



NORRIS, INC.

LOSS PREVENTION

BUILDING AUTOMATION

COMMUNICATIONS

SUBMITTAL PACKAGE

Project: Maine Yacht Center
Portland, Maine

System: Fire Alarm (Notifier)

**Submitted
By:** Norris Inc.
2257 Broadway
South Portland, Maine 04106
Telephone: (207)-883-3473

**Project
Manager:** Kurt Knowlton

**Electrical
Contractor:** Electrical Systems of Maine
Auburn, Maine

Date: July 22, 2004

Norris, Inc.
2257 W. Broadway
South Portland, Maine 04106
800-370-3473

ELECTRICAL SYSTEMS OF ME INC
 PO BOX 1395
 AUBURN, ME 04211

13861

Equipment List : Status: 4 Submittals

07/21/2004 Page: 1 Time: 3:35 PM
 Purchase Order #: MAINE YACHT
 ELECTRICAL SYS OF MAINE
 187 WASHINGTON
 AUBURN, ME 04211

ELEC04 207-783-7126 Fax:207-795-0311

07/20/2004

KLK

Signature: _____ Date: _____

Product: A

Maine Yacht Center

List: DSG KLK

Qty	Description	Shipped Qty	Location
-----	-------------	-------------	----------

- | | | | |
|----|---|--|--|
| | Base System | | |
| 1 | Notifier-SFP-1024, Fire Alarm Control w/ Digital commun, Class B, 24VDC, 6a | | |
| 2 | Notifier-PS-12120, Battery, 12 volt, 12 AH | | |
| 2 | ADI-MO-804R8, DACT phone cord - 8C 7 Foot | | |
| 2 | ADI-MO-RJ31X, DACT RJ31X UL Telco Jack | | |
| 14 | RMS1TKL, Pullstation, Red Die Cast (Notifier key) | | |
| 1 | Notifier-2400, Smoke Detector 2-Wire (Photoelectric) | | |
| 1 | Notifier-5603, Heat detector 135 degree fixed temperature | | |
| 1 | NOTIFIER-FCPS-24S8, Field Power Supply w/ Synch | | |
| 2 | Notifier-PS-1270, Battery, 12 volt, 7 AH | | |
| 19 | Notifier-P1224MC, Horn Strobe, 12/24 vdc red, multicandela | | |
| 4 | Notifier-PC2495, Horn Strobe, ceiling mount, 24 volt, 95 candela, | | |
| 9 | Notifier-S1224MC, Strobe, 12/24 volt, red, MultiCandela | | |
| 0 | SPECIAL-KNOXR, Knox Box with tamper switch (Recess mount) | | |



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COMMUNICATIONS

FAX TRANSMISSION – NORRIS, INC. FAX # (207) 879-0540

IMPORTANT INFORMATION FOR THE BUILDING OWNERS SPECIAL NOTE REGARDING ALARM MONITORING SERVICES

Included within your alarm system package is a digital communicator, which sends a coded message to a private 24-hour central station if your alarm system is activated. This is a code requirement for most fire alarm systems. As a service to our customers, we offer central station monitoring services from our local UL Listed central station at extremely competitive rates.

If the central station monitoring contract is purchased through Norris Inc. prior to our scheduled start-up; we will connect, program, and test the communicator at no additional charge.

Should the building owners decide to obtain monitoring services from another company, then the costs for programming and testing the communicator will be the sole responsibility of the firm they have contracted with. Furthermore, if programming changes are made to the system by persons other than Norris Inc. technicians, then the company performing the changes shall be solely liable for any personal injury or loss of life or damage to or loss of property arising out of the use of or inability to use the system and it shall result in a waiver of any system warranties.

We appreciate that you understand the delicate nature of this life safety and/or security system and realize that serious problems may arise when modifications to the system are made including very simple programming changes.

Call Norris Inc. at 1-800-370-FIRE (3473) to make arrangements for central station monitoring services.

Any problems with this fax, please call (207) 883-3473 immediately
Shipping address: Norris Inc., 2257 West Broadway, South Portland, Maine 04106
Mailing address: Norris Inc., P.O. BOX 2551, South Portland, Maine 04116-2551

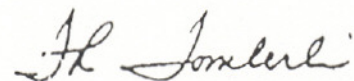


This is to certify that

NORRIS, INC.[®]

is an authorized Engineered Systems Distributor for NOTIFIER

Signed for and on behalf of NOTIFIER



Vice President Domestic Sales

NATIONAL FIRE PROTECTION ASSOCIATION

Norris Inc.

is a member of good standing
and is entitled to all rights and privileges
of membership.

Robert W. Grant
NFPA PRESIDENT

November 1988

DATE OF ISSUE



PEOPLE PROTECTING PEOPLE

NSCA™

BUILDING CONNECTIONS

CERTIFICATE OF MEMBERSHIP

THIS IS TO CERTIFY THAT

Norris Inc

IS AN OFFICIAL MEMBER OF THE
NATIONAL SYSTEMS CONTRACTORS ASSOCIATION

Michael Bradley

Mike Bradley, President

Charles R. Wilson

Chuck Wilson, Executive Director



SFP-1024

Fire Alarm Control Panel With Built-In DACT

Section: Conventional Fire Alarm Control Panels

GENERAL

The NOTIFIER SFP-1024 is a 24-volt, ten-zone fire alarm control panel with a built-in communicator and remote-site upload/download capability. The integral communicator transmits event information (alarms, troubles, supervisories, faults, etc.) to a UL Listed central station. Selectable transmission formats allow the SFP-1024 to communicate to virtually all central stations.

FEATURES

- Ten programmable Initiating Device Circuits (zones). Each zone may be programmed for:
 - ✓ Two-wire smoke detectors.
 - ✓ Normally open contact devices (pull, heat).
 - ✓ Four-wire smoke detectors.
 - ✓ Waterflow operation (silenceable or nonsilenceable).
 - ✓ Supervisory operation.
 - ✓ Auto-reset supervisory operation.
 - ✓ Remote switch for Reset, Drill, Silence and Acknowledge.
 - ✓ Auto-reset or latching, critical and noncritical process monitoring.
- Zones programmed for process monitoring require a contact closure for activation and can be used to monitor:
 - ✓ Temperature (high/low temp).
 - ✓ Water level. ✓ Gas detection. ✓ Loss of air flow.
 - ✓ Refrigeration. ✓ Tamper (non-fire). ✓ Open/Close.
- Two built-in, Class B (Style Y) Notification Appliance Circuits (NAC). ✓ Expandable to four. ✓ Class A option.
- Notification appliance circuits may be programmed:
 - ✓ Silenceable.
 - ✓ Non-Silenceable (a strobe circuit can keep flashing after the panel is silenced).
 - ✓ Auto-Silence (program 5 to 30 minutes).
 - ✓ Silence Inhibit (60 seconds).
 - ✓ Coding (March Time, Temporal, California).
- 6.0 amps notification appliance power meets the critical power requirements for ADA and UL 1971 devices.
- Two built-in, fully programmable, Form-A relays — expandable to four with two Form-C relays.
- Dual-line rotary- or Touch-Tone®-dial DACT interfaces to public telephone network (*leased phone lines are not required*).
- 24-volt operation.
- Built-in voltmeter measures:
 - ✓ Zone voltage.
 - ✓ Primary AC line voltage.
 - ✓ Battery voltage.
 - ✓ Notification appliance circuit(s) voltage.
 - ✓ Resettable 24 volt power.
- 230 VAC, 50 Hz international version available.



S635



CS118

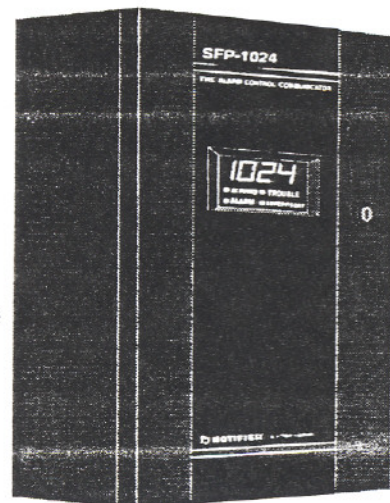


Approved

MEA
122-96-E
Vol. II



California
State Fire
Marshal
7165-0028:185



SFP-1024

- Surface Mount Technology (SMT).
- Fully programmable via built-in keypad (no costly external programmers necessary).
- Complies with NFPA 72 (Local, Central Station and Remote Station [*DACT only - not polarity reversal*] Fire Alarm Systems).
- Reporting formats include Ademco Contact ID and 14 others.
- Integral battery charger for up to 60 hours of standby power.
- Fuseless, power-limited technology meets UL Power Limiting Requirements effective May 1, 1995.
- Programmable alarm presignal timer, alarm verification timer, and optional trouble reminder.
- Single-person walk test with 256-event walk-test buffer.
- Fire drill function.
- Zone disable capability (software).
- 256-event history buffer with time-and-date stamp, stored in permanent memory.
- Accurate real-time clock/calendar.
- Electronics and operational controls fully enclosed in lockable cabinet capable of housing up to 12 AH batteries.
- Optional LED-10N Remote Annunciators operate off serial, two-wire EIA-485 interface.
- Optional printer interface for on- or off-line printing of:
 - ✓ Text alarm and trouble status with time and date.
 - ✓ History files. ✓ Program entries. ✓ Walk Test data.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact NOTIFIER. Phone: (203) 484-7161 FAX: (203) 484-7118



NOTIFIER

12 Clintonville Road, Northford, Connecticut 06472

ISO 9001
CERTIFIED
ENGINEERING & MANUFACTURING



Made in the U.S.A.

Remote Site Upload/Download

The SFP-1024 may be downloaded or uploaded, without compromising the system fire protection at the protected premises.

- Download system programming.
- Upload key system information:
 - ✓ Current system status, history + walk test files.
 - ✓ Zone, AC line, NAC1, 2, 3 and 4, Resettable Power, Battery Voltages.
 - ✓ System programming.
- Upload or download within one minute without affecting normal fire panel functions.
- Multiple security techniques.
- Requires **PK-1024** programming kit and Hayes-compatible 2400-baud modem.
- Windows® 3.1 and Windows® 95/98 compatible.

Specifications

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

AC Power

- 120 VAC, 50/60 Hz, 2.3 amps.
- 230 VAC, 50 Hz, 1.2 amps ("E" suffix).
- Wire size: 14 AWG (2.0 mm²) with 600-volt insulation.
- Built-in brownout circuitry.
- Built-in voltmeter.

Communicator

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

Communication Formats

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

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

Initiating Device Circuits (zones)

The SFP-1024 includes ten programmable Class B Initiating Device Circuits (zones). Use the CAC-10F Class A Converter Module to convert *all* Class B IDC's/NAC's to Class A.

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

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

All circuits are power-limited and fully supervised. They allow up to 100 ohms of line resistance and allow for use of 12 AWG (3.25 mm²) to 18 AWG (0.75 mm²) wire.

Windows® is a registered trademark of Microsoft Corporation.

Notification Appliance Circuits

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

Auxiliary Outputs

- Resettable four-wire smoke detector power @ 500 mA.
- Nonresettable power @ 500 mA.
- Two fully programmable (activate from Common Alarm, Trouble, Supervisory, Process Monitoring or Comm. Fail) Form-A relays.
- Option module adds two fully programmable (activate from Common Alarm, Trouble, Supervisory, Process Monitoring or Comm. Fail) Form-C relays.

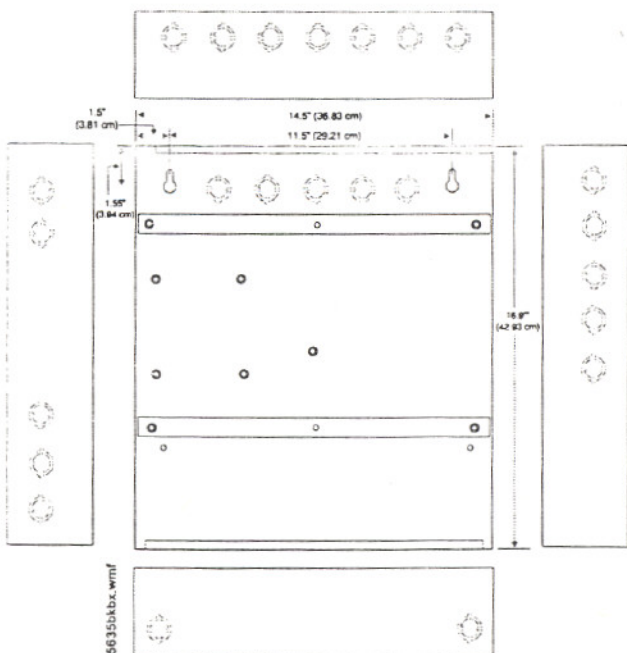
Compatible Devices, EIA-485 Port

Model	Description
LED-10N	Ten-zone Remote Annunciator. Mounts to 3-gang electrical box. <i>Requires LED-10IM.</i>
AFM-16A	Annunciator Fixed Module, 16 Alarm LEDs, Common Trouble LED. Mounts to 4-gang electrical box.
LDM-32	Graphic Annunciator Interface Module.
ACM-8R	Remote Form-C relay module. Provides eight mappable, Form-C relays driven by EIA-485. <i>Requires ABS-8R.</i>

NOTE: For more detailed information on *Compatible EIA-485 Devices* for use with the SFP-1024, please refer to the data sheets for the **LED-10N** (DN-5846), **AFM-16A** (DN-3440), **LDM Series** (DN-551), or **ACM-8R** (DN-3558) data sheets.

Cabinet Specifications

The cabinet is gray with a dark blue overlay. Knockouts on the top, sides, and back provide ease of wire entry. The cabinet can be surface or semi-flush mounted and is compact in design. **Door:** 17.11" H x 14.71" W (43.46 cm H x 37.374 cm W). **Backbox (below):** 16.90" H x 14.50" W x 4.50" D (42.93 cm H x 36.83 cm W x 11.748 cm D). **Trim Ring:** 20.020" H x 17.620" W (50.85 cm H x 44.75 cm W).



PRODUCT LINE INFORMATION

Model	Description
SFP-1024	Ten-zone, 24 volt, Fire Alarm Control Communicator (includes backbox, 2X transformers, 6 Amps of NAC power, technical manual, and a frame & post operating instruction sheet).
SFP-1024E	Same as SFP-1024 with 230 VAC, 50 Hz transformer.
LED-10IM	LED-10N Remote Annunciator Interface Module.
NAC-REM	Notification Appliance (Signal) Circuit, Relay Expander Module. Adds 2 NACs and 2 Form-C Relays.
CAC-10F	Class A Converter Module. Converts Class B Initiating Device Circuits (zones) and standard Notification Appliance Circuits to Class A.
PK-1024	Upload/download utility includes: programming software (Three 3.5" disks, IBM compatible, high density) and instruction manual.
PRT-24	Printer Interface Module. Provides an EIA-232 printer output. Includes cable, DB9F and DB25 adapter.
DP-1024	Internal Dress Panel (required for Canadian applications).
ABS-8R	Metal enclosure for mounting ACM-8R module.
MCBL-7	DACT phone cords, 7 ft./2.13 m long, (two required).
BB-17	UL listed battery backbox. Required for batteries up to 18 A.H.
PS Series	Batteries. SFP-1024 charging circuit is 7 - 17 AH. Refer to the PS Series data sheet (DN-1109) for ordering information.

The chart below shows UL listed receivers compatible with the SFP-1024:

Format # (Addresses 16 & 42)	Osborne Radionics								
	Ademco 685 (1)	Silent Knight 9000	ITI CS-4000 (3)	FBI CP220FB	Hoffman Models 1 & 2	6000/ 6500 (5)	Sescoa 3000R (7)	Surguard MLR-2 (9)	

0	4+1 Ademco Express	✓			✓			✓
1	4+2 Ademco Express	✓			✓	✓ (8)		✓
2	3+1/Standard/1800/2300	✓	✓ (2)	✓	✓ (4)	✓	✓ (5,6)	✓
3	3+1/Expanded/1800/2300	✓	✓ (2)	✓	✓ (4)	✓	✓	✓
4	3+1/Standard/1900/1400	✓	✓ (2)		✓ (4)	✓	✓	✓
5	3+1/Expanded/1900/1400	✓	✓ (2)		✓ (4)	✓	✓	✓
6	4+1/Standard/1800/2300	✓	✓ (2)	✓	✓ (4)	✓	✓ (5)	✓
7	4+1/Expanded/1800/2300	✓	✓ (2)		✓ (4)	✓	✓	✓
8	4+1/Standard/1900/1400	✓	✓ (2)		✓ (4)	✓	✓	✓
9	4+1/Expanded/1900/1400	✓	✓ (2)		✓ (4)	✓	✓	✓
A	4+2/Standard/1800/2300	✓	✓ (2)	✓	✓ (4)	✓	✓ (5)	✓
B	4+2/Expanded/1800/2300	✓	✓ (2)		✓ (4)	✓	✓	✓
C	4+2/Standard/1900/1400	✓	✓ (2)		✓ (4)	✓	✓	✓
D	4+2/Expanded/1900/1400	✓	✓ (2)		✓ (4)	✓	✓	✓
E	Ademco Contact ID	✓			✓	✓		✓

5635r1.tbi

KEY:

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

PS Series Batteries

Section: Power Supplies

GENERAL

Power-Sonic PS Series batteries provide secondary power for the whole series of NOTIFIER fire alarm control panels.

FEATURES

- Provide secondary power for control panels.
- Gelled electrolyte.
- Sealed and maintenance-free.
- Extended shelf life.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene depending on model).
- Long service life.
- Compact design.

CAPACITY

Battery capacity, expressed in ampere-hours (AH), is the product of a discharge current and the length of time that the current is discharged. Batteries are rated according to their performance during 20 hours of discharge at a constant current.

The rated capacity of a battery is determined by subjecting it to a constant discharge current for 20 hours at 68°F (20°C). After 20 hours the voltage across the terminals is measured. The discharge current which causes a reading of 1.72 volts per cell (5.16 V on a 6 V battery and 10.32 V on a 12 V battery) is called the rated current. This current multiplied by 20 is the rated capacity of the battery.

APPLICATIONS

Use the PS Series batteries to provide backup power for control panels. Select batteries based on current requirements for your system and the capacity of its charger. These batteries can be used over a temperature range of -76°F to +140°F (-60°C to +60°C).

CONSTRUCTION

The sealed construction of the Power-Sonic battery allows trouble-free, safe operation in any position. There is no need to add electrolyte, as gases generated during overcharge are recombined in a unique "Oxygen Cycle." The battery is sealed, leakproof, and maintenance-free. The case is of high-impact materials with high resistance to chemicals and flammability.

INSTALLATION

All panels have space reserved for batteries. See the appropriate panel installation manual for battery size restrictions. Typical inter-connection diagrams are shown in the literature accompanying each control panel.

**LISTED**

MH14328 (S)

*The PS-695 Battery*

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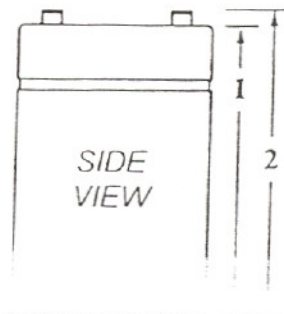
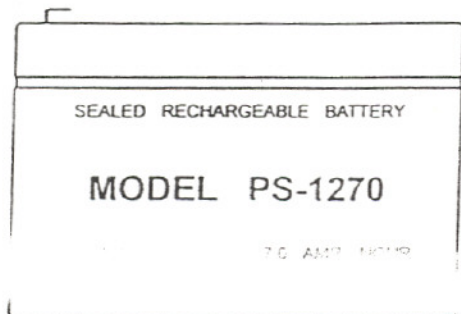
 **NOTIFIER®** One Fire-Lite Place, Northford, Connecticut 06472

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ENGINEERING & MANUFACTURING



HEIGHT 1 BELOW
3.70 ± 0.08 inches
(94 ± 2 mm)

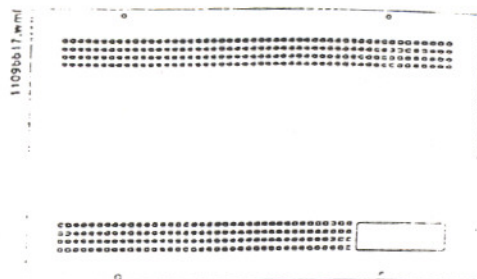
HEIGHT 2 BELOW
3.86 ± 0.08 inches
(96 ± 2 mm)



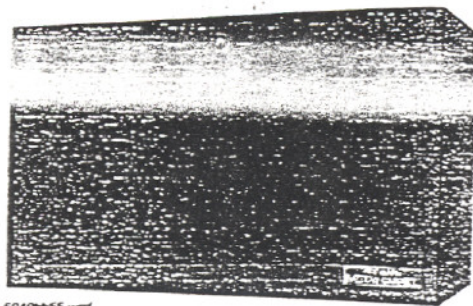
5.94 ± 0.04 inches
(151 ± 1 mm)

2.56 ± 0.04 inches
(65 ± 1 mm)

1109dm1.tif



BB-17: Optional Battery Backbox
14-1/2" W x 8-1/4" H x 4-3/4" D
(mm: 368.3 W x 209.55 H x 120.65 D)
For remote mounting of two 12-volt
PS-12180 batteries.



6040bb55.wmf

BB-55: Optional Battery Backbox
See CHG-120 data sheet for details.

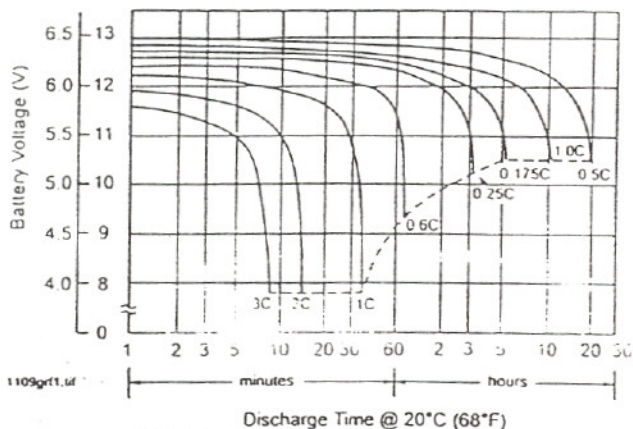
ENGINEERING SPECIFICATIONS

The fire control panel shall be equipped with secondary power provided by gelled-electrolyte batteries. The batteries shall be maintenance-free and shall be capable of powering the system in a manner and for a length of time determined by the governing regulations and the authority having jurisdiction.

MODEL	Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.	Discharge Current @ 20 hr. rate mA	DIMENSIONS									
				Width		Depth		Height		Height over terminal		Weight	
				in.	mm.	in.	mm.	in.	mm.	in.	mm.	lbs.	kg.
PS-695	6	9.5	475	4.26	108	2.75	70	5.54	141	5.54	141	4.9	2.2
PS-1250	12	5.0	250	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
PS-1270	12	7.0	325	5.94	151	2.56	65	3.70	94	3.86	98	5.7	2.6
PS-12120	12	12	600	5.94	151	3.86	98	3.70	94	3.86	98	8.8	4.0
PS-12180	12	18	875	7.13	181	2.99	76	6.57	167	6.57	167	12.8	5.8
PS-12250	12	25	1300	6.89	175	6.54	166	4.92	125	4.92	125	18.7	8.5
PS-12550	12	55	3000	10.25	260	6.60	168	8.20	208	9.45	240	39.7	18.0
PS-121000	12	100	5000	12.00	305	6.60	168	8.20	208	9.45	240	65.7	29.8

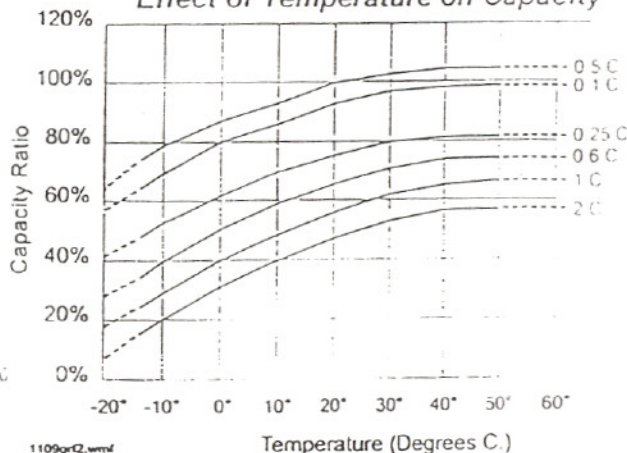
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Characteristic Discharge Curves



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Effect of Temperature on Capacity



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Fire Alarm Systems

MANUAL PULL STATION



-RMS-6T-EXP



-RMS-1T



-RMS-1T-KL

GENERAL DESCRIPTION

The MRM-RMS series manual pull station is a high quality non-toxic die cast station manufactured entirely in the USA. Their low profile and smooth edges off an attractive yet highly reliable design.

All components are pre-painted or have plated surfaces to inhibit corrosion or scratching. electrically, the MRM-RMS manual stations are equipped with a 10 Amp snap action switch offered in many contact arrangements including gold contacts.

The MRM-RMS stations can be used with or without a break glass rod with replacement requiring no special tool. The break glass rod helps deter nuisance false alarms.

FEATURES

- UL/FM/CSFM/MEA Listed
- Manufactured entirely in USA
- Low Profile Design
- Terminal or Pigtail Connection
- 10 Amp SPST, SPDT or DPDT Contacts
- Gold Contacts Available
- Single or Double Action
- Operates with or without a Break Glass Rod
- Allen Wrench or Key Lock/Reset
- Institutional Type Station Available, Needs a Key to Activate and Reset an Alarm
- Durable Non-Toxic Die Cast Aluminum
- Plated Metal Surfaces to Inhibit Corrosion
- Pre-Finished Components, Red is Standard
- Special Colors and/or Finishes Available
- Surface or Semi-Flush Mounting
- LED Option (Red, Green, Yellow)
- Special Silk Screening Available on the Dual Action Cover, "Lift & Pull for Halon Release", "Tornado", "Emergency", etc.

MODUL-R MRM-RMS Manual Pull Station

TECHNICAL DATA

Switch	10 A, 120 VAC
Gold Contact	1.0 A, 120 VAC
Key Switch	0.5 A, 30 VDC
Phone Jack	0.1 A, 24 VDC
Dimensions	3.2"W x 4.75"H x 0.875"D
DAH Option	3.325"W x 4.75"H x 1.625"D
LP/LPH Option	3.325"W x 4.75"H x 1.625"D
Weight	15.5 oz (437 g)
DAH Option	1 lb 9 oz (730 g)
LP/LPH Option	1 lb 4 oz (560 g)
Mount	Single Gang Box

ORDERING INFORMATION

Model	Description
MRM-RMS-1P	Single Action Metal Pull Station, SPST, Pigtail Connections
MRM-RMS-1T	Single Action Metal Pull Station, SPST, Terminal Connections
MRM-RMS-2T	Single Action Metal Pull Station, SPDT, Terminal Connections
MRM-RMS-6T	Single Action Metal Pull Station, DPDT, Terminal Connections

Options

-LP	Lift and Pull, Dual Action.
-LPH	Lift and Pull, Dual Action, Halon Release Silk Screen
-DAH	Break Glass Adapter (dual action)
-EXP	Explosion Proof
-ANO-R	Anodized Metal Station, Red
-PJ	Phone Jack for Fireman Telephone Headsets
-INST	Institutional front panel, comes with a key assembly which activates the pull station, NO Pull Handle
-PS	Pre-signal Key Switch
-LED	Light Emitting Diode (Red, Green, Yellow)
-GCS	Gold Contact, SPST
-GCD	Gold Contact, SPDT
-BB	Surface Mounting Back Box
-FP	Flush Trim Plate
-WP	Weatherproof adapter, comes assembled with back box
-NYC	New York City Stripe added to the Dual Action Cover

Distributor:

N **NORRIS INC.**
ELECTRONIC ALARMS
 SALES/SERVICE

FIRE SECURITY CARD ACCESS
 COMMUNICATIONS ENERGY MANAGEMENT

P.O. Box 2551, South Portland, Maine 04116-2551
 800-370-FIRE (3473)

2400 Series
2-Wire Photoelectric Smoke Detector
with Optional Horn & Thermal

Section: Conventional Initiating Devices

GENERAL

The System Sensor 2400 Series photoelectric 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. The new AT/AIT models add built-in audible signaling and optional isolation of the thermal.

FEATURES

- Unique optical sensing chamber:
 - Superior signal-to-noise ratio.
 - 3.0% nominal sensitivity.
- Removable cover for field cleaning.
- Visible LED "blinks" in standby.
- Sealed against dirt, insects, and back pressure.
- Built-in 135°F (57°C) thermal (models TH, AT, AIT only).
- Three-year limited warranty.
- Field metering of detector sensitivity (using MOD400R).
- Built-in test capability.
- Low standby current.
- Twist-on mounting bracket with tamper option.
- Designed for direct surface or electrical box mounting.
- Built-in 85 dBA piezoelectric horn (models AT and AIT only).
- Insect-resistant screening (0.020"/0.508 mm openings).
- Isolated or integrated operation of thermal available.
- SEMS screws for easy wiring.

APPLICATIONS

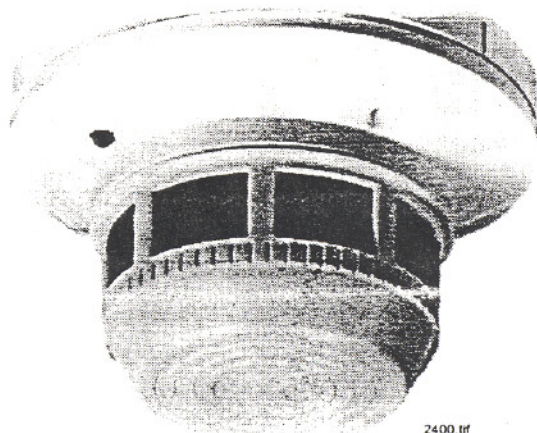
Use to contribute to life safety, fire protection, and property conservation. Photoelectric detectors are recommended in areas where slow smoldering fires are likely to ignite. In areas where small combustion particles are usually present from fork-lift trucks, cooking stoves, etc., they are less likely than ionization detectors to produce false alarms.

CONSTRUCTION AND OPERATION

All System Sensor 2400 Series photoelectric 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 performance criteria designated by UL 268. A new custom integrated circuit incorporates signal processing to reduce false alarms and sample/hold circuitry to provide easy field metering of sensitivity. Additional key features of AT/AIT models include available isolation of the thermal for separate monitoring, and a built-in horn.

**LISTED**
S911CS308 (2400A,
2400THA only)California
State Fire
Marshal7272-1209:103
(2400 & 2400TH)
7272-1209:134
(2400AT & 2400AIT)**Approved****MEA**

427-91-E Vol. III



2400.tif

The built-in piezoelectric horn produces an interrupted 85 dBA tone. The horn operates when the unit senses smoke, or when the thermal reaches its alarm point (integral thermal models only).

INSTALLATION

Model 2400 detectors are designed for systems use with UL listed control panels. See panel Compatibility Chart to determine maximum number of detectors per zone. Easy to install and maintain, this detector is designed for direct surface mounting (mounting bracket included), or mounting to a 4" octagon or smaller box. Easy-to-wire screw terminals allow fast and simple field wiring of in, out and remote annunciator connections.

Consult control panel specifications for the maximum allowable loop resistance for the particular control panel to be used.

To prevent wiring mistakes, observe polarities and make certain that each conductor is identified. A copy of Installation and Maintenance Instructions is packaged with each detector. For further information, refer to NFPA 72 and to Local Authority Having Jurisdiction.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact NOTIFIER. Phone: (203) 484-7161 FAX: (203) 484-7118

**NOTIFIER[®]**

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MAINTENANCE

The 2400 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. The chamber is protected by a fine mesh screen. **Testing** is accomplished by insertion of a 0.1" (2.54 mm) max. diameter tool. If **cleaning** is required, it is easy to remove the cover and obtain access to the screen and chamber to perform a thorough cleaning.

ENGINEERING SPECIFICATIONS

Smoke detector shall be a photoelectric type (model 2400) or a combination photoelectric/thermal (model 2400TH) with thermal sensor rated at 135°F (57°C) as manufactured by System Sensor. Wiring connections shall be made by means of SEMS screws. The detector will have a visible LED which will blink in standby and latch on in alarm. The detector shall have a nominal sensitivity of 3% per foot as measured in the UL smoke box. The detector screen and cover should be easily removable for cleaning. It shall be possible to perform a sensitivity and functional test without the need of generating smoke. Detector circuitry shall perform a self-test on the sensing chamber and internal electronics every 40 seconds. If circuitry fails, the detector LED shall stop blinking. The detector shall have a mounting bracket that allows for mounting to a 3-1/2" (88.9 mm) or 4" (101.6) octagonal or a 4" square electrical box.

GENERAL SPECIFICATIONS

	Model 2400	Model 2400TH	Model 2400AT	Model 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 to 35 VDC	8.5 to 35 VDC	10 to 32 VDC	10 to 32 VDC
Current Limit, Standby (maximum)	120 μ A	120 μ A	120 μ A	120 μ A
Current Limit, Alarm (typical)	(see NOTE 1)	(see NOTE 1)	15 mA @ 10 V	15 mA @ 10 V
Current Limit, Alarm (maximum)	(see NOTE 1)	(see NOTE 1)	67 mA @ 32 V 48 mA @ 24 V	67 mA @ 32 V 48 mA @ 24 V
Reversed Voltage (non-alarm)	—	—	5 mA @ 10 V 15 mA @ 24 V 19 mA @ 32 V	5 mA @ 10 V 15 mA @ 24 V 19 mA @ 32 V
Alarm Signal	Shunt on power leads.	Shunt on power leads.	Shunt on power leads.	Shunt on power leads.

PRODUCT LINE INFORMATION

Model	Description
2400	Photoelectric smoke detector, two-wire, surface mount.
2400TH	Photoelectric smoke detector with built-in 135°F (57°C) fixed-temperature thermal, two-wire, surface mount.
2400AT	Photoelectric smoke detector with integral 135°F (57°C) fixed-temperature thermal, and 85 dBA horn, two-wire, surface mount.
2400AIT	Photoelectric smoke detector with isolated 135°F (57°C) fixed-temperature thermal, and 85 dBA horn, two-wire, surface mount.
MOD400R	Field-test module for all of the System Sensor 2400 Series smoke detectors.
RA400Z	Remote annunciator (LED). Mounts to single-gang box.

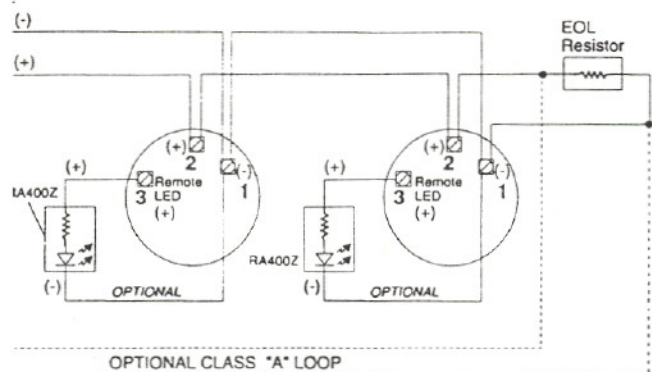
NOTES for GENERAL SPECIFICATIONS:

- Control panels must limit current to 100 mA or less.
- Maximum air velocity for photoelectric sensor operation is 3,000 feet (914.4 m) per minute.
- Relative humidity range: 10 to 93% (non-condensing).

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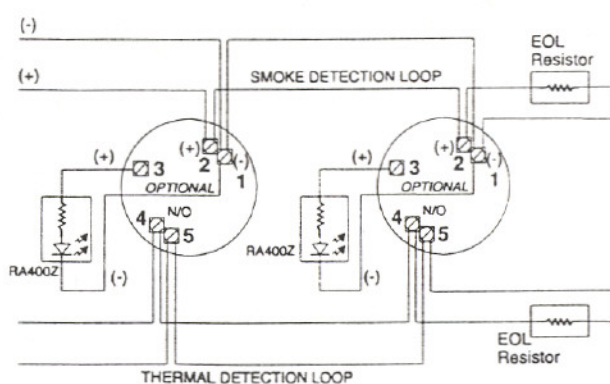
Wiring Diagram: 2400, 2400TH, 2400AT

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Wiring Diagram: 2400AIT

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HD-600

Heat Detectors

Section: Conventional Initiating Devices

GENERAL

The HD-600 Heat Detector is attractive, durable, and features combination rate-of-rise and fixed-temperature detectors. Heat detectors are available in 135°F (57°C) and 200°F (94°C) temperature ratings.

Rate-of-rise elements detect heat by quickly responding to rapid temperature increase. HD-600 detectors use the same reliable pneumatic rate-of-rise element used in former models, but offer added aesthetic appeal. The pneumatic rate-of-rise element responds to a rapid rise in temperature, approximately 15°F (8°C) per minute, by expansion of air within the sealed chamber faster than it can escape through a calibrated vent. The resultant increase in pressure depresses the diaphragm, causing the electrical contact to close the circuit. HD-600 rate-of-rise units have a wide spacing allowance of 50-foot (15.24-meter) centers. See *Specifications* table (page 2) for details.

Fixed-temperature elements react to heat by responding to a specific temperature setting. The fixed-temperature element uses a fusible alloy. When activated, the external heat collector drops away to provide quick visual confirmation that the element has operated.

The units protrude only 1-3/8" (34.925 mm) from the ceiling surface with a junction box mounting. They have pleasing contours and an all-white finish that conforms to ceiling aesthetics.

FEATURES

- Rate-of-rise and fixed-temperature.
- One- or two-circuit, normally open.
- Easy installation.
- Low-profile design.
- Visual indication.
- Operation testing.

INSTALLATION

Each detector includes a patented reversible mounting plate. In one position, it easily attaches to a 3-1/4" (82.55 mm) octagonal box or 4" (101.60 mm) junction box.

In reverse, the plate can be used for open wiring without a junction box. A 1/4" (6.35 mm) space between detector and mounting surface allows for wire connections. All mounting screws are concealed.

The detector attaches simply to the mounting plate with a push and twist motion. No special tools are required.

The mounting plate is molded of white self-extinguishing thermoplastic rated at 105°C. The plate is extremely strong, yet adapts to uneven mounting surfaces.



LISTED
S2517

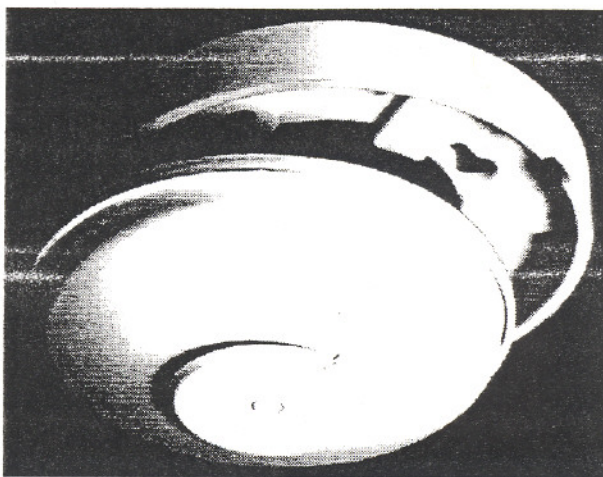


ML361
(except HD622)

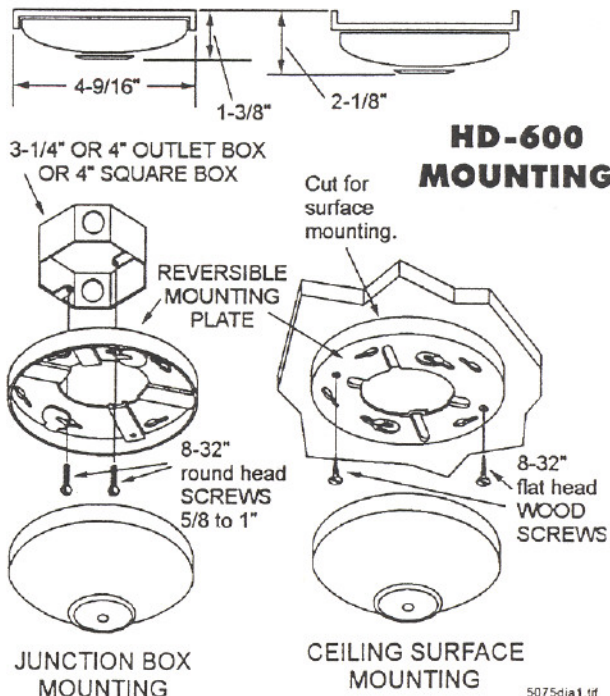


California
State Fire
Marshal
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250-94-E



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HD-600 SERIES TESTING METHODS

- Models HD-601/HD-621 and HD-602/HD-622 can be tested by the application of quick heat from any convenient source. A portable hair dryer is recommended. However, do not apply heat that exceeds the fixed-temperature rating of the detector.
- Models HD-603/HD-623 and HD-604/HD-624 cannot be tested. However, the fusible alloy element is generally considered so reliable that testing is not necessary.

SPECIFICATIONS

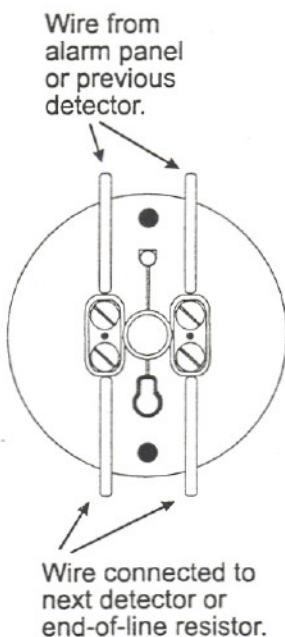
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HD-601 & HD-621	HD-602 & HD-622	HD-603 & HD-623	HD-604 & HD-624
 No marking. Model HD-601 (one circuit) Model HD-621 (dual circuit)	 Gray ring. Model HD-602 (one circuit) Model HD-622 (dual circuit)	 Gray spot. Model HD-603 (one circuit) Model HD-623 (dual circuit)	 Black dot on white. Model HD-604 (one circuit) Model HD-624 (dual circuit)
Rate-of-rise and fixed-temperature 135°F (57°C).	Rate-of-rise and fixed-temperature 200°F (94°C).	Fixed-temperature only 135°F (57°C).	Fixed-temperature only 200°F (94°C).
Application: normal temperature fluctuations and ceiling temperatures not exceeding 100°F (38°C).	Application: normal temperature fluctuations and ceiling temperatures exceeding 100°F (38°C) but not 150°F (66°C).	Application: unusually violent temperature fluctuations and ceiling temperatures not exceeding 100°F (38°C).	Application: unusually violent temperature fluctuations and ceiling temperatures exceeding 100°F (38°C) but not 150°F (66°C).
Maximum spacing allowance* UL: 50 ft. x 50 ft. (15.24 x 15.24 meters). FM: 30 ft. x 30 ft. (9.144 x 9.144 meters).	Maximum spacing allowance* UL: 50 ft. x 50 ft. (15.24 x 15.24 meters). FM: 30 ft. x 30 ft. (9.144 x 9.144 meters).	Maximum spacing allowance* UL: 25 ft. x 25 ft. (7.62 x 7.62 meters). FM: 20 ft. x 20 ft. (6.096 x 6.096 meters).	Maximum spacing allowance* UL & FM: 15 ft. x 15 ft. (4.572 x 4.572 meters).

*Refer to NFPA for application requirements.

SCREW TERMINALS

Standard Single-Circuit Detector

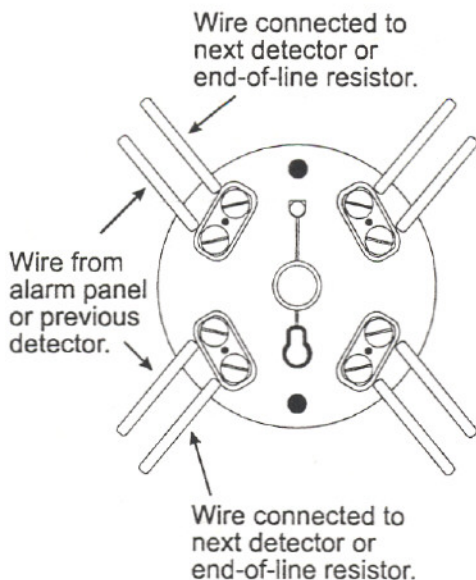


NOTE: All single-circuit models come with one (1) normally open dry contact.

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Dual-Circuit Detector

Used to send two independent signals.



NOTE: All dual-circuit models come with two (2) normally open dry contacts.

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NOTES

Application: Heat detectors should be used for property protection. Reliance should not be placed solely on heat detectors for life safety. When life safety is involved, smoke detectors **MUST** also be used. Detectors must **NOT** be painted.

Battery backup: Heat detectors should be electronically supervised with battery backup at the panel.

Rate-of-rise mechanism: The rate-of-rise mechanism may be subject to reduced sensitivity over time. Annual testing of the rate-of-rise operation is recommended.

ELECTRICAL RATINGS

- 6-125 Volts AC, 3.0 Amp.
- 6-28 Volts DC, 1.0 Amp.
- 125 Volts DC, 0.3 Amp.
- 250 Volts DC, 0.1 Amp.



FCPS-24S6 and FCPS-24S8 6-Amp and 8-Amp 24-Volt Remote Power Supplies

Section: Power Supplies

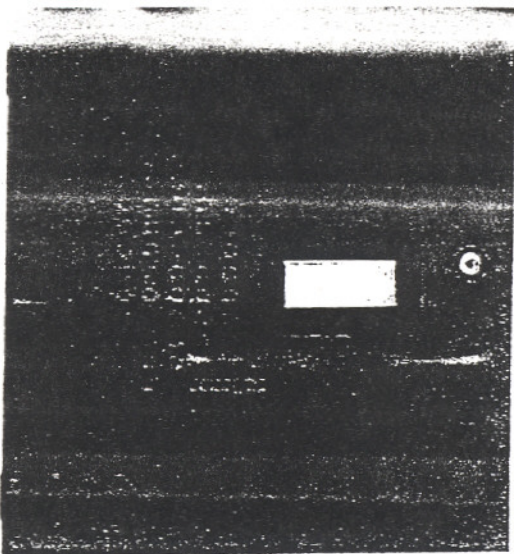
GENERAL

The FCPS-24S6 (6-amp) and FCPS-24S8 (8-amp) are compact, cost-effective remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12- or 24-volt Fire Alarm Control Panel (FACP) or may be used as a stand-alone supply. Primary applications include Notification Appliance (bell) Circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24-volt system accessories. The FCPS-24S6/-24S8 provides *regulated* and *filtered* 24 VDC power to four notification circuits configured as up to four Class B (Style

nately, the four outputs may be configured as all non-resettable, all resettable, or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries.

FEATURES

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex appliances.
- Cascadable for up to ten power supplies with strobe timing maintained.
- Operates as a "sync follower" or as a "sync generator" (default). See note on page 2.
- Contains two fully-isolated input/control circuits — triggered from FACP NAC (NAC expander mode) or jumpered permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (A77-716B).
- In stand-alone mode, output power circuits may be configured as: resettable (reset line from FACP required), non-resettable, or a pair of two and two non-resettable. Fully regulated and filtered power suitable for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate or 8-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated bell power).
- Requires input trigger voltage of 9.0 – 32 VDC.
- Self-contained in compact, locking cabinet — 15" (381 mm) high x 14.5" (368.3 mm) wide x 2.75" (69.85 mm) deep.
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.



- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.25 mm²) wire.

STANDARDS and CODES

- FCPS-24S6/-24S8 complies with the following standards:
- NFPA 72 National Fire Alarm Code.
- UL 864 Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- UL 1481 Power Supplies for Fire Alarm Systems (stand-alone mode).

SPECIFICATIONS

Primary (AC) power:

- FCPS-24S6/-24S8: 120 VAC, 60 Hz, 3.2 A maximum.
- Wire size: minimum #14 AWG (2.0 mm²) with 600 V insulation.

Control input circuit:

- Trigger input voltage: 9 to 32 VDC.
- Trigger current: 2.0 mA (16 – 32 V). Per input: 1.0 mA (9 – 16 V).

Trouble contact rating: 5 amps at 24 VDC.

NOTIFIER

Honeywell

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Auxiliary power output: specific application power 500 mA maximum.

Output circuits:

- +24 VDC filtered, regulated.
- 3.0 amps maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
for FCPS-24S6: 4.0 amps maximum; for FCPS-24S8: 6.0 amps maximum.
- Total short-term current for all outputs (NAC expander mode):
for FCPS-24S6: 6.0 amps maximum; for FCPS-24S8: 8.0 amps maximum.

Secondary power (battery) charging circuit:

- Supports lead-acid batteries only.
- Float-charge voltage: 27.6 VDC.
- Maximum charge current: 1.5 amps
- Maximum battery capacity: 18 AH.

APPLICATIONS

Example 1: Expand notification appliance power an additional 6.0 amps (FCPS-24S6) or 8.0 amps (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 amps (FCPS-24S6) or up to 6.0 amps (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

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

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

*Addressable FACP's are capable of locating control and monitor modules at distances of up to 10,000 feet (3048 meters).

AGENCY LISTINGS AND APPROVALS

See the first page of this data sheet for listing agencies and file numbers. These listings and approvals apply to the FCPS-24S6 and the FCPS-24S8. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

SYNC FOLLOWER/GENERATOR NOTE

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e., "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attached to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

PRODUCT LINE INFORMATION

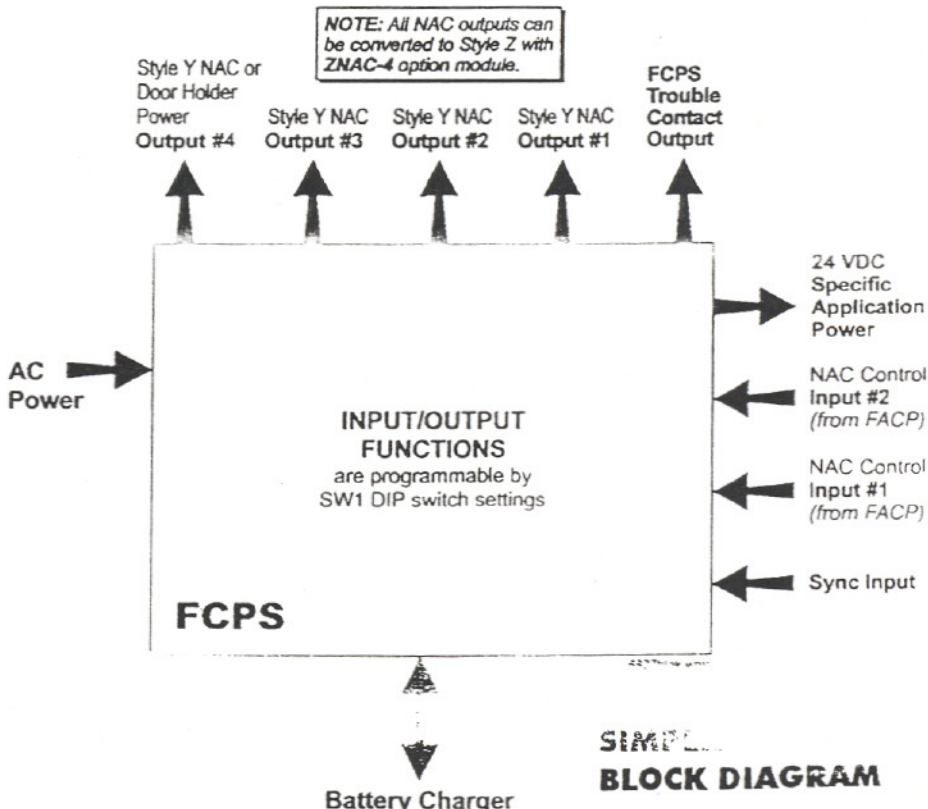
FCPS-24S6: 6.0 amp, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15" [381 mm] high x 14.5" [368.3 mm] wide x 2.75" [69.85 mm] deep), and installation instructions.

FCPS-24S8: 8.0 amp, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15" [381 mm] high x 14.5" [368.3 mm] wide x 2.75" [69.85 mm] deep), and installation instructions.

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

A77-716B: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

PS-1270: Battery, 12 volt, 7.0 AH (two required, see PS Series data sheet DN-1109).



SpectrAlert® Series Horns, Strobes, and Horn/Strobes

Section: Audio/Visual Devices

GENERAL

The System Sensor SpectrAlert® wall-mount series includes a complete line of electronic horns, strobes, and horn/strobes. Intended for primary signaling use, SpectrAlert® products meet UL 1971, UL 464, and Americans with Disabilities Act requirements.

Performance. With its extremely efficient reflector design and Xenon flash tube, SpectrAlert® offers current draw reductions as high as 40% over previous generation designs. With less current consumption, more devices per loop are possible for a lower installed cost.

Installation. SpectrAlert® products are designed for ease of installation, which also lowers the installed cost. SpectrAlert® strobes and horn/strobes take up no room in the backbox, making wiring connections simpler and faster. Each SpectrAlert® wall-mount device includes a universal mounting plate for 4" (10.16 cm) square and single-gang backbox mounting. Accessory mounting plates are also available for small-footprint or surface-mount applications.

Flexibility. The SpectrAlert® wall-mount series offers the flexibility to meet a broad range of requirements. Horns and horn/strobes feature a number of field-selectable/reversible horn tones. Strobes and horn/strobes are available in a wide variety of configurations to address visibility requirements for non-sleeping areas, sleeping areas, and corridors. Offerings include 24-volt models at 15, 15/75, 30, 75, and 110 candela; and 12-volt devices at 15 and 15/75 candela.

Aesthetics. To meet the aesthetic requirements of building owners, SpectrAlert® incorporates a stylish, low-profile design that is consistent across the SpectrAlert® wall-mount product line.

FEATURES

- Meets UL and ADA signaling requirements.
- Low current draw allows more devices per loop for a lower installed cost.
- Universal mounting plate included.
- Accessory mounting plates available.
- Field-selectable horn tones:
 - Electromechanical / 3 kHz.
 - Temporal 3 / Non-Temporal 3.
 - High/Low dBA output.
- Available in 15, 15/75, 30, 75, and 110 candela.
- Synchronizable horns and strobes with Sync-Circuit™ module.
- Aesthetically pleasing design.

SPECIFICATIONS

Walk test: SpectrAlert® horn and horn/strobe only work on "walk tests" with time durations of 4 seconds or greater.

Input terminals: 12 to 18 AWG (3.25 mm² to 0.51 mm²).

Dimensions, strobe and horn/strobe with universal plate: 5" (127 mm) wide x 5-5/8" (142.875 mm) high x 2-15/16" (74.613 mm) deep; **with small footprint plate:** 3-3/8"



- ◀ S4011 & S5512: P1215(W), P121575(W), P2415(W), P241575(W), P2475(W), P24110(W). S5512: S1215(W), S121575(W), S121575K, S2415(W), S241575(W), S241575AG, S241575EV, S241575P(W), S2430(W), S2475(W), S24110(W). S4011: P121575K, P241575AG, P241575EV, P241575P(W), P2430(W).



- ◀ CS549: P2415(W)A, P241575(W)A, P2475(W)A, 24110(W)A, S2415(W)A, S241575(W)A, S2475(W)A, S24110(W)A. CS549 V3: P121575KA, P2430(W)A, S121575KA, S2430(W)A. CS548: HC12/24A.



- ◀ CS549: P1215(W)A, P241575(W)A, P2475(W)A, 24110(W)A, S2415(W)A, S241575(W)A, S2475(W)A, S24110(W)A. CS549 V3: P121575KA, P2430(W)A, S121575KA, S2430(W)A. CS548: HC12/24A.



California State Fire Marshal

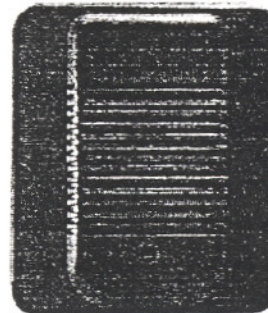
- ◀ 7135-1209:173 - P1215(W), P121575(W), P121575K, P2415(W), P241575(W), P241575AG, P241575EV, P241575P(W), P2430(W), P2475(W), P24110(W). 7125-1209:174 - S1215(W), S121575(W), S121575K, S2415(W), S241575(W), S241575AG, S241575EV, S241575P(W), S2430(W), S2475(W), S24110(W). 7135-1209:143 - H12/24(W).



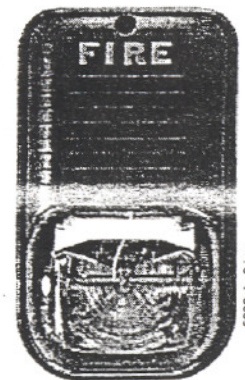
- ◀ 319-96-E: P1215(W), P121575(W), P2415(W), P241575(W), P241575AG (Vol. V), P241575EV (Vol. V), P241575P(W) (Vol. VI), P2430(W) (Vol. V), P2475(W), P24110(W), S1215(W), S121575(W), S2415(W), S241575(W), S241575AG (Vol. V), S241575EV (Vol. V), S241575P(W) (Vol. VI), S2430(W) (Vol. V), S2475(W), S24110(W), H12/24(W). 173-98-E Vol. II: P121575K, S121575K.



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5939ph03.jpg

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NOTIFIER

12 Clintonville Road, Northford, Connecticut 06472

ISO 9001
CERTIFIED
ENGINEERING & MANUFACTURING

(85.725 mm) wide x 5-5/8" (142.875 mm) high x 2-15/16" (74.613 mm) deep.

Dimensions, horn with universal mounting plate: 5" (127 mm) wide x 5-5/8" (142.875 mm) high x 1-5/16" (33.338 mm) deep; **without mounting plate:** 5" (127 mm) wide x 5-5/8" (142.875 mm) high x 1-5/16" (33.338 mm) deep.

Weight, horn only: 7.2 oz. (204 g).

Weight, strobe and horn/strobe: 8.8 oz. (250 g).

Mounting: standard boxes 4" x 4" x 1-1/2" deep (101.6 x 101.6 x 38.1 mm) or 2" x 4" x 1-7/8" deep (50.8 x 101.6 x 47.625 mm).

Operating temperature, indoor: 32°F to 120°F (0°C to 49°C). **Weatherproof models, horn and horn strobes:** 32°F to 150°F (0°C to 66°C); **outdoor strobe only:** -40°F to +158°F (-40°C to +70°C); **ULC Canadian models:** -40°C to +66°C.

Maximum humidity: 95% as tested per UL 464.

Voltages: 12 or 24 VDC and FWR unfiltered.

Operating voltage range:* 12-volt models: 10.5 - 17 V. 24-volt models: 20 - 30 V. **With Sync-Circuit™ module**

V. See current draw tables on page 4.

* These products should be operated within their rated voltage range. UL does, however, test functional integrity to -20% and +10% of manufacturer's stated ranges.

U.S. Patent Numbers: 5,593,569. 5,914,665. 6,049,446.

ENGINEERING SPECIFICATIONS

General — SpectrAlert® horns, strobes and horn/strobes shall be capable of mounting to a standard 4" x 4" x 1-1/2" (101.6 x 101.6 x 38.1 mm) backbox or a single-gang 2" x 4" x 1-7/8" (50.8 x 101.6 x 47.625 mm) backbox using the universal mounting plate included with each SpectrAlert® product. Also, SpectrAlert® products, when used in conjunction with the accessory Sync-Circuit™ Module, shall be powered from a non-coded power supply and shall operate on 12 or 24 volts. 12-volt rated devices shall have an operating voltage range of 10.5 - 17 volts. 24-volt rated devices shall have an operating voltage range of 20 - 30 volts. SpectrAlert® products shall have an indoor operating temperature range of 32°F to 120°F (0°C to 49°C) and operate from a regulated DC or full-wave rectified, unfiltered power supply.

Horn — Horn shall be a System Sensor SpectrAlert® model _____ capable of operating at 12 and 24 volts. Horn shall be Listed to UL 464 for fire protective signaling systems. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a temporal 3 pattern and a non-temporal continuous pattern. All horn models shall operate on a coded power supply.

Strobe — Strobe shall be a System Sensor SpectrAlert® model _____ Listed to UL 1971 and be approved for fire protective service. The strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn/Strobe Combination — Horn/strobe shall be a System Sensor SpectrAlert® model _____ Listed to UL 1971 and UL 464 and shall be approved for fire protective service. Horn/strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range.

and associated lens/reflector system. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a temporal 3 pattern and a non-temporal continuous pattern. Strobes shall be powered independently of the sounder with the removal of factory-installed jumper wires. The horn on horn/strobe models shall operate on a coded or non-coded power supply (the strobe must be powered continuously).

Module — Module shall be a System Sensor Sync-Circuit™ model _____ Listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert® strobes at 1 Hz and horns at temporal 3. Also, the module shall silence the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4-11/16" (119.063 mm) square x 2-1/8" (53.975 mm) deep backbox and shall control two Style Y (Class B) or one Style Z (Class A) circuit. Module shall be capable of multiple zone synchronization by daisy-chaining multiple modules together and resynchronizing each other along the chain. The module shall **NOT** operate on a coded power supply.

SOUND OUTPUT GUIDE (dBA)			UL Reverberant Room dBA @ Volts DC						Anechoic Room Peak dBA @ 10 ft./VDC					
			10.5	12	17	20	24	30	10.5	12	17	20	24	30
Temporal	LOW TONE	Electromechanical	NA	NA	NA	75	75	79	NA	NA	NA	94	96	98
		3000 Hz Interrupted	NA	NA	NA	75	79	79	NA	NA	NA	94	96	98
	HIGH TONE	Electromechanical	75	75	79	82	82	82	94	95	98	100	101	102
		3000 Hz Interrupted	75	75	79	82	85	85	94	95	98	100	101	102
Non-Temporal	LOW TONE	Electromechanical	NA	NA	NA	79	82	85	NA	NA	NA	94	96	98
		3000 Hz Interrupted	NA	NA	NA	82	82	85	NA	NA	NA	94	96	98
	HIGH TONE	Electromechanical	79	79	85	85	88	88	94	95	98	100	101	102
		3000 Hz Interrupted	79	82	85	88	88	88	93	95	98	100	101	102

5939soun.tbl

NOTES FOR PRODUCT LINE INFORMATION

NOTES: 1) Canadian model numbers end in "A". 2) Latin American model numbers end in "F". 3) All weatherproof models **must** use weatherproof backbox model WBB. 4) All SpectrAlert® products are designed for wall-mount only. 5) Installation of less than 75 candela strobes may be permissible under the equivalent facilitation clause of the ADAAG (Sec. 2.2). However, it is the responsibility of the person or entity designing the fire alarm system to determine the acceptability of less than 75 candela strobes. 6) All 15/75 candela strobes or horn/strobes are recommended for 20' x 20' (6.096 x 6.096 m) rooms or less. *For a complete listing of SpectrAlert current requirements, please refer to the Current Draw tables on page 4 of this document, or the Instruction Manual. Horn and horn/strobe current draws assume the horn is set at Temp 3, electromechanical tone, and high audibility.

	RED	WHITE	voltage	candela	avg. mA* @ nom. VDC	avg. mA* @ nom. FVR	
Horn/Strobes	P1215	P1215W	12	15	124	167	
	P121575	P121575W	12	15 / 75	152	181	
	P2415	P2415W	24	15	68	78	
	P241575	P241575W	24	15 / 75	74	82	
	P2430	P2430W	24	30	92	100	
	P2475	P2475W	24	75	148	167	
	P24110	P24110W	24	110	165	209	
	P121575K (weatherproof)	—	12	15 / 75	124	167	
	P241575K (weatherproof)	—	24	15 / 75	74	82	
	P2475K (weatherproof)	—	24	75	148	167	
	P24110K (weatherproof)	—	24	110	165	209	
	P241575P (no lettering)	P241575PW	24	15 / 75	74	82	
	P241575AG (agent)	—	24	15 / 75	74	82	
	P241575EV (evacuation)	—	24	15 / 75	74	82	
	SPANISH Labeling, Horn/Strobes	P2415A	P2415WA	24	15	68	78
P241575A		P241575WA	24	15 / 75	74	82	
P2430A		P2430WA	24	30	92	100	
P2475A		P2475WA	24	75	148	167	
P24110A		P24110WA	24	110	165	209	
P241575KA (weatherproof)		—	24	15 / 75	74	82	
P2475KA (weatherproof)		—	24	75	148	167	
P24110KA (weatherproof)		—	24	110	165	209	
SPANISH Labeling, Horn/Strobes		P241575F (FUEGO)	—	24	15 / 75	74	82
Strobes		S1215	S1215W	12	15	114	157
		S121575	S121575W	12	15 / 75	142	171
		S2415	S2415W	24	15	43	60
		S241575	S241575W	24	15 / 75	49	64
		S2430	S2430W	24	30	67	82
		S2475	S2475W	24	75	123	159
	S24110	S24110W	24	110	140	191	
	S121575K (weatherproof)	—	12	15 / 75	142	171	
	S241575K (weatherproof)	—	24	15 / 75	49	64	
	S2475K (weatherproof)	—	24	75	123	159	
	S24110K (weatherproof)	—	24	110	140	191	
	S241575P (no lettering)	S241575PW	24	15 / 75	49	64	
	S241575AG (agent)	—	24	15 / 75	49	64	
	S241575EV (evacuation)	—	24	15 / 75	49	64	
	CANADIAN Models, Strobes	S2415A	S2415WA	24	15	43	60
S241575A		S241575WA	24	15 / 75	49	64	
S2430A		S2430WA	24	30	67	82	
S2475A		S2475WA	24	75	123	149	
S24110A		S24110WA	24	110	140	191	
S241575KA (weatherproof)		—	24	15 / 75	49	64	
S2475KA (weatherproof)		—	24	75	123	149	
S24110KA (weatherproof)		—	24	110	140	191	
SPANISH Labeling, Strobes		S241575F (FUEGO)	—	24	15 / 75	49	64
Horns	H12/24	H12/24W	12 / 24	NA	10 / 25	10 / 18	
	H12/24K (weatherproof)	—	12 / 24	NA	10 / 25	10 / 18	
CANADIAN Models, Horns	HC12/24A	HC12/24W	12 / 24	NA	10 / 25	10 / 18	
	HC12/24KA (weatherproof)	—	12 / 24	NA	10 / 25	10 / 18	
Sync-Circuit™ Module	MDL	MDLW	12 / 24	NA	10 / 11	12 / 15	
CANADIAN Sync-Circuit™ Module	MDLA	MDLWA	12 / 24	NA	10 / 11	12 / 15	
Small Footprint Mounting Plate for Single-Gang ONLY	S-MP	S-MPW	NA	NA	NA	NA	
Surface-Mount Backbox Skirt	BBS	BBSW	NA	NA	NA	NA	
Universal Mounting Plate (replacement)	D-MP	D-MPW	NA	NA	NA	NA	
Weatherproof Backbox	WBB	—	NA	NA	NA	NA	

CURRENT DRAW TABLES

STROBE ONLY 

Below:

- HORN/STROBE 15 candela**
- HORN/STROBE 15/75 candela**
- HORN/STROBE 30 candela**
- HORN/STROBE 75 candela**
- HORN/STROBE 110 candela**

HORN ONLY

AVERAGE CURRENT (mA): STROBE ONLY

Candela	12-VOLT MODELS						24-VOLT MODELS					
	10.5 V		12 V		17 V		20 V		24 V		30 V	
	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
15	133	159	114	157	81	128	50	61	43	60	38	60
15 / 75	168	182	142	171	99	150	56	65	49	64	44	62
30	NA	NA	NA	NA	NA	NA	78	84	67	82	58	72
75	NA	NA	NA	NA	NA	NA	145	170	123	159	102	141
110	NA	NA	NA	NA	NA	NA	169	220	140	191	115	174

PEAK CURRENT (mA): STROBE ONLY

15	460	460	450	460	420	480	135	204	135	208	135	185
15 / 75	490	520	490	520	460	480	150	199	150	207	150	198
30	NA	NA	NA	NA	NA	NA	183	201	183	219	183	216
75	NA	NA	NA	NA	NA	NA	350	440	340	460	330	480
110	NA	NA	NA	NA	NA	NA	460	560	450	570	420	620

INRUSH CURRENT (mA): STROBE ONLY

15	80	108	92	124	140	190	97	129	116	152	147	198
15 / 75	76	104	88	126	160	185	97	135	116	164	147	211
30	NA	NA	NA	NA	NA	NA	97	129	116	152	147	198
75	NA	NA	NA	NA	NA	NA	190	240	230	280	290	380
110	NA	NA	NA	NA	NA	NA	190	250	230	280	290	370

5939ns15.tbl

HORN ONLY		12-VOLT MODELS						24-VOLT MODELS					
		10.5 V		12 V		17 V		20 V		24 V		30 V	
		DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
AVERAGE CURRENT (mA): Electromechanical Tone													
HIGH VOL.	TEMP	10	11	10	10	14	14	19	21	25	18	29	26
	NON	10	16	10	19	14	25	17	29	23	34	30	42
LOW VOL.	TEMP	NA	NA	NA	NA	NA	NA	11	12	13	13	17	15
	NON	NA	NA	NA	NA	NA	NA	12	16	14	19	17	24
AVERAGE CURRENT (mA): 3,000 Hz Interrupted Tone													
HIGH VOL.	TEMP	11	13	11	11	16	16	24	26	28	23	37	33
	NON	11	17	11	21	14	28	19	34	27	39	35	45
LOW VOL.	TEMP	NA	NA	NA	NA	NA	NA	14	14	17	15	21	19
	NON	NA	NA	NA	NA	NA	NA	13	18	16	21	22	25

5939horn.tbl

H/S 30 cd		24-VOLT MODELS					
		20 V		24 V		30 V	
		DC	FWR	DC	FWR	DC	FWR
AVG. CURRENT (mA): Electromech.							
HIGH VOL.	TEMP	97	105	92	100	87	98
	NON	95	113	90	116	88	114
LOW VOL.	TEMP	89	96	80	95	75	87
	NON	90	98	81	101	75	96
AVG. CURRENT (mA): 3,000 Hz Inter.							
HIGH VOL.	TEMP	102	108	95	105	95	105
	NON	97	116	94	121	93	117
LOW VOL.	TEMP	92	96	84	97	79	91
	NON	91	100	83	103	80	97

5939h30.tbl

H/S 15 cd		12-VOLT MODELS						24-VOLT MODELS					
		10.5 V		12 V		17 V		20 V		24 V		30 V	
		DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
AVERAGE CURRENT (mA): Electromechanical Tone													
HIGH VOL.	TEMP	143	170	124	167	95	142	69	82	68	78	67	87
	NON	143	170	124	167	95	142	67	90	66	94	68	103
LOW VOL.	TEMP	NA	NA	NA	NA	NA	NA	61	73	56	73	55	76
	NON	NA	NA	NA	NA	NA	NA	62	77	57	79	55	85
AVERAGE CURRENT (mA): 3,000 Hz Interrupted Tone													
HIGH VOL.	TEMP	144	172	125	168	97	144	74	87	71	83	75	94
	NON	144	173	125	168	95	146	69	95	70	99	73	106
LOW VOL.	TEMP	NA	NA	NA	NA	NA	NA	64	75	60	75	59	80
	NON	NA	NA	NA	NA	NA	NA	63	79	59	81	60	86

5939ns15.tbl

H/S 75 cd		24-VOLT MODELS					
		20 V		24 V		30 V	
		DC	FWR	DC	FWR	DC	FWR
AVG. CURRENT (mA): Electromech.							
HIGH VOL.	TEMP	164	191	148	167	131	167
	NON	163	188	146	169	132	169
LOW VOL.	TEMP	156	182	136	162	119	156
	NON	157	182	137	162	119	157
AVG. CURRENT (mA): 3,000 Hz Inter.							
HIGH VOL.	TEMP	169	196	151	172	139	174
	NON	164	192	150	175	137	177
LOW VOL.	TEMP	159	184	140	164	123	160
	NON	158	188	139	163	124	162

5939ns75.tbl

H/S 15/75 cd		12-VOLT MODELS						24-VOLT MODELS					
		10.5 V		12 V		17 V		20 V		24 V		30 V	
		DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
AVERAGE CURRENT (mA): Electromechanical Tone													
HIGH VOL.	TEMP	178	193	152	181	113	164	75	86	74	82	73	88
	NON	178	193	152	181	113	164	73	94	72	98	74	104
LOW VOL.	TEMP	NA	NA	NA	NA	NA	NA	67	77	62	77	61	77
	NON	NA	NA	NA	NA	NA	NA	68	81	63	83	61	86
AVERAGE CURRENT (mA): 3,000 Hz Interrupted Tone													
HIGH VOL.	TEMP	179	195	152	183	115	166	80	91	77	87	81	95
	NON	179	196	152	183	113	168	75	99	76	103	79	107
LOW VOL.	TEMP	NA	NA	NA	NA	NA	NA	70	79	66	79	65	81
	NON	NA	NA	NA	NA	NA	NA	69	83	65	85	66	87

59391575.tbl

H/S 110 cd		24-VOLT MODELS					
		20 V		24 V		30 V	
		DC	FWR	DC	FWR	DC	FWR
AVG. CURRENT (mA): Electromech.							
HIGH VOL.	TEMP	188	241	165	209	144	200
	NON	186	238	163	211	145	202
LOW VOL.	TEMP	180	232	153	204	132	189
	NON	181	232	154	204	132	190
AVG. CURRENT (mA): 3,000 Hz Inter.							
HIGH VOL.	TEMP	193	246	168	214	152	207
	NON	188	242	167	217	150	210
LOW VOL.	TEMP	183	234	157	206	136	193
	NON	182	232	156	205	137	195

5939ns11.tbl

Power Supply Calculations

Notifier SFP-1024 Fire Alarm Control Panel

Clear Project InformationProtected Premises Property MAINE YACHT CENTER Date: 07/21/2004Address _____ City PORTLANDState MAINE Zip _____ Note _____Prepared By NORRIS INC Phone 207-883-3473Address BROADWAY City SOUTH PORTLANDState MAINE Zip _____**AC Branch Current**

The amount of AC current that must
be supplied to the
the fire alarm system.

2.3 Amps @ 120 VAC:**Primary Standby Load**

Current Load on the Primary Power
Supply during non-alarm conditions.

0.088 Amps

The SFP-1024 can supply up to 1.5 amps of current
continuously while the panel is in Standby.

Primary Alarm Load

Current Load on the Primary Power
Supply during an alarm condition.

0.088 Amps

The SFP-1024 can support up to 6.6 amps of current
while the panel is in alarm.

Secondary Standby Load

The amount of power that must be
supplied by the batteries during
non-alarm conditions.

0.088 Ampsfor **60** Hours= **5.29** Standby AmpHours**Secondary Alarm Load**

The amount of power that must
be supplied by the batteries
during an alarm condition.

0.088 Ampsfor **5** Minutes= **0.01** Alarm AmpHours**5.3**Compensation for non-linear discharge characteristic (double-click to change): **x 1.2****Total AmpHours: 7****Battery Selection** Two Four (two 12V sets in parallel)

PS-12120 Battery, 12 volt, 12 AH (675)

Battery Charger

This system will charge its batteries with the following supply:

 SFP-1024 CHG-120 Remote Battery Charger

Device Current Draw

Quantity x (device current draw) = total current draw per device (in amps)

Protected Property: MAINE YACHT CENTER

Part Number	Primary Non-Alarm	Primary Alarm	Secondary Non-Alarm	Secondary Alarm
XRM-24	(1x0.00000)=0.00000	(1x0.00000)=0.00000	(1x0.00000)=0.00000	(1x0.00000)=0.00000
SFP-1024	(1x0.08800)=0.08800	(1x0.08800)=0.08800	(1x0.08800)=0.08800	(1x0.08800)=0.08800
2400 Photoelectric Detector, 2-wire direct	(1x0.00012)=0.00012	(1x0.00012)=0.00012	(1x0.00012)=0.00012	(1x0.00012)=0.00012
HD-603 Heat Detector, 135°F (57°C) Fire	(1x0.00000)=0.00000	(1x0.00000)=0.00000	(1x0.00000)=0.00000	(1x0.00000)=0.00000
Totals:	0.088 amps	0.088 amps	0.088 amps	0.088 amps

1) Selection of the MMX-2 includes maximum current allowed for conventional, 2-wire smoke detectors (0.002 amps).
 2) Primary Non-Alarm = Current draw while running on AC and under a normal system condition; Primary Alarm = Current draw while running on AC during an alarm condition; Secondary Non-Alarm = Draw from batteries under a single trouble condition (loss of AC).