoor products.

1-11/16
5 21/32
3-3/8
TOP
2 19/32
5 3/16

MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
8	8	8	8
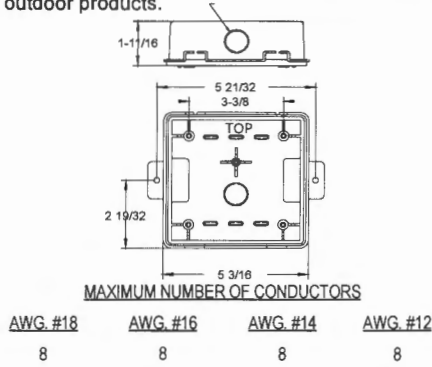
(M) MT-SUR-BOX BACKBOX (ORDER CODES: RED 500-693168, WHITE 500-636118)

KNOCKOUTS FOR ½" CONDUIT (TOP, BOTTOM)
2-5/8
5-21/32
5-1/4 SQ.
3-3/8 SQ.
TOP
2-5/8

MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
8	8	8	8
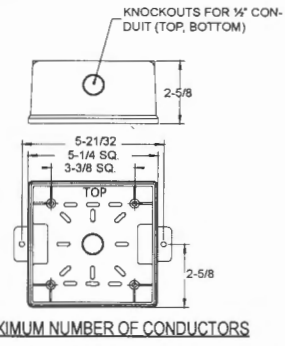
Used with Series SET, HS, MTH, MTWP. For surface mounting MT products.

(J) BBS BACKBOX (ORDER CODES: RED 500-636110)

Standard steel backbox with knockouts for interior surface mounting, concealed conduit mounting or semi-flush applications.

5
3-3/8
1-1/2
#8-32 TAP (2) HOLES
3-3/8
PROVIDED WITH KNOCKOUTS FOR ½" & ¾" CONDUIT

MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
4	4	4	4

Used with Series MH115, B6, B10, AH, AS, MBDC, MTH-15-115, NH, NS, ST

(N) DBBS BACKBOX (ORDER CODE: RED 500-636111)

Standard steel backbox provided with knockouts for interior surface mounting, concealed conduit mounting or semi-flush applications.

4
3-3/8
2-3/16
#8-32 TAP (2) HOLES
3-3/8
PROVIDED WITH KNOCK-OUTS FOR ½" & ¾" CONDUIT

MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
8	8	8	8
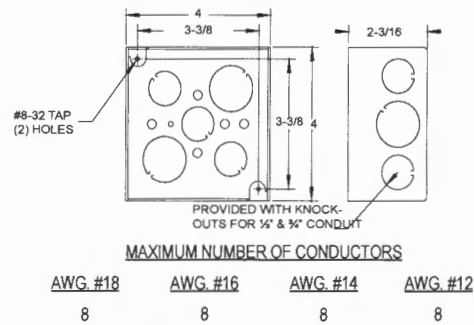
Used with Series MH115, B6, B10, AH, AS, SETSF, HS, MBDC, MTH, NH, NS, ST

(K) WBBS WEATHER RESISTANT BACKBOX (ORDER CODES: RED 500-636129, WHITE 500-636131)

Sturdy die cast housing, threaded conduit hole and knockout for outdoor applications.

5"
4-1/8"
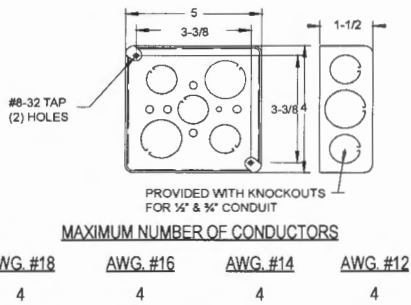3-3/8"
TAPPED FOR ½" CONDUIT
¼" DIA. (2) HOLES
3/8"
4-1/8"
2-1/16"
2"
0-1/4"
½" KNOCKOUT

MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
4	4	4	4
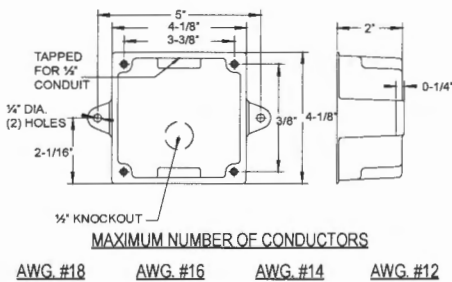
Used with Series MH115, B6, B10, SETSF, MBDC, MTH-15-115

(P) SBBS BACKBOX (ORDER CODES: RED 500-636119, WHITE 500-636120)

For surface mounting speakers, chimes, and electronic applications.

5-9/16
3-9/16
5-1/2
3-3/8
3-3/8
¾" KNOCKOUTS (EACH SIDE)
½" KNOCKOUTS (EACH SIDE)

MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
8	8	8	8
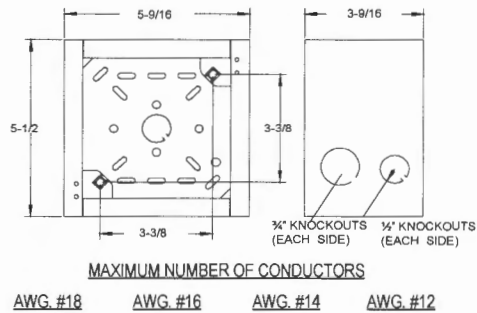
Used with Series B6, B10, CH, SEF, SET, SETFL, HS, MBDC, MTH, NH, NS, ST

(Q) 4" SQUARE DEEP W/ EXTENSION RING, FLUSH (BO)

2-1/8" DEEP
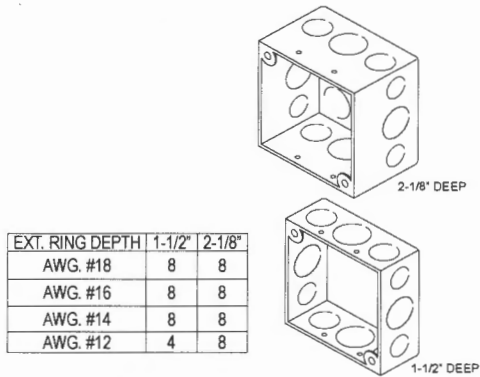
EXT. RING DEPTH	1-1/2"	2-1/8"
AWG. #18	8	8
AWG. #16	8	8
AWG. #14	8	8
AWG. #12	4	8

1-1/2" DEEP

Used with Series CH, SEF, SET, SETFL

(T) WPSBBS (ORDER CODES: RED 500-636139, WHITE 500-636140)

1-11/16
5 21/32
3-3/8
TOP
2 19/32
5 3/16
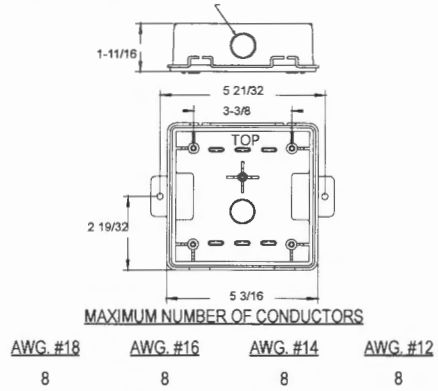
MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
8	8	8	8

Used with Series ST-WP

(R) SFPS SEMI-FLUSH PLATE (ORDER CODES: RED 500-636124, WHITE 500-636125)

Stamped aluminum surface wall plate which mounts behind the basic unit and serves to cover recessed backboxes in semi-flush mounting applications.

6
3-3/8
5/16
#8-32 TAP (2) HOLES
3-3/8 6
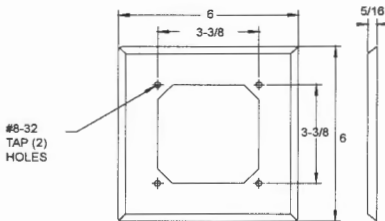
Used with Series MT, SET, SE, NH, NS, ST

(U) 5" SQUARE BACKBOX W/ EXTENSION RING, FLUSH (BO)

5"
5"
5"
2 - 7/8"
5"
5"
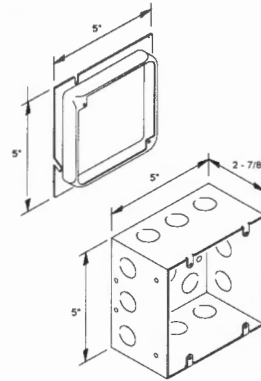
(S) APS ADAPTER PLATE (ORDER CODE: RED 500-630109)

Stamped aluminum adapter plate designed for applications where semi-flush installations cannot be used. The plate can be mounted to standard octagon or round backboxes single or double gang boxes or plaster rings. The backbox and basic unit are then fastened to the plate. This type mounting is referred to as a concealed conduit installation.

6
3-3/8
5/16
#8-32 TAP (4) HOLES
3-3/8 6
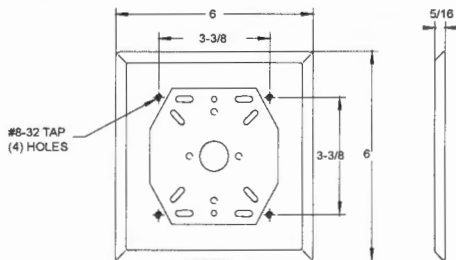
Used with Series MBDC

(W) 4¹¹/₁₆" SQUARE, DEEP SURFACE (BO)
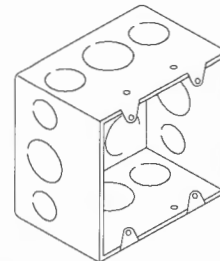
MAXIMUM NUMBER OF CONDUCTORS

AWG. #18	AWG. #16	AWG. #14	AWG. #12
10	10	10	10

(X) SHBBS SQUARE, SURFACE BACKBOX
(Order Codes: Red 500-636126, White 500-636127)
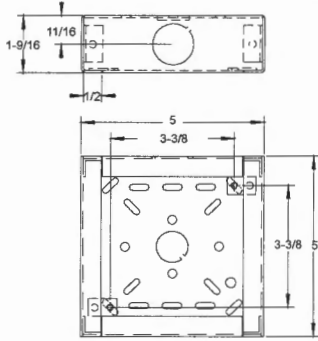
Used with Series AS, AH, NS, Z

(Y) SERS SQUARE SEMI-FLUSH EXTENSION RING (Order Codes: Red 500-636122, White 500-636123)
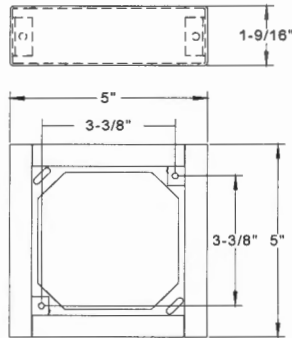
Used with Series CH, SEF, SET

(Z) SBL2S BACKBOX (Order Codes: RED 500-636121)
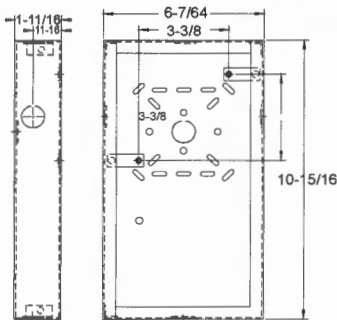
(AA) SPSB (Order Codes: Red 500-636112, White 500-363113)
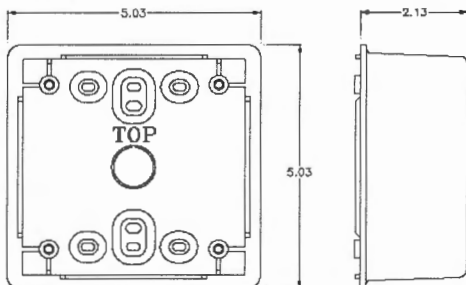
Used with Series SE Speakers

(BB) SPSSB (ORDER CODES: RED 500-636114, WHITE 500-636115)
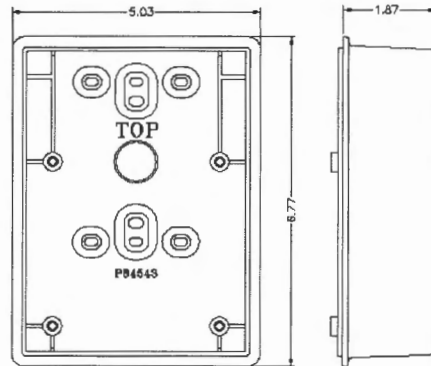
Used with Series SE-MC/HMC
(wall mount speaker/ strobe)

(CC) SB-W 8" CEILING SUPPORT BRIDGE (ORDER CODE: WHITE 500-634882)
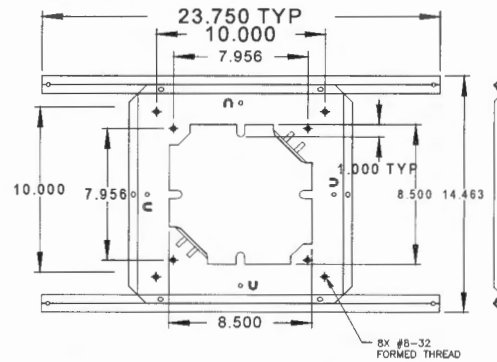
Used with Series S 8" Ceiling Speakers

(DD) SE-1 8" CEILING SPEAKER BACKBOX (ORDER CODE: WHITE: 500-634881)
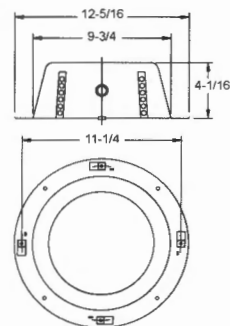
Used with 8" Ceiling Speakers

(EE) SPEXT EXTENSION RING (ORDER CODE: RED 500-636116, WHITE 500-636117)
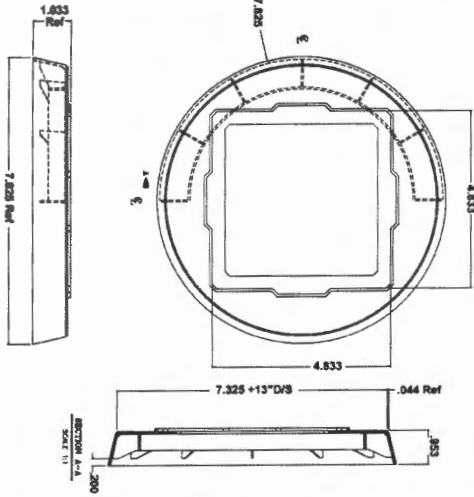
Used with Series SE-MC-C (ceiling mount strobe)

(FF) ZBB (ORDER CODES: RED 500-636193, WHITE 500-636194)

Used with Series Z

(GG) WFPS PLATE (ORDER CODES: RED 500-636135, WHITE 500-636136)

Used with MTH-WP, ST-WP

(HH) WFPAS PLATE (Order Codes: Red 500-363133, White 500-656134)

Used with AS-WP

MOUNTING MATRIX

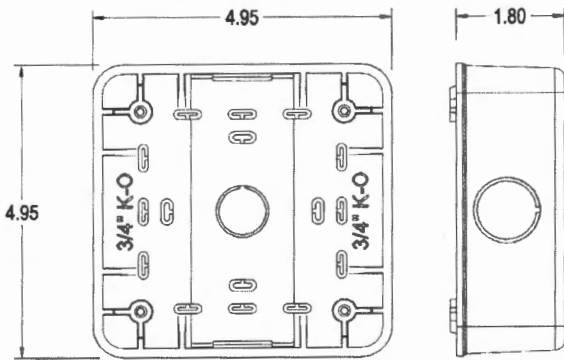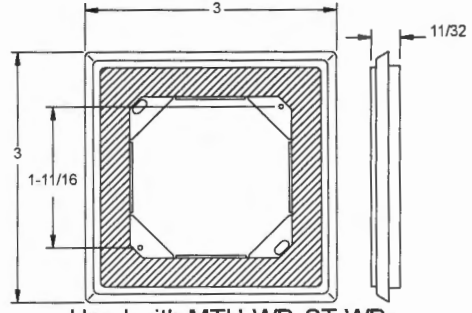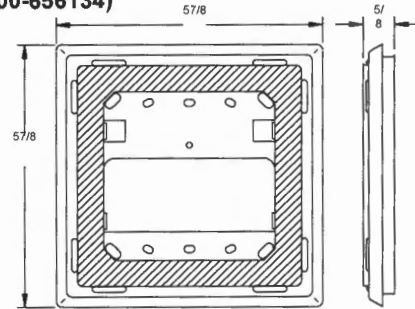|	Series SET-C	Series ST	Series ST-MC-RETRO	Series MH115	Series SE	Series B10-115	Sereis CH	Series SETSF-B	Series SETSF	Series MBDC	Series SET/SET Wall Mount	Series SE-C	Series MH	Series MTH	Series NH/NS	Series HS	Series AS/AH	Series AH-WB(3), MT-WP(4), MTH	Series Z
(A) Universal Mounting Plate (included with AS series devices)																	X		
(B) 1-GANG x 2" Deep - Flush (BO)		X										X		X			X		X
(D) 4" x 4" x 1.5" Deep - Flush (BO)		X	X	X	X				X					X			X		X
(E) 4" x 4" x 2.125 Deep - Flush (BO)		X	X	X	X	X			X					X	X	X	X		X
(F) 2-Gang x 3.5" Deep - Flush (BO)		X												X	X	X	X		X
(G) 2-Gang x 1.75" Deep - Surface (BO)		X												X			X		
(I) WPBBS-R Weatherproof Backbox for AS-WP																		2	
(J) BBS Surface (SP) Note 9		X		X		X			X					X			X		
(K) WBBS Weatherproof (SP)				X		X		X	X								X	3	
(M) MT-SUR-BOX Surface & Weatherproof (SP)											X			X		X		4	
(N) DBBS Surface (SP)		X		X		X			X					X	X	X			
(P) SBBS Surface (SP)	X	X			X	X	X		X	X				X	X	X	X		
(Q) 4" x 4" x 2.125" Box w/ 1.5" Extension Ring- Flush (BO)	X		X			X	X		X	X		X							
(R) SPT Semi-Flush Plate (SP)		X		X		X	X		X	X				X	X	X	X		
(S) APS Adapter Plate (SP)					X			X	X	X									
(T) WPSBBS-R Weatherproof Backbox for ST-WP																		1	
(U) 5" Square Backbox w/ Extension Ring, Flush (BO)	X						X	X				X							
(W) 4.6875" x 4.6785" x 2.125" Deep Surface (BO)																			
(X) SHBBS (SP) Shallow Surface		X			X				X					X			X		
(Y) SERSSemi-Flush Extension Ring (Retrofit Appl.)	X					X						X							
(Z) SBLS-2 Surface (SP)		X	X	X		X	X	X		X									
(AA) SPSB Backbox for SE Speaker				X															
(BB) SPSSB Backbox for SE Speaker Strobe				X															
(EE) SPEXT Extension Ring												X							
(FF) ZBB																			X

MOUNTING NOTES

Caution: The mounting options figures show the maximum number of field wires (conductors) that can enter the backbox used with each mounting option. If these limits are exceeded, there may be insufficient space in the backbox to accommodate the field wires and stresses from the wires could damage the product.

Although the limits shown for each mounting option comply with the National Electrical code (NEC), Siemens recommends use of the largest backbox option and the use of approved field wires whenever possible, to provide additional wiring room for easy installation and minimum stress on the product from wiring.

Caution: Check that the installed product will have sufficient clearance and wiring room prior to installing backboxes and conduit, especially if sheathed multiconductor cable or 3/4" conduit fittings are used.

1. Mounting hardware for each mounting option is supplied.

2. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product. When extension rings are required, conduit should enter through the backbox, not the extension ring. Use Steel City #53151 (1-1/2" deep) or #53171 (2-1/8" deep) extension rings (as noted in the mounting options) or equal with the same cut-out area.

3. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the appliance.

4. Use care and proper techniques to position the field wires in the backbox so that they use minimum space and produce minimum stress on the product. This is especially important for stiff, heavy gauge wires and wires with thick insulation or sheathing.

5. Do not pass additional wires (used for other than the appliance) through the backbox "unless the backbox is of a sufficient size to permit additional wiring as described in NEC 314.16 (B)". Such additional wires could result in insufficient wiring space for the appliance.

NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Siemens Inc. standard terms and conditions.

BACKBOX MOUNTING HEIGHTS for SIEMENS WALL MOUNTED HORIZONTAL STROBE APPLIANCES NFPA-72 (2007)

7.5.4.1* Wall-mounted appliances shall be mounted such that the entire lens is not less than 2030 mm (80 in.) and not greater than 2440 mm (96 inc.) above the finished floor or at the mounting heigh specified using the performance-based alternative 7.5.4.5

7.5.4.2 Where low ceiling heights do not permit mounting at ta minimum of 2030 mm (80 in.), visible appliances shall be mounted within 150 mm (6 in.) of the ceiling. The room size covered by a strobe of a given value shall be reduced by twice the difference between the minimum mounting height of 2030 mm (80 inc.) and the actual, lower mounting height.

Backbox Mounting Options*	Series AS/AH Audible Strobe		Series ST-MC-RETRO Flush and Surface Retrofit Plate		Series NS Horn Strobe		Series Z and ST Strobe		Series MTH Multitone	
	80 IN	6 IN	80 IN	6 IN	80 IN	6 IN	80 IN	6 IN	80 IN	6 IN
(B) 1-Gang x 2" Deep - Flush (BO)	77 ½	8 ½"			78 $\frac{3}{8}$"	7 $\frac{5}{8}$"	79 $\frac{1}{8}$"	6 $\frac{7}{8}$"		
(D) 4" x 4" x 1.5" Deep - Flush (BO)	77"	9"	83 $\frac{15}{16}$"		77 $\frac{7}{8}$"	8 $\frac{1}{8}$"	78 $\frac{5}{8}$"	7 $\frac{3}{8}$"	79 $\frac{15}{16}$"	6 $\frac{1}{16}$"
(E) 4" x 4" x 2.125" Deep - Flush (BO)	77"	9"	83 $\frac{15}{16}$"		77 $\frac{7}{8}$"	8 $\frac{1}{8}$"	78 $\frac{5}{8}$"	7 $\frac{3}{8}$"	79 $\frac{15}{16}$"	6 $\frac{1}{16}$"
(F) 2-Gang x 3.5" Deep - Flush (BO)	77 ½"	8 ½"			78 $\frac{3}{8}$"	7 $\frac{5}{8}$"	79 $\frac{1}{8}$"	6 $\frac{7}{8}$"	80 $\frac{9}{16}$"	5 $\frac{7}{16}$"
(G) 2-Gang x 1.75" Deep - Surface (BO)	77 ½"	8 ½"			78 $\frac{3}{8}$"	7 $\frac{5}{8}$"	79 $\frac{1}{8}$"	6 $\frac{7}{8}$"	80 $\frac{9}{16}$"	5 $\frac{7}{16}$"
(M) MT-SUR-BOX Surface & Weatherproof (SP)									79 $\frac{3}{8}$"	6 $\frac{5}{8}$"
(P) SBBS Surface (SP)									79 $\frac{1}{4}$"	6 $\frac{3}{4}$"
(Q) 4" x 4" x 2.125" Box w/ 1.5" Extension Ring - Flush (BO)										
(U) 5" Square Backbox w/ Extension Ring, Flush (BO)	69 ½"	8 ½"	83 $\frac{7}{16}$"		77 $\frac{3}{8}$"	7 $\frac{5}{8}$"	78 $\frac{1}{8}$"	6 $\frac{7}{8}$"	79 $\frac{7}{16}$"	5 $\frac{9}{16}$"
(X) SHBBS (SP) Shallow Surface	76 ½"	9 ½"			77 $\frac{3}{8}$"	8 $\frac{5}{8}$"	78 $\frac{1}{8}$"	7 $\frac{7}{8}$"		
(Y) 4" x 4" x 1.5" Box w/ 1.5" Extension Ring Plate (BO)										
(Z) SBL2S Surface (SP)			78"							
(FF) ZBB							78 $\frac{1}{8}$"	7 $\frac{7}{8}$"		

Backbox Mounting Options*	Series CH Chime Strobe		Series SET-V Speaker Strobe		Series SEF-C Speaker Strobe		Series SET-C Speaker Strobe	
	80 IN	6 IN	80 IN	6 IN	80 IN	6 IN	80 IN	6 IN
(P) SBB Surface (SP)	77 ¾	8 ¼"	79 $\frac{3}{16}$"	6 $\frac{13}{16}$"	77 ¾"	8 ¼"	77 ¾"	8 ¼"
(Q) 4" x 4" x 2.125" Box w/ 1.5" Extension Ring - Flush (BO)	77 ½"	7 ½"	80	6"	78 ½"	7 ½	78 ½"	7 ½"
(U) 5" Square Backbox w/ Extension Ring - Flush (BO)	78"	7"	79 ½	5 ½"	78"	7"	78"	7"
(X) SHBB (SP) Shallow Surface								
(Y) 4" x 4" x 1.5" Box w/ 1.5" Extension Ring Plate - Flush (BO)	78 ½"	7 ½"	80"	6"				

* Measured from Bottom of Backbox

NOTES: (BO) = By Others   (SP) = Siemens Product

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IIIIIIIFARADAY

Features

- UL listed. ULC, CSFM, and FM pending.

- ADA/NFPA compliant

- EZ Mount design, with separate base plate, provides ability to pre-wire the base and test the circuit wiring before the walls are covered

- The base plate is protected by a disposable cover and the appliances can quickly snap onto the base after the walls are painted.

- EZ Mount Universal Mounting Plate (ZBB) – uses single plate for ceiling and wall mount installations

- Wall Mount models feature field selectable candela settings of 15/30/75/110cd and 135/185cd

- Ceiling Mount models feature field selectable candela settings of 15/30/75/95cd and 115/177cd

- Strobes can be synchronized using the Siemens 5406B sync modules, MPC-6000 panel, MPC-7000 panel, or RSE-300 power supply with built-in sync protocol

- "Special Applications" listed with Siemens panels

- Strobes produce 1 flash per second

- Selectable Continuous Horn or Temporal (Code-3) Tones with selectable 90 or 95 dBA setting (ZH model)

Series ZH

Series ZR

ZR AND ZH Mounting

Description

The Siemens Series Z notification appliances feature an easy snap on base that is designed to simplify the installation and testing of horns, strobes, and horn/strobes. The separate Series Z snap on base can be pre-wired so circuit wiring can be fully tested before the appliance is installed and before the walls are covered. Once all surrounding work is complete, the appliance can be simply installed by snapping it on the base. Shorting contacts in the base, which provide continuity for circuit testing, are permanently opened when the appliance is installed so any subsequent removal of the appliance will indicate a trouble condition on that circuit at the control panel when circuit supervision is enabled. The same base is used for all Series Z horns, strobes and horn/strobes to provide consistent installation and easy replacement of appliances if required. A locking screw is also included for the appliance to provide extra secure installation.

The Siemens Series Z appliances incorporate the same dependable circuitry and high efficiency optics that are used in Siemens ST strobes, NS horn/strobes and NH horns and have the same high performance ratings. The Series Z appliances are "Special Applications" listed with Siemens panels.

Engineering Specifications

General

Audible/visual notification appliances shall be listed for indoor use and shall meet the requirements of FCC Part 15 Class B. These appliances shall be listed under UL Standard 1971, (Standard for Safety Signaling Devices for Hearing Impaired) and UL Standard 464 (Fire Protective Signaling). The appliances shall use a universal backplate that 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 checking of the entire NAC circuit prior to attaching any audible/visual notification appliances shall be allowed. A dust cover shall fit and protect the mounting plate. The dust cover shall be easily removed when the appliance is installed over the backplate. Removal of an appliance shall result in a trouble condition by the Fire Alarm Control Panel (FACP).

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. The strobes shall be available with two or four field selectable settings in one unit and shall be rated, per UL 1971, for up to 185 cd for wall mounting and 177 cd for ceiling mounting. The 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. The horns shall be able to produce a continuous output or a temporal code-3 output that can be synchronized. The horns shall have at least 2 sound level settings of 90 and 95 dBA.

Synchronization Modules

When synchronization of strobes or temporal Code-3 audibles is required, the appliances shall be synchronized using the Siemens 5406B sync modules, MPC-6000 panels, MPC-7000 panels, or RSE-300 power suppies with built-in sync protocol. The strobes shall not drift out of synchronization at any time during operation. Au-

dibles and strobes shall be able to be synchronized on a 2-wire circuit with the capability to silence the audible if required. If the sync module or power supply fails to operate (i.e., contacts remain closed), the strobes shall revert to a non-synchronized flash rate. 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".
- 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).

Technical Information

For complete technical information, please consult the relevant installation sheets as well as the Siemens Compatibility Guide.

Ordering Information / Mounting Requirements / Approvals

Model Number	Order Code	Mounting Options#	Agency Approvals			
			UL	ULC	CSFM	FM
ZH-MC-R	500-636161	B, D, E, F	X	#	#	#
ZH-MC-W	500-636162	B, D, E, F	X	#	#	#
ZH-HMC-R	500-636163	B, D, E, F	X	#	#	#
ZH-HMC-W	500-636164	B, D, E, F	X	#	#	#
ZH-R	500-636159	B, D, E, F	X	#	#	#
ZH-W	500-636160	B, D, E, F	X	#	#	#
ZH-MC-CR	500-636165	B, D, E, F	X	#	#	#
ZH-MC-CW	500-636166	B, D, E, F	X	#	#	#
ZH-HMC-CR	500-636167	B, D, E, F	X	#	#	#
ZH-HMC-CW	500-636168	B, D, E, F	X	#	#	#
ZR-MC-R	500-636169	B, D, E, F	X	#	#	#
ZR-MC-W	500-636170	B, D, E, F	X	#	#	#
ZR-HMC-R	500-636171	B, D, E, F	X	#	#	#
ZR-HMC-W	500-636172	B, D, E, F	X	#	#	#
ZR-MC-CW	500-636174	B, D, E, F	X	#	#	#
ZR-MC-CR	500-636173	B, D, E, F	X	#	#	#
ZR-HMC-CR	500-636175	B, D, E, F	X	#	#	#
ZRS-HMC-CW	500-636176	B, D, E, F	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   # = pending   * = Refer to Data Sheet #9675 for mounting options.

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IIIII FARADAY

8730 DUCT DETECTOR TEST SWITCH

Features

- Key Operated
- LED Indicates Detector in Alarm
- Mounts in Single Gang Box
- Compatible with All Faraday Brand Intelligent Duct Detectors
- (UL) UL Listed

Description

The 8730,Test Switch Module is a key activated device that will functionally test a detector. The module is compatible with Faraday intelligent fire, smoke and duct detectors used on MPC 6000 and 7000 systems.

The 8730 includes a red LED that illuminates when the corresponding duct detector is in alarm. The switch operates in conjunction with a 8704 Interface Module with relay. Either that relay or the relay in the duct detector can be used for control of building equipment such as HVAC fans and elevators. The 8730 mounts in a single gang electrical box and includes a red cover plate.

When the switch is operated a signal is transmitted to the appropriate detector forcing it to alarm. That alarm will activate all functions programmed to follow that detector. The 8730 therefore provides a true functional test of the actions associated with duct detectors on MPC 6000 or 7000 systems as required by many jurisdictions.
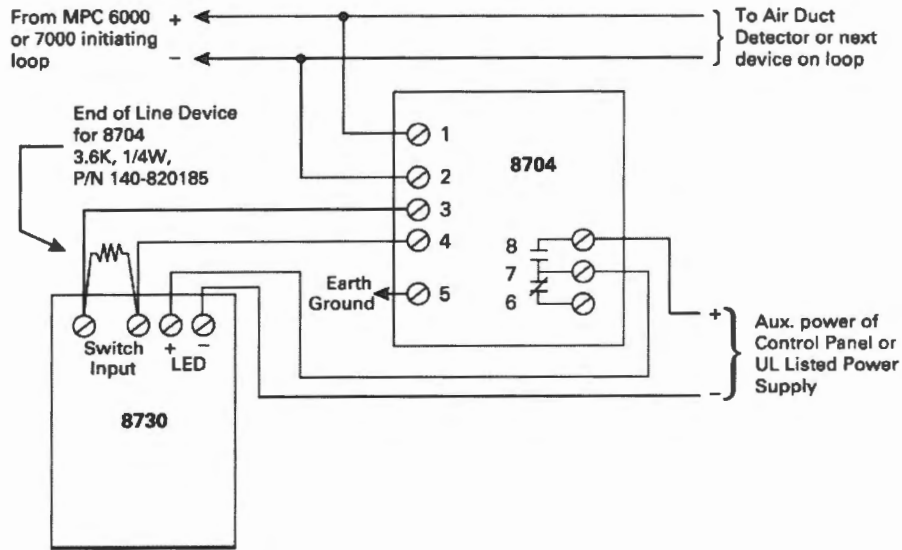
Underwriters' Laboratories, Inc has listed the 8730 as compatible with intelligent detectors.

Ordering Information

Model	Description	Part No.
8730	DetectorTest Switch	500-696353FA

Refer to Installation Instructions, P/N 315-098285FA

9653

Wiring Diagram

From MPC 6000 or 7000 initiating loop

+ → To Air Duct Detector or next device on loop
−

End of Line Device for 8704 3.6K, 1/4W, P/N 140-820185

8704

1
2
3
4
8
7
6

Earth Ground → 5

Switch Input   + LED −

8730

+ Aux. power of Control Panel or UL Listed Power Supply −

Notes:

1. For use only with Air Ducts with an incorporated relay.

2. Refer to the 8704 Installation Instructions, P/N 315-033300FA, for specific interface module wiring requirements.

3. Refer to the 8840 Installation Instructions, P/N 315-095659FA, or the 8717 Installation Instructions, P/N 315-033280FA, for specific duct detector wiring requirements, as applicable.

Mounting Diagram

Caution:
The 8730 switch module does not perform all of the required smoke detector test as specified in NFPA Standard 72. Please refer to the instructions that accompany the detector for the complete test requirements.

Red Cover Plate

Face Plate

Keyswitch Connector

Carrier

Switch Inputs

LED Connector
+ −

JP1 (Not Used)

Keyswitch Mating Plug

Single Gang Mounting Box (User Supplied)

8730 Assembly

IIIIII FARADAY

Installation Instructions
Models 8741, 8742 and 8743

Air Duct Monitoring Housings

INTRODUCTION

Models 8741, 8742 and 8743 are air duct monitoring housings containing sampling tubes. When used with a compatible smoke detector, smoke and combustion products are detected for shutdown of the duct system and/or operation of supplementary equipment as provided by the system control panel. See the following chart for usage.

Model	Compatible Detectors	Relay
8741	8854, 8710, 8713	No
8742	8854	Yes
8743	8710, 8713	Yes

NOTE ☞ **For compatible control equipment, see charts on the page 12 of this manual.**

TECHNICAL DATA

AIR DUCT CONDITIONS

Temperature Range:

32°F (0°C) - 100°F (38°C) per UL 268/268A

Altitude Range:

8741, 8742 and 8743 — No altitude limitations

Relative Humidity Range:

10-85% (non-condensing/non-freezing)

Air Duct Velocity Range:

100-4000 ft/min – 8741, 8742 and 8743

Sampling Tube Pressure Range of Differences:

Greater than 0.01 and less than 1.2 inches of water column

⚠ CAUTION These air duct detectors are designed for detection and control of products of combustion in a duct system. They are not to be used for open area protection.

DO NOT USE air duct detectors with Alarm Verification.

APPLICATION   The 8741, 8742 and 8743 duct smoke detectors provide early detection of smoke and products of combustion present in air moving through an HVAC duct supply, return, or both. These devices are designed to prevent the recirculation of smoke in areas by the air handling system's fans and blowers. Complete systems may be shut down in the event of smoke detection.

NOTE 👉   *For the correct installation of a duct smoke unit please refer to NFPA 72 (National Fire Alarm Code), NFPA 90A (Standard for Installation of Air Conditioning and Ventilation Systems), and NFPA 92A (Recommended Practice for Smoke Control Systems).*

OPERATION   When the Models 8741, 8742 and 8743 are operating, a sample of air is drawn from the duct and passed through the sampling chamber by means of the input sampling tube. The air sample passes through the smoke detector mounted in the duct housing and is exhausted back into the duct through the outlet tube.

This detector is equipped with cover removal switch (SW1) that instantly provides a trouble condition upon removal of the clear cover. For all testing and inspection with the cover removed, the cover removal switch (designated as SW1 on PCB) must be manually depressed to simulate normal operation.

LED Indicator   The 8741, 8742 and 8743 contain an LED indicator (located on the smoke detector) capable of flashing either one of three distinct colors: green, yellow, or red. During each flash interval, the microprocessor based detector checks the following:

• for smoke in its sensing chamber

• that its critical smoke sensing electronics are operating.

Based on the results of these checks, the LED indicator flashes as follows:

Flash Color	Condition	Flash Interval (Seconds)	
		8854	8713/8710
Green	Normal supervisory operation.	7	4
Yellow	Detector requires service (cleaning or repair) or is operating beyond its environmental specifications.	7-30	4
Red	Alarm	2½	4
No Flashes	Detector is not powered, or requires repair.	-	-
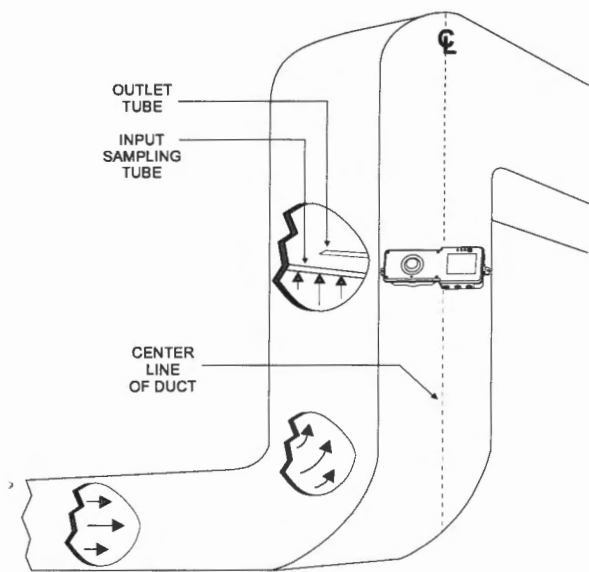
Figure 1
Typical Mounting of Duct Housing

TYPE A: CLOSED SYSTEM - NO EXHAUST

TYPE B: PROVISION FOR EXHAUSTING
SOME PERCENTAGE OF RETURN AIR

TYPE C: RETURN AIR UNDER POSITIVE PRESSURE
FROM SEPARATE BLOWER
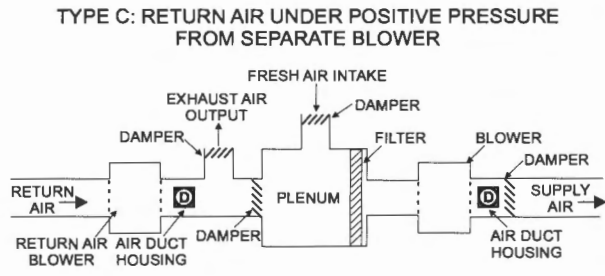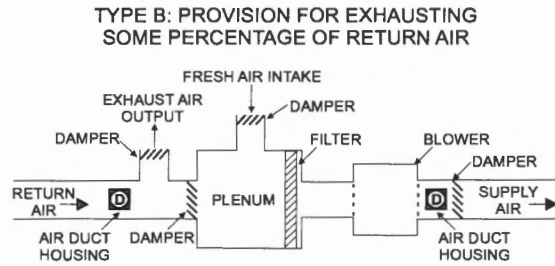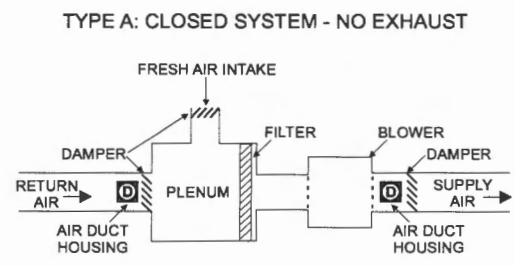
Figure 2
Recommended Locations in Duct Systems

MOUNTING THE AIR DUCT HOUSING

Location on Duct System

This guideline contains general information on duct smoke detector installation, but does not preclude the NFPA documents listed. Siemens Building Technologies, Inc. assumes no responsibility for improperly installed duct detectors. To determine the correct installation position for an 8741, 8742 or 8743 duct smoke detector, the following factors must be considered.

1) A uniform non-turbulent (laminar) airflow between 100 ft/ min. to 4,000 ft/min. must be present in the HVAC duct. To determine duct velocities, examine the engineering specifications that define the expected velocities or use an Alnor model 6000AP velocity meter (or equivalent).

2) To minimize the impact of air turbulence and stratification on performance, a duct smoke detector should be located as far as possible downstream from any obstruction (i.e. deflector plates, elbows, dampers, etc.). In all situations, confirmation of velocity and pressure differential within specifications is required.

The pressure differential between the input sampling (high pressure) tube and outlet (low pressure) tube for the 8741, 8742 or 8743 duct smoke detector should be greater than 0.01 inches of water and less than 1.2 inches of water.

3) Identify a code compliant location (supply or return side, or both) for the installation of the duct unit that will permit easy access for viewing and serviceability.

4) When installing on the return side, install duct units prior to the air being exhausted from the building or diluted with outside "fresh" air.

5) When installing duct smoke units downstream of filters, fires occurring in the filters will be detected, but if the filters become blocked, insufficient air flow through the duct unit will prevent the correct operation of the duct detector. Duct units installed in the supply air side may monitor upstream equipment and/or filters.

6) Where possible, install duct detectors upstream of air humidifiers and downstream of dehumidifiers.

7) To prevent false alarms, the duct detector should not be mounted in areas of extreme high or low temperatures, in areas where high humidity exists, or in areas where the duct may contain gases or excessive dust.

Duct Preparation   The 8741, 8742 and 8743 Housings come with an installation kit that contains the following items:
  • Short return (outlet) sampling tube
  • Stopper
  • Two #12 x 3/4" sheet metal screws
  • Mounting template (packaged separately)

Remove mounting template from the installation kit. Remove paper backing from the mounting template and affix it to the duct at the desired location. Using the template as a guide, drill (2) mounting holes, 3/32" (2.5mm) for the #12 X 3/4" sheet metal screws packaged in the installation kit. Drill or

punch (2) 1¼" (32mm) holes for input sampling and outlet tubes, using the template as a guide. Clean all holes.

Sampling Tube Installation

The 8741, 8742 and 8743 duct smoke detectors use a specially notched sampling tube, which may be ordered separately in one of four standard lengths.

ST-10	For duct widths of 6" to 1.0'
ST-25	For duct widths of 1.0' to 3.0'
ST-50	For duct widths of 3.0' to 5.0' (requires support)
ST-100*	For duct widths of 5.0' to 10.0' (requires support)

* This model is supplied as two 5 ft. sections with a coupling.
Assembly is required for installation.

NOTE ☞ **Each model is manufactured with a different number and size of sampling holes. Only the specific tube must be used for the specified duct width.**

Standard sampling tubes are steel tubes with air intake holes drilled the entire length of the tube. These tubes can be cut to length and must span at least 80% the width of the duct. Sampling tubes over 3.0' must be supported on the opposite side of the duct. To ensure the correct operation, the red stopper (stopper in installation kit) must be inserted in the end of the air input sampling tube. If the input tube protrudes through the opposite side of the duct, the opening around the tube must be sealed. For custom duct widths, always use the next longest standard size and cut down to the exact requirement.

Once the airflow direction has been determined (refer to Figure 3), insert the input and outlet tubes into the duct housing.
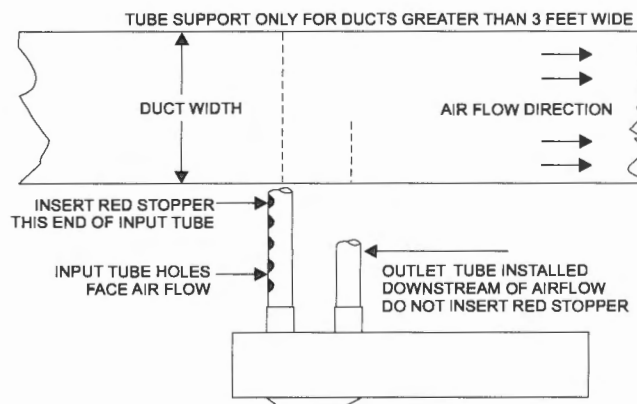
Figure 3
Sampling Tube Orientation

1. Remove the cover from the housing.

2. Loosen the screw and rotate the tube retainer until the input tube is inserted and oriented properly. Ensure that the notched end of the tube is inside the housing and that the air input sampling tube is positioned so that the input holes are directly facing the airflow.

3. Once the tube is installed, rotate the retainer back into place and tighten screw.

4. Install the outlet tube in the remaining position. Once the tube is installed, rotate the retainer back into place and tighten screw.

Mounting

After securing the input and outlet tubes to the duct smoke unit, (or initially placing the tubes through the 1¼" holes drilled or punched in the HVAC duct to accept the input and outlet tubes and then attaching them to the duct unit), hold the duct unit assembly in position and use (2) # 12 X ³/₄" sheet metal screws (packaged in the installation kit) to secure the duct smoke detector to the HVAC duct sheet metal.

Air Duct Sampling Tube Pressure Measurement

The Model 8883 Pressure Differential Measuring device should be used to ensure that the sampling tube pressure differential is within the specified limits. The differential pressure between the two tubes should be greater than 0.01 inches of water and less than 1.2 inches of water. Qualified personnel should take measurements in accordance with the 8883 instructions, P/N 315-085535FA.

WIRING

Conduit Knockouts

Determine knockout size required based upon installation wiring. Refer to Figure 4. Select knockout and remove by placing screwdriver at center of knockout and tap with a hammer until the knockout breaks out. Clean the hole before installing conduit.

1/2" KNOCKOUT
3/4" KNOCKOUTS
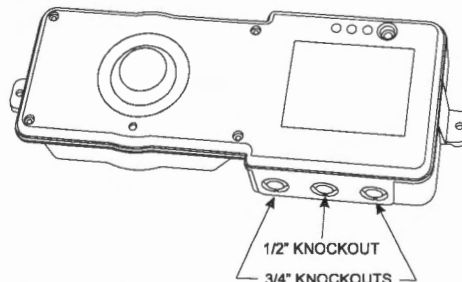
Figure 4
Removing the Knockouts

Wiring

The 8741, 8742 and 8743 should be connected as shown in Figures 5 and 6. *Note any limitations on the number of detectors and restrictions on the use of remote devices permitted for each circuit.*

The 8741 is used with the 8713 detector in the MPC-6000/MPC-7000 System. The 8743 must be used for the relay version. Also, all optional accessories in the same loop must be compatible with the detector series being used. These devices should be interconnected as shown in Figure 6 and wired to the FDLC. (Refer to the FDLC Installation Instructions, P/N 315-447360FA, or the MPC-6000/MPC-7000 Manual, P/N 315-447309, as applicable.) 8710 and 8713 are polarity insensitive detectors. Line 1 and Line 2 can be either line of the loop. *Note any limitations on the number of detectors and restrictions on the use of remote devices permitted for each circuit.*

WARNING

When replacing a detector with a different model, be aware that existing detector accessories connected to the base or air duct housing that were compatible with the old detector may not be compatible with the new detector. Always read the Installation Instructions accompanying the detector to determine detector and accessory compatibility.

Installation Of Smoke Detectors

To Install:
- Remove cover by loosening the four screws. Take off the cover and set it aside.
- Align detector with base and insert detector.
- Rotate detector <u>clockwise</u> while gently pressing on it until the detector drops fully into base.
- Then rotate the detector clockwise until it stops and snaps in place.
- Replace cover and tighten the four screws.

To Remove:
- Rotate the detector counterclockwise until stop is reached.
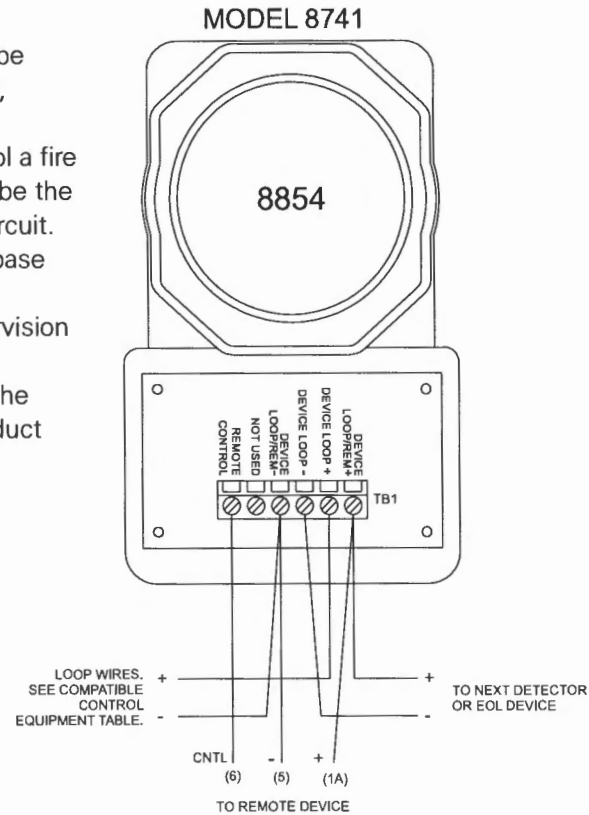- Pull detector out of base.

NOTES:

1. Up to 30 air duct housings can be installed on one initiating circuit, except as noted in Note 2.
2. When an 8742 is used to control a fire safety function, the 8742 must be the ONLY device on the initiating circuit.
3. Do not use looped wire under base terminal.
4. Break wire run to provide supervision of connection.
5. The green grounding screw in the wiring compartment of the air duct housing is not used.

WARNING

If the relay contacts are being used to control 120 VAC operated equipment, ensure that the conduit is properly attached to the internal metal ground strap, using the proper conduit locking nuts. **Failure to provide proper grounding may result in fatal electrical shock and violation of national and local codes.**

MODEL 8741

8854

REMOTE CONTROL
NOT USED
DEVICE LOOP/REM+
DEVICE LOOP -
DEVICE LOOP +
DEVICE LOOP/REM -

TB1

LOOP WIRES.
SEE COMPATIBLE
CONTROL
EQUIPMENT TABLE.

+
-

TO NEXT DETECTOR
OR EOL DEVICE
+
-

CNTL
(6)   (5)   (1A)
-   +

TO REMOTE DEVICE

† SEE REMOTE DEVICE
INSTRUCTIONS FOR
WIRING DETAILS:

DEVICE	INSTALLATION INSTRUCTIONS
8845, 8849	P/N 315-094925FA
8844, 8848	P/N 315-094926FA

MODEL 8742

8854

ALARM RELAY
NC COM NO
REMOTE
+ CNTL -
DEVICE LOOP
- + +

TB1

ALARM CONTACTS
125 VAC, 24 VDC, 2.5A
SEE NOTE 2

NC
COM
NO

REM- (5)
CONTL (6)
REM+ (1A)

TO SECOND
REMOTE DEVICE
(SEE MULTIPLE
REMOTE DEVICES)

NOTE:
EOL DEVICE MUST BE
COMPATIBLE WITH
SYSTEM INITIATING
CIRCUIT. OBSERVE
PROPER POLARITY
WHERE APPLICABLE.

LOOP WIRES.
SEE COMPATIBLE
CONTROL
EQUIPMENT TABLE.

+
-

TO NEXT DETECTOR
OR EOL DEVICE
+
-

MULTIPLE REMOTE DEVICES

If remote devices are supported by the initiating circuit, each detector/base may have up to 2 remote devices with the following configurations and restrictions only:

Remote Device 1	Remote Device 2	Restrictions
8741	8845, 8849	See Note 2
8741	8844, 8848	See Note 2

Figure 5
Typical Connections for the 8741 / 8742 Using 8854 Detectors

NOTES:

1. The relay contacts are shown after a reset pulse, which represents the non-alarm condition.
2. Refer to the 8727W / 8727C Installation Instructions, P/N 315-033230FA.
3. The green grounding screw in the wiring compartment of the air duct housing is not used.
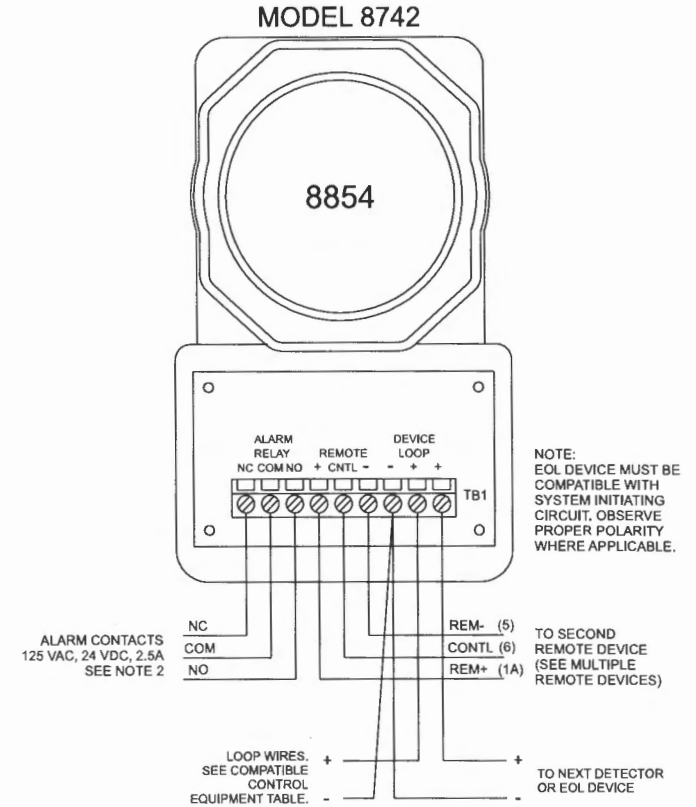
WARNING

If the relay contacts are being used to control 120 VAC operated equipment, ensure that the conduit is properly attached to the internal metal ground strap, using the proper conduit locking nuts. **Failure to provide proper grounding may result in fatal electrical shock and violation of national and local codes.**
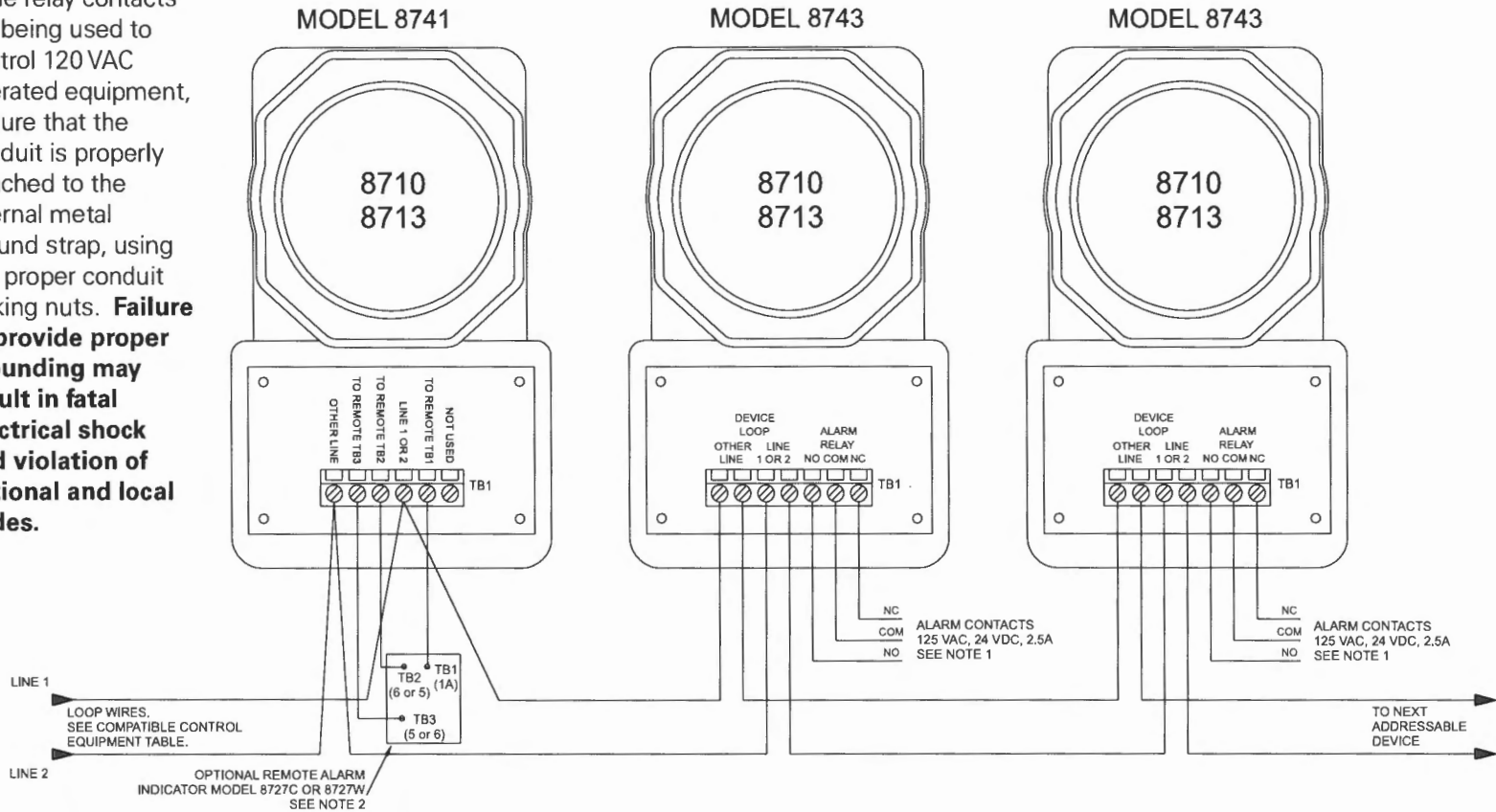

Figure 6
Typical Connections for the 8741 / 8743 Using 8710 and 8713 Detectors

TESTING

Only qualified service personnel should test these units. To assure proper operation of the detector and control panel, both the Sensitivity and the Functional tests should be conducted. The minimum test schedule may be found in the current edition of NFPA 72 for installations in the U.S.

Sensitivity Test

The 8854 detector monitors its smoke sensitivity automatically and requires no test equipment. A green flash of the detector LED about every seven seconds indicates that the smoke sensitivity is within its listed limits.

NOTE ☞ **The following detector models are analog types that must be programmed for the air duct application using the control unit configuration tool; that is, CIS-4.**

To test the 8713/8710 detector refer to its installation instructions. See Table A on page 11.

These tests ensure that the detector is within its listed and marked sensitivity range. For additional instructions on applying the *Sensitivities* mode, refer to the 8720 Manual, P/N 315-033260FA.

Functional Test

Smoke Testing
Using TG-11 smoke test canister with testing nozzle model AD-TGN (purchased separately) available from Siemens Building Technologies, Inc., insert the test gas nozzle into the hole in the red test plug in the unit cover. Press can against cover for about $1/2$ second to release gas into the chamber.

⚠️ CAUTION **DO NOT SPRAY GAS FOR MORE THAN ½ SECOND. OVER-USE OF TEST GAS MAY RESULT IN DETECTOR CONTAMI-NATION.**

After 15 to 20 seconds the detector will go into alarm, illuminating the detector LED and causing the duct unit functions to operate; alarm relays will change state, and the alarm related remote accessories, if attached, will function.

If no test gas is available to conduct functional testing, remove cover and, while holding down the cover removal switch, blow smoke from a smoldering cotton wick or punk directly at the head to cause an alarm. The alarm indicator on the detector should illuminate within one minute.

P/N 315-049708FA-2

Refer to the following Installation Instructions for additional information on testing each of these detectors:

TABLE A

Detector	Installation Instruction
8854	315-094198FA
8713	315-033290FA
8710	315-033290FA

The 8710 and 8713 can also be tested individually using the 8720. Refer to the 8720 Manual, P/N 315-033260FA.

MAINTENANCE

The performance of the air duct detector unit may be adversely affected by dirt or foreign matter on the sampling tubes or detector. If the air holes in the input sampling tube become restricted, the unit cannot receive a proper air sample, and performance is impaired. It is recommended that the sampling tubes be checked and cleaned periodically. The detector maintenance program should consist of periodic cleaning of dust from the detector head by using a vacuum cleaner. For cleaning Models 8854, 8713 or 8710, refer to the detector's Installation Instructions (See Table A).

The cleaning and test program is recommended for 6 month intervals, or more frequently, if needed, depending on the individual detector environment. Consult your local code and AHJ requirements for required maintenance schedules.

⚠️ CAUTION **Under no circumstances is the detector portion of the unit to be disassembled by anyone other than an authorized Faraday Systems Technician. For service, contact your nearest authorized Faraday Service Representative.**

⚠️ CAUTION **If the fire alarm system is connected to a central station or fire department, or operates external devices such as fans, extinguishers, etc., connected, notify appropriate personnel and disconnect the external devices until all tests are completed. After testing, reset the system, reconnect the devices, and notify the personnel that the system is operating again.**

P/N 315-049708FA-2

COMPATIBLE CONTROL EQUIPMENT

8741 AND 8742 USING 8854 DETECTOR

Module Equipment Compatibility Identifier	Module Installation/ Wiring Instructions
8705 (MPC-6000/MPC-7000)	P/N 315-034850FA-5
LW-401	P/N 315-095997FA-3
LWZE-4A (LW-401)	P/N 315-096018FA-4
LWZE-8A (LW-401)	P/N 315-096022FA-3

8741 AND 8743 USING 8710 OR 8713 DETECTOR

Module Equipment Compatibility Identifier	Module Installation/ Wiring Instructions
FDLC (MPC-6000/MPC-7000)	P/N 315-447309-6

The detector model number is the compatibility identifier.

ELECTRICAL RATINGS FOR 8854

Voltage	16-27 VDC
Ripple	3V peak-to-peak
Supervisory Current	110 uA max.
Start-up Time	50 seconds max.

	8854 Detector	8854 Detector + Remote Device
Alarm Current	33 - 50mA	50 - 70mA

ELECTRICAL RATINGS FOR 8713 AND 8710

Electrical ratings are not provided here for these detectors. Guidance for detector loop loading, along with loop wire electrical specifications are provided in the applicable control unit instructions given in the above Compatible Control Equipment tables.

AS/AH AS Audible Strobe Appliances and AH Audibles

Features

- UL listed. ULC, CSFM, and FM pending.

- ADA/NFPA/UFC/ANSI Compliant

- Wall mount models are available with Field Selectable Candela Settings of 15/30/75/110cd or 135/185cd (Multi-Candela models)

- Ceiling mount models are available with field selectable candela settings of 15/30/75/95cd or 115/177cd (Multi-candela ceiling models)

- Selectable Continuous Horn or Temporal (Code 3).

- 3 Selectable dBA settings (99, 95 and 90 dBA) in both tones

- Weatherproof models are available for outdoor use

- Strobes can be synchronized using the Siemens 5406B sync modules, MPC-6000 panel, MPC-7000 panel, or RSE-300 power supply with built-in sync protocol.

- Fast installation with IN/OUT screw terminals using #12 to #18 AWG wires

AS-MC-CW   **AS-MC-R**

AH-W   **AH-R**

Description

The Siemens 2-wire Series AS Audible Strobe Appliances and Series AH Audibles offer more features with low current draw.

Strobe options for wall mount models include the Siemens MC multi-candela wall strobes with field selectable candela settings of 15/30/75/110cd, or the high intensity HMC strobe with field selectable 135/185cd.

Ceiling mount models incorporate Siemens MC multi-candela ceiling strobe with field selectable settings of 15/30/75/95cd or the high intensity HMC strobe with field selectable settings of 115/177cd.

The audible provides a selectable choice of either a continuous horn or temporal pattern (Code 3) when constant voltage from a Fire Alarm Panel (FACP) is applied. Each tone has 3 dBA settings from which to choose.

When used with the Siemens 5406B sync modules, MPC-6000 panel, MPC-7000 panel, or RSE-300 power supply with built-in sync protocol, synchronization of the continuous horn tone provides the temporal (code 3) tone (mandated by NFPA 72) simultaneously for all audible appliances. This ensures a distinct temporal (code 3) pattern when 2 or more audibles are within hearing distance. If not synchronized the temporal sound could overlap and not be distinctive. At the same time the strobes will be synchronized. This provides the ability to comply with ADA guidelines concerning photosensitive epilepsy and the NFPA standards when installing 2

or more visual appliances within the field of view all of this plus the ability to silence the audible is achieved by using only 2 wires.

Engineering Specifications

The notification appliances shall be Siemens Series AS Audible Strobe appliances and Series AH Audible appliances or approved equals. The Series AS Audible be listed for UL Standard 1971 (Emergency Devices for the Hearing-Impaired) for Indoor Fire Protection Service. The Series AH Audible shall be UL Listed under Standard 464 (Fire Protective Signaling). Both shall meet the requirements of FCC Part 15 Class B. All inputs shall be compatible with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP).

The audible portion of the appliance shall have a minimum of three (3) field selectable settings for dBA levels and shall have a choice of continuous or temporal (Code 3) audible outputs.

The strobe portion of the appliance shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens. The Series AS shall be of low current design. Where Multi-Candela appliances are specified, the strobe intensity shall have

9668

field selectable settings and shall be rated per UL Standard 1971 at 15/30/75/110 or 135/185 candela for wall mount and 15/30/75/95 or 115/177 candela for ceiling mount. The selector switch for selecting the candela shall be tamper resistant.

When synchronization is required, the appliance shall be synchronized using the Siemens 5406B sync modules, MPC-6000 panel, MPC-7000 panel, or RSE-300 power supply with built-in sync protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync module or Power Supply fails to operate, (i.e., contacts remain closed), the strobe shall revert to a non-synchronized flash-rate. The appliance shall also be designed so that the audible signal may be silenced while maintaining strobe activation when used with Siemens synchronization.

The Series AS Audible Strobe and Series AH Audible shall incorporate a Patented Universal Mounting Plate

that shall allow mounting to a single-gang, double-gang, 4-inch square, 100mm European type backboxes, or the SHBBS Surface Backbox.

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 that 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.

Technical Information

For complete technical information, please consult the relevant installation sheets as well as the Siemens Compatibility Guide.

Ordering Information / Mounting Requirements / Approvals

Model Number	Order Code	Wall Mount	Ceiling Mount	Mounting Options**	Agency Approvals			
					UL	ULC	CSFM	FM
AS-MC-R	500-636010	X	-	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-MC-W	500-636011	X	-	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-HMC-R	500-636012	X	-	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-HMC-W	500-636013	X	-	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-MC-CR	500-636006	-	X	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-MC-CW	500-636007	-	X	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-HMC-CR	500-636008	-	X	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-HMC-CW	500-636009	-	X	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AS-75-R-WP	500-636016	X	-	I	X	#	#	#
AS-75-CR-WP	500-636015	-	X	I	X	#	#	#
AH-R	500-636003	X	X	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AH-W	500-636004	X	X	A,B,D,E,F,G,J,N,R,X	X	#	#	#
AH-R-WP	500-636005	X	X	K	X	#	#	#

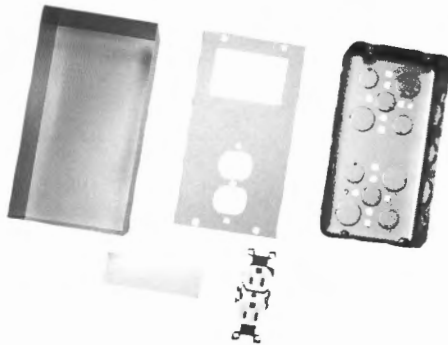X = listed/approved   # = pending   * = Refer to Data Sheet #9675 for mounting options.

WARNING: PLEASE READ THESE SPECIFICATIONS AND INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

BOSCH
Invented for life

D8004 Transformer Enclosure

The D8004 Transformer Enclosure protects the AC plug-in transformer and ensures that it remains securely fixed to the AC wall outlet. The D8004 Transformer Enclosure may be required for certain applications; the most common being fire alarm.

Certifications and Approvals

Region	Certification	
USA	UL	AMCX: Central Station Alarm Units (UL1610, UL1635), AOTX: Local Alarm Units (UL464, UL609), APAW: Police Station Alarm Units (UL365, UL464), NBSX: Household Burglar Alarm System Units (UL1023), UOXX: Control Unit Accessories, System (UL864, 9th edition), UTOU: Control Units and Accessories - Household System Type (UL985)
	FM	
	CSFM	7167-1615: 100, 7165-1615: 112, 7165-1615: 119
	NYC-MEA	12-92-E, Vol. 12
		12-92-E, Vol. 15

Technical Specifications

Environmental Considerations

Environment:	Indoor, dry

Mechanical Properties

Cover

Color:	Light gray
Dimensions:	8.8 in. x 4.7 in. x 3.0 in. (22.4 cm x 11.9 cm x 7.6 cm)
Material:	Cold-rolled steel, 18 gauge (1.2 mm)

Outlet Box

Dimensions:	8.7 in. x 4.6 in. x 1.7 in. (22.1 cm x 11.7 cm x 4.3 cm)
Material:	Galvanized steel, 18 gauge (1.2 mm)

Power Requirements

Voltage (supply):	120 VAC

Ordering Information

D8004 Transformer Enclosure   **D8004**
For applications such as fire alarm that might require a transformer enclosure.

7744F/7788F

AES *IntelliNet*
CORPORATION | For Alarm Monitoring

UL Listed
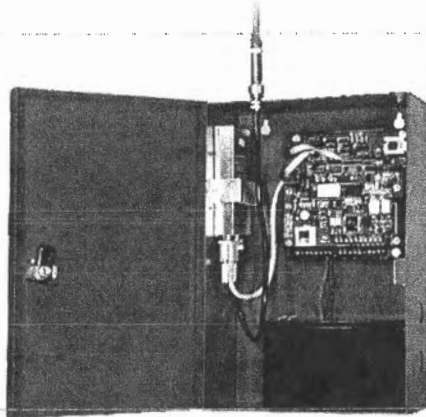
RF Subscriber Unit
UL Fire, AA Burglary and NFPA-72 Compliant

UL Listed

UL Listed Central Station

Remote Station

864 Ed. 9, 827, 1610, 365, 681

CSFM

NFPA
RF Section 8.6.3.5

- **Options for Full Data for Fire and Burglary**

- **Available in 7744F & 7788F Zone Configurations**

- **Built-in Power Supply and Battery Charger**

- **Local Annunciation Options on Board**

Advanced Wireless Alarm Monitoring

The 7744F/7788F smart subscriber unit links an alarm panel to an alarm monitoring central station. This 2-way transceiver and repeater in one is housed in a full size locking steel cabinet for superior performance. The 7744F/7788F supports a wide range of inputs such as NO/NC/EOL and direct voltage. It automatically senses wire and antenna cuts, and monitors battery and AC power status. Advanced status reporting, self-diagnostics and a built-in power supply make the 7744F/7788F the first choice for all wireless alarm communication needs.

Full Data for Fire and Burglary

Use with the optional Firetap for full fire data or the IntelliTap for full fire and burglary data.

Available Configurations	Available Options
7744F – 4 reversing polarity inputs plus 4 programmable EOL inputs	FireTap 7770
	IntelliTap 7067
	NEMA 4 Enclosure
7788F – Programmable EOL inputs with 8 zones	High Gain Antenna
	Additional Back Up Battery
	Available in Burglary Beige or Fire Red

Wireless mesh networking is an innovative technology adopted by many industries with applications that need to communicate data over a large geographic area with a high level of reliability at a low total cost of ownership.

The advanced design and 2-way communications capability provides easy installation, expansion, and management when compared to alternative communication methods, both wired and wireless.

7744F/7788F
RF Subscriber Unit

Technical Specifications

Radio
Standard CSAA frequency ranges: 450-470 MHz and 130-174 MHz, VHF and UHF. Others available

Standard Output Power
2 watts (requires FCC license)

Power Input
16.5 VAC, 40VA UL listed
Class II transformer required

Voltage
12 VDC nominal

Current
175mA standby; 800mA transmit

Alarm Signal Inputs
- 4 individually programmable Zones: NO/NC/EOL, trouble restore
- RS-232
- Reversing voltage (7744F only) 12 or 24 VDC

Operating Temperature Range
0° to 50°C, 32° to 122°F

Storage Temperature Range
-10° to 60°C, 14° to 140°F

Relative Humidity Range
0-85% RHC non-condensing

Back up Battery
12V, 7.5 AHr

Low Battery Reporting
22.5-minute test cycle

AC Status
Reports to central station after approximately 60 minutes without AC power, reports power restored after approximately 60 minutes of restored power. programmable from 60 to 180 minutes

Antenna Cut (local reporting)
Form 'C' Contact 1 AMP

Size
13.25"H x 8.5"W x 4.3"D
34cm x 21.5cm x 11cm

Weight
6.4 lbs, 2.9 Kilograms (excluding battery)

Colors
Available in standard Burglary Beige or Fire Red
Please specify when ordering

Available Options
- 7788F RF subscriber unit with 8 EOL inputs
- 7744F RF subscriber unit with 4 EOL inputs and 4 reverse polarity inputs
- 7770 - FireTap
- 7067 - IntelliTap
- NEMA 4 Enclosure

Please specify when ordering

Available configurations

- 7788F, 8 EOL inputs
- 7744F, 4 EOL inputs w/4 reverse polarity inputs

AES-*IntelliNet* is the industry leader in delivering high quality wireless mesh networks to the fire and security industry in commercial, corporate, government, and educational applications with its broad line of products and advanced network management tools Users of AES-*IntelliNet* networks have gained significant revenue, communications, and cost advantages while meeting the high standards of reliability required for the fire and security industry AES-*IntelliNet* alarm monitoring systems are deployed at hundreds of thousands of locations in over 130 countries

AES|IntelliNet
CORPORATION | For Alarm Monitoring

For more information
Call 800-AES-NETS (800-237-6387)

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Web www.aes-intellinet.com

NO EXCUSES!

FDB

NFPA 72 section 6.2.2.1 states, "A record of installed software and firmware version numbers shall be maintained at the location of the fire alarm control unit." The FDB is large enough to hold Operating Manuals, Permits, Shut-Down Instructions and more.
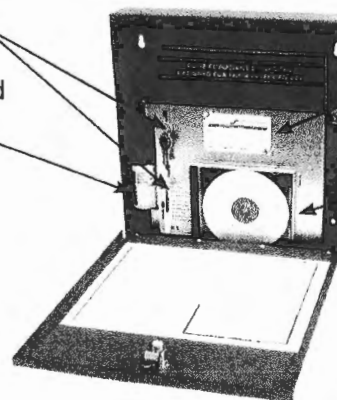
Standard Features:

- Overall Dimensions are:
  12" Wide x 13.1" High x 2.25" Deep
- CAT 30 Secured Locking Door
- Piano Hinged Door w/Notes Sticker
- Removable document holder can hold 1" of 8.5" x 11" paperwork
- Powder Coat Red Finish
- 16 Gauge CRS construction
- Embossed:
    Key Ring Hooks
    Business Card Holder
    CD Case Slot
- 1.4 Oz. can of detector test gas
- Private labeling available

Fire Alarm Control Unit (FACU) Records & Document Box

The Space Age FDB has been developed to be a code compliant solution to a mandated item specified by the National Fire Code (NFPA 72).

An internal galvanized sleeve holds the documents safely and securely. Access to the documents is via a high security CAT 30 Lock Set.

The galvanized sleeve also contains 2 hooks for key rings or thumb drives, a place for several business cards, a cutout for a 1.4 Oz. can of test gas and a slot where a standard CD "jewel" case can be stored.

Held in by two "wing nuts" the sleeve is easily removable to allow storage of a 1.5" 3 ring binder.

The door reads "FACU MAINTENANCE RECORDS" in 1" tall white lettering. Custom Logo and Lock Sets are available upon request.

Key Ring Hooks

Business Card Holder

Canned Smoke

CD Jewel Case

NEMA

NFPA

Made In U.S.A.

ISO 9001 REGISTERED COMPANY

ADA

AVOX BOX

Space Age Electronics, Inc.
www.1sae.com
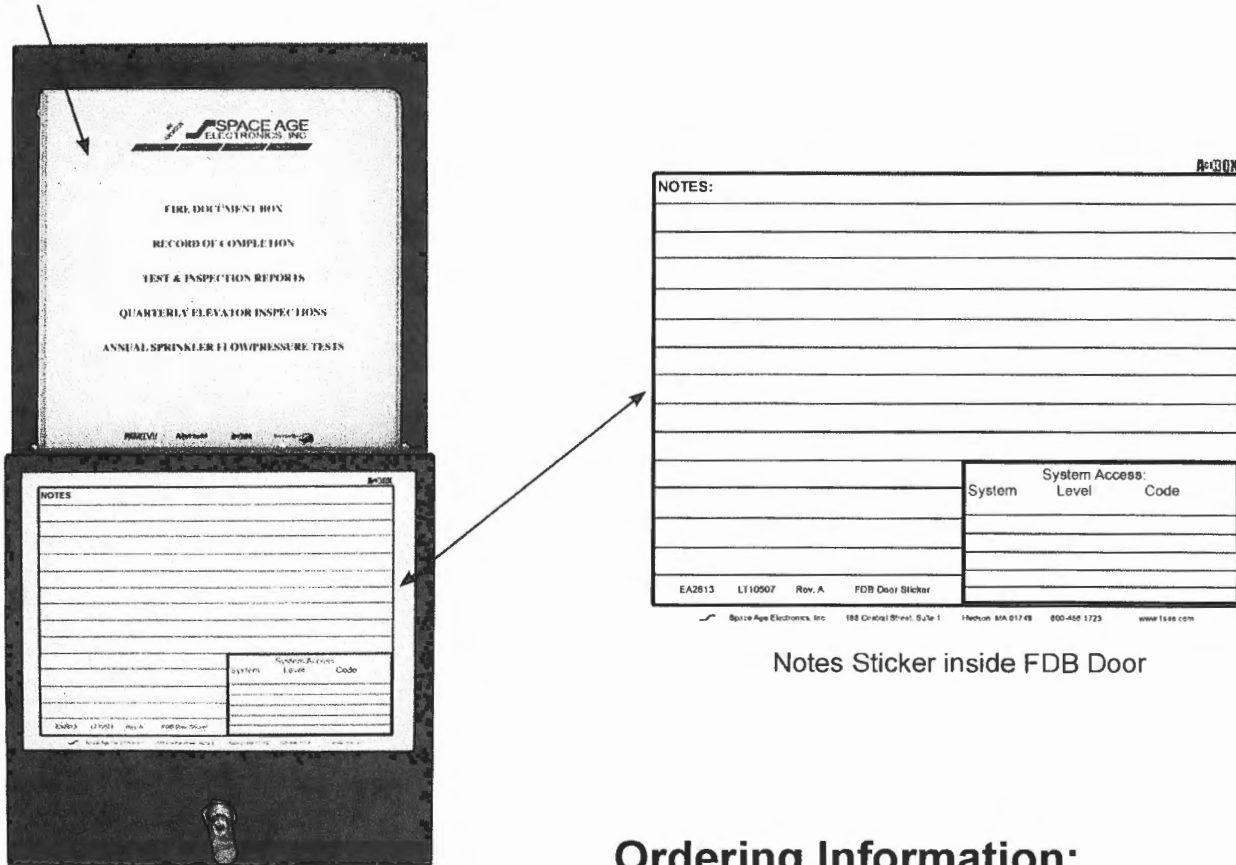**800.486.1723** Toll Free
508.485.0966 Local
508.485.4740 Fax

No Excuses, Just Solutions!

SPACE AGE
ELECTRONICS, INC.

Specifications:

The Fire Document Box (FDB) shall be constructed of 16 gauge cold rolled steel (CRS), it shall be painted with a durable red powder coat paint. The front door shall be lettered with the words "FACU MAINTENANCE RECORDS" in White indelible letters 1" in height. The door of the FDB shall be locked with a keyed lock (standard shall be CAT 30, but others shall be available along with Private Labeling).

Inside the cabinet shall contain a16 gauge galvanized CRS sleeve. This sleeve shall allow for the storage of 1" of paper, test and inspection records, manuals and other important documents. The sleeve shall also facilitate the hanging of key rings and thumb drives (for data storage) along with business cards and space for a CD 'jewel' case. The unit shall also contain a 1.4oz can of smoke detector test gas. Inside the door shall have a "Notes" label for the recording of valuable information such as AHJ approvals, various system codes and the location of hard to find devices.

If so desired, the internal sleeve (held in by 2 wing nuts) may be removed and the space used to insert a 1.5" 3 ring binder.

Notes Sticker inside FDB Door

Ordering Information:

Part #	Description
SSU00672	**FDB Fire Document Box**
SSU00673	**FDB Custom Logo/lock**
(ask for Form FD10498 to order custom box)	
CK1	**Replacement 1.4 Oz Test Gas**

No Excuses, Just Solutions!

High Security Industrial/Government Key Box
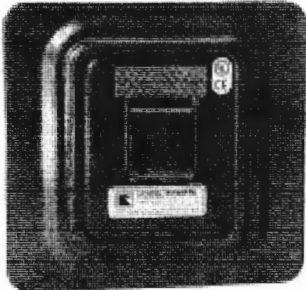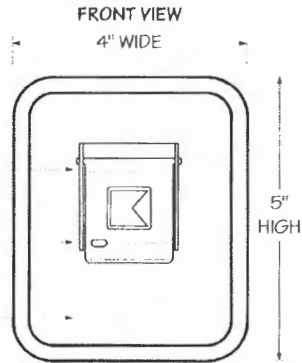

Recessed Mount with Face Flange
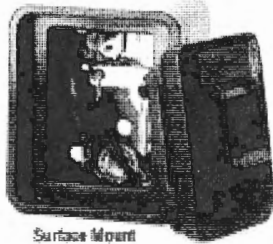
Surface Mount

The number one high-security KNOX-BOX® is used for most commercial applications including businesses, schools, government and public buildings, community associations and apartment complexes. The 3200 Series KNOX-BOX with lift-off door holds keys, access cards and other small items necessary for emergency access.
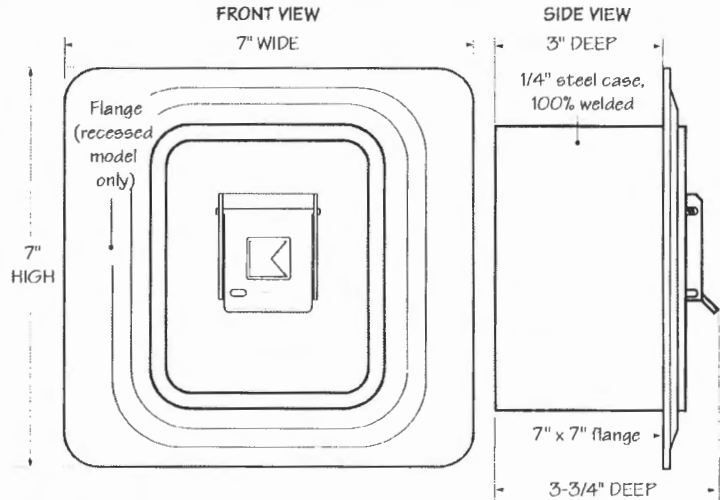
Features and Benefits

- Holds up to 10 keys and access cards in interior compartment

- Ensures high security. Box and lock are UL® Listed

- Includes a Knox-Coat® proprietary finishing process that protects Knox products up to four times better than standard powder coat

- Resists moist conditions with a weather resistant door gasket

- Colors: Black, Dark Bronze or Aluminum
  Weight: Surface mount - 8 lbs.
  Recessed mount - 9 lbs.

Options

- Alarm tamper switches (UL Listed)

- Recessed Mounting Kit (RMK) for recessed models only

- Inside switch for use on electrical doors, gates and other electrical equipment

FRONT VIEW
4" WIDE

Heavy 1/8" Stainless Steel lock cover

Hole for tamper seal

1/2" solid plate steel door with gasket

5" HIGH

3200 Surface Mount

FRONT VIEW
7" WIDE

Flange (recessed model only)

7" HIGH

SIDE VIEW
3" DEEP

1/4" steel case, 100% welded

7" x 7" flange

3-3/4" DEEP

3200 Recessed Mount

Ordering Specifications

To insure procurement and delivery of the 3200 Series KNOX-BOX, it is suggested that the following specification paragraph be used:

KNOX-BOX surface/recessed mount with lift-off door, with/without UL Listed tamper switches. 1/4" plate steel housing, 1/2" thick steel door with interior gasket seal. Box and lock UL Listed. Lock has 1/8" thick stainless steel dust cover with tamper seal mounting capability.

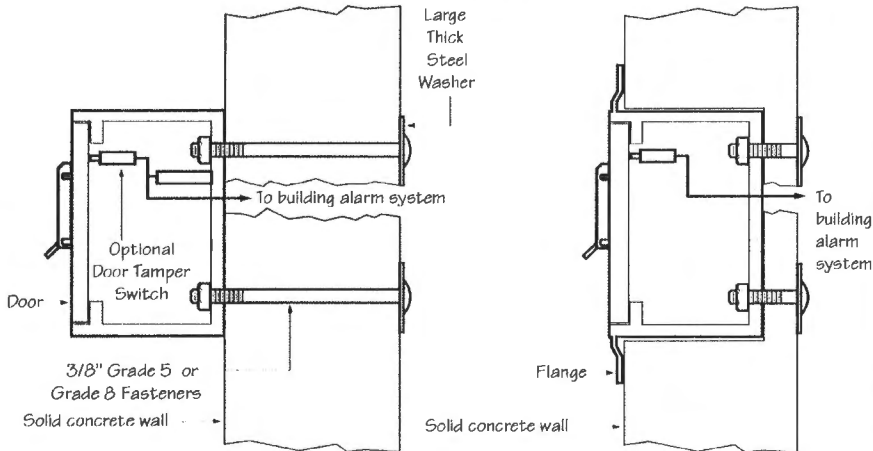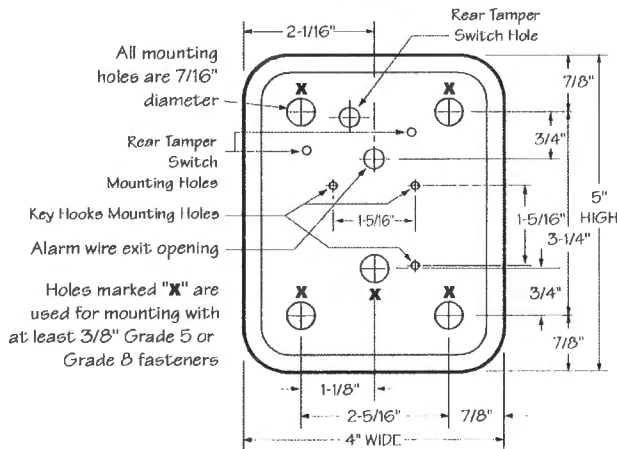|	
Exterior Dimensions:	Surface mount body - 5"H x 4"W x 3-3/4"D
	Recessed mount flange- 7"H x 7"W
Lock:	UL Listed. Double-action rotating tumblers and hardened steel pins accessed by a biased cut key.
Finish:	Knox-Coat® proprietary finishing process
Colors:	Black, Dark Bronze or Aluminum
P/N:	3200 Series KNOX-BOX (mfr's cat. ID)
Mfr's Name:	**KNOX COMPANY**

Recessed Mounting Kit

The 3200 Recessed Mounting Kit (RMK) is used for recessed models only. It contains a shell housing and mounting hardware to be cast-in-place in new concrete or masonry construction. After construction is completed, the KNOX-BOX mounts inside the recessed shell housing. The RMK may only be used in new concrete or masonry construction.

Installation In Cast Concrete

The optional Recessed Mounting Kit is for use in new concrete or masonry construction only. The kit includes a shell housing and mounting hardware to be cast-in-place. The KNOX-BOX is mounted into the shell housing after construction is completed.

Dimensions

Rough-in Dimensions: 6-1/2"H x 6-1/2"W x 5"D

IMPORTANT: Care should be taken to insure that the front of the RMK shell housing, including the cover plate and screw heads, is flush with the finish wall. The RMK must be plumbed to insure vertical alignment of the vault.

Suggested minimum mounting height 6 feet above ground

Large Thick Steel Washer

To building alarm system

Optional Door Tamper Switch

Door

3/8" Grade 5 or Grade 8 Fasteners
Solid concrete wall

3200 Series Lift-off Door Surface Mount

To building alarm system

Flange

Solid concrete wall

3200 Series Lift-off Door Recessed Mount

Inside View

2-1/16"

Rear Tamper Switch Hole

All mounting holes are 7/16" diameter

7/8"

3/4"

Rear Tamper Switch Mounting Holes

Key Hooks Mounting Holes

1-5/16"

5" HIGH

1-5/16"

3-1/4"

Alarm wire exit opening

Holes marked "X" are used for mounting with at least 3/8" Grade 5 or Grade 8 fasteners

3/4"

7/8"

1-1/8"

2-5/16"   7/8"

4" WIDE

Attention: KNOX-BOX® is a very strong device that MUST be mounted properly to ensure maximum security and resist physical attack.

Knox® Rapid Entry System

The Knox Company manufacturers a complete line of high security products including Knox-Box key boxes, key vaults, cabinets, key switches, padlocks, locking FDC caps, plugs and electronic master key security systems. For more information or technical assistance, please call Customer Service at 1-800-552-5669.

Recessed Mounting Using Recessed Mounting Kit (RMK)

RMK shell is mounted in wall during new construction

KNOX-BOX® mounts inside RMK shell after completion of construction

Knockouts for alarm wire conduit

Trim rebar for tie-in to wall if necessary

Recessed Flange

Mounting studs provided inside RMK shell to accommodate KNOX-BOX®

Concrete or masonry wall construction

KNOX COMPANY • 1601 W. Deer Valley Road, Phoenix, AZ 85027 • (800) 552-5669 • (623) 687-2300 • Fax (623) 687-2299 • Web: www.knoxbox.com • E-mail: info@knoxbox.com

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