DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that HAROLD R SHEPARD

Located At 469 BRIGHTON

Job ID: 2010-12-105-FAFS

CBL: 177 - - A - 023 - 001 - - - - -

has permission to Fire Alarm Main Entrance (Brighton Ave Side)

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

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

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

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

PERMIT ISSUED

JAN 3 1 2011

City of Portland

City of Portland, Maine - Building or Use Permit Application
389 Congress Street, 04101
Tel: (207) 874-8703, FAX: (207) 8716

Job No:	Applicatin Date:	CBL:
2010-12-105-FAFS	12/20/2010	177 - - A - 023 - 001 - - - - -

Location of Construction:	Owner Name:	Owner Address:		Phone:
469 BRIGHTON	HAROLD R SHEPARD	469 BRIGHTON AVE PORTLAND, ME - MAINE 04102		
Business Name:	Contractor Name:	Contractor Address:		Phone: 883-3473
	Peters, Melissa			
Lessee/Buyer's Name:	Phone:	Permit Type: Fire Alarm		Zone: R-5
Past Use: Multi-family – 12 Dwelling Units	Proposed Use: Multi-family – 12 dwelling units	Permit Fee: $150	Cost of Work: $13,000	CEO District:
Proposed Project Description: Install Fire Alarm				
Permit Taken By:	Date Applied For:			

PERMIT ISSUED

JAN 3 1 2011

City of Portland

469 Brighton Ave Zoning Conditions

1. This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.
2. This property shall remain a twelve family dwelling. Any change of use shall require a separate permit application for review and approval.
3. There is an illegal unit in the building. The owner will have thirty days to bring the use of the property into compliance. See letter.

PERMIT ISSUED

JAN 31 2011

City of Portland

Fire Alarm Permit

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

Installation address: 469 Brighton Ave. CBL: _____

Exact location: (within structure) Main Entrance (Brighton Ave Side).

Type of occupancy(s) (NFPA & ICC): Apt. Bldg.

Building owner: Harold Shepard

Must be
System Designer (point of contact): Melissa Peters - Norris Inc.

Designer phone: 883-3473 x 1104 E-mail: melissap@norrisinc.com

Installing contractor: Norris Inc. Certificate of Fitness No: 1008

Contractor phone: 883-3473 E-mail: melissap@norrisinc.com

This is a new application: YES (✓) NO ( )

This is an amendment to an existing permit: YES (●) NO ( ) Permit no: _____

The following documents shall be provided with this application:

- [✓] Floor plans
- [✓] Wiring diagram
- [ ] Annunciator details n/a
- [✓] Equipment data sheets
- [✓] Battery & voltage drop calculations
- [✓] Input/ Output Matrix
- [✓] Designer qualifications
- [ ] Electrical Permit Pulled (check alarm/com)

COST OF WORK: $13,000.00

PERMIT FEE: $150.00
($10 PER $1,000 + $30 FOR THE FIRST $1,000)

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

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

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

Applicant signature: Melissa Peters Date: 12/17/10

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

Penny St. Louis Littell - Director of Planning and Urban Development
Marge Schmuckal, Zoning Administrator

December 30, 2010

Harold Shepard
469 Brighton Avenue
Portland, ME 04102

Re: 469 Brighton Avenue – 177-A-023 – R-5 Residential Zone – illegal dwelling unit

Dear Mr. Shepard,

This letter is a follow up to the telephone conversation that we had earlier today. As you know, in researching the use of the building as part of my review for the permit that you submitted to install the fire alarm at 469 Brighton Avenue, our records showed that the legal use of the property is twelve (12) dwelling units. The plan for the fire alarm system showed a thirteenth dwelling unit in the basement. Since the legal use of the building is twelve dwelling units, this dwelling unit in the basement is not legal. The use of your property needs to be brought into compliance.

469 Brighton Avenue is located in the R-5 Residential Zone. The land area requirement for a multiplex is 6,000 square feet of land area per dwelling unit [section 14-117(a)(2)(a)]. Your lot is 12,021 square feet. You would need a 78,000 square foot lot to be able to change the use of the property to thirteen dwelling units.

Your property needs to be brought into compliance. Since you cannot apply for a change of use, you need to remove the illegal dwelling unit. As part of removing the dwelling unit, you need to remove all the kitchen equipment including but not limited to the stove, the refrigerator, and the sink (if it is bigger than 17" x 19"). You have thirty days to bring the property into compliance. An inspection will be scheduled at this time to make sure that the kitchen has been removed and that the property has been brought into compliance.

You have the right to appeal my decision. If you wish to exercise your right to appeal, you have thirty days from the date of this letter in which to appeal. If you should fail to do so, my decision is binding and not subject to appeal. I have enclosed a Practical Difficulty Appeal Application and a sheet that explains the application process for the Zoning Board of Appeals.

Please feel free to call me at 874-8709 if you have any questions.

Yours truly,

Ann B. Machado
Zoning Specialist
(207) 874-8709

CITY OF PORTLAND, ME
INSPECTION DIVISION
389 CONGRESS ST
ROOM 315
PORTLAND, ME 04101
(207)874-8701

Merchant ID: 161000146545
Term ID: 001
Ref #: 001

Sale

XXXXXXXXXXX7077
MASTERCARD Entry Method: Manual

12/20/10 09:42:32
Inv #: 000001 Appr Code: 045252
Apprvd: Online Batch#: 000141

Total: $ 150.00

I agree to pay above total amount
according to card issuer agreement
(Merchant agreement if credit voucher)

X _____

Merchant Copy
THANK YOU!

PORTLAND, MAINE

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

Check , Check Number: 45252

00

010 12:00:00 AM

		Fee Code Version:	
		Originator Payment Date:	
		Is Waiver in Percentage:	True
Waiver Amount:	0		
Transaction Amount:	150.00	Charge Amount:	150.00
Additional Comments:			

Thank You for your Payment!

NORRIS INC

PO Box 2551
2257 West Broadway
South Portland, ME 04106

1.800.370.3473
fax 207.879.0540

www.norrisinc.com

SUBMITTAL PACKAGE

Project: **469 Brighton Ave. Apts**

System: **Fire Alarm System**

Submitted By:
Norris Inc.
2257 West Broadway
South Portland, Maine 04106
Telephone: (800) 370-3473

Project Manager: **Zach Davis**

Electrical Contractor:
Norris Inc.
2257 West Broadway
South Portland, ME. 04106

Date: **December 15, 2010**

NORRIS INC

PO Box 2551
2257 West Broadway
South Portland, ME 04106

1.800.370.3473
fax 207.879.0540

www.norrisinc.com

Company Profile

"We are extremely proud to represent the highest quality manufacturers integrating life safety, alarm and communication systems throughout northern New England."

-- Bradford Norris, President --

Mission Statement

Provide quality engineered systems, exceptional service.

Goal

Learn...Continually Improve...Exceed Expectations

Founded in 1979 Norris Inc. has grown to become Northern New England's leading integrated system contracting and supply company. Norris Inc. is an innovated proactive organization with extensive experience in integration interdisciplinary building management systems. Our local and national affiliations assure that your project will be done properly regardless of size representing leading manufacturers our comprehensive products provide outstanding quality reliability and performance... surpassing customer application requirements and exceeding the stringent requirements of Underwriters Laboratories, National Fire Protection Association and other codes. We maintain an exceptional level of quality and provide the highest levels of customer service. Our knowledgeable technical support will insure the great service you deserve. Whether your needs involve industrial, commercial, institutional, or educational applications, you can trust that Norris Inc. has the complete resources it takes to provide the right solution right away.

NOTIFIER®
by Honeywell

This is to certify that

NORRIS, INC.

is an authorized Engineered Systems Distributor for ***NOTIFIER***

During the year of ***2010***

Signed for and on behalf of NOTIFIER

Vice President Domestic Sales

Certificate of Membership

AFAA

This is to Certify that

Norris, Inc.

Has been duly elected to membership in this organization through

May 31, 1999

and pledged to improve LIFE SAFETY IN AMERICA by striving to ensure
fire protective signaling and automatic detection systems are properly designed, installed and maintained.

CHAIRMAN OF THE BOARD

SECRETARY

AUTOMATIC FIRE ALARM ASSOCIATION, INC.

a non-profit organization

This

Certificate of Fitness

for

Fire Alarm Installation and Servicing Company

is awarded to

Norris Incorporated

PO Box 2551 – 2257 West Broadway
South Portland, ME 04106
(207)883-3473

CF # 1008

Authority Having Jurisdiction

12/31/2010

Expiration Date

THIS CERTIFICATE IS NOT AN ENDORSEMENT OF THIS COMPANY BY THE AUTHORITY HAVING JURISDICTION.

TERMS AND CONDITIONS OF THIS CERTIFICATE OF FITNESS SHALL BE AS FOLLOWS:

THIS CERTIFICATE REMAINS THE PROPERTY OF THE PORTLAND FIRE DEPARTMENT AND SHALL BE RETURNED UPON DEMAND;

THIS CERTIFICATE OF FITNESS IS NON-TRANSFERABLE;

THIS CERTIFICATE OF FITNESS SHALL REMAIN IN EFFECT IN SO FAR AS THE BEARER OF SAID INSTRUMENT SHALL COMPLY WITH RULES AND REGULATIONS ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION.

FAILURE TO COMPLY WITH ALL RULES AND REGULATIONS OF THE AUTHORITY HAVING JURISDICTION WILL RESULT IN THE FOLLOWING:

FIRST OFFENCE: PLAN OF ACTION TO ADDRESS DEFICIENCIES

SECOND OFFENCE: PROBATION OF SERVICE COMPANY

THIRD OFFENCE: TERMINATION OF CERTIFICATE OF FITNESS

N. I. F. A. D.

National Independent Fire Alarm Distributors Association

This is to Certify that

Norris Inc.

is a

Member in Good Standing

and is entitled to all rights and privileges of such membership

David Palmer
Secretary

Bob Smith
President

NBFAA

Electronic Life Safety, Security
& Systems Professionals

National Burglar & Fire Alarm Association

Norris Inc

is a member in good standing entitled to all rights
& privileges of membership and subject to all conditions
& objectives as defined in the association bylaws.

Merlin J. Guilbeau
Executive Director

Michael A. Miller
President

NATIONAL SYSTEMS CONTRACTORS ASSOCIATION

NSCA Membership Certificate

This is to certify that

Norris Inc

is an official member of the

National Systems Contractors Association

on this the

First of December

Andrew M. Musci

Andrew M. Musci
President

Chuck R. Wilson

Chuck Wilson
Executive Director

Underwriters Laboratories Inc.®

Northbrook, IL San Jose, CA
Melville, NY

A not-for-profit organization dedicated to public safety and committed to quality service

Applicant ID No: 762075-001
Service Center No 0
Expires: 31-MAR-2011

CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY that the Alarm Service Company indicated below is included by Underwriters Laboratories Inc. (UL) in its Product Directories as eligible to use the UL Listing Mark in connection with Certificated Alarm Systems. The only evidence of compliance with UL's requirements is the issuance of a UL Certificate for the Alarm System and the Certificate is current under UL's Certificate Verification Service. This Certificate does not apply in any way to the communication channel between the protected property and any facility that monitors signals from the protected property unless the use of a UL listed or Classified Alarm Transport Company is specified on the Certificate.

Listed Service From: STOWE, VT

Alarm Service Company: (762075-001)

HOME SECURITY & MANAGEMENT CO INC
57 CENTRAL DR
PO BOX 695
STOWE VT 05672

Service Center: (762075-001)

HOME SECURITY & MANAGEMENT CO INC
57 CENTRAL DR
PO BOX 695
STOWE VT 05672

The Alarm Service Company is Listed in the following Certificate Service Categories:

File - Vol No.	CCN	Listing Category
S6427 - 1	UUFX	[Signal and Fire Alarm Equipment and Services] (Protective Signaling Services) Central Station

*****THIS CERTIFICATE EXPIRES ON 31-MAR-2011 *****

"LOOK FOR THE UL ALARM SYSTEM CERTIFICATE"

Engineering Manager
08-MAR-2010

 Form CS-CC

Norris Inc
2257 West Broadway
South Portland, ME 04106
1-800-370-3473

NEW CUSTOMER
, 04106

NEWCUS 207-999-9999

305406R1
Equipment List
12/15/2010

Harold Shepard

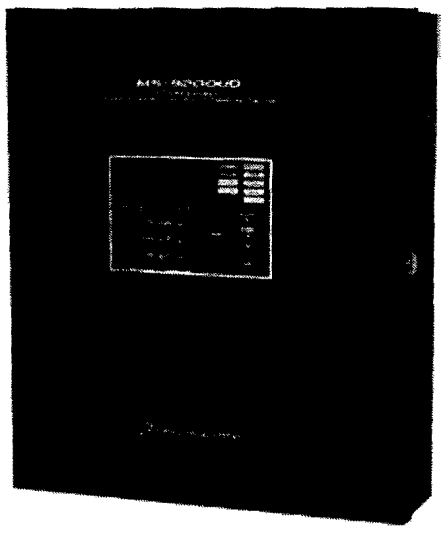
469 Brighton Ave.
Portland, ME

774-4141

469 Brighton Ave. Apts.

Qty	Description
	0-CLOSED, Ordering Assembly
	0-INSTALL, INSTALLATION
	ADI-FL-MS9200UD, Addressable Fire Alarm Control Panel
	ADI-IM-12180, 12 VOLT,18 AH BATTERY
	ADI-MO-804R2, MOD TO MOD 8C 2'RADIONICS CORD
	ADI-MO-RJ31X, SFS MT 8C RJ31X UL (917UL)
	Addressable Pull Station
	NOTIFIER-SD355, Addressable Smoke Detector w/ base
	Addressable Smoke Detector w/ base
	NOTIFIER-H355, Addressable Heat Detector
	NOTIFIER-HSR, Horn Strobe, Wall, Red
	NOTIFIER-MIZ-24S-R, Mini horn, Wall, Red
	SPECIAL-KNOXR, Knox Box
	SPECIAL-KNOXR-SURFACE, Surface Mount Knox Box
	SPECIAL-KNOXR-LIFTCOVER, Lift Cover for Knox Box
	SPECIAL-KNOXR-BLACK, Black Knox Box Color
	SPAAGEELE-SSU00685, fire alarm record storage cabinet red
	SPAAGEELE-IE0091, Notifier Lock

The Fire-Lite MS-9200UD



Description

The Fire-Lite MS-9200UD is a compact, cost-effective, intelligent addressable fire alarm control panel with a built-in communicator, remote site upload/download capability and a capacity of 198 addressable Fire-Lite devices on one loop. The Signaling Line Circuit (SLC) loop supports up to 99 smoke detectors and 99 control, relay or a variety of monitor modules. The panel is designed for ease of installation and programming. It features the latest in advanced fire protection technology, including detector sensitivity testing with printable results, system auto-programming, maintenance alert, automatic detector test and drift compensation, and selectable strobe synchronization.

The built-in communicator is compatible with 14 different formats, including the popular Ademco Contact ID, allowing the reporting of addressable point and software zone status.

Features

- Built-In Communicator Transmitter.
- Remote Site Upload/Download Capability.
- Auto-program (learn mode) reduces installation time.
- One Signaling Line Circuit (SLC) supports up to 198 addressable devices (99 detectors and 99 control, relay or a variety of monitor modules), including the new addressable heat detector, duct detector and dual monitor module.
- SLC loop maximum length is 10,000 ft. (3,048 m) @ 12 AWG (3.25 mm2) of twisted, shielded wire, 3,000 ft. of untwisted, unshielded wire.
- Four onboard Notification Appliance Circuits (NAC's) with additional NAC capability using the CMF-300 output control module.
- Selectable strobe synchronization per NAC.
- 3.0 amps of power standard, expandable to 6.0 amps
- Fully programmable from the local keypad, local PS-2 keyboard or PC via PK-Plus Windows® utility.
- Two programmable Form-C relay outputs.
- 99 software zones for a variety of applications.

BAT Series Batteries

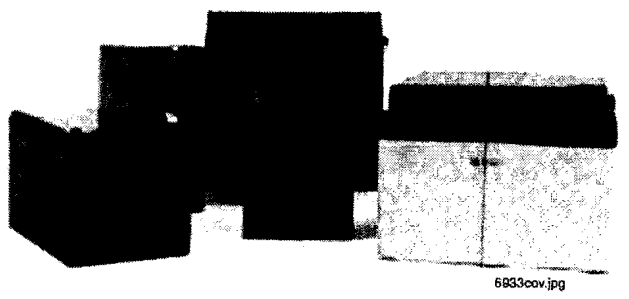
Sealed Lead-Acid or Gell Cell

NOTIFIER® by Honeywell

Power Supplies

General

BAT Series Batteries feature a new part-numbering/listing system — providing an improved method of delivery for NOTIFIER-approved sealed lead-acid batteries for all your fire alarm system needs. Multiple brands of batteries are now offered under generic part numbers, reducing backorder situations and permitting us to deliver these products in a more timely fashion. NOTIFIER has approved the multiple brands listed below as possible product shipped for a given part number. Please note that any incoming orders for "PS Series" batteries will be converted to the equivalent BAT Series part numbers.



6933cov.jpg

Features

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

Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Recognized Components**: files MH19884 *(B & B Battery)*, MH20567 *(UPG, previously Jolt)*, MH20845 *(Power-Sonic)*.

Part Number Reference

CURRENT Part Number	BATTERY DESCRIPTION	ALTERNATES APPROVED: manufacturers and P/Ns shipped under BAT P/Ns
BAT-1250	12 V, 5 AH, sealed.	BP5-12 (B&B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).
BAT-1250	12 V, 5 AH, sealed.	BP5-12 (B&B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).
BAT-1270	12 V, 7 AH, sealed.	BP7-12 (B&B Battery); PS-1270 (Power-Sonic); SA1272 (Jolt) to be replaced with UB1270 (UPG).
BAT-12120	12 V, 12 AH, sealed.	BP12-12 (B&B Battery); PS-12120 (Power-Sonic); SA12120 (Jolt) to be replaced with UB12120 (UPG).
BAT-12180	12 V, 18 AH, sealed.	PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).
BAT-12180	12 V, 18 AH, sealed.	PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).
BAT-12260	12 V, 26 AH, sealed.	BP26-12 (B&B Battery); PS-12260 (Power-Sonic); SA12260 (Jolt) to be replaced with UB12260 (UPG).
BAT-12550	12 V, 55 AH, sealed.	PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).
BAT-12550	12 V, 55 AH, sealed.	PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).
BAT-121000	12 V, 100 AH, gell cell.	PS-121000 (Power-Sonic); XSA121000A (Jolt) to be replaced with UB121000 (UPG).

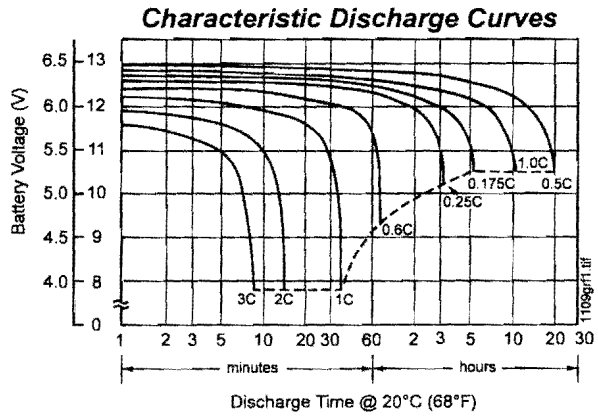
POWER-SONIC

Part Number Reference

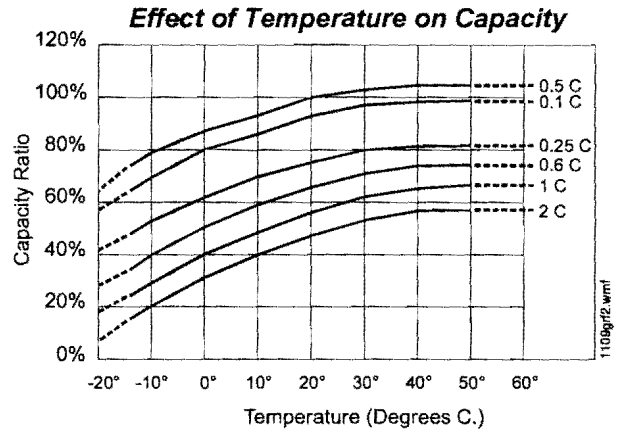
1109t1.tbl

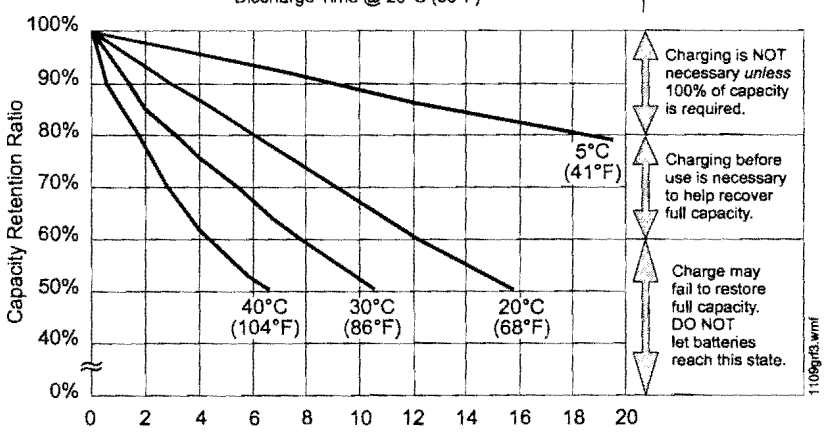
MODEL	Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.	Discharge Current @20 hr. rate mA	DIMENSIONS									
				Width		Depth		Height		Height over terminal		Weight	
				in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg.
PS-1250	12	5	250	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
PS-1270	12	7	325	5.94	151	2.56	65	3.7	94	3.86	98	5.7	2.6
PS-12120	12	12	600	5.94	151	3.86	98	3.7	94	3.86	98	8.8	4
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	6.6	168	8.2	208	9.45	240	39.7	18
PS-121000	12	100	5000	12	305	6.6	168	8.2	208	9.45	240	65.7	29.8

Characteristic Discharge Curves

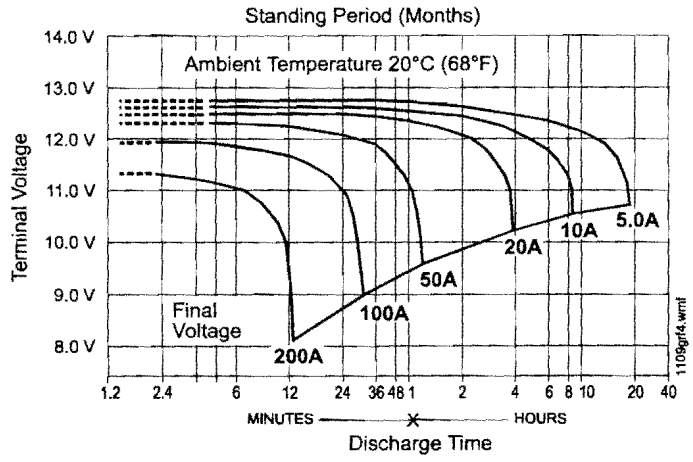


Effect of Temperature on Capacity





at left:
PS-121000
Shelf-Life
and Storage



at left:
PS-1210000
Discharge
Characteristics

B & B BATTERY

Model	V	Nominal Capacity (AH)				Weight		Terminal				Dimensions							
								Standard		Optional		L		W		H		TH	
		20 hr	10 hr	5 hr	1 hr	kg	lbs	Type	Pos.	Type	Pos.	mm	in	mm	in	mm	in	mm	in
BP5-12	12	5.00	4.75	4.25	3.00	1.86	4.10	T1	3	T2		90	3.54	70	2.76	102	4.02	106	4.17
BP7-12	12	7.00	6.65	5.95	4.20	2.60	5.73	T2	5	T1		151	5.94	65	2.56	93	3.66	98	3.86
BP12-12	12	12.00	11.40	10.20	7.20	4.03	8.89	B1	5	T1		151	5.94	98	3.86	94	3.70	98	3.86
BP26-12	12	26.00	24.70	22.10	15.60	9.40	20.73	B1	7	T2.l1	9	175	6.89	166	6.54	125	4.92	125	4.92

Charging Procedure

Application	Charging method	Charging voltage at 20°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Maximum charging current (CA)	Charging time 0.1 CA, 20°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power source	Constant voltage and constant current charging (with current restriction)	2.25 ~ 2.30	– 3	0.3	24	20	0 – 40°C (32 ~104°F)
For cycle service		2.40 ~ 2.50	– 4	0.3	16	10	
Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.							

Final Voltage	Discharge Time: for Model BP5-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP5-12								
10.80 V	180.8	133.1	106.6	63.5	36.39	14.57	10.05	5.62	2.94
10.50 V	209.2	144.2	111.5	65.9	37.48	14.87	10.20	5.70	3.00
10.20 V	222.3	149.4	115.0	67.4	38.16	15.00	10.26	5.73	3.01
9.90 V	232.3	152.9	117.6	68.3	38.61	15.10	10.29	5.75	3.02
9.60 V	240.0	156.0	120.0	69.0	39.0	15.20	10.32	5.75	3.02

Constant Power Discharge Characteristics at 25°C/77°F for BP5-12

Final Voltage	Discharge Time: for Model BP7-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP7-12								
10.80 V	253.1	186.3	149.3	88.8	50.95	20.40	14.07	7.86	4.11
10.50 V	292.9	201.8	156.2	92.2	52.47	20.81	14.28	7.98	4.20
10.20 V	311.2	209.1	161.0	94.3	53.42	21.00	14.36	8.02	4.22
9.90 V	325.2	214.1	164.7	95.6	54.06	21.15	14.41	8.04	4.23
9.60 V	336.0	218.4	168.0	96.6	54.60	21.27	14.45	8.04	4.23

Constant Power Discharge Characteristics at 25°C/77°F for BP7-12

Final Voltage	Discharge Time: for Model BP12-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP12-12								
10.80 V	433.9	319.4	256.0	152.3	87.34	34.98	24.12	13.48	7.05
10.50 V	502.2	346.0	267.7	158.1	89.96	35.68	24.48	13.68	7.20
10.20 V	533.6	358.5	276.0	161.7	91.57	36.00	24.61	13.75	7.23
9.90 V	557.5	367.1	282.4	164.0	92.67	36.25	24.70	13.79	7.25
9.60 V	576.0	374.4	288.0	165.6	93.60	36.47	24.77	13.79	7.25

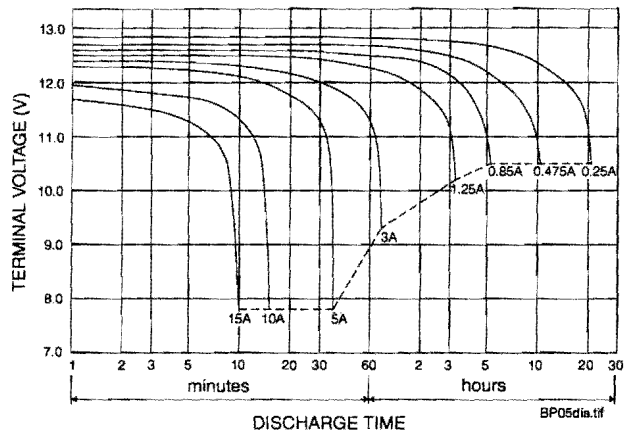
Constant Power Discharge Characteristics at 25°C/77°F for BP12-12

Final Voltage	Discharge Time: for Model BP26-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP26-12								
10.80 V	940.0	692.0	554.6	330.0	189.23	75.79	52.25	29.20	15.26
10.50 V	1088.0	749.7	580.0	342.5	194.91	77.30	53.04	29.64	15.60
10.20 V	1156.0	776.7	598.0	350.3	198.41	78.00	53.33	29.79	15.67
9.90 V	1208.0	795.3	611.8	355.2	200.79	78.54	53.52	29.88	15.71
9.60 V	1248.0	811.2	624.0	358.8	202.80	79.01	53.68	29.88	15.71

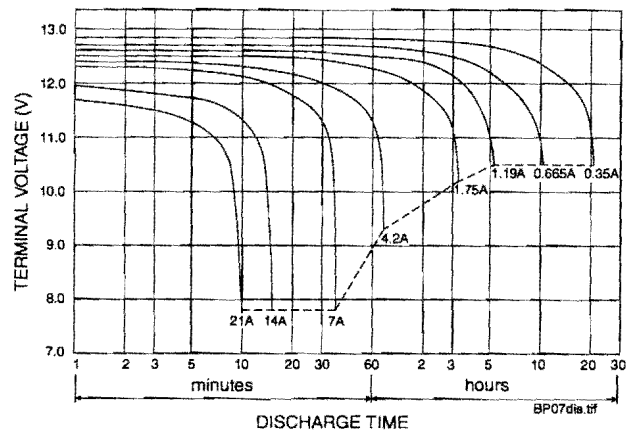
Constant Power Discharge Characteristics at 25°C/77°F for BP26-12

B & B BATTERY

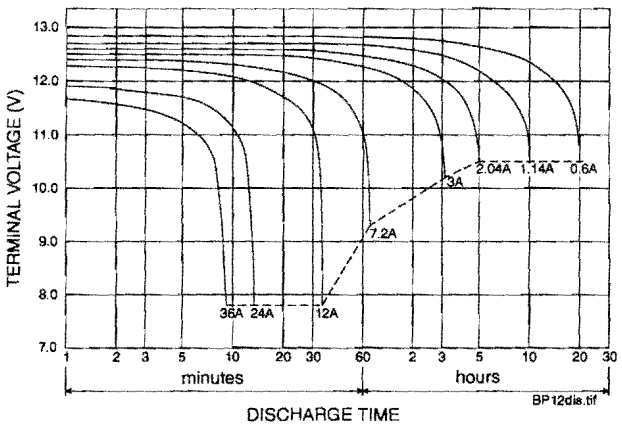
BP5-12 Battery Discharge Characteristics (25°C/77°F)



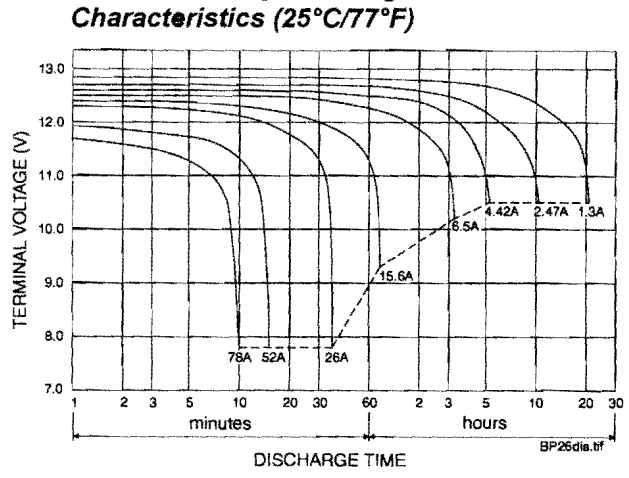
BP7-12 Battery Discharge Characteristics (25°C/77°F)



BP12-12 Battery Discharge Characteristics (25°C/77°F)



BP26-12 Battery Discharge Characteristics (25°C/77°F)



BP05-12

BP12-12

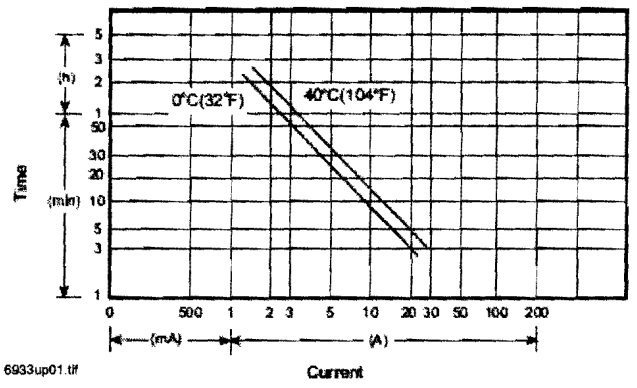
BP26-12

UPG BATTERY

UB1250 has the same specifications as previous Jolt SA1250; SA1272 to be replaced with UB1270 (specs/diagrams pending).

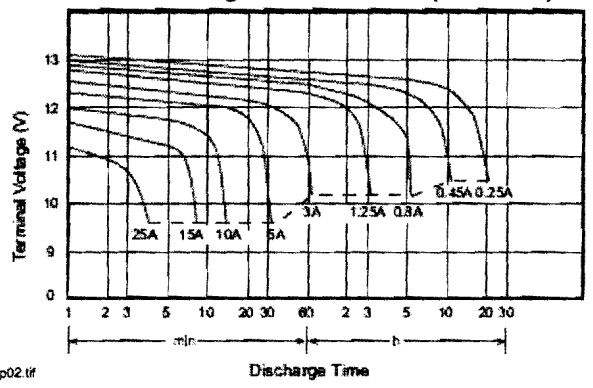
UB1250 (previously SA1250) Diagrams

UB1250/SA1250 discharge current vs. time



6933up01.tif

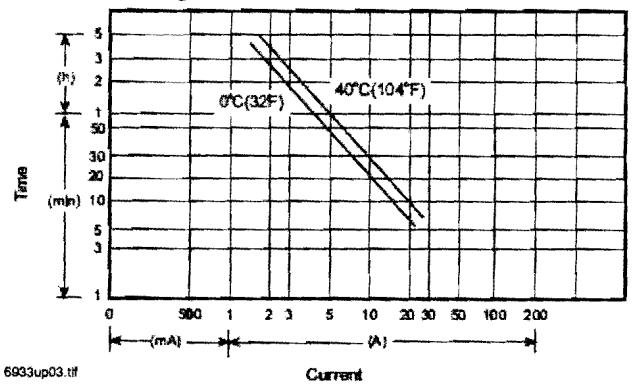
UB1250/SA1250 discharge characteristics (25°C/77°F)



6933up02.tif

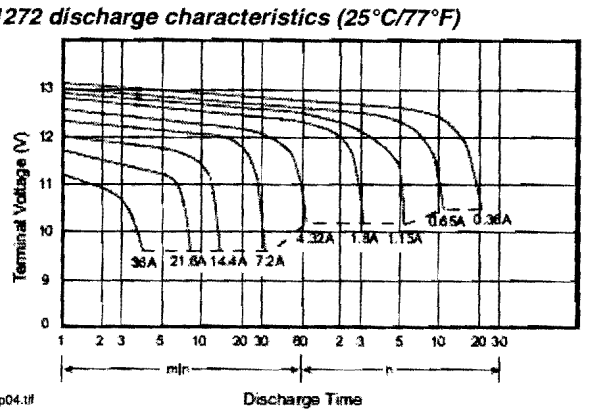
SA1272 Diagrams

SA1272 discharge current vs. time



6933up03.tif

SA1272 discharge characteristics (25°C/77°F)



6933up04.tif

UB1250, SA1250 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 5.0 AH.
- Dimensions: total height 107 mm (4.21"); container height 101 mm (3.98"); length 90 mm (3.54"); width 70 mm (2.76").
- Weight: approximately 1.83 kg (4.03 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 32 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.25 A: 5.0 AH.
  - 5 hr @ 0.8 A: 4.0 AH.
  - 1 hr @ 3.0 A: 3.0 AH.
  - 1 C @ 5.0 A: 2.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 60 A (5 sec).
- Maximum charging current: 1.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

SA1272 Specifications

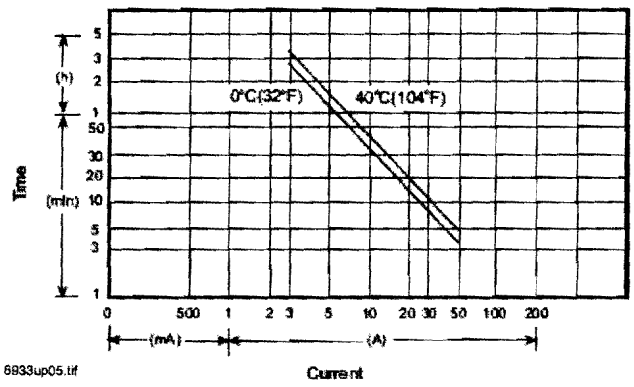
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 7.2 AH.
- Dimensions: total height 100 mm (3.94"); container height 94 mm (3.70"); length 151 mm (5.95"); width 65 mm (2.56").
- Weight: approximately 2.66 kg (5.85 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 22 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.36 A: 7.2 AH.
  - 5 hr @ 1.15 A: 5.76 AH.
  - 1 hr @ 4.32 A: 4.32 AH.
  - 1 C @ 7.2 A: 3.6 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 90 A (5 sec).
- Maximum charging current: 2.16 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

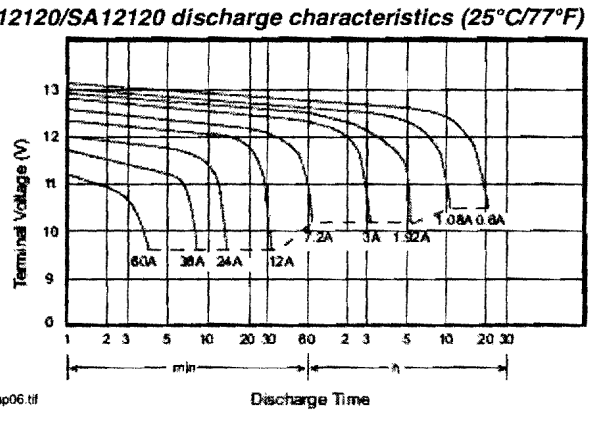
UB12120 (was SA12120) Diagrams

UB12120/SA12120 discharge current vs. time



6933up05.tif

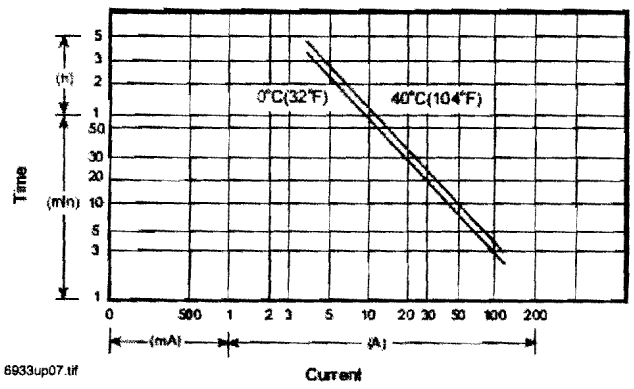
UB12120/SA12120 discharge characteristics (25°C/77°F)



6933up06.tif

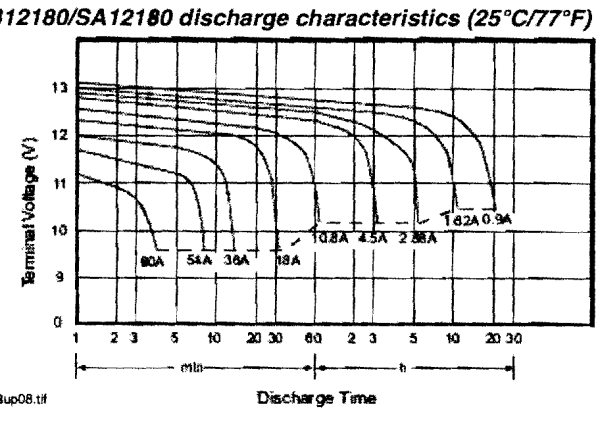
UB12180 (was SA12180) Diagrams

UB12180/SA12180 discharge current vs. time



6933up07.tif

UB12180/SA12180 discharge characteristics (25°C/77°F)



6933up08.tif

UB12120, SA12120 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 12.0 AH.
- Dimensions: total height 100 mm (3.94"); container height 94 mm (3.70"); length 151 mm (5.95"); width 98 mm (3.86").
- Weight: approximately 4.10 kg (9.04 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 14 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.6 A: 12.0 AH.
  - 5 hr @ 1.92 A: 9.6 AH.
  - 1 hr @ 7.2 A: 7.2 AH.
  - 1 C @ 12.0 A: 6.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.

Maximum discharge current: 120 A (5 sec).

Maximum charging current: 3.6 A.

Self-discharge residual capacity (25°C, 77°F):

- After 3 months: ~ 90%.
- After 6 months: ~ 82%.
- After 12 months: ~ 70%.

UB12180, SA12180 Specifications

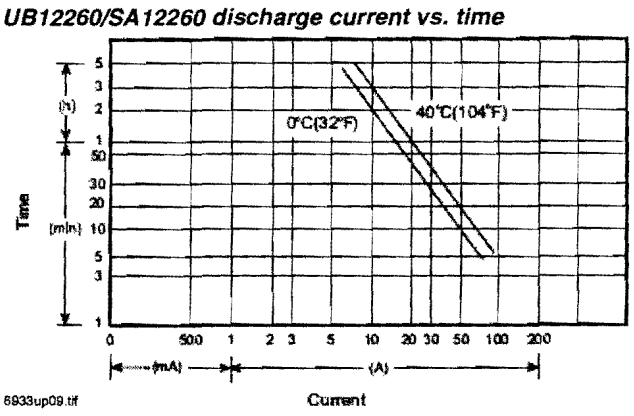
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 18.0 AH.
- Dimensions: total height 167 mm (6.58"); container height 167 mm (6.58"); length 181 mm (7.13"); width 76 mm (2.29").
- Weight: approximately 6.06 kg (13.36 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 13 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.9 A: 18.0 AH.
  - 5 hr @ 2.88 A: 14.4 AH.
  - 1 hr @ 10.8 A: 10.8 AH.
  - 1 C @ 18.0 A: 9.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 5.4 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

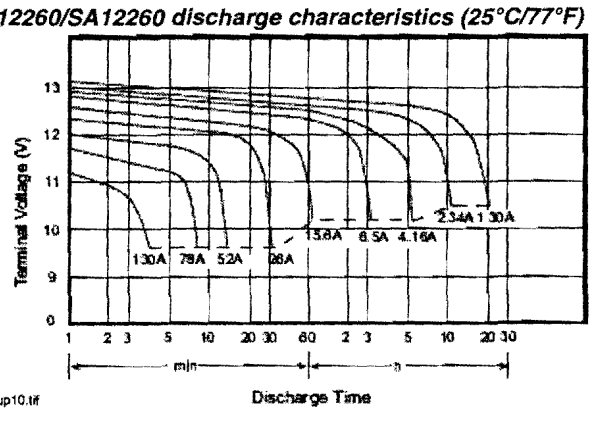
UB12260 (was SA12260) Diagrams

UB12260/SA12260 discharge current vs. time



6933up09.tif

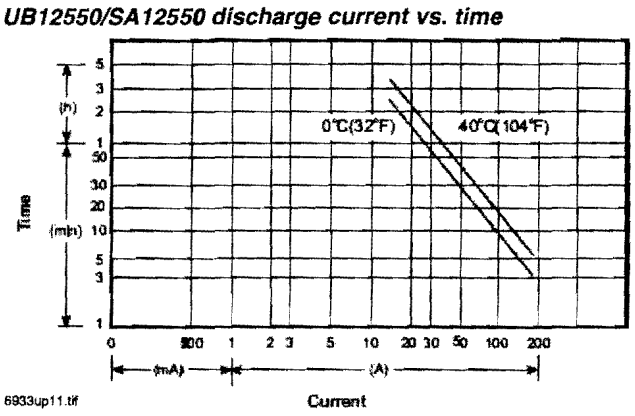
UB12260/SA12260 discharge characteristics (25°C/77°F)



6933up10.tif

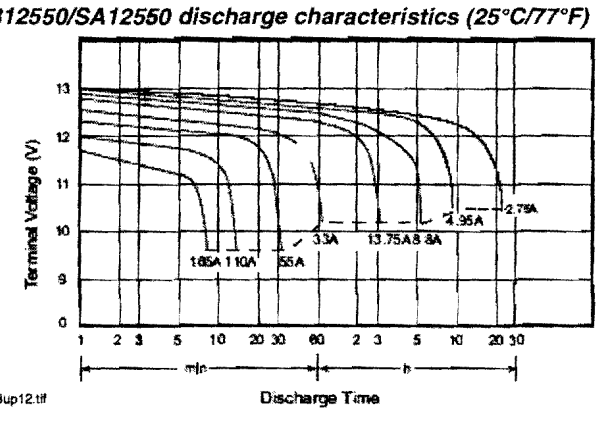
UB12550 (was SA12550) Diagrams

UB12550/SA12550 discharge current vs. time



6933up11.tif

UB12550/SA12550 discharge characteristics (25°C/77°F)



6933up12.tif

UB12260, SA12260 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 26.0 AH.
- Dimensions: total height 125 mm (4.92"); container height 125 mm (4.92"); length 166 mm (6.54"); width 175 mm (6.89").
- Weight: approximately 8.80 kg (19.40 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 10 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 1.3 A: 26.0 AH.
  - 5 hr @ 4.16 A: 20.8 AH.
  - 1 hr @ 15.6 A: 15.6 AH.
  - 1 C @ 26.0 A: 13.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 7.8 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

UB12550, SA12550 Specifications

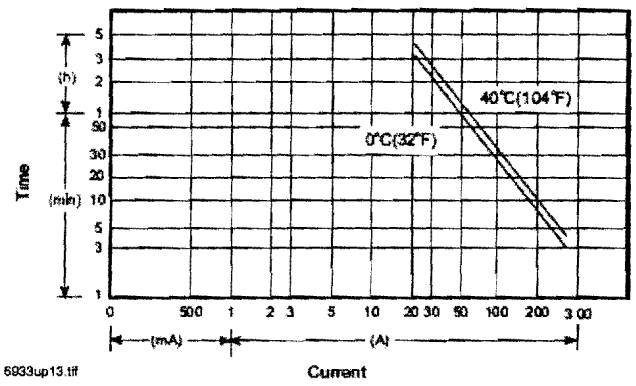
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 55.0 AH.
- Dimensions: total height 234.5 mm (9.23"); container height 216.5 mm (8.52"); length 229 mm (9.02"); width 138 mm (5.43").
- Weight: approximately 19.0 kg (41.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 8 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 2.75 A: 55.0 AH.
  - 5 hr @ 8.8 A: 44.0 AH.
  - 1 hr @ 33.0 A: 33.0 AH.
  - 1 C @ 55.0 A: 27.5 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 16.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

UPG BATTERY

Same specifications as previous Jolt models;
packaging and part numbers are the only changes.

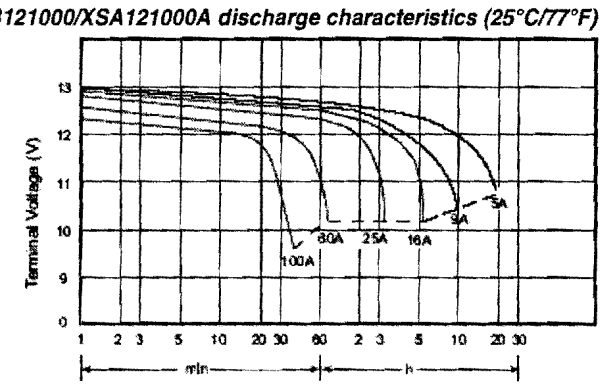
UB121000 (XSA121000A) Diagrams

UB121000/XSA121000A discharge current vs. time



6933up13.tif

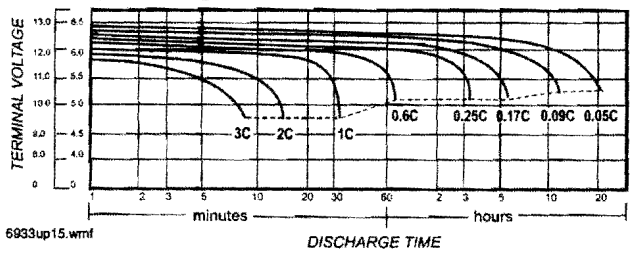
UB121000/XSA121000A discharge characteristics (25°C/77°F)



6933up14.tif

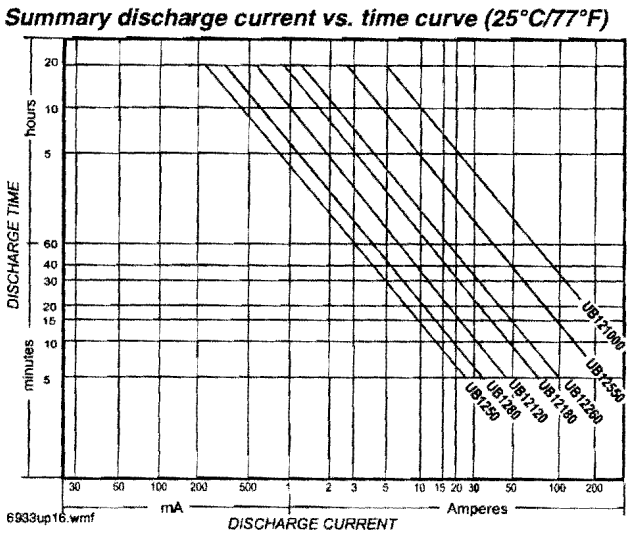
UPG Summary Diagrams

Summary discharge characteristics



6933up15.wmf

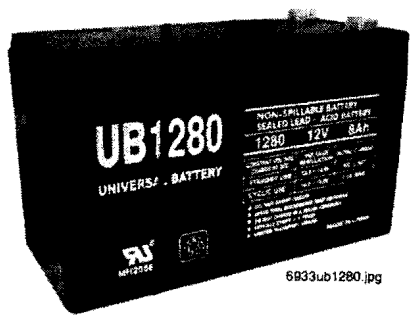
Summary discharge current vs. time curve (25°C/77°F)



6933up16.wmf

UB121000 (XSA121000A) Diagrams

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 100.0 AH.
- Dimensions: total height 221 mm (8.70"); container height 214 mm (8.43"); length 329 mm (12.95"); width 172 mm (6.77").
- Weight: approximately 34.00 kg (74.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 6.5 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 5.0 A: 100.0 AH.
  - 5 hr @ 16.0 A: 80.0 AH.
  - 1 hr @ 60.0 A: 60.0 AH.
  - 1 C @ 100.0 A: 50.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 30 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.



6933ub1280.jpg

6933ub12260.jpg

UPG BATTERY

Same specifications as previous Jolt models;
packaging and part numbers are the only changes.

Charging Procedure: UPG Battery

Application	Charging method	Charging voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Maximum charging current (CA)	Charging time 0.1 CA, 25°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power source	Constant voltage and constant current charging (with current restriction)	2.25 ~ 2.30	– 3.3 (–1.8 mV/°F/cell)	0.3	T³ 24	T³ 20	0 – 40°C (32 – 104°F)
For cycle service		2.40 ~ 2.50	– 5 (–2.8 mV/°F/cell)	0.3	16 < T < 24	10 < T < 24	

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.

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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.

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www.notifier.com

SD355(A), SD355T(A), SD355R(A)

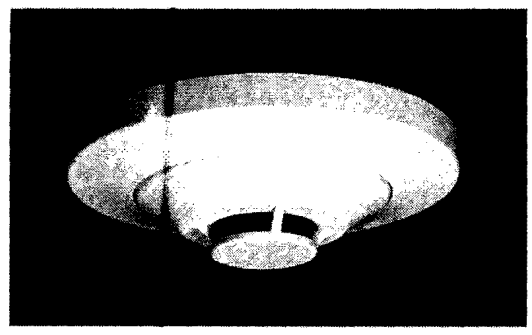
Addressable Photoelectric Smoke Detectors

FIRE·LITE ALARMS by Honeywell

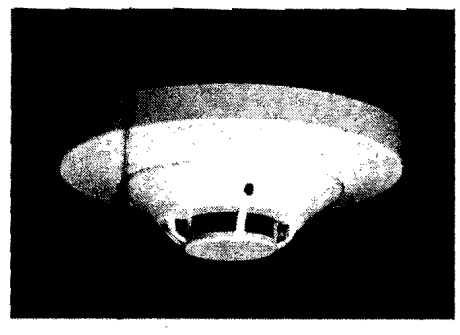
Addressable Devices

General

The **SD355(A)** and **SD355T(A)** addressable, low-profile plug-in photoelectric detectors use a state-of-the-art photoelectric sensing chamber with communications to provide open area protection and are used exclusively with Fire•Lite's Addressable Fire Alarm Control Panels (FACPs). The SD355T(A) adds thermal sensors that will alarm at a fixed temperature of 135°F (57°C). Since these detectors are addressable, they will help emergency personnel quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (P/N **RA100Z(A)**). The **SD355R** is a remote test capable detector for use with D355PL or DNR(W) duct smoke detector housings.



SD355 with B350LP base



SD355T with B350LP base

Features

SLC loop:

- Two-wire loop connection.
- Unit uses base for wiring.

Addressing:

- Addressable by device.
- Direct Decade entry of address: 01 – 99 with MS-9200 series, and 01 – 159 with MS-9600 series.

Architecture:

- Unique single-source, dual-chamber design to respond quickly and dependably to a broad range of fires.
- Sleek, low-profile design.
- Integral communications and built-in type identification.
- Built-in tamper-resistant feature.
- Removable cover and insect-resistant screen for simple field cleaning.

Operation:

- Withstands air velocities up to 4,000 feet-per-minute (20 m/sec.) without triggering a false alarm.
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level.
- Visible LED "blinks" when the unit is addressed (communicating with the fire panel) and latches on in alarm.

Mechanicals:

- Sealed against back pressure.
- Direct surface mounting or electrical box mounting.
- Mounts to: single-gang box, 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or 4.0" (10.16 cm) square electrical box *(using a plaster ring — included).*

Other system features:

- Fully coated circuit boards and superior RF/transient protection.
- 94-V0 plastic flammability rating.
- Low standby current.

Options:

- Remote LED output connection (P/N RA100Z).

Applications

Use photoelectric detectors in life-safety applications to provide a broad range of fire-sensing capability, especially where smoldering fires are anticipated. Ionization detectors are often better than photoelectric detectors at sensing fast, flaming fires.

Construction

These detectors are constructed of off-white LEXAN®. SD355(T) plug-in, low-profile smoke detectors are designed to commercial standards and offer an attractive appearance.

Installation

SD355(T) plug-in detectors use a detachable mounting base to simplify installation, service and maintenance. Mount base on box which is at least 1.5 inches (3.81 cm) deep. Suitable boxes include:

- 4.0" (10.16 cm) square box with plaster ring.
- 4.0" (10.16 cm) octagonal box.
- 3.5" (8.89 cm) octagonal box.
- Single-gang box.

NOTE: *Because of the inherent supervision provided by the SLC loop,* ***end-of-line resistors*** *are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class B) wiring. SD355R mounts in a D355PL or DNR(W) duct detector housing.*

Operation

Each SD355/T/R uses one of 99 possible addresses on the MS-9200 series and up to 318 (159 on each loop) on the MS-9600 series Signaling Line Circuit (SLC). It responds to regular polls from the system and reports its type and status.

The SD355/T/R addressable photoelectric sensor's unique unipolar chamber responds quickly and uniformly to a broad range of smoke conditions and can withstand wind gusts up to 4,000 feet-per-minute (20 m/sec.) without sending an alarm level signal. Because of its unipolar chamber, the SD355/T/R is approximately two times more responsive than most photoelectric sensors. This makes it a more stable detector.

Detector Sensitivity Test

Each detector can have its sensitivity tested (required per NFPA 72, Chapter 14 on *Inspection, Testing and Maintenance*) when installed/connected to a MS-9200 series or MS-9600 series addressable fire alarm control panel. The results of the sensitivity test can be printed off the MS-9200 series or MS-9600 series for record keeping.

Specification

Voltage range: 15 – 32 VDC (peak).

Standby current: 300 µA @ 24 VDC.

LED current: 6.5 mA @ 24 VDC (latched "ON").

Air velocity: 4,000 ft./min. (20 m/sec.) maximum.

Diameter: 6.1" (15.5 cm) installed in B350LP base.

Height: 2.1" (5.33 cm) installed in B350LP base.

Weight: 3.6 oz. (102 g).

Operating temperature range: ***for SD355(A):*** 0°C to 49°C (32°F to 120°F); ***for SD355T(A):*** 0°C to 38°C (32°F to 100°F). ***SD355R(A):*** installed in a DNR(W) -20°C to 70°C (-4°F to 158°F).

Temperature: 0°C – 49°C (32°F – 120°F).

Relative humidity: 10% – 93%, non-condensing.

Listings

Listings and approvals below apply to the SD355(A) and SD355T(A) detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL Listed, file S1059.
- ULC Listed, file S1059.
- CSFM approved: file 7272-0075:194.
- MEA approved: file 243-02-E.
- FM approved.

Product Line Information

NOTE: *"A" suffix indicates ULC-Listed model.*

SD355: Adressable photoelectric detector; B350LP base included.

SD355A: Sames as SD355 with ULC Listing (B350LPA base included).

SD355T: Same as SD355 but with ***thermal*** element; B350LP base included.

SD355TA: Same as SD355T with ULC Listing (B350LPA base included).

SD355R: Remote test capable addressable photoelectric detector for use with a D355PL or DNR(W) duct detector housing.

B350LP(A): Plug-in detector base. Dimensions: 6.1" (15.5 cm). Mounting: 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, 3.5" (8.89 cm) octagonal box, or single-gang box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224RB(A): Plug-in System Sensor ***relay*** detector base. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224BI(A): Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases *(see DF-52389)*. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B200SR: Sounder base capable of producing temporal-3 or steady sound output.

ACCESSORIES:

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. *For use with B501(A) and B350LP(A) bases only.*

SMK400E: Surface mounting kit provides for entry of surface wiring conduit. *For use with B501(A) base only.*

RMK400: Recessed mounting kit. *For use with B501(A) base only.*

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

T55-127-010: Detector removal tool without pole.

BCK-200B: Black detector covers, box of 10 .

WCK-200B: White detector covers, box of 10 .

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

H355(A) Series

Intelligent Addressable Thermal Detectors

FIRE-LITE ALARMS by Honeywell

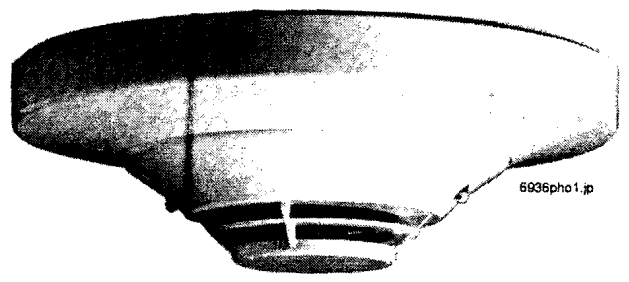
Addressable Devices

General

The **Fire•Lite Alarms H355 Series** thermal detectors are addressable sensors that use a state-of-the-art thermistor sensing circuit for fast response. These sensors are designed to provide open-area protection and are intended for use with the **Fire•Lite's** addresable Fire Alarm Control Panels (FACPs).

The **H355(A)** and **H355R(A)** sensors provide fixed temperature alarm detection at 135°F (57°C). The **H355R(A)** sensor also responds to rate-of-rise conditions of greater than 15°F (8.3°C) per minute. The **H355HT(A)** is a fixed high-temperature detector that activates at 190°F (88°C). These thermal detectors provide cost effective, addressable property protection in a variety of applications.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (P/N **RA400Z**).



H355 with B350LP base

Features

SLC loop:

- Two-wire SLC loop connection.
- Unit uses base for wiring.

Addressing:

- Addressable by device.
- Direct Decade entry of address: 01 – 159 with MS-9600, 01 – 99 with MS-9200UD.

Architecture:

- Sleek, low-profile, stylish design.
- State-of-the-art thermistor technology for fast response.
- Integral communications and built-in device-type identification.
- Built-in tamper resistant feature.
- Built-in functional test switch activated by external magnet.

Operation:

- Factory preset at 135°F (57°C) for the H355(A) and H355R(A); 190°F (88°C) for the H355HT(A).
- Rate-of-rise triggers at 15°F (8.3°C) per minute for the H355R(A).
- 360°-field viewing angle of the visual alarm indicators (two bicolor LEDs). LEDs blink green in Normal condition and turn on steady red in Alarm.
- Visible LEDs "blink" every time the unit is addressed.

Mechanicals:

- Sealed against back pressure.
- SEMS screws for wiring of the separate base.
- Designed for direct-surface or electrical-box mounting.
- Plugs into separate base for ease of installation and maintenance.
- Separate base allows interchange of photoelectric, ionization and thermal sensors.

Other system features:

- Remote test feature from the panel.
- Walk test with address display.
- Low standby current.
- 94-5V plastic flammability rating.

Options:

- Remote LED output connection to optional RA400Z remote LED annunciator.
- Recessed (**RMK400**) or surface (**SMK400E**) base mounting kits.

Installation

H355(A) Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount base (all base types) on box that is at least 1.5" (3.81 cm) deep. Suitable boxes include:

- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box.
- Single-gang box (except relay or isolator base).

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring only.*

Applications

Use thermal detectors for protection of property.

Construction

These detectors are constructed of off-white Bayblend®. The H355(A) Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each H355(A) Series detector uses one of 159 (MS-9600) or 99 (MS-9200UD) possible addresses on a control panel SLC loop. It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The H355(A) Series offers features and performance that represent the latest in thermal detector technology.

Specifations

Diameter: 6.1" (15.5 cm) installed in B350LP(A).

Height: 2.1" (5.33 cm).

Weight: 4.8 oz. (137 g).

Installation temperature: –4°F to 100°F (–20°C to 38°C).

Humidity range: 10% to 93% relative humidity (noncondensing).

Voltage range: 15 to 32 VDC peak.

Standby current: 300 µA @ 24 VDC (one communication every five seconds with LED blink enabled).

LED current: 6.5 mA @ 24 VDC.

Mounting: B350LP(A) flanged base, included.

Fixed-temperature setpoint: 135°F (57°C) for the H355(A) and H355R(A); 190°F (88°C) for the H355HT(A).

Rate-of-rise detection: responds to greater than 15°F (8.3°C) per minute.

Listings and Approvals

Listings and approvals below apply to the H355(A) Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- MEA approved: file 387-02-E
- UL Listed, file S2517
- ULC Listed (models H355A, H355RA, H355HTA)
- CSFM approved: file 7270-0075:195
- FM approved

Product Line Information

NOTE: "A" suffix indicates ULC-Listed model.

H355: Intelligent thermal sensor; B350LP base included.

H355A: Same as H355 but with ULC Listing (B350LPA base included).

H355R: Same as H355 with *rate-of-rise* feature; B350LP base included.

H355RA: Same as H355R but with ULC Listing (B350LPA base included).

H355HT: Intelligent fixed high-temperature thermal detector; B350LP base included.

H355HTA: Same as H355HT but with ULC Listing (B350LPA base included).

B350LP(A): Plug-in detector base (included). ***Dimensions:*** 6.1" (15.5 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, 3.5" (8.89 cm) octagonal box, or single-gang box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224RB(A): Plug-in System Sensor ***relay*** detector base. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224BI(A): Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases *(see DF-52389)*. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B501BH-2(A): Plug-in System Sensor standard ***sounder*** base. ***Diameter:*** 6.0" (15.24 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring. Mounting boxes have a minimum depth of 1.5" (3.81 cm).

B501BHT-2(A): Plug-in System Sensor ***temporal tone*** sounder base.

ACCESSORIES:

RA400Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B350LP(A) bases only.

SMK400E: Surface mounting kit provides for entry of surface wiring conduit. For use with B501(A) base only.

RMK400: Recessed mounting kit. For use with B501(A) base only.

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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

Wheelock® Exceder™

Horns and Strobes

NOTIFIER® by Honeywell

Audio/Visual Devices

General

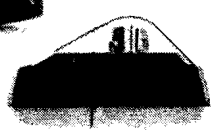
The Wheelock® Exceder™ Series of notification appliances feature a sleek modern design and numerous features including eight candela options in one appliance, low current draw, no tools needed for setting changes, 12/24 VDC operation, universal mounting base and multiple mounting options.

Models with an audible feature 3 sound settings (90, 95, 99 dB). All switches to change settings can be set without the use of a tool and are located behind the appliance to prevent tampering. Wall models feature voltage test points to take readings with a voltage meter for troubleshooting and AHJ inspection.

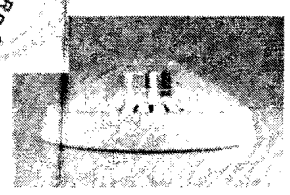
The Wheelock® Exceder™ Series of wall and ceiling notification appliances feature a Universal Mounting Base (UMB) designed to simplify the installation and testing of horns, strobes, and combination horn strobes. The separate universal mounting base can be pre-wired to allow full testing of circuit wiring before the appliance is installed and the surface is finished. It comes complete with a contact cover for protection against dirt, dust, paint and damage to the contacts. The contact cover also acts as a shunting device to allow pre-wire testing for common wiring issues.

The contact cover is polarized to prevent it from being installed incorrectly and prevents the appliance from being installed while it is on the UMB. When the contact cover is removed the circuit will show an open until the appliance is installed. The UMB allows for consistent installation and easy replacement of appliances if required. Wall models provide an optional locking screw for extra secure installation, while the ceiling models provide a captive screw to prevent the screw from falling during installation.

Wall



Ceiling



Features

- Multiple voltages
- Voltage test points for quick troubleshooting and easy spot-checking (wall models only)
- 3 audible settings (90, 95, 99 dB)
- 8 Candela settings
  - Wall - 15/1575/30/75/95/110/135/185
  - Ceiling - 15, 30, 60, 75, 95, 115, 150, 177
- Finger-slide switches
- Sleek modern aesthetics
- Common base for wall and ceiling with 5 mounting options:
  - 1-gang
  - 2-gang
  - 4 inch square
  - 3.5 inch octagonal
  - 4 inch octagonal

Compatibility and Requirements

- Synchronize using Wheelock Sync Modules, or panels with built-in Wheelock patented sync protocol.
- Compatible with UL "Regulated Voltage" using filtered VDC or unfiltered VRMS input voltage
- Strobes produce one flash per second over the Regulated Voltage range.

General Notes

- All candela ratings represent minimum effective strobe intensity based on UL Standard 1971.
- Series Exceder Strobe products are Listed under UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%) UL 464 (85% UL 1971).
- Series Exceder horns are under UL Standard 464 for audible signal appliances (Indoor use only).
- Product naming conventions: The Exceder line's model codes break down into easy-to-remember codes.
  HN = Horn, ST = Strobe, HS = Horn-strobe, C = Ceiling Mount, W = White, and R = Red. So "STRC" can be read as "Strobe, Red, Ceiling-mount."., and "HSW" is "Horn-strobe, white, wall-mount."
- Refer to your fire alarm panel or power supply manual when calculating the number of devices allowed per circuit.

Architects/Engineers Specifications

The notification appliances shall be Wheelock Exceder Series HS Audible Strobe appliances, Series ST Visual Strobe appliances and Series HN Audible appliances or approved equals. The Series HS and ST Strobes shall be listed for UL Standard 1971 (Emergency Devices for the Hearing-Impaired) for Indoor Fire Protection Service. The Series HS and HN Audibles shall be UL Listed under Standard 464 (Fire Protective Signaling). All Series shall meet the requirements of FCC Part 15 Class B. All inputs shall be compatible with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP) with the ability to operate from 8 to 33 VDC. Indoor wall models shall incorporate voltage test points for easy voltage inspection.

The Series HS Audible Strobe and ST Strobe appliances shall produce a flash rate of one flash per second over the Regulated Voltage Range and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens. The Series shall be of low current design. Where Multi-Candela appliances are specified, the strobe intensity shall have 8 field selectable settings at 15,

15/75, 30, 75, 95, 110, 135, 185 candela for wall mount and 15, 30, 60, 75, 95, 115, 150, 177 candela for ceiling mount. The selector switch for selecting the candela shall be tamper resistant. The 15/75 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required (e.g. ADA compliance). Appliances with candela settings shall show the candela selection in a visible location at all times when installed.

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

MOUNTING OPTIONS

The Series HS Audible Strobe, ST Strobe and Series HN Audible shall incorporate a patented Universal Mounting Base that shall allow mounting to a single-gang, double-gang, 4" square, 3.5" octagonal, 4" octagonal or 100mm European type back boxes. Two wire appliance wiring shall be capable of directly connecting to the mounting base. Continuity checking of the entire NAC circuit prior to attaching any notification appliances shall be allowed. Product shall come with contact cover to protect contact springs. Removal of an appliance shall result in a supervision fault condition by the Fire Alarm Control Panel (FACP). The mounting base shall be the same base among all horn, strobe, horn strobe, wall and ceiling models. All notification appliances shall be backwards compatible.

PHYSICAL SPECIFICATIONS

The Series HS and ST wall models shall have a low profile measuring 5.24" H x 4.58" W x 2.19" D. Series HN wall shall measure 5.24" H x 4.58" W x 1.6" D. The Series HSC and STC shall been round and have a low profile with a diameter of 6.68" x 2.63" D. Series HNC ceiling shall have a diameter of 6.68" x 1.50" D.

SYNCHRONIZATION

When synchronization is required, the appliance shall be compatible with Wheelock®ís SM, DSM Sync Modules, Wheelock® Power Supplies or other manufacturerís panels with built-in Wheelock® Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync protocol fails to operate, the strobe shall revert to a non-synchronized flash-rate and still maintain one flash per second over its Regulated Voltage Range. The appliance shall also be designed so that the audible signal may be silenced while maintaining strobe activation when used with Wheelock® synchronization protocol.

Standards and Codes

Modules in this series comply with UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), and ULC.

Agency Listings

These listings and approvals apply to the modules specified in this document. 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.

- **UL Listed:** S5391 (Strobes); E5946 (Horns, Horn/strobes).
- **ULC Listed**
- **CSFM Listed:** 7125-0785:168.

Specification & Ordering Information

Model	Strobe Candela	12/24 VDC	Mounting Options
Horn Strobes			
HSR	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
HSW	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
HSRC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
HSWC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
Strobes			
STR	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
STW	15, 15/75, 30, 75, 95, 110, 135, 185	X	Universal Mounting Base
STRC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
STWC	15, 30, 60, 75, 95, 115, 150, 177	X	Universal Mounting Base
Horns			
HNR	—	X	Universal Mounting Base
HNW	—	X	Universal Mounting Base
HNRC	—	X	Universal Mounting Base
HNWC	—	X	Universal Mounting Base

*12 VDC models feature 15 and 15/75 settings

NOTE: *Due to continuous development of Cooper Wheelock products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Cooper Notification standard terms and conditions.*

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Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
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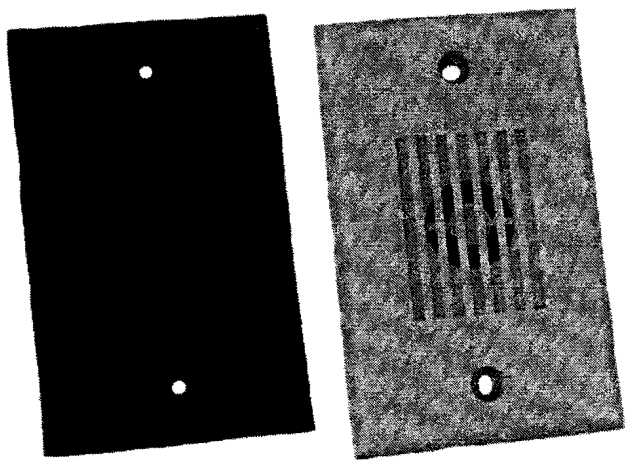
BOSCH
Invented for life

MIZ Series Piezoelectric Mini-horns



- Operates on 12 VDC or 24 VDC, filtered or unfiltered
- Field-selectable settings for temporal (Code 3) or continuous horn
- High sound output (90 dBA at 10 ft [3 m])
- Low current draw on two-wire loop
- Low temperature compensation
- Designed to meet or exceed NFPA/ANSI standards
- Convenient mounting on any standard single-gang box
- Flush or surface mounting options

These Wheelock mini-horns are dual-tone alarm devices listed for indoor use under UL464 for Audible Appliances. They combine a low current draw for a high sound output and offer field-selectable tone settings for temporal (Code 3) or continuous horn tones. They use either filtered DC or unfiltered full wave rectified (FWR) input voltage. All inputs are polarized for standard reverse polarity supervision. They can be synchronized when used with the SM (single) and DSM (dual) Synchronization Modules or a compatible control panel. If not synchronized, the temporal sound patterns could overlap and not be distinctive.
Available in red for high visibility or off-white to blend in with room decor, these notification appliances offer the durability of high impact thermoplastic construction, easy installation through two-wire circuitry and single-gang box compatibility. They are ideal audible notification appliances for signaling alarms in individual rooms in apartments, hotels, motels, and offices.

Certifications and Approvals

Wheelock, Inc. holds these Listings and Approvals:

Listings and Approvals:	UL UCST: Audible Signal Appliances, General Signal (UL464)
	UL ULSZ: Audible Signal Appliances (UL464)
	ULC-S525-99: Canadian UL Standard for Audible Signal Appliances for Fire Alarm Systems
	CSFM 7135-0785: 115, 7135-0785: 150
	City of Chicago Bureau of Fire Protection
	Factory Mutual Research
	NYC/MEA (151-92-E, Vol. 39)
Complies with:	American National Standards Institute (ANSI)
	National Fire Protection Association (NFPA)

Installation/Configuration Notes

Compatible Products

The following products are compatible with the MIZ Series Mini-horns:

Category	Product ID	Product Description
Control Panels	D7024[1]	Addressable FACP
	D7024	Conventional FACP
	D8024[2]	Analog FACP
	D9124[2]	Addressable FACP
	D10024A[2]	Analog FACP
Modules	SM-12/24-R	Single synchronization module (red)
	DSM-12/24-R	Dual synchronization module (red)

[1] When used with a D7039 Multiplex Expansion Module, the D7024 becomes an addressable fire alarm control panel (FACP).

[2] For synchronization, use the SM or DSM Synchronization Modules with these control panels.

Mounting Considerations

Mount these mini-horns on the indicated back boxes for the indicated applications:

	Conduit Applications	Surface Mounted	Flush Mounted
Single-gang, wiremold		•	
Single-gang, deep	•		•

Wiring

The input terminals accept wires with diameters between 18 AWG (1.2 mm) and 12 AWG (2.3 mm).

Parts Included

Quant.	Component
1	MIZ-24S-R or MIZ-24S-W Mini-horn
1	Hardware pack
1	Literature pack

Technical Specifications

Environmental Considerations

Relative Humidity:	Up to 93%, non-condensing
Temperature (Operating):	+32°F to +120°F (0°C to +49°C)

Mechanical Properties

Dimensions (H x W x D):	4.5 in. x 2.75 in. x 1.375 in. (11.4 cm x 7.0 cm x 3.5 cm)
Material:	High-impact thermoplastic

Power Requirements

Maximum Horn Current (RMS, operating):	VDC: 26 mA FWR : 43 mA
Voltage (nominal input):	24 VDC or FWR
Voltage (operating range):	16 V to 33 VDC or FWR

Sound Output (UL Reverberant Room) at 10 ft (3 m)

Continuous:	16 VDC: 79 dBA 24 VDC: 83 dBA 33 VDC: 85 dBA
Temporal (Code 3):	16 VDC: 75 dBA 24 VDC: 78 dBA 33 VDC: 81 dBA

Note The sound output for the temporal Code 3 is lower than in Continuous mode because the time that the horn is off is averaged into the sound output rating. While the horn is producing a tone in temporal Code 3 modes, its sound pressure is the same as the Continuous mode.

Ordering Information

MIZ-24S-R 24 V Mini-horn (red)	MIZ-24S-R
MIZ-24S-W 24 V Mini-horn (white)	MIZ-24S-W

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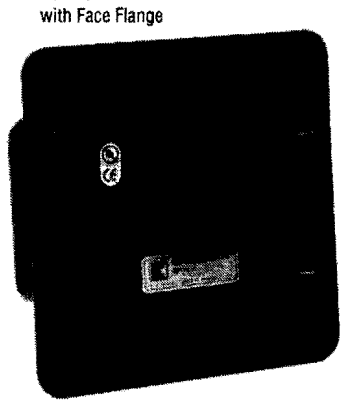
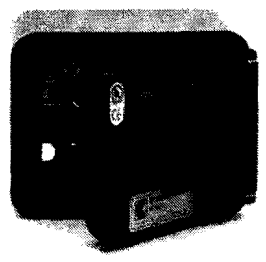
High Security Industrial/Government Key Box

Recessed Mount with Face Flange



Surface Mount



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

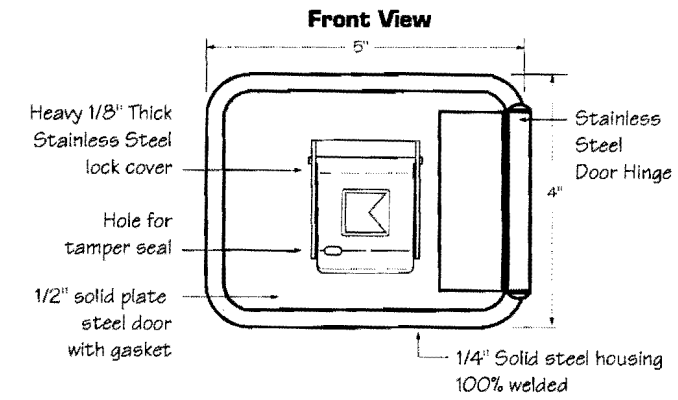
The hinged-door 3200 Series KNOX-BOX is more convenient than the lift-off door version because it allows single-handed operation and opened or closed, it's all one unit.

Features and Benefits

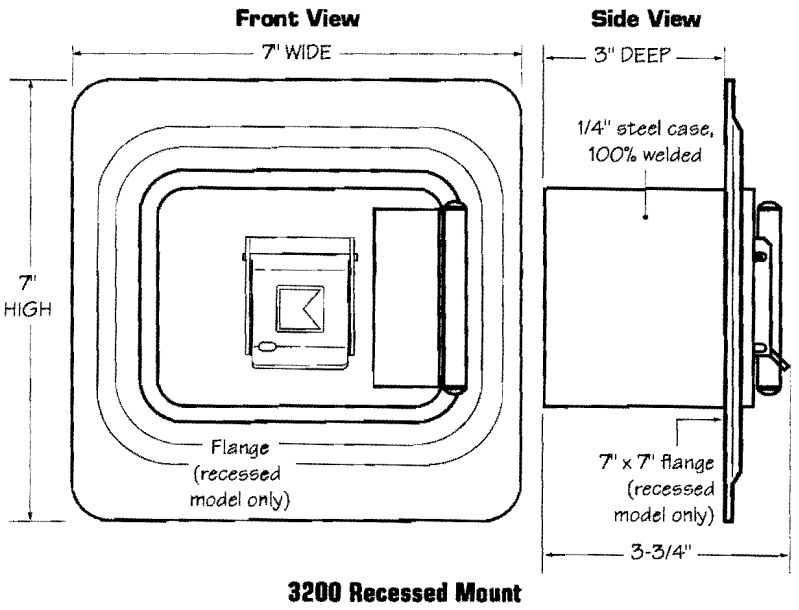
- Holds up to 10 keys and access cards in interior compartment
- Ensures high security. Box and lock are UL® Listed
- Includes a Knox-Coat® proprietary finishing process that protects Knox products up to four times better than standard powder coat
- Resists moist conditions with a weather resistant door gasket
- Hinged door allows single-handed operation
- Colors: Black, Dark Bronze or Aluminum
  Weight: Surface mount - 8 lbs.
  Recessed mount - 9 lbs.

Options

- Alarm tamper switches (UL Listed)
- Recessed Mounting Kit (RMK) for recessed models only
- Inside switch for use on electrical doors, gates and other electrical equipment



3200 Surface Mount



3200 Recessed Mount

Ordering Specifications

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

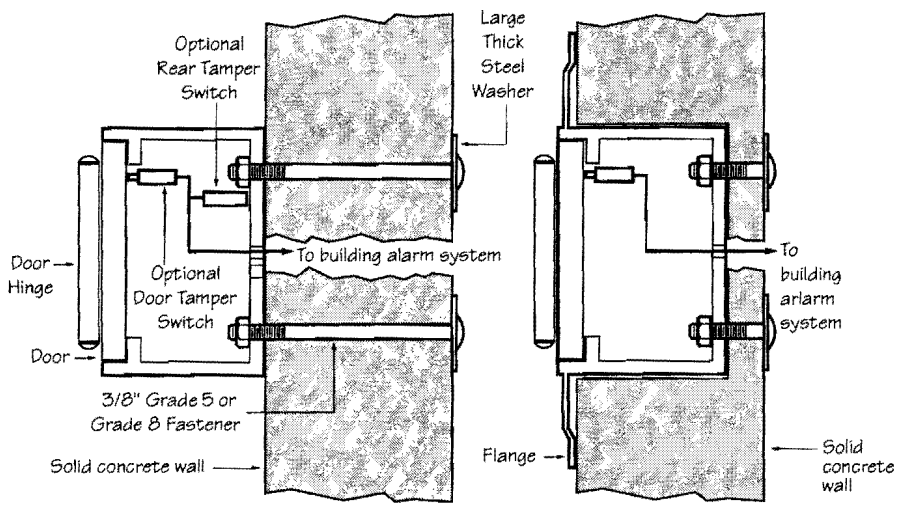
KNOX-BOX surface/recessed mount with hinged door, with/without UL Listed tamper switches. 1/4" plate steel housing, 1/2" thick steel door with interior gasket seal and stainless steel door hinge. Box and lock UL Listed. Lock has 1/8" thick stainless steel dust cover with tamper seal mounting capability.

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

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

Knox-Box® 3200 Series
HINGED DOOR MODEL - MOUNTING DIAGRAM

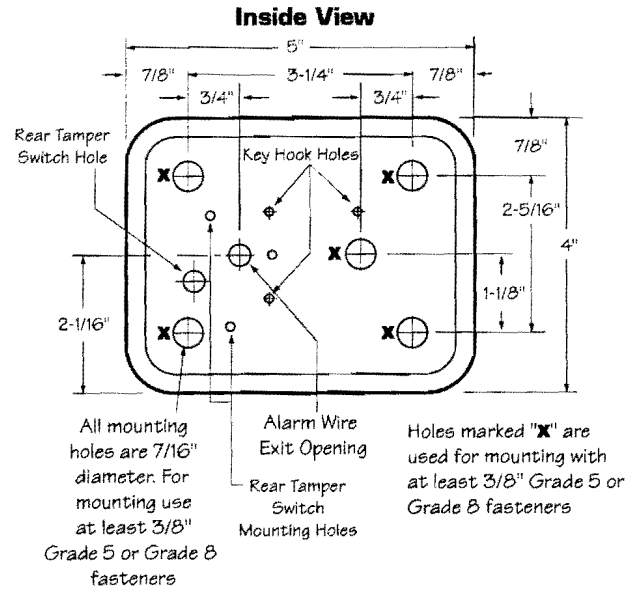
Suggested minimum mounting height
6 feet above ground



3200 Series Hinged Door Surface Mount

3200 Series Hinged Door Recess Mount

Inside View



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

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

Recessed Mounting Kit

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

Installation In Cast Concrete

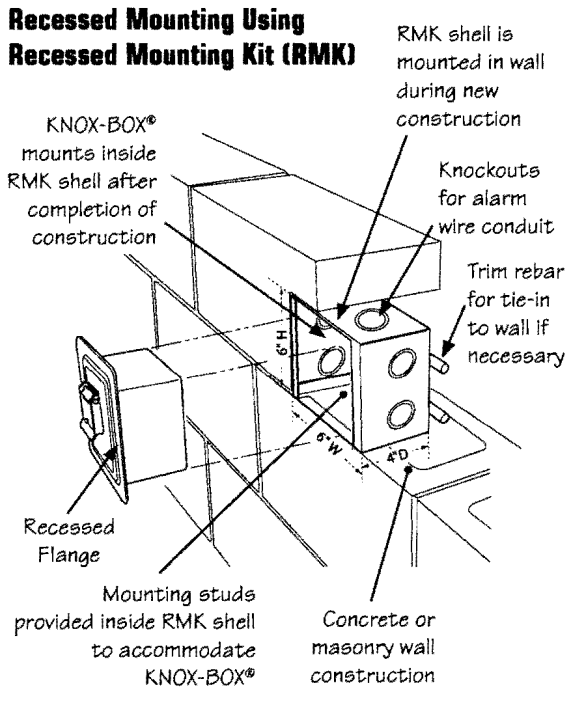
The optional Recessed Mounting Kit is for use in new concrete or masonry construction only. The kit includes a shell housing and mounting hardware to be cast-in-place. The KNOX-BOX is mounted into the shell housing after construction is completed.

Dimensions

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

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

Recessed Mounting Using Recessed Mounting Kit (RMK)



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

NO EXCUSES!

FAD

NFPA 72 section 10.18.2.1.2.8 If the documents are located in a separate enclosure or cabinet, the separate enclosure or cabinet shall be prominently labeled FIRE ALARM DOCUMENTS.

Fire Alarm Documents
Records / Programs / Software

The FAD is the perfect fit to meet the demanding code requirements today. SAE's number one goal is to manufacture code compliant solutions and this product allows you to do just that. NFPA 72 section 6.2.2.1 states, "A record of installed software and firmware version numbers shall be maintained at the location of the fire alarm control unit."

This durable 16 gauge steel enclosure with a solid piano hinge and key lock will keep all of your code required documents in one safe place. With a 2GB USB flash drive it stores your fire alarm software safe and secure eliminating the occurrences of the software not being on site when technicians arrive to service the system. Along with your fire alarm software you can store your test & inspection documents, service records, manuals & AS built drawings for the system. Using a standard USB B connector it allows you to plug in with any standard SB printer cable to upload or download information.

The FAD is designed to hold critical manuals and documents with a durable steel sleeve. It has designated hooks to organize key rings and hold important business cards for easy access and reference. Inside the cover it has a organized note table that allows for documentation for passwords and other critical system information. The steel sleeve can be easily removed to hold a 1.5" three ring binder.

The innovation of a single gang cutout inside the box to implement the infinity line products with conduit knockout access enables you to provide other system functions for test and inspection. A drill switch or a shut off switch for testing are just a few examples. See the complete line of Infinity products for single gang electrical product solutions.

Standard Features:

- Installed with a 2 gig digital flash drive with USB B connector
- 2 Key ring hooks to hold system keys
- Business card holder for key contacts
- Overall Dimensions are 12" x 13" tall and 2 ¼ deep
- 16 gauge steel box and cover for security
- durable powercoat baked on finish other colors available
- standard ¾"cat 30 key lock other lock assemblies available
- Solid stainless steel piano hinge
- permanently screened white ink 1" high "Fire Alarm Documents"
- Legend sheet for passwords and system information

NFPA Made In U.S.A.

ISO 9001 REGISTERED COMPANY

ADA

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

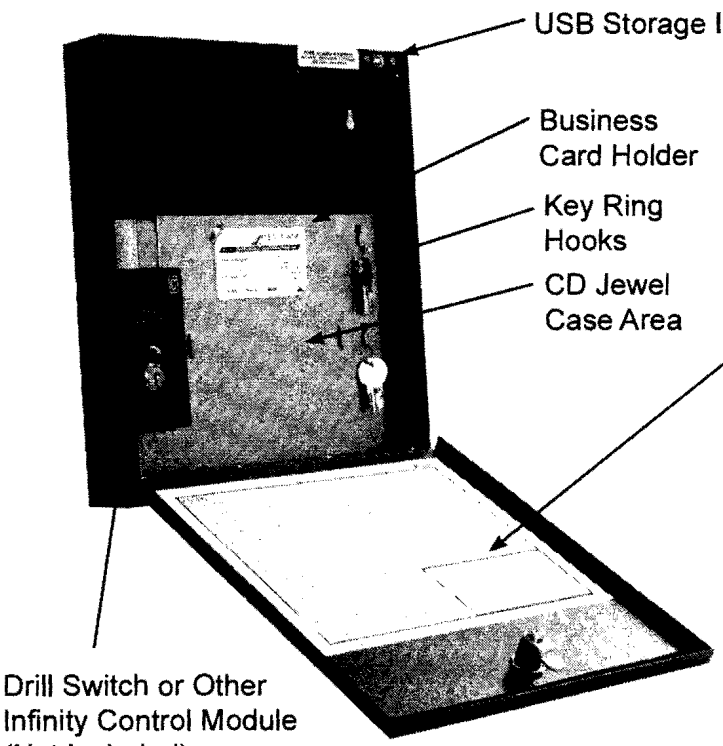
No Excuses, Just Solutions!

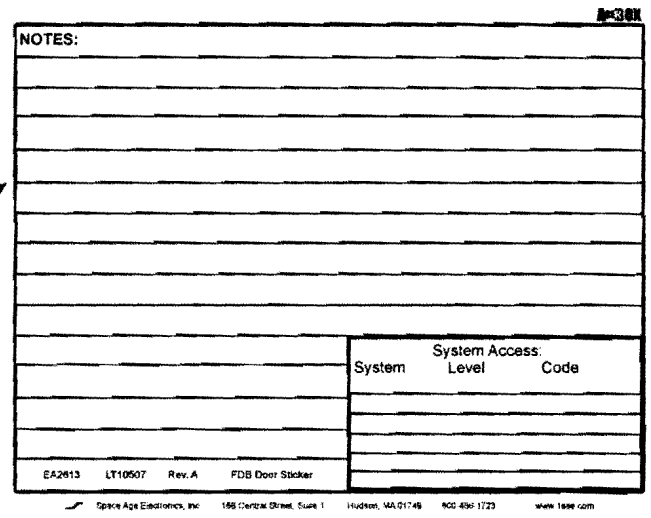
SPACE AGE ELECTRONICS, INC.

Specifications:

The Fire Alarm Document Box (FAD) shall be constructed of 18 gauge cold rolled steel, it shall have a red powder coat epoxy finish. The cover shall be permanently screened with 1" high lettering "FIRE ALARM DOCUMENTS" with indelible ink. The access door shall be locked with a ¾" barrel lock and the hinge shall be a solid width 12" stainless steel piano hinge. The enclosure will supply 4 mounting holes.

Inside the enclosure a removable steel sleeve that will accommodate standard 8 ½ x 11 manuals and loose document records that will be protected within the enclosure. A legend sheet permanently attached to the door for system passwords and critical information and inspection notes. The FAD will have permanently and securely mounted inside a minimum of 2GB's digital flash memory drive with a standard USB B connector for uploading and downloading information. The drive shall not be accessible without tools to any person whom gains access to the records. The enclosure shall also provide 2 key ring holders with a location to mount standard business type cards for key contact personell.





Notes Sticker inside FAD Door

Ordering Information:

Part #	Description
SSU00685	**Fire Alarm Storage Cabinet RED**
SSU00673	**Custom screening with your Logo**

Check out our Infinity line eFAD single gang 2 Gig digital storage solutions (IAMEFAD)

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

No Excuses, Just Solutions!

FIRE-LITE ALARMS
www.firelite.com

July 14, 2004 DF-52013 • E-500

BG-12LX
Addressable Manual Pull Station

Section: Addressable Devices

Patented, U.S. Patent No. D428,351; 6,380,846
U.S. Patent Pending: 09/686,286

GENERAL

The **Fire•Lite Alarms BG-12LX** is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface (mounted inside) for Fire•Lite's addressable MS-9200, MS-9200UD, and MS-9600 fire alarm control panels. Because the BG-12LX is addressable, the control panel can display the exact location of the activated manual pull station. This leads fire service personnel quickly to the location of the alarm.

FEATURES

- Aesthetically pleasing, highly visible, dual-action design.
- Meets ADA 5 lb. maximum pull force.
- Easily operated (dual-action).
- Attractive shape and textured finish.
- Mounts, semi-flush, to a standard single-gang (2.125" [5.3975 cm] minimum depth), double-gang, or 4" (10.16 cm) square electrical box.
- When the handle latches in down position, the word "ACTIVATED" appears at the top of the handle in bright yellow to clearly indicate the station has been operated.
- Key/lock reset; needs only a 1/4-turn to lock/unlock.
- Includes Braille text on station handle.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
- Optional trim ring (**BG-TR**).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Maintenance personnel can open station (for inspection and testing) without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes red in normal operation and latches on steady red when in alarm.

CONSTRUCTION

Shell, door, and handle are molded of durable LEXAN® (or polycarbonate equivalent) with a textured finish.

OPERATION

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word "ACTIVATED" (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

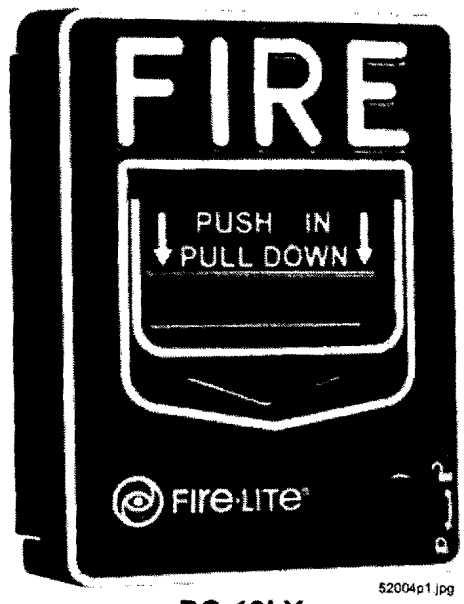
LEXAN® is a registered trademark of GE Plastics, a subsidiary of General Electric Company.

c UL us LISTED

California State Fire Marshal 7150-0075:184

FM APPROVED

MEA 67-02-E



52004p1.jpg

BG-12LX

Manual stations connect with two wires to one of the control panel SLC loops. Each manual station, on command from the control panel, sends data to the panel representing the state of the pull station switch. Two rotary decimal switches allow address settings (01-99).

PRODUCT LINE INFORMATION

BG-12LX	Dual-action addressable pull station. Includes key lock/reset feature.
SB-I/0	Surface backbox, indoor/outdoor.
SB-10	Surface backbox.
BG-TR	Optional trim ring.

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

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

INSTALLATION

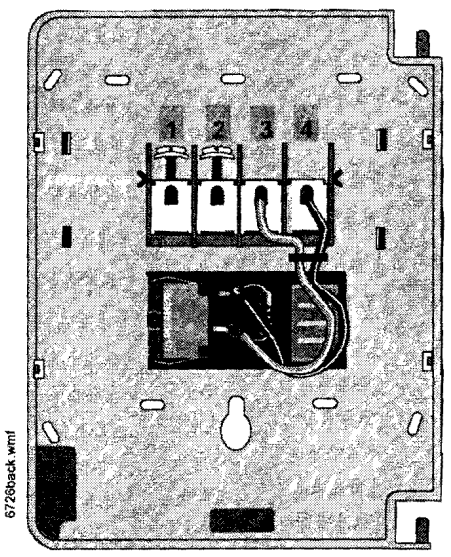
The BG-12LX can be semi-flush mounted into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or surface mounted to the Model SB-I/0 or SB-10 surface backbox. If the BG-12LX is semi-flush mounted, then the optional trim ring (BG-TR) may be used. The BG-TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

ELECTRICAL SPECIFICATIONS

Normal operating voltage: 24 VDC.

Maximum SLC loop voltage: 28.0 VDC.

Maximum SLC loop current: 230 µA.

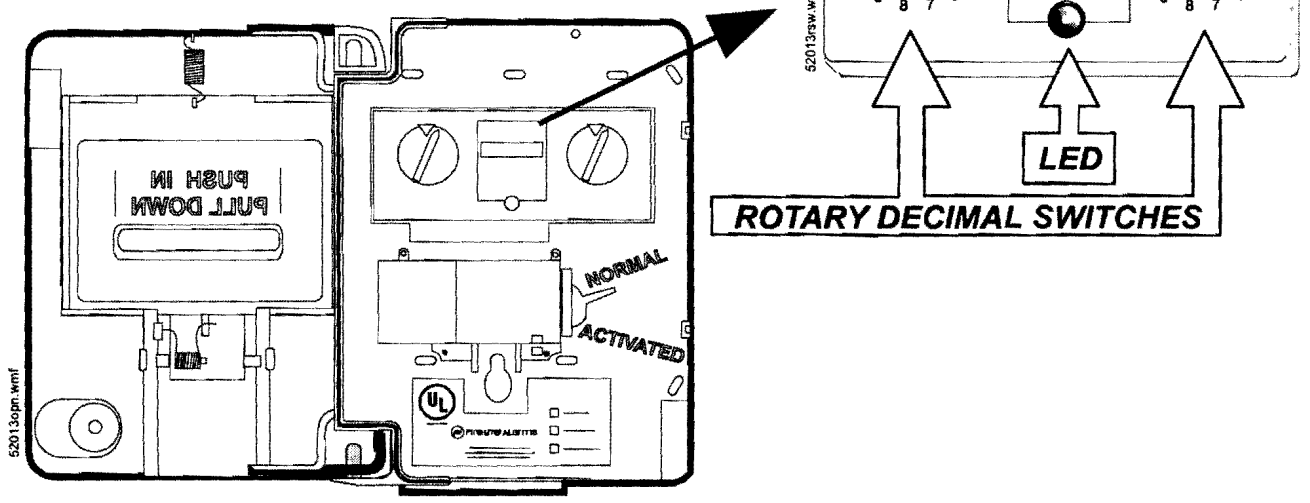


TERMINAL CONNECTIONS

1 SLC (–)

2 SLC (+)

Back of station without door.



Cover open to show easy access to the addressable interface module, rotary switch, and UL label.

ARCHITECTURAL/ ENGINEERING SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored LEXAN® (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-I/0 or SB-10; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

SILENT KNIGHT

MS 9200ud Calculations

Global Project Values:

Project Name:	469 Brighton Ave.	Standby Hours:	24
Project ID:	305406 R1	Alarm Mins:	5
Prepared By:	Norris Inc.	Derating Factor:	1.2
Date:	12/16/2010	Voltage Drop Warning Threshold %:	10

Panel ID: 9200ud
Location:

Model: 9200UD Add. Fire Alarm Control Panel
Volts: 24 VDC

Max NAC Current: 2.5 Amps
Max Panel Current: 6.0 Amps

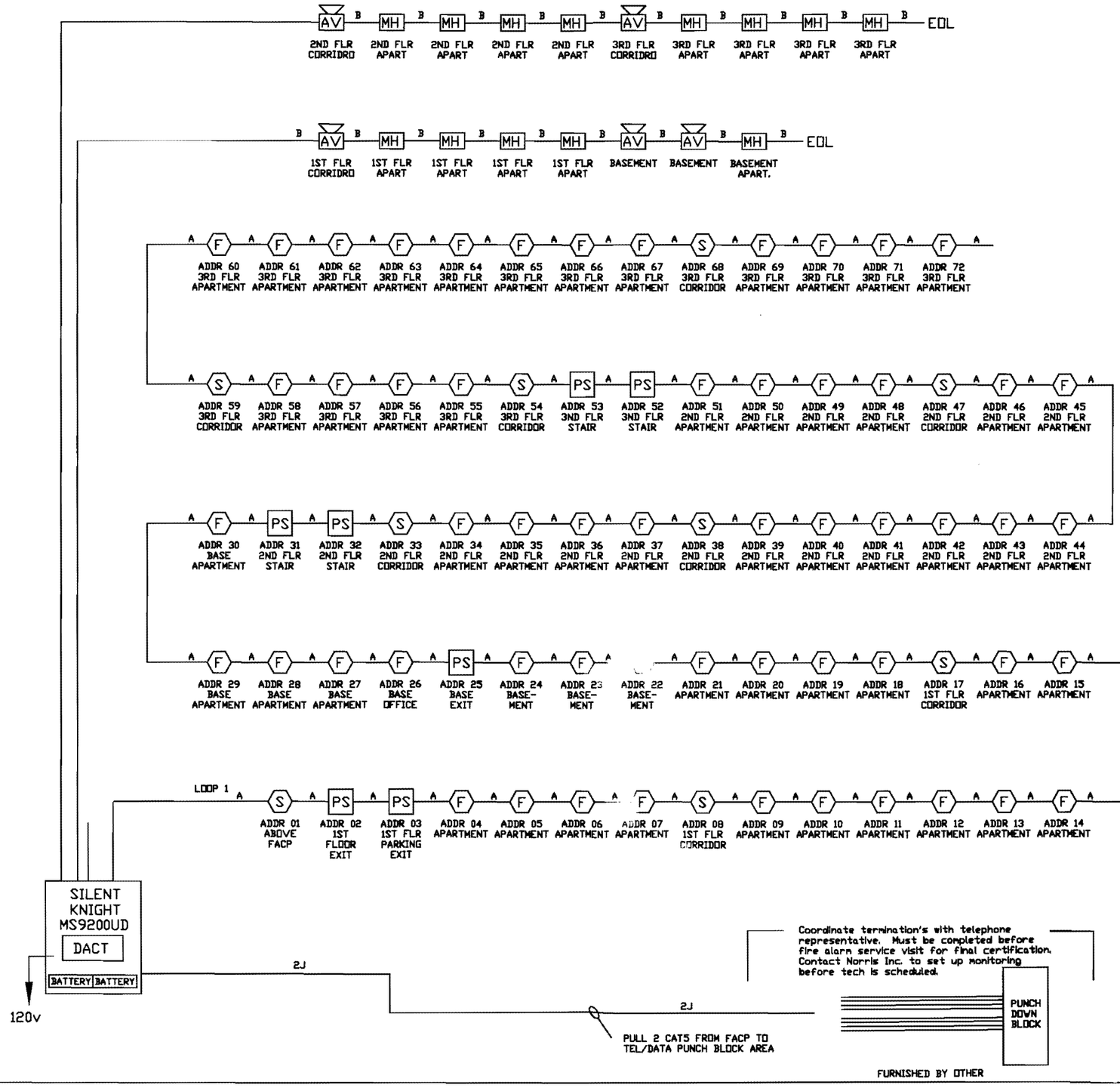
Ckt.#	Circuit Name	Qty	Current Draw Standby	Current Draw Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
9200UD	CTRL Panel	1	0..255	0.325						
SD355	Photo, Photo-T	6	0.002	0.039						
SK	Ion		0.000	0.000						
H355	Heat, Heat-HT	52	0.016	0.338						
SK	Heat ROR		0.000	0.000						
SK	Beam, Beam-T		0.000	0.000						
SK	Duct		0.000	0.000						
SK	Acclimate		0.000	0.000						
SK	Control		0.000	0.000						
SK	Control-6		0.000	0.000						
SK	Monitor, Minimon		0.000	0.000						
SK	Monitor-2		0.000	0.000						
SK	Monitor-10		0.000	0.000						
BG12LX	Pull	7	0.002	0.002						
SK	Relay		0.000	0.000						
SK	Relay-6		0.000	0.000						
SK	Zone		0.000	0.000						
SK	Zone-6		0.000	0.000						
SK	Isolator Module		0.000	0.000						
SSB224BI	Isolator Base		0.000	0.000						
SSB501BHT	Sounder Base		0.000	0.000						
SSB224RB	Relay Base		0.000	0.000						
SSRTS151	Magnetic Remote Test		0.000	0.000						
SSRTS151KEY	Key Activated Test		0.000	0.000						
SSRA100Z	Remote LED		0.000	0.000						
5860	LCD Remote Annunc		0.000	0.000						
5824	Serial/Parallel Module		0.000	0.000						
5496	Power Expander		0.000	0.000						
5895XL	Power Expander		0.000	0.000						
5865-4	LED Annunciator (4G)		0.000	0.000						
5865-3	LED Annunciator (3G)		0.000	0.000						
5880	LED Driver Module		0.000	0.000						
5883	Relay Module		0.000	0.000						
NAC #1	Notification Appl Circuit		0.000	0.655	#12 Solid	1.59		0.00	20.40	0.00%
NAC #2	Notification Appl Circuit		0.000	0.572	#12 Solid	1.59		0.00	20.40	0.00%
NAC #3	Notification Appl Circuit		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%
NAC #4	Notification Appl Circuit		0.000	0.000	#12 Solid	1.59		0.00	20.40	0.00%
	Total Standby Current (Amps)		0.019	1.931	Total Alarm Current (Amps)					
	Standby Time In Hours		24	0.083	Alarm Time In Minutes / 60		(5 Mins)			
	Total Standby AH Required		0.456	0.161	Total Alarm AH Required					
	Total Combined AH Required		0.62							
	Multiply By The Derating Factor		1.20							
	Minimum Battery AmpHours Required		0.74							

N/A

Command Shortcuts

Configure Circuits | Print Page

Important! Wiring connections must have correct polarity.



LEGEND

MOUNTING HEIGHT		
48 INCHES	PS	PULL STATION
	S	SMOKE DETECTOR
	F	HEAT DETECTOR FIXED TEMP
80 INCHES	MH	MINI HORN
80 INCHES	AV	AUDIO / VISUAL
	RC	RECORDS CABINET
	KB	KNOX BOX

This drawing is a typical device layout, wiring is shown diagrammatically only. This drawing has been provided as an example ONLY. Riser does not necessarily indicate all devices and appliances. See floor plans and specification for location and quantities. The purchaser must accurately layout the initiating and notification devices in their proper zones/circuit. Note: All signal circuits have a 2.5 amp load limitation and a combined load limitation of 3.0 amps or 6.0 amps if XRM-24 is added to the panel. There can be 4 class B nac circuits or 2 class A nac circuits. REMOTE power supply has a 3.0 amps limitation per circuit and an 8.0 amp combined **limitation for all 4 circuits. (see chart below for** current vs. candela rating)

Room Size	Candela Rating	Load (amps)
20' x 20'	15 cd	0.08 amps
28' x 28'	30 cd	0.10 amps
45' x 45'	75 cd	0.15 amps
54' x 54'	110 cd	0.20 amps

A 1 PR #12 AWG TWISTED-PAIR UNSHIELDED CABLE FPL GENESIS 4515, BELDEN 6020UL (Up to 10,000 ft)
A 1 PR #14 AWG TWISTED-PAIR UNSHIELDED CABLE FPL GENESIS 4513, BELDEN 6120UL (Up to 8,000 ft)
A 1 PR #16 AWG TWISTED-PAIR UNSHIELDED CABLE FPL GENESIS 4511, BELDEN 6220UL (Up to 4,500 ft)
B 1 PR #12 AWG FPL CABLE
D 1 PR #14 AWG FPL CABLE
E 1 PR #16 AWG FPL CABLE
F 2c #12 AWG CABLE
G 2c #14 AWG CABLE
H 1 PR #16 AWG TWISTED-PAIR SHIELDED CABLE FPL
J 1 CAT5 CABLE

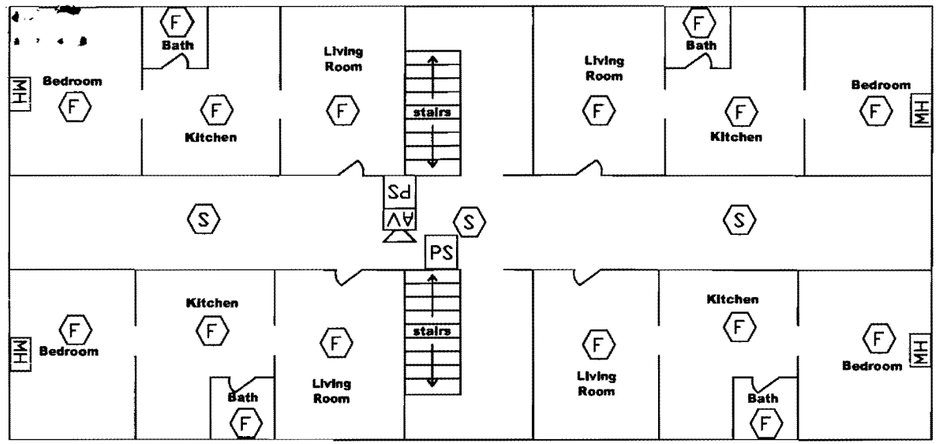
REVISION 2	DATE:	
REVISION 1	DATE:	
REVISION 0 None	DATE:	12/15/10

SYSTEM WIRING RISER

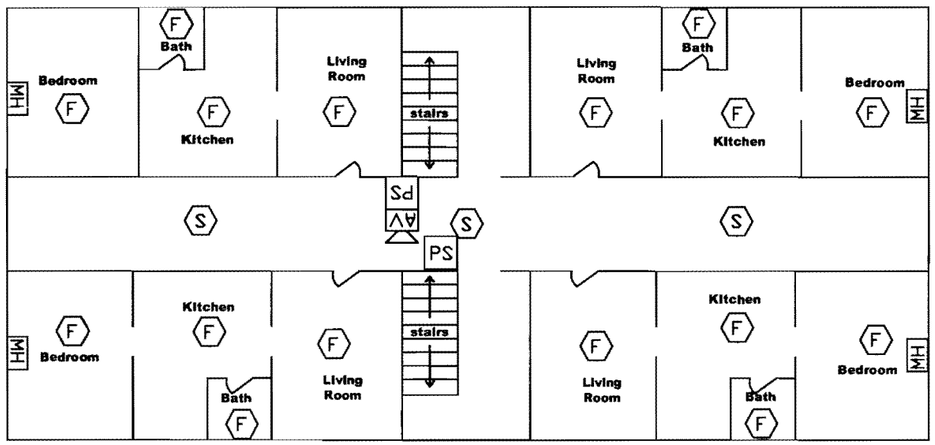
PROJECT NAME
469 Brighton Ave.
Portland, MAINE

SCALE NTS
BY: **EAD**
CK BY:
SAVED AS:

NORRIS INC
Prepared For Tomorrow; Delivered Today
2257 BROADWAY, SO. PORTLAND, MAINE

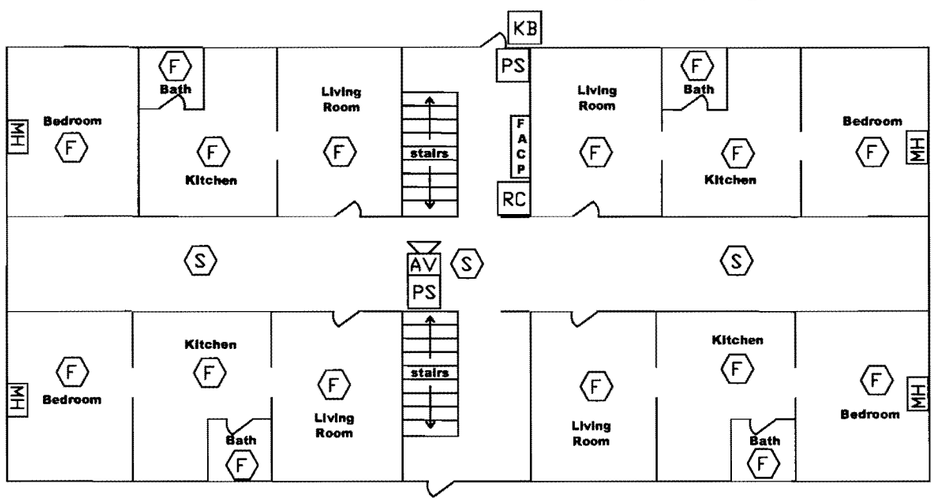


3rd floor



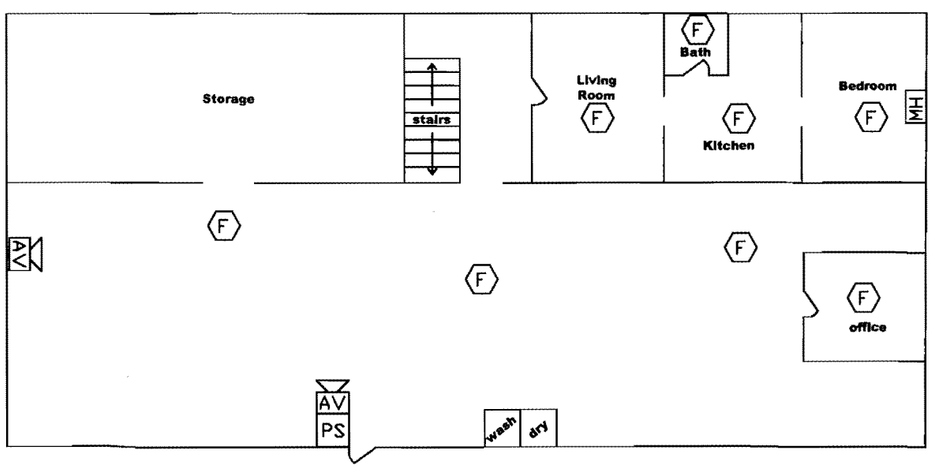
2nd floor

BRIGHTON AVE.



1st floor

PARKING LOT



Basement

Important! Wiring connections must have correct polarity.

SYSTEM OUTPUTS

SYSTEM INPUTS		ACTUATE COMMON ALARM SIGNAL INDICATOR (A)	ACTUATE AUDIBLE ALARM SIGNAL (B)	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR (C)	ACTUATE AUDIBLE SUPERVISORY SIGNAL (D)	ACTUATE COMMON TROUBLE SIGNAL INDICATOR (E)	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL (F)	DISPLAY ALPHANUMERIC SYSTEM STATUS MESSAGE (G)	RECORD EVENTS IN THE SYSTEM MEMORY (H)	CONTROL UNIT ACTIVATION: ACTUATE GENERAL EVACUATION SIGNALS (I)	CONTROL UNIT ACTIVATION: CENTRAL STATION MONITORING: GENERAL ALARM SIGNAL (J)	CONTROL UNIT ACTIVATION: CENTRAL STATION MONITORING TROUBLE SIGNAL (K)	CONTROL UNIT ACTIVATION: CENTRAL STATION MONITORING SUPERVISORY SIGNAL (L)	NOTIFICATION
1	MANUAL FIRE ALARM PULL STATION	●	●					●	●	●	●			
2	AREA SMOKE DETECTOR	●	●					●	●	●	●			
3	AREA HEAT DETECTOR	●	●					●	●	●	●			
4	FIRE ALARM AC POWER FAILURE					●	●	●	●			●		
5	FIRE ALARM SYSTEM LOW BATTERY					●	●	●	●			●		
6	OPEN CIRCUIT					●	●	●	●			●		
7	GROUND FAULT					●	●	●	●			●		
8	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●	●	●			●		
9														
10														

LEGEND

MOUNTING HEIGHT		
48 INCHES	PS	PULL STATION
	S	SMOKE DETECTOR
	F	HEAT DETECTOR FIXED TEMP
80 INCHES	MH	MINI HORN
80 INCHES	AV	AUDIO / VISUAL
	RC	RECORDS CABINET
	KB	KNOX BOX

This drawing is a typical device layout, wiring is shown diagrammatically only. This drawing has been provided as an example ONLY. Riser does not necessarily indicate all devices and appliances. See floor plans and specification for location and quantities. The purchaser must accurately layout the initiating and notification devices in their proper zones/circuit. Note: All signal circuits have a 2.5 amp load limitation and a combined load limitation of 3.0 amps or 6.0 amps if XRM-24 is added to the panel. There can be 4 class B nac circuits or 2 class A nac circuits. REMOTE power supply has a 3.0 amps limitation per circuit and an 8.0 amp combined **limitation for all 4 circuits. (see chart below for** current vs. candela rating)

Room Size	Candela Rating	Load (amps)
20' x 20'	15 cd	0.08 amps
28' x 28'	30 cd	0.10 amps
45' x 45'	75 cd	0.15 amps
54' x 54'	110 cd	0.20 amps

A 1 PR #12 AWG TWISTED-PAIR UNSHIELDED CABLE FPL GENESIS 4515, BELDEN 6020UL (Up to 10,000 ft)
A 1 PR #14 AWG TWISTED-PAIR UNSHIELDED CABLE FPL GENESIS 4513, BELDEN 6120UL (Up to 8,000 ft)
A 1 PR #16 AWG TWISTED-PAIR UNSHIELDED CABLE FPL GENESIS 4511, BELDEN 6220UL (Up to 4,500 ft)
B 1 PR #12 AWG FPL CABLE
D 1 PR #14 AWG FPL CABLE
E 1 PR #16 AWG FPL CABLE
F 2c #12 AWG CABLE
G 2c #14 AWG CABLE
H 1 PR #16 AWG TWISTED-PAIR SHIELDED CABLE FPL
J 1 CAT5 CABLE

REVISION 2	DATE:	
REVISION 1	DATE:	
REVISION 0 None	DATE:	12/15/10

SYSTEM WIRING RISER

PROJECT NAME
469 Brighton Ave.
Portland, MAINE

SCALE NTS
BY: **EAD**
CK BY:
SAVED AS:

NORRIS INC
Prepared For Tomorrow; Delivered Today
2257 BROADWAY, SO. PORTLAND, MAINE