

2869-96
~~2589-96~~

CONSTRUCTION PERMIT APPLICATION

DIV. OF INSPECTION

Man in Charge of Work Michael J. Francis Tel. (607) 713 8111

1. Number of Stories _____
2. Height of Structure _____ ft.
3. Area—Largest Floor _____ sq. ft.
4. New Building Area _____ sq. ft.
5. Volume of New Structure _____ cu. ft.
6. Construction Classification _____
7. Total Land Area Disturbed _____ sq. ft.
8. Flood Hazard Zone _____
9. Base Flood Elevation _____ ft.
10. Wetlands yes _____ sq. ft.
 no _____
11. Max. Live Load _____
12. Max. Occupancy Load _____

[illegible]

III. DO YOU WANT: (optional) 1. ☐ Partial Releases 2. ☐ Prototype Processing

1. ☐ Elevators/Escalators/Lifts/
Dumbwaiters/Moving Walks

2. ☐ High Pressure Boilers

3. ☐ Pressure Vessels

4. ☐ Refrigeration Systems

5. ☐ Cross-Connections/Backflow
Preventers^D

6. ☐ Hazardous Uses/Places of Assembly

7. ☐ Sprinklers

8. ☐ Smoke Control Systems in Open Wells

9. ☐ Underground Storage Tanks

1. State Specific Use:
2. Use Group:
3. Change in Use Group.
Indicate Former:

LDS BR 10404810

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

A. () I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

B. () I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(e)1.vii:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

C. () I further certify that I will perform or supervise the following work:

C.1. () Building C.2. () Fire Protection

I further certify that I will perform the following work:

C.3. () Electrical C.4. () Plumbing

D. () I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION

(to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:32-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

(X) Check if contractor.

Agent Name Security Link

Address 1001 Briggs Rd MT Laurel NJ 08021
Suite 220

Telephone (609) 273-8110

Signature Andrew J. Ferraro Date 9/27/96

OFFICE DATE RECEIVED: _____

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL		COMMENTS
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	
☐ Zoning Officer									
☐ Planning Board									
☐ Zoning Board									
☐ Sewer Authority									
☐ Water Authority									
☐ Fire Department									
☐ Police Department									
☐ Health Department									
☐ Soil Conservation									
☐ N.J. Dept. of Community Affairs									
☐ N.J. Department of Transportation									
☐ N.J. Dept. of Environmental Protect.									
☐ Utility Dig No.									
☐									
☐									

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition _____

Name of Code & Edition _____

Building _____

Energy _____

Other _____

Electrical _____

Barrier Free _____

Plumbing _____

Flood Hazard _____

Fire Protection _____

As Built Elevation Cert. _____

Mechanical _____

Other _____

X. CERTIFICATES ISSUED (office use only)

DATE ISSUED _____

DATE EXPIRED _____

DATE REISSUED _____

DATE EXPIRED _____

- ☐ Temporary Certificate of Occupancy
- ☐ Temporary Certificate of Compliance
- ☐ Continued Certificate of Occupancy
- ☐ Certificate of Compliance
- ☐ Certificate of Occupancy
- ☐ Certificate of Approval

No. _____



CONSTRUCTION PERMIT

Date Issued

Control #

Permit #

11/6/96

2869-96

IDENTIFICATION Block

670

Lot

4

Work Site Location

2770 Hooper Ave

Contractor

Security Link

Owner in Fee

Outback Steakhouse

Address

1501 Broad Rd

Address

same

Tele. ()

March 27, 1997

Lic. No. or Bldrs. Reg. No.

Exp. Date

Tele. ()

Federal Emp. No.

06 1097605

or Social Security No.

Is hereby granted permission to perform the following work:

☐ BUILDING ☐ PLUMBING ☐ OTHER☐ ELECTRICAL ☒ FIRE PROTECTION☐ ELEVATOR DEVICES

DESCRIPTION OF WORK:

heat detectors

NOTE: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$

5000

U.C.C. Form F-170C

CONSTRUCTION OFFICIAL

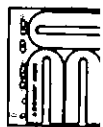
1 WHITE - OFFICE

2 CANARY - TAX ASSESSOR

3 PINK - JACKET

4 GOLD - APPLICANT

PAYMENTS (Office Use Only) 2869#H	
Building	BACK 0.00
Plumbing	670 #
Electrical	LOT 0.00
Fire Protection	25 - 4.00
Other	ETRE 5.00
Other	DCA 4.00
DCA Training Fee	DATA 0.00
Cert. of Occ.	CASH 0.00
Other	FINANCE 1.00
Total	106.00 MD 29 0000005 6:12
Check No.	
Cash	✓
Collected By:	SA



**FIRE PROTECTION
SUBCODE
TECHNICAL SECTION**

Date Received 11/21/00
Date Issued 10/28/00
Control # 2584986
Permit # 2584986
2869-96

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 670 Lot 4
Work Site Location 8270 Shepherd Ave
Owner in Fee Outback Steakhouse
Address 2704 Harper Ave
Brick NO 08723
Tele. ()
Contractor Security Link
Address 1001 Briggs Rd Ste 220
Tele. 608 273 8110
Lc. No. 06-1097603 or Social Security No. will be in to pay for it.
Federal Emp. No. 06-1097603

B. FIRE PROTECTION CHARACTERISTICS

Use Group Present Proposed to pay for it.
Const. Class. Present Proposed to pay for it.
Heating Systems [] New [] Existing
Type: [] Gas [] Oil [] Electrical [] Solar
Location: [] Other

Total Est. Cost of Fire Prot. Work \$ 5000 [] Other

JOB SUMMARY (Office Use Only)

PLAN REVIEW:	INSPECTIONS:	Dates (Month/Day)
☐ No Plans Required	Type:	Failure Failure Approval Initial
Joint Plan Review Required:	Suppression Test	
☐ Bldg. ☐ Plumb.	Fire Alarm Test	<u>9/30/96</u>
☐ Elec. ☐ Elevator	Smoke Test	
☐ Fire Plans Approved	Mechanical	
Date: <u>9/27/96</u>	TCO	
Approved by: <u>[Signature]</u>	Other	
SUBCODE APPROVAL:	Other	
☐ CO ☐ CCO ☒ CA	Other	
Date: <u>12-18-96</u>	Other	
Approved by: <u>[Signature]</u>	Other	

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of owner of record and am authorized to make this application.

[Signature]
SIGNATURE

D. TECHNICAL SITE DATA

Description of Work connecting to 5" duct
Water Supply Source Backflow, sprinkler, gate valves, back suppression. Not our equipment
Method of Valve Supervision yes & call back
Local Alarm Supervision
Central Supervision
Proprietary Supervision

Flammable Liquid Storage Tanks () Capacity _____ Fuel _____
Combustible Liquid Storage Tanks () Capacity _____ Fuel _____
L.P.G. Storage Tanks () Capacity _____ Fuel _____
L.N.G. Storage Tanks () Capacity _____ Fuel _____

Wet Sprinkler Heads Number 25 Office Use Only
Dry Sprinkler Heads 25
TOTAL 50

Smoke Detectors 1
Heat Detectors 5
TOTAL 35

Stand Pipes Hand/Stroke
Kitchen Hood Exhaust Systems 5

Pre-Engineered Systems
CO₂ Suppression
Halon Suppression
Foam Suppression
Dry Chemical
Wet Chemical

Gas or Oil Fired Appliance
OTHER

Paid ☐ Check # _____
Collected by: _____
Administrative Surcharge \$ 35
Minimum Fee \$ _____
DCA Training Fee \$ _____
TOTAL FEE \$ _____



FIRE ALARM SUBMITTAL

FOR

**OUTBACK STEAKHOUSE
2770 HOOPER AVE.
BRICK, NJ.**

FROM

**NATIONAL GUARDIAN
7434 TOWER STREET
FORT WORTH, TEXAS 76118
ACR 86363-826H**



BY

**CHARLES R. SMITH
FIRE SYSTEMS SUPERVISOR - NATIONAL ACCOUNTS
APS 0236**

SUBMITTAL OUTLINE

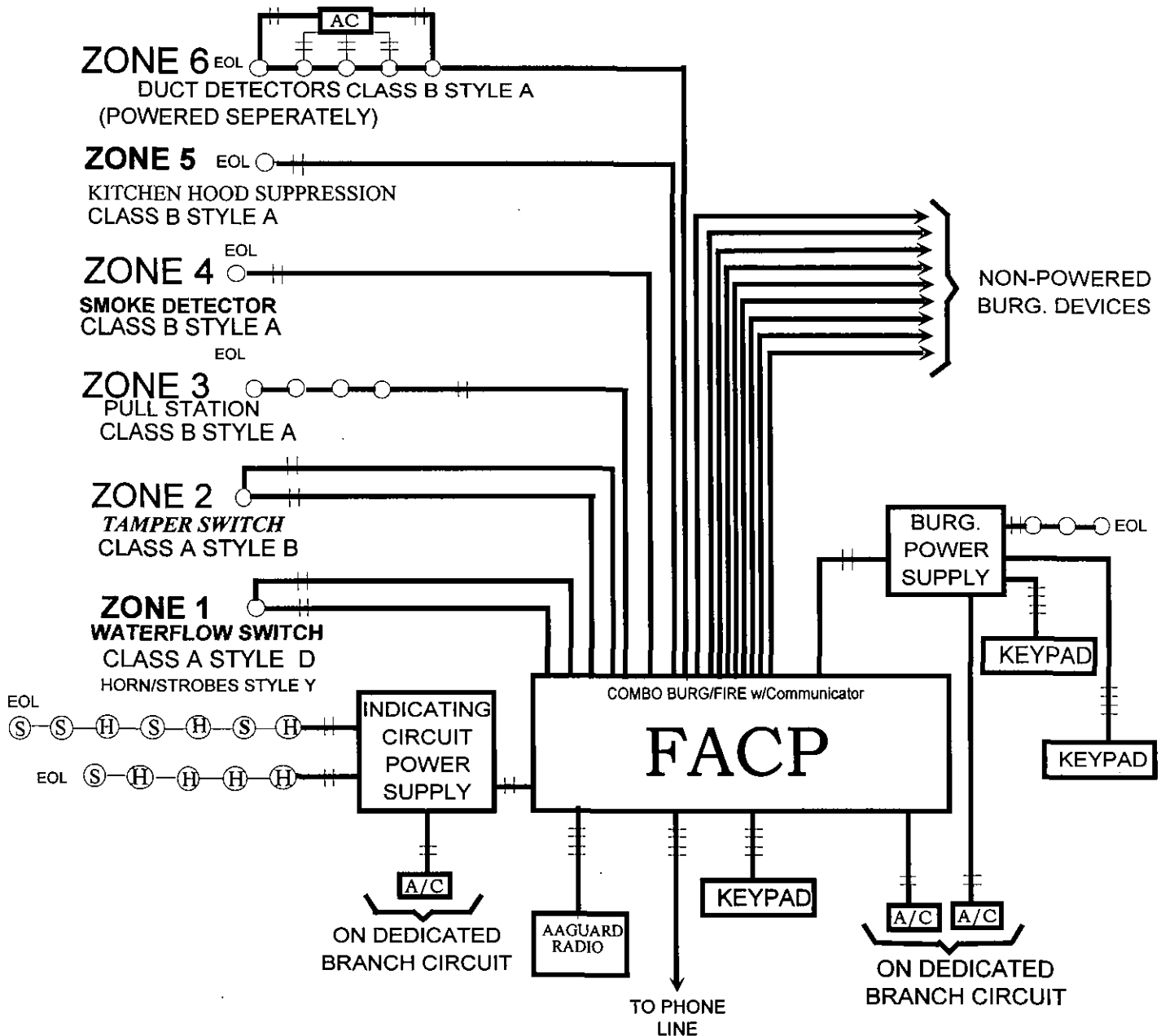
02/07/96

- I. LOCATION
A. Outback Steakhouse
2770 Hooper Ave.
Brick, NJ. 08723
- II. CODES
A. NFPA 72 Chapters 1, 3-7 As Applicable (Remote Station) C. Local City
B. BOCA Building & Fire Codes D. ADA
- III. CONTROL EQUIPMENT
A. DS7400XI Burglary/Fire Control Panel D. DS7432 Zone Expander
B. DS7420i Fire Card E. DS7416 AAGARD Radio Module
C. DS7400 Alpha Keypad
- IV. INITIATING DEVICE
A. (1) Water Flow Switch D. Smoke Detector (Panel Protection)
B. (1) Tamper Switch E. Kitchen Hood Suppression
C. (1) Manual Pull Station F. Duct Detectors (Powered Separately)
(Installed by others)
- V. INDICATING DEVICE
A. Existing Water Gong C. (5) ADA Strobes
B. (7) Horn/Strobes
- VI. ZONES
1. Water Flow 4. Smoke Detector (panel protection)
2. Tamper 5. Kitchen Hood Suppression
3. Pull Station 6. Duct Detectors W/Remote LED,s
7-16. Burg Devices (Powered Separately)
- VII. COMMUNICATIONS
A. Digital Dialer B.. AAGARD Wireless Radio
- VIII. WIRING
A. Class A 18/2 FPL (Waterflow & Tamper switches) C. Class B 16/2 FPL (indicating Circuits)
B.. Class B 18/2 FPL (Initiating circuits) D. 18/4 FPL (Key Pad/Remote Annoc.)
- IX. LISTING
A. All Equipment is U.L. Listed
- X. POWER SUPPLY
A. Primary - 110V AC on Dedicated Outlet D. PP4-12 (Burg. Devices only)
B. Secondary - 2 12V 17AH Batteries E. FCPS-24F Signaling Circuit Power Supply
with 2 7AH Batteries
- XI. ALARM SUPERVISION
A. Human
B. Monitoring Station: NATIONAL GUARDIAN SECURITY
2461 MCGAW ROAD
COLUMBUS, OHIO 43207-4594

OUTBACK STEAKHOUSE

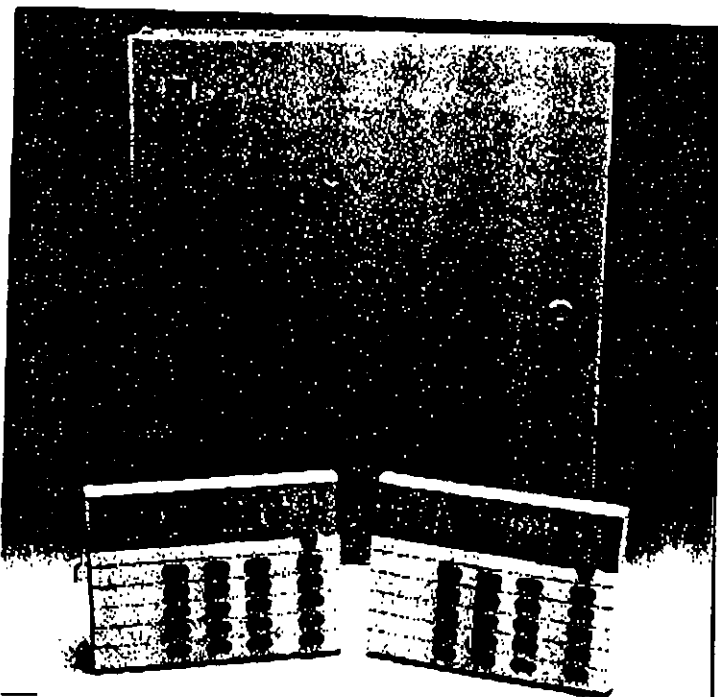
2770 HOOPER AVE.

BRICK, NJ.





DS7400Xi CONTROL/COMMUNICATOR



DS7400Xi Multiplex Control/ Communicator

FEATURING...

- Four Partitions
- History Buffer
- Keypad Programmable
- Remotely Programmable
- Freely Programmable Alpha Display
- 60 PINs
- U.L. Listed, C.S.F.M. Approved

DS7400Xi Overview

	DS7400Xi	DS7400XiFCP
Zones	128	128
Outputs	3 (expandable to 39)	3 (expandable to 39)
Special Features	Four Systems Partitioning 400 Event History Buffer 60 Personal Identification Numbers Input/Output Cross-Matrixing Outputs on the Multiplex Bus "Arm-only" Codes by Partition	All DS7400Xi features. Specially designed for fire applications. Includes all required accessories for commercial fire application.

Detection Systems, Inc.

130 Perinton Parkway, Fairport, New York 14450/ Fairport, NY: 800/289-0096; 716/223-4060; FAX 716/223-9180
 Hixson, TN: 606/227-2000; 615/277-2000; FAX 615/277-2001

1.0 Specifications

1.1 Enclosure Housing

The standard enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5 in. Wide, by 14.5 in. High, by 3 in. Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch (required for commercial burglary applications) for monitoring the door.

1.2 Temperature

- Storage and Operating Temperature: +32° to +120°F (0° to +49°C)

1.3 Power

NOTE: The total current output capacity for all auxiliary devices, including keypads and smoke detectors = 1.5 A standby, 2.5 A alarm. The following ratings are maximum values. The total combined output cannot exceed the max. load current.

- Input power 18 VAC, 50 VA, 50 Hz. or 60 Hz.
- Auxiliary regulated power 12 VDC, 1.5 A max.
- U.L. Listed Auxiliary power 12 VDC, 1.5 A max.
- U.L. Listed Alarm Power Output 12 VDC, 1.75 A max.
- Auxiliary power voltage range 12 V special application
- Optional Standby battery (P334) 12 V, 7.0 AH - 35 AH max.
- Control panel current draw 175 mA, Standby
250 mA, Alarm

1.4 Outputs

- Alarm Output 12 VDC, 1.75 A output. Can be programmed for steady or pulsed output.
- Programmable Output 1* Solid state current sink (1.0 A max.). Shorts to ground when activated. Connect device to Aux. power positive. Can be used for alarm, arming state, or access control.** This output is generally programmable.
- Programmable Output 2* Solid state voltage source (500 mA max.). Can be used for alarm, arming state, or access control.** This output is generally programmable. For use with such compatible devices as the Listed DS250 with a 4-wire base.

* = Current draw should be subtracted from either maximum auxiliary or maximum alarm current draw.

** = Not investigated to the requirements of UL294.

1.5 Zones

- DS7400I: 8 on-board zones.
Up to 64 total zones with expansion modules.

- DS7400XI: 8 on-board zones.
Up to 128 total zones with expansion modules.
- Zone Response Time: 300 ms.

1.6 Keypads

- Maximum # of keypads 8 Keypads
- Maximum wire length each 1000 feet
- Maximum wire length total in system 6000 feet
- Wire type 4 conductor, unshielded, #22 AWG Telephone quad or #18 AWG quad wiring can be home-run or daisy-chained.

NOTE: No more than 2 keypads recommended on any 1000 foot run.

NOTE: Shared cable is not recommended for keypad, multiplex, options bus, telephone, or siren wiring.

1.7 Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2 BFSK, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ringor equivalence is 0.15

Comm. Fire CSFM Listing Number is 7165-1062:111

Residential Fire CSFM Listing Number is 7167-1062:111

1.8 Users

Both the DS7400I and DS7400XI systems allow up to 60 individual users. Each user will have his own PIN number (the 4 digit code entered at the keypads) and his own authority level (to determine which functions he may perform).

1.9 Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

1.10 Burglar/Fire Zone Inputs

- Number of circuits 8 Circuits on board
- End of line resistor 2.2 K Ω (P/N 25944, provided)
- Loop resistance tolerance 60 ohms

1.11 Fire Signal Initiating Circuit (2-wire mode)

Fire circuit will work with 2 or 4-wire detectors and has optional alarm verification.

- Number of circuits 8 Circuits on board
- Type of circuit Class B, latching

DS7400Xi SYSTEM FEATURES

Description

The DS7400Xi is a Multiplex control/communicator. It accepts up to 60 Personal ID Numbers (PINs), is keypad or remotely programmable, and has a wide range of features as described below.

Commercial Fire Approved

Meets commercial fire requirements when used with the DS7420I (Dual Phone Line/Bell Supervision Module), DS7447 Alpha-Numeric Keypad, and AE1R-16 (enclosure for transformer). The DS7400XiFCP is shipped with these accessories. The 8 on-board zones may be used as Class B (Style B) input loops and will accept up to 20 two-wire smoke detectors (such as DS250 Series) each. Multiplex zones support 4-wire smoke detectors.

LED and Alpha Keypad Support

The DS7400Xi can use the DS7445 LED keypad and the DS7447 Alpha-Numeric keypad. The DS7445 provides an LED per zone (for main board zones 1-8 only), plus 8 system status LEDs that indicate conditions such as armed, fire alarm, and trouble. The DS7447 provides a two line, 16 character (per line) LCD display. Text is freely programmable for zone and partition descriptions. The end user can adjust the sounder volume and backlight intensity using easy two button commands. LED and LCD keypads may be mixed in the same system. Up to 8 keypads are allowed per system.

Easy Function Key User Interface

Six labeled function keys eliminate the need for multi-button commands. Functions such as arming, disarming, and resetting the smoke detectors are performed by simply entering a PIN followed by the function key. This interface provides the new user with easy to follow procedures, while allowing the expert user quick access without the use of cumbersome menu driven formats. A programmable "Quick Arm" feature allows the system to be turned on without the use of a PIN while still requiring a PIN to turn the system off, silence alarms, or perform system tests.

60 Personal ID Numbers (PINs)

The system supports 60 Personal ID Numbers (PINs), which are 4 digits in length. The PINs may contain any com-

bination of digits. Any number of PINs may be designated as master PINs; these are the only PINs which can be used to reprogram PINs. PINs other than the master PINs may be programmed with 6 different levels of authority. These PINs may be restricted from bypassing, testing, and disarming the system.

Zones

The DS7400Xi accepts up to 128 zones. These zones may consist of 8 hard-wired zones, plus the remaining multiplex zones. Any of these zones may be programmed to follow one of 15 programmable zone functions.

Multiplex Inputs

A complete line of multiplex devices is available including multiplex PIRs, duals, door contacts, and interface modules.

Four Systems Partitioning

The DS7400Xi may be split in up to 4 completely separate systems. Each partition has its own keypads and can have up to two reporting IDs. Keypads can also be programmed as master keypads, allowing access to all partitions.

Common Area Partitioning

One partition can be programmed to follow the arming state of 2 or 3 other partitions. The common area arms only when all partitions it is common to are armed. This allows for protection of shared areas such as foyers and entryways, while still maintaining separate partitioning.

Smoke Detector Alarm Verification

The DS7400Xi may be programmed to perform an automatic reset of the smoke detectors, should an alarm occur. If a second alarm occurs within the verification window, an immediate fire alarm results. This reduces potential false alarms, while still providing fast response to an alarm.

Keypad Programmable

The system is completely keypad programmable. No need for expensive hand-held programmers. The DS7447 is required for system programming.

Remotely Programmable

WDSRP software allows the system to be remotely programmed using an IBM PC (or IBM compatible) running Windows and a standard Hayes modem.

Using an off-site computer permits diagnostics to be run, systems to be armed, and zones bypassed. This not only reduces service visits to a premise, it also allows quick customer assistance in closing troublesome accounts.

400 Event History Buffer

A 400 event history buffer, which can be read at the DS7447 keypad or uploaded to the WDSRP Remote Programming Software, keeps track of Open/Close events, Alarms, Troubles, etc. by time and date. The most recent 64 events are stored in nonvolatile Memory and can be recalled even after a total power failure.

RS232 Serial Printer Support

The system provides support for one serial printer using the DS7412 RS232 Interface Module. System events may be printed automatically as they occur and can be printed via a keypad command. The installer can select which types of events are printed.

Custom Arming Configurations

The system can be programmed to arm in different configurations providing a means of automatically bypassing a group of zones.

Anti-Takeover Protection

All or part of the programming may be locked so the program cannot be changed should someone attempt to takeover the account. Patented BusLoc® anti-takeover circuitry imbeds a secret code into the multiplex devices, prohibiting the control from being replaced using these devices.

Two Independent Entry Delays

Zones may be programmed to select from one of the two entry delay times. This allows the selection of a longer entry delay time for zones that are located a long distance from the keypad.

Answering Machine Override

The DS7400Xi has a built-in answering machine override function. No external hardware is required.

Flexible Digital Communication

The communicator will work into most alarm receivers that are in use today. It supports 3/1, 3/1 Ext., 4/1, 4/2, Contact ID, SIA (110 or 300 Baud), and BPSK digital communicator formats.

DS7400Xi SPECIFICATIONS

Three (3) Telephone Numbers

The system supports two 20-digit telephone numbers with a three or four digit account code for each. Each of the two phone numbers can be individually configured for the type of communication format and choice of pulse or tone dialing. The third phone number is reserved for remote programming.

EE Memory

The panel uses EEPROM technology; thereby, allowing it to retain all program memory as well as the arm/disarm state through a total power failure. There is also a delay on power restore to prevent false alarms from space sensors that may take several minutes to become operational. None of the system programming or user codes will be lost.

Standard Outputs

The system provides three outputs that are individually programmable and may be controlled by alarms, access control, ground start, smoke detector reset, or the control's arming state.

Output Functions

Output Functions can be programmed to follow system events or to follow one or two specific zones in a "cross matrix" fashion (see Input/Output Cross Matrixing). These Output Functions can be programmed to control octal relay outputs or multiplex bus outputs.

Input/Output Cross Matrixing

Input/Output cross matrixing allows up to 15 Output Functions to follow the status of specific input zones. Outputs can be programmed to follow any combination of one or two zones, open or closed, with the system armed or disarmed.

Octal Relay Modules

The DS7400Xi supports two octal relay modules. Each DS7488 supplies 8 relays which can be programmed to follow system events, or follow Output Functions as previously described.

Multiplex Bus Outputs

The DS7400Xi supports up to 20 DS7465 Input/Output modules. These modules are connected to the multiplex bus and provide one input loop and one Form "C" output relay. The input loop operates the same as all other multiplex

inputs. The output loop can be programmed to follow Output Functions.

SPECIFICATIONS

Housing

The standard DS7400Xi enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5" Wide, by 14.5" High, by 3" Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch for monitoring the door. The standard DS7400XiFCP enclosure is manufactured from 18 Ga., cold-rolled steel, and measures 15" Wide, by 20.75" High, by 4.25" Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch for monitoring the door.

Temperature

+32° to +120°F (0° to +49°C).

Power

Input Power: 18 VAC, 50 VA, 50 Hz. or 60 Hz.

Total power output: 12 VDC, 2.5 A

Keypad regulated power: 12 VDC, 1.0 A

U.L. Listed Auxiliary power: 12 VDC, 1.5 A

U.L. Listed Alarm Power Output: 1.75 A

Auxiliary power voltage range: 10.2 to 14.1 VDC

Optional Standby Battery (P334): 12 V, 7.0 AH (can support up to 35 AH)

Control panel standby current: 175 mA

DS7447 keypad standby/alarm current: 100 mA

DS7445 keypad standby/alarm current: 75 mA

Note: Total current for all auxiliary devices, including keypads and smoke detectors, is 1.5 A standby and 2.5 A alarm.

Standard Outputs

Alarm Output

Normally Open, 1.75 Amp contact connected to auxiliary power. Can be steady or pulsed.

Programmable Output 1

Solid state current sink (1.0 Amp Max.). Can be used for alarm, arming state, access control, or other options.

Programmable Output 2

Solid state voltage source (500 mA Max.) Can be used for alarm, arming state, access control, smoke power, or other options.

Keypads

Number of keypads: 8 keypads maximum

Maximum wire length each: 1000 ft. (300 m)

Maximum wire length total in system: 6000 ft. (1800 m)

Wire type: 4 conductor #18 AWG or #22 AWG.

NOTE: No more than 2 keypads on any 1000 foot (300 m) run.

Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2, BFSK, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ringer equivalence is 0.1B

Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

Burglar/Fire Zone Inputs

Number of circuits: 8 Circuits on board

End of line resistor: 2.2 Kohms

Minimum circuit resistance: 60 ohms

Fire Signal Initiating Circuits

Fire circuits will work with 2 or 4-wire detectors and have optional alarm verification.

Number of circuits: 8 Circuits on board (expandable to 16)

Type of circuit: Class B, latching

Maximum detectors per zone: 20 detectors (2-wire)

Total detector standby current: 2.5 mA

Listings and Approvals

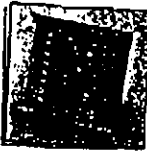
Underwriter's Laboratories

- Household Fire Alarm, U.L. Standard UL985
- Commercial Fire Alarm (Type Service: Local, Central Station, Remote Station; Type Initiating: Automatic, Manual, Sprinkler Supervisory, and Waterflow), U.L. Standard UL864
- Household Burglary Alarm, U.L. Standard UL1023
- Police Station Connection Grades AA and A, U.L. Standard UL365
- Central Station Burglary Alarm Grades AA, A, B, and C; U.L. Standard UL1610

Suitable for installation in NFPA 72 applications as applies to Local, Central Station, Remote Station, Sprinkler Supervisory, and Waterflow.

Protected under one or more of the following patents:
#5,268,688; #5,302,941

DS7400Xi SYSTEM OPTIONS



DS7104 Line Reversal Module

- Provides a reverse polarity output for direct connection applications.
- Provides both a maintained and alternating output.



DS7111i Dual Phone Monitor

- Provides 2 phone line supervision and switching with trouble output.
- Connects to one zone of control.
- Not for use in commercial fire applications.



DS7412 RS232 Interface Module

- Provides the ability to print history events.
- Connects to a standard serial printer.
- 1 per system.



DS7416 Communications Module

- Provides the ability to communicate using the ARDIS radio network.
- Available with red enclosure.
- 1 per system.



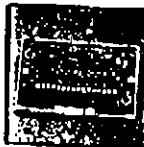
DS7420i Dual Phone Line/Bell Supervision Module

- Provides 2 supervised 12 volt outputs, dual phone line supervision, and one Class A (Style D) Commercial Fire Zone.
- 1 per system.



DS7430 Multiplex Bus Driver

- Provides an expansion bus for connection of multiplex devices.
- 1 per system.



DS7432 8-Input Remote Module

- Provides 8 supervised input zones.
- Connects to multiplex bus.
- Requires use of DS7430.



DS7433 8-Input Direct Module

- Provides 8 supervised input zones.
- Supports 2-wire smoke detectors.
- Cannot be used with DS7430.
- 1 per system.



DS7445 LED Keypad

- 8 Zone LEDs.
- 8 system status LEDs.
- For fire applications, red graphics are available in packages of 10. Order RG 7445-10.



DS7447 Alpha-Numeric Keypad

- Displays two lines of 16 characters.
- The Alpha Information is remotely and keypad programmable.
- For fire applications, red graphics are available in packages of 10. Order RG 7447-10.

4 1/2" H., 6 3/8" W.,
1" D. (11.43 cm H.,
16.19 cm W.,
2.54 cm D.)



DS7450 Flush Mount Multiplex Contact

- Reports actual multiplex address to the control system.
- Gap = 0.75" (1.9 cm).
- Requires use of DS7430.

Sold in
packages of 10
(DS7450-10)



DS7452 Surface Mount Multiplex Contact

- Reports actual multiplex address to the control system.
- Gap = 1.5" (3.8 cm).
- Requires use of DS7430.

Sold in
packages of 10
(DS7452-10)



DS7457 Single Zone Multiplex Input Module

- Provides one supervised zone.
- Connects to multiplex bus.
- Requires use of DS7430.

Sold in
packages of 10
(DS7457-10)



DS7460 Two Input Module

- Provides two supervised zones.
- Connects to multiplex bus.
- Requires use of DS7430.

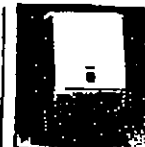
Sold in packages
of 5 (DS7460-5)



DS7465 Input/Output Module

- Provides one supervised zone and one Form "C" relay output.
- Connects to multiplex bus.
- Up to 20 per system.

Sold in packages
of 2 (DS7465-2)



DS7470 Multiplex PIR Intrusion Detector

- Provides standard coverage pattern of 50 by 50 ft. (15 by 15 m).
- Optional 120 ft. (40 m) Long Range and 80 ft. (25 m) Barrier patterns available.
- Requires use of DS7430.



DS7471 Multiplex PIR Intrusion Detector

- Provides standard coverage pattern of 35 by 35 ft. (10 by 10 m).
- Optional 70 ft. (20 m) Long Range and 35 ft. (10 m) Barrier patterns available.
- Requires use of DS7430.



DS7472 Multiplex PIR Intrusion Detector

- Provides 60 ft. (18 m) diameter 360° coverage pattern.
- Requires use of DS7430.



DS7476 Multiplex, Dual Technology Microwave/PIR Intrusion Detector

- Provides standard coverage pattern of 50 by 50 ft. (15 by 15 m).
- Requires use of DS7430.



DS7480 Bell Supervision Module

- Provides power and supervision for one end-of-line supervised indicating appliance circuit.



DS7481 Single Phone Line Monitor

- Monitors one phone line. Provides a Normally Open relay output which closes upon phone line failure.



DS7488 Octal Relay Module

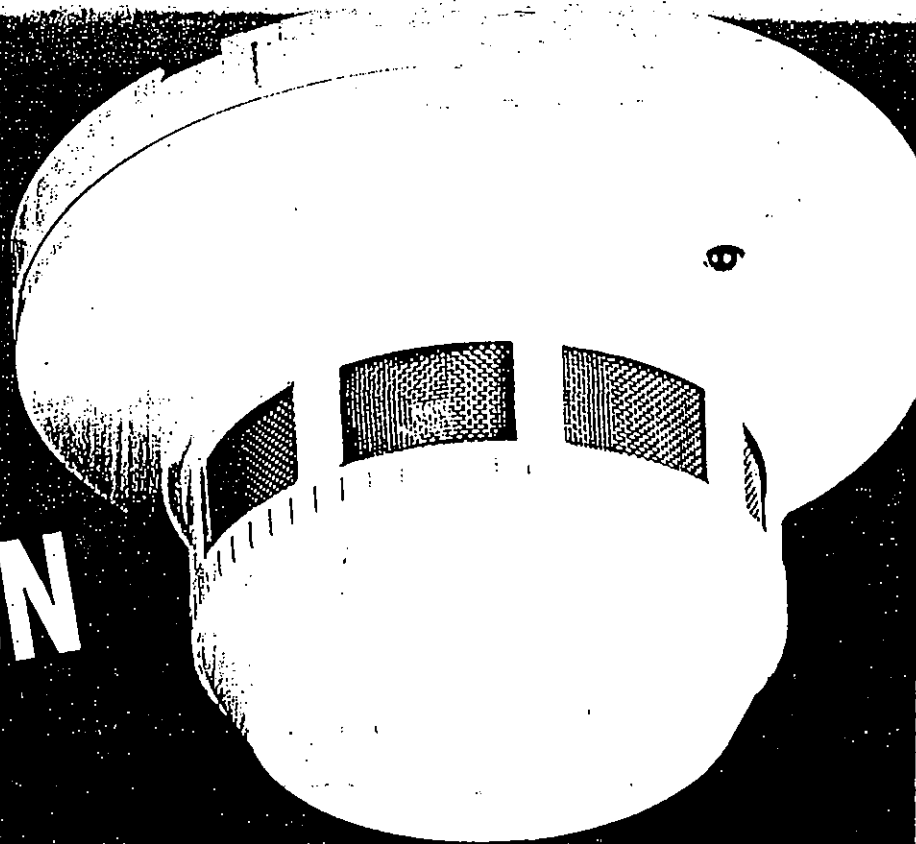
- Provides 8 Form "C" relay outputs.
- 2 per system



AETR-16 Enclosure

- Mounts over standard electrical outlet.
- Provides mechanical protection for transformer and wiring connections.

400 SERIES™ NEXT GENERATION DETECTORS



2400 SERIES 2 WIRE PHOTOELECTRONIC DETECTOR WITH OPTIONAL BUILT-IN HORN AND 135° FIXED TEMPERATURE THERMAL

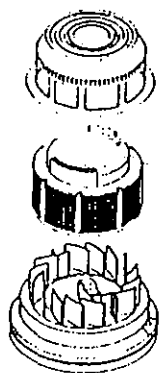
System Sensor 400 Series™ photoelectronic detectors are specifically designed to meet the stringent performance requirements of industrial and municipal fire detection/alarm systems. The design of these detectors emphasizes ease of installation and field maintenance.

- Unique optical sensing chamber
 - Superior signal-to-noise ratio
 - Built-in signal processing
 - 3.0% nominal sensitivity
- Removable cover for field cleaning
- Visible LED "blinks" in standby
- Sealed against dirt, insects and back pressure
- Optional built-in 135° F (57° C) thermal
- 3 year warranty
- 10-32 VDC operating range
- Field metering of detector sensitivity
- 3000 fpm air velocity
- Built-in test capability
- Low standby current
- Twist-on mounting bracket with tamper option
- Designed for direct surface or electrical box mounting
- Remote LED option
- Insect-resistant screening (.020"/.508mm openings)
- Models with built-in horn available
- SEMS screws for easy wiring

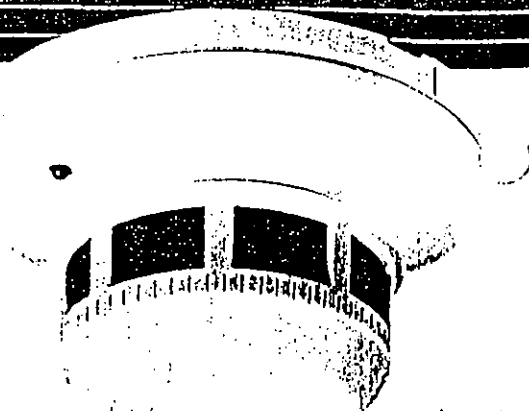
All 400 Series™ photoelectronic smoke detectors contain a unique optical sensing chamber designed to sense the presence of smoke particles produced by a wide range of combustion sources and meet the performance criteria designated by U.L. 268. A new custom integrated circuit incorporates signal

processing to reduce false alarms and sample/hold circuitry to provide easy field metering of sensitivity. Other models are available with a built-in horn which sounds when the detector alarms or when the supply voltage polarity is reversed.

General Specifications



The 400 Series™ has been designed to seal the sensing chamber from back pressure air flow, dust, dirt, and insects. The back of the detector is sealed and the chamber is protected by a fine mesh (.020"/.508 mm) screen. If cleaning is required, it is easy to remove the cover (with a tool) and obtain access to the screen and chamber to perform a thorough cleaning.



General Specifications:	2400	2400TH	2400AT	2400AIT
Control panel applications:	2-wire	2-wire	2-wire	2-wire
Built-in thermal:	NO	YES	YES	YES (Isolated)
Visual LED local alarm:	YES	YES	YES	YES
Remote LED annunciator capability:	YES	YES	YES	YES
Operating voltage range:	8.5-35VDC	8.5-35VDC	10-32VDC	10-32VDC
Current limits				
a) Standby (max.):	120 μ A	120 μ A	120 μ A	120 μ A
b) Alarm current (typ.):	See NOTE	See NOTE	15mA @ 10V	15mA @ 10V
c) Alarm current (max.):	See NOTE	See NOTE	67mA @ 32V	67mA @ 32V
Reversed voltage (non-alarm):			48mA @ 24V	48mA @ 24V
Alarm signal:	Shunt on power leads	Shunt on power leads	5mA @ 10V	5mA @ 10V
			19mA @ 32V	19mA @ 32V
			15mA @ 24V	15mA @ 24V
			Shunt on power leads	Shunt on power leads

Agency Listings: U.L. S911, BS&A 1346-88-SA
CSFM 7257-1209: 103



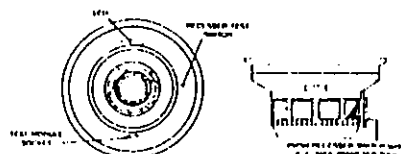
NOTE: Two-wire control panels must limit current to 100mA or less.

Architectural/Engineering Specifications

The detector shall be of the photoelectric type. Its sensor shall have a nominal sensitivity of 3.0%/ft. as measure in a UL smoke box, and a signal-to-noise ratio of 2.0 nominal. It shall be possible to perform a functional sensitivity and performance test on the detector without the need of generating smoke. The test method shall test all detector circuits. A visual indication of an alarm shall be provided by a latching light emitting diode (LED) on the detector which may be seen at ground level. It flashes every ten seconds indicating that power is applied to the detector. The visible alarm signal shall be capable of remote LED annunciation. A special test meter shall be available to check the sensitivity of the detector. Metering points for the test meter shall be accessible on the exterior of the detector. The detector shall not alarm when exposed to wind gusts up to 2500 feet per minute. The detector screen and cover assembly should be easily removable for field cleaning. Wire connections are made by clamping plate and screw.

HOW TO ORDER

2400	Photoelectric detector, 2 wire, surface mount.
2400TH	Photoelectric detector with built-in 135° fixed temperature thermal, 2 wire, surface mount.
2400AT	Photoelectric detector with integral 135° fixed thermal and 85dBA horn, 2 wire, surface mount.
2400AIT	Photoelectric detector with isolated 135° fixed thermal and 85dBA horn, 2 wire, surface mount.
RA400	Remote annunciator (LED).
MOD400	Field test module
I56-407-XX	Applications manual for system smoke detectors.
I56-285-XX	Installation instructions for 2400 series detectors.
I56-287-XX	Installation instructions for 2400 AT/AIT series detectors.
RS24	Replacement insect screening for 2400.
RS24T	Replacement insect screening for 2400TH/AT/AIT.
DUST45	Protective dust cover for 2400 Series models.
R59-18-00	Calibrated test card.
M02-04-00	Test magnet.



SYSTEM SENSOR
A DIVISION OF PITTMAN

3825 Ohio Avenue • St. Charles, Illinois 60174 • 708-377-6363 • FAX: 708-377-6495

Distributed by:

Technical Service Note

Detection Systems, Inc.
130 Perinton Parkway
Fairport, N.Y. 14450

Service (800) 374-7454
Sales (800) 289-0096
Fax (716) 223-9180

CONCERNS: 2-Wire Smoke Detector Compatibility

AFFECTS: DS7400 and DS7090I Control Panels

DATED: 15 June, 1993



Two Wire Smoke Detectors:

The following is a list of 2-wire smoke detectors that have proven to be compatible with the DS7400 and DS7090I Control/Communicators under the method required by Underwriters Laboratories, Inc.

Disclaimer Notice: Detection Systems, Inc. makes no claim either written, oral, or implied that any smoke detector, other than the ones listed here will work with the DS7400 or DS7090I Series Control/Communicators.

2-wire smoke detectors that are not listed as compatible should not be used with the DS7400 or DS7090I.

Two-wire smoke detectors of different manufacturers or detectors of different model numbers may not be mixed on the same circuit.

At this time, UL does not require compatibility cross listing of smoke detectors when installed in a 4-wire configuration.

<u>Manufacturer</u>	<u>Detector Model</u>	<u>Detector Identifier</u>	<u>Mounting Base Model</u>	<u>Base Identifier</u>	<u>Detectors Per Zone</u>
Detection Systems	DS200/DS200HD	A	MB200-2W	B	20
Detection Systems	DS250/DS250TH	A	MB2W or MB2WL	A	20
Detection Systems	DS260	A	MB2W or MB2WL	A	20
Electro Signal Lab	425C	S10	N/A	N/A	20
Electro Signal Lab	425CT	S10	N/A	N/A	20
Electro Signal Lab	611U	S10	601U or 602U	S00 or S03	20
Electro Signal Lab	611UT	S10	601U or 602U	S00 or S03	20
Electro Signal Lab	612U	S10	601U or 602U	S00 or S03	20
System Sensor	1400	A	N/A	A	20
System Sensor	2300T	A	N/A	A	20
System Sensor	2400	A	N/A	A	20
System Sensor	2400TH	A	N/A	A	20
System Sensor	1451	A	N/A	A	20
System Sensor	1451DH	A	B401 or B401B	A	20
System Sensor	2451TH	A	DH400	A	20
System Sensor	2451	A	B401 or B401B	A	20
			B401, B401B, or DH400	A	20

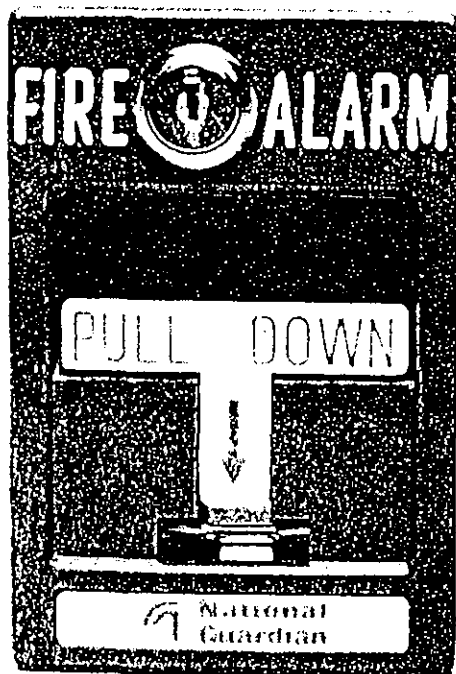
MANUAL STATIONS

CSFM No.
7150-1039:101

ULC

BSA (NYC)

UL No.
11S4



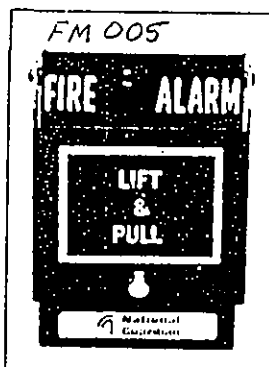
The 56 series manual pull station is a high quality non-toxic die cast manual pull station manufactured entirely in the U.S.A. Low profile and smooth edges offer an attractive yet functional design. All components are prepainted or have plated surfaces to inhibit corrosion. The 56 series pull station can be used with or without a break glass rod with

replacement requiring no special tools.

Other features include: Lift and Pull, Break Glass Cover, Institutional Key Lock and Weather and Explosion Proof versions. All stations offer hex screw or key lock access. Other special options available.



EXPLOSION PROOF
56(-)-700



LIFT AND PULL
56(-)-100



INSTITUTIONAL
56(-)-400



BREAK GLASS
56(-)-300



WEATHER PROOF
56(-)-800

(-) represents switch type plus pigtail leads or terminal block connections

wheelock

INC.

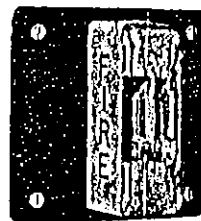


**LS, LSM, MS, IS and HSW
SERIES STROBE**

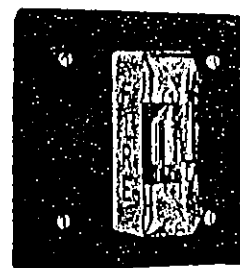
Description

Wheelock's new line of strobes signaling products is designed for Americans With Disabilities Act (ADA) applications while meeting or exceeding the latest requirements of NFPA 72 (the National Fire Alarm Code), ANSI 117.1 (the American National Standard for Accessible and Usable Buildings and Facilities), and UL Standard 1971 (Signaling Devices for the Hearing Impaired). These new strobe products, when properly specified and installed in accordance with NPFA/ANSI Standards, can provide the Equivalent Facilitation allowed under ADA Accessibility Guidelines (ADAAG General Section 2.2) by meeting or exceeding the illumination which results from ADA's strobe intensity guidelines of 75 candela at 50 feet. This is an illumination of 0.030 lumens per square foot (footcandles).

For outdoor and private mode installations or where UL 1971 Listing is not required, the WM series of 117cd UL 1638 Listed strobes is available.



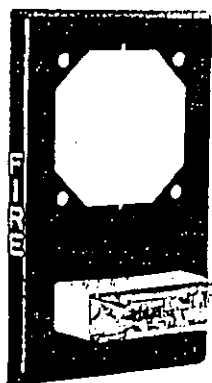
**SERIES
LS3/LS3M/MS3/IS3**



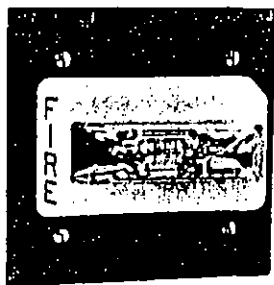
**SERIES
LS/LSM/MS/IS**



**SERIES
LS1/LS1M/MS1/IS1**



**SERIES
LSP/MSP/ISP/HSPW**



**SERIES
HS/HS2**

Features

- Underwriters Laboratory (UL 1971 & UL 1638) Listings, Factory Mutual (FM), New York (MEA), and Chicago (BFP) approvals on selected models.
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines.
- All models meet ADA Guideline for minimum one flash per second from 20-31 volts or 12-15.6 volts.
- Low current draw with low temperature compensation reduce power consumption and wiring costs.
- Available in 15cd, 30cd, 75cd, and 110cd UL 1971 Listed and 15/75cd UL 1971 Listed at 15cd and exceeding a near-axis 75cd intensity for ADA guidelines with low current draw.
- Convenient mounting to standard backboxes.
- Polarized 12 and 24 VDC models with wide listed voltage ranges using filtered DC or unfiltered FWR input voltage.
- Fast installation with In/Out screw terminals using #12-#18 AWG wires.
- Compliance with RFI limits in FCC Part 15, Class B for compatibility with sensitive detection and communication circuits.
- Weatherproof models for outdoor installations.

STROBE ONLY

Ordering Information

Strobes	Model Code	Order Code	Strobe Candela	Current (Amps)	Mounting Options	Approvals				
						UL	CFM	FM	MEA	BFP
LS 24 VDC	LS-24-VFR	5174	15	.080	D	X	X	X	X	Dec
	LS1-24-VFR	5175	15	.080	A,J	X	X	X	X	Dec
	LS3-24-VFR	5176	15	.080	L	X	X	X	X	Dec
	LSP-24-HFR	5180	15	.080	E,R	X	X	X	X	Dec
LSM 24 VDC	LSM-24-VFR	5171	15/75	.115	D	X	X	X	X	Dec
	LS1M-24-VFR	5172	15/75	.115	A,J	X	X	X	X	Dec
	LS3M-24-VFR	5173	15/75	.115	L	X	X	X	X	Dec
	LSPM-24-VFR	5179	15/75	.115	E,S	X	X	X	X	Dec
MS 24 VDC	MS-24-VFR	5316	30	.135	D	X	X	X	X	Dec
	MS1-24-VFR	5317	30	.135	A,J	X	X	X	X	Dec
	MS3-24-VFR	5319	30	.135	L	X	X	X	X	Dec
	MSP-24-HFR	5320	30	.135	E,R	X	X	X	X	Dec
IS 24 VDC	IS-24-VFR	5351	75	.225	D	X	X	X	X	Dec
	IS1-24-VFR	5352	75	.225	A,J	X	X	X	X	Dec
	IS3-24-VFR	5353	75	.225	L	X	X	X	X	Dec
	ISP-24-HFR	5354	75	.225	E,R	X	X	X	X	Dec
HSW 24 VDC	HSW-24-HFR	5177	110	.230	D	X	X	X	X	Dec
	HS2W-HFR	5178	110	.230	C,K	X	X	X	X	Dec
	HSPW-24-HFR	5181	110	.230	E,R	X	X	X	X	Dec
WM 24 VDC	WM3T-24-FR	4911	117	.088	L,U	X	X	X	X	X
LS/MS/LSM 12 VDC	LS1-12-VFR	5377	15	.160	A,J	X	X	X	X	Dec
	LS1M-12-VFR	5630	15/75	.220	A,J	X	X	X	X	Nov-Dec
	MS1-12-VFR	5378	30	.230	A,J	X	Nov	Dec	X	Dec
	LSP-12-HFR	5379	15	.160	E,R	X	X	X	X	Dec
	MSP-12-HFR	5380	30	.230	E,R	X	Nov	Dec	X	Dec
	LSPM-12-VFR	5677	15/75	.220	E,S	X	Nov	X	X	Dec

NOTES

- Models code suffix: V = vertical lens; H = horizontal lens; F = fire lettering; R = red plate.
- Approval codes: UL = Underwriter Laboratories; CFM = California State Fire Marshal; FM = Factory Mutual; MEA = New York City Materials and Equipment Acceptance; BFP = Chicago Bureau of Fire Prevention.

AUDIBLE SIGNALS AND SPEAKERS TO USE WITH LSP/MSP/ISP/HSPW

- Multitone Electronic Signals
- MT Series, AES Series
- Motor Bells (6" or 10")
- MB Series
- Voice Evacuation Speakers
- ET-1010, 806T, 807T, ET-1070, ET-1080, E-7070, E-7025
- Electronic Chimes
- CH-D

AUDIBLE SIGNALS AND SPEAKERS TO USE WITH LSPM

- Multitone Electronic Signals
- MT4 Series, AES-E Series
- Motor Bells (6" or 10")
- MB Series
- Voice Evacuation Speakers
- ET-1010 and 806T, 807T

Mounting Options

Option	Type	Backbox	Maximum Wires in Backbox			
			#18	#16	#14	#12
A	Flush	1-gang x 2"	4	4	4	4
C	Flush	2-gang x 3-1/2"	8	8	8	8
D	Flush	4" x 4" x 1-1/2"	4	4	4	4
E	Flush	4" x 4" x 2-1/8"	8	8	8	8
J	Surface	Wiremold 1-gang x 1-3/4"	4	4	4	4
K	Surface	Wiremold 2-gang x 1-3/4"	4	4	4	4
L	Surface	BB	4	4	4	4
R	Surface	SBL1	8	8	8	8
S	Surface	SBL	8	8	8	8
U	Weatherproof	WBB	4	4	4	4

NOTE: SEE PAGE 4 FOR GENERAL AND TECHNICAL NOTES.

Ordering Information

Mounting Accessories

Model	Code	Description
BB-R	2830	4" x 4" x 1-1/2" Surface Backbox
SBL1-R	5342	6" x 9-1/2" x 1-3/4" Surface Backbox
SBL-R	4995	5-1/2" x 10-5/8" x 1-3/4" Surface Backbox
WBB-R	2959	4-1/8" x 4-1/8" x 2" Weatherproof Backbox

HORN AND STROBE

Table 2: dBA and Current Ratings for Audible Portion of Multitone Signals Without Strobes

Tone	Input Current ¹ AMPS @ 24 VDC		Input Current ¹ AMPS @ 12 VDC		Typical Anechoic ⁴ dBA at 10 Feet		Rated Reverberant dBA ¹ at 10 Feet Per UL 464			
					At Nominal Input Voltage		At Minimal Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	99	93	85	79	88	82
Bell	0.014	0.012	0.031	0.010	92	87	79	75	82	75
March Time Horn	0.040	0.023	0.100	0.020	99	93	82	75	85	79
Code-3 Horn	0.040	0.023	0.100	0.020	99	93	79	75	82	75
Code-3 Tone	0.028	0.017	0.060	0.015	95	90	75	70	79	73
Slow Whoop	0.048	0.026	0.100	0.025	99	94	82	75	85	79
Siren	0.036	0.023	0.082	0.020	98	93	82	75	85	79
Hi/Lo	0.020	0.014	0.044	0.012	93	88	79	75	82	75

NOTES

- Add 25% more input current than shown in Tables 1 and 2 when operating the unit at maximum input voltage. Rated input voltage (either filtered DC or unfiltered full-wave rectified (FWR)). Strobes are designed to flash at 1 flash per second minimum from 20-31 VDC (for 24 VDC models) or 12-15.6 VDC (for 12 VDC models). Note that ADA guidelines presently specify a flash rate of 1 to 3 flashes per second. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the strobes.
 - Anechoic dBA is measured on axis in a non-reflective (free field) test room using fast meter response. For peak dBA (measured with peak meter response), add 5 dBA to typical anechoic value shown in Table 1 and 2.
 - Reverberant dBA is a minimum UL rating based on sound power measurements in a reverberant test room.
 - Multitone signals with and without strobes have a brief in-rush current during start-up. See separate "Installation Instructions" for further details.
- WARNING: MULTITONE STROBE MODELS SET ON "CODE-3 TONE" WITH "STANDARD dBA" DO NOT MEET THE 75 dBA MINIMUM UL REVERBERANT SOUND LEVEL REQUIRED FOR PUBLIC MODE FIRE PROTECTION SERVICE (NOTED BY * IN TABLE 2). MODELS WITH SETTINGS WHICH PRODUCE LESS THAN 75 dBA MAY NOT BE HEARD. THIS SETTING IS ACCEPTABLE ONLY FOR GENERAL SIGNALING (NON-FIRE ALARM) USE. USE THE "HIGH" dBA SETTING WITH THIS TONE OR USE A DIFFERENT TONE FOR PUBLIC MODE SERVICE.**

Make sure that the average, peak and inrush currents do not exceed system power supplies or fusing limits. If the strobe and audible operate on the same circuit, add the strobe current from Table 3 to the proper audible current from Table 1 or 2. See separate "Installation Instructions" for further details.

Voltage	Strobe Current Requirement (AMPS)										Rated Inrush Current				
	Rated Average Current					Rated Peak Current									
	LS	MS	LSM	IS	HSW	LS	MS	LSM	IS	HSW	LS	MS	LSM	IS	HSW
20 VDC	.080	.135	.115	.240	.280	.160	.288	.250	.500	.680	.210	.280	.225	.650	.550
24 VDC	.080	.135	.115	.225	.230	.190	.296	.260	.450	.570	.250	.280	.270	.660	.660
31 VDC	.080	.135	.115	.195	.190	.210	.296	.260	.370	.520	.320	.300	.360	.880	.850
20 VFWR	.080	.135	.125	.253	.280	.210	.390	.350	.700	.960	.320	.390	.315	.920	.780
24 VFWR	.081	.135	.125	.233	.230	.216	.390	.365	.640	.830	.380	.390	.380	.930	.930
31 VFWR	.091	.135	.125	.196	.190	.240	.390	.365	.520	.750	.450	.420	.500	1.25	1.20
10.5 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.300	.500	.440	---	---
12 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.390	.650	.470	---	---
15.6 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.390	.650	.470	---	---
10.5 VFWR	.175	.238	.230	---	---	.475	.730	.660	---	---	.420	.700	.620	---	---
12 VFWR	.175	.238	.230	---	---	.475	.730	.660	---	---	.420	.700	.620	---	---
15.6 VFWR	.175	.245	.240	---	---	.475	.730	.660	---	---	.545	.910	.660	---	---

Ordering Information

MT and MT4 models can be used with Wheelock's IISW-24-IFR strobe/plate assembly for 110 candela strobe signal

Model Number	Order Code	Input Voltage	Rated Candela	Mounting Options	Approvals				
					UL	CFM	FM	MEA	BFP
MT-12/24-R	5023	24	15	A-G	X	X	X	X	Dec
MT-12/24-R	5308	24	15	H	X	X	X	X	Dec
MT-24-LS-VFR	5183	24	15	A-G	X	X	X	X	Sept
MT-24-LSM-VFR	5182	24	15/75	A-G	X	X	X	X	Dec
MT-24-MS-VFR	5321	24	30	A-G	X	X	X	X	Dec
MT-24-IS-VFR	5355	24	75	A-G	X	X	X	X	Dec
MT4-24-LS-VFR	5315	24	15	H	X	X	X	X	Dec
MT4-24-LSM-VFR	5374	24	15/75	H	X	X	X	X	Dec
MT4-24-MS-VFR	5375	24	30	H	X	X	X	X	Dec
MT4-24-IS-VFR	5370	24	75	H	X	X	X	X	Dec
MT-24-WM-VFR*	5025	24	117	C,D,J	X	X	X	X	Dec
MT-12-LS-VFR	5303	12	15	A-G	X	Nov	X	Nov	Dec
MT-12-MS-VFR	5384	12	30	A-G	X	Nov	Dec	Nov	Dec
MT-12-LSM-VFR	5683	12	15/75	A-G	X	Nov	X	Nov	Dec
MT4-12-LS-VFR	5385	12	15	H	X	Nov	X	Nov	Dec
MT4-12-MS-VFR	5386	12	30	H	X	Nov	Dec	Nov	Dec
MT4-12-LSM-VFR	5687	12	15/75	H	X	Nov	X	Nov	Dec
ISP-R	5306	---	---	F,G	X	---	---	---	---
IOD-R	5046	---	---	C,D	X	---	X	---	---
RP-R	5042	---	---	E	X	---	---	---	---

NOTE: SEE PAGE 4 FOR GENERAL AND TECHNICAL INFORMATION.

wheelock

* UL 1630

REMOTE POWER SUPPLY

FCPS-24F REMOTE POWER SUPPLY

GENERAL

The FCPS-24F is a compact, cost effective, remote power supply and battery charger. The FCPS-24F consists of a regulated and filtered 24 VDC output that may be configured to drive four notification appliance circuits (two Style Y or Style Z, and two Style Y only). Alternately, the two Style Y notification appliance circuits may be configured as two resettable or non-resettable power output circuits. The FCPS-24F also contains a battery charger capable of charging up to 7.0 AH batteries.

FEATURES

- Self contained in lockable cabinet (15"H x 14.5"W x 2.75"D).
- 24 VDC remote power supply.
- Completely power-limited.
- Two input/control circuits (from FACP notification appliance circuits or control modules).
- Two Style Y/Style Z notification appliance circuits (circuits 1 & 3).
- Two additional circuits that may be individually configured as Style Y notification appliance circuits or as 24 VDC output power circuits (circuits 2 & 4).
- Output power circuits may be configured as resettable (reset line from FACP required) or non-resettable.
- 4.0 amp continuous output.
- 6.0 amp full load output.
- Fully regulated and filtered power output.
- Capable of powering 4-wire smoke detectors (circuits 2 & 4).
- Integral battery charger.
- Up to 7.0 AH batteries in FCPS-24F cabinet
- Fully supervised power supply, battery, and notification appliance circuits.
- Earth fault detection (selectable).
- AC fail delayed (8 or 16 hours) trouble indication (selectable).
- Fixed terminal blocks for field wiring capable of accepting up to 12 AWG wire.
- Trouble contacts, jumper options.

PRODUCT LINE INFORMATION

MODEL	DESCRIPTION
FCPS-24F	Remote charger power supply. Includes main printed circuit board, transformers, surface mount backbox, and installation instructions
PS-1270	Battery, 12 volt, 7.0 AH (two required)
A77-716B	12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

SPECIFICATIONS

AC Power

120 VAC, 50/60 Hz.

Wire size: minimum #14 AWG with 600V insulation.

Battery (lead acid only)

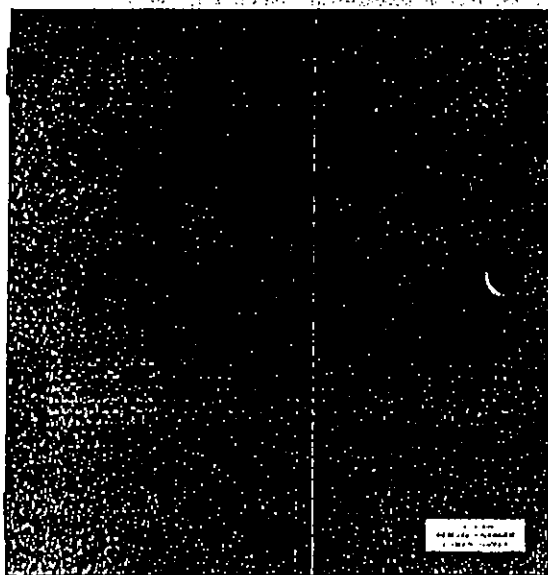
Normal Charge Voltage: 27.6V.

Maximum Charge Current: 250 mA maximum.

Maximum Battery Capacity: 7.0 AH.

INDICATORS

- AC Power On.
- AC Fail/Earth fault.
- Battery/Charger trouble.
- Circuit wiring faults 1-4.

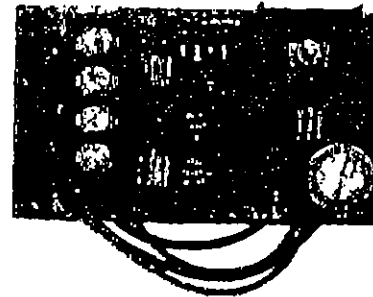


TECHNICAL SALES BULLETIN

PS-42 6v - 12v - 24v Programmable 1.5 amp Linear Power Supply

Features:

- ☐ **Selectable 6v, 12v, or 24vdc**
- ☐ **Up to 1 Amp of Continuous Current**
- ☐ **Clean Linear Power**
- ☐ **Snap Track Mounting**
- ☐ **Lightning and Surge Protection**
- ☐ **Temperature Tracking Circuit**
- ☐ **Overload Thermal Shutdown**
- ☐ **Battery to load circuit fused at 9 amps**
- ☐ **Optional automatic resetting circuit breaker**
- ☐ **LED indicator for AC**



The PS-42 becomes an uninterruptable power supply when used with a plug-in class II transformer and sealed lead acid battery. The output of the PS-42 is continuous DC power that can be used for the most sensitive electronic controls.

The PS-42 output and battery charge voltage is selected by moving the programming jumper to 6, 12 or 24v. Each voltage selected is preset to a concise voltage to properly float charge a sealed lead acid battery of the selected voltage. The voltage is carefully regulated to keep the standby battery(s) properly charged for any given temperature or load.

A special ambient temperature tracking circuit adjusts the output voltage to provide the proper float charge for the battery at any given temperature. This feature greatly extends the life of the battery when used in extreme weather conditions.

The current the battery draws from the PS-42 is determined by the battery's condition, capacity, temperature and state of charge. The PS-42 is protected against shorts and overloading with its electronic circuitry, which also protects the transformer.

When the DC load requires more than the maximum output provided by the PS-42, the battery can add up to eight (8) more amps. This may be necessary to sound a high powered siren for the duration of an alarm. The PS-42 has a replaceable nine (9) amp fuse or optional automatic resetting circuit breaker in series with the battery.

When calculating current requirements, subtract a minimum of 100 ma for recharging the battery after an AC outage. A sealed lead acid battery will take about 125% of stored energy to recharge. As a rule of thumb, 100 ma will recharge a fully depleted 4 amp hour battery in 40 hours.

As a test it is recommended that on a regular basis, the AC power be removed, equipment checked for proper operation, then AC power restored. If the test fails, check for a blown fuse or a defective battery.

CAUTION - Remove load from output when changing the voltage selection. When the jumper is off, the output voltage will go high.

SPECIFICATIONS

Transformer Table		
AC Input Transformer Class II UL Listed Limited Energy	DC Output Voltage Selection	Maximum Available Continuous Current
12V 20VA	6 volts	1.00 amp
12V 20VA	12 volts	100 ma
16V 20VA	6 volts	600 ma
16V 20VA	12 volts	1.00 amp
24V 20VA	6 volts	200 ma
24V 20VA	12 volts	250 ma
24V 20VA	24 volts	400 ma
24V 40VA	24 volts	700 ma
28V 40VA	24 volts	1.00 amp

Output Charging Voltages - for sealed lead acid batteries

6v: Selection

6.7 vdc

12v Selection

13.7 vdc

24v Selection

27.3 vdc

Maximum AC Input

28 vac

Battery amp hour (AH) capacity range

2 AH - 80 AH

Continuous current (see transformer table)

1.0 amps

Intermittent current from charger

1.5 amps

Intermittent current with battery

8 amps

Maximum current from battery to output with standard fuse

Fused 9 amps

Maximum current from battery to output

10 amp

with optional auto resetting circuit breaker

Replacement fuse (automotive type)

3 AGC 9 amps

Typical regulation from no load to full rated current

.05%

Ripple and Noise @ full load

50 mv max.

Long term stability

.02 vdc

Typical overheated short circuit current

.5 amps

Thermal overload Cut back

200° F

PCB Size

2.25" x 3.25"

Note 1: Place voltage selector to desired voltage before hooking up power supply.

Note 2: Larger transformers with a higher VA rating may always be used. Never exceed 28 VAC.

MICRO-STATE ELECTRONICS LIMITED WARRANTY

THIS PRODUCT IS SUBJECT TO AN 18 MONTH LIMITED WARRANTY WHEREIN MICRO-STATE CAN ONLY BE LIABLE FOR REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCT. IN NO EVENT SHALL MICRO-STATE BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR COLLATERAL DAMAGES. WARRANTY DETAILS ARE AVAILABLE UPON REQUEST.

Micro-State Electronics
1000-C Apollo Court
Antioch, CA 94509

To Order: 800-800-5148
FAX: 510-706-2175

MS-20

3/16/95

Overview

ASCAP

Product

Quit

+--Wire Size Selection-----+

Enter System Voltage	24
Wire Run Length In Feet (ONE Way)	250
Wire Run Current In Amperes	.942
Maximum Voltage Drop In %	10

Wire Size 17

+----- Any Key To Continue, <P> To Print -----+

Use arrow keys to change selection - Return to select - Escape To Cancel

REMOTE POWER SUPPLY

FCPS-24F REMOTE POWER SUPPLY

GENERAL

The FCPS-24F is a compact, cost effective, remote power supply and battery charger. The FCPS-24F consists of a regulated and filtered 24 VDC output that may be configured to drive four notification appliance circuits (two Style Y or Style Z, and two Style Y only). Alternately, the two Style Y notification appliance circuits may be configured as two resettable or non-resettable power output circuits. The FCPS-24F also contains a battery charger capable of charging up to 7.0 AH batteries.

FEATURES

- Self contained in lockable cabinet (15"H x 14.5"W x 2.75"D).
- 24 VDC remote power supply.
- Completely power-limited.
- Two input/control circuits (from FACP notification appliance circuits or control modules).
- Two Style Y/Style Z notification appliance circuits (circuits 1 & 3).
- Two additional circuits that may be individually configured as Style Y notification appliance circuits or as 24 VDC output power circuits (circuits 2 & 4).
- Output power circuits may be configured as resettable (reset line from FACP required) or non-resettable.
- 4.0 amp continuous output.
- 6.0 amp full load output.
- Fully regulated and filtered power output.
- Capable of powering 4-wire smoke detectors (circuits 2 & 4).
- Integral battery charger.
- Up to 7.0 AH batteries in FCPS-24F cabinet
- Fully supervised power supply, battery, and notification appliance circuits.
- Earth fault detection (selectable).
- AC fail delayed (8 or 16 hours) trouble indication (selectable).
- Fixed terminal blocks for field wiring capable of accepting up to 12 AWG wire.
- Trouble contacts, jumper options.

PRODUCT LINE INFORMATION

MODEL	DESCRIPTION
FCPS-24F	Remote charger power supply. Includes main printed circuit board, transformers, surface mount backbox, and installation instructions
PS-1270	Battery, 12 volt, 7.0 AH (two required)
A77-716B	12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

SPECIFICATIONS

AC Power

120 VAC, 50/60 Hz.

Wire size: minimum #14 AWG with 600V insulation.

Battery (lead acid only)

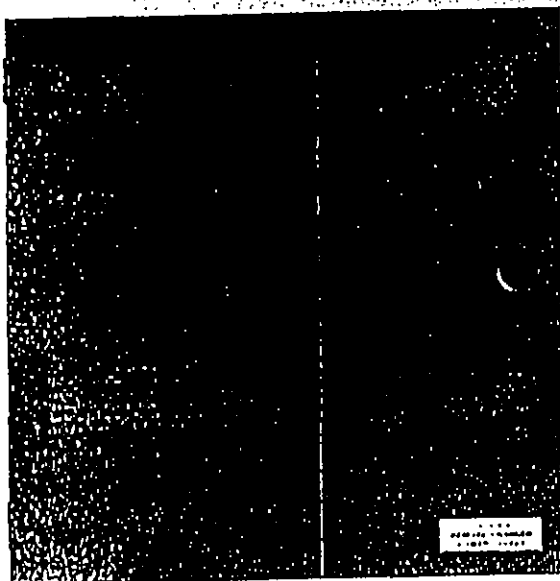
Normal Charge Voltage: 27.6V.

Maximum Charge Current: 250 mA maximum.

Maximum Battery Capacity: 7.0 AH.

INDICATORS

- AC Power On.
- AC Fail/Earth fault.
- Battery/Charger trouble.
- Circuit wiring faults 1-4.



OUTBACK STEAKHOUSE BATTERY CALCULATIONS

EQUIPMENT	QTY.		DEVICE STAND- BY	DEVICE ALARM	TOTAL STAND-BY IN mA	TOTAL ALARM IN mA
DS7400 Control/Communicator	1	X	125mA	200mA	125mA	200mA
DS7440 Alpha Keypad/Remote Annoc.	2	X	50mA	60mA	100mA	120mA
DS7420 Phone Line/Bell Supv. Module	1	X	20mA	140mA	20mA	140mA
DS7416 AAguard Radio Communications	1	X	127mA	127mA	127mA	127mA
DS7433 8Zone Expander Module	1	X	65mA	80mA	65mA	80mA
DS7488 Octal Relay Relay Draw +15mA for ea. zone	1 3	X X	65mA 0 mA	80mA + 45mA	65mA	125mA
Smoke Detector	12	X	.080mA	36mA	.96mA	.432mA
Duct Detector (installed by HVAC)		X				
TOTAL IN mA					502.96 mA	1224 mA

FACP

FORMULA FOR NFPA 72 AMPERE HOUR CALCULATION

$$\begin{array}{lcl}
 (.50296 \text{ A} \times 60) & + & (1.224 \text{ A} \times 1/12) + 10\% = 33.3074 \text{ AH} \\
 \text{STAND-BY} & \text{HOURS} & \text{ALARM} & \text{5} & \text{CONTINGENCY} & \text{TOTAL A.H.} \\
 \text{VOLTAGE} & & \text{VOLTAGE} & \text{MIN} & \text{FACTOR} &
 \end{array}$$

(Two 17AH Batteries = 34 AH)

24V 3amp Power Supply

	1		4mA	40mA
		X	mA	mA
Strobes	4	X	0 mA	125 500 mA
Horn/Strobe	6	X	0 mA	151 906 mA
TOTAL			4 mA	1446 mA

$$\begin{array}{lcl}
 \text{FORMULA FOR NFPA 72 AMPERE HOUR CALCULATION} \\
 (.004 \times 60) + (1.446 \times 1/12) + 10\% = .3965 \\
 \text{Column B} & \text{Hours} & \text{Column C} & \text{(5 min.)} & \text{Contingency} & \text{Total A.H.} \\
 \text{Total} & & \text{Total} & & \text{Factor} &
 \end{array}$$



FIRE ALARM SUBMITTAL

FOR

**OUTBACK STEAKHOUSE
2770 HOOPER AVE.
BRICK, NJ.**

FROM

**NATIONAL GUARDIAN
7434 TOWER STREET
FORT WORTH, TEXAS 76118
ACR 86363-826H**



BY

**CHARLES R. SMITH
FIRE SYSTEMS SUPERVISOR - NATIONAL ACCOUNTS
APS 0236**

SUBMITTAL OUTLINE

02/07/96

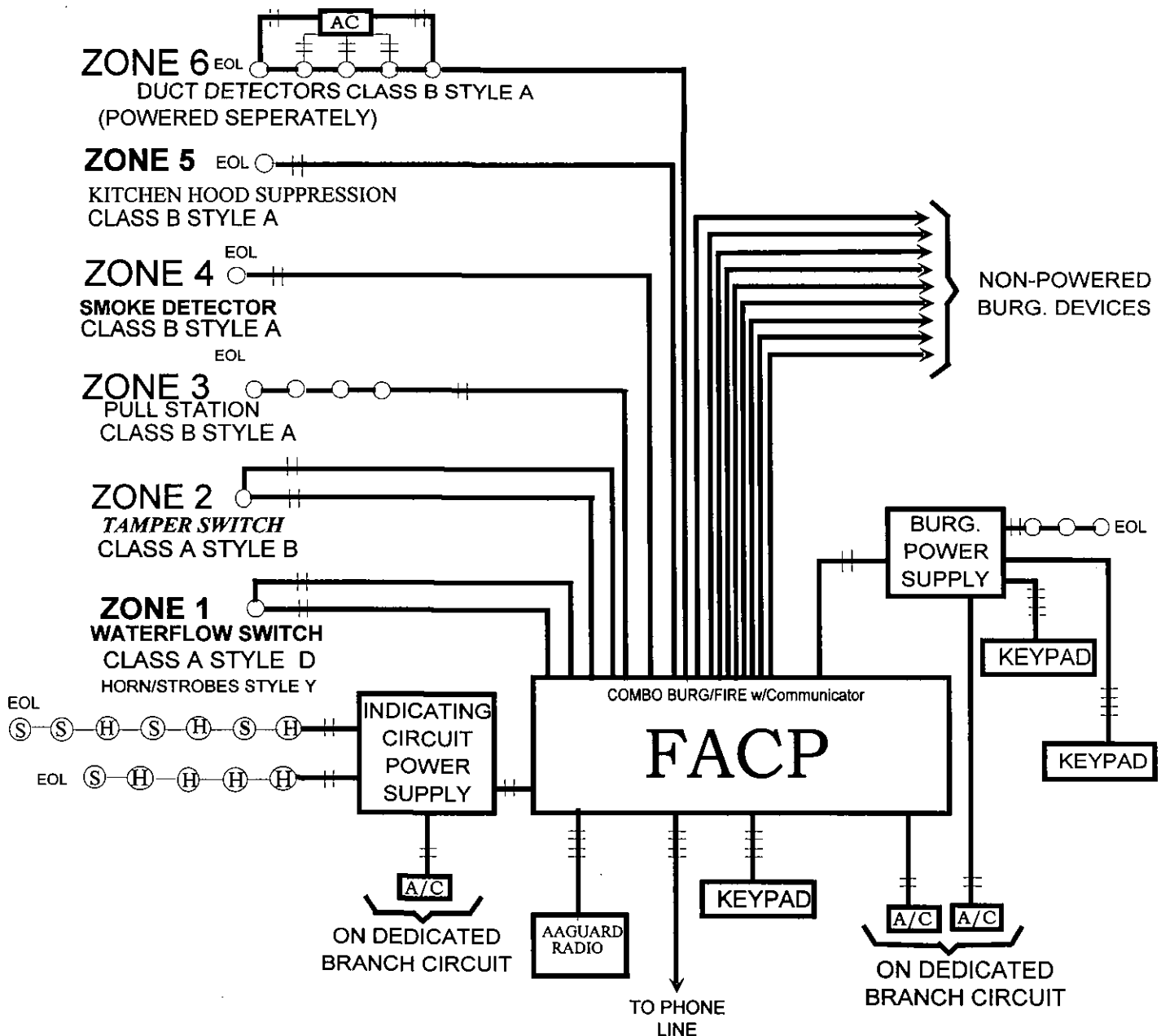
- I. LOCATION
A. Outback Steakhouse
2770 Hooper Ave.
Brick, NJ. 08723
- II. CODES
A. NFPA 72 Chapters 1, 3-7 As Applicable (Remote Station) C. Local City
B. BOCA Building & Fire Codes D. ADA
- III. CONTROL EQUIPMENT
A. DS7400XI Burglary/Fire Control Panel D. DS7432 Zone Expander
B. DS7420i Fire Card E. DS7416 AAGARD Radio Module
C. DS7400 Alpha Keypad
- IV. INITIATING DEVICE
A. (1) Water Flow Switch D. Smoke Detector (Panel Protection)
B. (1) Tamper Switch E. Kitchen Hood Suppression
C. (1) Manual Pull Station F. Duct Detectors (Powered Separately)
(Installed by others)
- V. INDICATING DEVICE
A. Existing Water Gong C. (5) ADA Strobes
B. (7) Horn/Strobes
- VI. ZONES
1. Water Flow 4. Smoke Detector (panel protection)
2. Tamper 5. Kitchen Hood Suppression
3. Pull Station 6. Duct Detectors W/Remote LED,s
7-16. Burg Devices (Powered Separately)
- VII. COMMUNICATIONS
A. Digital Dialer B.. AAGARD Wireless Radio
- VIII. WIRING
A. Class A 18/2 FPL (Waterflow & Tamper switches) C. Class B 16/2 FPL (indicating Circuits)
B.. Class B 18/2 FPL (Initiating circuits) D. 18/4 FPL (Key Pad/Remote Annoc.)
- IX. LISTING
A. All Equipment is U.L. Listed
- X. POWER SUPPLY
A. Primary - 110V AC on Dedicated Outlet D. PP4-12 (Burg. Devices only)
B. Secondary - 2 12V 17AH Batteries E. FCPS-24F Signaling Circuit Power Supply
with 2 7AH Batteries
- XI. ALARM SUPERVISION
A. Human
B. Monitoring Station: NATIONAL GUARDIAN SECURITY
2461 MCGAW ROAD
COLUMBUS, OHIO 43207-4594



OUTBACK STEAKHOUSE

2770 HOOPER AVE.

BRICK, NJ.

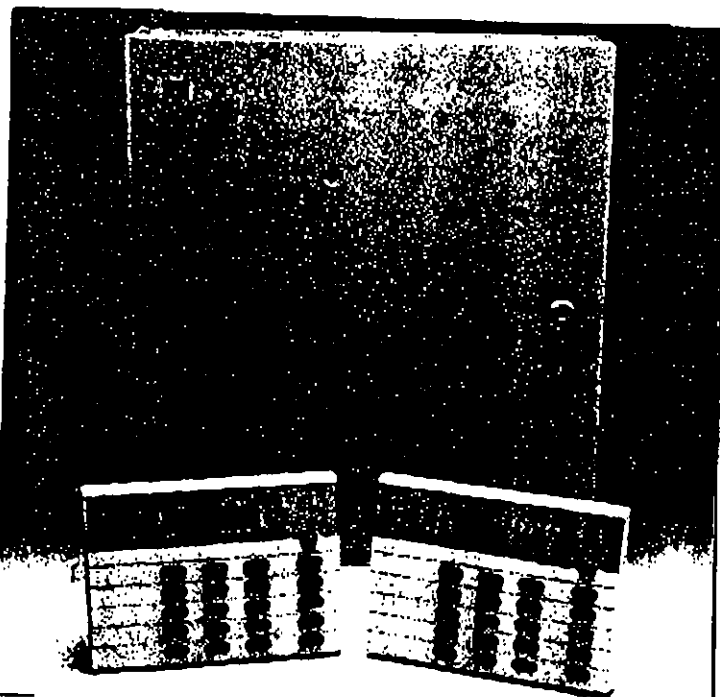


National Guardian Security Services Corp. Silent Watchman Division

7434 Tower Street Fort Worth, Texas 76118 817-589-1564 800-695-3599 Fax 817-595-0203



DS7400Xi CONTROL/COMMUNICATOR



DS7400Xi Multiplex Control/ Communicator

FEATURING...

- Four Partitions
- History Buffer
- Keypad Programmable
- Remotely Programmable
- Freely Programmable Alpha Display
- 60 PINs
- U.L. Listed, C.S.F.M. Approved

DS7400Xi Overview

	DS7400Xi	DS7400XiFCP
Zones	128	128
Outputs	3 (expandable to 39)	3 (expandable to 39)
Special Features	Four Systems Partitioning 400 Event History Buffer 60 Personal Identification Numbers Input/Output Cross-Matrixing Outputs on the Multiplex Bus "Arm-only" Codes by Partition	All DS7400Xi features. Specially designed for fire applications. Includes all required accessories for commercial fire application.

Detection Systems, Inc.

130 Perinton Parkway, Fairport, New York 14450/ Fairport, NY: 800/289-0096; 716/223-4060; FAX 716/223-9180
 Mircro: TEL: 800/1/27 2000; 716/273 2000; FAX: 716/273 2000

1.0 Specifications

1.1 Enclosure Housing

The standard enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5 in. Wide, by 14.5 in. High, by 3 in. Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch (required for commercial burglary applications) for monitoring the door.

1.2 Temperature

- Storage and Operating Temperature: +32° to +120°F (0° to +49°C)

1.3 Power

NOTE: The total current output capacity for all auxiliary devices, including keypads and smoke detectors = 1.5 A standby, 2.5 A alarm. The following ratings are maximum values. The total combined output cannot exceed the max. load current.

- Input power 18 VAC, 50 VA, 50 Hz. or 60 Hz.
- Auxiliary regulated power 12 VDC, 1.5 A max.
- U.L. Listed Auxiliary power 12 VDC, 1.5 A max.
- U.L. Listed Alarm Power Output 12 VDC, 1.75 A max.
- Auxiliary power voltage range 12 V special application
- Optional Standby battery (P334) 12 V, 7.0 AH - 35 AH max.
- Control panel current draw 175 mA, Standby
250 mA, Alarm

1.4 Outputs

- Alarm Output 12 VDC, 1.75 A output. Can be programmed for steady or pulsed output.
- Programmable Output 1* Solid state current sink (1.0 A max.). Shorts to ground when activated. Connect device to Aux. power positive. Can be used for alarm, arming state, or access control.** This output is generally programmable.
- Programmable Output 2* Solid state voltage source (500 mA max.). Can be used for alarm, arming state, or access control.** This output is generally programmable. For use with such compatible devices as the Listed DS250 with a 4-wire base.

* = Current draw should be subtracted from either maximum auxiliary or maximum alarm current draw.

** = Not investigated to the requirements of UL294.

1.5 Zones

- DS7400i: 8 on-board zones.
Up to 64 total zones with expansion modules.

- DS7400Xi: 8 on-board zones.
Up to 128 total zones with expansion modules.
- Zone Response Time: 300 ms.

1.6 Keypads

- Maximum # of keypads 8 Keypads
- Maximum wire length each 1000 feet
- Maximum wire length total in system 6000 feet
- Wire type 4 conductor, unshielded, #22 AWG Telephone quad or #18 AWG quad wiring can be home-run or daisy-chained.

NOTE: No more than 2 keypads recommended on any 1000 foot run.

NOTE: Shared cable is not recommended for keypad, multiplex, options bus, telephone, or siren wiring.

1.7 Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2 BFSK, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ringor equivalence is 0.1B

Comm. Fire CSFM Listing Number is 7165-1062:111

Residential Fire CSFM Listing Number is 7167-1062:111

1.8 Users

Both the DS7400i and DS7400Xi systems allow up to 60 individual users. Each user will have his own PIN number (the 4 digit code entered at the keypads) and his own authority level (to determine which functions he may perform).

1.9 Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

1.10 Burglar/Fire Zone Inputs

- Number of circuits 8 Circuits on board
- End of line resistor 2.2 K Ω (P/N 25944, provided)
- Loop resistance tolerance 60 ohms

1.11 Fire Signal Initiating Circuit (2-wire mode)

Fire circuit will work with 2 or 4-wire detectors and has optional alarm verification.

- Number of circuits 8 Circuits on board
- Type of circuit Class B, latching

DS7400Xi SYSTEM FEATURES

Description

The DS7400Xi is a Multiplex control/communicator. It accepts up to 60 Personal ID Numbers (PINs), is keypad or remotely programmable, and has a wide range of features as described below.

Commercial Fire Approved

Meets commercial fire requirements when used with the DS7420i (Dual Phone Line/Bell Supervision Module), DS7447 Alpha-Numeric Keypad, and AETR-16 (enclosure for transformer). The DS7400XiFCP is shipped with these accessories. The 8 on-board zones may be used as Class B (Style B) input loops and will accept up to 20 two-wire smoke detectors (such as DS250 Series) each. Multiplex zones support 4-wire smoke detectors.

LED and Alpha Keypad Support

The DS7400Xi can use the DS7445 LED keypad and the DS7447 Alpha-Numeric keypad. The DS7445 provides an LED per zone (for main board zones 1-8 only), plus 8 system status LEDs that indicate conditions such as armed, fire alarm, and trouble. The DS7447 provides a two line, 16 character (per line) LCD display. Text is freely programmable for zone and partition descriptions. The end user can adjust the sounder volume and backlight intensity using easy two button commands. LED and LCD keypads may be mixed in the same system. Up to 8 keypads are allowed per system.

Easy Function Key User Interface

Six labeled function keys eliminate the need for multi-button commands. Functions such as arming, disarming, and resetting the smoke detectors are performed by simply entering a PIN followed by the function key. This interface provides the new user with easy to follow procedures, while allowing the expert user quick access without the use of cumbersome menu driven formats. A programmable "Quick Arm" feature allows the system to be turned on without the use of a PIN while still requiring a PIN to turn the system off, silence alarms, or perform system tests.

60 Personal ID Numbers (PINs)

The system supports 60 Personal ID Numbers (PINs), which are 4 digits in length. The PINs may contain any com-

bination of digits. Any number of PINs may be designated as master PINs; these are the only PINs which can be used to reprogram PINs. PINs other than the master PINs may be programmed with 6 different levels of authority. These PINs may be restricted from bypassing, testing, and disarming the system.

Zones

The DS7400Xi accepts up to 128 zones. These zones may consist of 8 hard-wired zones, plus the remaining multiplex zones. Any of these zones may be programmed to follow one of 15 programmable zone functions.

Multiplex Inputs

A complete line of multiplex devices is available including multiplex PIRs, duals, door contacts, and interface modules.

Four Systems Partitioning

The DS7400Xi may be split in up to 4 completely separate systems. Each partition has its own keypads and can have up to two reporting IDs. Keypads can also be programmed as master keypads, allowing access to all partitions.

Common Area Partitioning

One partition can be programmed to follow the arming state of 2 or 3 other partitions. The common area arms only when all partitions it is common to are armed. This allows for protection of shared areas such as foyers and entryways, while still maintaining separate partitioning.

Smoke Detector Alarm Verification

The DS7400Xi may be programmed to perform an automatic reset of the smoke detectors, should an alarm occur. If a second alarm occurs within the verification window, an immediate fire alarm results. This reduces potential false alarms, while still providing fast response to an alarm.

Keypad Programmable

The system is completely keypad programmable. No need for expensive hand-held programmers. The DS7447 is required for system programming.

Remotely Programmable

WDSRP software allows the system to be remotely programmed using an IBM PC (or IBM compatible) running Windows and a standard Hayes modem.

Using an off-site computer permits diagnostics to be run, systems to be armed, and zones bypassed. This not only reduces service visits to a premise, it also allows quick customer assistance in closing troublesome accounts.

400 Event History Buffer

A 400 event history buffer, which can be read at the DS7447 keypad or uploaded to the WDSRP Remote Programming Software, keeps track of Open/Close events, Alarms, Troubles, etc. by time and date. The most recent 64 events are stored in nonvolatile Memory and can be recalled even after a total power failure.

RS232 Serial Printer Support

The system provides support for one serial printer using the DS7412 RS232 Interface Module. System events may be printed automatically as they occur and can be printed via a keypad command. The installer can select which types of events are printed.

Custom Arming Configurations

The system can be programmed to arm in different configurations providing a means of automatically bypassing a group of zones.

Anti-Takeover Protection

All or part of the programming may be locked so the program cannot be changed should someone attempt to takeover the account. Patented BusLoc® anti-takeover circuitry imbeds a secret code into the multiplex devices, prohibiting the control from being replaced using these devices.

Two Independent Entry Delays

Zones may be programmed to select from one of the two entry delay times. This allows the selection of a longer entry delay time for zones that are located a long distance from the keypad.

Answering Machine Override

The DS7400Xi has a built-in answering machine override function. No external hardware is required.

Flexible Digital Communication

The communicator will work into most alarm receivers that are in use today. It supports 3/1, 3/1 Ext., 4/1, 4/2, Contact ID, SIA (110 or 300 Baud), and BPSK digital communicator formats.

DS7400Xi SPECIFICATIONS

Three (3) Telephone Numbers

The system supports two 20-digit telephone numbers with a three or four digit account code for each. Each of the two phone numbers can be individually configured for the type of communication format and choice of pulse or tone dialing. The third phone number is reserved for remote programming.

EE Memory

The panel uses EEPROM technology; thereby, allowing it to retain all program memory as well as the arm/disarm state through a total power failure. There is also a delay on power restore to prevent false alarms from space sensors that may take several minutes to become operational. None of the system programming or user codes will be lost.

Standard Outputs

The system provides three outputs that are individually programmable and may be controlled by alarms, access control, ground start, smoke detector reset, or the control's arming state.

Output Functions

Output Functions can be programmed to follow system events or to follow one or two specific zones in a "cross matrix" fashion (see Input/Output Cross Matrixing). These Output Functions can be programmed to control octal relay outputs or multiplex bus outputs.

Input/Output Cross Matrixing

Input/Output cross matrixing allows up to 15 Output Functions to follow the status of specific input zones. Outputs can be programmed to follow any combination of one or two zones, open or closed, with the system armed or disarmed.

Octal Relay Modules

The DS7400Xi supports two octal relay modules. Each DS7488 supplies 8 relays which can be programmed to follow system events, or follow Output Functions as previously described.

Multiplex Bus Outputs

The DS7400Xi supports up to 20 DS7465 Input/Output modules. These modules are connected to the multiplex bus and provide one input loop and one form "C" output relay. The input loop operates the same as all other multiplex

inputs. The output loop can be programmed to follow Output Functions.

SPECIFICATIONS

Housing

The standard DS7400Xi enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5" Wide, by 14.5" High, by 3" Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch for monitoring the door. The standard DS7400XiFCP enclosure is manufactured from 18 Ga., cold-rolled steel, and measures 15" Wide, by 20.75" High, by 4.25" Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch for monitoring the door.

Temperature

+32° to +120°F (0° to +49°C).

Power

Input Power: 18 VAC, 50 VA, 50 Hz. or 60 Hz.

Total power output: 12 VDC, 2.5 A

Keypad regulated power: 12 VDC, 1.0 A

U.L. Listed Auxiliary power: 12 VDC, 1.5 A

U.L. Listed Alarm Power Output: 1.75 A

Auxiliary power voltage range: 10.2 to 14.1 VDC

Optional Standby Battery (P334): 12 V, 7.0 AH (can support up to 35 AH)

Control panel standby current: 175 mA

DS7447 keypad standby/alarm current: 100 mA

DS7445 keypad standby/alarm current: 75 mA

Note: Total current for all auxiliary devices, including keypads and smoke detectors, is 1.5 A standby and 2.5 A alarm.

Standard Outputs

Alarm Output

Normally Open, 1.75 Amp contact connected to auxiliary power. Can be steady or pulsed.

Programmable Output 1

Solid state current sink (1.0 Amp Max.). Can be used for alarm, arming state, access control, or other options.

Programmable Output 2

Solid state voltage source (500 mA Max.) Can be used for alarm, arming state, access control, smoke power, or other options.

Keypads

Number of keypads: 8 keypads maximum
Maximum wire length each: 1000 ft. (300 m)
Maximum wire length total in system: 6000 ft. (1800 m)

Wire type: 4 conductor #18 AWG or #22 AWG.

NOTE: No more than 2 keypads on any 1000 foot (300 m) run.

Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2, BFSK, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ringer equivalence is 0.1B

Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

Burglar/Fire Zone Inputs

Number of circuits: 8 Circuits on board

End of line resistor: 2.2 K ohms

Minimum circuit resistance: 60 ohms

Fire Signal Initiating Circuits

Fire circuits will work with 2 or 4-wire detectors and have optional alarm verification.

Number of circuits: 8 Circuits on board (expandable to 16)

Type of circuit: Class B, latching

Maximum detectors per zone: 20 detectors (2-wire)

Total detector standby current: 2.5 mA

Listings and Approvals

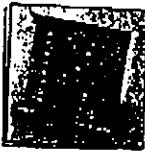
Underwriter's Laboratories

- Household Fire Alarm, U.L. Standard UL985
- Commercial Fire Alarm (Type Service: Local, Central Station, Remote Station; Type Initiating: Automatic, Manual, Sprinkler Supervisory, and Waterflow), U.L. Standard UL864
- Household Burglary Alarm, U.L. Standard UL1023
- Police Station Connection Grades AA and A, U.L. Standard UL365
- Central Station Burglary Alarm Grades AA, A, B, and C; U.L. Standard UL1610

Suitable for installation in NFPA 72 applications as applies to Local, Central Station, Remote Station, Sprinkler Supervisory, and Waterflow.

Protected under one or more of the following patents:
#5,268,888; #5,302,941

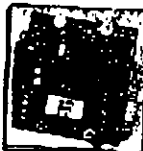
DS7400Xi SYSTEM OPTIONS



- DS7104 Line Reversal Module**
- Provides a reverse polarity output for direct connection applications.
 - Provides both a maintained and alternating output.



- DS7111i Dual Phone Monitor**
- Provides 2 phone line supervision and switching with trouble output.
 - Connects to one zone of control.
 - Not for use in commercial fire applications.



- DS7412 RS232 Interface Module**
- Provides the ability to print history events.
 - Connects to a standard serial printer.
 - 1 per system.



- DS7416 Communications Module**
- Provides the ability to communicate using the ARDIS radio network.
 - Available with red enclosure.
 - 1 per system.



- DS7420i Dual Phone Line/Bell Supervision Module**
- Provides 2 supervised 12 volt outputs, dual phone line supervision, and one Class A (Style D) Commercial Fire Zone.
 - 1 per system.



- DS7430 Multiplex Bus Driver**
- Provides an expansion bus for connection of multiplex devices.
 - 1 per system.



- DS7432 8-Input Remote Module**
- Provides 8 supervised input zones.
 - Connects to multiplex bus.
 - Requires use of DS7430.



- DS7433 8-Input Direct Module**
- Provides 8 supervised input zones.
 - Supports 2-wire smoke detectors.
 - Cannot be used with DS7430.
 - 1 per system.



- DS7445 LED Keypad**
- 8 Zone LEDs.
 - 8 system status LEDs.
 - For fire applications, red graphics are available in packages of 10. Order RG 7445-10.



- DS7447 Alpha-Numeric Keypad**
- Displays two lines of 16 characters.
 - The Alpha Information is remotely and keypad programmable.
 - For fire applications, red graphics are available in packages of 10. Order RG 7447-10.

4 1/2" H, 6 3/8" W,
1" D. (11.43 cm H,
16.19 cm W,
2.54 cm D.)



- DS7450 Flush Mount Multiplex Contact**
- Reports actual multiplex address to the control system.
 - Gap = 0.75" (1.9 cm).
 - Requires use of DS7430.

Sold in
packages of 10
(DS7450-10)



- DS7452 Surface Mount Multiplex Contact**
- Reports actual multiplex address to the control system.
 - Gap = 1.5" (3.8 cm).
 - Requires use of DS7430.

Sold in
packages of 10
(DS7452-10)



- DS7457 Single Zone Multiplex Input Module**
- Provides one supervised zone.
 - Connects to multiplex bus.
 - Requires use of DS7430.

Sold in
packages of 10
(DS7457-10)



- DS7460 Two Input Module**
- Provides two supervised zones.
 - Connects to multiplex bus.
 - Requires use of DS7430.

Sold in packages
of 5 (DS7460-5)



- DS7465 Input/Output Module**
- Provides one supervised zone and one Form "C" relay output.
 - Connects to multiplex bus.
 - Up to 20 per system.

Sold in packages
of 2 (DS7465-2)



- DS7470 Multiplex PIR Intrusion Detector**
- Provides standard coverage pattern of 50 by 50 ft. (15 by 15 m).
 - Optional 120 ft. (40 m) Long Range and 80 ft. (25 m) Barrier patterns available.
 - Requires use of DS7430.



- DS7471 Multiplex PIR Intrusion Detector**
- Provides standard coverage pattern of 35 by 35 ft. (10 by 10 m).
 - Optional 70 ft. (20 m) Long Range and 35 ft. (10 m) Barrier patterns available.
 - Requires use of DS7430.



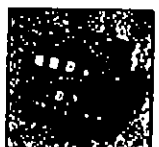
- DS7472 Multiplex PIR Intrusion Detector**
- Provides 60 ft. (18 m) diameter 360° coverage pattern.
 - Requires use of DS7430.



- DS7476 Multiplex, Dual Technology Microwave/PIR Intrusion Detector**
- Provides standard coverage pattern of 50 by 50 ft. (15 by 15 m).
 - Requires use of DS7430.



- DS7480 Bell Supervision Module**
- Provides power and supervision for one end-of-line supervised indicating appliance circuit.



- DS7481 Single Phone Line Monitor**
- Monitors one phone line. Provides a Normally Open relay output which closes upon phone line failure.

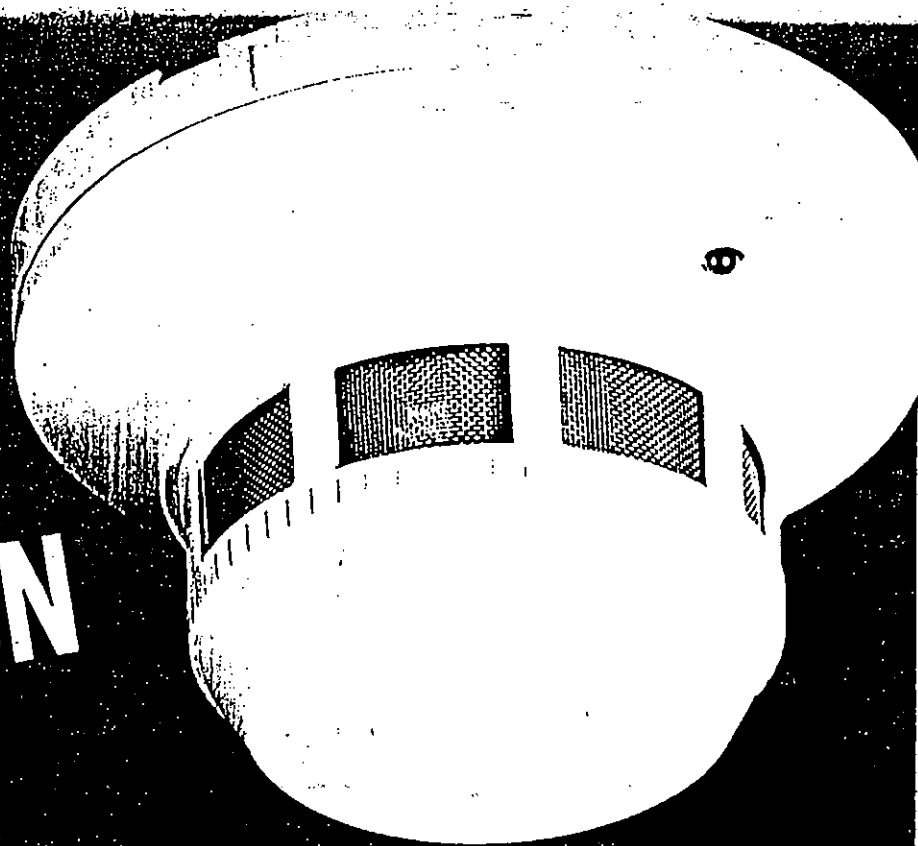


- DS7488 Octal Relay Module**
- Provides 8 Form "C" relay outputs.
 - 2 per system



- AETR-16 Enclosure**
- Mounts over standard electrical outlet.
 - Provides mechanical protection for transformer and wiring connections.

400 SERIES™ NEXT GENERATION DETECTORS



2400 SERIES 2 WIRE PHOTOELECTRONIC DETECTOR WITH OPTIONAL BUILT-IN HORN AND 135° FIXED TEMPERATURE THERMAL

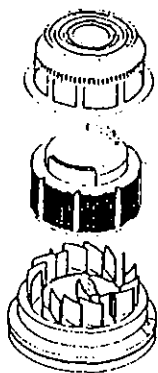
System Sensor 400 Series™ photoelectronic detectors are specifically designed to meet the stringent performance requirements of industrial and municipal fire detection/alarm systems. The design of these detectors emphasizes ease of installation and field maintenance.

- Unique optical sensing chamber
 - Superior signal-to-noise ratio
 - Built-in signal processing
 - 3.0% nominal sensitivity
- Removable cover for field cleaning
- Visible LED "blinks" in standby
- Sealed against dirt, insects and back pressure
- Optional built-in 135°F (57°C) thermal
- 3 year warranty
- 10-32 VDC operating range
- Field metering of detector sensitivity
- 3000 fpm air velocity
- Built-in test capability
- Low standby current
- Twist-on mounting bracket with tamper option
- Designed for direct surface or electrical box mounting
- Remote LED option
- Insect-resistant screening (.020"/.508mm openings)
- Models with built-in horn available
- SEMS screws for easy wiring

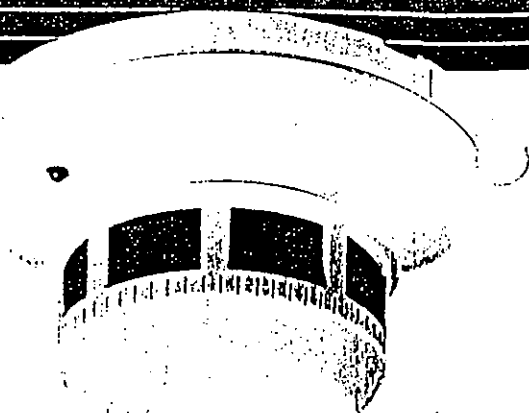
All 400 Series™ photoelectronic smoke detectors contain a unique optical sensing chamber designed to sense the presence of smoke particles produced by a wide range of combustion sources and meet the performance criteria designated by U.L. 268. A new custom integrated circuit incorporates signal

processing to reduce false alarms and sample/hold circuitry to provide easy field metering of sensitivity. Other models are available with a built-in horn which sounds when the detector alarms or when the supply voltage polarity is reversed.

General Specifications



The 400 Series™ has been designed to seal the sensing chamber from back pressure air flow, dust, dirt, and insects. The back of the detector is sealed and the chamber is protected by a fine mesh (.020"/.508 mm) screen. If cleaning is required, it is easy to remove the cover (with a tool) and obtain access to the screen and chamber to perform a thorough cleaning.



General Specifications:	2400	2400TH	2400AT	2400AIT
Control panel applications:	2-wire	2-wire	2-wire	2-wire
Built-in thermal:	NO	YES	YES	YES (Isolated)
Visual LED local alarm:	YES	YES	YES	YES
Remote LED annunciator capability:	YES	YES	YES	YES
Operating voltage range:	8.5-35VDC	8.5-35VDC	10-32VDC	10-32VDC
Current limits:				
a) Standby (max.):	120µA	120µA	120µA	120µA
b) Alarm current (typ.):	See NOTE	See NOTE	15mA @ 10V	15mA @ 10V
c) Alarm current (max.):	See NOTE	See NOTE	67mA @ 32V	67mA @ 32V
Reversed voltage (non-alarm):			48mA @ 24V	48mA @ 24V
Alarm signal:	Shunt on power leads	Shunt on power leads	5mA @ 10V	5mA @ 10V
			19mA @ 32V	19mA @ 32V
			15mA @ 24V	15mA @ 24V
			Shunt on power leads	Shunt on power leads

Agency Listings: U.L. S911, BS&A 1346-88-SA
CSFM 7257-1209: 103

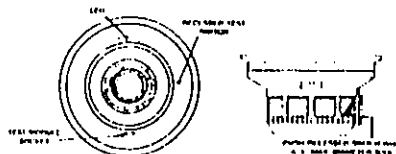


Architectural/Engineering Specifications

The detector shall be of the photoelectronic type. Its sensor shall have a nominal sensitivity of 3.0%/ft. as measure in a UL smoke box, and a signal-to-noise ratio of 2.0 nominal. It shall be possible to perform a functional sensitivity and performance test on the detector without the need of generating smoke. The test method shall test all detector circuits. A visual indication of an alarm shall be provided by a latching light emitting diode (LED) on the detector which may be seen at ground level. It flashes every ten seconds indicating that power is applied to the detector. The visible alarm signal shall be capable of remote LED annunciation. A special test meter shall be available to check the sensitivity of the detector. Metering points for the test meter shall be accessible on the exterior of the detector. The detector shall not alarm when exposed to wind gusts up to 2500 feet per minute. The detector screen and cover assembly should be easily removable for field cleaning. Wire connections are made by clamping plate and screw.

HOW TO ORDER

2400	Photoelectronic detector, 2 wire, surface mount.
2400TH	Photoelectronic detector with built-in 135° fixed temperature thermal, 2 wire, surface mount.
2400AT	Photoelectronic detector with integral 135° fixed thermal and 85dBA horn, 2 wire, surface mount.
2400AIT	Photoelectronic detector with isolated 135° fixed thermal and 85dBA horn, 2 wire, surface mount.
RA400	Remote annunciator (LED).
MOD400	Field test module
I56-407-XX	Applications manual for system smoke detectors.
I56-285-XX	Installation instructions for 2400 series detectors.
I56-287-XX	Installation instructions for 2400 AT/AIT series detectors.
RS24	Replacement insect screening for 2400.
RS24T	Replacement insect screening for 2400TH/AT/AIT.
DUST45	Protective dust cover for 2400 Series models.
R59-18-00	Calibrated test card.
M02-04-00	Test magnet.



Distributed by:

SYSTEM SENSOR

A DIVISION OF PITTMAN

3825 Ohio Avenue • St. Charles, Illinois 60174 • 708-377-6363 • FAX: 708-377-6495

Technical Service Note

Detection Systems, Inc.
130 Perinton Parkway
Fairport, N.Y. 14450

Service (800) 374-7454
Sales (800) 289-0096
Fax (716) 223-9180

CONCERNS: 2-Wire Smoke Detector Compatibility

AFFECTS: DS7400 and DS7090I Control Panels

DATED: 15 June, 1993



Two Wire Smoke Detectors:

The following is a list of 2-wire smoke detectors that have proven to be compatible with the DS7400 and DS7090I Control/Communicators under the method required by Underwriters Laboratories, Inc.

Disclaimer Notice: Detection Systems, Inc. makes no claim either written, oral, or implied that any smoke detector, other than the ones listed here will work with the DS7400 or DS7090I Series Control/Communicators.

2-wire smoke detectors that are not listed as compatible should not be used with the DS7400 or DS7090I.

Two-wire smoke detectors of different manufacturers or detectors of different model numbers may not be mixed on the same circuit.

At this time, UL does not require compatibility cross listing of smoke detectors when installed in a 4-wire configuration.

<u>Manufacturer</u>	<u>Detector Model</u>	<u>Detector Identifier</u>	<u>Mounting Base Model</u>	<u>Base Identifier</u>	<u>Detectors Per Zone</u>
Detection Systems	DS200/DS200HD	A	MB200-2W	B	20
Detection Systems	DS250/DS250TH	A	MB2W or MB2WL	A	20
Detection Systems	DS260	A	MB2W or MB2WL	A	20
Electro Signal Lab	425C	S10	N/A	N/A	20
Electro Signal Lab	425CT	S10	N/A	N/A	20
Electro Signal Lab	611U	S10	601U or 602U	S00 or S03	20
Electro Signal Lab	611UT	S10	601U or 602U	S00 or S03	20
Electro Signal Lab	612U	S10	601U or 602U	S00 or S03	20
System Sensor	1400	A	N/A	A	20
System Sensor	2300T	A	N/A	A	20
System Sensor	2400	A	N/A	A	20
System Sensor	2400TH	A	N/A	A	20
System Sensor	1451	A	N/A	A	20
System Sensor	1451DH	A	B401 or B401B	A	20
System Sensor	2451TH	A	DH400	A	20
System Sensor	2451	A	B401 or B401B	A	20
			B401, B401B, or DH400	A	20

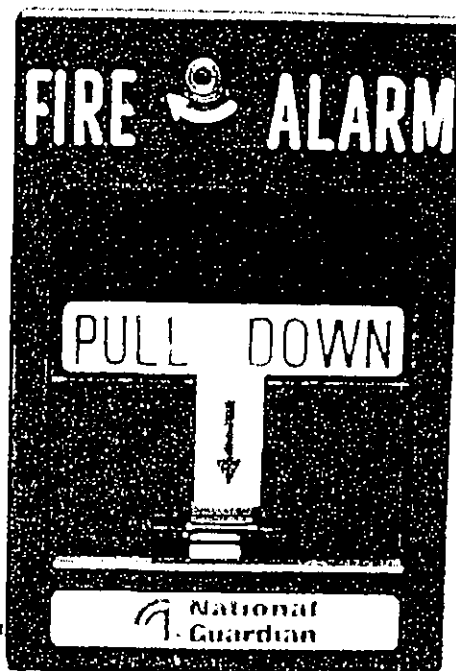
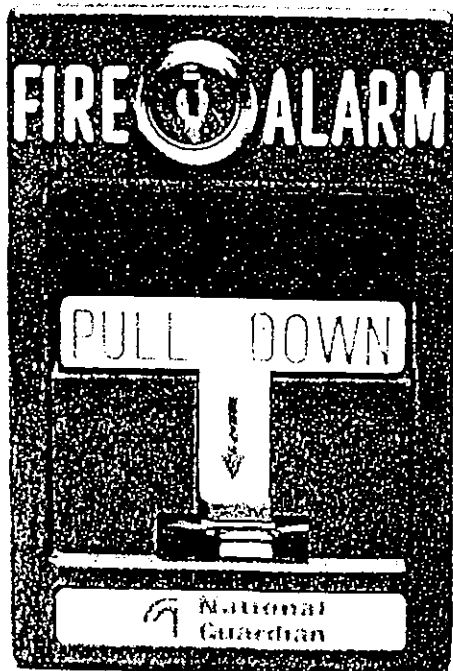
MANUAL STATIONS

CSFM No.
7150-1039:101

ULC

BSA (NYC)

UL No.
11S4



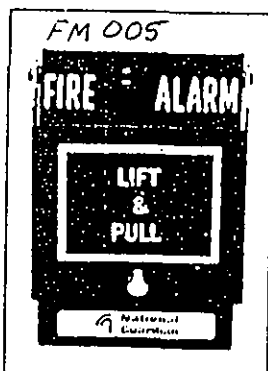
The 56 series manual pull station is a high quality non-toxic die cast manual pull station manufactured entirely in the U.S.A. Low profile and smooth edges offer an attractive yet functional design. All components are pre-painted or have plated surfaces to inhibit corrosion. The 56 series pull station can be used with or without a break glass rod with

replacement requiring no special tools.

Other features include: Lift and Pull, Break Glass Cover, Institutional Key Lock and Weather and Explosion Proof versions. All stations offer hex screw or key lock access. Other special options available.



EXPLOSION PROOF
56(-)-700



LIFT AND PULL
56(-)-100



INSTITUTIONAL
56(-)-400



BREAK GLASS
56(-)-300



WEATHER PROOF
56(-)-800

(-) represents switch type plus pigtail leads or terminal block connections

wheelock INC.

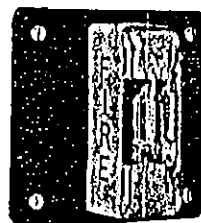


**LS, LSM, MS, IS and HSW
SERIES STROBE**

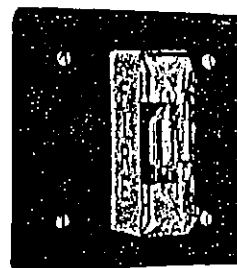
Description

Wheelock's new line of strobes signaling products is designed for Americans With Disabilities Act (ADA) applications while meeting or exceeding the latest requirements of NFPA 72 (the National Fire Alarm Code), ANSI 117.1 (the American National Standard for Accessible and Usable Buildings and Facilities), and UL Standard 1971 (Signaling Devices for the Hearing Impaired). These new strobe products, when properly specified and installed in accordance with NPFA/ANSI Standards, can provide the Equivalent Facilitation allowed under ADA Accessibility Guidelines (ADAAG General Section 2.2) by meeting or exceeding the illumination which results from ADA's strobe intensity guidelines of 75 candela at 50 feet. This is an illumination of 0.030 lumens per square foot (footcandles).

For outdoor and private mode installations or where UL 1971 Listing is not required, the WM series of 117cd UL 1638 Listed strobes is available.



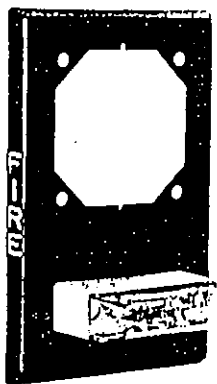
**SERIES
LS3/LS3M/MS3/IS3**



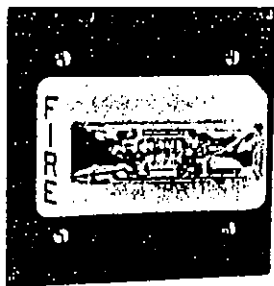
**SERIES
LS/LSM/MS/IS**



**SERIES
LS1/LS1M/MS1/IS1**



**SERIES
LSP/MSP/ISP/HSPW**



**SERIES
HS/HS2**

Features

- Underwriters Laboratory (UL 1971 & UL 1638) Listings, Factory Mutual (FM), New York (MEA), and Chicago (BFP) approvals on selected models.
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines.
- All models meet ADA Guideline for minimum one flash per second from 20-31 volts or 12-15.6 volts.
- Low current draw with low temperature compensation reduce power consumption and wiring costs.
- Available in 15cd, 30cd, 75cd, and 110cd UL 1971 Listed and 15/75cd UL 1971 Listed at 15cd and exceeding a near-axis 75cd intensity for ADA guidelines with low current draw.
- Convenient mounting to standard backboxes.
- Polarized 12 and 24 VDC models with wide listed voltage ranges using filtered DC or unfiltered FWR input voltage.
- Fast installation with In/Out screw terminals using #12-#18 AWG wires.
- Compliance with RFI limits in FCC Part 15, Class B for compatibility with sensitive detection and communication circuits.
- Weatherproof models for outdoor installations.

STROBE ONLY

Ordering Information

Strobes	Model Code	Order Code	Strobe Candela	Current (Amps)	Mounting Options	Approvals				
						UL	CFM	FM	MEA	BFP
LS 24 VDC	LS-24-VFR	5174	15	.080	D	X	X	X	X	Dec
	LS1-24-VFR	5175	15	.080	A,J	X	X	X	X	Dec
	LS3-24-VFR	5176	15	.080	L	X	X	X	X	Dec
	LSP-24-HFR	5180	15	.080	E,R	X	X	X	X	Dec
LSM 24 VDC	LSM-24-VFR	5171	15/75	.115	D	X	X	X	X	Dec
	LS1M-24-VFR	5172	15/75	.115	A,J	X	X	X	X	Dec
	LS3M-24-VFR	5173	15/75	.115	L	X	X	X	X	Dec
	LSPM-24-VFR	5179	15/75	.115	E,S	X	X	X	X	Dec
MS 24 VDC	MS-24-VFR	5316	30	.135	D	X	X	X	X	Dec
	MS1-24-VFR	5317	30	.135	A,J	X	X	X	X	Dec
	MS3-24-VFR	5319	30	.135	L	X	X	X	X	Dec
	MSP-24-HFR	5320	30	.135	E,R	X	X	X	X	Dec
IS 24 VDC	IS-24-VFR	5351	75	.225	D	X	X	X	X	Dec
	IS1-24-VFR	5352	75	.225	A,J	X	X	X	X	Dec
	IS3-24-VFR	5353	75	.225	L	X	X	X	X	Dec
	ISP-24-HFR	5354	75	.225	E,R	X	X	X	X	Dec
HSW 24 VDC	HSW-24-HFR	5177	110	.230	D	X	X	X	X	Dec
	HS2W-HFR	5178	110	.230	C,K	X	X	X	X	Dec
	HSPW-24-HFR	5181	110	.230	E,R	X	X	X	X	Dec
WM 24 VDC	WM3T-24-FR	4911	117	.088	L,U	X	X	X	X	X
LS/MS/LSM 12 VDC	LS1-12-VFR	5377	15	.160	A,J	X	X	X	X	Dec
	LS1M-12-VFR	5630	15/75	.220	A,J	X	X	X	Nov	Dec
	MS1-12-VFR	5378	30	.230	A,J	X	Nov	Dec		Dec
	LSP-12-HFR	5379	15	.160	E,R	X	X	X		Dec
	MSP-12-HFR	5380	30	.230	E,R	X	Nov	Dec		Dec
	LSPM-12-VFR	5677	15/75	.220	E,S	X	Nov	X		Dec

NOTES

- Models code suffix: V = vertical lens; H = horizontal lens; F = fire lettering; R = red plate.
- Approval codes: UL = Underwriter Laboratories; CFM = California State Fire Marshal; FM = Factory Mutual; MEA = New York City Materials and Equipment Acceptance; BFP = Chicago Bureau of Fire Prevention.

AUDIBLE SIGNALS AND SPEAKERS TO USE WITH LSP/MSP/ISP/HSPW

- Multitone Electronic Signals
- MT Series, AES Series
- Motor Bells (6" or 10")
- MB Series
- Voice Evacuation Speakers
- ET-1010, 80GT, 807T, ET-1070, ET-1080, E-7070, E-7025
- Electronic Chimes
- CH-D

AUDIBLE SIGNALS AND SPEAKERS TO USE WITH LSPM

- Multitone Electronic Signals
- MT4 Series, AES-E Series
- Motor Bells (6" or 10")
- MB Series
- Voice Evacuation Speakers
- ET-1010 and 80GT, 807T

Mounting Options

Option	Type	Backbox	Maximum Wires In Backbox			
			#18	#16	#14	#12
A	Flush	1-gang x 2"	4	4	4	4
C	Flush	2-gang x 3-1/2"	8	8	8	8
D	Flush	4" x 4" x 1-1/2"	4	4	4	4
E	Flush	4" x 4" x 2-1/8"	8	8	8	8
J	Surface	Wiremold 1-gang x 1-3/4"	4	4	4	4
K	Surface	Wiremold 2-gang x 1-3/4"	4	4	4	4
L	Surface	BB	4	4	4	4
R	Surface	SBL1	8	8	8	8
S	Surface	SBL	8	8	8	8
U	Weatherproof	WBD	4	4	4	4

NOTE: SEE PAGE 4 FOR GENERAL AND TECHNICAL NOTES.

Ordering Information Mounting Accessories

Model	Code	Description
BB-R	2830	4" x 4" x 1-1/2" Surface Backbox
SBL1-R	5342	6" x 9-1/2" x 1-3/4" Surface Backbox
SBL-R	4995	5-1/2" x 10-5/8" x 1-3/4" Surface Backbox
WBD-R	2959	4-1/8" x 4-1/8" x 2" Weatherproof Backbox

HORN AND STROBE

Table 2: dBA and Current Ratings for Audible Portion of Multitone Signals Without Strobes

Tone	Input Current ¹ AMPS @ 24 VDC		Input Current ¹ AMPS @ 12 VDC		Typical Anechoic ² dBA at 10 Feet		Rated Reverberant dBA ³ at 10 Feet Per UL 464			
					At Nominal Input Voltage		At Minimal Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	99	93	85	79	88	82
Bell	0.014	0.012	0.031	0.010	92	87	79	75	82	75
March Time Horn	0.040	0.023	0.100	0.020	99	93	82	75	85	79
Code-3 Horn	0.040	0.023	0.100	0.020	99	93	79	75	82	75
Code-3 Tone	0.028	0.017	0.060	0.015	95	90	75	70	79	73
Slow Whoop	0.048	0.026	0.100	0.025	99	94	82	75	85	79
Siren	0.036	0.023	0.082	0.020	98	93	82	75	85	79
Hi/Lo	0.020	0.014	0.044	0.012	93	88	79	75	82	75

NOTES

- Add 25% more input current than shown in Tables 1 and 2 when operating the unit at maximum input voltage. Rated input voltage (either filtered DC or unfiltered full-wave-rectified (FWR)). Strobes are designed to flash at 1 flash per second minimum from 20-31 VDC (for 24 VDC models) or 12-15.6 VDC (for 12 VDC models). Note that ADA guidelines presently specify a flash rate of 1 to 3 flashes per second. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the strobes.
 - Anechoic dBA is measured on axis in a non-reflective (free field) test room using fast meter response. For peak dBA (measured with peak meter response), add 5 dBA to typical anechoic value shown in Table 1 and 2.
 - Reverberant dBA is a minimum UL rating based on sound power measurements in a reverberant test room.
 - Multitone Signals with and without strobes have a brief in-rush current during start-up. See separate "Installation Instructions" for further details.
- *WARNING: MULTITONE STROBE MODELS SET ON "CODE-3 TONE" WITH "STANDARD dBA" DO NOT MEET THE 75 dBA MINIMUM UL REVERBERANT SOUND LEVEL REQUIRED FOR PUBLIC MODE FIRE PROTECTION SERVICE (NOTED BY * IN TABLE 2). MODELS WITH SETTINGS WHICH PRODUCE LESS THAN 75 dBA MAY NOT BE HEARD. THIS SETTING IS ACCEPTABLE ONLY FOR GENERAL SIGNALING (NON-FIRE ALARM) USE. USE THE "HIGH" dBA SETTING WITH THIS TONE OR USE A DIFFERENT TONE FOR PUBLIC MODE SERVICE.**

Make sure that the average, peak and inrush currents do not exceed system power supplies or fusing limits. If the strobe and audible operate on the same circuit, add the strobe current from Table 3 to the proper audible current from Table 1 or 2. See separate "Installation Instructions" for further details.

Voltage	Strobe Current Requirement (AMPS)														
	Rated Average Current					Rated Peak Current					Rated Inrush Current				
	LS	MS	LSM	IS	HSW	LS	MS	LSM	IS	HSW	LS	MS	LSM	IS	HSW
20 VDC	.080	.135	.115	.240	.280	.160	.288	.250	.500	.680	.210	.280	.225	.650	.550
24 VDC	.080	.135	.115	.225	.230	.190	.296	.260	.450	.570	.250	.280	.270	.660	.660
31 VDC	.080	.135	.115	.195	.190	.210	.296	.260	.370	.520	.320	.300	.360	.880	.850
20 VFWR	.080	.135	.125	.253	.280	.210	.390	.350	.700	.960	.320	.390	.315	.920	.780
24 VFWR	.081	.135	.125	.233	.230	.216	.390	.365	.640	.830	.380	.390	.380	.930	.930
31 VFWR	.091	.135	.125	.196	.190	.240	.390	.365	.520	.750	.450	.420	.500	1.25	1.20
10.5 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.300	.500	.440	---	---
12 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.300	.500	.440	---	---
15.6 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.390	.650	.470	---	---
10.5 VFWR	.175	.238	.230	---	---	.475	.730	.660	---	---	.420	.700	.620	---	---
12 VFWR	.175	.238	.230	---	---	.475	.730	.660	---	---	.420	.700	.620	---	---
15.6 VFWR	.175	.245	.240	---	---	.475	.730	.660	---	---	.545	.910	.660	---	---

Ordering Information

MT and MT4 models can be used with Wheelock's IISW-24-11FN strobe/plate assembly for 110 candela strobe signal

Model Number	Order Code	Input Voltage	Rated Candela	Mounting Options	Approvals				
					UL	CFM	FM	MEA	BFP
MT-12/24-RM-VFR	5023	12/24	15	A-G	X	X	X	X	Dec
MT4-12/24-RM-VFR	5308	12/24	15	H	X	X	X	X	Dec
MT-24-LS-VFR	5183	24	15	A-G	X	X	X	X	Dec
MT-24-LSM-VFR	5102	24	15/75	A-G	X	X	X	X	Dec
MT-24-MS-VFR	5321	24	30	A-G	X	X	X	X	Dec
MT-24-IS-VFR	5355	24	75	A-G	X	X	X	X	Dec
MT4-24-LS-VFR	5315	24	15	H	X	X	X	X	Dec
MT4-24-LSM-VFR	5374	24	15/75	H	X	X	X	X	Dec
MT4-24-MS-VFR	5375	24	30	H	X	X	X	X	Dec
MT4-24-IS-VFR	5370	24	75	H	X	X	X	X	Dec
MT-24-WM-VFR*	5025	24	117	C,D,J	X	X	X	X	Dec
MT-12-LS-VFR	5383	12	15	A-G	X	Nov	X	Nov	Dec
MT-12-MS-VFR	5384	12	30	A-G	X	Nov	X	Nov	Dec
MT-12-LSM-VFR	5683	12	15/75	A-G	X	Nov	X	Nov	Dec
MT4-12-LS-VFR	5385	12	15	H	X	Nov	X	Nov	Dec
MT4-12-MS-VFR	5386	12	30	H	X	Nov	X	Nov	Dec
MT4-12-LSM-VFR	5687	12	15/75	H	X	Nov	X	Nov	Dec
ISP-R	5306	---	---	F,G	X	---	---	---	---
IOB-R	5046	---	---	C,O	X	---	X	---	---
RP-R	5042	---	---	E	X	---	---	---	---

NOTE: SEE PAGE 4 FOR GENERAL AND TECHNICAL INFORMATION.

wheelock

REMOTE POWER SUPPLY

FCPS-24F REMOTE POWER SUPPLY

GENERAL

The FCPS-24F is a compact, cost effective, remote power supply and battery charger. The FCPS-24F consists of a regulated and filtered 24 VDC output that may be configured to drive four notification appliance circuits (two Style Y or Style Z, and two Style Y only). Alternately, the two Style Y notification appliance circuits may be configured as two resettable or non-resettable power output circuits. The FCPS-24F also contains a battery charger capable of charging up to 7.0 AH batteries.

FEATURES

- Self contained in lockable cabinet (15"H x 14.5"W x 2.75"D).
- 24 VDC remote power supply.
- Completely power-limited.
- Two input/control circuits (from FACP notification appliance circuits or control modules).
- Two Style Y/Style Z notification appliance circuits (circuits 1 & 3).
- Two additional circuits that may be individually configured as Style Y notification appliance circuits or as 24 VDC output power circuits (circuits 2 & 4).
- Output power circuits may be configured as resettable (reset line from FACP required) or non-resettable.
- 4.0 amp continuous output.
- 6.0 amp full load output.
- Fully regulated and filtered power output.
- Capable of powering 4-wire smoke detectors (circuits 2 & 4).
- Integral battery charger.
- Up to 7.0 AH batteries in FCPS-24F cabinet
- Fully supervised power supply, battery, and notification appliance circuits.
- Earth fault detection (selectable).
- AC fail delayed (8 or 16 hours) trouble indication (selectable).
- Fixed terminal blocks for field wiring capable of accepting up to 12 AWG wire.
- Trouble contacts, jumper options.

PRODUCT LINE INFORMATION

MODEL	DESCRIPTION
FCPS-24F	Remote charger power supply. Includes main printed circuit board, transformers, surface mount backbox, and installation instructions
PS-1270	Battery, 12 volt, 7.0 AH (two required)
A77-716B	12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

SPECIFICATIONS

AC Power

120 VAC, 50/60 Hz.

Wire size: minimum #14 AWG with 600V insulation.

Battery (lead acid only)

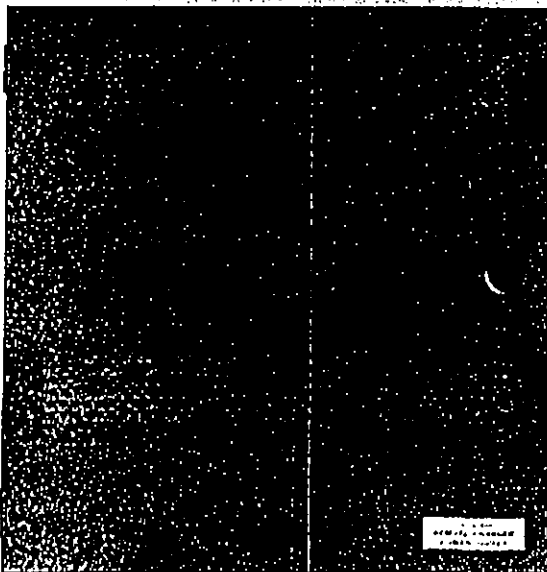
Normal Charge Voltage: 27.6V.

Maximum Charge Current: 250 mA maximum.

Maximum Battery Capacity: 7.0 AH.

INDICATORS

- AC Power On.
- AC Fail/Earth fault.
- Battery/Charger trouble.
- Circuit wiring faults 1-4.

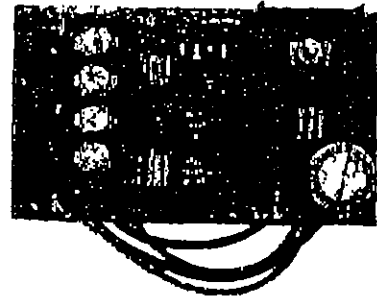


TECHNICAL SALES BULLETIN

PS-42 6v - 12v - 24v Programmable 1.5 amp Linear Power Supply

Features:

- ☐ **Selectable 6v, 12v, or 24vdc**
- ☐ **Up to 1 Amp of Continuous Current**
- ☐ **Clean Linear Power**
- ☐ **Snap Track Mounting**
- ☐ **Lightning and Surge Protection**
- ☐ **Temperature Tracking Circuit**
- ☐ **Overload Thermal Shutdown**
- ☐ **Battery to load circuit fused at 9 amps**
- ☐ **Optional automatic resetting circuit breaker**
- ☐ **LED indicator for AC**



The PS-42 becomes an uninterruptable power supply when used with a plug-in class II transformer and sealed lead acid battery. The output of the PS-42 is continuous DC power that can be used for the most sensitive electronic controls.

The PS-42 output and battery charge voltage is selected by moving the programming jumper to 6, 12 or 24v. Each voltage selected is preset to a concise voltage to properly float charge a sealed lead acid battery of the selected voltage. The voltage is carefully regulated to keep the standby battery(s) properly charged for any given temperature or load.

A special ambient temperature tracking circuit adjusts the output voltage to provide the proper float charge for the battery at any given temperature. This feature greatly extends the life of the battery when used in extreme weather conditions.

The current the battery draws from the PS-42 is determined by the battery's condition, capacity, temperature and state of charge. The PS-42 is protected against shorts and overloading with its electronic circuitry, which also protects the transformer.

When the DC load requires more than the maximum output provided by the PS-42, the battery can add up to eight (8) more amps. This may be necessary to sound a high powered siren for the duration of an alarm. The PS-42 has a replaceable nine (9) amp fuse or optional automatic resetting circuit breaker in series with the battery.

When calculating current requirements, subtract a minimum of 100 ma for recharging the battery after an AC outage. A sealed lead acid battery will take about 125% of stored energy to recharge. As a rule of thumb, 100 ma will recharge a fully depleted 4 amp hour battery in 40 hours.

As a test it is recommended that on a regular basis, the AC power be removed, equipment checked for proper operation, then AC power restored. If the test fails, check for a blown fuse or a defective battery.

CAUTION - Remove load from output when changing the voltage selection. When the jumper is off, the output voltage will go high.

SPECIFICATIONS

Transformer Table		
AC Input Transformer Class II UL Listed Limited Energy	DC Output Voltage Selection	Maximum Available Continuous Current
12V 20VA	6 volts	1.00 amp
12V 20VA	12 volts	100 ma
16V 20VA	6 volts	600 ma
16V 20VA	12 volts	1.00 amp
24V 20VA	6 volts	200 ma
24V 20VA	12 volts	250 ma
24V 20VA	24 volts	400 ma
24V 40VA	24 volts	700 ma
28V 40VA	24 volts	1.00 amp

Output Charging Voltages - for sealed lead acid batteries

6v: Selection

6.7 vdc

12v Selection

13.7 vdc

24v Selection

27.3 vdc

Maximum AC Input

28 vac

Battery amp hour (AH) capacity range

2 AH - 80 AH

Continuous current (see transformer table)

1.0 amps

Intermittent current from charger

1.5 amps

Intermittent current with battery

8 amps

Maximum current from battery to output with standard fuse

Fused 9 amps

Maximum current from battery to output

10 amp

with optional auto resetting circuit breaker

Replacement fuse (automotive type)

3 AGC 9 amps

Typical regulation from no load to full rated current

.05%

Ripple and Noise @ full load

50 mv max.

Long term stability

.02 vdc

Typical overheated short circuit current

.5 amps

Thermal overload Cut back

200° F

PCB Size

2.25" x 3.25"

Note 1: Place voltage selector to desired voltage before hooking up power supply.

Note 2: Larger transformers with a higher VA rating may always be used. Never exceed 28 VAC.

MICRO-STATE ELECTRONICS LIMITED WARRANTY

THIS PRODUCT IS SUBJECT TO AN 18 MONTH LIMITED WARRANTY WHEREIN MICRO-STATE CAN ONLY BE LIABLE FOR REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCT. IN NO EVENT SHALL MICRO-STATE BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR COLLATERAL DAMAGES. WARRANTY DETAILS ARE AVAILABLE UPON REQUEST.

Micro-State Electronics
1000-C Apollo Court
Antioch, CA 94509

To Order: 800-800-5148
FAX: 510-706-2175

MICRO-STATE
ELECTRONICS

MS-20

3/16/95

Overview

ASCAP

Product

Quit

+--Wire Size Selection-----+

Enter System Voltage	24
Wire Run Length In Feet (ONE Way)	250
Wire Run Current In Amperes	.942
Maximum Voltage Drop In %	10

Wire Size 17

+----- Any Key To Continue, <P> To Print -----+

Use arrow keys to change selection - Return to select - Escape To Cancel

REMOTE POWER SUPPLY

FCPS-24F REMOTE POWER SUPPLY

GENERAL

The FCPS-24F is a compact, cost effective, remote power supply and battery charger. The FCPS-24F consists of a regulated and filtered 24 VDC output that may be configured to drive four notification appliance circuits (two Style Y or Style Z, and two Style Y only). Alternately, the two Style Y notification appliance circuits may be configured as two resettable or non-resettable power output circuits. The FCPS-24F also contains a battery charger capable of charging up to 7.0 AH batteries.

FEATURES

- Self contained in lockable cabinet (15"H x 14.5"W x 2.75"D).
- 24 VDC remote power supply.
- Completely power-limited.
- Two input/control circuits (from FACP notification appliance circuits or control modules).
- Two Style Y/Style Z notification appliance circuits (circuits 1 & 3).
- Two additional circuits that may be individually configured as Style Y notification appliance circuits or as 24 VDC output power circuits (circuits 2 & 4).
- Output power circuits may be configured as resettable (reset line from FACP required) or non-resettable.
- 4.0 amp continuous output.
- 6.0 amp full load output.
- Fully regulated and filtered power output.
- Capable of powering 4-wire smoke detectors (circuits 2 & 4).
- Integral battery charger.
- Up to 7.0 AH batteries in FCPS-24F cabinet
- Fully supervised power supply, battery, and notification appliance circuits.
- Earth fault detection (selectable).
- AC fail delayed (8 or 16 hours) trouble indication (selectable).
- Fixed terminal blocks for field wiring capable of accepting up to 12 AWG wire.
- Trouble contacts, jumper options.

PRODUCT LINE INFORMATION

MODEL	DESCRIPTION
FCPS-24F	Remote charger power supply. Includes main printed circuit board, transformers, surface mount backbox, and Installation Instructions
PS-1270	Battery, 12 volt, 7.0 AH (two required)
A77-716B	12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

SPECIFICATIONS

AC Power

120 VAC, 50/60 Hz.

Wire size: minimum #14 AWG with 600V insulation.

Battery (lead acid only)

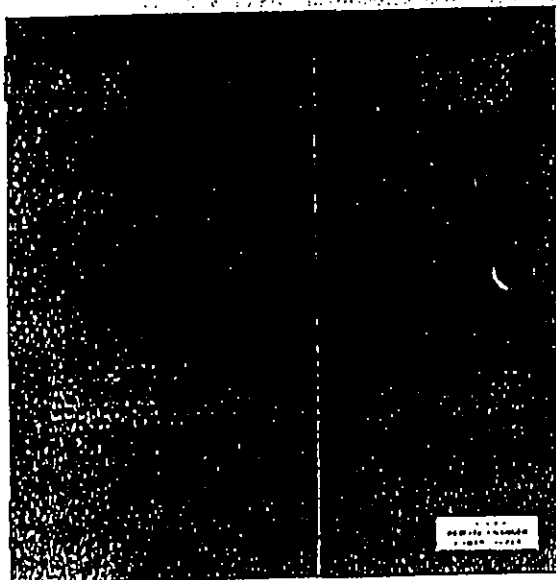
Normal Charge Voltage: 27.6V.

Maximum Charge Current: 250 mA maximum.

Maximum Battery Capacity: 7.0 AH.

INDICATORS

- AC Power On.
- AC Fail/Earth fault.
- Battery/Charger trouble.
- Circuit wiring faults 1-4.



OUTBACK STEAKHOUSE BATTERY CALCULATIONS

EQUIPMENT	QTY.		DEVICE STAND- BY	DEVICE ALARM	TOTAL STAND-BY IN mA	TOTAL ALARM IN mA
DS7400 Control/Communicator	1	X	125mA	200mA	125mA	200mA
DS7440 Alpha Keypad/Remote Annoc.	2	X	50mA	60mA	100mA	120mA
DS7420 Phone Line/Bell Supv. Module	1	X	20mA	140mA	20mA	140mA
DS7416 AAguard Radio Communications	1	X	127mA	127mA	127mA	127mA
DS7433 8Zone Expander Module	1	X	65mA	80mA	65mA	80mA
DS7488 Octal Relay Relay Draw +15mA for ea. zone	1 3	X X	65mA 0 mA	80mA + 45mA	65mA	125mA
Smoke Detector	12	X	.080mA	36mA	.96mA	.432mA
Duct Detector (installed by HVAC)		X				
TOTAL IN mA					502.96 mA	1224 mA

FACP

FORMULA FOR NFPA 72 AMPERE HOUR CALCULATION

$$\begin{array}{l}
 (.50296 \text{ A} \times 60) + (1.224 \text{ A} \times 1/12) + 10\% = 33.3074 \text{ AH} \\
 \text{STAND-BY VOLTAGE} \quad \text{HOURS} \quad \text{ALARM VOLTAGE} \quad \text{5 MIN} \quad \text{CONTINGENCY FACTOR} \quad \text{TOTAL A.H.}
 \end{array}$$

(Two 17AH Batteries = 34 AH)

24V 3amp Power Supply

	1		4mA	40mA
		X	mA	mA
Strobes	4	X	0 mA	125 500 mA
Horn/Strobe	6	X	0 mA	151 906 mA
TOTAL			4 mA	1446 mA

FORMULA FOR NFPA 72 AMPERE HOUR CALCULATION

$$\begin{array}{l}
 (.004 \times 60) + (1.446 \times 1/12) + 10\% = .3965 \\
 \text{Column B Hours} \quad \text{Column C (5 min.)} \quad \text{Contingency Factor} \quad \text{Total A.H.}
 \end{array}$$



FIRE ALARM SUBMITTAL

FOR

**OUTBACK STEAKHOUSE
2770 HOOPER AVE.
BRICK, NJ.**

FROM

**NATIONAL GUARDIAN
7434 TOWER STREET
FORT WORTH, TEXAS 76118
ACR 86363-826H**



BY

**CHARLES R. SMITH
FIRE SYSTEMS SUPERVISOR - NATIONAL ACCOUNTS
APS 0236**

SUBMITTAL OUTLINE

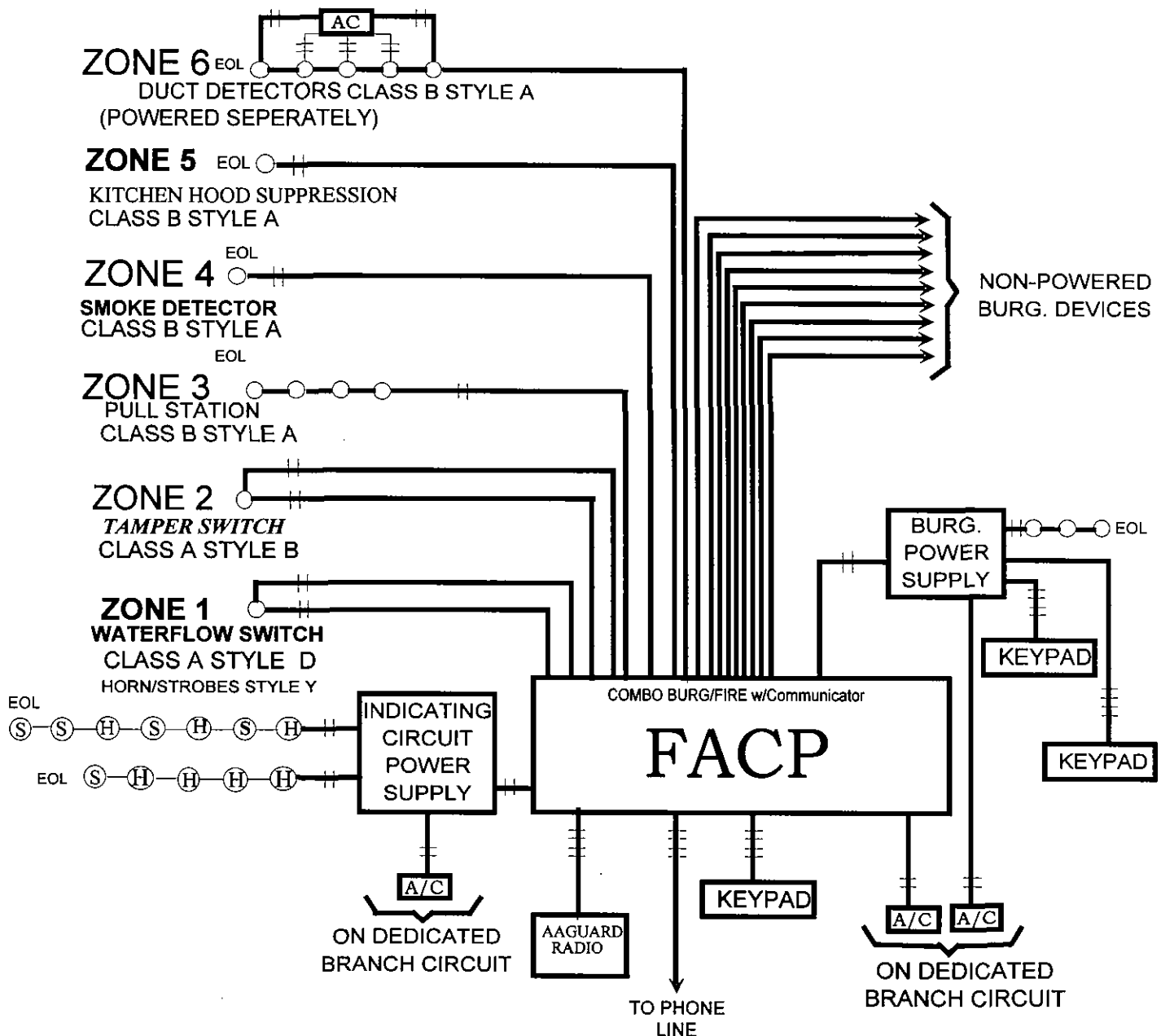
02/07/96

- I. LOCATION
A. Outback Steakhouse
2770 Hooper Ave.
Brick, NJ. 08723
- II. CODES
A. NFPA 72 Chapters 1, 3-7 As Applicable (Remote Station) C. Local City
B. BOCA Building & Fire Codes D. ADA
- III. CONTROL EQUIPMENT
A. DS7400XI Burglary/Fire Control Panel D. DS7432 Zone Expander
B. DS7420i Fire Card E. DS7416 AAGARD Radio Module
C. DS7400 Alpha Keypad
- IV. INITIATING DEVICE
A. (1) Water Flow Switch D. Smoke Detector (Panel Protection)
B. (1) Tamper Switch E. Kitchen Hood Suppression
C. (1) Manual Pull Station F. Duct Detectors (Powered Separately)
(Installed by others)
- V. INDICATING DEVICE
A. Existing Water Gong C. (5) ADA Strobes
B. (7) Horn/Strobes
- VI. ZONES
1. Water Flow 4. Smoke Detector (panel protection)
2. Tamper 5. Kitchen Hood Suppression
3. Pull Station 6. Duct Detectors W/Remote LED,s
7-16. Burg Devices (Powered Separately)
- VII. COMMUNICATIONS
A. Digital Dialer B.. AAGARD Wireless Radio
- VIII. WIRING
A. Class A 18/2 FPL (Waterflow & Tamper switches) C. Class B 16/2 FPL (indicating Circuits)
B.. Class B 18/2 FPL (Initiating circuits) D. 18/4 FPL (Key Pad/Remote Annoc.)
- IX. LISTING
A. All Equipment is U.L. Listed
- X. POWER SUPPLY
A. Primary - 110V AC on Dedicated Outlet D. PP4-12 (Burg. Devices only)
B. Secondary - 2 12V 17AH Batteries E. FCPS-24F Signaling Circuit Power Supply
with 2 7AH Batteries
- XI. ALARM SUPERVISION
A. Human
B. Monitoring Station: NATIONAL GUARDIAN SECURITY
2461 MCGAW ROAD
COLUMBUS, OHIO 43207-4594

OUTBACK STEAKHOUSE

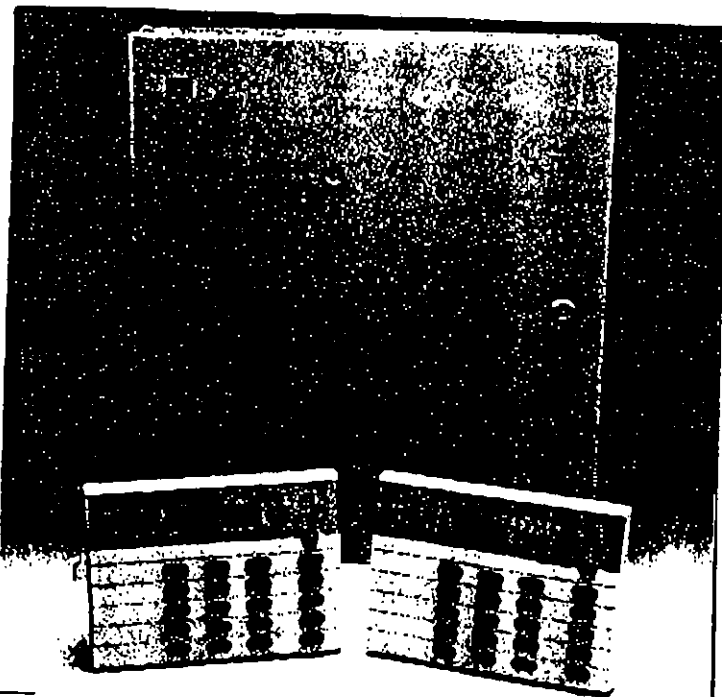
2770 HOOPER AVE.

BRICK, NJ.





DS7400Xi CONTROL/COMMUNICATOR



DS7400Xi Multiplex Control/ Communicator

FEATURING...

- Four Partitions
- History Buffer
- Keypad Programmable
- Remotely Programmable
- Freely Programmable Alpha Display
- 60 PINs
- U.L. Listed, C.S.F.M. Approved

DS7400Xi Overview

	DS7400Xi	DS7400XiFCP
Zones	128	128
Outputs	3 (expandable to 39)	3 (expandable to 39)
Special Features	Four Systems Partitioning 400 Event History Buffer 60 Personal Identification Numbers Input/Output Cross-Matrixing Outputs on the Multiplex Bus "Arm-only" Codes by Partition	All DS7400Xi features. Specially designed for fire applications. Includes all required accessories for commercial fire application.

Detection Systems, Inc.

130 Perinton Parkway, Fairport, New York 14450/ Fairport, NY: 800/289-0096; 716/223-4060; FAX 716/223-9180
 Mivaco, TN: 800/227-2000; 615/277-2000

1.0 Specifications

1.1 Enclosure Housing

The standard enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5 in. Wide, by 14.5 in. High, by 3 in. Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch (required for commercial burglary applications) for monitoring the door.

1.2 Temperature

- Storage and Operating Temperature: +32° to +120°F (0° to +49°C)

1.3 Power

NOTE: The total current output capacity for all auxiliary devices, including keypads and smoke detectors = 1.5 A standby, 2.5 A alarm. The following ratings are maximum values. The total combined output cannot exceed the max. load current.

- Input power 18 VAC, 50 VA, 50 Hz. or 60 Hz.
- Auxiliary regulated power 12 VDC, 1.5 A max.
- U.L. Listed Auxiliary power 12 VDC, 1.5 A max.
- U.L. Listed Alarm Power Output 12 VDC, 1.75 A max.
- Auxiliary power voltage range 12 V special application
- Optional Standby battery (P334) 12 V, 7.0 AH - 35 AH max.
- Control panel current draw 175 mA, Standby
250 mA, Alarm

1.4 Outputs

- Alarm Output 12 VDC, 1.75 A output. Can be programmed for steady or pulsed output.
- Programmable Output 1* Solid state current sink (1.0 A max.). Shorts to ground when activated. Connect device to Aux. power positive. Can be used for alarm, arming state, or access control.** This output is generally programmable.
- Programmable Output 2* Solid state voltage source (500 mA max.). Can be used for alarm, arming state, or access control.** This output is generally programmable. For use with such compatible devices as the Listed DS250 with a 4-wire base.

* = Current draw should be subtracted from either maximum auxiliary or maximum alarm current draw.

** = Not Investigated to the requirements of UL294.

1.5 Zones

- DS7400i: 8 on-board zones.
Up to 64 total zones with expansion modules.

- DS7400Xi: 8 on-board zones.
Up to 128 total zones with expansion modules.
- Zone Response Time: 300 ms.

1.6 Keypads

- Maximum # of keypads 8 Keypads
- Maximum wire length each 1000 feet
- Maximum wire length total in system 6000 feet
- Wire type 4 conductor, unshielded, #22 AWG Telephone quad or #18 AWG quad wiring can be home-run or daisy-chained.

NOTE: No more than 2 keypads recommended on any 1000 foot run.

NOTE: Shared cable is not recommended for keypad, multiplex, options bus, telephone, or siren wiring.

1.7 Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2 BFSK, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ringor equivalence is 0.1B

Comm. Fire CSFM Listing Number is 7165-1062:111

Residential Fire CSFM Listing Number is 7167-1062:111

1.8 Users

Both the DS7400i and DS7400Xi systems allow up to 60 individual users. Each user will have his own PIN number (the 4 digit code entered at the keypads) and his own authority level (to determine which functions he may perform).

1.9 Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

1.10 Burglar/Fire Zone Inputs

- Number of circuits 8 Circuits on board
- End of line resistor 2.2 K Ω (P/N 25944, provided)
- Loop resistance tolerance 60 ohms

1.11 Fire Signal Initiating Circuit (2-wire mode)

Fire circuit will work with 2 or 4-wire detectors and has optional alarm verification.

- Number of circuits 8 Circuits on board
- Type of circuit Class B, latching

DS7400XI SYSTEM FEATURES

Description

The DS7400Xi is a Multiplex control/communicator. It accepts up to 60 Personal ID Numbers (PINs), 1s keypad or remotely programmable, and has a wide range of features as described below.

Commercial Fire Approved

Meets commercial fire requirements when used with the DS7420I (Dual Phone Line/Bell Supervision Module), DS7447 Alpha-Numeric Keypad, and AETR-16 (enclosure for transformer). The DS7400XiFCP is shipped with these accessories. The 8 on-board zones may be used as Class B (Style B) input loops and will accept up to 20 two-wire smoke detectors (such as DS250 Series) each. Multiplex zones support 4-wire smoke detectors.

LED and Alpha Keypad Support

The DS7400Xi can use the DS7445 LED keypad and the DS7447 Alpha-Numeric keypad. The DS7445 provides an LED per zone (for main board zones 1-8 only), plus 8 system status LEDs that indicate conditions such as armed, fire alarm, and trouble. The DS7447 provides a two line, 16 character (per line) LCD display. Text is freely programmable for zone and partition descriptions. The end user can adjust the sounder volume and backlight intensity using easy two button commands. LED and LCD keypads may be mixed in the same system. Up to 8 keypads are allowed per system.

Easy Function Key User Interface

Six labeled function keys eliminate the need for multi-button commands. Functions such as arming, disarming, and resetting the smoke detectors are performed by simply entering a PIN followed by the function key. This interface provides the new user with easy to follow procedures, while allowing the expert user quick access without the use of cumbersome menu driven formats. A programmable "Quick Arm" feature allows the system to be turned on without the use of a PIN while still requiring a PIN to turn the system off, silence alarms, or perform system tests.

60 Personal ID Numbers (PINs)

The system supports 60 Personal ID Numbers (PINs), which are 4 digits in length. The PINs may contain any com-

bination of digits. Any number of PINs may be designated as master PINs; these are the only PINs which can be used to reprogram PINs. PINs other than the master PINs may be programmed with 6 different levels of authority. These PINs may be restricted from bypassing, testing, and disarming the system.

Zones

The DS7400Xi accepts up to 128 zones. These zones may consist of 8 hard-wired zones, plus the remaining multiplex zones. Any of these zones may be programmed to follow one of 15 programmable zone functions.

Multiplex Inputs

A complete line of multiplex devices is available including multiplex PIRs, duals, door contacts, and interface modules.

Four Systems Partitioning

The DS7400Xi may be split in up to 4 completely separate systems. Each partition has its own keypads and can have up to two reporting IDs. Keypads can also be programmed as master keypads, allowing access to all partitions.

Common Area Partitioning

One partition can be programmed to follow the arming state of 2 or 3 other partitions. The common area arms only when all partitions it is common to are armed. This allows for protection of shared areas such as foyers and entryways, while still maintaining separate partitioning.

Smoke Detector Alarm Verification

The DS7400Xi may be programmed to perform an automatic reset of the smoke detectors, should an alarm occur. If a second alarm occurs within the verification window, an immediate fire alarm results. This reduces potential false alarms, while still providing fast response to an alarm.

Keypad Programmable

The system is completely keypad programmable. No need for expensive hand-held programmers. The DS7447 is required for system programming.

Remotely Programmable

WDSRP software allows the system to be remotely programmed using an IBM PC (or IBM compatible) running Windows and a standard Hayes modem.

Using an off-site computer permits diagnostics to be run, systems to be armed, and zones bypassed. This not only reduces service visits to a premise, it also allows quick customer assistance in closing troublesome accounts.

400 Event History Buffer

A 400 event history buffer, which can be read at the DS7447 keypad or uploaded to the WDSRP Remote Programming Software, keeps track of Open/Close events, Alarms, Troubles, etc. by time and date. The most recent 64 events are stored in nonvolatile Memory and can be recalled even after a total power failure.

RS232 Serial Printer Support

The system provides support for one serial printer using the DS7412 RS232 Interface Module. System events may be printed automatically as they occur and can be printed via a keypad command. The installer can select which types of events are printed.

Custom Arming Configurations

The system can be programmed to arm in different configurations providing a means of automatically bypassing a group of zones.

Anti-Takeover Protection

All or part of the programming may be locked so the program cannot be changed should someone attempt to takeover the account. Patented BusLoc® anti-takeover circuitry imbeds a secret code into the multiplex devices, prohibiting the control from being replaced using these devices.

Two Independent Entry Delays

Zones may be programmed to select from one of the two entry delay times. This allows the selection of a longer entry delay time for zones that are located a long distance from the keypad.

Answering Machine Override

The DS7400Xi has a built-in answering machine override function. No external hardware is required.

Flexible Digital Communication

The communicator will work into most alarm receivers that are in use today. It supports 3/1, 3/1 Ext., 4/1, 4/2, Contact ID, SIA (110 or 300 Baud), and BPSK digital communication formats.

DS7400Xi SPECIFICATIONS

Three (3) Telephone Numbers

The system supports two 20-digit telephone numbers with a three or four digit account code for each. Each of the two phone numbers can be individually configured for the type of communication format and choice of pulse or tone dialing. The third phone number is reserved for remote programming.

EE Memory

The panel uses EEPROM technology; thereby, allowing it to retain all program memory as well as the arm/disarm state through a total power failure. There is also a delay on power restore to prevent false alarms from space sensors that may take several minutes to become operational. None of the system programming or user codes will be lost.

Standard Outputs

The system provides three outputs that are individually programmable and may be controlled by alarms, access control, ground start, smoke detector reset, or the control's arming state.

Output Functions

Output Functions can be programmed to follow system events or to follow one or two specific zones in a "cross matrix" fashion (see Input/Output Cross Matrixing). These Output Functions can be programmed to control octal relay outputs or multiplex bus outputs.

Input/Output Cross Matrixing

Input/Output cross matrixing allows up to 15 Output Functions to follow the status of specific input zones. Outputs can be programmed to follow any combination of one or two zones, open or closed, with the system armed or disarmed.

Octal Relay Modules

The DS7400Xi supports two octal relay modules. Each DS7488 supplies 8 relays which can be programmed to follow system events, or follow Output Functions as previously described.

Multiplex Bus Outputs

The DS7400Xi supports up to 20 DS7465 Input/Output modules. These modules are connected to the multiplex bus and provide one input loop and one Form "C" output relay. The input loop operates the same as all other multiplex

inputs. The output loop can be programmed to follow Output Functions.

SPECIFICATIONS

Housing

The standard DS7400Xi enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5" Wide, by 14.5" High, by 3" Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch for monitoring the door. The standard DS7400XiFCP enclosure is manufactured from 18 Ga., cold-rolled steel, and measures 15" Wide, by 20.75" High, by 4.25" Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch for monitoring the door.

Temperature

+32° to +120°F (0° to +49°C).

Power

Input Power: 18 VAC, 50 VA, 50 Hz. or 60 Hz.

Total power output: 12 VDC, 2.5 A

Keypad regulated power: 12 VDC, 1.0 A

U.L. Listed Auxiliary power: 12 VDC, 1.5 A

U.L. Listed Alarm Power Output: 1.75 A

Auxiliary power voltage range: 10.2 to 14.1 VDC

Optional Standby Battery (P334): 12 V, 7.0 AH (can support up to 35 AH)

Control panel standby current: 175 mA

DS7447 keypad standby/alarm current: 100 mA

DS7445 keypad standby/alarm current: 75 mA

Note: Total current for all auxiliary devices, including keypads and smoke detectors, is 1.5 A standby and 2.5 A alarm.

Standard Outputs

Alarm Output

Normally Open, 1.75 Amp contact connected to auxiliary power. Can be steady or pulsed.

Programmable Output 1

Solid state current sink (1.0 Amp Max.). Can be used for alarm, arming state, access control, or other options.

Programmable Output 2

Solid state voltage source (500 mA Max.). Can be used for alarm, arming state, access control, smoke power, or other options.

Keypads

Number of keypads: 8 keypads maximum

Maximum wire length each: 1000 ft. (300 m)

Maximum wire length total in system: 6000 ft. (1800 m)

Wire type: 4 conductor #18 AWG or #22 AWG.

NOTE: No more than 2 keypads on any 1000 foot (300 m) run.

Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2, BFSK, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ring equivalence is 0.1B

Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

Burglar/Fire Zone Inputs

Number of circuits: 8 Circuits on board

End of line resistor: 2.2 K ohms

Minimum circuit resistance: 60 ohms

Fire Signal Initiating Circuits

Fire circuits will work with 2 or 4-wire detectors and have optional alarm verification.

Number of circuits: 8 Circuits on board (expandable to 16)

Type of circuit: Class B, latching

Maximum detectors per zone: 20 detectors (2-wire)

Total detector standby current: 2.5 mA

Listings and Approvals

Underwriter's Laboratories

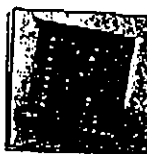
- Household Fire Alarm, U.L. Standard UL985
- Commercial Fire Alarm (Type Service: Local, Central Station, Remote Station; Type Initiating: Automatic, Manual, Sprinkler Supervisory, and Waterflow), U.L. Standard UL864
- Household Burglary Alarm, U.L. Standard UL1023
- Police Station Connection Grades AA and A, U.L. Standard UL365
- Central Station Burglary Alarm Grades AA, A, B, and C; U.L. Standard UL1610

Suitable for installation in NFPA 72

applications as applies to Local, Central Station, Remote Station, Sprinkler Supervisory, and Waterflow.

Protected under one or more of the following patents:
#5,268,888; #5,302,841

DS7400Xi SYSTEM OPTIONS



DS7104 Line Reversal Module

- Provides a reverse polarity output for direct connection applications.
- Provides both a maintained and alternating output.



DS7111i Dual Phone Monitor

- Provides 2 phone line supervision and switching with trouble output.
- Connects to one zone of control.
- Not for use in commercial fire applications.



DS7412 RS232 Interface Module

- Provides the ability to print history events.
- Connects to a standard serial printer.
- 1 per system.



DS7416 Communications Module

- Provides the ability to communicate using the ARDIS radio network.
- Available with red enclosure.
- 1 per system.



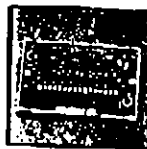
DS7420i Dual Phone Line/Bell Supervision Module

- Provides 2 supervised 12 volt outputs, dual phone line supervision, and one Class A (Style D) Commercial Fire Zone.
- 1 per system.



DS7430 Multiplex Bus Driver

- Provides an expansion bus for connection of multiplex devices.
- 1 per system.



DS7432 8-Input Remote Module

- Provides 8 supervised input zones.
- Connects to multiplex bus.
- Requires use of DS7430.



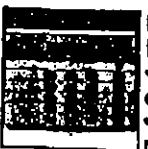
DS7433 8-Input Direct Module

- Provides 8 supervised input zones.
- Supports 2-wire smoke detectors.
- Cannot be used with DS7430.
- 1 per system.



DS7445 LED Keypad

- 8 Zone LEDs.
- 8 system status LEDs.
- For fire applications, red graphics are available in packages of 10. Order RG 7445-10.



DS7447 Alpha-Numeric Keypad

- Displays two lines of 16 characters.
- The Alpha Information is remotely and keypad programmable.
- For fire applications, red graphics are available in packages of 10. Order RG 7447-10.

4 1/2" H., 6 3/8" W.,
1" D. (11.43 cm H.,
16.19 cm W.,
2.54 cm D.)



DS7450 Flush Mount Multiplex Contact

- Reports actual multiplex address to the control system.
- Gap = 0.75" (1.9 cm).
- Requires use of DS7430.

Sold in
packages of 10
(DS7450-10)



DS7452 Surface Mount Multiplex Contact

- Reports actual multiplex address to the control system.
- Gap = 1.5" (3.8 cm).
- Requires use of DS7430.

Sold in
packages of 10
(DS7452-10)



DS7457 Single Zone Multiplex Input Module

- Provides one supervised zone.
- Connects to multiplex bus.
- Requires use of DS7430.

Sold in
packages of 10
(DS7457-10)



DS7460 Two Input Module

- Provides two supervised zones.
- Connects to multiplex bus.
- Requires use of DS7430.

Sold in packages
of 5 (DS7460-5)



DS7465 Input/Output Module

- Provides one supervised zone and one Form "C" relay output.
- Connects to multiplex bus.
- Up to 20 per system.

Sold in packages
of 2 (DS7465-2)



DS7470 Multiplex PIR Intrusion Detector

- Provides standard coverage pattern of 50 by 50 ft. (15 by 15 m).
- Optional 120 ft. (40 m) Long Range and 80 ft. (25 m) Barrier patterns available.
- Requires use of DS7430.



DS7471 Multiplex PIR Intrusion Detector

- Provides standard coverage pattern of 35 by 35 ft. (10 by 10 m).
- Optional 70 ft. (20 m) Long Range and 35 ft. (10 m) Barrier patterns available.
- Requires use of DS7430.



DS7472 Multiplex PIR Intrusion Detector

- Provides 60 ft. (18 m) diameter 360° coverage pattern.
- Requires use of DS7430.



DS7476 Multiplex, Dual Technology Microwave/PIR Intrusion Detector

- Provides standard coverage pattern of 50 by 50 ft. (15 by 15 m).
- Requires use of DS7430.



DS7480 Bell Supervision Module

- Provides power and supervision for one end-of-line supervised indicating appliance circuit.



DS7481 Single Phone Line Monitor

- Monitors one phone line. Provides a Normally Open relay output which closes upon phone line failure.



DS7488 Octal Relay Module

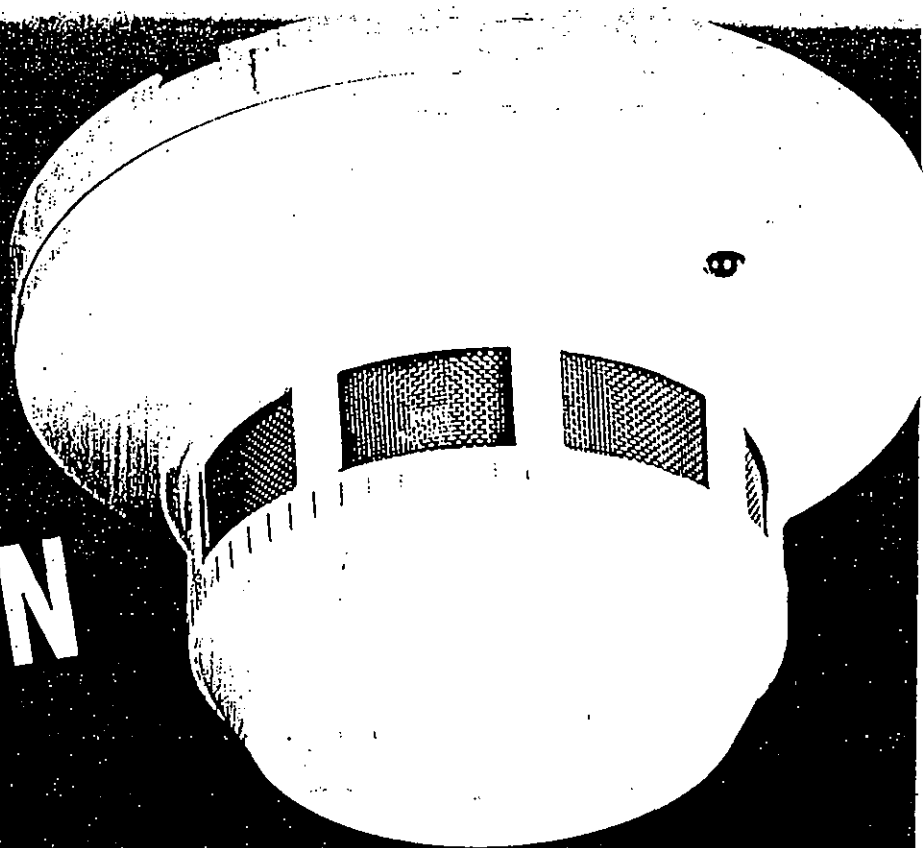
- Provides 8 Form "C" relay outputs.
- 2 per system



AETR-16 Enclosure

- Mounts over standard electrical outlet.
- Provides mechanical protection for transformer and wiring connections.

400 SERIES™ NEXT GENERATION DETECTORS



2400 SERIES 2 WIRE PHOTOELECTRONIC DETECTOR WITH OPTIONAL BUILT-IN HORN AND 135° FIXED TEMPERATURE THERMAL

System Sensor 400 Series™ photoelectronic detectors are specifically designed to meet the stringent performance requirements of industrial and municipal fire detection/alarm systems. The design of these detectors emphasizes ease of installation and field maintenance.

- Unique optical sensing chamber
 - Superior signal-to-noise ratio
 - Built-in signal processing
 - 3.0% nominal sensitivity
- Removable cover for field cleaning
- Visible LED "blinks" in standby
- Sealed against dirt, insects and back pressure
- Optional built-in 135°F (57°C) thermal
- 3 year warranty
- 10-32 VDC operating range
- Field metering of detector sensitivity
- 3000 fpm air velocity
- Built-in test capability
- Low standby current
- Twist-on mounting bracket with tamper option
- Designed for direct surface or electrical box mounting
- Remote LED option
- Insect-resistant screening (.020"/.508mm openings)
- Models with built-in horn available
- SEMS screws for easy wiring

All 400 Series™ photoelectronic smoke detectors contain a unique optical sensing chamber designed to sense the presence of smoke particles produced by a wide range of combustion sources and meet the performance criteria designated by U.L. 268. A new custom integrated circuit incorporates signal

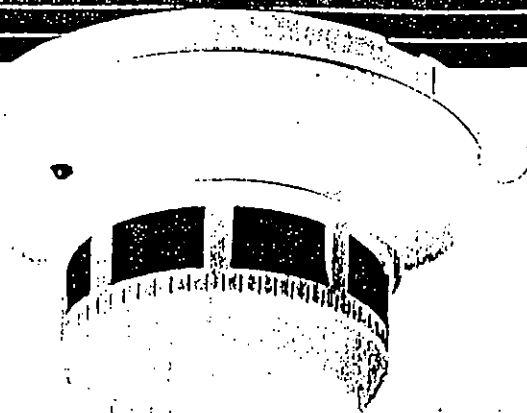
processing to reduce false alarms and sample/hold circuitry to provide easy field metering of sensitivity. Other models are available with a built-in horn which sounds when the detector alarms or when the supply voltage polarity is reversed.

A DIVISION OF PITTMAN

General Specifications



The 400 Series™ has been designed to seal the sensing chamber from back pressure air flow, dust, dirt, and insects. The back of the detector is sealed and the chamber is protected by a fine mesh (.020"/.508 mm) screen. If cleaning is required, it is easy to remove the cover (with a tool) and obtain access to the screen and chamber to perform a thorough cleaning.



General Specifications:	2400	2400TH	2400AT	2400AIT
Control panel applications:	2-wire	2-wire	2-wire	2-wire
Built-in thermal:	NO	YES	YES	YES (Isolated)
Visual LED local alarm:	YES	YES	YES	YES
Remote LED annunciator capability:	YES	YES	YES	YES
Operating voltage range:	8.5-35VDC	8.5-35VDC	10-32VDC	10-32VDC
Current limits				
a) Standby (max.):	120µA	120µA	120µA	120µA
b) Alarm current (typ.):	See NOTE	See NOTE	15mA @ 10V	15mA @ 10V
c) Alarm current (max.):	See NOTE	See NOTE	67mA @ 32V	67mA @ 32V
Reversed voltage (non-alarm):			48mA @ 24V	48mA @ 24V
			5mA @ 10V	5mA @ 10V
			19mA @ 32V	19mA @ 32V
			15mA @ 24V	15mA @ 24V
Alarm signal:	Shunt on power leads	Shunt on power leads	Shunt on power leads	Shunt on power leads

Agency Listings: U.L. S911, BS&A 1346-88-SA
CSFM 7257-1209: 103



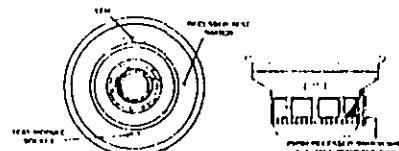
NOTE: Two-wire control panels must limit current to 100mA or less.

Architectural/Engineering Specifications

The detector shall be of the photoelectronic type. Its sensor shall have a nominal sensitivity of 3.0%/ft. as measure in a UL smoke box, and a signal-to-noise ratio of 2.0 nominal. It shall be possible to perform a functional sensitivity and performance test on the detector without the need of generating smoke. The test method shall test all detector circuits. A visual indication of an alarm shall be provided by a latching light emitting diode (LED) on the detector which may be seen at ground level. It flashes every ten seconds indicating that power is applied to the detector. The visible alarm signal shall be capable of remote LED annunciation. A special test meter shall be available to check the sensitivity of the detector. Metering points for the test meter shall be accessible on the exterior of the detector. The detector shall not alarm when exposed to wind gusts up to 2500 feet per minute. The detector screen and cover assembly should be easily removable for field cleaning. Wire connections are made by clamping plate and screw.

HOW TO ORDER

2400	Photoelectronic detector, 2 wire, surface mount.
2400TH	Photoelectronic detector with built-in 135° fixed temperature thermal, 2 wire, surface mount.
2400AT	Photoelectronic detector with integral 135° fixed thermal and 85dBA horn, 2 wire, surface mount.
2400AIT	Photoelectronic detector with isolated 135° fixed thermal and 85dBA horn, 2 wire, surface mount.
RA400	Remote annunciator (LED).
MOD400	Field test module
I56-407-XX	Applications manual for system smoke detectors.
I56-285-XX	Installation instructions for 2400 series detectors.
I56-287-XX	Installation instructions for 2400 AT/AIT series detectors.
RS24	Replacement insect screening for 2400.
RS24T	Replacement insect screening for 2400TH/AT/AIT.
DUST45	Protective dust cover for 2400 Series models.
R59-18-00	Calibrated test card.
M02-04-00	Test magnet.



SYSTEM SENSOR™

A DIVISION OF PITTMAN

3825 Ohio Avenue • St. Charles, Illinois 60174 • 708-377-6363 • FAX: 708-377-6495

Distributed by:

Technical Service Note

Detection Systems, Inc.
130 Peninton Parkway
Fairport, N.Y. 14450

Service (800) 374-7454
Sales (800) 289-0096
Fax (716) 223-9180

CONCERNS: 2-Wire Smoke Detector Compatibility

AFFECTS: DS7400 and DS7090I Control Panels

DATED: 15 June, 1993



Two Wire Smoke Detectors:

The following is a list of 2-wire smoke detectors that have proven to be compatible with the DS7400 and DS7090I Control/Communicators under the method required by Underwriters Laboratories, Inc.

Disclaimer Notice: Detection Systems, Inc. makes no claim either written, oral, or implied that any smoke detector, other than the ones listed here will work with the DS7400 or DS7090I Series Control/Communicators.

2-wire smoke detectors that are not listed as compatible should not be used with the DS7400 or DS7090I.

Two-wire smoke detectors of different manufacturers or detectors of different model numbers may not be mixed on the same circuit.

At this time, UL does not require compatibility cross listing of smoke detectors when installed in a 4-wire configuration.

<u>Manufacturer</u>	<u>Detector Model</u>	<u>Detector Identifier</u>	<u>Mounting Base Model</u>	<u>Base Identifier</u>	<u>Detectors Per Zone</u>
Detection Systems	DS200/DS200HD	A	MB200-2W	B	20
Detection Systems	DS250/DS250TH	A	MB2W or MB2WL	A	20
Detection Systems	DS260	A	MB2W or MB2WL	A	20
Electro Signal Lab	425C	S10	N/A	N/A	20
Electro Signal Lab	425CT	S10	N/A	N/A	20
Electro Signal Lab	611U	S10	601U or 602U	S00 or S03	20
Electro Signal Lab	611UT	S10	601U or 602U	S00 or S03	20
Electro Signal Lab	612U	S10	601U or 602U	S00 or S03	20
System Sensor	1400	A	N/A	A	20
System Sensor	2300T	A	N/A	A	20
System Sensor	2400	A	N/A	A	20
System Sensor	2400TH	A	N/A	A	20
System Sensor	1451	A	N/A	A	20
System Sensor	1451DH	A	B401 or B401B	A	20
System Sensor	2451TH	A	DH400	A	20
System Sensor	2451	A	B401 or B401B	A	20
			B401, B401B, or DH400	A	20

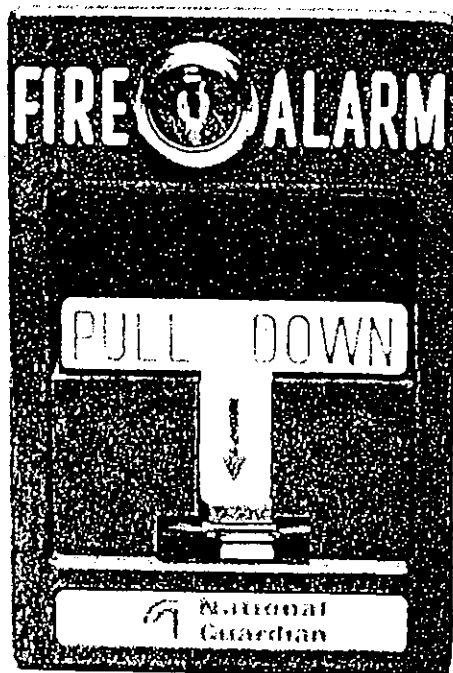
MANUAL STATIONS

CSFM No.
7150-1039:101

ULC

BSA (NYC)

UL No.
11S4



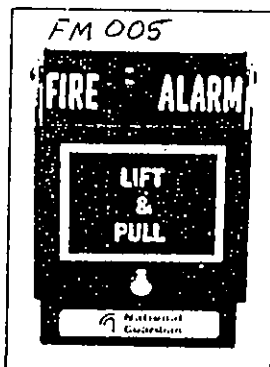
The 56 series manual pull station is a high quality non-toxic die cast manual pull station manufactured entirely in the U.S.A. Low profile and smooth edges offer an attractive yet functional design. All components are pre-painted or have plated surfaces to inhibit corrosion. The 56 series pull station can be used with or without a break glass rod with

replacement requiring no special tools.

Other features include: Lift and Pull, Break Glass Cover, Institutional Key Lock and Weather and Explosion Proof versions. All stations offer hex screw or key lock access. Other special options available.



EXPLOSION PROOF
56(-)700



LIFT AND PULL
56(-)100



INSTITUTIONAL
56(-)400



BREAK GLASS
56(-)300



WEATHER PROOF
56(-)800

(-) represents switch type plus pigtail leads or terminal block connections

wheelock INC.

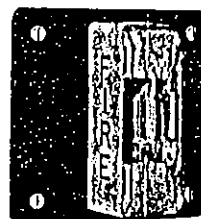


**LS, LSM, MS, IS and HSW
SERIES STROBE**

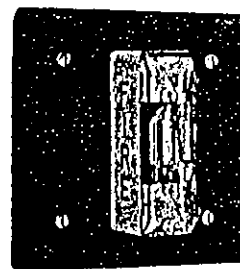
Description

Wheelock's new line of strobes signaling products is designed for Americans With Disabilities Act (ADA) applications while meeting or exceeding the latest requirements of NFPA 72 (the National Fire Alarm Code), ANSI 117.1 (the American National Standard for Accessible and Usable Buildings and Facilities), and UL Standard 1971 (Signaling Devices for the Hearing Impaired). These new strobe products, when properly specified and installed in accordance with NPFA/ANSI Standards, can provide the Equivalent Facilitation allowed under ADA Accessibility Guidelines (ADAAG General Section 2.2) by meeting or exceeding the illumination which results from ADA's strobe intensity guidelines of 75 candela at 50 feet. This is an illumination of 0.030 lumens per square foot (footcandles).

For outdoor and private mode installations or where UL 1971 Listing is not required, the WM series of 117cd UL 1638 Listed strobes is available.



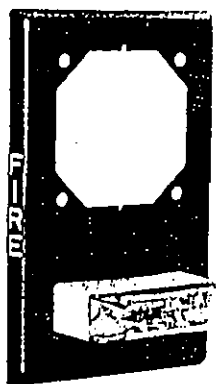
**SERIES
LS3/LS3M/MS3/IS3**



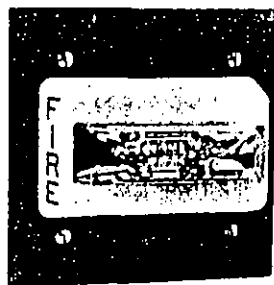
**SERIES
LS/LSM/MS/IS**



**SERIES
LS1/LS1M/MS1/IS1**



**SERIES
LSP/MSP/ISP/HSPW**



**SERIES
HS/HS2**

Features

- Underwriters Laboratory (UL 1971 & UL 1638) Listings, Factory Mutual (FM), New York (MEA), and Chicago (BFP) approvals on selected models.
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines.
- All models meet ADA Guideline for minimum one flash per second from 20-31 volts or 12-15.6 volts.
- Low current draw with low temperature compensation reduce power consumption and wiring costs.
- Available in 15cd, 30cd, 75cd, and 110cd UL 1971 Listed and 15/75cd UL 1971 Listed at 15cd and exceeding a near-axis 75cd intensity for ADA guidelines with low current draw.
- Convenient mounting to standard backboxes.
- Polarized 12 and 24 VDC models with wide listed voltage ranges using filtered DC or unfiltered FWR input voltage.
- Fast installation with In/Out screw terminals using #12-#18 AWG wires.
- Compliance with RFI limits in FCC Part 15, Class B for compatibility with sensitive detection and communication circuits.
- Weatherproof models for outdoor installations.

STROBE ONLY

Ordering Information

Strobes	Model Code	Order Code	Strobe Candela	Current (Amps)	Mounting Options	Approvals				
						UL	CFM	FM	MEA	BFP
LS 24 VDC	LS-24-VFR	5174	15	.080	D	X	X	X	X	Dec
	LS1-24-VFR	5175	15	.080	AJ	X	X	X	X	Dec
	LS3-24-VFR	5176	15	.080	L	X	X	X	X	Dec
	LSP-24-HFR	5180	15	.080	E,R	X	X	X	X	Dec
LSM 24 VDC	LSM-24-VFR	5171	15/75	.115	D	X	X	X	X	Dec
	LS1M-24-VFR	5172	15/75	.115	AJ	X	X	X	X	Dec
	LS3M-24-VFR	5173	15/75	.115	L	X	X	X	X	Dec
	LSPM-24-VFR	5179	15/75	.115	E,S	X	X	X	X	Dec
MS 24 VDC	MS-24-VFR	5316	30	.135	D	X	X	X	X	Dec
	MS1-24-VFR	5317	30	.135	AJ	X	X	X	X	Dec
	MS3-24-VFR	5319	30	.135	L	X	X	X	X	Dec
	MSP-24-HFR	5320	30	.135	E,R	X	X	X	X	Dec
IS 24 VDC	IS-24-VFR	5351	75	.225	D	X	X	X	X	Dec
	IS1-24-VFR	5352	75	.225	AJ	X	X	X	X	Dec
	IS3-24-VFR	5353	75	.225	L	X	X	X	X	Dec
	ISP-24-HFR	5354	75	.225	E,R	X	X	X	X	Dec
HSW 24 VDC	HSW-24-HFR	5177	110	.230	D	X	X	X	X	Dec
	HS2W-HFR	5178	110	.230	C,K	X	X	X	X	Dec
	HSPW-24-HFR	5181	110	.230	E,R	X	X	X	X	Dec
WM 24 VDC	WM3T-24-FR	4911	117	.088	L,U	X	X	X	X	X
LS/MS/LSM 12 VDC	LS1-12-VFR	5377	15	.160	AJ	X	X	X	X	Dec
	LS1M-12-VFR	5630	15/75	.220	AJ	X	X	X	Nov	Dec
	MS1-12-VFR	5378	30	.230	AJ	X	Nov	Dec		Dec
	LSP-12-HFR	5379	15	.160	E,R	X	X	X		Dec
	MSP-12-HFR	5380	30	.230	E,R	X	Nov	Dec		Dec
	LSPM-12-VFR	5677	15/75	.220	E,S	X	Nov	X		Dec

NOTES

- Models code suffix: V = vertical lens; H = horizontal lens; F = fire lettering; R = red plate.
- Approval codes: UL = Underwriter Laboratories; CFM = California State Fire Marshal; FM = Factory Mutual; MEA = New York City Materials and Equipment Acceptance; BFP = Chicago Bureau of Fire Prevention.

AUDIBLE SIGNALS AND SPEAKERS TO USE WITH LSP/MSP/ISP/HSPW

- Multitone Electronic Signals
- MT Series, AES Series
- Motor Bells (6" or 10")
- MB Series
- Voice Evacuation Speakers
- ET-1010, 806T, 807T, ET-1070, ET-1080, E-7070, E-7025
- Electronic Chimes
- CH-D

AUDIBLE SIGNALS AND SPEAKERS TO USE WITH LSPM

- Multitone Electronic Signals
- MT4 Series, AES-E Series
- Motor Bells (6" or 10")
- MB Series
- Voice Evacuation Speakers
- ET-1010 and 806T, 807T

Mounting Options

Option	Type	Backbox	Maximum Wires in Backbox			
			#18	#16	#14	#12
A	Flush	1-gang x 2"	4	4	4	4
C	Flush	2-gang x 3-1/2"	8	8	8	8
D	Flush	4" x 4" x 1-1/2"	4	4	4	4
E	Flush	4" x 4" x 2-1/8"	8	8	8	8
J	Surface	Wiremold 1-gang x 1-3/4"	4	4	4	4
K	Surface	Wiremold 2-gang x 1-3/4"	4	4	4	4
L	Surface	BB	4	4	4	4
R	Surface	SBL1	8	8	8	8
S	Surface	SBL	8	8	8	8
U	Weatherproof	WBD	4	4	4	4

NOTE: SEE PAGE 4 FOR GENERAL AND TECHNICAL NOTES.

Ordering Information Mounting Accessories

Model	Code	Description
BB-R	2830	4" x 4" x 1-1/2" Surface Backbox
SBL1-R	5342	6" x 9-1/2" x 1-3/4" Surface Backbox
SBL-R	4995	5-1/2" x 10-5/8" x 1-3/4" Surface Backbox
WBD-R	2959	4-1/8" x 4-1/8" x 2" Weatherproof Backbox

HORN AND STROBE

Table 2: dBA and Current Ratings for Audible Portion of Multitone Signals Without Strobes

Tone	Input Current ¹ AMPS @ 24 VDC		Input Current ¹ AMPS @ 12 VDC		Typical Anechoic ⁴ dBA at 10 Feet		Rated Reverberant dBA ⁴ at 10 Feet Per UL 464			
					At Nominal Input Voltage		At Minimal Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	99	93	85	79	88	82
Bell	0.014	0.012	0.031	0.010	92	87	79	75	82	75
March Time Horn	0.040	0.023	0.100	0.020	99	93	82	75	85	79
Code-3 Horn	0.040	0.023	0.100	0.020	99	93	79	75	82	75
Code-3 Tone	0.028	0.017	0.060	0.015	95	90	75	70	79	73
Slow Whoop	0.048	0.026	0.100	0.025	99	94	82	75	85	79
Siren	0.036	0.023	0.082	0.020	98	93	82	75	85	79
Hi/Lo	0.020	0.014	0.044	0.012	93	88	79	75	82	75

NOTES

1. Add 25% more input current than shown in Tables 1 and 2 when operating the unit at maximum input voltage. Rated input voltage (either filtered DC or unfiltered full-wave-rectified (FRW)). Strobes are designed to flash at 1 flash per second minimum from 20-31 VDC (for 24 VDC models) or 12-15.6 VDC (for 12 VDC models). Note that ADA guidelines presently specify a flash rate of 1 to 3 flashes per second. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the strobes.
 2. Anechoic dBA is measured on axis in a non-reflective (free field) test room using fast meter response. For peak dBA (measured with peak meter response), add 5 dBA to typical anechoic value shown in Table 1 and 2.
 3. Reverberant dBA is a minimum UL rating based on sound power measurements in a reverberant test room.
 4. Multitone Signals with and without strobes have a brief in-rush current during start-up. See separate "Installation Instructions" for further details.
- *WARNING: MULTITONE STROBE MODELS SET ON "CODE-3 TONE" WITH "STANDARD dBA" DO NOT MEET THE 75 dBA MINIMUM UL REVERBERANT SOUND LEVEL REQUIRED FOR PUBLIC MODE FIRE PROTECTION SERVICE (NOTED BY * IN TABLE 2). MODELS WITH SETTINGS WHICH PRODUCE LESS THAN 75 dBA MAY NOT BE HEARD. THIS SETTING IS ACCEPTABLE ONLY FOR GENERAL SIGNALING (NON-FIRE ALARM) USE. USE THE "HIGH" dBA SETTING WITH THIS TONE OR USE A DIFFERENT TONE FOR PUBLIC MODE SERVICE.**

Make sure that the average, peak and inrush currents do not exceed system power supplies or fusing limits. If the strobe and audible operate on the same circuit, add the strobe current from Table 3 to the proper audible current from Table 1 or 2. See separate "Installation Instructions" for further details.

Voltage	Strobe Current Requirement (AMPS)										Rated Inrush Current				
	Rated Average Current					Rated Peak Current									
	LS	MS	LSM	IS	HSW	LS	MS	LSM	IS	HSW	LS	MS	LSM	IS	HSW
20 VDC	.080	.135	.115	.240	.280	.160	.288	.250	.500	.680	.210	.280	.225	.650	.550
24 VDC	.080	.135	.115	.225	.230	.190	.296	.260	.450	.570	.250	.280	.270	.660	.850
31 VDC	.080	.135	.115	.195	.190	.210	.296	.260	.370	.520	.320	.300	.360	.880	.780
20 VFWR	.080	.135	.125	.253	.280	.210	.390	.350	.700	.960	.320	.390	.315	.920	.930
24 VFWR	.081	.135	.125	.233	.230	.216	.390	.365	.640	.830	.300	.390	.380	.930	.930
31 VFWR	.091	.135	.125	.196	.190	.240	.390	.365	.520	.750	.450	.420	.500	1.25	1.20
10.5 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.300	.500	.440	---	---
12 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.390	.650	.470	---	---
15.6 VDC	.160	.230	.220	---	---	.340	.560	.470	---	---	.390	.650	.470	---	---
10.5 VFWR	.175	.238	.230	---	---	.475	.730	.660	---	---	.420	.700	.620	---	---
12 VFWR	.175	.238	.230	---	---	.475	.730	.660	---	---	.420	.700	.620	---	---
15.6 VFWR	.175	.245	.240	---	---	.475	.730	.660	---	---	.545	.910	.660	---	---

Ordering Information

MT and MT4 models can be used with Wheelock's HSW-24-11FR strobe/plane assembly for 110 candela strobe signal

Model Number	Order Code	Input Voltage	Rated Candela	Mounting Options	Approvals				
					UL	CFM	FM	MEA	BFP
MT-12/24-R	5023	12/24	15	A-G	X	X	X	X	Dec
MT4-12/24-R	5308	12/24	15	H	X	X	X	X	Dec
MT-24-LS-VFR	5183	24	15	A-G	X	X	X	X	Dec
MT-24-LSM-VFR	5182	24	15/75	A-G	X	X	X	X	Dec
MT-24-MS-VFR	5321	24	30	A-G	X	X	X	X	Dec
MT-24-IS-VFR	5355	24	75	A-G	X	X	X	X	Dec
MT4-24-LS-VFR	5315	24	15	H	X	X	X	X	Dec
MT4-24-LSM-VFR	5374	24	15/75	H	X	X	X	X	Dec
MT4-24-MS-VFR	5375	24	30	H	X	X	X	X	Dec
MT4-24-IS-VFR	5370	24	75	H	X	X	X	X	Dec
MT-24-WM-VFR*	5025	24	117	C,D,J	X	X	X	X	Dec
MT-12-LS-VFR	5383	12	15	A-G	X	Nov	X	Nov	Dec
MT-12-MS-VFR	5384	12	30	A-G	X	Nov	X	Nov	Dec
MT-12-LSM-VFR	5683	12	15/75	A-G	X	Nov	X	Nov	Dec
MT4-12-LS-VFR	5385	12	15	H	X	Nov	X	Nov	Dec
MT4-12-MS-VFR	5386	12	30	H	X	Nov	X	Nov	Dec
MT4-12-LSM-VFR	5687	12	15/75	H	X	Nov	X	Nov	Dec
ISP-II	5306	---	---	F,G	X	---	---	---	---
IOD-R	5046	---	---	C,D	X	---	X	---	---
RP-R	5042	---	---	E	X	---	---	---	---

NOTE: SEE PAGE 4 FOR GENERAL AND TECHNICAL INFORMATION.

wheelock

REMOTE POWER SUPPLY

FCPS-24F REMOTE POWER SUPPLY

GENERAL

The FCPS-24F is a compact, cost effective, remote power supply and battery charger. The FCPS-24F consists of a regulated and filtered 24 VDC output that may be configured to drive four notification appliance circuits (two Style Y or Style Z, and two Style Y only). Alternately, the two Style Y notification appliance circuits may be configured as two resettable or non-resettable power output circuits. The FCPS-24F also contains a battery charger capable of charging up to 7.0 AH batteries.

FEATURES

- Self contained in lockable cabinet (15"H x 14.5"W x 2.75"D).
- 24 VDC remote power supply.
- Completely power-limited.
- Two input/control circuits (from FACP notification appliance circuits or control modules).
- Two Style Y/Style Z notification appliance circuits (circuits 1 & 3).
- Two additional circuits that may be individually configured as Style Y notification appliance circuits or as 24 VDC output power circuits (circuits 2 & 4).
- Output power circuits may be configured as resettable (reset line from FACP required) or non-resettable.
- 4.0 amp continuous output.
- 6.0 amp full load output.
- Fully regulated and filtered power output.
- Capable of powering 4-wire smoke detectors (circuits 2 & 4).
- Integral battery charger.
- Up to 7.0 AH batteries in FCPS-24F cabinet
- Fully supervised power supply, battery, and notification appliance circuits.
- Earth fault detection (selectable).
- AC fail delayed (8 or 16 hours) trouble indication (selectable).
- Fixed terminal blocks for field wiring capable of accepting up to 12 AWG wire.
- Trouble contacts, jumper options.

PRODUCT LINE INFORMATION

MODEL	DESCRIPTION
FCPS-24F	Remote charger power supply. Includes main printed circuit board, transformers, surface mount backbox, and installation instructions.
PS-1270	Battery, 12 volt, 7.0 AH (two required)
A77-716B	12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

SPECIFICATIONS

AC Power

120 VAC, 50/60 Hz.

Wire size: minimum #14 AWG with 600V insulation.

Battery (lead acid only)

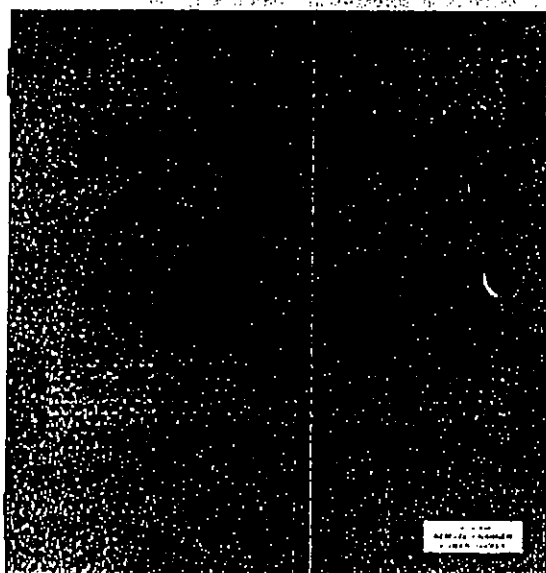
Normal Charge Voltage: 27.6V.

Maximum Charge Current: 250 mA maximum.

Maximum Battery Capacity: 7.0 AH.

INDICATORS

- AC Power On.
- AC Fail/Earth fault.
- Battery/Charger trouble.
- Circuit wiring faults 1-4.

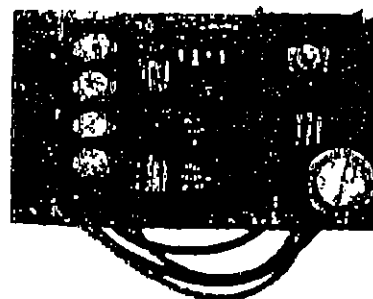


TECHNICAL SALES BULLETIN

PS-42 6v - 12v - 24v Programmable 1.5 amp Linear Power Supply

Features:

- ☐ Selectable 6v, 12v, or 24vdc
- ☐ Up to 1 Amp of Continuous Current
- ☐ Clean Linear Power
- ☐ Snap Track Mounting
- ☐ Lightning and Surge Protection
- ☐ Temperature Tracking Circuit
- ☐ Overload Thermal Shutdown
- ☐ Battery to load circuit fused at 9 amps
- ☐ Optional automatic resetting circuit breaker
- ☐ LED indicator for AC



The PS-42 becomes an uninterruptable power supply when used with a plug-in class II transformer and sealed lead acid battery. The output of the PS-42 is continuous DC power that can be used for the most sensitive electronic controls.

The PS-42 output and battery charge voltage is selected by moving the programming jumper to 6, 12 or 24v. Each voltage selected is preset to a precise voltage to properly float charge a sealed lead acid battery of the selected voltage. The voltage is carefully regulated to keep the standby battery(s) properly charged for any given temperature or load.

A special ambient temperature tracking circuit adjusts the output voltage to provide the proper float charge for the battery at any given temperature. This feature greatly extends the life of the battery when used in extreme weather conditions.

The current the battery draws from the PS-42 is determined by the battery's condition, capacity, temperature and state of charge. The PS-42 is protected against shorts and overloading with its electronic circuitry, which also protects the transformer.

When the DC load requires more than the maximum output provided by the PS-42, the battery can add up to eight (8) more amps. This may be necessary to sound a high powered siren for the duration of an alarm. The PS-42 has a replaceable nine (9) amp fuse or optional automatic resetting circuit breaker in series with the battery.

When calculating current requirements, subtract a minimum of 100 ma for recharging the battery after an AC outage. A sealed lead acid battery will take about 125% of stored energy to recharge. As a rule of thumb, 100 ma will recharge a fully depleted 4 amp hour battery in 40 hours.

As a test it is recommended that on a regular basis, the AC power be removed, equipment checked for proper operation, then AC power restored. If the test fails, check for a blown fuse or a defective battery.

CAUTION - Remove load from output when changing the voltage selection. When the jumper is off, the output voltage will go high.

SPECIFICATIONS

Transformer Table		
AC Input Transformer Class II UL Listed Limited Energy	DC Output Voltage Selection	Maximum Available Continuous Current
12V 20VA	6 volts	1.00 amp
12V 20VA	12 volts	100 ma
16V 20VA	6 volts	600 ma
16V 20VA	12 volts	1.00 amp
24V 20VA	6 volts	200 ma
24V 20VA	12 volts	250 ma
24V 20VA	24 volts	400 ma
24V 40VA	24 volts	700 ma
28V 40VA	24 volts	1.00 amp

Output Charging Voltages - for sealed lead acid batteries

6v Selection

6.7 vdc

12v Selection

13.7 vdc

24v Selection

27.3 vdc

Maximum AC Input

28 vac

Battery amp hour (AH) capacity range

2 AH - 80 AH

Continuous current (see transformer table)

1.0 amps

Intermittent current from charger

1.5 amps

Intermittent current with battery

8 amps

Maximum current from battery to output with standard fuse

Fused 9 amps

Maximum current from battery to output

10 amp

with optional auto resetting circuit breaker

Replacement fuse (automotive type)

3 AGC 9 amps

Typical regulation from no load to full rated current

.05%

Ripple and Noise @ full load

50 mv max.

Long term stability

.02 vdc

Typical overheated short circuit current

.5 amps

Thermal overload Cut back

200° F

PCB Size

2.25" x 3.25"

Note 1: Place voltage selector to desired voltage before hooking up power supply.

Note 2: Larger transformers with a higher VA rating may always be used. Never exceed 28 VAC.

MICRO-STATE ELECTRONICS LIMITED WARRANTY

THIS PRODUCT IS SUBJECT TO AN 18 MONTH LIMITED WARRANTY WHEREIN MICRO-STATE CAN ONLY BE LIABLE FOR REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCT. IN NO EVENT SHALL MICRO-STATE BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR COLLATERAL DAMAGES. WARRANTY DETAILS ARE AVAILABLE UPON REQUEST.

Micro-State Electronics
1000-C Apollo Court
Antioch, CA 94509

To Order: 800-800-5148
FAX: 510-706-2175

MICRO-STATE
ELECTRONICS

MS-20

3/16/95

Overview

ASCAP

Product

Quit

+--Wire Size Selection-----+

Enter System Voltage	24
Wire Run Length In Feet (ONE Way)	250
Wire Run Current In Amperes	.942
Maximum Voltage Drop In %	10

Wire Size 17

+----- Any Key To Continue, <P> To Print -----+

Use arrow keys to change selection - Return to select - Escape To Cancel

REMOTE POWER SUPPLY

FCPS-24F REMOTE POWER SUPPLY

GENERAL

The FCPS-24F is a compact, cost effective, remote power supply and battery charger. The FCPS-24F consists of a regulated and filtered 24 VDC output that may be configured to drive four notification appliance circuits (two Style Y or Style Z, and two Style Y only). Alternately, the two Style Y notification appliance circuits may be configured as two resettable or non-resettable power output circuits. The FCPS-24F also contains a battery charger capable of charging up to 7.0 AH batteries.

FEATURES

- Self contained in lockable cabinet (15"H x 14.5"W x 2.75"D).
- 24 VDC remote power supply.
- Completely power-limited.
- Two input/control circuits (from FACP notification appliance circuits or control modules).
- Two Style Y/Style Z notification appliance circuits (circuits 1 & 3).
- Two additional circuits that may be individually configured as Style Y notification appliance circuits or as 24 VDC output power circuits (circuits 2 & 4).
- Output power circuits may be configured as resettable (reset line from FACP required) or non-resettable.
- 4.0 amp continuous output.
- 6.0 amp full load output.
- Fully regulated and filtered power output.
- Capable of powering 4-wire smoke detectors (circuits 2 & 4).
- Integral battery charger.
- Up to 7.0 AH batteries in FCPS-24F cabinet
- Fully supervised power supply, battery, and notification appliance circuits.
- Earth fault detection (selectable).
- AC fail delayed (8 or 16 hours) trouble indication (selectable).
- Fixed terminal blocks for field wiring capable of accepting up to 12 AWG wire.
- Trouble contacts, jumper options.

PRODUCT LINE INFORMATION

MODEL	DESCRIPTION
FCPS-24F	Remote charger power supply. Includes main printed circuit board, transformers, surface mount backbox, and Installation Instructions
PS-1270	Battery, 12 volt, 7.0 AH (two required)
A77-716B	12/24 VDC end-of-line relay for monitoring 4-wire smoke detector power.

SPECIFICATIONS

AC Power

120 VAC, 50/60 Hz.

Wire size: minimum #14 AWG with 600V insulation.

Battery (lead acid only)

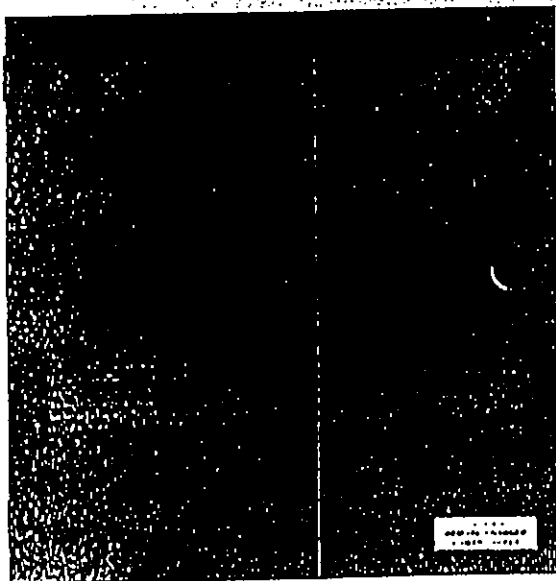
Normal Charge Voltage: 27.6V.

Maximum Charge Current: 250 mA maximum.

Maximum Battery Capacity: 7.0 AH.

INDICATORS

- AC Power On.
- AC Fail/Earth fault.
- Battery/Charger trouble.
- Circuit wiring faults 1-4.



OUTBACK STEAKHOUSE BATTERY CALCULATIONS

EQUIPMENT	QTY.		DEVICE STAND- BY	DEVICE ALARM	TOTAL STAND-BY IN mA	TOTAL ALARM IN mA
DS7400 Control/Communicator	1	X	125mA	200mA	125mA	200mA
DS7440 Alpha Keypad/Remote Annoc.	2	X	50mA	60mA	100mA	120mA
DS7420 Phone Line/Bell Supv. Module	1	X	20mA	140mA	20mA	140mA
DS7416 AAguard Radio Communications	1	X	127mA	127mA	127mA	127mA
DS7433 8Zone Expander Module	1	X	65mA	80mA	65mA	80mA
DS7488 Octal Relay Relay Draw +15mA for ea. zone	1 3	X X	65mA 0 mA	80mA + 45mA	65mA	125mA
Smoke Detector	12	X	.080mA	36mA	.96mA	.432mA
Duct Detector (installed by HVAC)		X				
TOTAL IN mA					502.96 mA	1224 mA

FACP

FORMULA FOR NFPA 72 AMPERE HOUR CALCULATION

$$\begin{array}{lcl}
 (.50296 \text{ A} \times 60) & + & (1.224 \text{ A} \times 1/12) + 10\% = 33.3074 \text{ AH} \\
 \text{STAND-BY} & \text{HOURS} & \text{ALARM} \\
 \text{VOLTAGE} & & \text{VOLTAGE} \\
 & & \text{MIN} \quad \text{CONTINGENCY} \quad \text{TOTAL A.H.} \\
 & & \text{FACTOR}
 \end{array}$$

(Two 17AH Batteries = 34 AH)

24V 3amp Power Supply

	1		4mA	40mA
		X	mA	mA
Strobes	4	X	0 mA	125 500 mA
Horn/Strobe	6	X	0 mA	151 906 mA
TOTAL			4 mA	1446 mA

$$\begin{array}{lcl}
 \text{FORMULA FOR NFPA 72 AMPERE HOUR CALCULATION} \\
 (.004 \times 60) + (1.446 \times 1/12) + 10\% = .3965 \\
 \text{Column B} \quad \text{Hours} \quad \text{Column C} \quad (5 \text{ min.}) \quad \text{Contingency} \quad \text{Total A.H.} \\
 \text{Total} \quad \quad \quad \text{Total} \quad \quad \quad \text{Factor}
 \end{array}$$

Insulator
copy

NOTE:

The local AHJ will
require there plans to have
an Engineering Stamp

FIRE ALARM SUBMITTAL

FOR

**OUTBACK STEAKHOUSE
2770 HOOPER AVE.
BRICK, NJ.**

FROM

**NATIONAL GUARDIAN
7434 TOWER STREET
FORT WORTH, TEXAS 76118
ACR 86363-826H**



BY

**CHARLES R. SMITH
FIRE SYSTEMS SUPERVISOR - NATIONAL ACCOUNTS
APS 0236**

SUBMITTAL OUTLINE

02/07/96

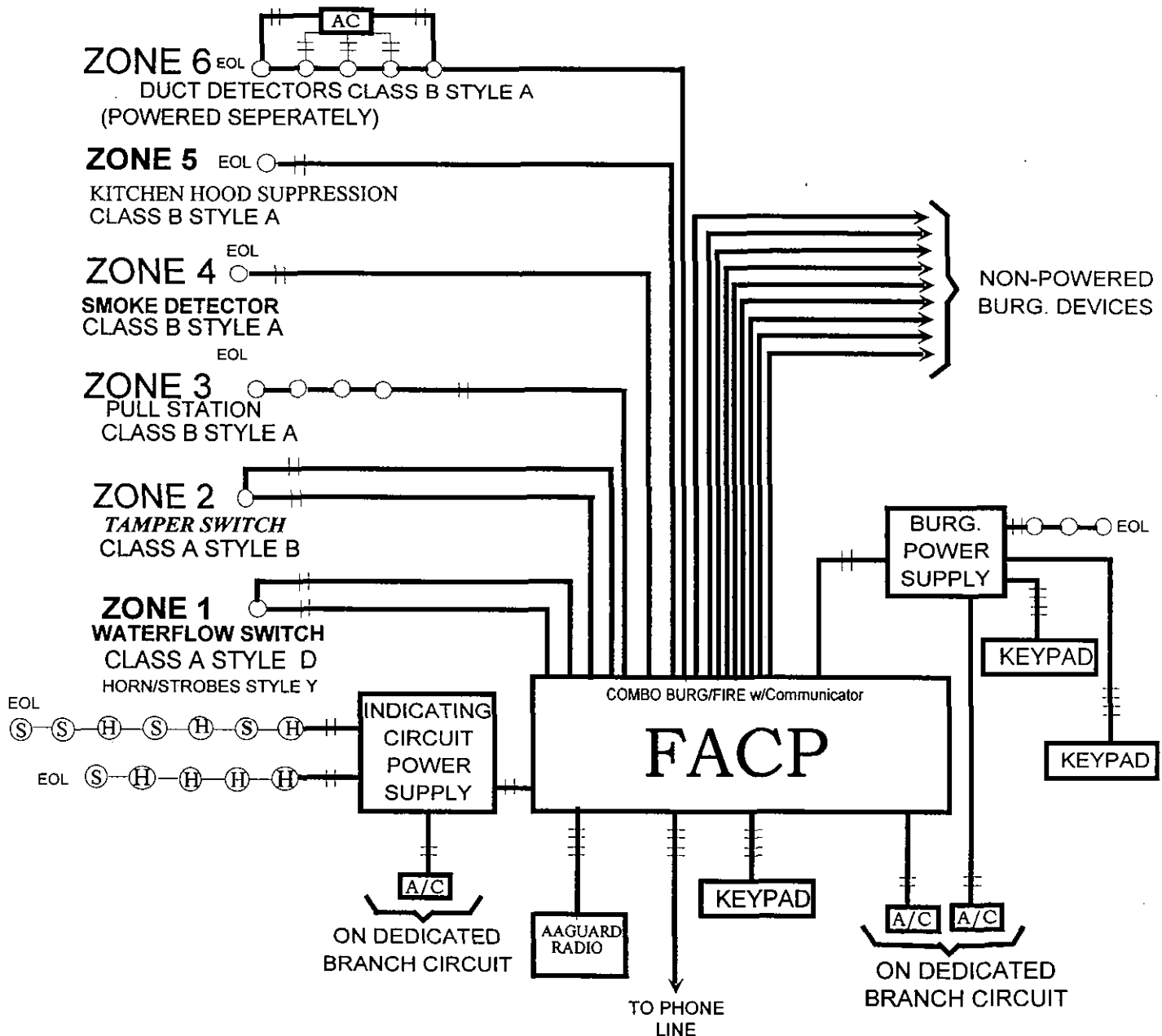
- I. LOCATION
A. Outback Steakhouse
2770 Hooper Ave.
Brick, NJ. 08723
- II. CODES
A. NFPA 72 Chapters 1, 3-7 As Applicable (Remote Station) C. Local City
B. BOCA Building & Fire Codes D. ADA
- III. CONTROL EQUIPMENT
A. DS7400XI Burglary/Fire Control Panel D. DS7432 Zone Expander
B. DS7420i Fire Card E. DS7416 AAGARD Radio Module
C. DS7400 Alpha Keypad
- IV. INITIATING DEVICE
A. (1) Water Flow Switch D. Smoke Detector (Panel Protection)
B. (1) Tamper Switch E. Kitchen Hood Suppression
C. (1) Manual Pull Station F. Duct Detectors (Powered Separately)
(Installed by others)
- V. INDICATING DEVICE
A. Existing Water Gong C. (5) ADA Strobes
B. (7) Horn/Strobes
- VI. ZONES
1. Water Flow 4. Smoke Detector (panel protection)
2. Tamper 5. Kitchen Hood Suppression
3. Pull Station 6. Duct Detectors W/Remote LED,s
7-16. Burg Devices (Powered Separately)
- VII. COMMUNICATIONS
A. Digital Dialer B.. AAGARD Wireless Radio
- VIII. WIRING
A. Class A 18/2 FPL (Waterflow & Tamper switches) C. Class B 16/2 FPL (indicating Circuits)
B.. Class B 18/2 FPL (Initiating circuits) D. 18/4 FPL (Key Pad/Remote Annoc.)
- IX. LISTING
A. All Equipment is U.L. Listed
- X. POWER SUPPLY
A. Primary - 110V AC on Dedicated Outlet D. PP4-12 (Burg. Devices only)
B. Secondary - 2 12V 17AH Batteries E. FCPS-24F Signaling Circuit Power Supply
with 2 7AH Batteries
- XI. ALARM SUPERVISION
A. Human
B. Monitoring Station: NATIONAL GUARDIAN SECURITY
2461 MCGAW ROAD
COLUMBUS, OHIO 43207-4594



OUTBACK STEAKHOUSE

2770 HOOPER AVE.

BRICK, NJ.



National Guardian Security Services Corp. Silent Watchman Division

7434 Tower Street Fort Worth, Texas 76118 817-589-1564 800-695-3599 Fax 817-595-0203

FIRE MARSHAL INQUIRY SHEET

SEE STATE REQ

DATE: 11/27/90

CITY: BRICK TOWNSHIP

STATE NJ

ZIP: _____

MAILING ADDRESS: _____

PHONE NUMBER: _____

(908) 908 262 1220

FAX NUMBER: _____

FIRE MARSHAL: _____

Bater

REVIEWER OF FIRE PLANS: _____

ADOPTED STATE/LOCAL CODES

☐ NFPA, NEC, LIFE SAFETY 101

☐ UBC

☐ UFC

☐ UMC

☐ STANDARD BUILDING

☐ STANDARD FIRE

☒ BOCA BUILDING 1993

☒ BOCA FIRE

☐ ANSI 17.1 ELEVATOR CODE

☐ ADA/HANDICAP

☐ SOUTH FLORIDA

☐ OTHER: _____

Y N (Check one)

ADOPTED AND/OR AMENDED LOCAL ORDINANCES/REQUIREMENTS:

JOE EVERISTO

262 1035

Y N (Check one)

☒ COMBO PANEL OK?

☒ DUCT DETECTOR? SAME ZONE? ☒ Y ☐ N

WITH LED? Y ☐ N ☐

☒ WATER FLOW CLASS A?

WITH TEST SWITCH

☒ HORN/STROBE ON OUTSIDE?

LOCATION

☒ PULL STATION BY MAIN DOOR?

ALL? Y ☒ N

☒ REMOTE ANNUNCIATOR/KEYPAD BY MAIN DOOR?

☒ ZONE MAP AT REMOTE ANNUNCIATOR?

☒ VOICE EVAC SYSTEM? *300+*

☒ STROBE MUST FLASH AFTER SYSTEM SILENCE

☒ KNOX BOX

STATE ENG'S STAMP REQ

Y N (Check one)

☒ FIRE SYSTEM SUBMITTALS REQUIRED? _____ FOR REQUIRED FIRE SYSTEMS ONLY

☒ PERMIT REQUIRED BEFORE START OF WORK?

☒ PERMIT FEES? \$ AMOUNT: _____

☒ STAMPED PLANS REQUIRED?

ESTIMATED REVIEW PROCESS TURN-AROUND TIME: _____

SPECIFIC REQUESTS AND/OR INSTRUCTIONS:

3 SETS OF PLANS 3 SETS OF CUT SHEETS

NOTES: