NBG-12LX

Addressable Manual Pull Station

NOTIFIER®
by Honeywell

Intelligent/Addressable Devices

'General

The Notifier NBG-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 for any Notifier intelligent control panel except FireWarden series panels, and the NSP-25 panel. Because the NBG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word "ACTIVATED" appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Up to 99 NBG-12LX stations per loop on CLIP protocol loops.
- Up to 159 NBG-12LX stations per loop on FlashScan® protocol loops.
- Dual-color LED blinks green to indicate normal on FlashScan® systems.

Construction

Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
- **Normal operating voltage:** 24 VDC.
- **Maximum SLC loop voltage:** 28.0 VDC.
- **Maximum SLC standby current:** 375 µA.
- **Maximum SLC alarm current:** 5 mA.
- **Temperature Range:** 32°F to 120°F (0°C to 49°C)
- **Relative Humidity:** 10% to 93% (noncondensing)
- **For use indoors in a dry location**

The NBG-12LX
Addressable Manual Pull Station

Installation

The NBG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

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.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 on FlashScan® systems, 1 – 99 on CLIP systems).

Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, 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 polycarbonate material 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-10 or SB-I/O; 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.

The loop poll LED shall be clearly visible through the front of the station. The LED shall flash while in the normal condition, and stay steadily illuminated when in alarm.

Product Line Information

NBG-12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

NBG-12LXSP: Spanish/English labelled version.

NBG-12LXP: Portuguese labelled version.

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17021: Keys, set of two.

NY-Plate: New York City trim plate.

Agency Listings and Approvals

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/ULC Listed:** S692 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0028:0199.
- **FDNY:** COA #6085 (NFS2-640), COA #6098 (NFS2-3030).
- **BSMI:** CI313066760047.
- **U.S. Coast Guard.**
- **Lloyd's Register.**
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

Made in the U.S.A.

FSP-851(A) Series

Intelligent Plug-In Photoelectric Smoke Detectors with FlashScan®

NOTIFIER®
by Honeywell

Intelligent/Addressable Devices

General

Notifier FSP-851(A) Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. Detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. The FSP-851(A) photoelectric detector's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the FSP-851T(A). The FSP-851R(A) is a remote test capable detector for use with DNR(A)/DNRW duct detector housings. FSP-851(A) series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by Notifier that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices in the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile design.
- Addressable-analog communication.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm *(FlashScan systems only)*.
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1 *(FlashScan systems only)*.
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

Specifications

Sensitivity: 0.5% to 2.35% per foot obscuration
Size: 2.1" (5.3 cm) high; base determines diameter.
 – **B210LP(A):** 6.1" (15.5 cm) diameter.
 – **B501(A):** 4.1" (10.4 cm) diameter.
 – **B200S(A):** 6.875" (17.46 cm) diameter.

FSP-851(A) in B210LP(A) Base

B210-2951.jpg

 – **B200SR(A):** 6.875" (17.46 cm) diameter.
 – **B224RB(A):** 6.2" (15.748 cm) diameter.
 – **B224BI(A):** 6.2" (15.748 cm) diameter.
Shipping Weight: 5.2oz. (147g).

Operating Temperature range: FSP-851(A), 0°C to 49°C (32°F to 120°F). FSP-851T(A), 0°C to 38°C (32°F to 100°F). Low temperature signal for FSP-851T(A) at 45°F +/- 10°F (7.22°C +/- 5.54°C). FSP-851R(A) installed in a DNR(A)/DNRW, -20°C to 70°C (-4°F to 158°F).

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.

Relative Humidity: 10%-93% noncondensing.

Thermal Ratings: Fixed-temperature setpoint 135°F (57°C).

DETECTOR SPACING AND APPLICATIONS

Notifier recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.144m) for ceiling heights 10 feet (3.148m) and higher. For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. *System Smoke Detector Application Guide*, document A05-1003, is available at systemsensor.com

ELECTRICAL SPECIFICATIONS

Voltage Range: 15-32 volts DC peak.

Standby Current (max. avg.): 300µA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 6.5mA @ 24 VDC ("ON").

Installation

FSP-851(A) plug-in detectors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054*.

NOTE: *1) Because of 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. 2) When using relay or sounder bases, consult the ISO-X(A) installation*

sheet I56-1380 for device limitations between isolator modules and isolator bases.

Agency Listings and Approvals

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:** S1115.
- **ULC Listed:** S1115 (FSP-851A, FSP-851RA, FSP-851TA).
- **MEA Listed:** 225-02-E .
- **FM Approved.**
- **CSFM:** 7272-0028:0206 .
- **Maryland State Fire Marshal:** Permit # 2122 .
- **BSMI:** CI313066760036.
- **CCCF:** Certif. # 2004081801000017 (FSP-851T) Certif. # 2004081801000016 (FSP-851).
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).

Product Line Information

NOTE: "A" suffix indicates ULC Listed model.

FSP-851: Low-profile intelligent photoelectric sensor. Must be mounted to one of the bases listed below.

FSP-851A: Same as FSP-851 but with ULC listing.

FSP-851T: Same as FSP-851 but includes a built-in 135°F (57°C) fixed-temperature thermal device.

FSP-851TA: Same as FSP-851T but with ULC listing.

FSP-851R: Low-profile intelligent photoelectric sensor, remote test capable. For use with DNRA/DNRW.

FSP-851RA: Same as FSP-851R but with ULC listing. For use with DNRA.

INTELLIGENT BASES

NOTE: "A" suffix indicates ULC Listed model.

NOTE: For details on intelligent bases, see DN-60054.

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm²). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Plug-in System Sensor *isolator* detector base. Maximum 25 devices between isolator bases .

ACCESSORIES

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B210LP(A) bases only.

SMB600: Surface mounting kit

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 for use with FSP-851(A) only; box of 10.

WCK-200B: White detector covers for use with FSP-851(A) only; box of 10.

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FCO-851(A) IntelliQuad™ PLUS

Advanced Multi-Criteria Fire/CO Detector

NOTIFIER®
by Honeywell

General

World-class fire and carbon monoxide (CO) detection combined in a single addressable device provides a practical solution for today's market.

The IntelliQuad PLUS FCO-851(A) Advanced Multi-Criteria Fire/CO Detector is a plug-in, addressable device that provides both fire and carbon monoxide (CO) detection. For fire, the detector combines four separate sensing elements in one unit (smoke, CO, light/flame, and heat) to sense multiple components of a fire. This approach enables enhanced sensitivity to real fire with heightened immunity to nuisance particulate. For CO, the detector's electrochemical sensing cell creates a separate signal for life safety CO detection.

CO is a colorless, odorless, and deadly gas that is virtually impossible to detect with the human senses. It is released whenever carbon-based fuels (from fossil fuels to firewood) burn without enough oxygen to form CO_2. Because the potential exists for dangerous levels of CO to accumulate in almost any building, legislation mandating the use of CO detection in commercial spaces continues to increase across the U.S. and Canada. The FCO-851(A) is listed to the UL 268 standard for smoke detectors and the UL 2075 standard for system-connected life safety carbon monoxide monitoring.

The FCO-851(A) should be used in conjunction with the B200S(COA) intelligent sounder base, which can generate either a Temp 3 pattern for fire or a Temp 4 pattern for CO alarm indication.

The B200S(COA) recognizes the System Sensor synchronization protocol. This enables it to be used as a component of the general evacuation signal — along with other System Sensor horns, horn strobes, and chimes — when connected to a power supply or Fire Alarm Control Panel (FACP) output capable of generating the System Sensor synchronization pulses. With each sounder base carrying a unique address, the FACP can then command an indvidual sounder — or a group of sounders — to activate. The command set from the panel can be tailored to the specific event, allowing selection of volume, tone, and group.

NOTE: The FCO-851(A) is compatible with the NFS-320(C), NFS-320SYS, NFS2-640, and NFS2-3030 operating with firmware version 17.0 (or higher) in FlashScan® mode; CLIP mode not supported.

Features

- Unique ability to detect all four major elements of a fire.
- Separate CO detection signal.
- Highest nuisance alarm immunity.
- Automatic drift compensation of smoke sensor and CO cell.
- Uses only one address on the SLC.
- RealTest® CO testing capability.
- Separates audible signal for fire or CO alarm when used with the B200S base (B200SCOA in Canada).
- CO cell end-of-life warning and fault.
- FlashScan operation.

60689cov.JPG

FCO-851(A) in B200S(COA) Sounder Base

Sensitivity Settings and Suggested Applications

- **Level 1:** 1% / ft of smoke. Suggested for very clean environments such as laboratories.
- **Level 2:** 2% / ft of smoke. Suggested for clean environments such as offices.
- **Level 3:** 3% / ft of smoke. Suggested for moderately clean environments such as hotel rooms, dorm rooms.
- **Level 4:** 3% / ft of smoke with different algorithm processing and weighting of sensor elements. Suggested for hotel rooms near a shower, boiler rooms.
- **Level 5:** 4% / ft of smoke. Suggested for equipment rooms, kitchens, paint shops.
- **Level 6:** Thermal alarm at 135°F (57°C).

Once the CO cell has reached end-of-life, the CO sensor no longer provides life safety protection; however, when the fire detector enters Photo, Thermal, Infrared (PTIR) mode, the following sensitivities apply:

- **Level 1:** 1% / ft of smoke. Suggested for very clean environments such as laboratories.
- **Level 2:** 2% / ft of smoke. Suggested for clean environments such as offices.
- **Level 3:** 3% / ft of smoke. Suggested for moderately clean environments such as hotel rooms, dorm rooms.
- **Level 6:** Thermal alarm at 135°F (57°C).

Specifications

PHYSICAL SPECIFICATIONS

Size: 3.46" (8.79 cm) high x 6.875" (17.46 cm) diameter installed in B200S(COA) base.

Shipping weight: 4.6 oz. (130.41 g).

Color: Ivory.

Operating humidity range: 15% – 90% relative humidity (noncondensing).

Operating temperature: 0°C to 38°C (32°F to 100°F).

Air velocity: 0 – 4000 ft./min. (0 to 20 m/sec.).

ELECTRICAL SPECIFICATIONS

Operating Voltage range: 15 – 32 volts VDC.

Standby current (max. avg.): 300 µA at 24 VDC (one communication every 5 seconds with LED blink enabled).

Maximum Alarm Current (LED on): 7.2 mA at 24 VDC.

CO ALARM ACTIVATION LEVELS

Alarm activation levels as defined by UL Standard 2034:

Concentration of CO	Maximum Alarm Time Response
70 (+/- 5) PPM	240 min (not less than 60 min)
150 (+/- 5) PPM	50 min (not less than 10 min)
400 (+/- 10) PPM	15 min (not less than 4 min)

Ordering Information

NOTE: *"A suffix indicates ULC listed model.*

FCO-851: IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector.

FCO-851A: IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector, ULC listed.

B200S: Intelligent programmable sounder base.

B200SCOA: Intelligent programmable sounder base, ULC listed. Includes CO detector markings in English and French.

M02-04-00: Detector Test Magnet.

M02-09-00: Telescoping Test Magnet.

Agency Listings and Approvals

The listings and approvals below apply to the primary product. 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:** S1115 (FCO-851).
- **ULC:** S1115 (FCO-851A).
- **CSFM:** 7275-0028:0264.

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Intelligent Bases

B501(A), B200S(A), B200SR(A),
B210LP(A), B2241BI(A), B224RB(A),
Mounting Kits, and Accessories

NOTIFIER®
by Honeywell

Intelligent/Addressable Devices

General

Intelligent FlashScan® and CLIP mounting bases and kits provide a variety of ways to install NOTIFIER detectors in any application. Intelligent detectors can be mounted in either flanged or flangeless bases depending on junction box selection *(see Junction Box Selection Guide)*. Across this product line, detectors plug in easily to the base with SEMS screws; and models employ various 12 to 24 AWG wire ranges.

Relay, isolator, and sounder bases can be used to meet local code requirements. Relay bases provide one Form-C contact relay for control of auxiliary functions such as door closure and elevator recall. Isolator bases allow loops to continue to operate under fault conditions and automatically restore when the fault is removed. Sounder bases are available in temporal and non-temporal pattern versions depending on whether the signal is to be used for evacuation purposes.

Specifications

Diameter:

- B501: 4.1" (104 mm).
- B224BI, B224RB, B210LP: 6.1" (155 mm).
- B200S/SR/SCOA: 6.875" (17.46 cm).

Wire gauge:

- B224BI, B224RB: 14 to 24 AWG.
- B210LP, B501, B200S/SR/SCOA: 12 to 24 AWG.

Temperature range:

- B224BI, B224RB, B200S/SR/SCOA: 32°F to 120°F (0°C to 49°C).
- B210LP, B501: -4°F to 150°F (-20°C to 66°C).

Humidity range: 10% to 93% RH, non-condensing.

System temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (noncondensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

Electrical Ratings

FOR B200S/SR/SCOA:

External supply voltage: 16 to 33 VDC (VFWR)

Standby current: 500 µA maximum.

Alarm current:

- B200S: 35 mA maximum at high-volume setting; 15 mA maximum at low-volume setting.
- B200SR: 35 mA maximum.
- B200SCOA: 40mA Max. (DC), 70mA Max. (FWR)

SLC operating voltage: 15 to 32 VDC.

SLC standby current: 300 µA.

Sound output:

Flangeless Mounting Base
B501(A)

Flanged Mounting Base
B210LP(A)

Sounder Base
B200S(A), B200SR(A),
B200SCOA

Relay Base
B224RB(A)

- B200S, high-volume*: Greater than 85 dBA minimum.
- B200S, low-volume*: Greater than 75 dBA minimum.
- B200SR*: Greater than 85 dBA minimum.
- B200SCOA, high-volume**: Greater than 87 dBA minimum.
- B200SCOA, low-volume**: Greater than 85 dBA minimum

Measured in a UL reverberant room at 10 feet, 24 Volts (continuous tone)
**Measured in a ULC anechoic room at 10 feet, 24 Volts continuous tone)*

FOR B224RB, B224BI:

Operating voltage: 15 to 32 VDC (powered by SLC).

Standby ratings: <500 µA maximum @ 24 VDC.

Set time (B224RB only): short delay 55 to 90 msec; long delay 6 to 9 seconds.

Reset time (B224RB only): 20 msec maximum.

Relay characteristics (B224RB only): two-coil latching relay; one Form-C contact; ratings (UL/CSA): 0.9 A @ 125 VAC, 0.9 A @ 110 VDC, and 3.0 A @ 30 VDC.

Product Line Information

INTELLIGENT BASES

B501: Flangeless mounting base.

B501A: Flangeless mounting base, ULC Listed.

B501BP: Bulk pack of B501 (10).

B210LP: Flanged mounting base.

B210LPA: Flanged mounting base, ULC listed

B210LPBP: Bulk pack of B210LP (10).

B200S: Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. Only compatible with the NFS-320, NFS2-640 and NFS2-3030 operating version with version 15.0 or higher panel firmware.

B200SA: Same as B200S with ULC-listing.

B200SCOA: Same as B200S with ULC-listing and CO detector markings in English/French (required in Canada for ULC applications with FCO-851A).

B200SR: Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone.

B200SRA: Same as B200SR with ULC-listing.

B224RB: Relay base.

B224RBA: Relay base, ULC Listed.

B224BI: Isolator base.

B224BIA: Isolator base, ULC Listed.

MOUNTING KITS AND ACCESSORIES

SMB600: Surface mounting kit, flanged.

F110: Retrofit flange for converting high-profile bases to low-profile.

F110BP: Bulk pack of F110 (10).

F210: Accessory flange ring for B210LP(A) base (new design). 6-inch diameter.

F210BP: Bulk pack of F210 (10).

RA100Z: Remote LED annunciator.

RA100ZA: Remote LED annunciator, ULC Listed.

M02-04-00: Detector test magnet.

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

XR2B: Detector removal tool for current heads *(T55-127-010 included)*.

XR2: Detector Remove Tool for use with low profile detector heads, and FSL-751.

XP-4: Extension pole for XR2/B *(5 to 15 ft/1.524 to 4.572 m)*.

T55-127-010: Detector removal head.

BCK-200B: Black detector kit, package of 10 (for use with photo and ion detectors).

WCK-200B: White detector kit, package of 10 (for use with photo and ion detectors).

Agency Listings and Approvals

The listings and approvals below apply to intelligent bases as noted. 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:** S911
- **ULC Listed:** S911
- **FM Approved**
- **MEA:** 22-95-E, 205-94-E Vol. 2; 257-06-E
- **CSFM:** 7300-1653:0126, 7135-1653:0213, 7300-1653:0109

Junction Box Selection Guide

Base Models	Single Gang	3.5" Oct.	4.0" Oct.	4.0" Sq.	4.0" Sq. with 3.0" mud ring	50 mm	60 mm	70 mm	75 mm
B200S, B200SR, B200SCOA	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B501	No	Yes	No	No	Yes	Yes	Yes	Yes	No
B210LP	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B224RB	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
B224BI	No	Yes	Yes	Yes	No	No	No	Yes	Yes

NOTE: Box depth contingent on base and wire size.
Refer to National Electric Code or applicable local codes for appropriate recommendations.

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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. All specifications are subject to change without notice.

Made in the U.S.A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FCPS-24S6(C/E) & FCPS-24S8(C/E)

6- & 8-Amp 24-Volt Remote Power Supplies

Ⓝ NOTIFIER®
by Honeywell

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander[2]" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated NAC power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
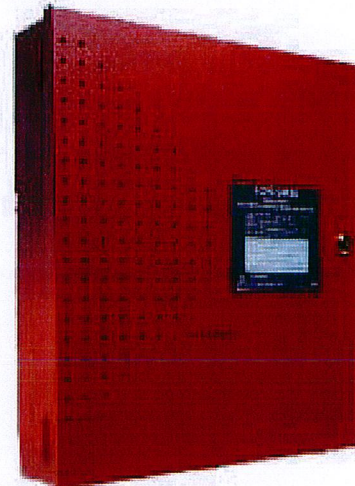
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC.
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

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

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.

- Float-charge voltage: 27.6 VDC.
- Maximum current charge: 1.5 A.
- Maximum battery capacity: 18 AH.

Applications

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

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

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

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

NOTE: Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).

Sync Follower/Generator Note

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

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

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

Standards and Codes

The FCPS-24S6 and FCPS-24S8 comply with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

Agency Listings and Approvals

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:** S635, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

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

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

BAT-1270: Battery, 12-volt, 7.0 AH (two required, see BAT Series data sheet DN-6933).

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E50 Series

Speaker and Speaker Strobes

(N) NOTIFIER®
by Honeywell

Audio/Visual Devices

Description

The Cooper Wheelock Series E50 Speakers and Speaker Strobes feature high efficiency sound output, with dual voltage (25/70 VRMS) capability and field selectable taps from 1/8 to 2 watts. They are designed to provide a sleek, aesthetic appearance for emergency voice/alarm communications systems. All Series E50 models mount to standard 4" x 2-1/8" electrical boxes (with no extension ring required) and incorporate a speaker mounting plate for faster installation. The grille cover snaps on so no mounting screws are visible. Attractive surface boxes are also available for surface installations.

The Series E50 Speaker Strobe models use Cooper Wheelock low current draw Series RSS strobes for wall mounted applications. Strobe options include patented MCW multi-candela strobes with field selectable candela settings of 15/30/75/110 cd or high intensity MCWH strobes with field selectable 135/185 candela. Models with 1575 candela (75 cd on axis) are also offered.

Series E50 Speakers and Speaker Strobes provide high audio output with clear audibility and are designed to meet the critical needs of the life safety industry for effective emergency voice communications, tone signaling and visible signaling to alert the hearing impaired.

The strobe portion of all Series E Speaker Strobes may be synchronized when used in conjunction with the Cooper Wheelock SM, DSM Sync Modules or the Cooper Wheelock's PS-24-8MC Power Supply with Patented Sync Protocol. Cooper Wheelock synchronized strobes offer an easy way to comply with ADA and NFPA regulations concerning photosensitive epilepsy.

Series E50 Speaker Strobes are UL Listed for indoor use under Standard 1971 (Signaling Devices for the Hearing-Impaired) and Standard 1480 (Speaker Appliances). All inputs employ IN/OUT wiring terminals for fast installation using #12 to #18 AWG wiring and are compatible with FACP line supervision.

Color options for the Series E50 Speakers and Speaker Strobes are red or off-white.

Features

Approvals include: UL Standard 1971, UL Standard 1480, New York City (MEA), California State Fire Marshal (CSFM), Factory Mutual (FM) and Chicago (BFP). See approvals by model in Specifications and Ordering Information

ADA/NFPA/ANSI compliant

Complies with OSHA 29 Part 1910.165

Wall mount speaker strobe models with field selectable candela settings of 15/30/75/110cd or 135/185cd (Multi-Candela models), or 1575cd (Single Candela model)

Field selectable taps for 25 or 70 VRMS operation from 1/8 watt up to 2 watts

High efficiency design for maximum output at minimum wattage across a frequency range of 400 to 4000 HZ

24 VDC strobes produce 1 flash per second with wide UL "Regulated Voltage" of 16 to 33 volts using filtered DC or unfiltered VRMS input voltage

Synchronize with Cooper Wheelock SM, DSM or Cooper Wheelock PS-12/24-8CP and PS-12/24-8MP Power Supply with built-in sync protocol

Series E50 Speaker

e50speakerred.jpg

Series E50 Speaker Strobe

e50strobewhite.jpg

Mount to 4" square x 2-1/8" deep backbox with no extension ring required

Snap on grille cover with no visible mounting screws

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

⚠ **WARNING: PLEASE READ THESE SPECIFICATIONS AND ASSOCIATED INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT.**
VISIT WWW.COOPERWHEELOCK.COM OR CONTACT COOPER WHEELOCK FOR THE CURRENT INSTALLATION INSTRUCTIONS. FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS OR WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

General Notes

Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range". Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specify a flash rate of 1 to 3 flashes per second.

All candela ratings represent minimum effective Strobe intensity based on UL Standard 1971.

Series NS Strobe products are listed under UL Standard 1971 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%).

Series NH horns are listed under UL Standard 464 for audible signal appliances (Indoor use only).

"Regulated Voltage Range" is the newest terminology used by UL to identify the voltage range. Prior to this change UL used the terminology "Listed Voltage Range".

Table 1: Average RMS Current

E50 Speaker Strobes	E50 Strobe Current - Wall Mount						
	241575W	24MCW				24MCWH	
	1575cd	15cd	30cd	75cd	110cd	135cd	185cd
24VDC	.060	.041	.063	.109	.140	.195	.270
UL max.*	.090	.060	.092	.165	.220	.300	.420

NOTE: RMS current ratings are per UL average RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33v for 24v units). For strobes the UL max current is usually at the minimum listed voltage (16v for 24v units). For unfiltered FWR ratings, see installation instructions.

Table 2: E50 UL Reverberant dBA @ 10 Feet**

Watts	1/8	1/4	1/2	1	2
E50 Speaker	77	79.5	82.5	85	88
E50 Speaker Strobe	77	79.5	82.5	85	88

***NOTE: dBA ratings are based on UL testing under UL Standard 1480*

Architectural/Engineering Specifications

The speaker appliances shall be Cooper Wheelock Series E50 Speakers and the speaker strobe appliances shall be Cooper Wheelock Series E50 Speaker Strobes or approved equals. The speakers shall be UL Listed under Standard 1480 for Fire Protective Service and speakers equipped with strobes shall be listed under UL Standard 1971 for Signaling Devices for the Hearing-Impaired. In addition, the strobes shall be certified to meet the requirements of FCC Part 15, Class B.

All speakers shall be designed for a field selectable input of either 25 or 70 VRMS, with selectable power taps from 1/8 watt to 2 watts. All models shall have listed sound output of up to 89 dBA at 10 feet and a listed frequency response of 400 to 4000

Hz. The speaker shall incorporate a sealed back construction. All inputs shall employ terminals that accept #12 to #18 AWG wire sizes. The strobe portion of the appliance shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall be of low current design. Where Multi-Candela Speaker Strobes are specified, the strobe intensity shall have field selectable settings and shall be rated per UL Standard 1971 at 15/30/75/110cd or 135/185cd for wall mounting. The selector switch for selecting the candela shall be tamper resistant. The 1575 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required.

When synchronization is required, the strobe portion of the appliance shall be compatible with the Cooper Wheelock's SM, DSM sync modules or Cooper Wheelock PS-24-8MC Power Supply with built-in Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync module or Power Supply fails to operate, (i.e., contacts remain closed), the strobe shall revert to a non-synchronized flash rate.

The speaker and speaker strobe appliances shall be designed for indoor flush mounting to 4" x 2-1/8" electrical boxes without need for an extension ring or surface mounting to Cooper Wheelock's E50SB or E50SSB surface boxes. The speaker and speaker strobe shall incorporate a speaker mounting plate with a snap-on grille cover. The finish of the Series E50 speakers and speakers strobes shall be white or red.

Agency Listings and Approvals

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:** S2652 (all); S5391 (E50-241575W-FR, E50-241575W-FW, E50-24MCW-FR, E50-24MCW-FW)
- **MEA:** 151-92-E
- **CSFM:** 7125-0785-165; 7320-0785:166
- **FM Approved**
- **Bureau of Fire Protection - Chicago**

Ordering Information

Model	Wall Mount	Ceiling Mount	Strobe Candela	Grill Color	Flush Mount Backbox	Surface Mount Backbox	Mounting Options	Agency Approvals				
								UL	MEA	CSFM	FM	BFP
E50-R	X	X	-	Red	4" x 4" x 2-1/8"	E50SB-R	E,O,P,Q,R,U,Y,AA	X	X	X	X	*
E50-W	X	X	-	White	4" x 4" x 2-1/8"	E50SB-W	E,O,P,Q,R,U,Y,AA	X	X	X	X	*
E50-241575W-FR	X	-	15 (75 on Axis)	Red	4" x 4" x 2-1/8"	E50SSB-R	E,Q,U,BB	X	X	X	X	*
E50-241575W-FW	X	-	15 (75 on Axis)	White	4" x 4" x 2-1/8"	E50-SSB-W	E,Q,U,BB	X	X	X	X	*
E50-24MCW-FR	X	-	15/30/75/110	Red	4" x 4" x 2-1/8"	E50SSB-R	E,Q,U,BB	X	X	X	X	*
E50-24MCW-FW	X	-	15/30/75/110	White	4" x 4" x 2-1/8"	E50-SSB-W	E,Q,U,BB	X	X	X	X	*
E50-24MCWH-FR	X	-	135/185	Red	4" x 4" x 2-1/8"	E50SSB-R	E,Q,U,BB	X	X	X	X	*
E50-24MCWH-FW	X	-	135/185	White	4" x 4" x 2-1/8"	E50-SSB-W	E,Q,U,BB	X	X	X	X	*

NOTE: PENDING.

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

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SpectrAlert® Advance

**Selectable Output
Notification Appliances**

**NOTIFIER®
by Honeywell**

Audio/Visual Devices

General

System Sensor® SpectrAlert® Advance selectable-output horns, strobes and horn/strobes are rich with features guaranteed to cut installation times and maximize profits. The SpectrAlert Advance series of notification appliances is designed to simplify your installations, with features such as: plug-in designs, instant feedback messages to ensure correct installation of individual devices, and eleven field-selectable candela settings for wall and ceiling strobes and horn/strobes.

More specifically, when installing Advance products, first attach a universal mounting plate to a four-inch square, four-inch octagon, or double-gang junction box. The two-wire mounting plate attaches to a single-gang junction box.

Then, connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.

Finally, attach the horn, strobe, or horn/strobe to the mounting plate by inserting the product's tabs in the mounting plate's grooves. The device will rotate into position, locking the product's pins into the mounting plate's terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

SpectrAlert Advance products allow you to choose:

- 12 or 24 volts.
- 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, or 185 candela by way of a rear-mounted slide switch and front viewing window.
- Horn tones and volume by way of a rotary switch.
- The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two-wire and four-wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between −40°F and 151°F (−40°C and 66°C) in wet or dry applications.

Models available:

- Indoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Indoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.

Features

- Plug-in design.
- Same mounting plate for wall- and ceiling-mount units.
- Shorting spring on mounting plate for continuity check before installation.
- Captive mounting screw.
- Tamper-resistance capability.
- Field-selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela.
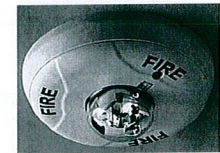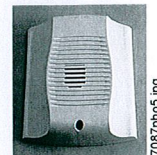- Outdoor wall and ceiling products.

Indoor Ceiling Horn/Strobe

Outdoor Ceiling Strobe

Indoor Wall Horn/Strobe

Indoor Ceiling Strobe

Indoor Wall Horn

Outdoor Wall Strobe

- Outdoor products rated from −40°F and 151°F (−40°C and 66°C).
- Outdoor products rainproof per UL50 (NEMA 3R) and weatherproof per NEMA 4X, IP56
- Minimal intrusion into the backbox.
- Horn rated at 88+ dbA at 16 volts.
- Rotary switch for tone selection.
- Three horn volume settings.
- Electrically compatible with existing SpectrAlert products.

Engineering Specifications

SpectrAlert Advance horns, strobes, and horn/strobes shall mount to a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox, 4.0" (10.16 cm) octagonal backbox, or a double-gang backbox. Two-wire products shall also mount to a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F (0°C and 49°C) from a regulated DC, or full-wave-rectified, unfiltered power supply. Strobes and horn/strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

STROBE

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

HORN/STROBE COMBINATION

The horn/strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn/strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a Temporal 3 pattern and a Non-Temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

OUTDOOR PRODUCTS

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between –40°F and 151°F (–40°C and 66°C). The products shall be listed for use with a System Sensor outdoor/weatherproof backbox with half-inch and three-fourths-inch conduit entries.

SYNCHRONIZATION MODULE

The module shall be a System Sensor Sync•Circuit MDL3R or MDL3W listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, while operating the strobes, the module shall silence the horns on horn/strobe models over a single pair of wires. The module shall mount to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) backbox. The module shall also control two Style Y (class B) circuits or one Style Z (Class A) circuit. The module shall synchronize multiple zones. Daisy-chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Operating Specifications

- **Standard operating temperature:** 32°F to 120°F (0°C to 49°C).
- **K Series operating temperature:** –40°F to 151°F (–40°C to 66°C).
- **Humidity range:** 10% to 93% non-condensing (indoor products).
- **Strobe flash rate:** 1 flash per second.
- **Nominal voltage:** regulated 12 VDC/FWR or regulated 24 VDC/FWR. **NOTE:** Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
- **Operating voltage range:** 8 V to 17.5 V (12 V nominal); or 16 V to 33 V (24 V nominal). **NOTE:** P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 15/75 cd.
- **Input terminal wire gauge:** 12 to 18 AWG (3.31 to 0.821 mm²).
- **Ceiling-mount dimensions (including lens):** 6.8" diameter x 2.5" deep (17.3 cm diameter x 6.4 cm deep).
- **Wall-mount dimensions (including lens):** 5.6" H x 4.7" W x 2.5" D (14.2 cm H x 11.9 cm W x 6.4 cm D).
- **Horn dimensions:** 5.6" H x 4.7" W x 1.3" D (14.2 cm H x 11.9 cm W x 3.3 cm D).

Agency Listings and Approvals

The listings and approvals below apply to SpectrAlert Advance Selectable Output Notification Devices. 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:** S4011 (HR__, HW__, P2__, P4__, PC2__, PC4__ models); **S5512** (models SCR, SCRH, SCW, SCWH, SR, SRH, SW, SWH); **S3593** (SCRHK, SCRK, SRHK, SRK).
- **ULC Listed:** S4011 (HRA, HRKA); **S5512** (typically "A" models, with exception of outdoor strobes). *See Canadian data sheet for listings and specifications.*
- **FM approved**
- **MEA:** 452-05-E
- **CSFM:** 7125-1653:0186 (SCR, SCRH, SCW, SCWH, SR, SRH, SW, SWH); **7300-1653:0188** (P2_, P4_, PC2_, PC4_ modules); **7135-1653:0189** (HR, HRK, HW); **7300-1653:0187** (SCRHK, SCRK, SRHK, SRK).

Strobe Current Draw, UL Maximum (mA RMS)

Candela		8 – 17.5 V		16 – 33 V	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	N/A	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Horn Current Draw, UL Maximum (mA RMS)

Sound Pattern	dB	8 – 17.5 V		16 – 33 V	
		DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-temporal	High	57	56	69	75
Non-temporal	Medium	42	50	60	69
Non-temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

Horn and Horn/Strobe Rotary Switch Setting

Setting	Repetition Rate	dB Level
1	Temporal horn	High
2	Temporal horn	Medium
3	Temporal horn	Low
4	Normal horn	High
5	Normal horn	Medium
6	Normal horn	Low
7*	Externally coded	High
8*	Externally coded	Medium
9*	Externally coded	Low

NOTE: Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

Horn and Horn/Strobe Output (dBA)

Switch Position	Sound Pattern	dB	8 – 17.5 V		16 – 33 V	
			DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84
2	Temporal	Medium	74	74	80	80
3	Temporal	Low	71	73	76	76
4	Non-temporal	High	82	82	88	88
5	Non-temporal	Medium	78	78	85	85
6	Non-temporal	Low	75	75	81	81
7*	Coded	High	82	82	88	88
8*	Coded	Medium	78	78	85	85
9*	Coded	Low	75	75	81	81

NOTE: Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

Two-Wire Horn/Strobe, *STANDARD* Candela Range (15 – 115 cd), UL Maximum Current Draw (mA RMS)

Input, Sound Pattern, dB Level	8 – 17.5 V		16 – 33 V						
	15	15/75	15	15/75	30	75	95	110	115
DC Input, Temporal, High	137	147	79	90	107	176	194	212	218
DC Input, Temporal, Medium	132	144	69	80	97	157	182	201	210
DC Input, Temporal, Low	132	143	66	77	93	154	179	198	207
DC Input, Non-temporal, High	141	152	91	100	116	176	201	221	229
DC Input, Non-temporal, Medium	133	145	75	85	102	163	187	207	216
DC Input, Non-temporal, Low	131	144	68	79	96	156	182	201	210
FWR Input, Temporal, High	136	155	88	97	112	168	190	210	218
FWR Input, Temporal, Medium	129	152	78	88	103	160	184	202	206
FWR Input, Temporal, Low	129	151	76	86	101	160	184	194	201
FWR Input, Non-temporal, High	142	161	103	112	126	181	203	221	229
FWR Input, Non-temporal, Medium	134	155	85	95	110	166	189	208	216
FWR Input, Non-temporal, Low	132	154	80	90	105	161	184	202	211

Two-Wire Horn/Strobe, *HIGH* Candela Range (135 – 185 cd), UL Maximum Current Draw (mA RMS)

DC Input	16 – 33 V				FWR Input	16 – 33 V			
	135	150	177	185		135	150	177	185
DC, Temporal, High	245	259	290	297	FWR, Temporal, High	215	231	258	265
DC, Temporal, Medium	235	253	288	297	FWR, Temporal, Medium	209	224	250	258
DC, Temporal, Low	232	251	282	292	FWR, Temporal, Low	207	221	248	256
DC, Non-temporal, High	255	270	303	309	FWR, Non-temporal, High	233	248	275	281
DC, Non-temporal, Medium	242	259	293	299	FWR, Non-temporal, Medium	219	232	262	267
DC, Non-temporal, Low	238	254	291	295	FWR, Non-temporal, Low	214	229	256	262

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4.7"
5.6"
2.5"
6.8"
2.5
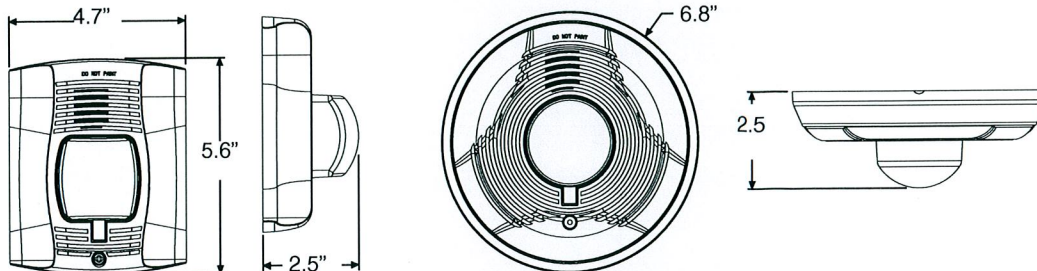
Ordering Information

Model	Description	Model	Description
WALL HORN/STROBES		**CEILING HORN/STROBES**	
P2R	2-wire horn/strobe, standard cd, red.	PC2R	2-wire horn/strobe, standard cd, red.
P2RH	2-wire horn/strobe, high cd, red.	PC2RH	2-wire horn/strobe, high cd, red.
P2RK	2-wire horn/strobe, standard cd, red, outdoor.	PC2RK	2-wire horn/strobe, standard cd, red, outdoor.
P2RHK	2-wire horn/strobe, high cd, red, outdoor.	PC2RHK	2-wire horn/strobe, high cd, red, outdoor.
P2W	2-wire horn/strobe, standard cd, white.	PC2W	2-wire horn/strobe, standard cd, white.
P2WH	2-wire horn/strobe, high cd, white.	PC2WH	2-wire horn/strobe, high cd, white.
P4R	4-wire horn/strobe, standard cd, red.	PC4R	4-wire horn/strobe, standard cd, red.
P4RH	4-wire horn/strobe, high cd, red.	PC4RH	4-wire horn/strobe, high cd, red.
P4RK	4-wire horn/strobe, standard cd, red, outdoor.	PC4RK	4-wire horn/strobe, standard cd, red, outdoor.
P4RHK	4-wire horn/strobe, high cd, red, outdoor.	PC4RHK	4-wire horn/strobe, high cd, red, outdoor.
P4W	4-wire horn/strobe, standard cd, white.	PC4W	4-wire horn/strobe, standard cd, white.
P4WH	4-wire horn/strobe, high cd, white.	PC4WH	4-wire horn/strobe, high cd, white.
WALL STROBES		**CEILING STROBES**	
SR	Strobe, standard cd, red.	SCR	Strobe, standard cd, red.
SRH	Strobe, high cd, red.	SCRH	Strobe, high cd, red.
SRK	Strobe, standard cd, red, outdoor.	SCRK	Strobe, standard cd, red, outdoor.
SRHK	Strobe, high cd, red, outdoor.	SCRHK	Strobe, high cd, red, outdoor.
SW	Strobe, standard cd, white.	SCW	Strobe, standard cd, white.
SWH	Strobe, high cd, white.	SCWH	Strobe, high cd, white.
ACCESSORIES		**HORNS**	
BBS-2A	Backbox skirt, wall, red.	HR	Horn, red.
BBSW-2A	Backbox skirt, wall, white.	HRK	Horn, red, outdoor.
BBSC-2A	Backbox skirt, ceiling, red.	HW	Horn, white.
BBSCW-2A	Backbox skirt, ceiling, white.	**ACCESSORIES, continued**	
SA-WBB	Weatherproof backbox, wall.	TR-HS	Trim Ring, wall, red, package of 5
SA-WBBC	Weatherproof backbox, ceiling.	TRW-HS	Trim Ring, wall, white, package of 5
WTP	Weatherproof, flush mount plate, red	TRC-HS	Trim Ring, ceiling, red, package of 5
WTPW	Weatherproof, flush mount plate, white	TRCW-HS	Trim Ring, ceiling, white, package of 5

NOTE: "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings.

NOTE: For strobes and horn/strobes, add suffix "F" for French or "B" for Bilingual.

NOTE: All outdoor models ("K(A)" suffix) include a plastic weatherproof backbox.

NOTE: Add "-R" to models for weatherproof replacement device (no back box included). Only for use with weatherproof outdoor flush mounting plate, WTP and WTPW.

NOTE: Add "P" to model for plain housing. (No "FIRE" marking on cover.)

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.
All specifications are subject to change without notice.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

BAT Series Batteries

Sealed Lead-Acid or Gell Cell

NOTIFIER®
by Honeywell

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.
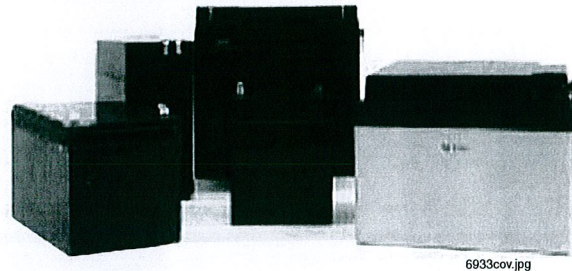
Features

- 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.

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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

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

Discharge Time @ 20°C (68°F)

Effect of Temperature on Capacity

Temperature (Degrees C.)
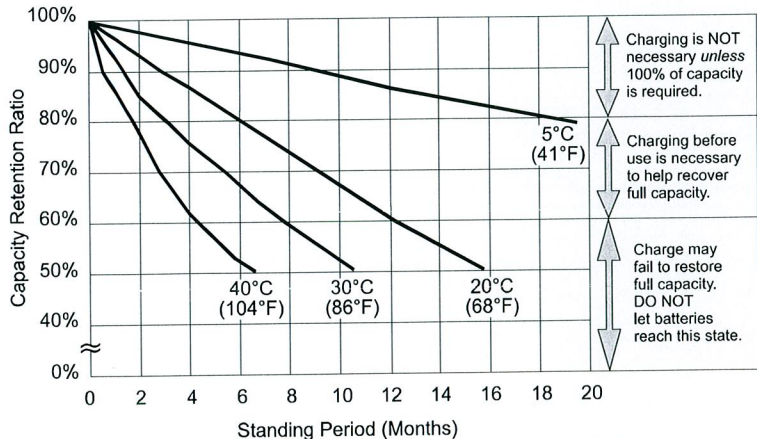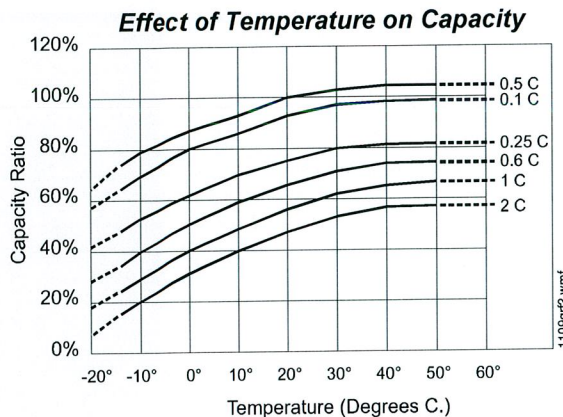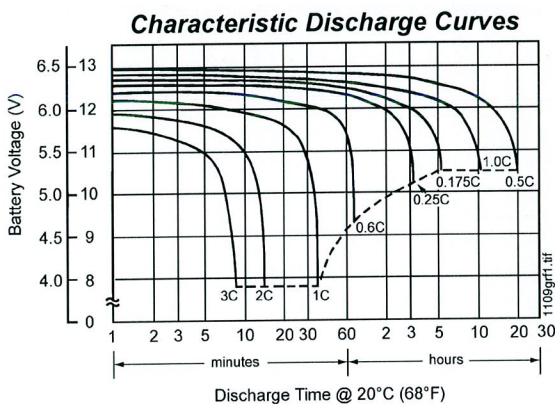
Charging is NOT necessary *unless* 100% of capacity is required.

Charging before use is necessary to help recover full capacity.

Charge may fail to restore full capacity. DO NOT let batteries reach this state.

at left:
**PS-121000
Shelf-Life
and Storage**
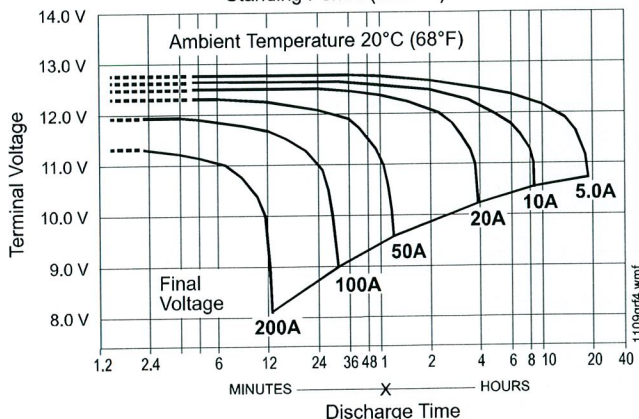
at left:
**PS-1210000
Discharge
Characteristics**

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.I1	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

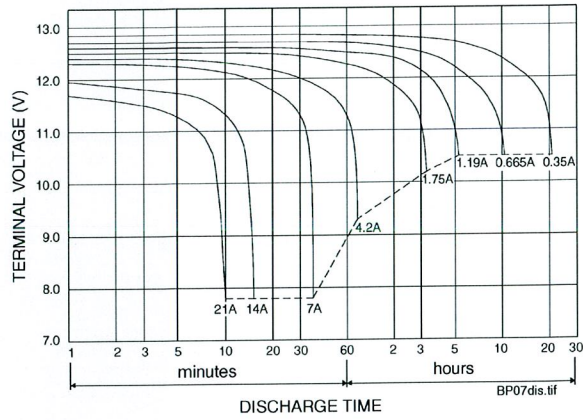Constant Power Discharge Characteristics at 25°C/77°F
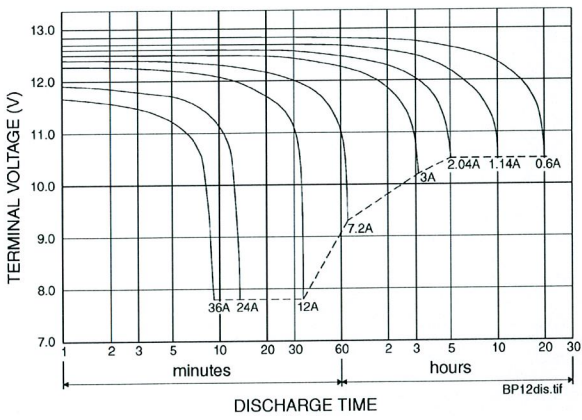### for BP26-12

B & B BATTERY

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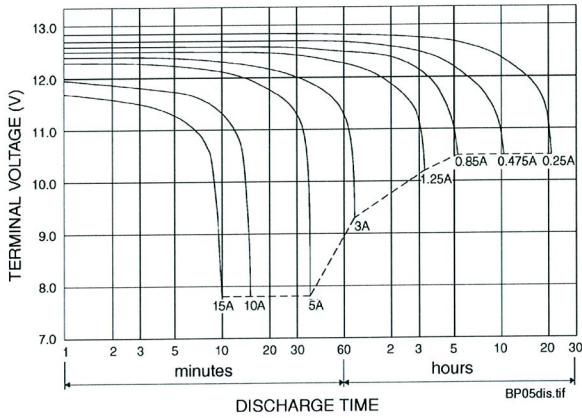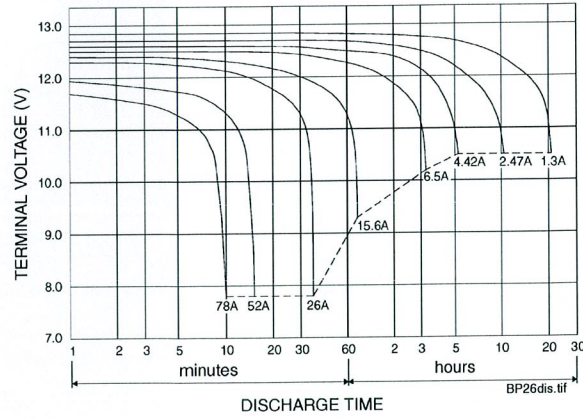

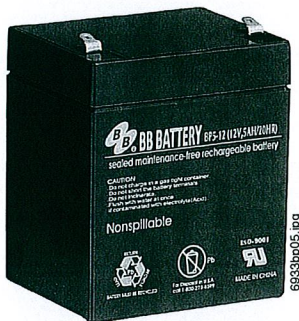### BP7-12 Battery Discharge Characteristics (25°C/77°F)

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

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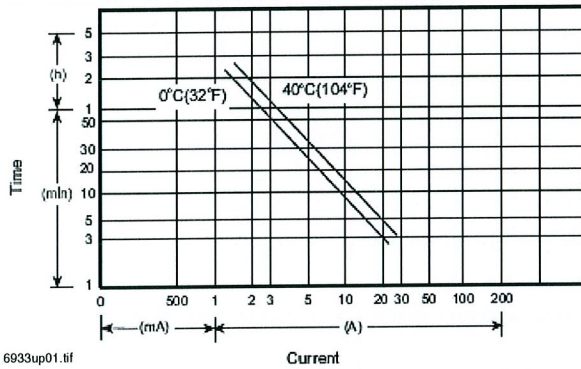

BP05-12

BP12-12

BP26-12

UPG BATTERY

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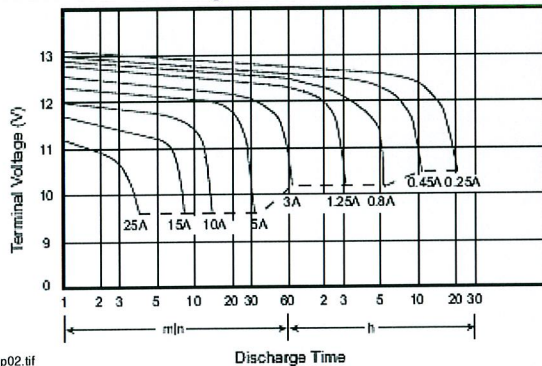
UB1250 (previously SA1250) Diagrams

UB1250/SA1250 discharge current vs. time

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

6933up02.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: UL.94HB 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 Diagrams

SA1272 discharge current vs. time
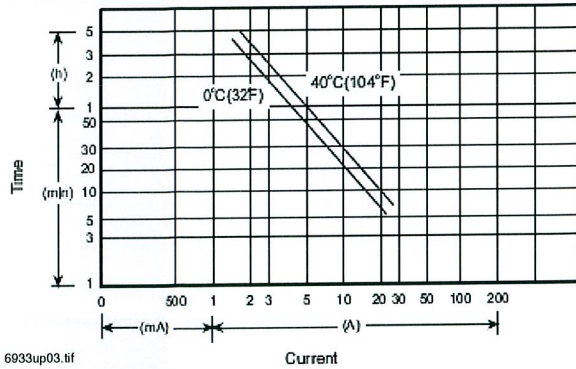
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SA1272 discharge characteristics (25°C/77°F)
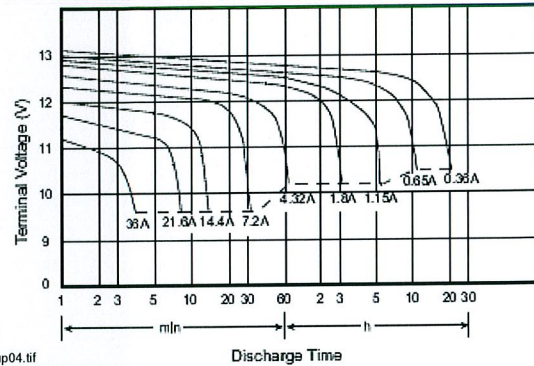
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SA1272 Specifications

- 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;
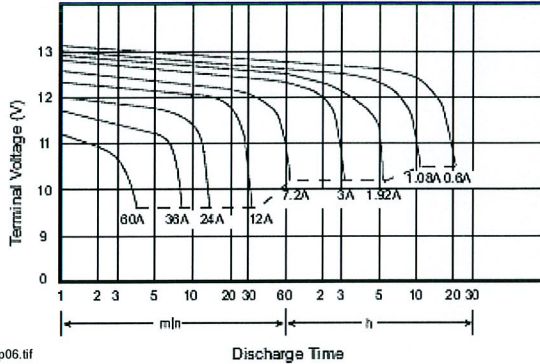*packaging and part numbers are the only changes.*

UB12120 (was SA12120) Diagrams

UB12120/SA12120 discharge current vs. time
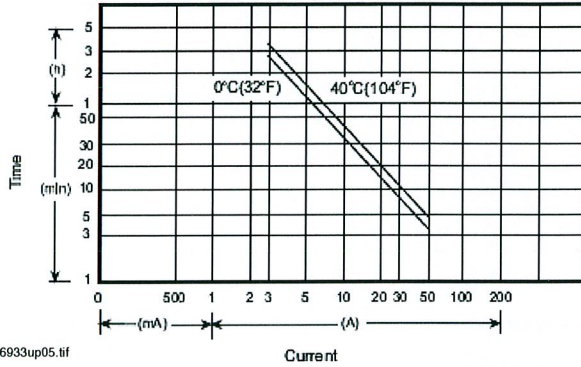
6933up05.tif

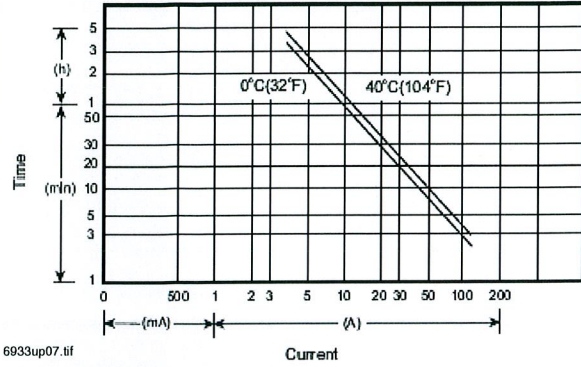### *UB12120/SA12120 discharge characteristics (25°C/77°F)*

6933up06.tif

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 (was SA12180) Diagrams

UB12180/SA12180 discharge current vs. time

6933up07.tif

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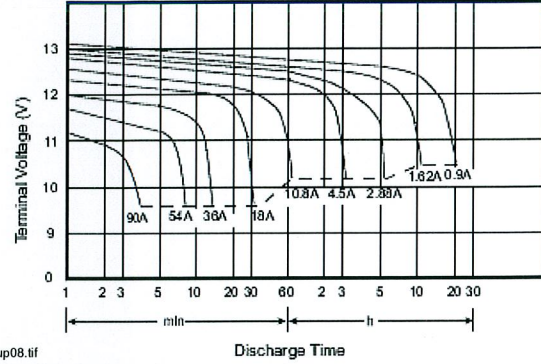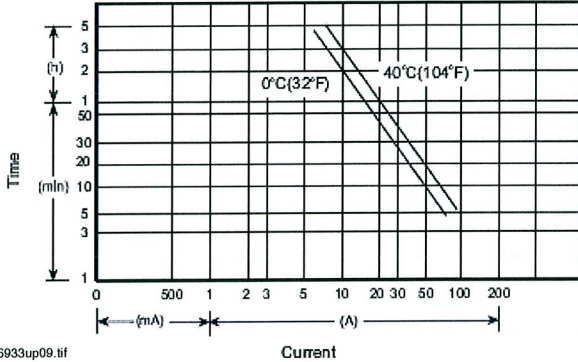

6933up08.tif

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.
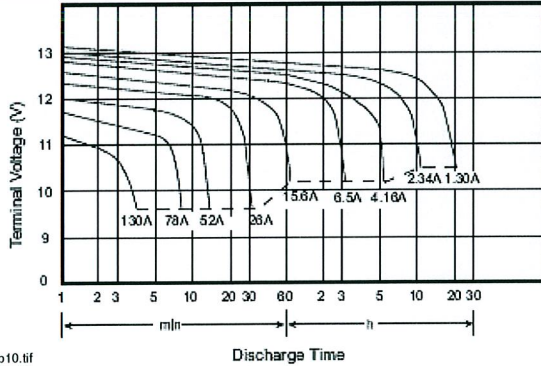
UB12260 (was SA12260) Diagrams

UB12260/SA12260 discharge current vs. time

6933up09.tif

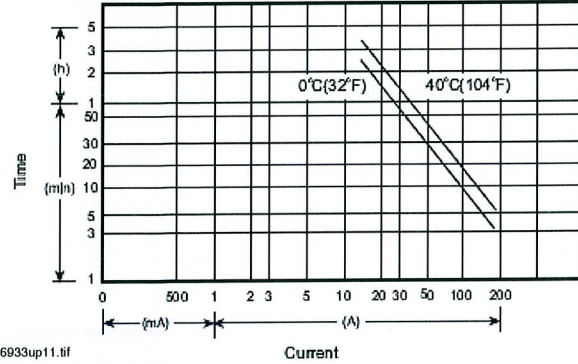### UB12260/SA12260 discharge characteristics (25°C/77°F)

6933up10.tif

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 (was SA12550) Diagrams

UB12550/SA12550 discharge current vs. time

6933up11.tif

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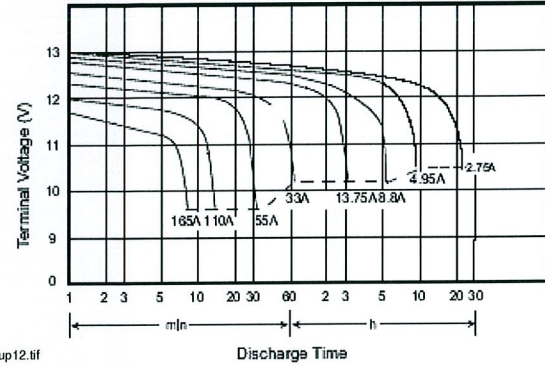

6933up12.tif

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%.
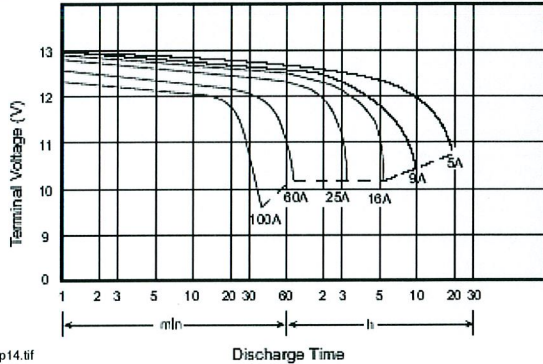   After 6 months: ~ 82%.
    After 12 months: ~ 70%.

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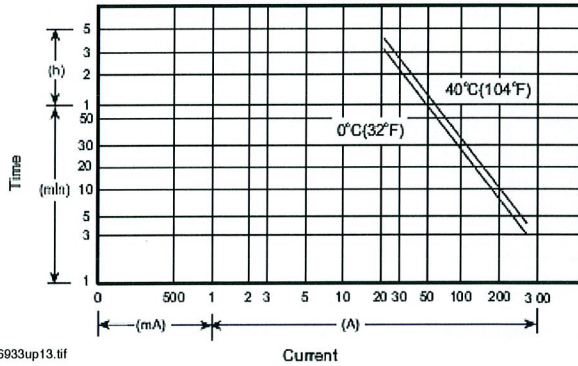
### UB121000/XSA121000A discharge characteristics (25°C/77°F)

6933up14.tif

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%.

UPG Summary Diagrams

Summary discharge characteristics

6933up15.wmf
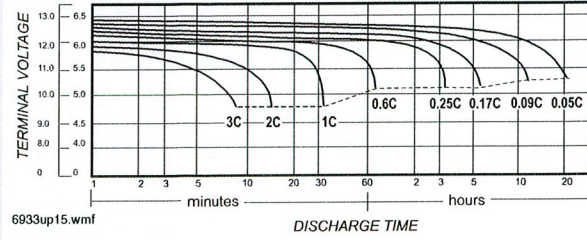
Summary discharge current vs. time curve (25°C/77°F)
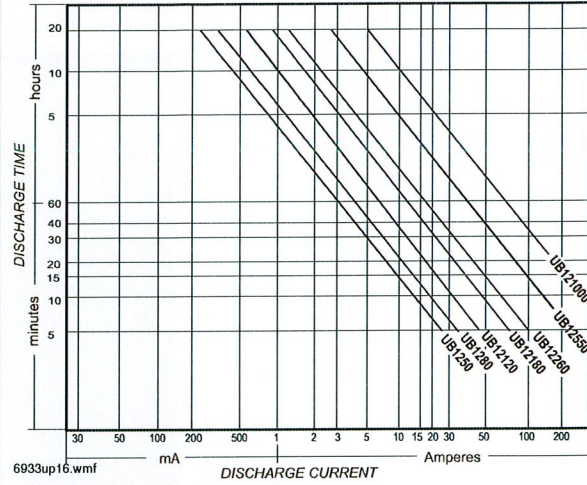
6933up16.wmf

6933ub1280.jpg

6933ub12260.jpg

UPG BATTERY

*Same specifications as previous Jolt models;
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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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