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December 15, 2023

Fire Alarm System

Submittals

For
CHC Puyallup Garage
111 W Main
Puyallup, WA 98371

HOWARD WILLIAMSON, SET
NICET #82289
FIRE ALARM SYSTEMS
LEVEL IV
Howard Williamson

CHC Puyallup Garage

December 15, 2023

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POTTER
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IPA-4000

Fire Alarm Control Panel

Features

- 4,064 addresses available on this analog addressable system
- Additional system capacity achieved via multi-point SLC modules
- 1500 software zones
- NFPA 72 Compliant Smoke Sensitivity Test Built-In
- System Operates as Class A or Class B for SLC, P-Link and NACs
- 10 Amp Power Supply, Expandable to 315 amps
- 6 NACS, Regulated, Rated at 3 Amps each, expandable to 192
- 4 Input/Output (I/O) Circuits for system flexibility rated at 1 Amp each, ideal for manual release and abort
- Strobe Synchronization and System Wide Sync for Potter/AMSECO®, Gentex®, Cooper Wheelock® and System Sensor® strobes
- Dedicated Alarm, Supervisory and Trouble Relays
- 4,000 Event History Buffer
- Cabinet will house up to 18 AH batteries
- Optional two line DACT with UD-2000 that can report General, Zone or Point Information
- Built in IP communicator
- Ethernet Port for Programming and Network Connectivity
- E-Mail System Status, Reports and Event Information
- Product includes 5 year warranty
- UUKL Listed for Smoke Control

ASSEMBLED IN THE USA

NYC Fire Dept.
Certificate of Approval
6266

FM APPROVED

UL LISTED

Description

The IPA-4000 is an expandable analog/addressable releasing fire alarm system with a total system capacity of 4,064 addresses. Additional capacity on the system is achieved using multi-point SLC modules The control panel utilizes the exclusive Potter protocol that includes a complete line of sensors and modules. The system is expandable with a total of thirty-one additional addressable Signaling Line Circuits (SLC) each with a maximum of 127 devices. Each SLC may be comprised of any combination of smoke sensor, heat detectors or modules and allows for a total of 50 ohms of impedance and may use any wire compliant with the National Electrical Code (NEC).

The IPA-4000 has a 10 Amp power supply with six Notification Appliance Circuits (NACs) and four Input/Output (I/O) circuits. The NACs are rated at 3 Amps each and the I/Os are rated at 1 Amp each. Each output is regulated and power limited. In addition, each output is uniquely programmable and may be configured for steady signal, strobe synchronization, constant power, door holder power, or releasing. The strobe synchronization includes Potter/AMSECO, Gentex, System Sensor and Cooper/Wheelock and with the exclusive Quadrasync each output may have a unique brand and all strobes will flash together. The I/Os are designed for inputs such as manual release stations and abort switches that will not require polling and react nearly instantaneously.

The IPA-4000 is listed for releasing of fire suppression systems. The software allows cross zones, counting zones, and timers for suppression. The system is capable of multiple release outputs across multiple hazards. In addition, the PSN-1000 may be used to extend releasing capability. The NACs may be expanded using the PSN-1000 series intelligent power supplies. Each PSN-1000 adds another 10 Amps of power, 2 additional input circuits and the IPA-4000 will support up to 31 power supplies. The system will synchronize the strobes system wide. In addition, the PSN-1000E has space to allow the installation of up to six PAD100-SLCE SLC loop expansion cards. The cards mount on a stacker bracket that allows access to all SLC circuit connections.

Technical Specifications

Dimensions	18 15/16"W x 27 5/16"H x 4 7/16"D
AC Mains	5.0 Amps @ 120 VAC 50/60 HZ 3.0 Amps @ 240 VAC 50/60 HZ
Enclosure	16 gauge cold rolled steel with removable locked door with Lexan viewing window
Battery	Standby Current-130 mA Alarm Current-220 mA • 10 Amps power for NACs, I/O, and P-Link • 3 Amps per NAC, regulated • 1 Amp per I/O circuit, regulated • Battery Charger range 8-55 Ah • Battery Charger voltage 27.3 VDC • P-Link maximum current of 1 Amp
Temperature and Humidity Range	32° to 120° (0°C to 49°C) with a maximum humidity of 93% non-condensing.
Standards	• NFPA 12, 12A, 13, 15, 16, 17, 17A, 70, 72, 92, 750, and 2001 • ANSI/UL 864 - Local (L), Remote Station (RS), Central Station (CS), Propriety (PPU), Auxiliary (AUX).Type of Service: Automatic (A), Manual (M), Water flow (WF) Sprinkler Supervisory (SS) Type of Signaling: Digital Alarm Communicator (DAC), March Time (March), Non Coded (NC), Reverse Polarity (Rev Pol), Other Technologies (OT) • IBC (International Building Code)

SLC Loop Accessories

The control panel may be connected with up to 4,064 addressable devices or modules in any combination. The SLC is not restricted by any special wire requirements and may be wired with any wire that complies with the NEC.

SLC Loop Devices

Device	Description
PAD Series-PD	Analog Photoelectric Smoke Detector is a smoke detector with a listed obscuration of 1.1 to 3.5%/foot. UL 268 7th Edition.
PAD Series-PHD	Combination Analog Photoelectric Smoke/Heat Detector – a smoke detector with a listed obscuration of 1.1 to 3.5 %/foot obscuration and a fixed temperature range of 135° to 185° F heat detector. Smoke detection compliant with UL 268 7th Edition.
PAD Series-PCD	Combination Photoelectric Smoke/Carbon Monoxide Detector. Smoke detection compliant with UL 268 7th Edition. Carbon Monoxide detection compliant with UL 2075.
PAD200-PCHD	Combination Photoelectric Smoke/Heat/Carbon Monoxide Detector. Smoke detection compliant with UL 268 7th Edition. Heat detection with a fixed temperature range of 135° to 185° F and UL 521 7th Edition compliant. Carbon Monoxide detection compliant with UL 2075.
PAD Series-HD	Analog Fixed Temperature (135° - 185°F) or Rate-of-Rise Heat Detector (software selectable).
PAD Series-DUCTR	Addressable Duct Smoke Detector with Form C Relay rate at 10Amps @ 250/120VAC or 8 Amps at 30VDC.
PAD Series-DUCT	Addressable Duct Smoke Detector.
PAD100-6DB	6” round base that is mountable to an electrical box and wired for connection to the PAD100/200 devices.
PAD100-4DB	4” round base that may be mounted to an electrical box and wired for connection to the PAD100/200 devices.
PAD100-IB	Isolator base that interrupts a short in a SLC and prevents the short from affecting protected devices on the loop and used for connection to the PAD100/200 devices.
PAD100-RB	Addressable Relay Base that contains one relay controlled by the SLC. Relay at rated at 2 amps at 30 VDC or 0.5A at 125VAC. For PAD100/200 devices only.
PAD100-SB	Addressable Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call. For PAD100/200 devices only.
PAD Series-CD	Addressable CO gas detector.
PAD200-DD	Addressable photoelectric smoke detector for use in DUCT/DUCTR enclosure.
PAD300-DD	Addressable photoelectric smoke detector for use in DUCT/DUCTR enclosure or pendant mount applications.
PAD100-LFSB	Addressable Low Frequency Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call. The LFSB complies with the Low Frequency Signal Requirements (520 Hz) and used for connection to the PAD100/200 devices.
PAD100-SPKB	Speaker base is a wall or ceiling mount speaker capable of 25 or 70.7 VRMS and is field selectable from 1/8W to 4W and used for connection with the PAD100/200 devices.
PAD300-6DB	6” round base which is mountable to an electrical box and wired for connection to the PAD300 devices.
PAD300-4DB	4” round base which is mountable to an electrical box and wired for connection to the to the PAD300 devices.
PAD300-IB	Isolator base that interrupts a short in a SLC and prevents the short from affecting protected devices on the loop. Used for connection to the PAD300 devices.
PAD300-RB	Addressable Relay Base that contains one relay controlled by the SLC. The Relay is rated 2 amps at 30 VDC or 0.5A at 125VAC and used for connection to the PAD300 devices
PAD300-SB	Addressable Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call; and used for connection to the PAD300 devices.
PAD300-LFSB	Addressable Low Frequency Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call. The LFSB complies with the Low Frequency Signal Requirements (520 Hz) and used for a connection to the PAD300 devices.

Modules

Device	Description
PAD100-MIM	Micro Input Module provides a small foot print contact module for mounting inside an enclosure.
PAD100-PSSA	Single Action Addressable Pull Station.
PAD100-PSDA	Dual Action Addressable Pull Station.
PAD100-SIM	Single Input Module is a standard contact module with an LED that mounts into a 4” square electrical box.
PAD100-DIM	Dual Input Module is a device that can monitor two distinct inputs with a single device or in a Class A mode.
PAD100-TRTI	Two Relay Two Input module provides two form C relays that are individually controlled by the control panel. Each relay is rated for 2 amps at 30VDC or 0.5 amps at 125VAC. Also provides two contact inputs.
PAD100-NAC	Notification Appliance Circuit module is an addressable remote appliance circuit controlled by the panel.
PAD100-ZM	Zone Module is used to connect conventional 2-wire smoke detectors to the system.
PAD100-IM	Module interrupts a short on the SLC and prevents the short from affecting protected devices on the loop.
PAD100-RM	Relay Module that provides one form C relay controlled by the control panel. Relay is rated for 2 amps at 30VDC or 0.5 amps at 125VAC.
PAD100-LED	Module provides a single addressable LED that is controlled by the control panel.
PAD100-SM	Speaker Module provides switching for two audio channels.
PAD100-LEDK	Addressable LED and key switch that mounts in a single gang box.
PAD100-DRTS	DUCTR Remote Test Switch that mounts in a single gang box and optionally supervised.
PAD100-OROI	One Relay One Input Module provides one form C relay and one input. The relay is rated at 2 amps at 30VDC or 0.5 amps at 125VAC.

SLC Features

The Potter protocol is a digital protocol with a proven design for reliability and noise immunity. The system does not require special cable or conductors for connection of the Signaling Line Circuit as long as the cable is compliant with NFPA 70 and NFPA 72. The system allows for Class A or Class B installations as well as "T-Taps."Each loop is capable of 127 points, with a max wiring distance of 10,000 ft.

Sensor Features

The sensors through the fire alarm control panel provide a real time status as to the condition of the system. The smoke detector sensitivity, heat detector temperature level and drift compensation are all programmable options. The system also allows for a day/night mode where the panel automatically adjusts the sensitivity depending on the time of day. To assist in the reduction of false alarms, the smoke detectors also have a maintenance warning that sends a trouble signal when a detector is dirty to the point that it can no longer maintain the programmed sensitivity.

User Interface

The fire alarm control panel has a 4 x 40 LCD display to provide information to the system status. The keypad has navigation keys to allow manipulation of the Menu on board the panel. The panel is shipped standard with the following LEDs:

- AC Power - Green
- Alarm - Red
- Earth Fault - Amber
- Supervisory - Amber
- Silenced - Amber
- Trouble - Amber
- Pre-Release - Amber
- Release - Red

The common buttons include a Silence, Reset, Acknowledge, and Drill. All of the buttons are accessible once the locked door is opened.

P-Link

The IPA-4000 has a proprietary communication protocol that communicates through a RS-485 connection to field devices. Up to 64 devices may be connected to a single P-Link connection. The P-Link includes the communication terminals and regulated 24 VDC connection for the field devices. The field devices may be any of the following:

PAD100-SLCE-Analog/Addressable loop expansion module (maximum of 31 per IPA-4000)

RA-6075R – 2 x 16 LCD annunciator with a key pad in a locked metal enclosure.

RA-6500R(F) – 4 x 40 LCD annunciator with a key pad in a locked metal enclosure. Flush mount version available.

LED-16(F) – 16 LED annunciator with common indicators in a locked metal enclosure. Flush mount version available.

PSN-1000(E) – 10 amp, remote intelligent power supply with 6 NACs, 2 Inputs and a P-Link repeater. This panel is listed in conjunction with the IPA-4000 as releasing circuits.

CA-6500 – Class A convertor that converts the SLC, NACs and P-Link connection

UD-2000 – UL listed, Dual line telephone alarm communicator

DRV-50 – LED driver expander, used to connect up to 50 LEDs in a graphic display

FCB-1000 – Fire communication bridge, provides remote mounting of the Ethernet connection

FIB-1000 – Fiber interface module, used to extend P-Link to multi-mode fiber (2 required)

RLY-5 – Relay module, provides 5 form C relay contacts rated at 3.0 amps 24VDC/125AC

SPG-1000 – Serial parallel gateway, allows for the connection to a serial or parallel printer

The **FIB-1000**, **FCB-1000** and the **SPG-1000** may be installed in the stacker bracket or ordered with the optional rack mount enclosure.

MC-1000 Multi-Connect allows up to sixty-three IPA series panels to share a single reporting technology.

IDC-6 – Initiating device circuit provides 6 programmable inputs

AE-2 – Two card expansion cabinet

AE-8 – Eight card expansion cabinet

AE-14 – Fourteen card expansion cabinet

Ethernet/I.P. Connection

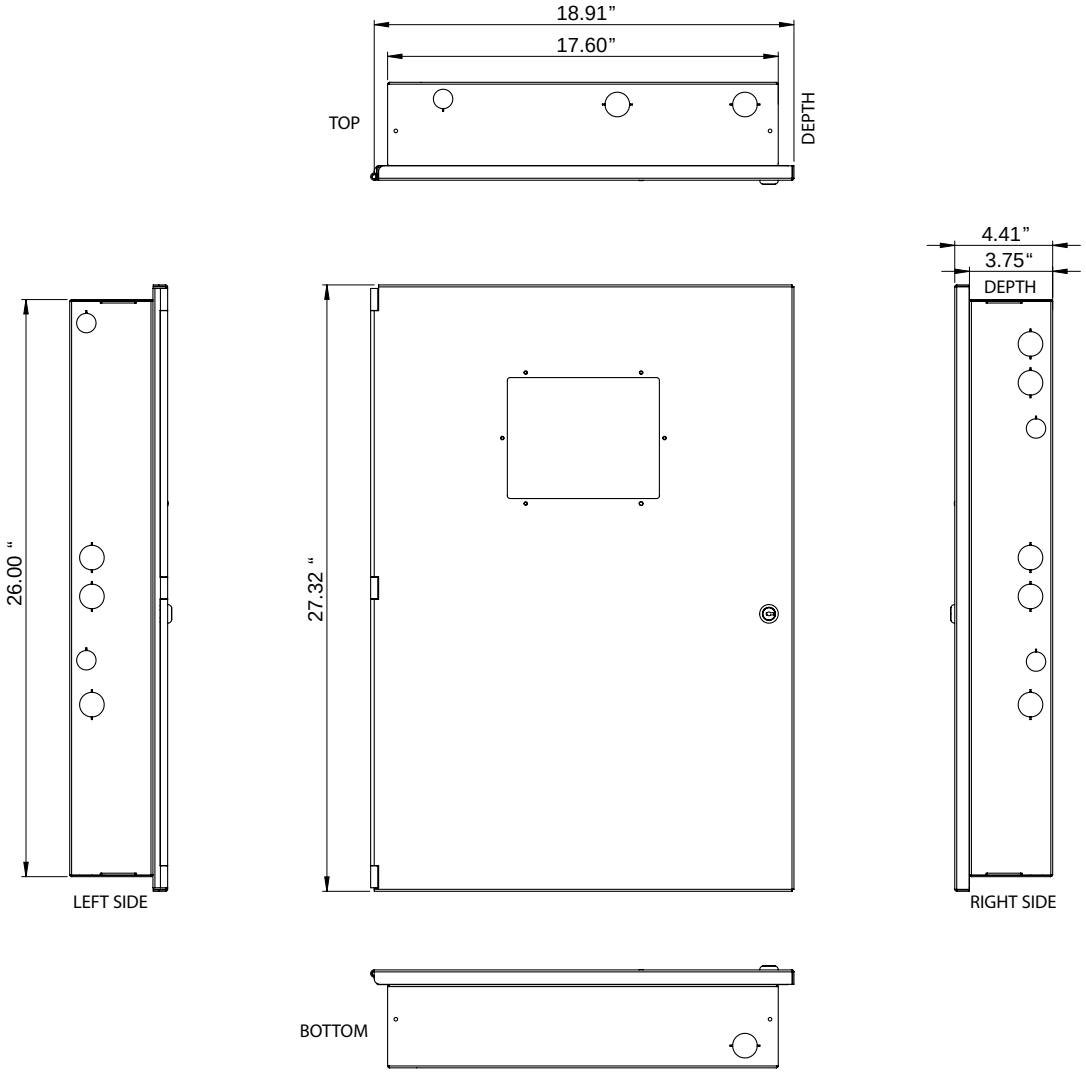
The IPA-4000 is shipped standard with an Ethernet connection. This connection is the programming port and may be connected to a building Wide Area Network (WAN) or Local Area Network (LAN). Once connected to the Internet, the panel may be selectively programmed to e-mail alarm conditions, trouble conditions, supervisory conditions, test, Event History and detector status. An e-mail may be sent to the panel and the panel will e-mail the event history, detector status, configuration file or server status to an authorized E-mail account. In addition, reminders may be set to send an e-mail for service, testing or other conditions.

In addition, the Ethernet connection is UL listed as an IP communicator. The IP communicator is listed to report to the UL listed Sur-Gard III IP receiver. The IP communicator replaces the traditional less reliable alarm communicator transmitter that utilized telephone lines. The IP communicator is an active method of connection and communication to the monitoring station.

IPA-4000

Fire Alarm Control Panel

Dimensions



Ordering Information

Model	Description	Stock No.
IPA-4000	Fire Alarm Releasing Control Panel	3992717
	Replacement Board IPA-4000	3992740

Compatible Releasing Devices

Note: For releasing applications please order the Potter EOLD (3005012) for circuits connected to a releasing solenoid or actuator.

Brand	Description
Skinner	73218BN4UNLVN0C112CZ 73212BN4TNLVN0C322C2
Victaulic	753-E Series
Mini Max	MX123 & MX200 w/ 8876677 & 889323
Viking	11591, 11601, 11602, 13843, & 13844
TLX	PA0036

SLCE-127
ADDRESSABLE LOOP EXPANDER

S735 *7165-0328: 0198*

Product includes a 5 year warranty

Features

- No special wiring for SLC or P-Link connection
- Class A or B capable
- Mounts with included stacker bracket
- May mount in panel, accessory cabinet, or PSN-1000/E Power Supply
- Maximum 1 SLCE-127 for PFC-6200
- Maximum 7 SLCE-127 for PFC-6800
- Size (W x H x D) is 4" x 6" x 1-5/8"

Electrical Specs

- 60 mA alarm current
- 60 mA standby current

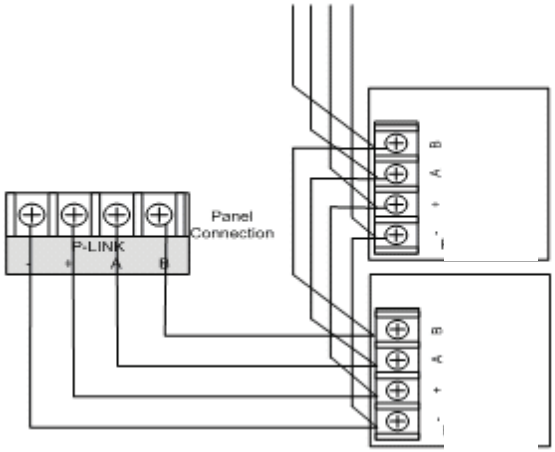
Description

The Signaling Line Circuit Expander (SLCE-127) allows for an additional loop for the PFC-6200 and up to seven additional loops for PFC-6800 fire alarm control panels. Each loop adds 127 addressable sensors or modules in any combination. The SLCE-127 may be configured for Class A or Class B wiring without the need for additional modules. The SLCE-127 communicates with the control panel via the Potter P-Link communication bus. The loop adder is mounted in either the control panel cabinet, the intelligent power supply/P-Link repeater, the PSN-1000E, AE-8 or the AE-14 expander cabinet. Each card is mounted to the exclusive Stacker Bracket for secure and accessible mounting.

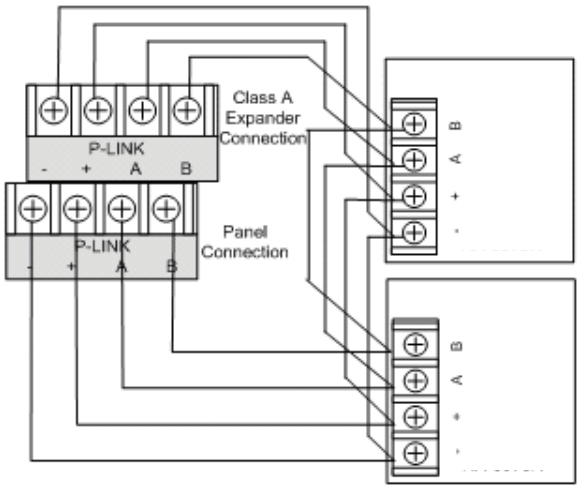
Installation

The SLCE-127 is connected to the PFC-6000 series panels using a four wire RS-485 connection. This connection is power limited and supervised. The SLCE-127 can be installed in the AE-8 Accessory Enclosure, AE-14 Accessory Enclosure or inside the large PFC series enclosure using the supplied bracket.

SLCE-127 Class B P-LINK Wiring Example



SLCE-127 Class A P-LINK Wiring Example

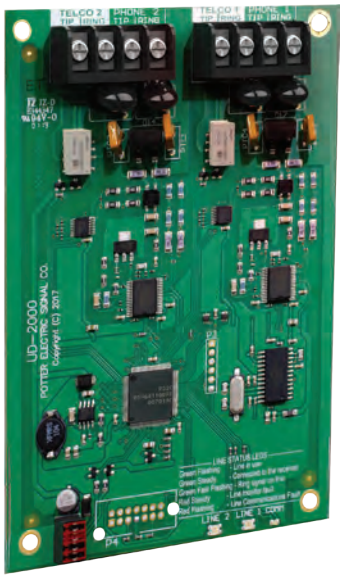


UD-2000

Digital Alarm Communicator

Features

- Allows for communication to Monitoring Station
- Communicates using SIA-DCS or Ademco Contact ID Protocols
- For use with IPA, AFC, and ARC series Addressable Panels and PFC-4064 Conventional Panel
- Status LEDs indicate operation of DACT card
- Installs with ease behind main panel LCD display via User Interface bracket
- Device address is set internally to address 1
- Includes two (2) RJ45 phone cords



Description

The UD-2000 Digital Alarm Communicator Transmitter (DACT) provides for up to two (2) phone lines for communication to a monitoring station. The UD-2000 communicates using the SIA-DCS or Ademco Contact ID protocols. When enabled, the DACT automatically monitors each phone line or voltage and has the ability to seize the line and connect with a remote receiver. Once the communication is complete, the DACT will hang up.

The DACT is provided with terminal blocks for each phone line and two RJ45 cords. In order for the DACT to work properly, it must be installed on a plain old telephone service (POTS) line or equivalent deemed by the authority having jurisdiction. The DACT must be installed before any other equipment to ensure it can seize the phone line.

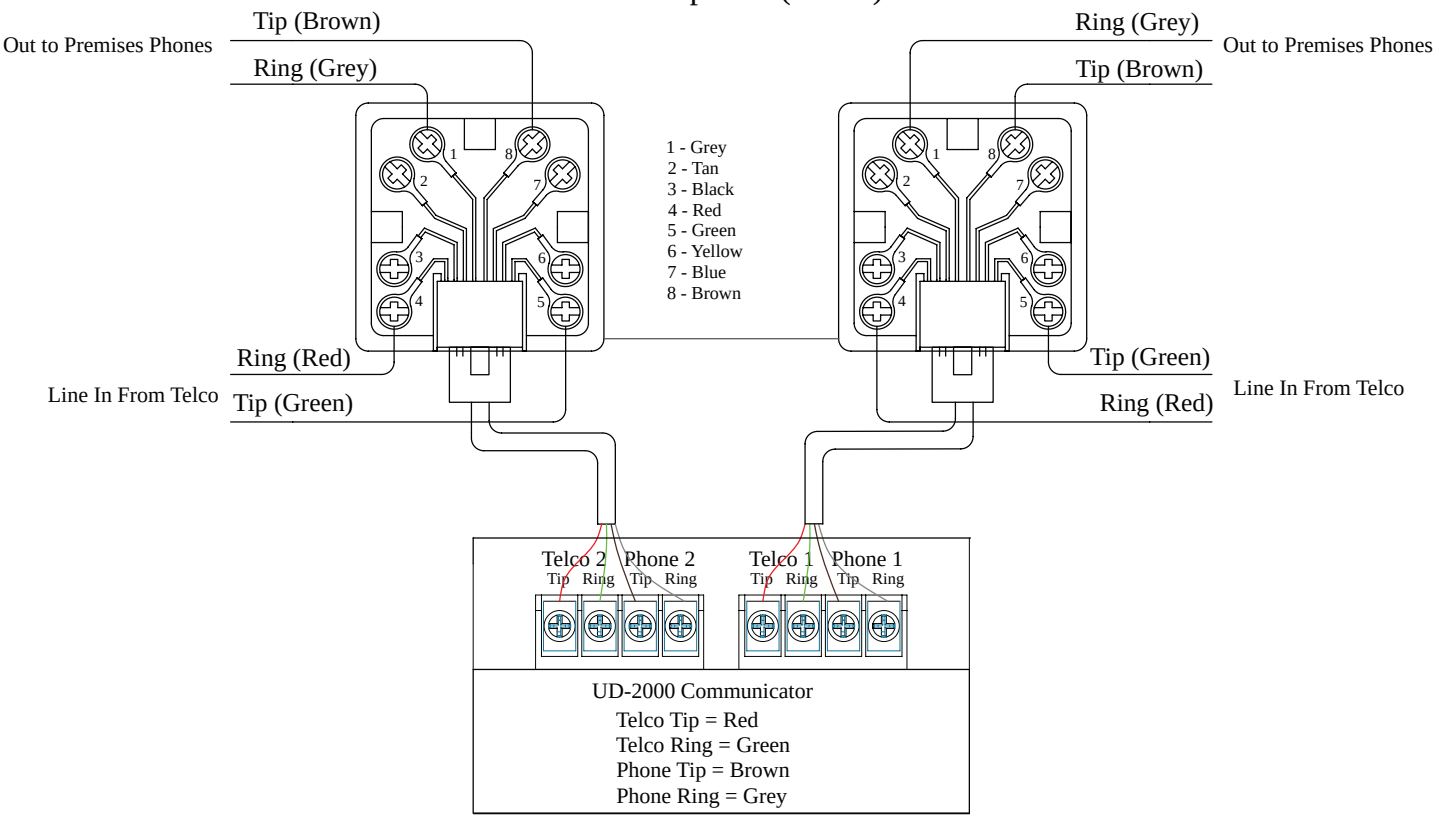
Phone lines are high voltage and should be run in a separate conduit from other circuits. The wire conductors connecting the DACT to the phone system should be 26 AWG or larger.

Technical Specifications

Operating Voltage	22.0-24.0V
Standby Current	16mA
Alarm Current	23mA
Max UD-2000s per panel	1
Dimensions	4”W * 6”H * 1-5/8”D
Operating Tempuratures	0°C - 49°C (32°F- 120°F)
Operating Humidity Range	10% - 93% @ 30°C (86°F) (non-condensing)
Mounting Options	In FACP Behind keypad
Shipping Weight	0.47 lbs

RJ31X Phone Jack to UD-2000

Plain Old Telephone (POTS) lines



NOTICE

Install in accordance with compatible fire alarm control panel installation manual

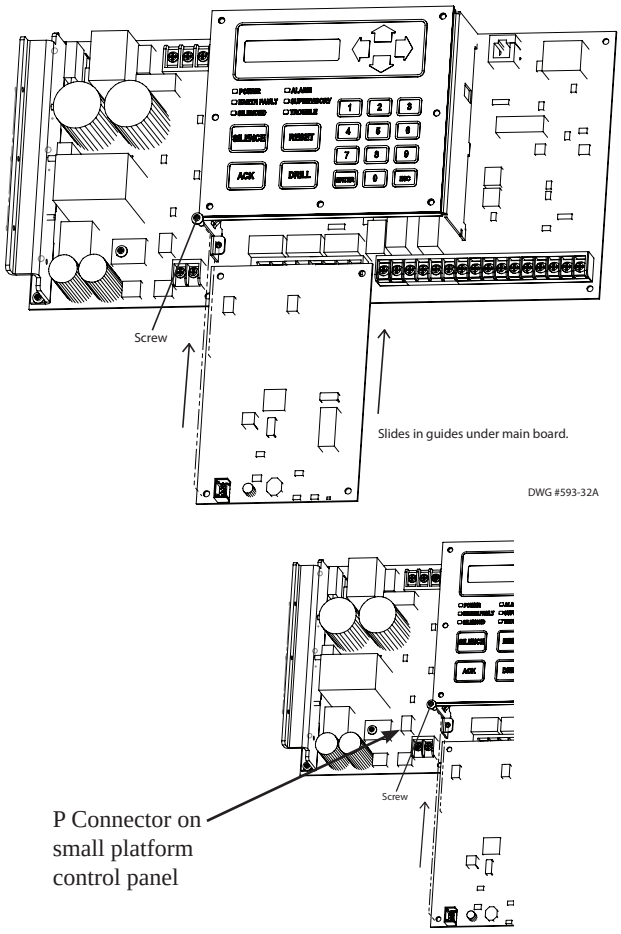
Installation

The UD-2000 DACT is connected to the control panel using the provided four-wire cable connection (P/N 5210514) between P4 and UD-2000 P1. The connection is power limited and supervised.

1. Power system down.
2. Slide the UD-2000 into the card guides located under the User Interface bracket.
3. Secure the UD-2000 to the User Interface bracket using the provided #6-32x3/8" screw
4. Install the provided four-wire conductor jumper between UD-2000 P1 and P4.

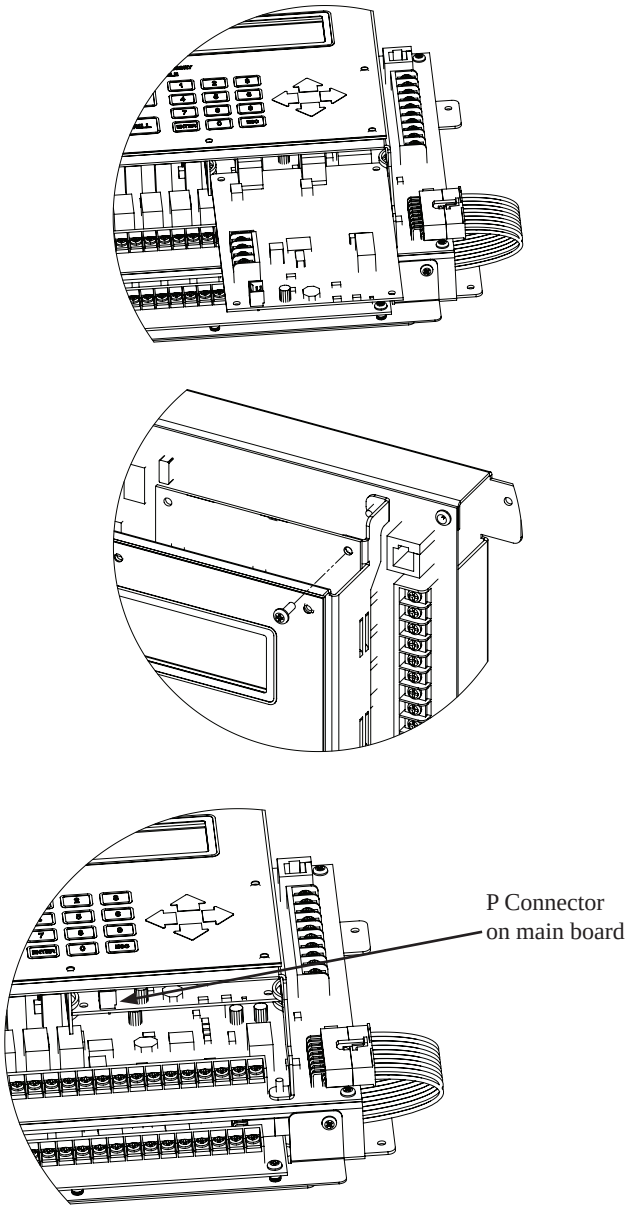
UD-2000 DACT Installation on Small Platform Panel

Fig 1



UD-2000 DACT Installation on Large Platform Panel

Fig 2



Ordering Information

Model	Description	Stock No.
UD-2000	Digital Alarm Communicator	3992769

POTTER
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PSN Series
Power Supplies

Features

- PSN-64 has 6 amps regulated with 4 outputs
- PSN-106 has 10 amps regulated with 6 outputs
- May be configured as up to three class “A” Style “Z” notification circuits
- Two Trouble relays (5A at 30VDC) General System Trouble (programmable for AC delay) Low AC Trouble with optional delay settings
- Diagnostic LED’s Status LED’s for Active NAC and NAC Trouble conditions.
- Quadrasync feature synchronizes horns/strobes from AMSECO, Gentex, Cooper-Wheelock and System Sensor
- May be connected to any manufacturers UL864 listed FACP/ Unit for activation and supervision
- Configurable output circuits (DIP switch sets options for each circuit)
- Reference EOL allows 2K – 27K EOL value to be used
- Pass Thru mode allows the outputs to match the input signal from FACP

Description

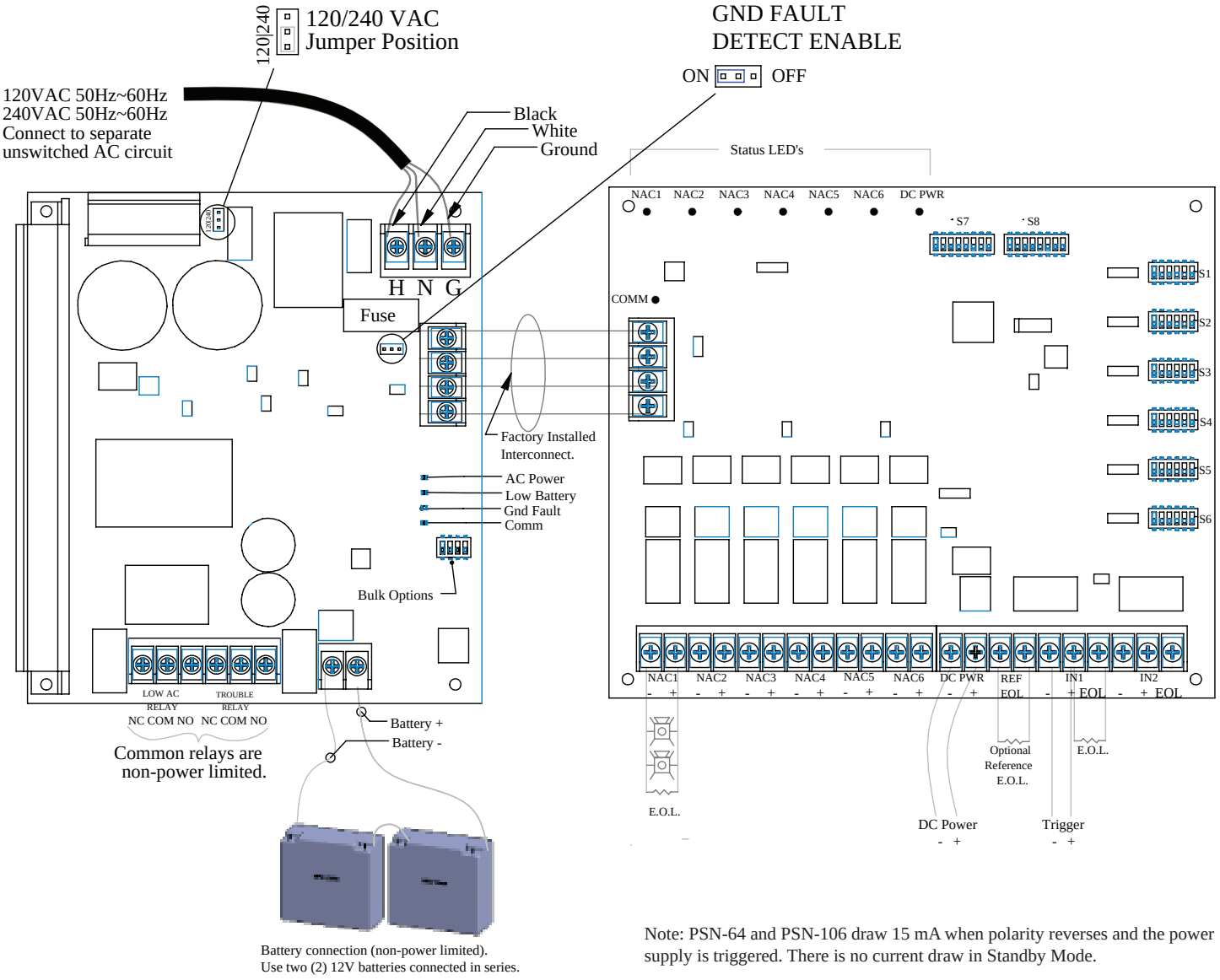
The PSN series of notification power supplies offers reliable notification power with unprecedented versatility. The power supplies offer either 6 or 10 amps of continuous power through 4 or 6 outputs respectively. Each output is rated at 3 amps and it may be used continuously without any derating. The power supply operates on either 120 VAC or 220 VAC power input and has a regulated 24 VDC output. In addition, the power supply can charge up to 55 AH batteries and leads the industry in housing up to 18 AH batteries. The cabinet is constructed out of 18 gauge cold rolled steel and has a durable red powder coat finish. In addition, a key lock is provided for securing the door. Ample electrical knockouts are provided on the sides and the top, allowing the installer options for running wires and maintaining the correct separations.

The power supply offers an industry leading Quadrasync function that allows for multiple strobe circuits of different brands to be synchronized to flash at the same time. The power supply can have four different brands each connected to its own circuit and all the strobes flash together. Each output can independently be configured to provide one of four synchronizations or steady power. This provides unequivocal flexibility in new and retrofit installations. The power supply can be configured to synchronize AMSECO®, Gentex®, Wheelock® and System Sensor® strobe devices. Each output can be configured to the same sync protocol or set independently. In addition, the power supply has an input Pass Thru mode which allows the outputs to follow the input signal from a non-supported synchronization protocol. The power supply will recognize the type of input being supplied and pass this through to the outputs with the same pattern. This input pass through can be selected on each output independently. The power supply contains simple dipswitch programming and LED indicators providing the installer the ability to correct any possible faults. A Trouble Memory is provided to allow an installer to review past troubles and make the necessary repairs. Each output has an LED to pinpoint the exact circuit where a trouble may have occurred. Relays are provided for monitoring the general system and AC failure. Each output and be independently configured for various applications and installations. Each output can be independently configured for Class A or Class B operation, constant power, ANSI Temporal Code 3, Single, Multiple or Combo Inputs or Door Holder Power.

Technical Specifications

Size (H x W x D)	16 1/8” W x 16 ¾” W x 3 ½” D
Enclosure	Eighteen (18) gauge sheet steel with hinged, locked door
Power Input	120VAC @ 60Hz 220/240VAC @ 50Hz 5.1 Amps @ 120 VAC 2.5 Amps @ 240 VAC
Current	75mA Standby & Alarm (no external load)
Input Voltage Trigger	15mA @ 8 – 33 VDC
Terminals	18-12 AWG
Temperature	32° F to 120°F (0°C to 49°C) with a maximum humidity of 93% non-condensing
NAC Output	3 Amp max per NAC, Regulated
Battery Charging	27.3 @ 1A, can support 7 – 55Ah batteries

PSN-106 Wiring Diagram



Battery connection (non-power limited).
Use two (2) 12V batteries connected in series.

Note: PSN-64 and PSN-106 draw 15 mA when polarity reverses and the power supply is triggered. There is no current draw in Standby Mode.

Ordering Information

Model	Description	Stock No.
PSN-106	10 A Power Supply, 6 NAC Circuits, Red Enclosure	3006437
PSN-106B	10 A Power Supply, 6 NAC Circuits, Black Enclosure	3006446
PSN-64	6 A Power Supply, 4 NAC Circuits, Red Enclosure	3006436

Engineering Specifications

The contractor shall supply and install the Potter PSN power supply. The power supply shall operate on either 120 or 240 VAC input. The panel shall be capable of continuous load power without any degradation to the main supply or the distribution board. The cabinet shall be capable of housing up to 18AH batteries and the panel shall be capable of charging up to 55 AH batteries in an external cabinet.

The panel shall have dip switches for simplistic configuration of the system and LEDs to provide visual indication to the installer of the status of the system. The dip switches shall allow for AC power delay selection, Class A/B operation per output, Door Holder Power options, constant auxiliary power, trigger input type, ANSI Code 3 Temporal Code, Pass Thru (input tracking), AMSECO® sync, Gentex® Sync, System Sensor® Sync or Wheelock® sync. The LEDs shall provide indication of communication between the power supply and distribution circuit assemblies. The LEDs shall have distinct flash patterns to provide further indication of the troubles present. The panel shall have selectable Trouble Memory to provide the installer an indication that a past trouble existed on a circuit for diagnostic purposes.

Each output of the power supply shall be capable of 3 amps of continuous power without degradation overtime. The power supply shall provide for multiple circuits of strobe appliances. The power supply shall synchronize the flashes of any of the above listed strobe appliances on a per circuit basis. Up to four different strobe circuits may be connected and all the strobes shall flash in unison as required by UL 864. In addition to this Quadrasync feature, the panel shall allow any of the four above mentioned sync patterns as an input and pass this signal through and synchronize the outputs to match the input flash pattern.

PAD100-NAC

Notification Appliance Circuit

Features

- Monitored output module that provides an additional supervised output
- Can be used as either a NAC or Releasing Output
- NAC can be wired Class A or Class B
- Monitors presence of 24 VDC Aux Power
- SLC Class A, Class X & Class B
- Mounts in a standard 4” or double gang box
- Wiring terminals accessible when mounted in box
- All wiring terminals accept 22 to 12 AWG
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

Description

The PAD100-NAC module uses one (1) address on an SLC Loop. The module provides a programmable source of power to supervise and control one (1) Class B or Class A Notification Appliance or one (1) Class B Releasing Circuit. The module requires and supervises a 24 VDC auxiliary power connection. The PAD100-NAC includes one red LED to indicate the module’s status. In normal condition, the LED flashes when the device is being polled by the control panel.

Application

The PAD100-NAC is compatible with Potter’s IPA and AFC/ARC series addressable fire alarm control panels. The PAD100-NAC is a monitored Notification Appliance Circuit that wires to the SLC loop to provide an additional notification circuit. When used with a Potter addressable releasing panel, the PAD100-NAC can provide an additional releasing circuit.

Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switches on the PAD100-NAC module.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device:

1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

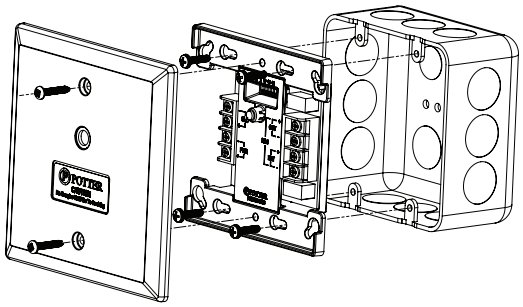
Operating Voltage	24.0V
Max SLC Standby Current	200µA
Max SLC Alarm Current	200µA
Aux Power Required	16-33 VDC
Output Ratings	24 VDC, 2A
EOL Resistor	5.1K Ω
EOL Resistor Diode	Stock #3005012 Releasing Applications (Not Included)
Operating Temperature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units
Dimensions	4.17” (106mm)L × 4.17” (106mm)W × 1.14” (29mm)D
Mounting Options	Standard 4” Square or Double Gang Box
Shipping Weight	0.6 lbs

PAD100-NAC

Notification Appliance Circuit

Installation Using Compatible Electrical Box

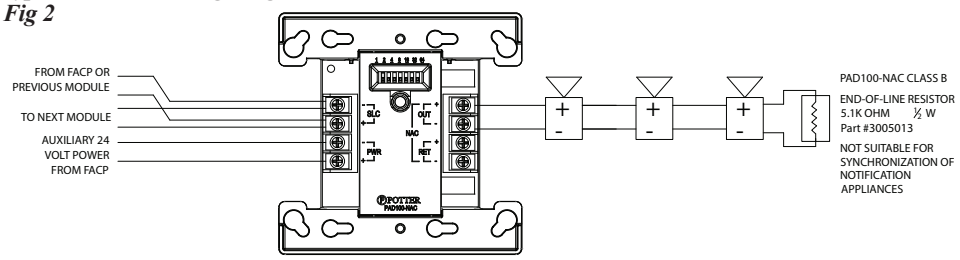
Fig 1



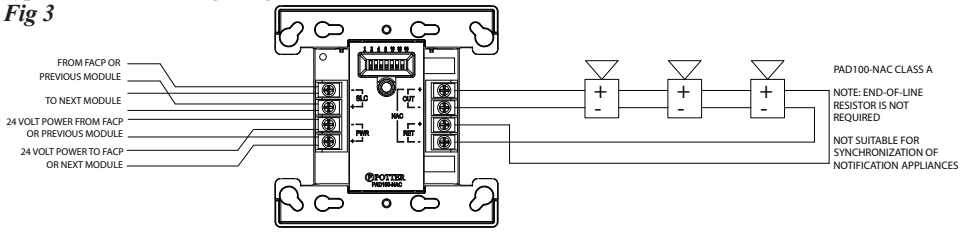
Wiring Diagrams

Output Connected to a Notification Appliance Circuit

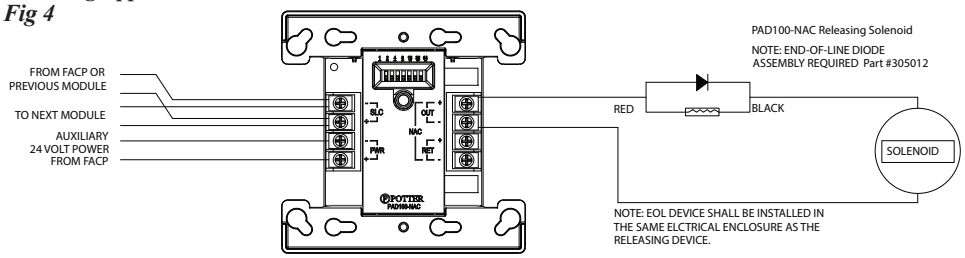
Typical Class B Wiring Diagram
Fig 2



Typical Class A Wiring Diagram
Fig 3



Releasing Application
Fig 4



NOTICE

It is possible that the internal relay in the PAD100-NAC may be shipped in the non-normal / activated state. To ensure that the internal relay is set to the normal state, connect the module to the SLC loop and reset the control panel before terminating the wiring to the modules output.

Ordering Information

Model	Description	Stock No.
PAD100-NAC	Notification Appliance Circuit	3992707

TELGUARD
THE ALARM COMMUNICATION EXPERTS

TG-7FS

5G LTE-M CELLULAR COMMUNICATOR FOR COMMERCIAL FIRE

COMMERCIAL FIRE

Part of the full line of Telguard universal fire communicators, the TG-7FS can augment or replace legacy Telco lines with reliable cellular signal reporting. AHJs know that the TG-7FS meets all UL and ULC standards, and works in virtually every installation.

PRODUCT FEATURES

- Powers directly from a 12 or 24VDC alarm panel — no electrician needed for an outlet. Or, for AC, use included plug-in adapter.
- Operates on LTE-M networks, for 5G longevity, lower power consumption, and better in-building penetration.
- Interfaces with fire panels using a single DACT connection for universal compatibility. No DACT is no problem — just add a TG-PEM accessory to the TG-7FS.
- American made, and backed by award-winning, U.S.-based tech support.

This is the communicator dealers have loved for over a decade, updated with a more modern 5G LTE-M cellular radio, more efficient use of power, and more options.

You're in control when setting up and installing the TG-7FS. Apply desired settings when you're in the office or on the road using the Telguard online dealer portal. Signals can be reported to your central station of choice.

UL Listings (AT&T and Verizon)
- 864 Commercial Fire
- 1610 Central Station

ULC Listings (AT&T Only)
- S559 Commercial Fire
- S304 Commercial Burglary

Models by Carrier
- AT&T (US & Canada): TG-7FS-A
- Verizon (US only): TG-7FS-V

Size (without antenna)
7.5 H x 11.5 W x 3.5 D in
(19.05 x 29.21 x 8.89 cm)

Package Contents
- TG-7FS universal communicator
- Antenna with extension cable
- AC adapter & connector blocks

Compatible Accessories
- TG-PEM to connect DACT-less panels
- Range of antenna cable lengths
- High-gain directional antenna
- External antenna

Specifications

Power Consumption
Standby: 18mA @ 24VDC
40mA @ 12VDC
Transmit: 110mA @ 24VDC
200mA @ 12VDC

Compatible Formats
CID, SIA, Pulse (4x2, 3x1),
Radionics (IIe/3a^2,4), DMP

SECURITY SIGNALING c UL us LISTED · NFPA INTERNATIONAL · CFSA · verizon network certified · Connected by AT&T

For the most current product specifications and UL Listings visit telguard.com/tg-7fs. In Canada, cellular data may be carried by Rogers, Bell, Telus or SaskTel.

CHOOSE THE COMMUNICATOR THAT BEST FITS THE NEEDS OF YOUR UPGRADE, TAKEOVER, OR NEW INSTALL PROJECT.

FIRE PRODUCTS	COMMUNICATION PATHWAYS			INPUT POWER OPTIONS		HARDWARE OPTIONS	
MODEL	CELLULAR	INTERNET	TELCO	PANEL DC (12/24V)	PLUG-IN AC	UPGRADE BOARD	TG-PEM
TG-7FS	✔		✔	✔	✔	TG-7UB	✔
TG-7FE	✔	✔		✔	✔		✔
TG-7FP	✔			✔			

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AMETEK®

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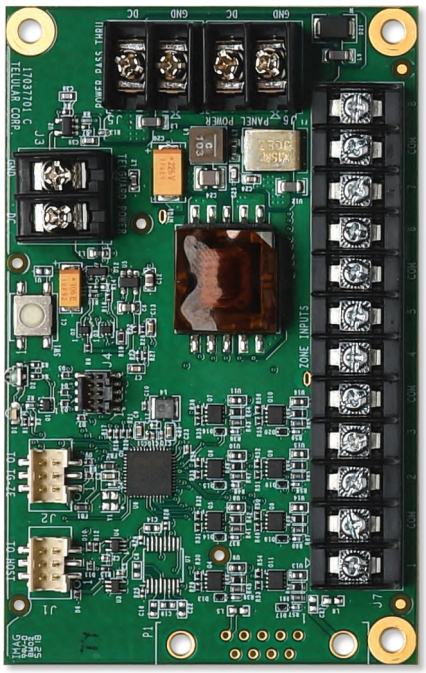
TG-PEM

POWER & EXPANSION MODULE ACCESSORY FOR THE TG-7 SERIES



COMMERCIAL FIRE

COMMERCIAL INTRUSION

PRODUCT FEATURES

- As a POWER MODULE, the TG-PEM lets you operate the TG-7FS from 24-volt panel power. No electrician or extra battery needed.
- As a ZONE EXPANDER, the TG-PEM lets you add 8 or 16 dry contact inputs to the TG-7. Configure each zone with easy-to-use online tools.

The TG-PEM brings together two of the most frequently requested features into one convenient accessory.

It's designed to help you get the most out of your Telguard LTE alarm communicator. The hardware needed to install it inside the metal enclosure of either the TG-7 or TG-7FS is included. All that's needed is a screwdriver.

Telguard products are UL- and ULC-Listed and meet the standards of NFPA 72. See the complete list of certifications on the reverse side.

PUT THE TG-PEM TO USE BASED UPON THE NEEDS OF YOUR INSTALLATION

Run the TG-7FS From Panel Power

The TG-PEM takes 24-volt power from the Fire Alarm Control Panel and steps it down to run the TG-7FS.

That means no need to hire an electrician to install an outlet. Your installations just got quicker, easier, and cheaper.

Add Up To 16 Dry Contact Zones

The TG-PEM expands your intrusion system with 8 highly configurable zones – 16 zones when you use two TG-PEMs.

Configure your added zones easily in the dealer portal. You can even set up templates to streamline the process.

Breathe Life Into Old Fire Panels

No DACT means no problem. Connect panel output relays to the TG-PEM to easily enable Central Station reporting.

To maintain UL 864 compliance for your system, connect only non-initiating devices to the TG-PEM.

TELGUARD

AMETEK

TG-PEM

POWER & EXPANSION MODULE ACCESSORY FOR THE TG-7 SERIES

Box Contents

- **TG-PEM accessory.**
- **Mounting bracket with 3 screws.**
- **Data cable.**
- **Quick Install Guide.**

Complete TG-PEM Installation Manual is available for download at Telguard.com.

Power Specifications

- Accepts panel input at 12 or 24 VDC and provides operating power to TG-7/7FS.
- **Power Consumption**:
  12V DC Input
  Standby with no supervision - 78mA.
  Standby with supervision - 82mA.
  Maximum transmit current - 278mA.
  24V DC Input
  Standby with no supervision - 43mA.
  Standby with supervision - 46mA.
  Maximum transmit current - 132mA.

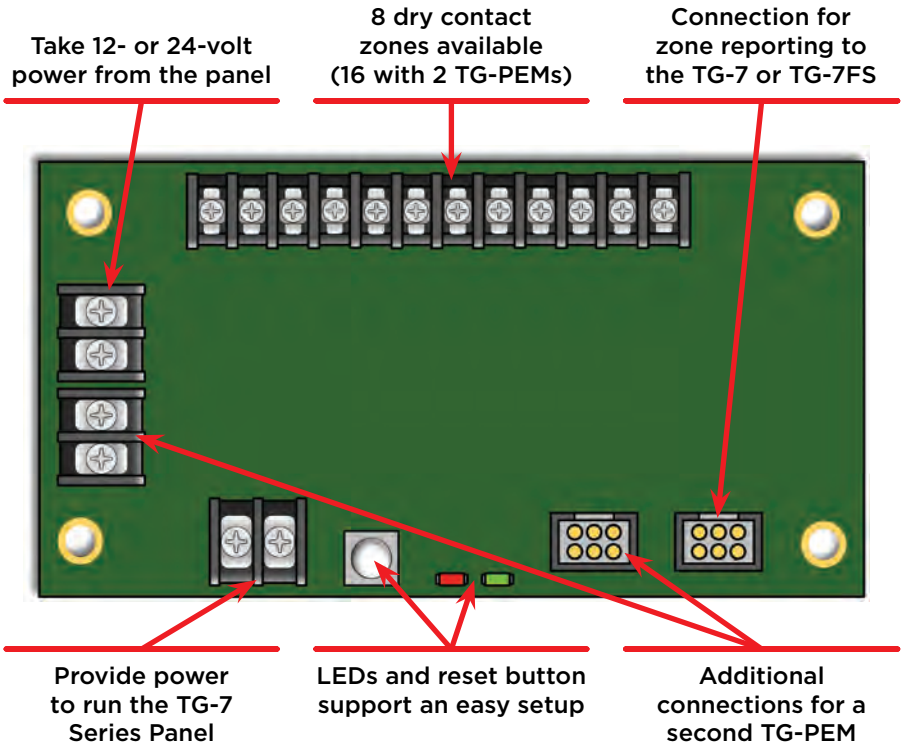
Standard Features

Zones

- 8 configurable as:
  - Normally open.
  - Normally closed.
  - Supervisory (uses 2.2 kΩ resistors, not included).
- 16 zones available when two TG-PEMs are used.

LEDs

Two LED indicators provide status information to assist in installation and troubleshooting.



UL Listings

Commercial Fire

864 • Control units & accessories for fire alarm systems

Commercial Burglary

1610 • Central station burglar alarm units; Line security servcies

* For the most current product specifications and UL Listings visit www.Telguard.com.

ULC Listings

Fire & Security Alarms

S304 • Control units, accessories and receiving equipment for intrusion alarm systems

S559 • Equipment for fire signal receiving centers and systems

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NP/NPX SERIES

SEALED RECHARGEABLE LEAD-ACID BATTERIES

NP/NPX INDUSTRIAL BATTERIES

Yuasa brand NP and NPX batteries give excellent performance in either float or cyclic applications. These batteries are designed for light duty cyclic applications, fire and security systems, Emergency lighting, solar and wind support systems, UPS systems and toys!

TYPE	FR TYPE	VOLTS	NORMAL CAPACITY	LENGTH		WIDTH		OVERALL HEIGHT Incl. TERMINALS		WEIGHT		LAYOUT	TERMI-NALS
			10 hr rate (Ah)	mm.	(in.)	mm.	(in.)	mm.	(in.)	kgs.	(lbs.)		
NP SERIES			20 hr Rate (Ah)										
NP1.2-6	–	6	1.2	97	3.82	25	0.98	54.5	2.15	0.3	0.66	1	A
NP3-6	–		3	134	5.28	34	1.33	64	2.52	0.65	1.43	1	A
NP4-6	–		4	70	2.76	47	1.85	105.5	4.15	0.85	1.87	5	A
NP4.5-6	–		4.5	70	2.76	47	1.85	105.5	4.15	0.08	0.18	5	A
NP7-6	–		7	151	5.95	34	1.33	97.5	3.84	1.35	2.98	1	A
NP10-6	–		10	151	5.95	50	1.97	97.5	3.84	2.0	4.41	1	A
NP1.2-12	–	12	1.2	97	3.82	48	1.89	54.5	2.15	0.57	1.25	3	A
–	NP2.3-12FR		2.3	178	7.01	34	1.34	64	2.52	0.94	2.07	1	A
NP4-12	–		4	90	3.54	70	2.76	106	4.17	1.7	3.74	1	A/D
NP5-12	–		5	90	3.54	70	2.76	105	4.13	1.85	4.07	1	B/D
NP7-12	NP7-12FR		7	151	5.94	65	2.56	97.5	3.84	2.2	4.85	4	A/D
NP7.5-12	–		7.5	151	5.94	65	2.56	97.5	3.84	2.65	5.84	4	A/D
NP12-12	NP12-12FR		12	151	5.94	98	3.86	97.5	3.84	4.0	8.82	4	D
NP18-12B	NP18-12BFR		17.2	181	7.13	76.2	2.99	167	6.57	6.2	13.64	2	E
NP24-12	NP24-12FR		24	166	6.54	175	6.89	125	4.92	8.65	19.05	2	C
NP24-12B	NP24-12BFR		24	166	6.54	175	6.89	125	4.92	8.65	19.05	2	E
NP38-12B	NP38-12BFR		38	197	7.74	165	6.5	175	6.89	13.8	30.4	2	F
–	NP65-12FR		65	350	13.78	166	6.54	174	6.85	22.8	50.2	2	G
NPX SERIES			W/Cell to 1.67 end voltage (15 Min Rate)										
NPX-50	–	6	50W/Cell	151	5.95	50	1.97	97.5	3.84	2.0	4.41	1	A
NPX-25	NPX-25FR	12	23W/Cell	90	3.54	70	2.75	106	4.17	2.0	4.41	1	D
NPX-35	NPX-L35FR		35W/Cell	151	5.94	65	2.56	97.5	3.84	2.65	6.17	4	D
–	NPX-80BFR		80W/Cell	181	7.13	76.2	2.99	167	6.57	6.6	14.5	2	E
–	NPX-80RFR		80W/Cell	181	7.13	76.2	2.99	167	6.57	6.6	14.5	2	M5
–	NPX-100RFR		95W/Cell	166	6.54	125	4.92	175	6.89	9.3	20.8	2	M5
–	NPX-150RFR		150W/Cell	197	7.76	165	6.5	175	6.89	15.5	34.1	2	M6

Pb

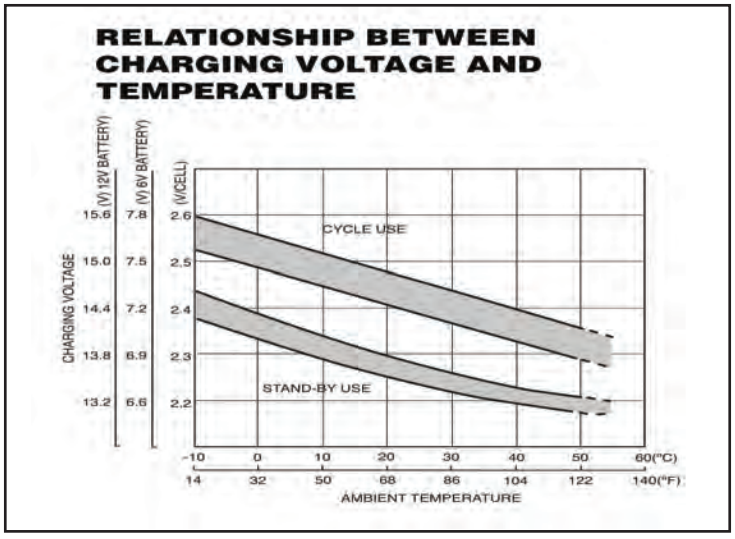
GS YUASA

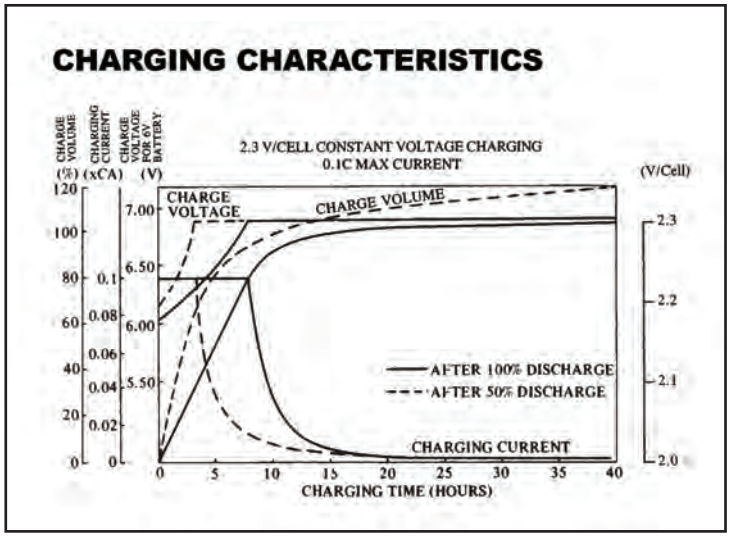
Creating the Future of Energy

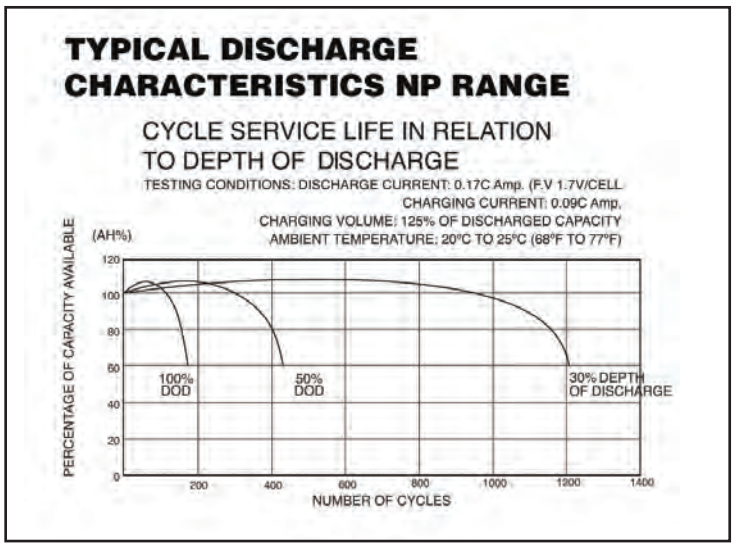
The Yuasa brand of small valve-regulated batteries have, since their introduction, set the standard for quality and excellence in the field of rechargeable sealed lead-acid battery technology. This standard has been used as a benchmark in applications such as security, uninterruptible power supplies (UPS), emergency lights and medical equipment. Anywhere the need for reliable and dependable back-up power is required, Yuasa sets the pace.

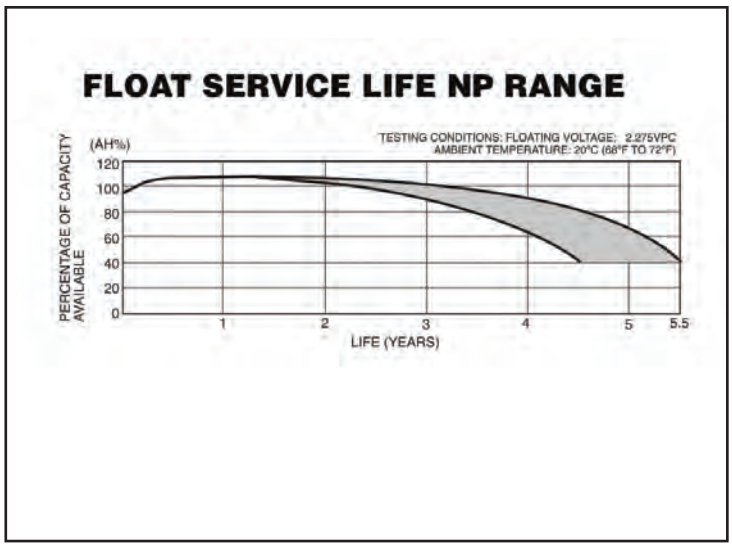
The Yuasa brand NP product line covers the entire spectrum of battery sizes, ranging from 1.2 Ah to 65Ah in 6 and 12 volt varieties. Yuasa also offers a full line of flame retardant batteries (UL94-V0, LOI 30). Designated "FR", these batteries comply with UL1778 flame retardant specifications for UPS.

Yuasa also offers the NPX Series Batteries, designed for high rate discharge applications. These batteries are used primarily where high wattage is required for a short duration. With 50% more wattage available and a 30% reduction in size over conventional batteries, the NPX Series offers a superior value, especially in UPS applications.

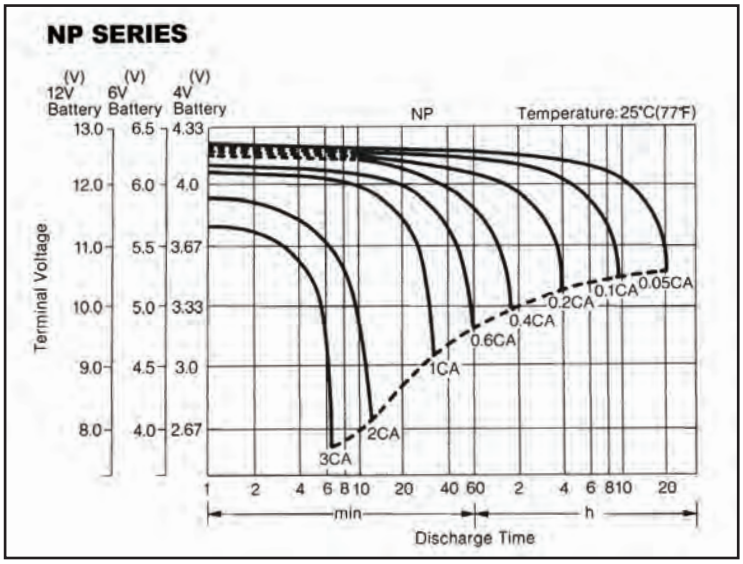


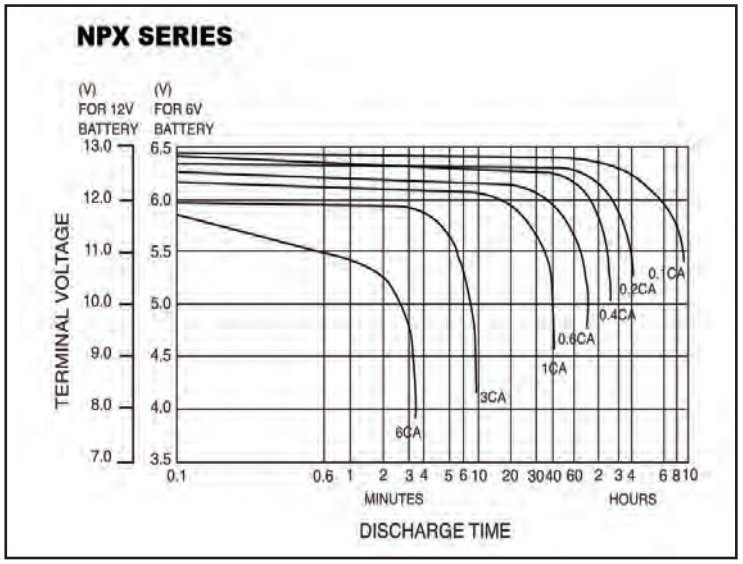






DISCHARGE CHARACTERISTICS CURVES AT 25°C (77°F)





Important notes to prolong battery life:

Charging

- Standby use: Apply constant voltage charging at 2.275 volts per cell (or 2.25–2.30VPC). Cyclic use: Apply constant voltage charging at 2.40–2.50VPC.
- Initial charging current should be set at less than 0.25CA.
- Storage- 6 months- Top charge: Apply constant voltage at 2.40 volts per cell, initial charging current should be set at less than 0.1CA for 15 to 20 hours.

Discharge

- Stop operation when voltage has reached the minimum permissible voltage. Recharge immediately.
- Do not operate at 6CA or more current continuously.

Storage

- Always store battery in a fully charged condition.
- If battery is to be stored for a long period, apply a recovery top-charge every 6 months.

Temperature

- Keep within ambient temperatures of –15°C to +50°C for both charging and discharging. Store batteries in a dry and cool location.

Incorporating battery into equipment

- Encase battery in a well ventilated compartment.
- Avoid installing battery near heated units such as a transformer.
- House the battery in the lowest section of the equipment enclosure or rack to prevent unnecessary battery temperature rise.

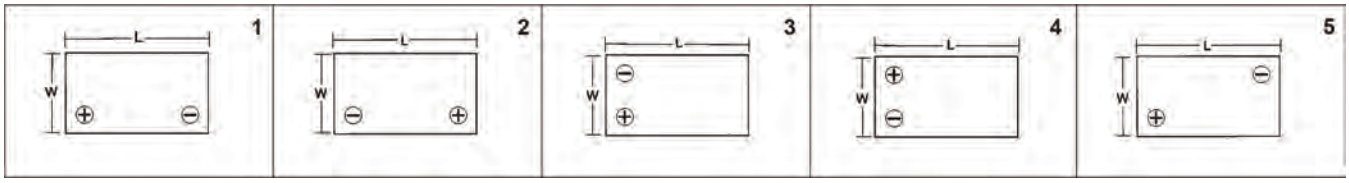
Others

- Avoid terminal short circuit. DO NOT expose to open flame.
- Avoid setting batteries in environments which can cause direct contact to gasoline, paint thinner, organic solvents, synthetic resins, oil, etc…

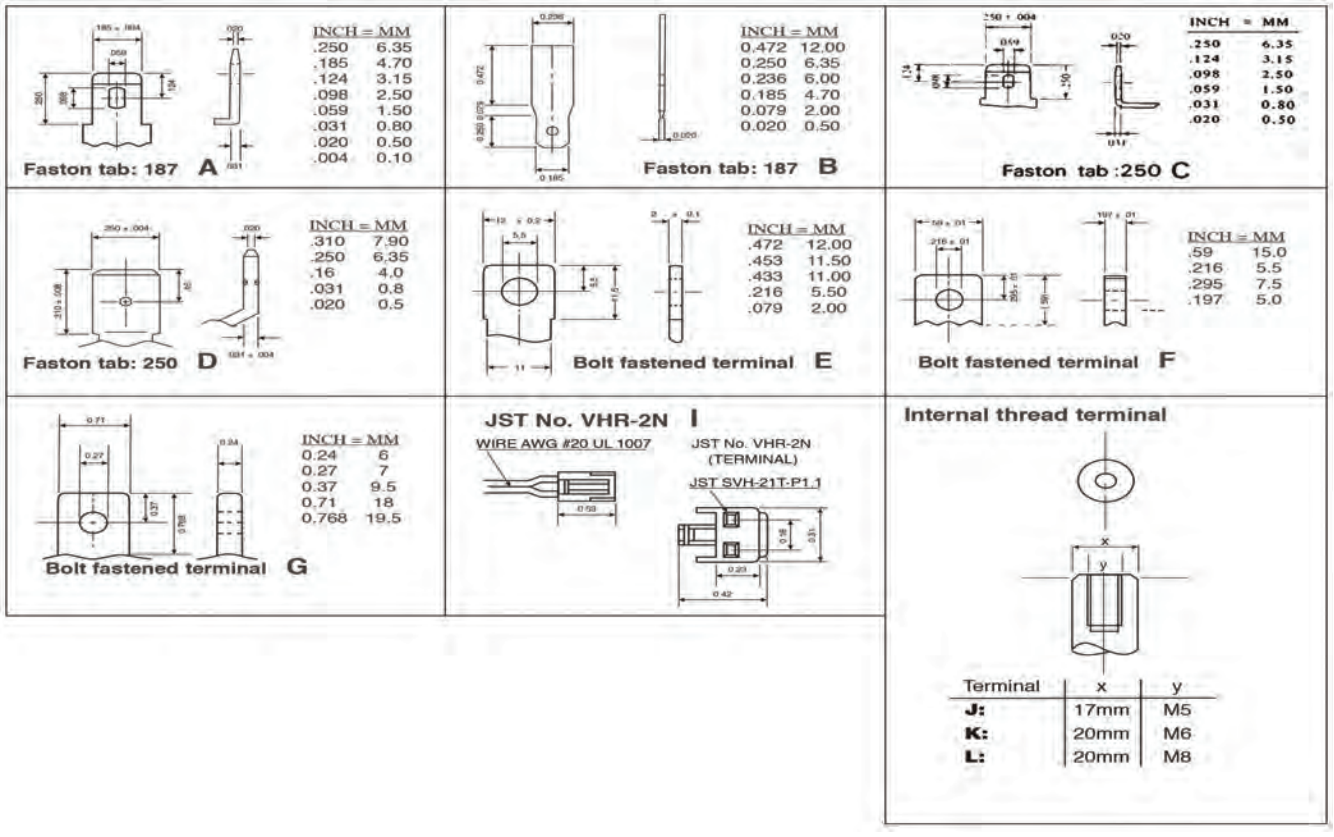
NP/NPX SERIES

SEALED RECHARGEABLE LEAD-ACID BATTERIES

LAYOUT



TERMINALS



ABOUT GS YUASA ENERGY SOLUTIONS, INC.

GS Yuasa Energy Solutions, Inc. is an American subsidiary of GS Yuasa Corporation, the world's second largest battery company and a 100+ year old Japanese corporation. GS Yuasa Energy Solutions (GYES) was formed in 2019 to address the growing energy storage and reserve power markets. GYES brings together and leverages GS Yuasa Group's advanced technologies with proven American market successes in lithium, telecom, UPS, alarm & security, and energy storage into a single business unit.

Creating the Future of Energy

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Roswell, GA 30076 (800) 472-2879
www.gsyuasa-es.com

500-100-092 ver.4.0 10-2020

RA-6500R

LCD Annunciator

Features

- Industry leading 4 line by 40 Character LCD
- Common buttons for navigation
- Common LEDs for status indication
- 31 annunciator per panel
- Maximum wire length of 6,500 feet
- Available in 4 colors
- Product includes a 5 year warranty

Description

The RA-6500R is a LCD remote annunciator for various Potter fire control panels. The RA-6500R communicates using a RS-485 connection to the main panel providing common indication of Alarms, Supervisory, Trouble and other system status and control functions.

The RA-6500R features a 4x40 LCD display with LED's for Power, Alarm, Supervisory, Trouble, and Silenced conditions. It can be mounted on a single gang electrical box or a four square electrical box. The annunciator is enclosed in a sheet metal enclosure and has a Potter lock securing the keypad.

Technical Specifications

Standby Current	20 mA
Alarm Current	25 mA
Operating Temperature	0°C-49°C (32°F-120°F)
Operating Humidity Range	10%-93% @ 30°C (86°F) non condensing humidity
Maximum Wire Length	6500 ft.
Maximum Annunciators	31
Size (WxHxD)	10" x 7-7/8" x 1-5/8"
Wire Gauge	14 AWG-22 AWG
Compatible Panels	IPA Series AFC/ARC Series PFC-4064 P-Series* PFC-6000 Series*

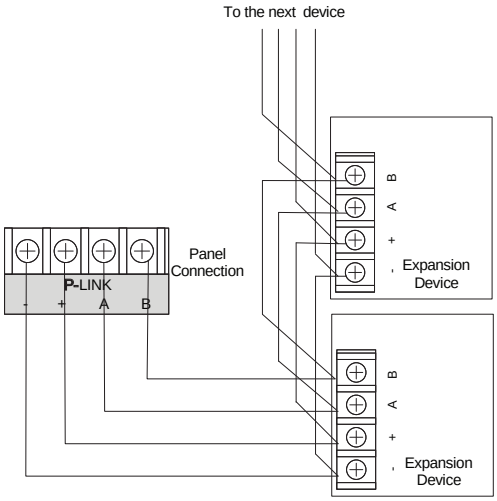
*Legacy Product

Installation

The RA-6500R is connected to the PFC-6000 series fire control panels using a four wire RS-485 connection. The connection is power limited and supervised. Up to thirty-one (31) RA-6500R LCD annunciators can be connected using Class B or Class A wiring. Class A wiring requires an optional Class A Expander.

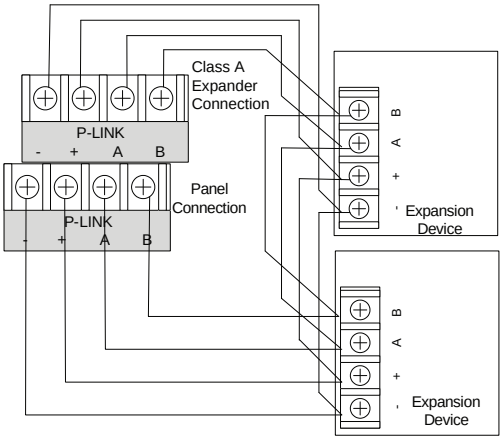
RA-6500R Class B Wiring Example

Fig 1



RA-6500R Class A Wiring Example

Fig 2

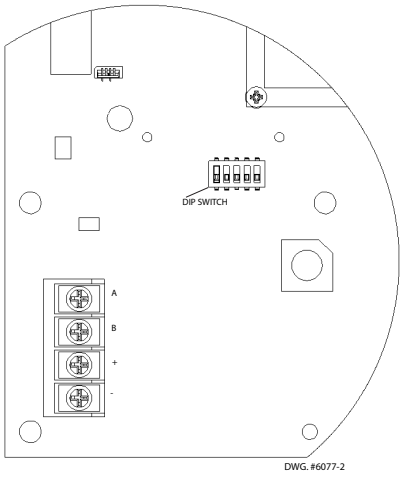


Address Settings

The RA-6500R address is set by dip switch S1 located on the back of the RA-6500R. The address must be set in the range of 1 to 31 to be recognized by the control panel.

RA-6500R Remote (Panel View)

Fig 3



Dip Switch Settings

Refer to the table below for dip switch settings per Annunciator Address.

Annunciator Address	Dip Switch Settings				
	SW-1	SW-2	SW-3	SW-4	SW-5
1	On	Off	Off	Off	Off
2	Off	On	Off	Off	Off
3	On	On	Off	Off	Off
4	Off	Off	On	Off	Off
5	On	Off	On	Off	Off
6	Off	On	On	Off	Off
7	On	On	On	Off	Off
8	Off	Off	Off	On	Off
9	On	Off	Off	On	Off
10	Off	On	Off	On	Off
11	On	On	Off	On	Off
12	Off	Off	On	On	Off
13	On	Off	On	On	Off
14	Off	On	On	On	Off
15	On	On	On	On	Off
16	Off	Off	Off	Off	On

Annunciator Address	Dip Switch Settings				
	SW-1	SW-2	SW-3	SW-4	SW-5
17	On	Off	Off	Off	On
18	Off	On	Off	Off	On
19	On	On	Off	Off	On
20	Off	Off	On	Off	On
21	On	Off	On	Off	On
22	Off	On	On	Off	On
23	On	On	On	Off	On
24	Off	Off	Off	On	On
25	On	Off	Off	On	On
26	Off	On	Off	On	On
27	On	On	Off	On	On
28	Off	Off	On	On	On
29	On	Off	On	On	On
30	Off	On	On	On	On
31	On	On	On	On	On

Ordering Information

Model	Description	Stock No.
RA-6500R	LCD Annunciator - RED	3992661
RA-6500R	LCD Annunciator - BLACK	3992747
RA-6500R	LCD Annunciator Flush - GRAY	3992748
RA-6500R	LCD Annunciator Flush - LIGHT GRAY	3992749

PAD100-HD

Heat Detector

Features

- Selectable Rate of Rise and/or Fixed Heat Detector
- Low profile
- Reliable detection technology
- LED Alarm Indicator
- Ambient temperature listing of 32° F to 150° F
- Simple DIP switch address setting, no programming tool required
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

Description

The PAD100-HD is a listed Analog Addressable rate of rise and/or fixed temperature heat sensor compatible with any fire alarm control panel that has the Potter Addressable Device (PAD) protocol. The heat sensing portion utilizes a proven thermistor for accurate and reliable heat detection. The sensor and base (not included) are made of a durable plastic in an off white to blend in with the ceiling.

The PAD100-HD is UL listed with a selectable fixed temperature point from 135° to 185° Fahrenheit and can be used for rate of rise applications. See detector spacing limitations below. This flexibility allows the installer to cover a wide variety of applications with a single unit.

The PAD100-HD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The sensor is compatible with any of the PAD series sensor bases and simply twists on. The PAD100-HD is addressed using DIP switches in the rear of the sensor and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24 VDC
Detector Current Draw	300 µA
Alarm indicator	1 LED
Alarm set-point range	135 to 185 °F/ 57 to 85 °C
Rate of Rise Detection (Selectable Option)	15°F/min. (8.3°C/min.)
Installation temperature range	32 to 150 °F / 0 to 66 °C
Operating relative humidity range	0% to 93% (Non-condensing)
Start-up time	Max. 1 sec.
Maximum number of addresses per loop	127
Maximum number of lighted indicators in alarm per loop	30
Color	Eggshell White
Weight (without base)	82g (2.89 oz)
Dimensions (without base)	Height: 1.94 in (49mm) Diameter 3.93 in (100mm)

Operation

The PAD100-HD is an analog addressable sensor that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LED flashes every time the unit is polled and will flash at a fast rate if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD100-HD with the PAD100-4DB or PAD100-6DB has a low profile to blend into the surrounding environment. The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD100-HD will operate even though the LED will not illuminate.

Spacing

The ANSI/UL listed spacing limitations of PAD100-HD smooth ceiling are dependent on alarm set point.

Alarm Set-Point	Rate of Rise Spacing	Fixed Temperature Spacing
135°F to 160°F (57°C to 71°C)	Max. 70 ft.	Max. 70 ft.
161°F to 174°F (72°C to 79°C)	Max. 60 ft.	Max. 60 ft.
175°F to 185°F (80°C to 85°C)	Max. 15 ft.	Max. 15 ft.

Compatible Bases

All bases will mount on a single gang, double gang, octagon, 4” square or mud ring electrical box.

Device	Description	Stock No.
PAD100-4DB	4” Standard Base	3992731
PAD100-6DB	6” Standard Base	3992732
PAD100-IB	6” base with an isolator module included.	3992730
PAD100-RB	6” base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992728
PAD100-SB	6" base with sounder module included. Sound pattern is provided from external source.	3992729
PAD100-SPKB	6” base with speaker included	3992762

Ordering Information

Model	Description	Stock No.
PAD100-HD	Fixed Temperature Heat Sensor	3992735

PAD200-PD

Photoelectric Smoke Sensor

Features

- UL 268 7th Edition
- Low profile, less than 2 inches with the base
- Wide selectable sensitivity range of 1.0 to 3.7%/foot
- Sensor communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Optional locking tab to prevent unwanted removal
- Simple DIP switch address setting, no programming tool required
- LED alarm indicator
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

Description

The Photoelectric Smoke Sensor is a listed Analog Addressable smoke sensor compatible with fire alarm control panels that utilize the Potter Addressable Device (PAD) protocol. The PAD200-PD is a low profile smoke sensor with a wide sensitivity range. The sensor and base (not included) are made of a durable plastic in an off-white color to blend in with the ceiling.

The PAD200-PD has a sensitivity range of 1.0 to 3.7 % per foot and is UL. The PAD200-PD features drift compensation and has built in dirty detector warning as well as. The PAD200-PD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The sensor is compatible with any of the PAD series sensor bases and simply twists on. The PAD200-PD is addressed using DIP switches in the rear of the sensor and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24 VDC
Detector Current Draw	300 µA
Alarm indicator	1 LED
Alarm set-point range	1.0 to 3.7 %/ft 3.6-12 %/m
Installation temperature range	32 to 120 ° F / 0 to 49 ° C
Operating relative humidity range	0% to 93% (Non-condensing)
Start-up time	Max. 1 sec.
Maximum number of addresses per loop	127
Maximum number of lighted indicators in alarm per loop.	30
Color	Eggshell White
Weight (without base)	101g (3.56oz)
Dimensions (without base)	Height: 1.35 in (34mm) Diameter: 3.93 in (100 mm)

Air Velocity Ratings

The PAD200-PD has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD200-PD will operate even though the LED may not illuminate.

Operation

The PAD200-PD is an analog addressable sensor that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LEDs flash every time the unit is polled and they will flash at a fast rate if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD200-PD with the PAD100-4DB or PAD100-6DB has a low profile of less than two (2) inches to blend into the surrounding environment. The sensor includes an insect screen to prevent foreign objects from reaching the chamber and the can be cleaned to restore operation of a dirty detector.

Sensor Sensitivity

The PAD200-PD and the compatible control panel work in tandem to keep the sensitivity consistent. As the sensor is installed over time, the sensor compensates for the dirt in the unit until it is out of range. At that time, the panel will indicate a dirty sensor. The sensor will then have to be cleaned or replaced.

The PAD200-PD can be programmed to provide a maintenance alert prior to reaching the dirty sensor level which will allow for intervention prior to the sensor going into trouble. This allows for sensor replacement or cleaning prior to a nuisance trouble occurs.

NOTE: As required by NFPA, do not install the sensors until all construction is complete and the work area has been thoroughly cleaned. If the sensors have been installed in a construction environment, they should be cleaned or replaced before the system is placed into service.

Spacing

The PAD200-PD is UL listed with a recommended maximum spacing of 30 feet. Refer to NFPA 72 for specific information regarding detector spacing, placement and special applications.

Compatible Bases

All bases will mount on a single gang, double gang, octagon, 4” square or mud ring electrical box.

Device	Description	Stock No.
PAD100-4DB	4” Standard Base	3992731
PAD100-6DB	6” Standard Base	3992732
PAD100-IB	6” base with an isolator module included.	3992730
PAD100-RB	6” base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992728
PAD100-SB	6" base with sounder module included. Sound pattern is provided from external source.	3992729
PAD100-SPKB	6” base with speaker included	3992762

Ordering Information

Model	Description	Stock No.
PAD200-PD	Photoelectric Smoke Sensor	3992770

PAD100-4DB/6DB

4”/6” Addressable Detector Base

Features

- Terminals Marked with Polarity to assist with installation
- Duplicate terminals for in and out SLC wiring
- Terminals accept 22 to 12 AWG wire sizes
- Installs on single gang, double gang, octagon or 4” square box
- Locking tab prevents unauthorized detector removal
- Product includes 5 year warranty

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Application

The Potter PAD100-6DB and PAD100-4DB detector bases are used to install Potter’s addressable smoke and heat detectors. The PAD100-6DB will mount on a single gang, double gang, octagon or 4” square electrical box.

Description

The PAD100-6DB and PAD100-4DB are low-profile, surface mount bases used with Potter’s addressable detectors. The base uses screw-clamp terminals that accept wire ranging from 22 to 14 AWG. When installed on recessed electrical boxes the PAD100-6DB is wide enough to completely cover the back box and the immediate surrounding area. The base is equipped with a locking tab to deter unauthorized removal of the attached detector.

Technical Specifications

Mounting Options	Single gang, double gang, octagon, and 4” square box
Terminals	Screw-Clamp Type
Wire Guage	22 to 12 AWG
Dimensions	Diameter: 6.3 in (166 mm) Height 0.72 in (18 mm)
Shipping Weight	87g (3.07 oz)
Material	Durable Plastic

PAD100-4DB/6DB

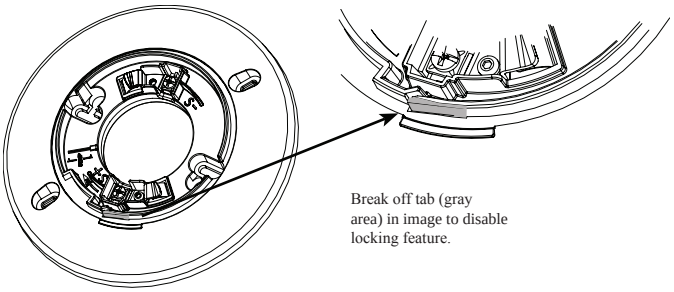
4”/6” Addressable Detector Base

Locking Feature

The PAD100-6DB and PAD100-4DB include a locking feature that prevents removal of the detector without using a tool.

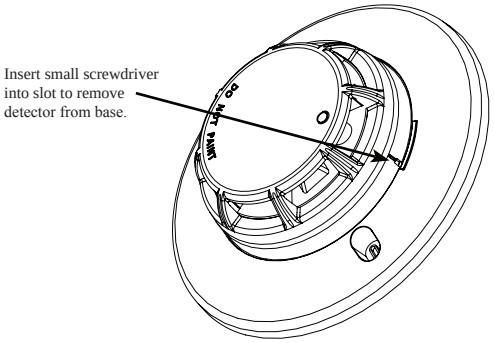
1. To eliminate this feature, break off the locking tab (refer to Figure 1), and then install the detector.

Fig. 1



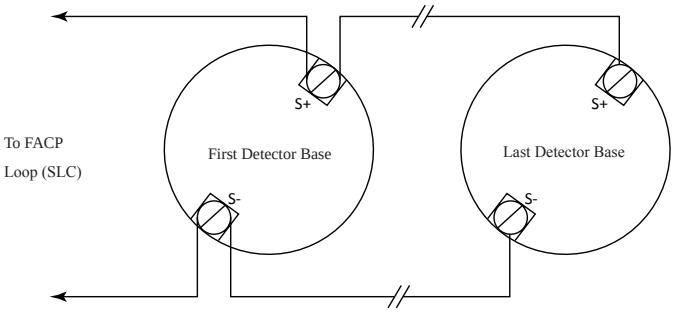
2. To remove the detector from the base when the locking feature has been enabled, insert a small screw driver into the slot on the base to push the plastic tab while simultaneously turning the detector head counter-clockwise.

Fig. 2



Wiring Diagram

Fig. 3



Ordering Information

Model	Description	Stock No.
PAD100-6DB	6” Sensor Base	3992732
PAD100-4DB	4” Sensor Base	3992731

PAD100-PSSA/PSDA

Addressable Pull Station
Single/Dual Action

Features

- Single or Dual Action versions
- Durable die-cast construction
- Reset key matches the fire alarm control panels
- Compatible with IPA Series panels
- SLC Class A, Class X & Class B
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

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Description

The PAD100-PSSA (Single Action) is activated by simply pulling the white “T” bar handle down. The PAD100-PSDA (Dual Action) is activated by lifting the front cover and then pulling the white “T” bar handle down. Once activated, the “T” bar cannot be reset without opening the front cover. Opening the front cover will also activate the pull station. To reset the PAD100-PS Series, use the Potter WS-93 key to unlock and open the front cover. Once the cover is open, push the “T” bar back into the normal position and re-secure the front cover.

Application

The PAD100-PSSA/PSDA is compatible with Potter’s IPA and AFC/ARC series addressable fire alarm control panels. It is a non-coded addressable pull station available in either a single or dual action model and installs on a single gang box or surface mounts using the P32-BB or P32-DBB (deep) back box.

Technical Specifications

Operating Voltage	24.0 VDC
Max SLC Standby Current	200uA
Max SLC Alarm Current	200uA
Environmental Limitations	32°F - 120°F (0° - 49°C) Indoor Only
Dimensions	4.75” H x 3.25” W x 1.75” D
Relative Humidity Range	0 - 93% (non-condensing)
Mounting Options	Single gang box or Potter P32-BB/DBB
Shipping Weight	APS-SA - 1.22 lbs. APS-DA - 1.46 lbs.

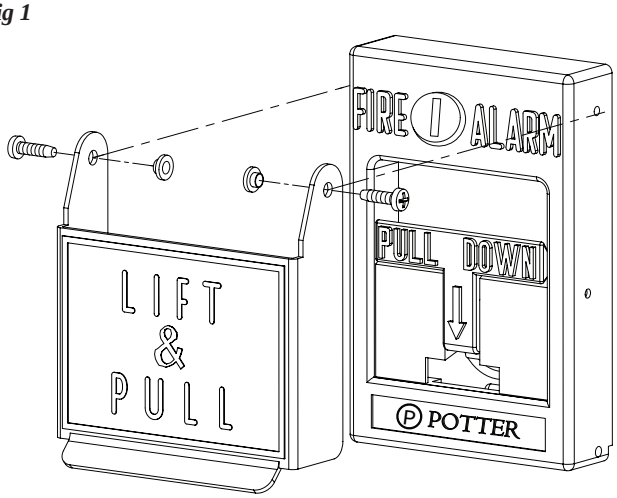
PAD100-PSSA/PSDA

Addressable Pull Station
Single/Dual Action

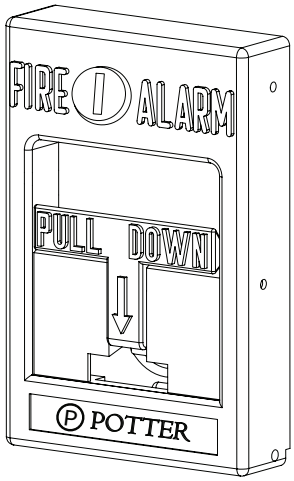
Setting the Address

The PAD100-PS Series uses one SLC address assigned to the device. The address is set using the DIP switch located on the back of the PAD100-PS device.

Pull Station Front View
Fig 1

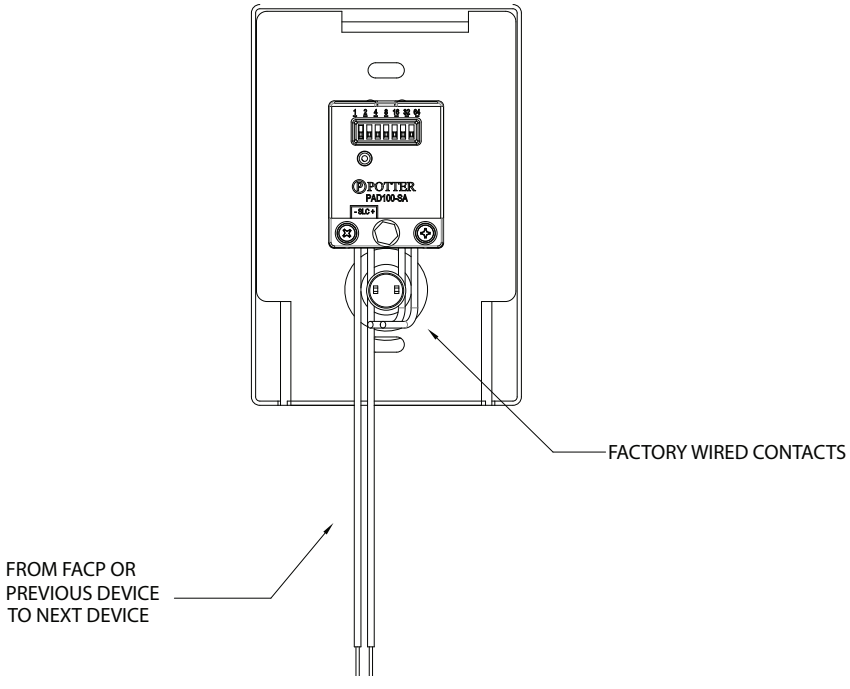


PAD100-PSDA



PAD100-PSSA

Pull Station Back View and Wiring
Fig 2



Ordering Information

Model	Description	Stock No.
PAD100-PSSA	Addressable Pull Station, Single Action	3992721
PAD100-PSDA	Addressable Pull Station, Dual Action	3992720

PAD100-MIM

Micro Input Module

Features

- One Class B contact monitoring input
- Small size allows mounting in most electrical boxes
- SLC Class A, Class X & Class B
- 6” Pigtail wiring connections
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

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Description

The PAD100-MIM is used to monitor the status of an initiating device(s) that contain a normally open set of dry contacts. The module is enclosed in a plastic case to protect against inadvertent shorts and ground faults. The case can be mounted using a single screw. The PAD100-MIM has a status indicator LED to indicate communication and alarm condition. In normal condition, the LED flashes when the device is being polled by the control panel. When the input is activated, the LED will flash at a fast rate.

Application

The micro input module (PAD100-MIM) is compatible with Potter’s IPA and AFC/ARC series addressable fire alarm control panels. Generally the PAD100-MIM is used to monitor pull stations and other devices where the module is installed in an electrical box or enclosure behind the device being monitored.

Technical Specifications

Operating Voltage	24.0V
Max SLC Standby Current	200µA
Max SLC Alarm Current	200µA
IDC Input Circuit Wiring	Class B
Max Wiring Resistance of IDC	100 Ω
Max Wiring Capacitance of IDC	1µF
EOL Resistor	5.1K Ω
Operating Temperature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units
Dimensions	1.75” (44.5mm)L × 1.36” (34.5mm)W× .43” (11mm)D
Mounting Options	2-1/2” (64mm) deep single-gang box
Shipping Weight	0.3 lbs

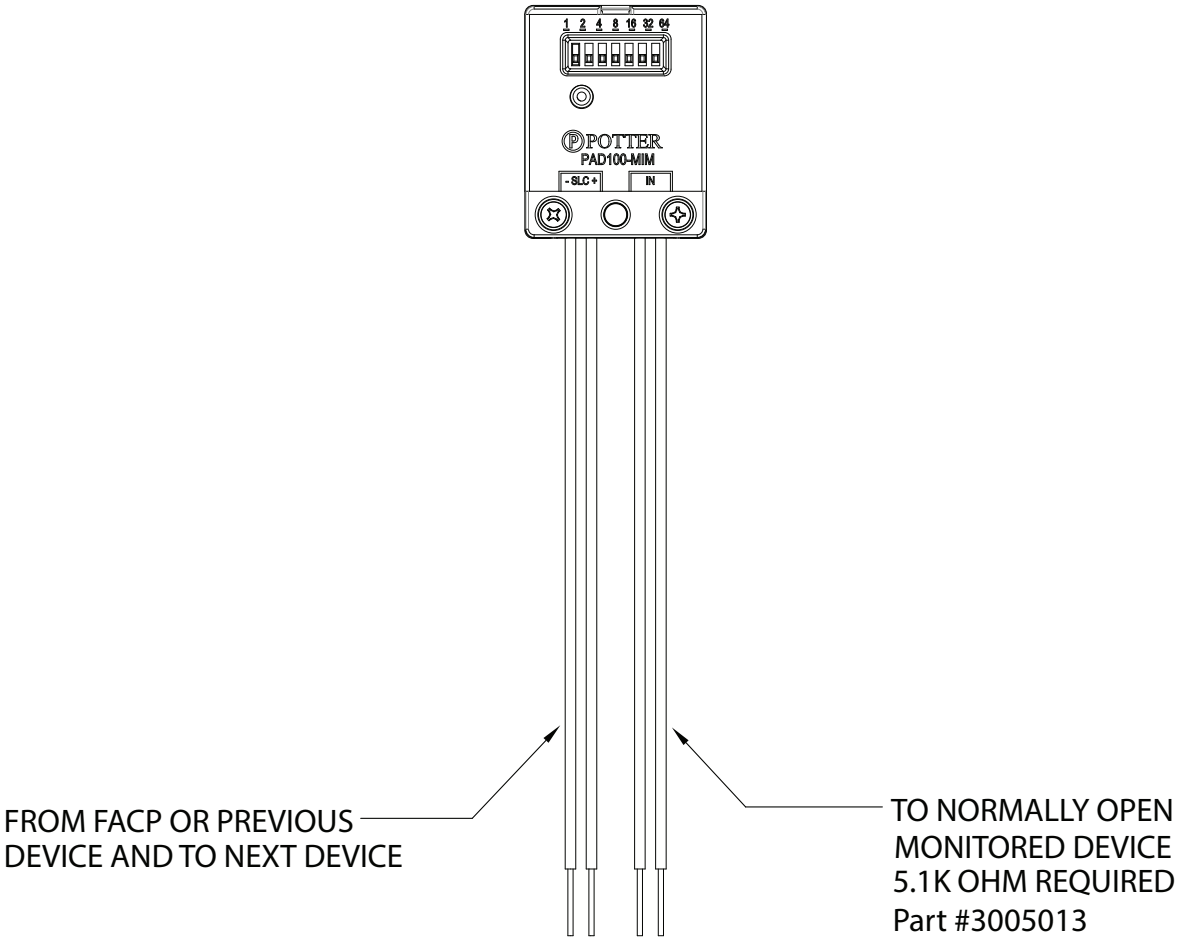
Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switch located on the front of the PAD100-MIM. Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device:

1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Wiring Diagram

Fig 1



Ordering Information

Model	Description	Stock No.
PAD100-MIM	Micro Input Module	3992700

PAD100-OROI

One Relay One Input Module

Features

- One (1) Class B monitoring input
- One (1) Form C relay contact
- SLC Class A, Class X & Class B
- Mounts in a standard 4” or double gang box
- Wiring terminals accessible when mounted in box
- All wiring terminals accept 22 to 12 AWG
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

NOTE: This addressable module does not support 2-wire smoke detectors.

Description

The PAD100-OROI uses one (1) SLC loop address when monitoring one (1) Class B circuit and providing one (1) Form C relay contact. The module mounts on either a 4” square or double gang box. The module is capable of monitoring one (1) Class B circuit. The PAD100-OROI includes one red LED to indicate the module’s status. In normal condition, the LED flashes when the device is being polled by the control panel. When a the input is activated, the LED will flash at a fast rate.

Application

ThePAD100-OROI is compatible with Potter’s IPA and AFC/ARC series addressable fire alarm control panels. The PAD100-OROI is an interface module used to monitor dry contact devices such as sprinkler waterflow, valve tamper switches, or conventional pull stations. The module is capable of monitoring one Class B circuit. The PAD100-OROI also provides one (1) form C relay contact.

Setting the Address

Each addressable SLC device must be assigned an address. The address is set using the DIP switch located on the PAD100-OROI. When the PAD100- OROI is used to monitor one Class B circuit a single device address is assigned, the input and relay are then identified as a sub-point of the module address. For example, if the address number is assigned as “8”, the RLY1 relay will be “8.1” and the IN1 input will be “8.2”.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to the panel or device:

1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

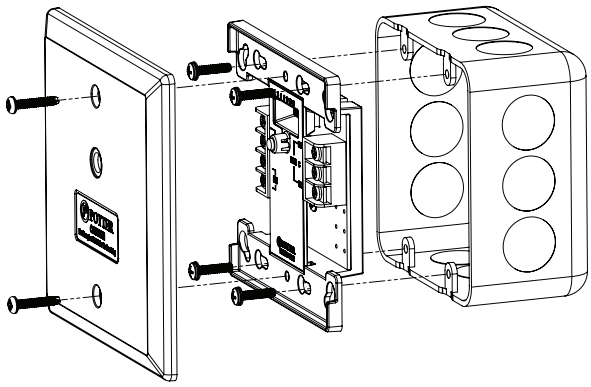
Operating Voltage	24.0V
Max SLC Standby Current	240µA
Max SLC Alarm Current	240µA
Relay Contacts	2A @30VDC, 0.5A @125VAC
Max Wiring Resistance of IDC	100 Ω
Max Wiring Capacitance of IDC	1µF
EOL Resistor	5.1K Ω
Operating Temperature Range	32 to 120ºF (0 to 49ºC)
Operating Humidity Range	0 to 93% (non-condensing)
Max no. of Module Per Loop	127 units
Dimensions	4.17” (106mm)L × 4.17” (106mm)W × 1.14” (29mm)D
Mounting Options	Standard 4” Square or Double Gang Box
Shipping Weight	0.6 lbs

PAD100-OROI

One Relay One Input Module

Installation Using Compatible Electrical Box

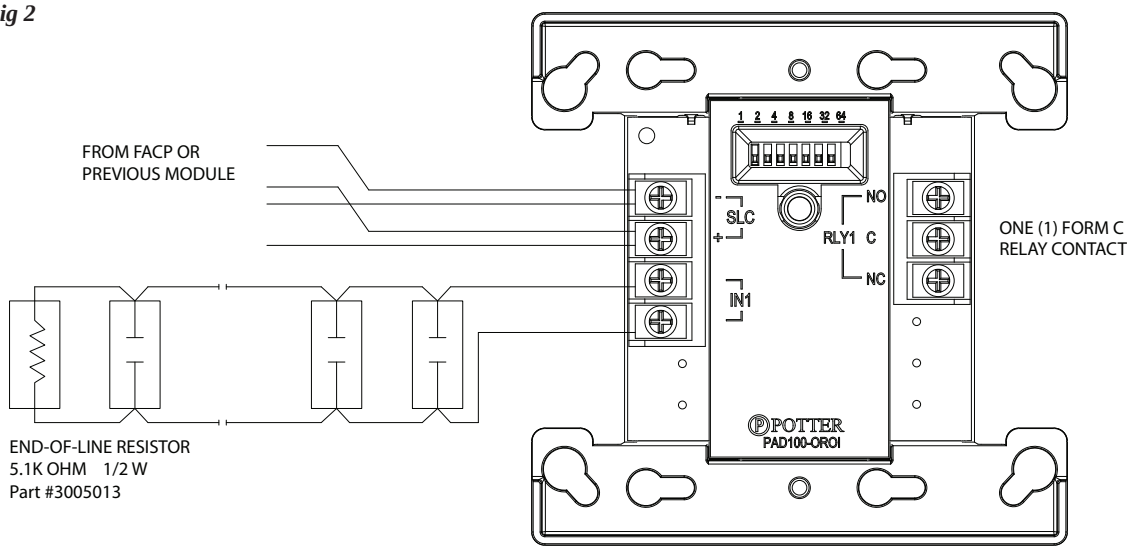
Fig 1



Wiring Diagram

PAD100-OROI With One Class B Circuit

Fig 2



NOTICE

It is possible that the internal relay in the PAD100-OROI may be shipped in the non-normal / activated state. To ensure that the internal relay is set to the normal state, connect the module to the SLC loop and reset the control panel before terminating the wiring to the modules output.

Ordering Information

Model	Description	Stock No.
PAD100-OROI	One Relay One Input Input Module	3992702

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

Agency Listings

SIGNALING UL LISTED
S5512
S4011

FM APPROVED
FM approved except for ALERT models
3057383

7125-1653:0504
7135-1653:0503

L-Series Specifications

Architect/Engineer Specifications

General

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17⁄8-inch back box. 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, L-Series 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 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

Strobe

The strobe shall be a System Sensor L-Series 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 L-Series 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 two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize L-Series strobes at 1 Hz and horns at temporal three. 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 11⁄16 × 4 11⁄16 × 2 1⁄8-inch back box. 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.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 VDC or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCRL, SBBCWL)	6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
	Candela	DC	DC	FWR
Candela Range	15	87	41	60
	30	153	63	86
	75	N/A	111	142
	95	N/A	134	164
	115	N/A	158	191
	150	N/A	189	228
	177	N/A	226	264

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL Max. Current Draw (mA RMS), Ceiling Horn Strobe, Candela Range (15–177 cd)

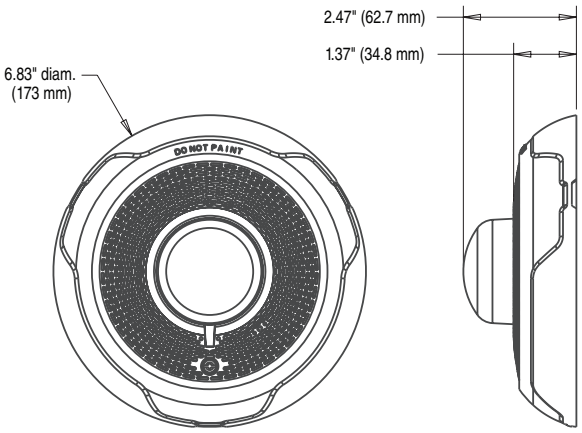
	8–17.5 Volts		16–33 Volts						
DC Input	15cd	30cd	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temportal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259
	16–33 Volts								
FWR Input	15cd	30cd	75cd	95cd	115cd	150cd	177cd		
Temporal High	107	135	179	198	223	254	286		
Temporal Low	78	101	151	172	199	229	262		
Non-Temporal High	107	135	179	198	223	254	286		
Non-Temportal Low	78	101	151	172	199	229	262		
3.1K Temporal High	108	135	179	200	225	255	289		
3.1K Temporal Low	79	101	150	171	196	229	260		
3.1K Non-Temporal High	108	135	179	200	225	255	289		
3.1K Non-Temporal Low	79	101	150	171	196	229	260		

Horn Strobe Tones and Sound Output Data

Horn Strobe Output (dBA)

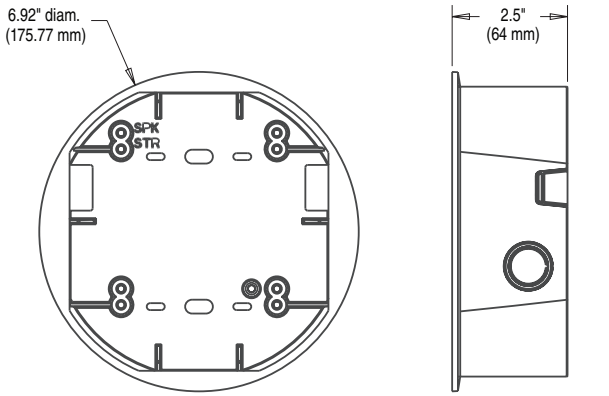
			8–17.5 Volts	16–33 Volts	
Switch Position	Sound Pattern	dB	DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83

L-Series Dimensions



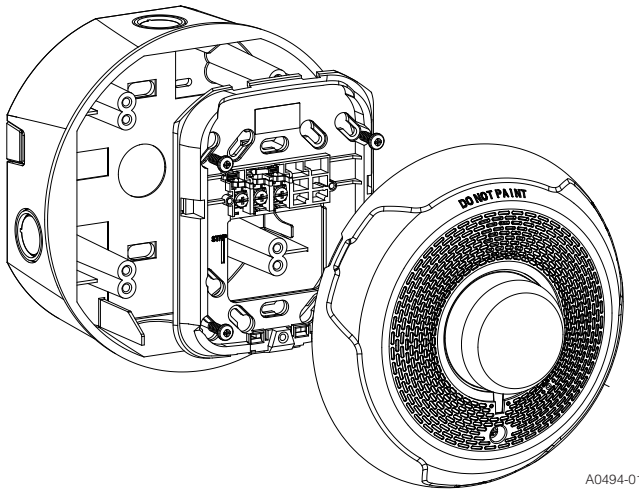
A0545-00

Ceiling-Mount Horn Strobes



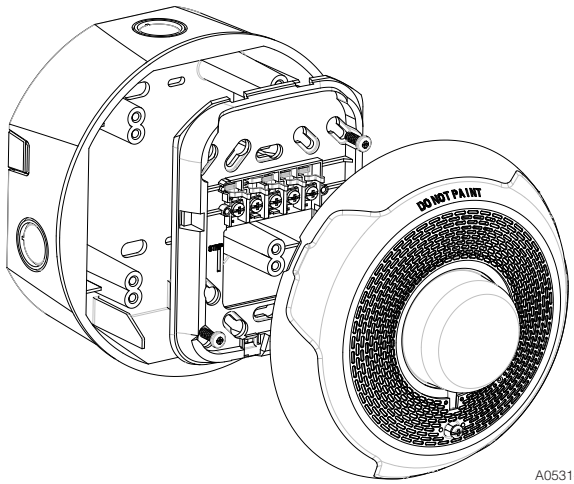
A0546-00

Ceiling Surface Mount Back Box



A0494-01

2-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box



A0531-01

4-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box

L-Series Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2RL	2-Wire, Horn Strobe, Red
PC2WL	2-Wire, Horn Strobe, White
PC4RL	4-Wire, Horn Strobe, Red
PC4WL	4-Wire, Horn Strobe, White

Model	Description
Ceiling Strobes	
SCRL	Strobe, Red
SCWL	Strobe, White
SCWL-CLR-ALERT	Strobe, White, ALERT
Accessories	
TRC-2	Universal Ceiling Trim Ring Red
TRC-2W	Universal Ceiling Trim Ring White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White

For a ceiling-listed horn-only device, see AVDS865 “Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications”.

SYSTEM SENSOR®

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AVDS868-02 • 12/01/2017

Outdoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

SPECTRAlert ADVANCE from System Sensor

SpectrAlert® Advance outdoor audible visible products are rich with features that cut installation times and maximize profits.

Features

- Weatherproof per NEMA 4X, IP56
- Listed to UL 1638 (strobe) and UL 464 (horn)
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products
- Field-selectable candela settings: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch for horn tone and three volume selections
- Horn rated at 88+ dBA at 16 volts
- Rated from –40°F to 151°F
- Universal mounting plate with an onboard shorting spring that tests wiring continuity before devices are installed
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Listed for ceiling or wall mounting

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S3593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

7300-1653:187 (outdoor strobes)
7125-1653:188 (horn strobes, chime strobes)
7135-1653:189 (horns, chimes)

SpectrAlert Advance offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white or red plastic housings, wall or ceiling mounting options, and plain or FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement, including indoor, outdoor, wet, and dry applications in temperatures from –40°F to 151°F.

Like the entire SpectrAlert Advance line, outdoor horns, strobes, and horn strobes for wall applications include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including candela, automatic selection of 12- or 24-volt operation, horn tones, and three volume options enable installers to easily adapt devices to meet requirements.

Next, SpectrAlert Advance devices use a universal mounting plate for both wall and ceiling applications. This mounting plate includes an onboard shorting spring that ensures wiring continuity before devices are installed, so installers can verify proper wiring without mounting the devices and exposing them to potential construction damage. Once the plates are mounted, all SpectrAlert Advance devices utilize a plug-in design with a single captured screw to speed installation and virtually eliminate costly ground faults.

Outdoor devices ship with weatherproof plastic back boxes (metal back boxes are available separately) that accommodate in-and-out wiring for daisy chaining devices. Plastic back boxes feature removable side flanges and improved resistance to saltwater corrosion. Knock-outs located on the back eliminate the need to drill holes for screw-in mounting. Plastic and metal weatherproof back boxes come with ¾-inch top and bottom conduit entries and ¾-inch knock-outs at the back. A screw-in NPT plug with an O-ring gasket for a watertight seal is included with each back box.

SpectrAlert Advance Outdoor Horn, Strobe, and Horn Strobe Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance outdoor horns, strobes, and horn strobes shall mount to a weatherproof back box. 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. Outdoor SpectrAlert Advance products shall operate between –40 and 151 degrees Fahrenheit 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, and 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. The strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The strobe shall be suitable for use in wet environments.

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 three pattern and a non-temporal (continuous) pattern. These options shall be set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn or horn strobe models shall operate on a coded or non-coded power supply. The horn strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The horn strobe shall be suitable for use in wet environments.

Physical/Electrical Specifications

Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6″L × 4.7″W × 2.5″D (142 mm L × 119 mm W × 64 mm D)
Horn Dimensions	5.6″L × 4.7″W × 1.3″D (142 mm L × 119 mm W × 33 mm D)
Wall-Mount Weatherproof Back Box Dimensions (SA-WBB)	5.7″L × 5.1″W × 2.0″D (145 mm L × 130 mm W × 51 mm D)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
	Candela	DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	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

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
Sound Pattern	dB	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

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)

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

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)

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

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)	
Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

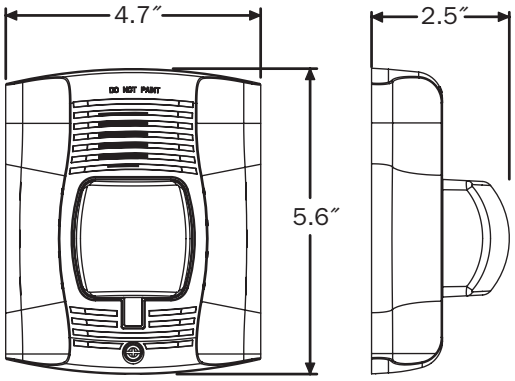
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

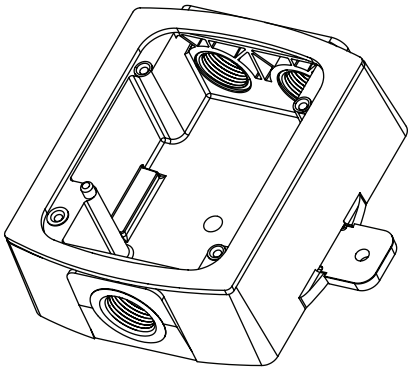
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

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

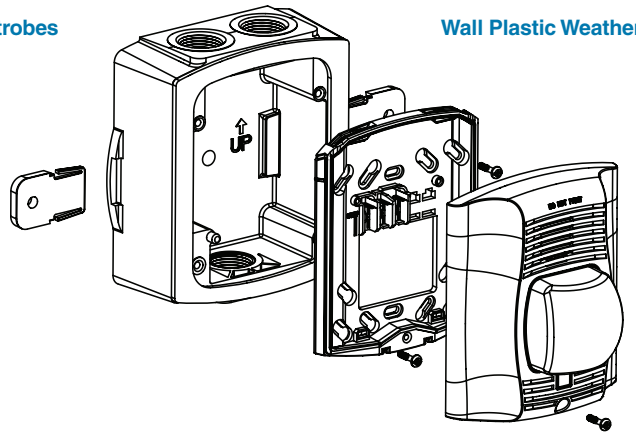
SpectrAlert Advance Diagrams



Wall-Mount Horn Strobes



Wall Plastic Weatherproof Back Box



Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2RK*†	2-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
P2RHK*†	2-Wire Horn Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
P2WK*†	2-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
P2WHK*†	2-Wire Horn Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
P4RK†	4-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
P4WK	4-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
P2RHK-120	2-Wire Horn Strobe, High cd, Red, Outdoor, 120 V (includes plastic weatherproof back box)
Wall Strobes	
SRK*†	Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
SRHK*†	Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
SWK*†	Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
SWHK*†	Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
Horns	
HRK†	Horn, Red, Outdoor (includes plastic weatherproof back box)
Accessories	
SA-WBB	Red, Metal Weatherproof Back Box
SA-WBBW	White, Metal Weatherproof Back Box

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2RK-P.

† Add "-R" to model number for weatherproof replacement device (no back box included), only for use with weatherproof outdoor flush mounting plate, WTP and WTPW. "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. **When replacing standard outdoor units both the device and back box must be replaced.**

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AVDS01201 • 3/12

BELLS

PAC-AC & PDC-DC

Features

- Listed for indoor and outdoor use
- Outdoor use requires BBK-1 or HC-BB weatherproof back box
- Indoor use mounts directly to standard 4” box
- Low current draw
- High dB output
- AC and DC models
- DC models are motor driven, polarized, and have built in transient protection for supervised alarm circuits
- Available in 6”, 8” and 10” sizes

* ULC on PDC-DC Only

Description

These vibrating type bells are designed for use as fire or general signaling devices. They have low power consumption and high decibel ratings. The unit mounts on a standard 4” (101mm) square electrical box for indoor use or on a model BBK-1 or HC-BB weatherproof backbox for outdoor applications. Weatherproof backbox model BBK-1 or HC-BB, Stock No. 1500001.

Notes

1. Minimum dB ratings are calculated from integrated sound pressure measurements made at Underwriters Laboratories as specified in UL Standard 464. UL temperature range is -30° to 150°F (-34° to 66°C)
2. Typical dB ratings are calculated from measurements made with a conventional sound level meter and are indicative of output levels in an actual installation.
3. ULC only applies to PDC-DC bells.

Size inches (mm)	Voltage	Model Number	Stock Number	Current (Max.)	Typical dB at 10 ft. (3m) (2)	Minimum dB at 10 ft. (3m) (1)
6 (150)	12VDC	PDC-6-12	1750500	200mA	96	76
8 (200)	12VDC	PDC-8-12	1750502	.200mA	96	77
10 (250)	12VDC	PDC-10-12	1750504	.200mA	96	78
6 (150)	24VDC	PDC-6-24	1750501	.20mA	95	77
8 (200)	24VDC	PDC-8-24	1750503	20mA	83	79
10 (250)	24VDC	PDC-10-24	1750505	20mA	85	80
6 (150)	24VAC	PBA246	1806024*	.17A	91	78
8 (200)	24VAC	PBA248	1808024*	.17A	94	77
10 (250)	24VAC	PBA2410	1810024*	.17A	94	78
6 (150)	120VAC	PAC1206	1826120	.05A	98	83
8 (200)	120VAC	PAC1208	1828120	.05A	98	84
10 (250)	120VAC	PAC12010	1821120	.05A	98	86

All DC bells are polarized and have built-in transient protection. * Does not have ULC listing.

Technical Specifications

Dimensions	6” (150mm), 8” (200mm) and 10” (250mm)
Enclosure	Cover: Steel Finish: Red Powder Coat Base: non-corrosive composite material All parts have corrosion resistant finishes Model BBK-1 or HC-BB weatherproof backbox (optional)
Voltages Available	24VAC 120VAC 12VDC (10.2 to 15.6) Polarized 24VDC (20.4 to 31.2) Polarized
Environmental Limitations	Indoor or outdoor use (See Note 1) -40° to 150°F (-40° to 66°C) (Outdoor use requires weatherproof backbox.)
Termination	AC Bells - 4 No. 18 AWG stranded wires DC Bells - 18 AWG stranded wire
Service Use	NFPA 13, 72, local AHJ

*Specifications subject to change without notice.

⚠ WARNING

- Installation must be performed by qualified personnel and in accordance with all national and local codes and ordinances.
- Shock hazard. Disconnect power source before servicing. Serious injury or death could result.
- Risk of explosion. Not for use in hazardous locations. Serious injury or death could result.

⚠ WARNING

In outdoor or wet installations, bell must be mounted with weatherproof backbox, BBK-1 or HC-BB. Standard electrical boxes will not provide a weatherproof enclosure. If the bell and/or assembly is exposed to moisture, it may fail or create an electrical hazard.

Installation

The bell shall be installed in accordance with NFPA 13, 72, or local AHJ. The top of the device shall be no less than 90” AFF and not less than 6” below the ceiling.

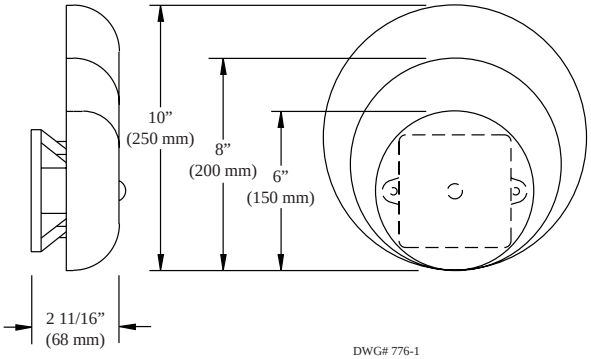
1. Remove the gong.
2. Connect wiring (see Fig. 3).
3. Mount bell mechanism to backbox (bell mechanism must be mounted with the striker pointing down).
4. Reinstall the gong (be sure that the gong positioning pin, in the mechanism housing, is in the hole in the gong).
5. Test all bells for proper operation and observe that they can be heard where required (bells must be heard in all areas as designated by the authority having jurisdiction).

⚠ WARNING

Failure to install striker down will prevent bell from ringing.

Bell Dimension Inches (mm)

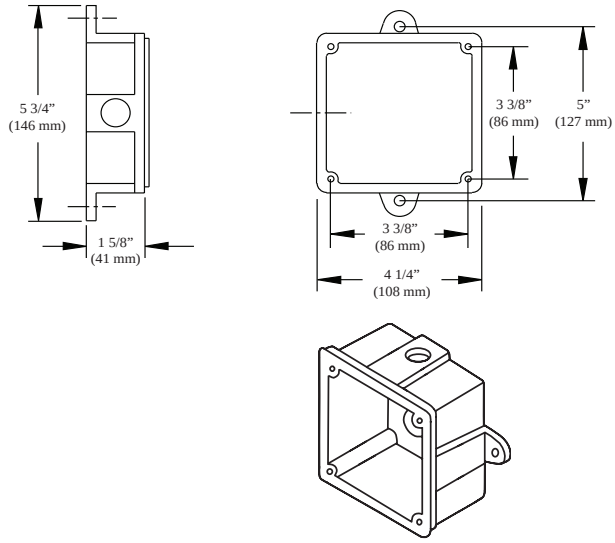
Fig 1



Weatherproof Backbox Dimensions Inches (mm)

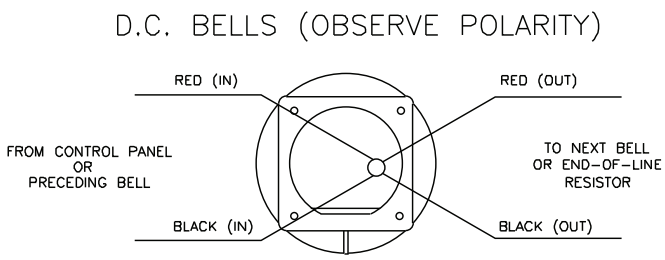
MODEL BBK-1 OR HC-BB

Fig 2



Wiring Rear View

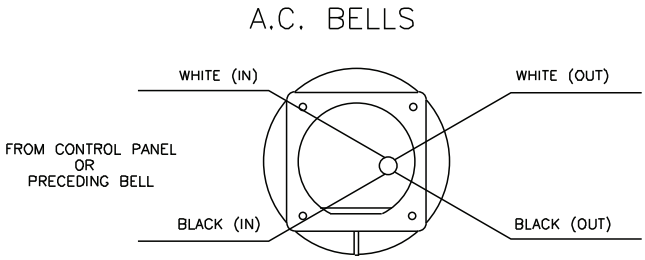
Fig 3



CAUTION:
WHEN ELECTRICAL SUPERVISION IS REQUIRED USE IN AND OUT LEADS AS SHOWN.

NOTES:

1. OBSERVE POLARITY TO RING D.C. BELLS.
2. RED WIRES POSITIVE (+).
3. BLACK WIRES NEGATIVE (-).
4. EOL RESISTOR IS SUPPLIED BY FIRE ALARM CONTROL PANEL.



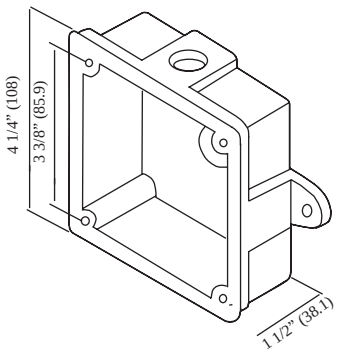
CAUTION:
WHEN ELECTRICAL SUPERVISION IS REQUIRED USE IN AND OUT LEADS AS SHOWN.

NOTES:

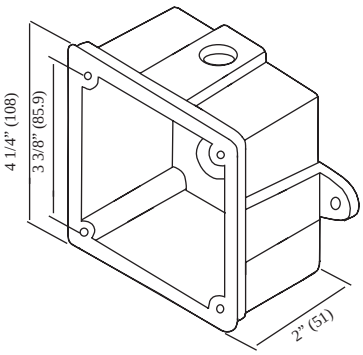
1. WHEN USING A.C. BELLS, TERMINATE EACH EXTRA WIRE SEPERATELY AFTER LAST BELL.

MOUNTING ACCESSORIES
FOR SIGNALING DEVICES

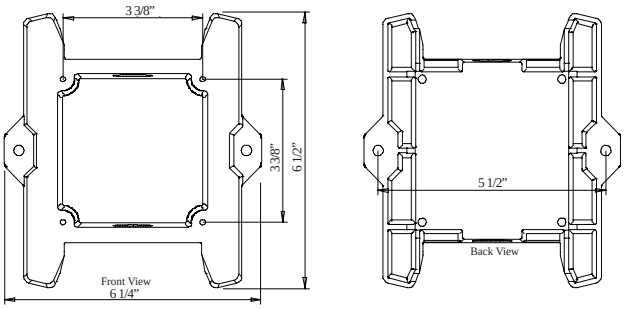
BBK-1 Back Box
Stock Number: 1500001
For use on:
MBA/PBA bells
SL-1224WP
SL-1224WP
SL-120
SH-120
CSH-1224
CSL-1224



BBX-1 Back Box
Stock Number: 4270024
For use on:
MBA/PBA bells
SL-1224WP
SL-1224WP
SL-120
SH-120
CSH-1224
CSL-1224



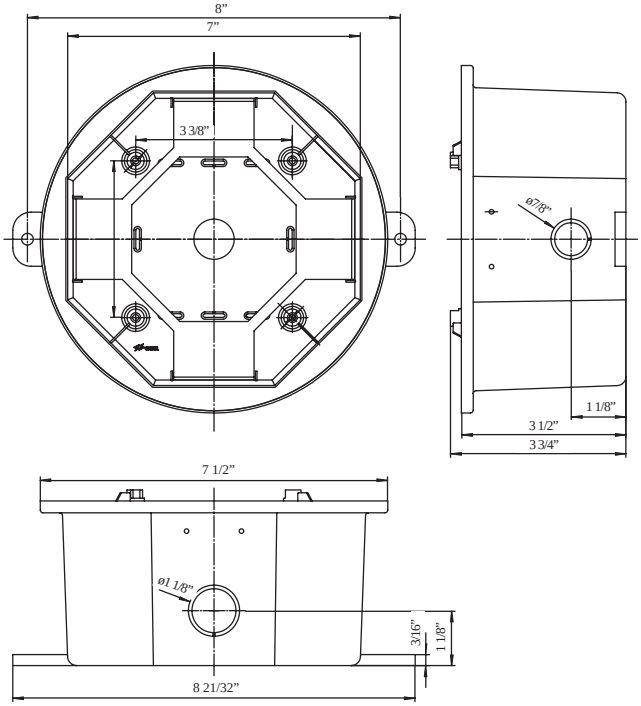
BBX-5 Back Box Weatherproof
Stock Number: 4270048 Red, 4270049 White
For use on:
SL Series strobe/horns
SH Series strobe/horns



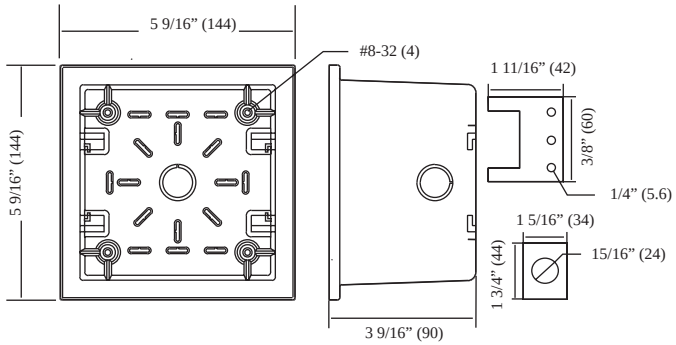
Includes 4 ea.
#8-32 x ¾ screws

DWG# 891-1

4BX-5 Back Box
Stock Number: 4270045 Red, 4270046 White
For use on:
SR speakers
SSR speakers
SC24 strobes

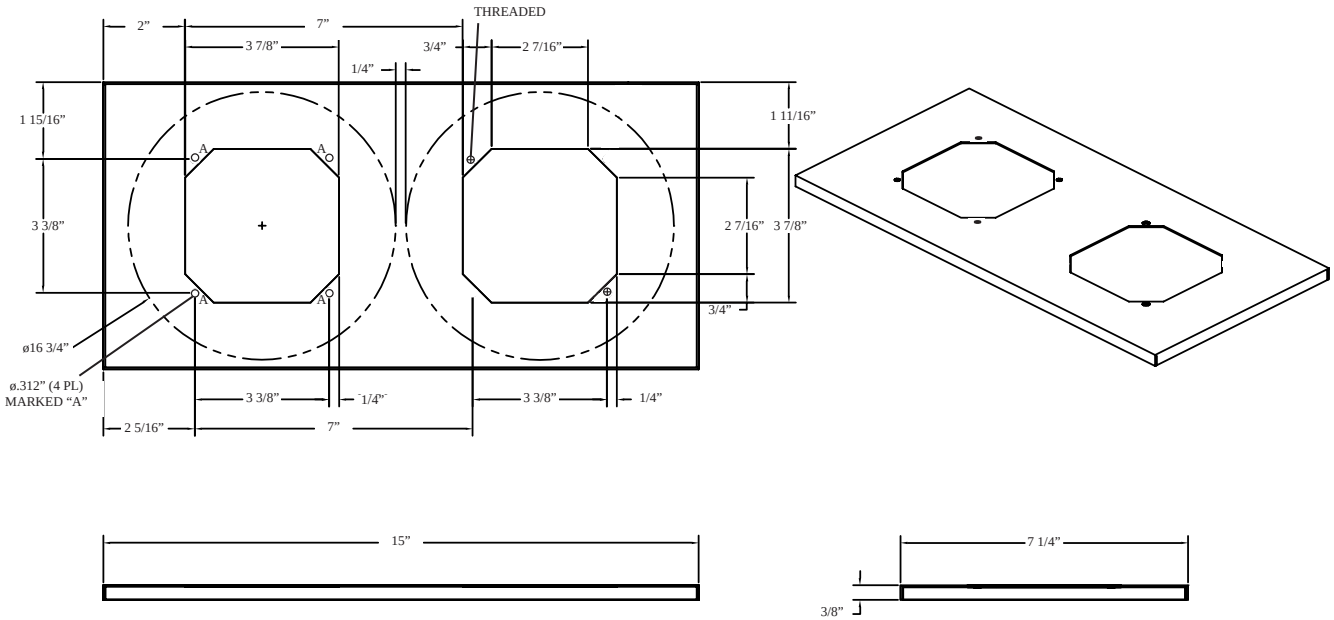


4BX-3 Back Box Surface Mount
Stock Number: 4270018 Red, 4270019 White
For use on:
SS speakers
SSS speakers

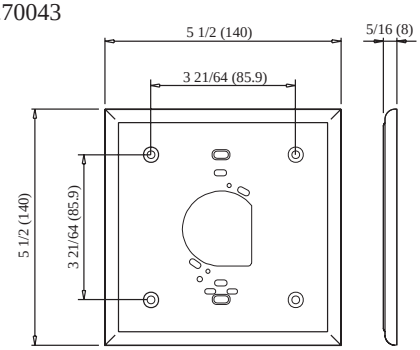


MOUNTING ACCESSORIES
FOR SIGNALING DEVICES

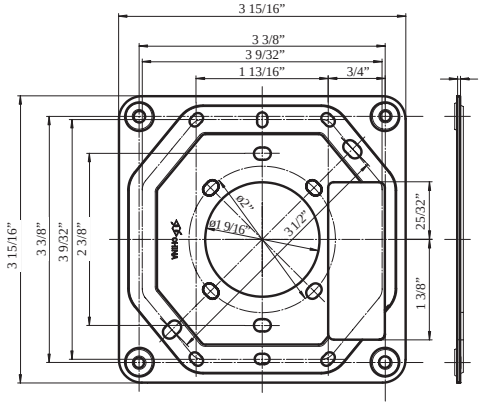
Double Gang Mounting Plate White
Stock Number: 4270044
For use on:
Any device using a 4” mounting configuration



4SP-MW Mounting Plate
Stock number: 4270043
For use on SL-5



SPC-1 Mounting Plate
Stock number: 4270038
For use on:
SH24C
SL24C
CSH24C
CSL24C



RBX-1 Trim Skirt
Stock number: 4270032 Red, 4270033 White
For use on:
SH24C
SL24C
CSH24C
CSL24C