IPA-100 Fire Alarm Control Panel

Advanced Technical
Field Installation & Programming Manual

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Table of Contents

Section 1: Introduction

The Model IPA-100 is a listed and approved, microprocessor based addressable fire control panel and complies with UL-864, NFPA-12, NFPA-12A, NFPA-13, NFPA-15, NFPA-16, NFPA-17, NFPA-17A, NFPA-72, NFPA-750, NFPA-2001, CSFM, and NYC Fire Department Certificate of Approval #6156.

The IPA-100 system software is compatible with all Windows Operating Systems, and the latest version of Microsoft .NET Framework is required. The system software incorporates conventional shortcuts, and provides great flexibility in effectively programming individual or groups of devices. The operational mode behavior of the four (4) on-board circuits (NACs 1–2, and Input/Outputs 1–2) can be customized. This flexibility enables configuration of system points to maximize protection throughout controlled site(s).

Purpose of This Manual

This manual is intended to assist in the installation and programming the IPA-100 Fire Alarm Control Panel. Refer to this manual to properly install and program the IPA-100. It is recommended that the user follows the procedures as outlined in this manual to assist in proper installation and prevent damage to the control panel and associated equipment.

How to Use This Manual

Refer to this manual before contacting Technical Support. The information in this manual is the key to a successful installation and will assist you in understanding proper wire routing, system requirements, and other guidelines specific to the IPA-100 system.

This manual includes *interactive links* to information or resources relating to a particular topic. Please refer to the table below for brief explanations of the interactive features used in this manual.

Table 1: Interactive Features			
Type	**Appearance**	**Action (Result?)**	**Try It!**
Links	**"linked document" or website page**	Opens a related document, manual or webpage.	1. To display the IPA-100 product information web page, click: **IPA-100 datasheet** 2. When finished, close the linked window(s) to return to this manual.
Internet-based training video links	▶ symbol	Opens the relevant linked on-line training video.	1. Click the ▶ *symbol or video name* to begin a video as shown below: ▶ *PotterLink Registration* 2. When finished, stop the video and close the linked window(s) to return to this manual.
Table of Contents topics	The *"Pointing finger"* icon displays when the mouse is hovered over any *"Table of Content"* topic.	The specific topic selected displays.	1. Click on any topic in the *"Table of Contents!"* 2. When finished, use the *"Page Thumbnails"* feature in Abobe Acrobat to display the Table of Contents to select another topic in the manual.

Note: Refer to "*Appendix H"* in this manual or the *"Appendix H: List of On-Line Resources" document* for a listing of all linked documents, videos and other resources available.

System Overview

The IPA-100 system is designed for use as a fire control panel for life safety applications, as a releasing panel for pre-action and deluge, water-based extinguishing systems or for agent extinguishing systems.

System Features

- The IPA-100 features a built-in signaling line circuit (SLC), and is capable of supporting 127 PAD/Nohmi protocol devices.
- One (1) PAD100-SLCE (PAD Protocol) or SLCE-127 (Nohmi Protocol) SLC expansion card may be added supporting 127 PAD/Nohmi protocol devices vs. using the built-in SLC loop.
- 5.0 Amp 24vdc Power Supply
- Two (2) Notification Appliance Circuits (NACs) each rated at 3.0 Amps maximum.
    - Power Limited
    - Built in Sync
    - Cadence Patterns
    - Auxiliary Power
    - Releasing Solenoid
- Two (2) Input/Output Circuits each rated at 1.0 Amps maximum.
    - Power Limited
    - Built in Sync
    - Cadence Patterns
    - Auxiliary Power
    - Contact Input
    - Reverse Polarity Driver
    - Releasing Solenoid
- Support for the following synchronization patterns:
    - AMSECO®
    - Gentex®
    - Gentex Sync with T4®
    - Wheelock®
    - System Sensor®
- Built-in Ethernet port for programming and network connectivity.
- Built-in Email support to communicate system status and event information.
- Customizable Reminder Emails.
- P-Link RS-485 bus supports system accessories.
- 4,000 event non-volatile history buffer.
- Learn mode enrolls connected sensors and modules for efficient system programming.
- 99 Software Zones
- Programmable EOL for NACs on built-in power supply and PSN-1000 expander boards
- Dead-front Cabinet Design
- 2 X 16 character LCD display
- Dedicated Alarm, Supervisory and Trouble Form C Relays
- Analog / Addressable Sensing Technology
    - Drift Compensation
    - Drift Alert
    - NFPA 72 compliant calibrated smoke test built-in

P-Link Accessories

- **PAD100-SLCE** Signal Line Communication Expansion board – A PAD protocol SLC expansion module that supports 127 points.

- **SLCE-127** Signal Line Communication Expansion board – A Nohmi protocol SLC expansion module that supports 127 points.

- **RA-6500R, RA-6500F**, or **RA-6075R** Remote Annunciator – Maximum of 31 per system in any combination.

- **UD-1000** Dual Line Fire Communicator – A maximum of 1 per system.

- **CA-6075** Class A converter module – A maximum of 1 per system allows for Class A wiring of the SLC circuit, P-Link communication bus and the two (2) built-in NAC circuits.

- **PSN-1000 / PSN-1000(E)** Intelligent Power Supply Expander – A maximum of 31 total per system. Each PSN-1000/PSN-1000E provides an additional ten (10) amps of power, two (2) programmable input points, six (6) programmable notification circuits and an isolated P-Link connection.

- **LED-16** or **LED-16F** Annunciator module – A maximum of 10 total LED-16 and/or DRV-50 modules per system. Each allows for up to 16 zones alarm, supervisory and trouble conditions to display, and five (5) non-programmable system LEDs that display system's overall condition.

- **DRV-50** LED Driver module – A maximum of 10 total DRV-50 and/or LED-16 modules per system. Each module provides 50 programmable LED outputs, four (4) dry contact inputs, and five (5) system status LEDs.

- **RLY-5** Relay Board module – A maximum of 31 per system provides five (5) programmable Form-C relay outputs.

- **FCB-1000** Fire Communications Bridge – An accessory providing a remotely-located Ethernet Port for IP communication.

- **FIB-1000** Fiber Interface Bridge – An accessory that converts the standard 4-wire P-Link bus to and from fiber optic cable. It is also capable of Class A operation; maximum of 30 total per system.

- **SPG-1000** Serial Parallel Gateway – An accessory that drives a serial or parallel printer; maximum of 31 per system.

- **MC-1000** Multi-Connect module – An accessory that allows multiple IPA series panels to report to the central station through a shared phone line or Internet connection; maximum of 31 per system.

SLC Loop Accessories

- **Addressable PAD Detectors**
  - **Photo Detector (PAD100-PD)**
  - **Fixed Heat Detector (PAD100-HD)**
  - **CO Detector (PAD100-CD)**
  - **Combination Photo/Heat Detector (PAD100-PHD)**
  - **Duct Detector (PAD100-DUCT)**
  - **Duct Detector w/Relay (PAD100-DUCTR)**
  - **Duct Detector Remote Test Switch (PAD100-DRTS)**
  - **Duct Remote LED Indicator (MS-RA)**
  - **Duct LED w/Test Switch (MSKA-P/R)**
  - **Addressable Sounder Base (PAD100-SB)**
  - **Addressable Relay Base (PAD100-RB)**
  - **Addressable Isolator Base (PAD100-IB)**

- **Addressable PAD Modules**
  - **Pull Station Module Single Action (PAD100-PSSA)**
  - **Pull Station Module Dual Action (PAD100-PSDA)**
  - **Mini Input Module (PAD100-MIM)**
  - **Speaker Module (PAD100-SM)**
  - **Isolator Module (PAD100-IM)**
  - **Relay Module (PAD100-RM)**
  - **Notification Appliance Circuit (PAD100-NAC)**

- Twin Relay-Twin Input Module (PAD100-TRTI)
- Double Input Module (PAD100-DIM)
- One Relay-One Input Module (PAD100-OROI)
- Zone Module (PAD100-ZM)
- Remote LED Module (PAD100-LED)
- Remote LED w/Key (PAD100-LEDK)
- Single Input Module (PAD100-SIM)

- **Addressable Nohmi Detectors**
  - Photoelectric Smoke Detector (PSA)
  - Photoelectric/Heat Smoke Detector (PSHA)
  - Fixed Temperature Heat Detector (FHA)
  - Rate of Rise/Fixed Temperature Heat Detector (RHA)
  - Sounder Base (ASB)
  - Relay Base (ARB)
  - Isolator Base (AIB)

- **Addressable Nohmi Modules**
  - Addressable Pull Station – Single Action / Dual Action (APS-SA/DA)
  - Miniature Contact Module (MCM)
  - Single Contact Module (SCM-4)
  - Dual Contact Module (DCM-4)
  - Twin Relay Module (TRM-4)
  - Monitored Output Module (MOM-4)
  - Conventional Input Zone Module (CIZM-4)
  - Short Circuit Isolator (SCI)

Common Terminology

The following table provides a list of terms and definitions used with the IPA-100 system:

Table 2: Terminology	
Term	**Definition**
IPA-100 Cabinet	Enclosure
EOLD or Diode Assembly	End of Line Diode Assembly
EOLR	End of Line Resistor Assembly
Remote Annunciator	LCD type Remote Annunciator
NAC	Notification Appliance Circuit
DACT	Digital Alarm Communicator Transmitter (UD-1000)
SLC	Signaling Line Circuit
SLCE-127	Type of SLC loop expander that supports Nohmi protocol modules and devices.
PAD100-SLCE	Type of SLC loop expander that supports PAD protocol modules and devices.
PAD	Addressable Device

Section 2: Before You Start Installation

This section addresses information that will help you complete a successful installation, and includes topics such as the IPA-100 cabinet layout, specifications, environmental considerations, and how to calculate the battery circuit and SLC current draw requirements.

> **Note:** Go to ***Potter's on-line training video*** to learn more about these topics.

> ▶ **Installation Requirements**

System Specifications

Cabinet Description
- Sixteen (16) gauge sheet steel with hinged, removable locked door
- Enclosure dimensions – 26" x 17.6" x 3.75"

Visual Indicators
- LCD (2 x 16 alphanumeric character display)
- LED indicators (*Red, Green, Amber*)

LCD Description
- Alarm, Supervisory and Trouble conditions display applicable condition, status and circuit for each correlating condition

Environmental Specifications

- Mount indoors only.
- Temperature 32° to 120°F, humidity 93% non-condensing.
- Verify panel is properly grounded.
- Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides, bottom, or rear of the cabinet. Verify that they will not interfere with the batteries or other components.
- The panel and system must be tested and maintained in accordance with all local and national codes and ordinances.

Electrical Specifications

Please refer to the table below for electrical specifications:

Table 3: System Panel Electrical Specifications						
Panel	**# NACs**	**Rating per NAC**	**I/O Circuits (As Outputs)**	**SLC Power**	**Notes**	**Class**
IPA-100 5 Amps Max	2 up to 4 if all I/O circuits configured as NACs	3 Amp	1 Amp	Maximum Load of 56.055 mA	One built-in SLC Loop or one (1) SLC expander loop (PAD100-SLCE or SLCE-127)	SLC – Class X, A or B NAC – Class A or B P-Link – Class A or B I/O – Class B only All are Low Voltage and Power Limited
Note: The AC input power ratings are as follows – • Maximum of 3A at the nominal 120 VAC rating / 50/60 Hz • Maximum of 2A at the nominal 240 VAC rating / 50/60 Hz						

System Size Specifications

Please refer to the table below for system size specifications:

Table 4: System Size Specifications	
Accessories/Subassemblies	**Maximum System Size**
IPA-100	• One (1) built-in SLC Loop with 127 addressable points • One (1) SLC expander loop (PAD100-SLCE or SLCE-127) may be added if built-in SLC loop is disabled • Two (2) notification circuits on the main board • Two (2) I/O circuits
UD-1000	One (1) DACT
IP communicator	A built-in Internet Protocol (IP) Communicator

Main Board Wiring Specifications

There are several wiring requirements to consider **before** connecting circuits to the main board: (1) the circuit separation, and (2) wiring types.

Circuit Separation

Proper separation between the different types of circuits must be maintained between Power Limited, Non-Power Limited, and High Voltage wiring to reduce electrical interferences, transient voltage or voltage ratings.

- Separations between the different wiring types **must** be maintained by at least ¼ inch and the wire insulation **must** be for the higher voltage.

- The control panel cabinet has sufficient knockouts located around the periphery allowing the installer to maintain separation between power limited and non-power limited connections.

Wiring Types

National Electric Code (NEC) wiring requirements relevant to circuit separation must be followed. Please refer to table below for a breakout of the different wiring requirements shown by circuit type:

Table 5: Main Board Circuit Wiring Types		
	Wiring Type	
Type of Circuit	**Voltage**	**Power**
AC Connection	High Voltage	Non-Power Limited
Battery Connection	Low Voltage	Non-Power Limited
Trouble Relay	Low Voltage	Non-Power Limited
Supervisory Relay	Low Voltage	Non-Power Limited
Alarm Relay	Low Voltage	Non-Power Limited
I/O Circuits	Low Voltage	Power Limited
Notification Device Circuits (NACs)	Low Voltage	Power Limited
P-Link RS-485 Connections	Low Voltage	Power Limited
Signaling Line Circuit	Low Voltage	Power Limited
Phone Line – DACT	High Voltage	Non-Power Limited

Cabinet Dimensions

Figure 1. IPA-100 Cabinet Dimensions

TOP

DEPTH = 3.75 "

DOOR = 16.07"
BACKBOX = 15.77"

DEPTH = 3.84 "

DOOR = 16.78 "
BACKBOX = 16.56"

LEFT SIDE

RIGHT SIDE

BOTTOM
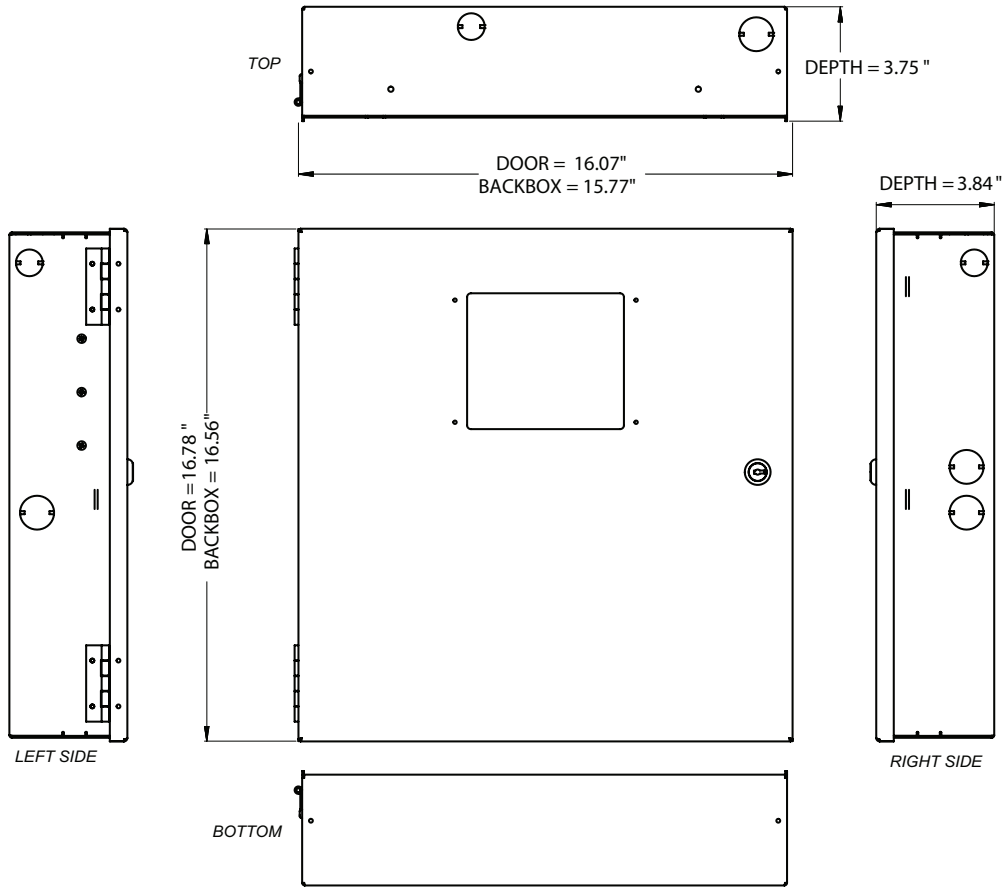
DWG #593-1

Cabinet Wiring Connections

Figure 2. IPA-100 Cabinet Wiring

Optional
UD-1000 DACT

High voltage
phone connections

120VAC 50Hz-60Hz
240VAC 50Hz-60Hz
Connect to separate
unswitched AC circuits

120|240

120/240 VAC
Jumper Position

Non-power
limited battery
connection

Non-power
limited relay
connection

POWER   ALARM
EARTH FAULT   SUPERVISORY
SILENCED   TROUBLE

1 2 3
4 5 6
7 8 9
ENTER 0 ESC

SILENCE   RESET

ACK   DRILL

Optional CA-6075
Class A Expander

Power limited
wiring

18Ahr 12Volt

18Ahr 12Volt

DWG #593-2

Battery Circuit Calculations

You must determine the minimum size batteries for standby and alarm times desired for each application and the SLCs' current draw before choosing the battery. If the wrong batteries are installed in a specific application or incorrect current draw used, the proper standby and minimum alarm time will not be present. The battery circuit is rated for 8 to 55 AH batteries and will operate the panel alarm for at least 24 hours and 5 minutes. The cabinet will house up to two (2) 8 AH or two (2) 18 AH batteries.

Please use the *"Battery Calculation Worksheet"* listed below to calculate the battery size and current draw required for each application and the **applicable** SLC worksheet option:

   IPA-100 Battery Calculation Worksheet

Battery Calculation Worksheet					
Description	Quantity	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm mA)
Main board (IPA-100)	1	130	**130**	220	
LCD Remote RA-6075R		20		25	
LCD Remote RA-6500R / RA-6500F		20		50	
CA-6075 Class A Expander		12		44	
UD-1000 DACT		16		23	
PSN-1000/E Power Expander		15		15	
LED-16/LED-16(F) P-Link LED Module LED-Current (if applicable, see Note 6)		25 15		25 210	
DRV-50 LED Driver Module LED-Current (if applicable see Note 6)		25 10		25 215	
RLY-5 Relay Module Relay Current (if applicable, see Note 6)		25 10		35 135	
FCB-1000 Fire Communications Bridge		25		25	
FIB-1000 Fiber Interface Bridge		30		30	
SPG-1000 Serial Parallel Gateway		40		40	
MC-1000 Multi-Connect Module		10		10	
NAC 1					
NAC 2					
I/O 1					
I/O 2					
SLC Current Draw - calculated by SLC Worksheet					
		Total (ma)		Total ma	
Convert to Amps		x 0.001		Convert to Amps	x 0.001
(*Refer to maximum allowable standby current) Total A:				Total A:	
Multiply by standby hours		x____		60 minutes per hour Alarm time (minutes) *Example:* 5 minute alarm: enter 12 10 minute alarm: enter 6	÷ ____
Total Standby AH				Total Alarm AH	
				+Total Standby AH	
				Total AH	
				Efficiency Factor	÷ 0.85
				Required AH	

*Maximum Allowable Standby Current (UL 24-Hour standby time)	Important Notes:
7 AH .230 A 18 AH .619 A 33 AH 1.151 A 55 AH 1.930 A	1. FACP enclosure can house up to two (2) 18 AH batteries. Larger batteries require accessory enclosure, part #SSU00500. 2. NFPA 72 requires 24 hours of standby power followed by 5 minutes alarm activation. 3. NFPA 12, 12A requires 24 hours and five minutes of alarm activation. 4. Door holder circuits configured to disconnect upon AC loss need not be included in the battery standby calculation since they will not draw power during that time. Door holders will contribute to standby current draw when AC is present. 5. Total current must not exceed power supply rating (5.0A). 6. LED/Relay current must be accounted for in the battery calculations for the supply source.

Built-in SLC Current Draw Worksheet (PAD Protocol)

Device Type	Qty	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm (mA)
Photo detector (PAD100-PD)		.300		.300	
Fixed heat detector (PAD100-HD)		.300		.300	
CO detector (PAD100-CD)		.300		.300	
Combination photo/heat detector (PAD100-PHD)		.300		.300	
Duct detector (PAD100-DUCT)		.300		.300	
Duct detector w/relay (PAD100-DUCTR) *Notes 4 & 5		.500		.500	
Duct detector remote test switch (PAD100-DRTS)		10.0		15.0	
Mini input module (PAD100-MIM)		.200		.200	
Speaker module (PAD-100-SM)		.240		.240	
Pull station module single action (PAD100-PSSA)		.200		.200	
Pull station module dual action (PAD100-PSDA)		.200		.200	
Relay module (PAD100-RM)		.240		.240	
Notification Appliance Circuit (PAD100-NAC) *Note 2		.200		.200	
Twin relay-twin input module (PAD100-TRTI)		.240		.240	
Double input module (PAD100-DIM)		.240		.240	
One relay-one input module (PAD100-OROI)		.240		.240	
Zone module (PAD100-ZM) *Note 1		.240		.240	
Remote LED module (PAD100-LED)		.240		.240	
Remote LED w/Key (PAD100-LEDK)		.200		.200	
Single input module (PAD100-SIM)		.240		.240	
Addressable sounder base (PAD100-SB) *Note 3		.200		.200	
Addressable relay base (PAD100-RB)		.200		.200	
Isolator base (PAD100-IB)		.150		.150	
Isolator module (PAD100-IM)		.150		.150	
SLC alarm LED Current	n/a	n/a		n/a	36.0
		SLC Standby Current		**SLC Alarm Current**	

* Note 1: PAD100-ZM requires 24VDC power source. Standby Current = 15.0 mA. Alarm Current = 60.0 mA.
* Note 2: PAD100-NAC requires 24VDC power source. Standby Current = 3.0 mA. Alarm Current = 8.0 mA.
* Note 3: PAD100-SB requires 24VDC power source. Standby Current = 4.0 mA. Alarm Current = 30.0 mA.
* Note 4: PAD100-DUCTR requires 24VDC power source. Standby Current = 30.0 mA. Alarm Current = 60.0 mA.
* Note 5: When connecting the MS-RA/MSKA/P/R power source, Standby Current = 45.0 mA. Alarm Current = 90 mA.

SLC Current Draw Worksheet for <u>one</u> PAD100-SLCE (PAD Protocol)

Device Type	Qty	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm (mA)
PAD100-SLCE Expansion Board (PAD protocol)		60	60	60	**60**
Photo detector (PAD100-PD)		.300		.300	
Fixed heat detector (PAD100-HD)		.300		.300	
CO detector (PAD100-CD)		.300		.300	
Combination photo/heat detector (PAD100-PHD)		.300		.300	
Duct detector (PAD100-DUCT)		.300		.300	
Duct detector w/relay (PAD100-DUCTR) *Notes 4 & 5		.500		.500	
Duct detector remote test switch (PAD100-DRTS)		10.0		15.0	
Mini input module (PAD100-MIM)		.200		.200	
Speaker module (PAD100-SM)		.240		.240	
Pull station module single action (PAD100-PSSA)		.200		.200	
Pull station module dual action (PAD100-PSDA)		.200		.200	
Relay module (PAD100-RM)		.240		.240	
Notification appliance circuit (PAD100-NAC) *Note 2		.200		.200	
Twin relay-twin input module (PAD100-TRTI)		.240		.240	
Double input module (PAD100-DIM)		.240		.240	
One relay-one input module (PAD100-OROI)		.240		.240	
Zone module (PAD100-ZM) *Note 1		.240		.240	
Remote LED module (PAD100-LED)		.240		.240	
Remote LED w/Key (PAD100-LEDK)		.200		.200	
Single input module (PAD100-SIM)		.240		.240	
Addressable sounder base (PAD100-SB) *Note 3		.200		.200	
Addressable replay base (PAD100-RB)		.200		.200	
Isolator base (PAD100-IB)		.150		.150	
Isolator module (PAD1000-IM)		.150		.150	
SLC alarm LED Current	n/a	n/a		n/a	36.0
		SLC Standby Current		**SLC Alarm Current**	

* Note 1: PAD100-ZM requires 24VDC power source. Standby Current = 15.0 mA. Alarm Current = 60.0 mA.
* Note 2: PAD100-NAC requires 24VDC power source. Standby Current = 3.0 mA. Alarm Current = 8.0 mA.
* Note 3: PAD100-SB requires 24VDC power source. Standby Current = 4.0 mA. Alarm Current = 30.0 mA.
* Note 4: PAD100-DUCTR requires 24VDC power source. Standby Current = 30.0 mA. Alarm Current = 60.0 mA.
* Note 5: When connecting the MS-RA/MSKA/P/R power source, Standby Current = 45.0 mA. Alarm Current = 90.0 mA.

Device Type	Qty	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm (mA)
SLCE-127 Expansion Board (Nohmi Protocol)		60	60	60	60
Analog photo smoke detector (PSA)		0.325		0.325	
Analog photo smoke / fixed heat detector (PSHA)		0.325		0.325	
Analog fixed temperature heat detector (FHA)		0.325		0.325	
Analog rate of rise/fixed temperature heat detector (RHA)		0.325		0.325	
Analog photo DUCT smoke detector (DSA)		0.325		0.325	
Conventional initiating zone module - 4 inch mount (CIZM-4) *Note 1		0.325		1.000	
Miniature contact module (MCM)		0.325		0.325	
Single contact module - 4 inch mount (SCM-4)		0.325		1.000	
Dual contact module - 4 inch mount (DCM-4)		0.325		1.000	
Monitored output module - 4 inch mount (MOM-4) *Note 2		0.325		1.000	
Twin relay module - 4 inch mount (TRM-4)		0.325		1.000	
Short circuit isolator (SCI) *Note5		0.325		2.34	
Analog sounder base (ASB) *Note 3		0.325		0.325	
Analog relay base (ARB) *Note 4		0.325		0.325	
Isolator base (AIB)		0.325		2.34	
SLC alarm LED Current	n/a	n/a		n/a	27.0
		SLC Standby Current		**SLC Alarm Current**	

SLC Current Draw Worksheet for <u>one</u> SLCE-127 (Nohmi Protocol)

Notes:
1. CIZM requires 24VDC power source. Standby current Class A = 4.90 mA, Class B (8.5 mA), Alarm Current = 50.0 mA
2. MOM requires 24VDC power source. Standby current = 1.60 mA, Alarm Current = 1.60 mA
3. ASB requires 24VDC power source. Standby current = 5 mA, Alarm Current = 100 mA
4. ARB requires 24VDC power source. Standby current = 5 mA, Alarm Current = 50 mA
5. Refer to the *"Nohmi Isolator Device Load Calculation"* *document link* to learn how to calculate the total SLC device load when using isolators on a Nohmi SLC. Examples of Class X and Class A/B are provided.

Battery Connections

The battery charging circuit is located on the main panel in the lower left portion of the board. The maximum battery charging circuit is 1.0 amp DC; the charging voltage is approximately 27.3 VDC and is supervised.

> **Note**: The battery should be clearly labeled as *"Sealed Lead Acid Battery"* or equivalent UL listed or UL Recognized.

Connect the battery wire leads to the terminal connections, as shown. Batteries should be replaced every five (5) years or sooner depending on annual testing.

Figure 3. IPA-100 Battery Connections
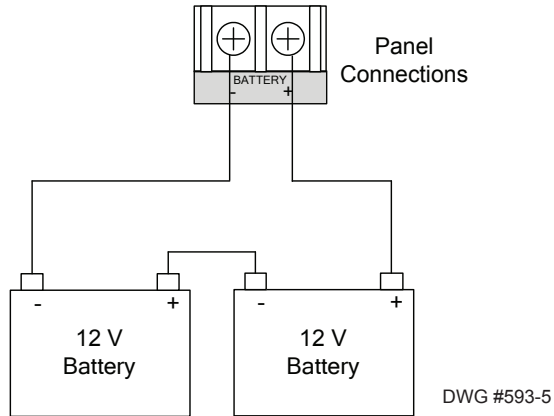
Main Supply Circuit

The AC terminals are located in the upper left hand portion of the main board. The main board supervises the main AC power and provides indication that the AC power is absent.

Figure 4. IPA-100 AC Terminals
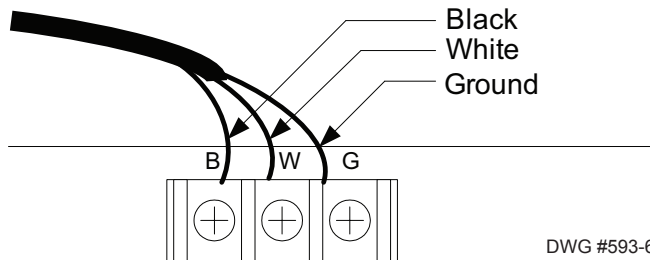
The terminals are rated at 120 VAC/240 VAC 50/60 Hertz and are marked accordingly on the board. The earth ground connection is marked as "**G"** and is the furthest connection from the line voltage connection.

The AC input power ratings are as follows:

- Maximum of 3A at the nominal 120 VAC rating.
- Maximum of 2A at the nominal 240 VAC rating.

Section 3: Installation

This section addresses how to address and install P-Link modules, SLC detectors and NACs. Please read this section carefully before installing any module or detector to insure proper installation.

> *Note: Instructions for installing a PSN-1000/PSN-1000(E) power expansion module and/or the IP communicator are located in Sections 6 and 7 of this manual, respectively.*

3.1 P-Link Modules

P-Links Overview

P-Link accessories, such as remote and LED annunciators (RA-6075R, RA-6500R/RA-6500F), Relay expansion boards (RLY-5), and an optional SLCE expander board (PAD100-SLCE or SLCE-127) are connected to the main control panel utilizing the four-wire P-Link bus for power and communication. This panel supports 64 P-Link devices, which can be connected using a Class B or Class A wiring style (*examples are provided throughout this topic*).

> **Note:** Go to ***Potter's on-line training videos*** to learn more about P-Link modules, and how to install and wire these detectors and/or modules.

▶ **P-Link Modules**   ▶ **P-Link Installation**

Configuration Characteristics

- P-Link current rating is one (1) amp.
- P-Link voltage rating is 24 VDC.
- The maximum wire length is 6,500 feet.

Maximum Wire Resistance Formula

The maximum resistance is based on the *load* placed on the circuit. To calculate the maximum wire resistance, use the following formula:

(Total Annunciator Alarm Current) x (Wire Resistance) < 6 Volts

P-Link Wiring Examples

Figure 5. P-Link Class B Wiring Example
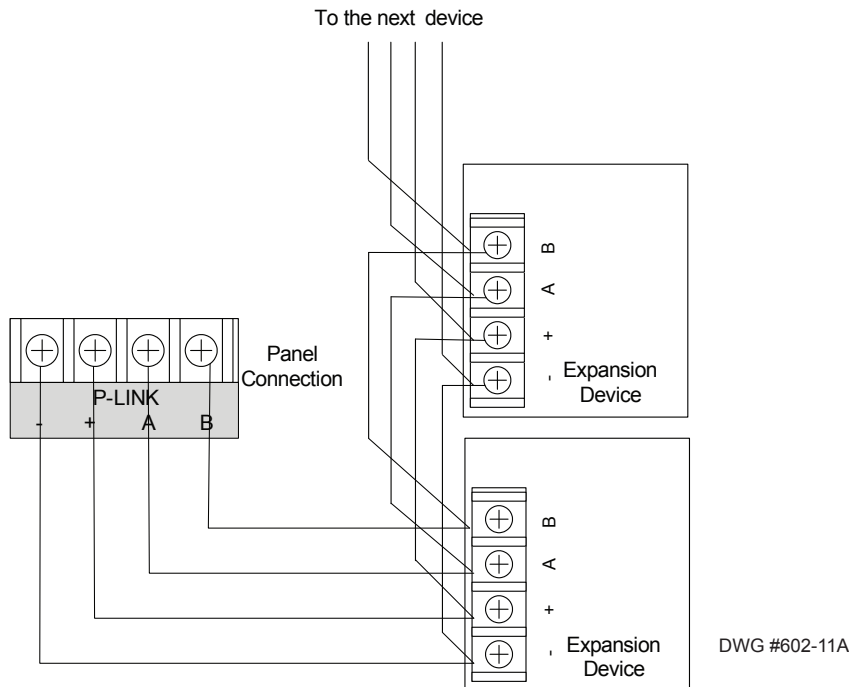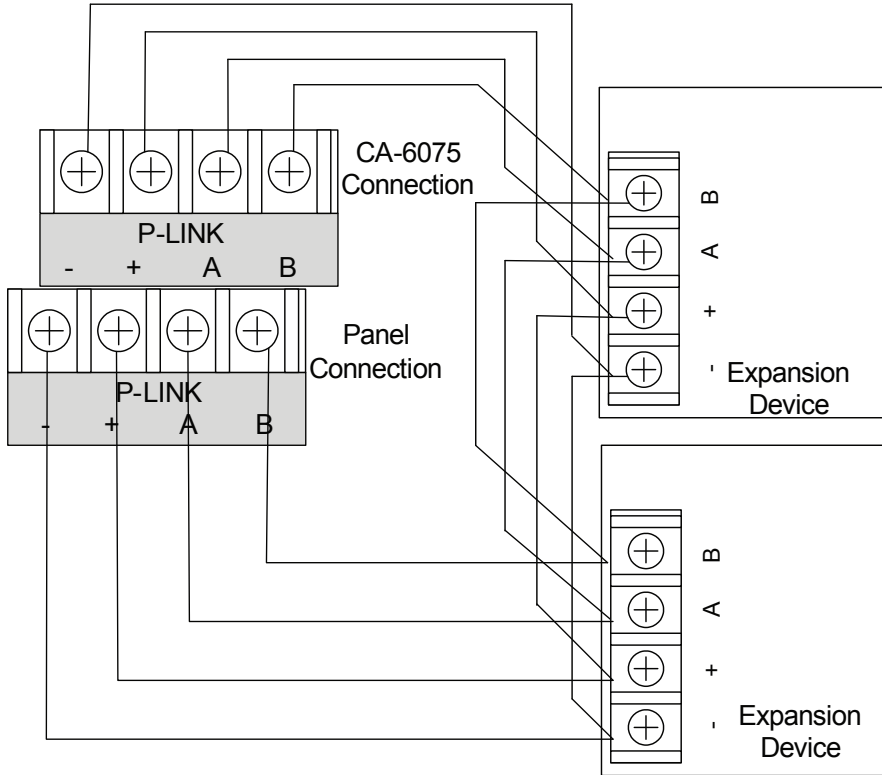

DWG #602-11A

Figure 6. P-Link Class A Wiring Requiring a CA-6075 Example

Note: Class A wiring requires the installation of the **CA-6075 Class A expansion card**.

SLC Expander Board Installation (PAD100-SLCE & SLCE-127)

The IPA panels may be equipped with **one** PAD100-SLCE or SLCE-127 SLC loop expander if the built-in SLC is disabled. The PAD100-SLCE supports the PAD protocol and the SLCE-127 supports the Nohmi protocol. Both SLC expanders utilize a signaling line circuit for communication to connected sensors and modules. The system polls each loop every 4–5 seconds. These SLC expander boards support a maximum of 127 addressable devices configured in any combination of smoke sensors, heat detectors, input modules or output modules.

Internal PAD Protocol SLC Loop

The IPA panel internal or "*on-board*" SLC loop is PAD protocol only.

> **Note:** Refer to *"Section 5.7: Programming Modules – SLC Expansion Modules"* in this manual for instructions on programming PAD SLCs.

Expansion SLC Loops (Optional SLC Expander Boards)

If the on-board SLC loop is disabled, **one** (1) optional SLC loop is supported. The expansion SLC may be either a ***PAD or Nohmi protocol board*** (*PAD100-SLCE and SLCE-127, respectively*). The PAD100-SLCE / SLCE-127 expanders supports a maximum of 127 addressable devices configured in any combination of smoke sensors, heat detectors, input modules or output modules.

> **Note:** Click here to view the **PAD100-SLCE** or the **SLCE-127** product information..

PAD100-SLCE / SLCE-127 Installation Requirements

- Outputs are supervised and regulated.
- Circuits are low voltage and power limited.
- All wiring must be separated by at least 0.25 inches and the wire insulation must be for the higher voltage.

The SLC expanders are supplied with mounting brackets so they may be mounted into a compatible fire enclosures. Examples of these are provided below:

Figure 7. Examples of the PAD100-SLCE & SLCE-127 Board & Shown Installed in IPA-100 Cabinet

DWG #602-16

DWG #602-17

18Ahr 12Volt
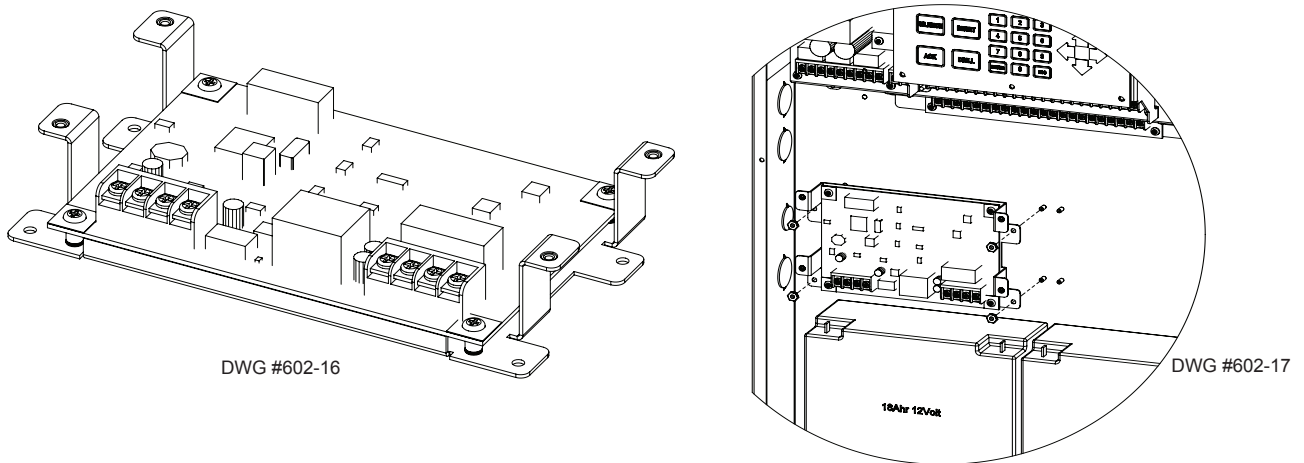
PAD100-SLCE / SLCE-127 SLC Circuits

The P-Link terminals are located in the lower left portion of the circuit board as shown in the figure below. These are low voltage power limited connections. All P-Link wiring connections are fully supervised.

Figure 8. PAD100-SLCE's/SLCE-127's Back Panel Showing P-Link Terminal & Dip Switch Location
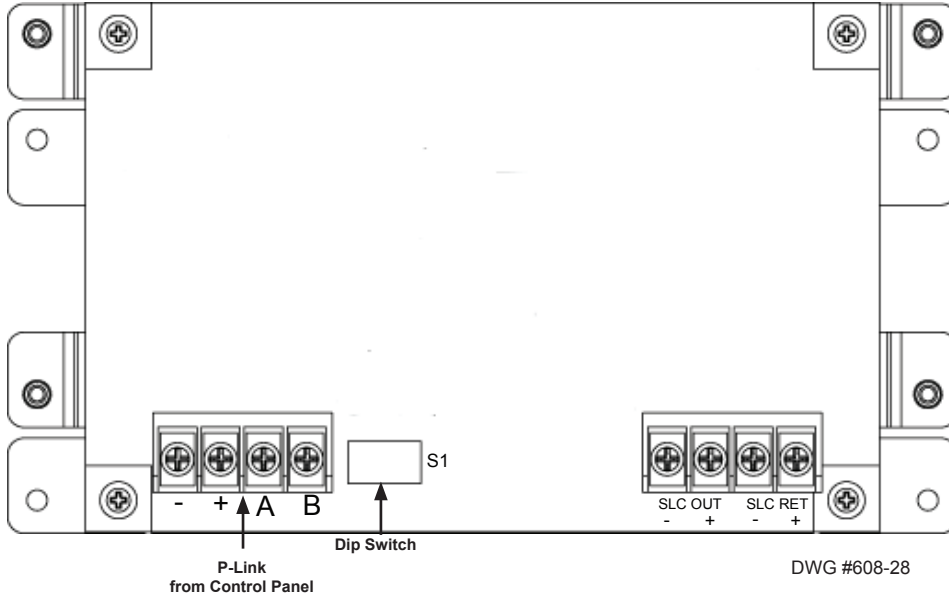

Setting Addresses

The PAD100-SLCE's / SLCE-127's address is set by **dip switch S1** (*as shown in the previous illustration*). The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the **"Addressing P-Links" table** for dip switch settings.)*

SLC Circuit Wiring

The SLC terminals are located in the lower right portion of the circuit board. Refer to the illustration below for an example of the circuit wiring.

Figure 9. Example of PAD100-SLCE / SLCE-127 Terminal Wiring
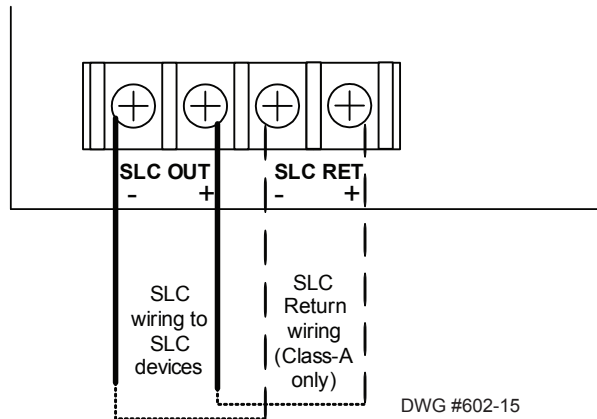
Notes:
1. The voltage range for the SLCs is 22-24 VDC.
2. The power is a constant regulated connection.
3. Maximum wire resistance is 50 ohms.
4. On the PAD100-SLCE, the maximum fully loaded loop current is 90.61 mA.
5. On the SLCE-127, the maximum fully loaded loop current is 56.055 mA.
6. The impedance to ground for ground fault detection is 0 ohms.
7. The SLCs have a maximum loop capacitance of 0.5 micro-farads.

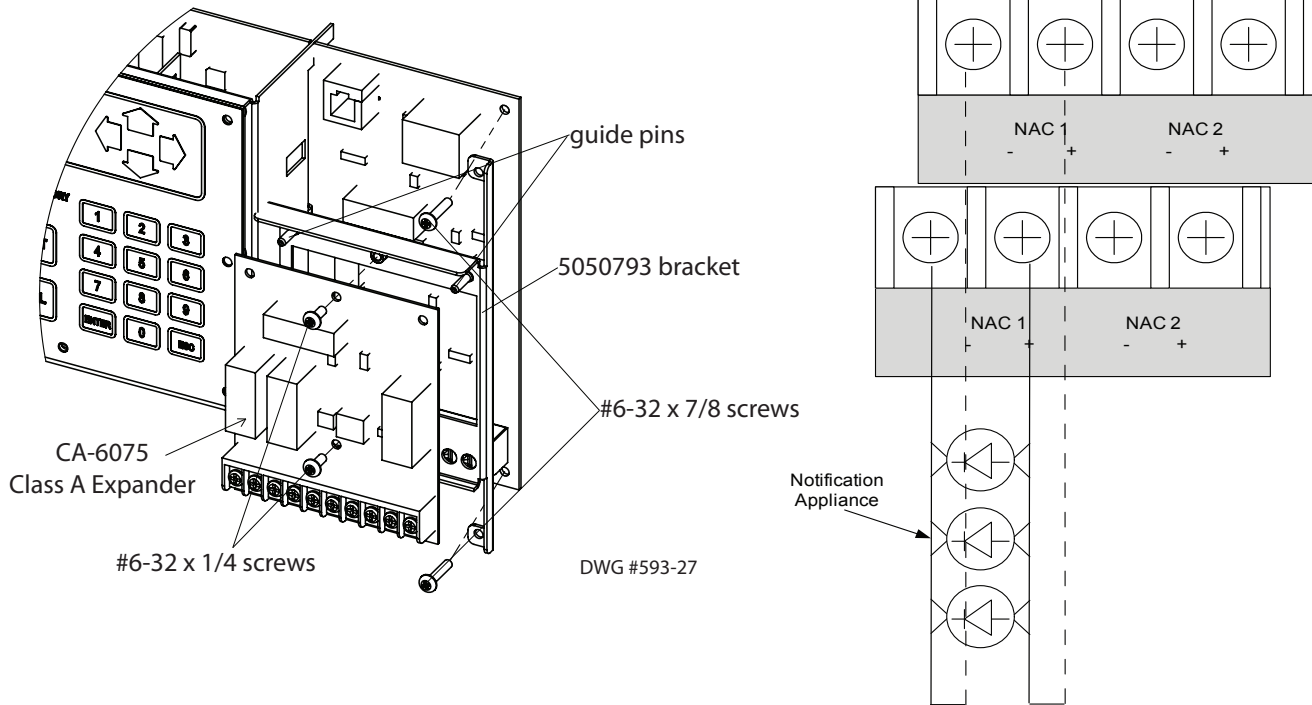## Class A Expander Installation (CA-6075)

Class A wiring configurations require the use of the CA-6075 expander board. Once the card is installed, the CA-6075 provides the return terminals for NACs, SLC, and P-Link modules. Refer to the figures below for examples of installing and wiring a Class A expander card.

> **Note:** Click here to view **CA-6075** product information.

Figure 10. Examples of Installing and Wiring a Class A Expander Card

guide pins

5050793 bracket

#6-32 x 7/8 screws

CA-6075
Class A Expander

#6-32 x 1/4 screws

DWG #593-27

NAC 1   NAC 2

NAC 1   NAC 2

Notification
Appliance

Installation Notes:
1. One (1) CA-6075 Class A expander may be installed per panel.
2. The CA-6075 provides the terminals for NACs, P-Link, and SLCs.

Remote Annunciators Installation (RA-6500R, RA-6500F, RA-6075R)

The panel supports up to thirty-one (31) annunciators (RA-6500R, RA-6500F and RA-6075R) in any combination. The RA-6500R / RA-6500F provide the same display and control capabilities as the main panel's built-in display (4 x 40 character LCD). Whereas, the RA-6075R provides a 2 x 16 character LCD display, along with standard function and numeric keys. The RA-6500R and RA-6075R annunciator models listed are designed to be mounted on a flat non-condensing surface or electrical box. The RA-6500F is listed and designed to be flush or surface mounted.

To review one or more of the remote annunciators' datasheet, click the applicable link(s) as shown below:

> **RA-6500R**
>
> **RA-6500F**
>
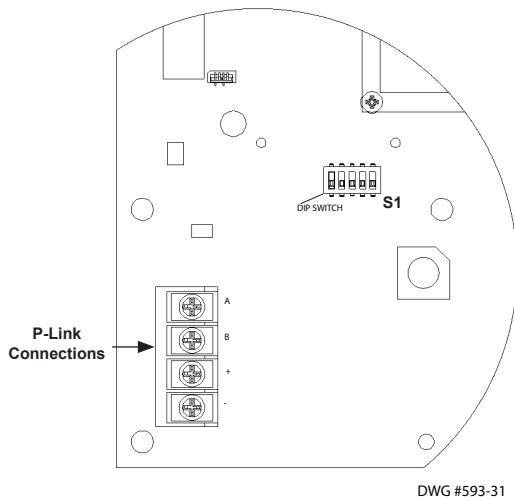> **RA-6075R**

Setting Addresses

An annunciator's address is set by **dip switch S1**, which is located on the back of the annunciator. The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the **"Addressing P-Links" table** for dip switch settings.)*

Figure 11. Annunciator Back Panel Showing Dip Switch Location

DWG #593-31

DACT Installation (UD-1000)

<table>
<tr><td>NOTICE</td></tr>
<tr><td>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.</td></tr>
</table>

The UD-1000 Digital Alarm Communicator Transmitter provides connections for two (2) phone lines for communication to a monitoring station. The UD-1000 DACT communicates using the SIA-DCS or Ademco Contact ID protocols. Only one UD-1000 is allowed per main control panel, for convenience the UD-1000 is typically programmed as device ID #01.

Note: Click here to view the **UD-1000 Installation** datasheet.

The UD-1000 must be installed <u>prior</u> to any other telephone equipment in the building to ensure proper operation. An RJ31X jack can be installed to provide the connection to the telephone lines. An RJ31X jack must be used to facilitate line seizure. The UD-1000 includes a patch cable used to connect the RJ31X jack and the UD-1000. The UD-1000 automatically monitors each phone line for 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 phone line.

The DACT is provided with an RJ-11 jack for each phone line. In order for the DACT to work properly, it must be installed on a plain old telephone service (POTS) or equivalent as deemed by the authority having jurisdiction. The DACT <u>must</u> be installed before any other equipment to ensure it can seize the line and disconnect any other lines.

The UD-1000 slides into the guides located at the bottom of the panel, and then secured with screws as shown in the following illustrations.

Figure 12. IPA-100 UD-1000 Dialer Installation
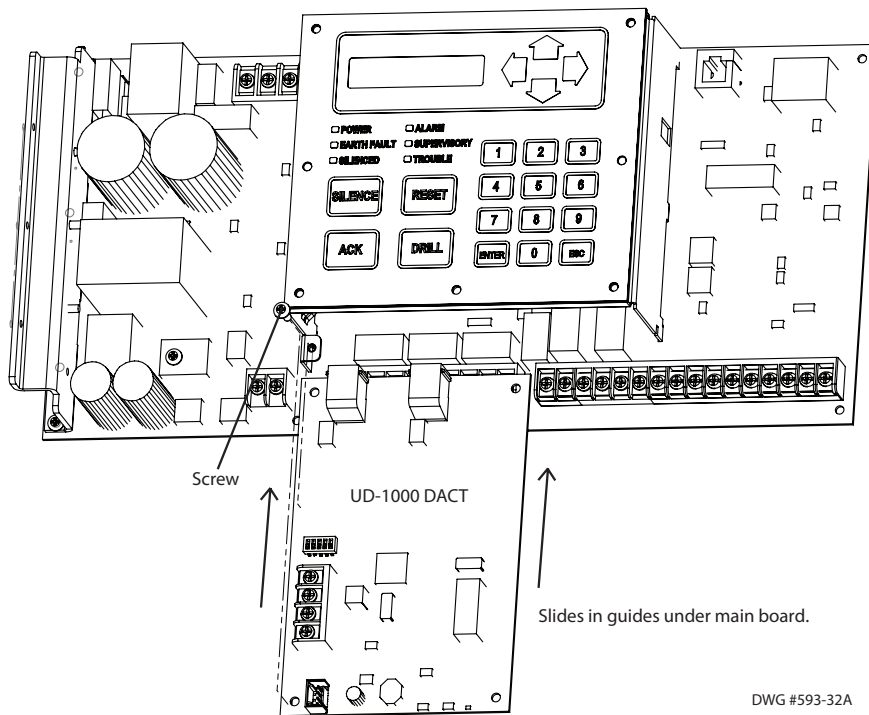
P-Link & Dip Switch Locations

The UD-1000 connects to the FACP using a four-wire cable (P/N 5210514). The four-wire cable is supplied with the UD-1000, which should be used to connect the **P1** on the UD-1000 and the **"P" connection** on the main panel board (*as shown in the following illustrations*).
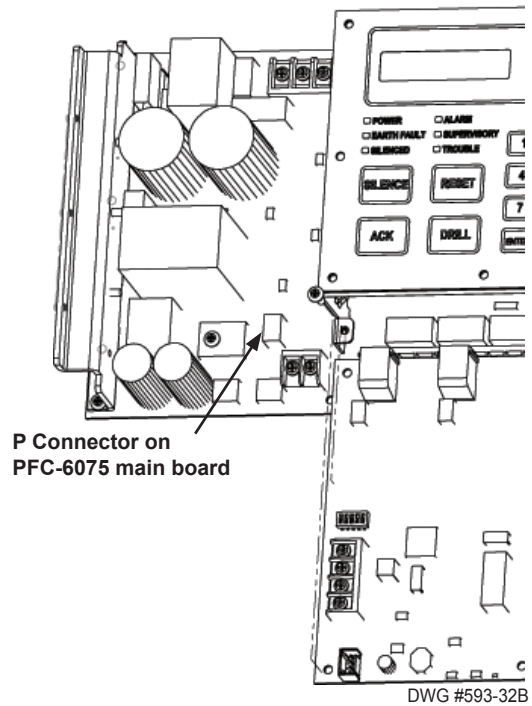
Setting Addresses

The UD-1000 must be programmed with an address between one and thirty-one (1–31) to be recognized by the panel. *(Refer to the **"Addressing P-Links" table** for dip switch settings.)*

Figure 13. UD-1000 Board Showing Dip Switch & P1 Connector / Main Board "P" Connector
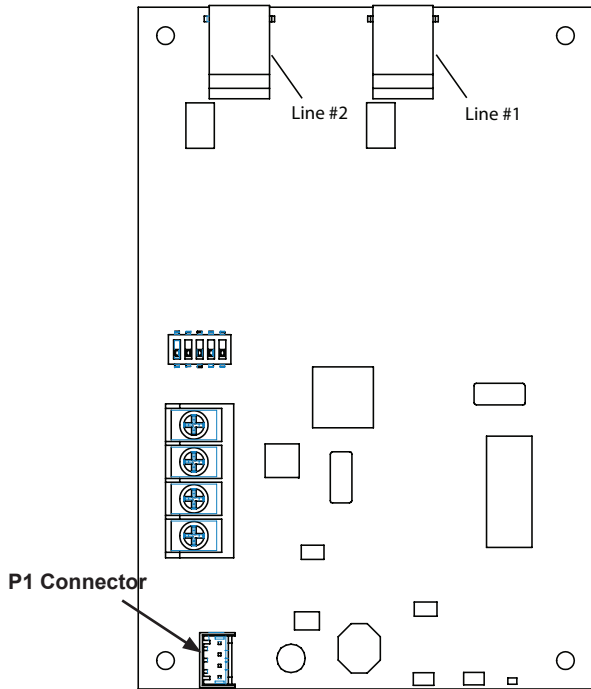
LED Annunciators Installation (LED-16 / LED-16F)

The panel supports up to 10 total LED-16/LED-16 (*flush mount*) annunciators and/or DRV-50 modules in any combination per system. They display alarm, supervisory, and trouble conditions for up to 16 zones per LED-16/ LED-16F. They also provide *Silence* and *Reset* functionality. Blank zone labels are provided for use with the LED annunciators to label each zone name or identifier. The labels may be printed or written on the supplied card-stock, and then inserted into the back of the front panel as shown in the right-most figure below.

Click here to view **LED-16** or **LED-16F** product information.

Figure 14. LED-16 Module Showing Front Panel & Board

DWG #608-4   DWG #608-5
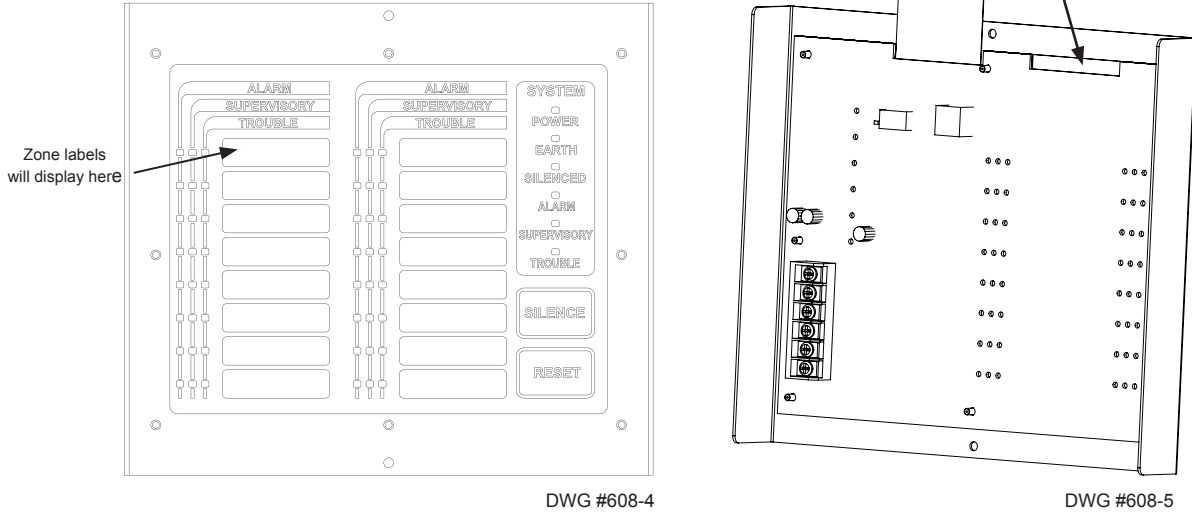
The LED-16/LED-16F are connected to the 4-wire P-Link connection. The higher current required for the LED outputs can be provided by the P-Link connection, or from an auxiliary power source as shown below. The auxiliary power can be any 24VDC source, and is fully supervised.

Figure 15. Examples of Wiring LED-16/LED-16F Module to Control Panel or Auxiliary Power Supply
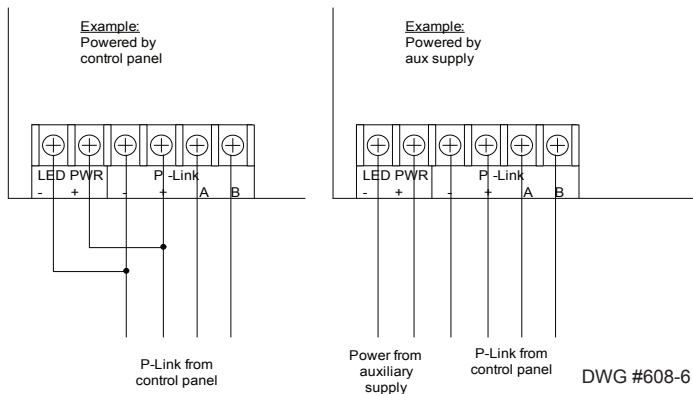
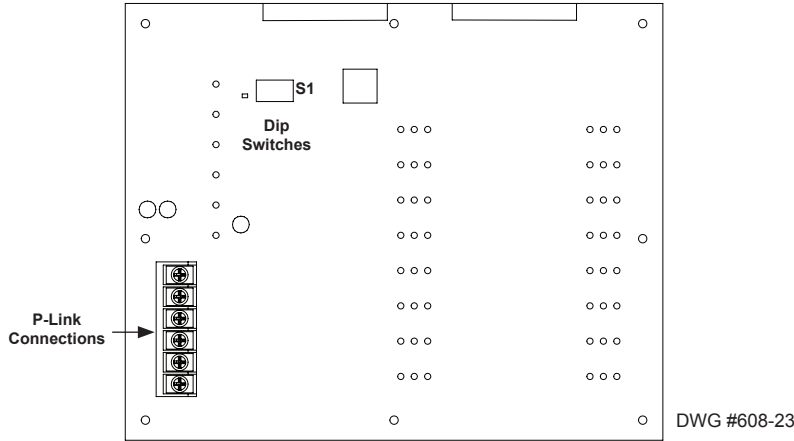*Setting Addresses*

The LED-16/LED-16F's address is set by **dip switch S1.** The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the **"Addressing P-Links" table** for dip switch settings.)*

Figure 16. LED-16 / LED-16F Panel Showing Dip Switch Location


DWG #608-23

LED Drivers Installation (DRV-50)

The panel supports up to 10 total DRV-50 and/or LED-16/LED-16 (*flush mount*) annunciators in any combination per system. Each DRV-50 provides 50 programmable LED outputs and 4 programmable dry-contact inputs, which can be individually mapped to any zone. The DRV-50 is connected to the 4-wire P-Link connection, and includes the stacker mounting bracket as shown below. It may be mounted into any of the compatible fire enclosures, or in either of the **AE-2**, **AE-8 or AE-14** accessory cabinets.

   Note: Click here to view **DRV-50** product information**.**

Figure 17. DRV-50 Board

DWG #608-7
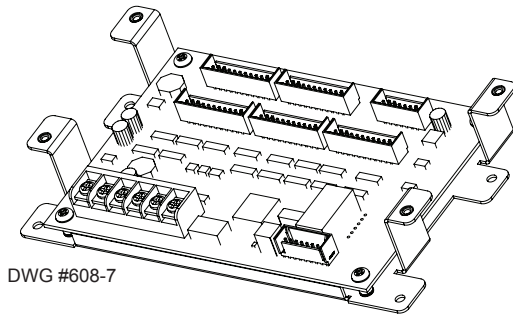
The **50 programmable LED outputs** are located on connectors **P1-P5**, each containing ten (10) LED outputs and two (2) 5VDC outputs. The **system LEDs** and **PZT control outputs** are located on connector **P6**. LEDs are wired as shown below; no external resistor is required. All outputs are power limited. All connections to P1-P6 are limited to same room installations.

Figure 18. DRV-50 "P1-P5" and "P6" Connectors

Programmable LED
Connectors P1-P5

System LED and PZT
Connector P6
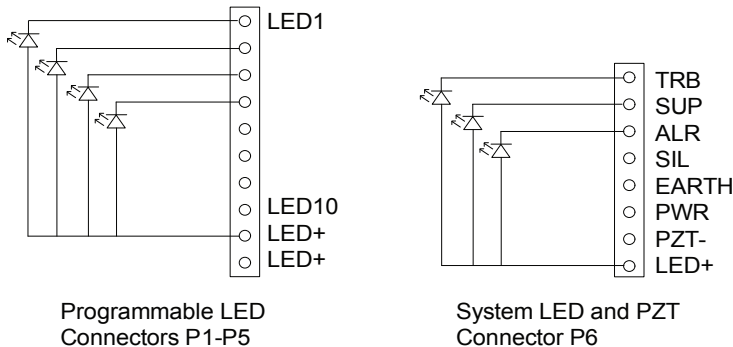
DWG #608-8

The **4 programmable dry-contact inputs** are located on connector **P7**. All input circuits are power limited and use a 5.1k EOL resistor. The inputs can be programmed for any of the contact input functions available on the panel.

Figure 19. DRV-50 "P7" Dry-Contact Inputs

Max. wiring resistance = 100 ohm
Max. wiring capacitance = 1 uF
Max. wiring length = 10,000 ft.
Max. IDC voltage = 24 VDC
Max. IDC current = 5 mA

DWG #608-9

Note: All contact inputs are fully supervised. Ground fault impedance is 0 ohms.

The higher current required for the LED outputs can be provided by the P-Link connection, or from an auxiliary power source as shown below. The auxiliary power can be any 24VDC source, and is fully supervised.

Figure 20. Examples of Wiring DRV-50 from Control Panel or Auxiliary Power Supply

DWG #608-6
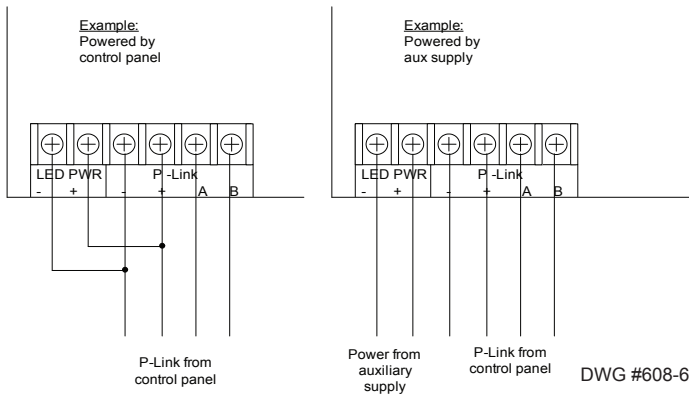
Setting Addresses

The DRV-50's address is set by **dip switch S1**. The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the **"Addressing P-Links" table** for dip switch settings.)*

Figure 21. DRV-50's Panel Showing Dip Switch Location

DWG #608-22
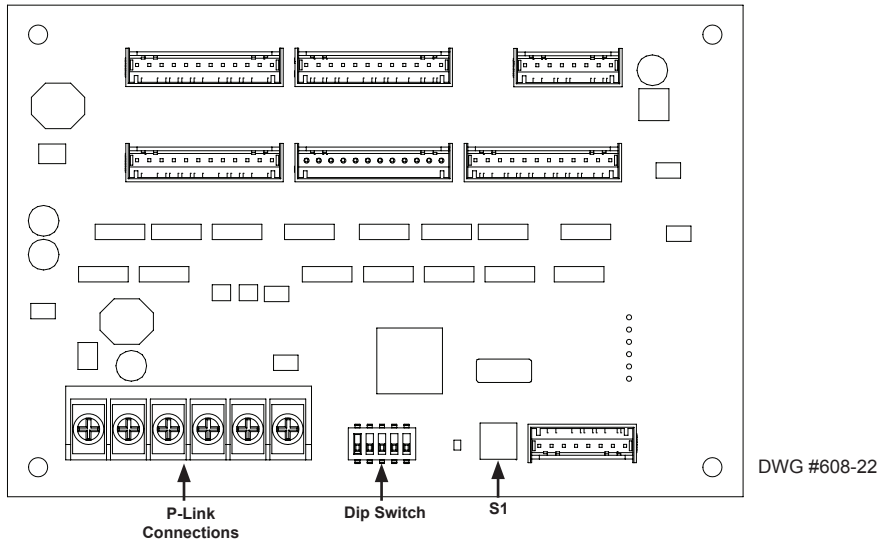
Relay Board Installation (RLY-5)

The panel supports up to thirty-one (31) RLY-5 (Relay Board) modules. Each RLY-5 provides 5 programmable output relays, which can be individually mapped to any zone. The RLY-5 is controlled over the 4-wire P-Link connection, and includes the stacker mounting bracket as shown below. It may be installed into the panel cabinet, or in either of the **AE-2, AE-8 or AE-14** accessory cabinets. Click here to view **RLY-5** product information.
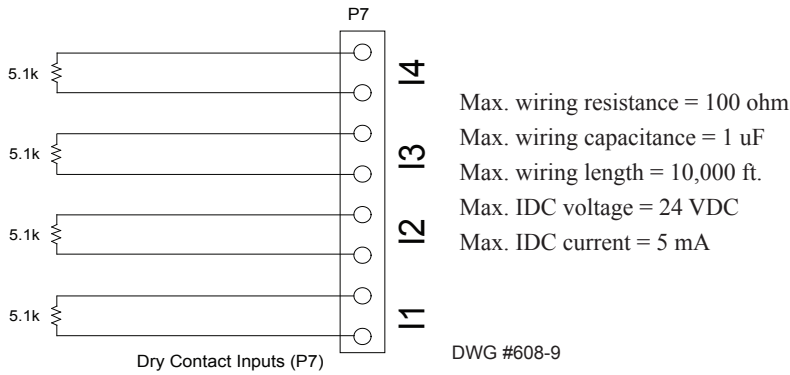
Figure 22. RLY-5 Board Showing Mounting Bracket

DWG #608-10

The power required to operate the RLY-5 relay outputs can be provided by the P-Link connection, or from an auxiliary power source as shown below. The auxiliary power can be any UL listed 24VDC source, and is fully supervised.

Figure 23. RLY-5 Wiring to Control Panel /Auxiliary Power Supply Examples & RLY-5 Showing Normally Open/Normally Closed Contacts

DWG #608-6A

DWG #608-10C

Setting Addresses

The RLY-5's address is set by **dip switch S1**. The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the "Addressing P-Links" table for dip switch settings.)*
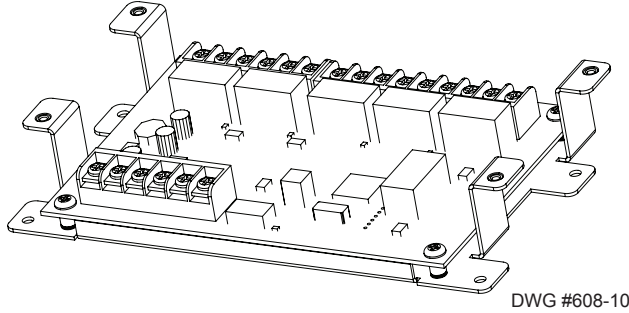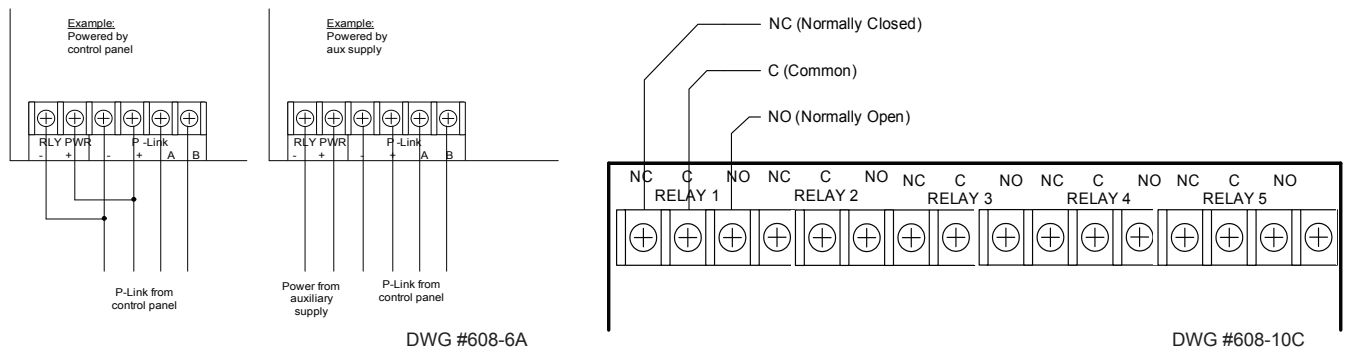
Figure 24. Relay Board Panel View Showing Dip Switch Location

DWG #608-21
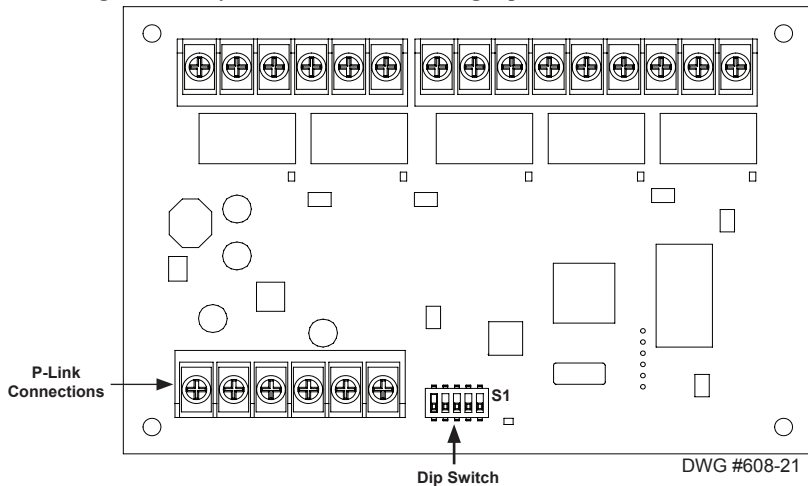
Fire Communications Bridge Installation (FCB-1000)

The panel supports one (1) FCB-1000 Fire Communications Bridge. This module provides an optional remote Ethernet connection for IP reporting functionality. The FCB-1000 is connected to the 4-wire P-Link circuit and can be mounted inside the **AE-2**, **AE-8** or **AE-14** accessory cabinets, or the optional rack-mount kit (FCB-1000RM). The FCM-1000RM includes a standard 19 inch rack-mount enclosure, which can then be installed directly into the IT equipment rack.

Click this **FCB-1000** link to view product information.

> **Note**: The Ethernet IP connection is limited to same room installation. This connection shall be limited to 20 feet and enclosed in conduit or equivalently protected against mechanical injury.

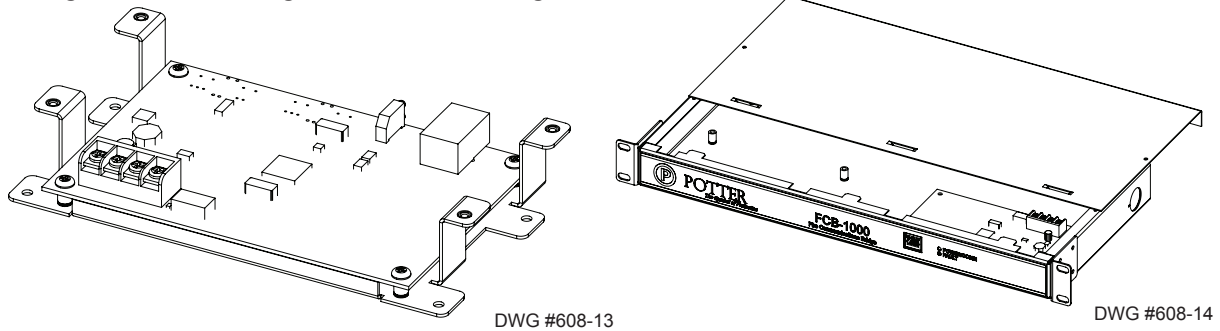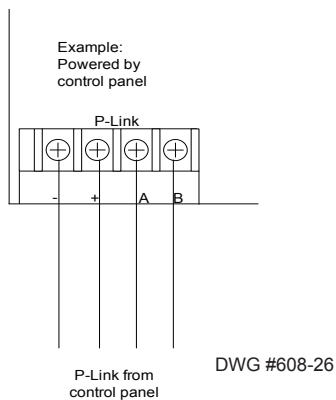**Figure 25. FCB-1000 Bridge & FCB-1000RM Showing Rack Mount**

DWG #608-13

DWG #608-14

Figure 26. FCB-1000 Wiring to Control Panel Example

Example:
Powered by
control panel

P-Link

- + A B

P-Link from
control panel

DWG #608-26

Setting Addresses

The FCB-1000's address is set by **dip switch S1**. The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the* **"Addressing P-Links" table** *for dip switch settings.)*

Figure 27. FCB-1000 Panel View Showing Dip Switch Location
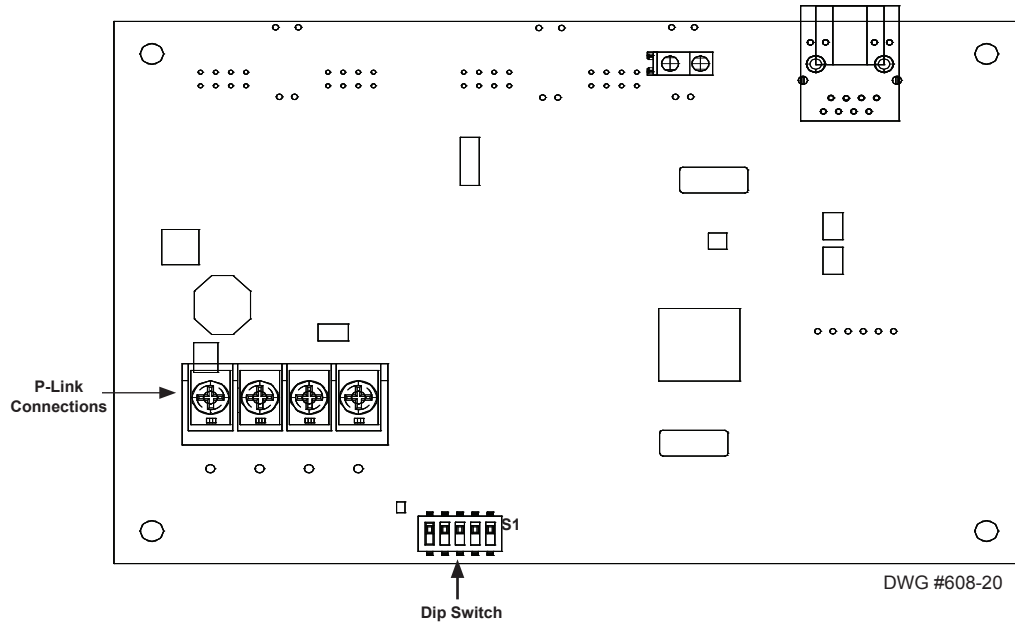
Fiber Interface Bridge Installation (FIB-1000)

The panel supports up to thirty (30) FIB-1000s (*Fiber Interface Bridge*), which enables the 4-wire P-Link circuit to be converted to and/or from fiber optic cable. Click this **FIB-1000** link to view product information.

- Utilizes multimode 62.5/125 micron fiber optic cable
- Installed in pairs (*refer to "FIB-1000 Wiring" heading for details*)

The first installed FIB-1000 can be mounted into any of the compatible fire enclosures, in either of the **AE-2, AE-8 or AE-14**, or the optional rack-mount kit (FIB-1000RM). The FIB-1000RM includes a standard 19 inch rack-mount enclosure, which can then be installed directly in an equipment rack. The second installed FIB-1000 must be connected to a PSN-1000E power supply as illustrated in the following drawings.

Figure 28. FIB-1000 Bridge & FIB-1000RM Showing Rack Mount
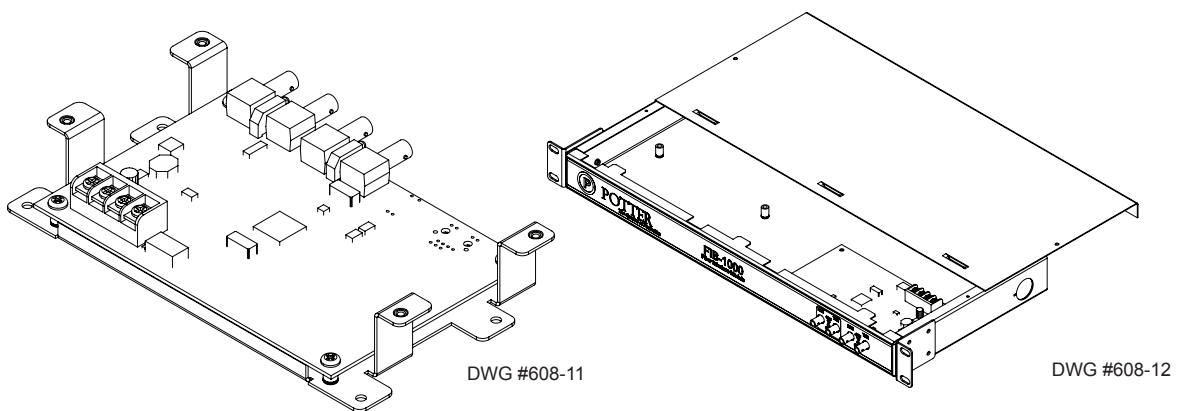
FIB-1000 Wiring Diagrams

FIB-1000s are installed in pairs. (*Please refer to Diagrams #1 & #2 shown below to properly wire the two FIB-1000s.*) The first FIB-1000, referred to as **"FIB-1000 (A)"** below, can be installed in any of the compatible fire alarm enclosures, or the FIB-1000RM. It is connected via the *4-wire P-Link connection*. **Set S2 on FIB-1000 (A) to the "OFF" position,** which provides an *outgoing fiber option connection*. That fiber optic connection can be connected as *Class A or Class B* to the second FIB-1000, referred to as **"FIB-1000 (B)"** below.

The second FIB-1000, referred to as **"FIB-1000 (B)**," is installed in a *PSN-1000E (as shown in Diagram #2)*. **Set S2 on FIB-1000 (B) to the "ON" position.** It then provides an *outgoing P-Link connection*. Connect the **4-wire P-Link on the FIB-1000 (B)** to the **P-Link connection on the PSN-1000E**.

Figure 29. Diagram #1: FIB-1000 Wiring Diagram Showing Detail
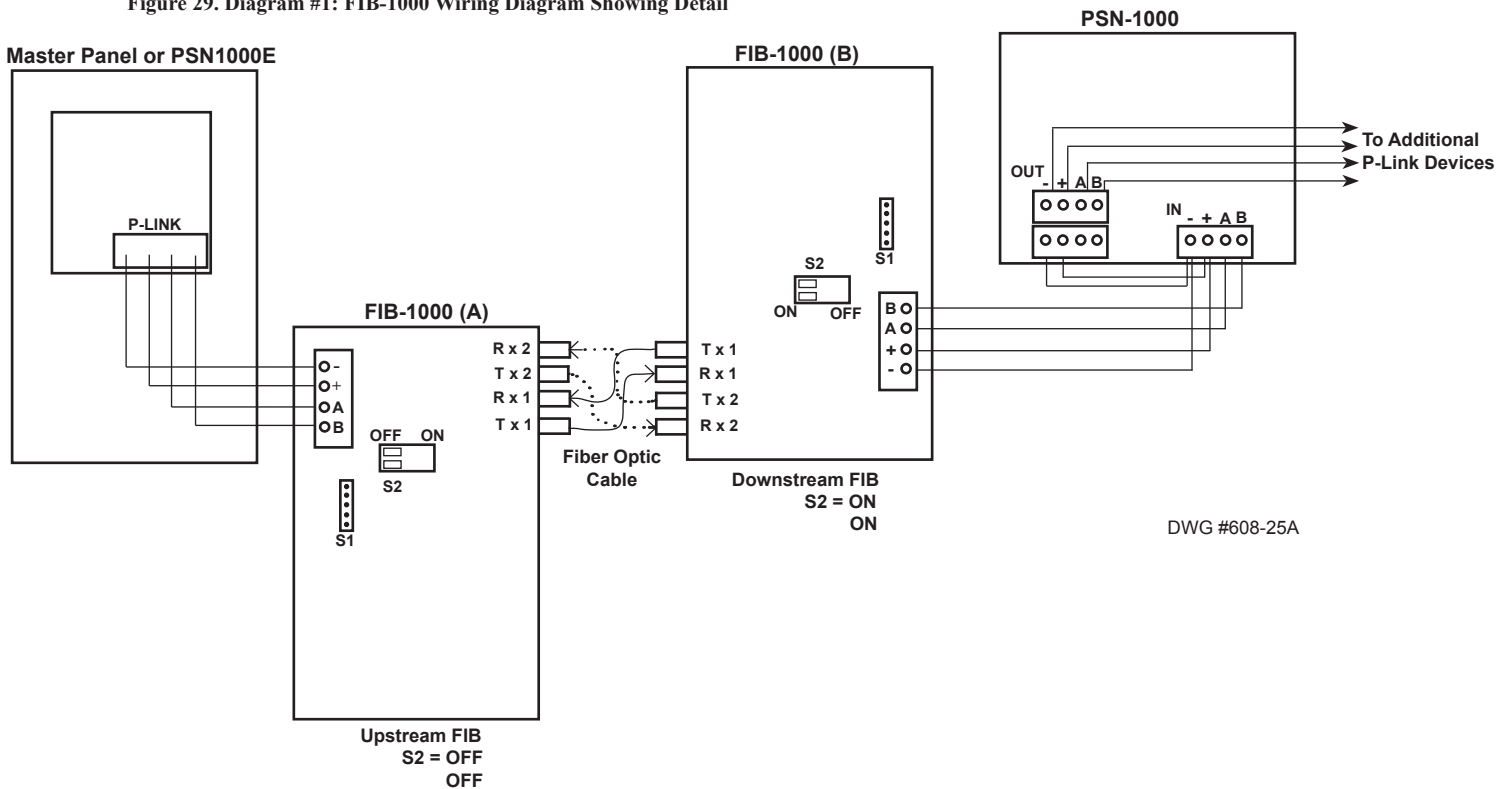
To power the FIB-1000 (B), connect the 24VDC "+" and "-" terminals on PSN-1000E (s*hown in Diagram #2*) to the isolated P -Link 24 VDC "+" and "-" terminals. The PSN-1000E's isolated P-Link can now be used to connect any other P-Link module or device, including the RA-6500R/6500F, RA-6075R, LED-16/LED-16F, PSN-1000/PSN-1000E, and the PAD100-SLCE/SLCE-127.
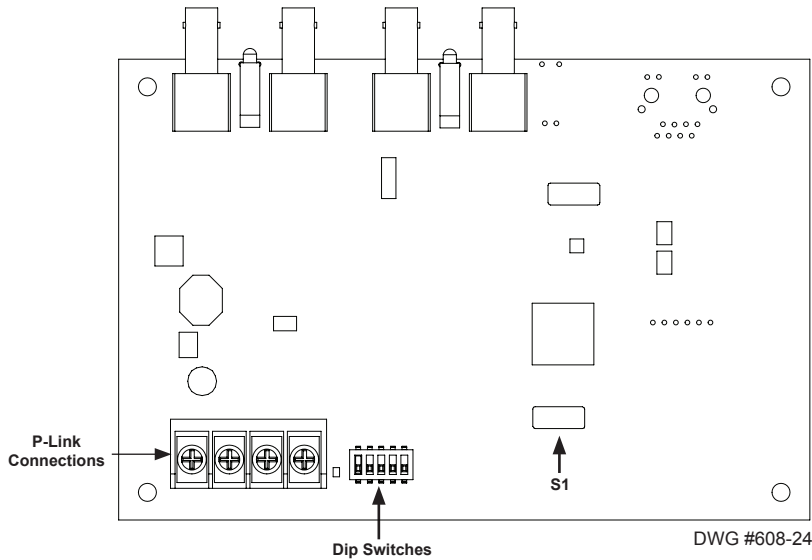
Figure 30. Diagram #2: FIB-1000 Wiring Diagram Shown Installed in PSN-1000E Cabinet
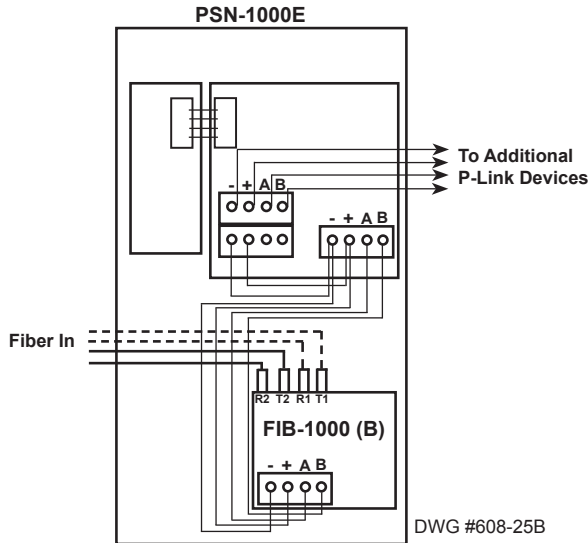
Setting Addresses

The FIB-1000's address is set by **dip switch S1.** The address must be set in the range of one to thirty (1–30) to be recognized by the panel. *(Refer to the* **"Addressing P-Links" table** *for dip switch settings.)*

Figure 31. FIB-1000 Panel Showing Dip Switch Location

Serial Parallel Gateway Installation (SPG-1000)

An optional SPG-1000 serial/parallel gateway (*printer driver*) module can be mounted in a compatible fire enclosure, **AE-2**, **AE-8** **or AE-14** accessory enclosure, or the SPG-1000RM rack-mount enclosure kit. The SPG-1000RM includes a standard 19 inch rack-mount enclosure, which can then be installed directly in an equipment rack. Up to thirty-one (31) printers may be installed on this panel. Click here to view the **SPG-1000** datasheet**.**

Figure 32. SPG-1000 Serial Parallel Gateway Board & Rack Mount

DWG #608-15

DWG #608-16
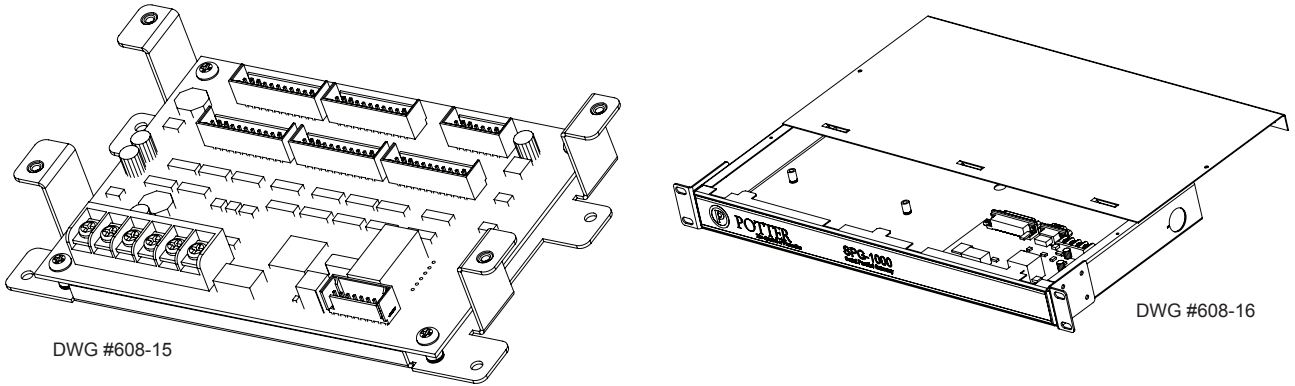
Figure 33. SPG-1000 Wiring to Control Panel Example

Example:
Powered by
control panel

P-Link

- + A B

P-Link from
control panel

DWG #608-26
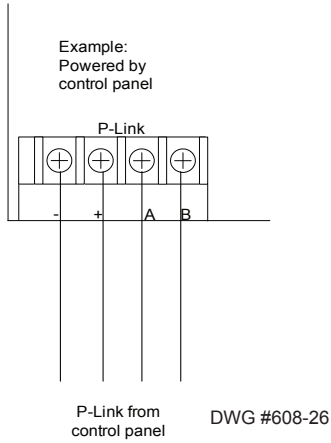
Setting Addresses

A SPG-1000 address is set by **dip switch S1**. The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the **"Addressing P-Links"** table for dip switch settings.)*

Figure 34. SPG-1000 Panel View Showing Dip Switch Location

Dip Switches

S1

P-Link
Connections

DWG #608-25
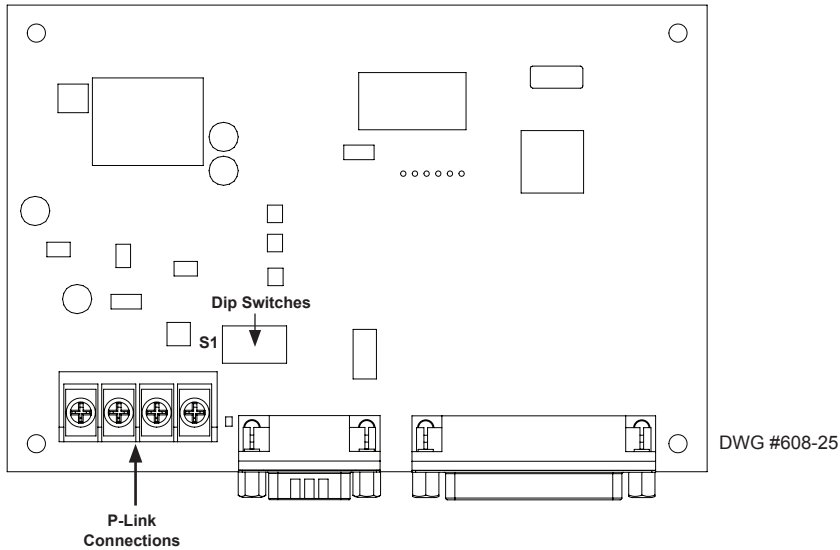
Multi-Connect Module Installation (MC-1000)

The IPA series panels support up to 31 Multi-Connect modules allowing up to 63 panels to be interconnected. The MC-1000 allows multiple IPA series panels to report to the central station through a shared phone line or Internet connection. This module is installed onto a mounting bracket, which then can be mounted into any of the compatible fire panel enclosures, the PSN-1000/E cabinet, or in either of the **AE-2, AE-8 or AE-14** accessory cabinets.

> **Note:** Click the *MC-1000 link* to view more information and/or go to *Potter's on-line training video* to learn more about installing and programming this P-Link module.
>
> ▶ **MC-1000**

Figure 35. MC-1000 Board & Shown Installed in an IPA-100 Panel

DWG #641-6

DWG #641-8
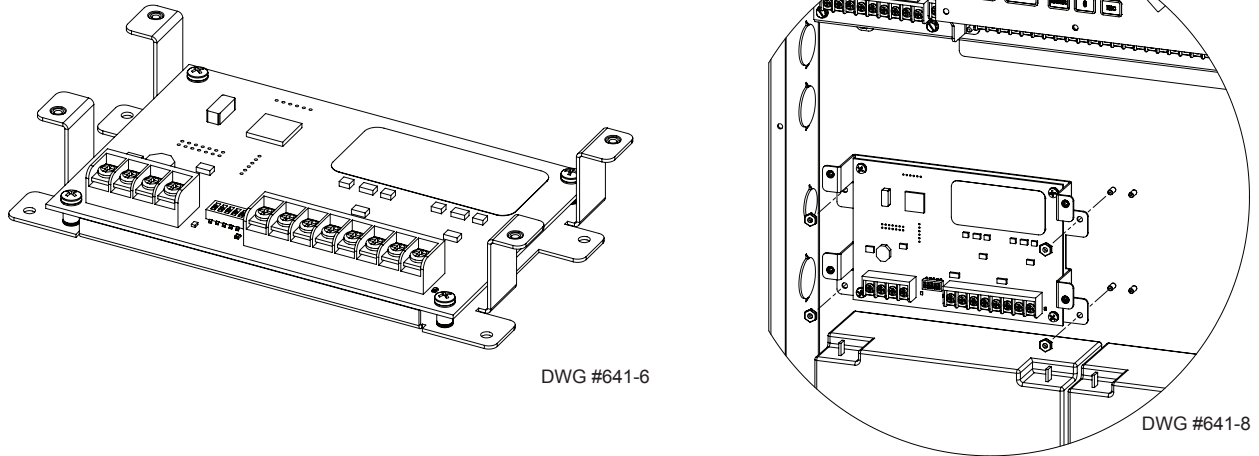
The MC-1000 is connected to the 4-wire P-Link connection. Each MC-1000 supports communication between the *"Host"* reporting panel and two *"client"* panels. The MC-1000 communicates with the Host and the clients' control panel via the P-Link communication bus.

Figure 36. Examples of Wiring MC-1000 Module (Host Panel and Client Panel)

TO CLIENT 2 PANEL P-LINK
TO CLIENT 1 PANEL P-LINK

TO HOST PANEL P-LINK
(REPORTING PANEL)

DWG #020-1
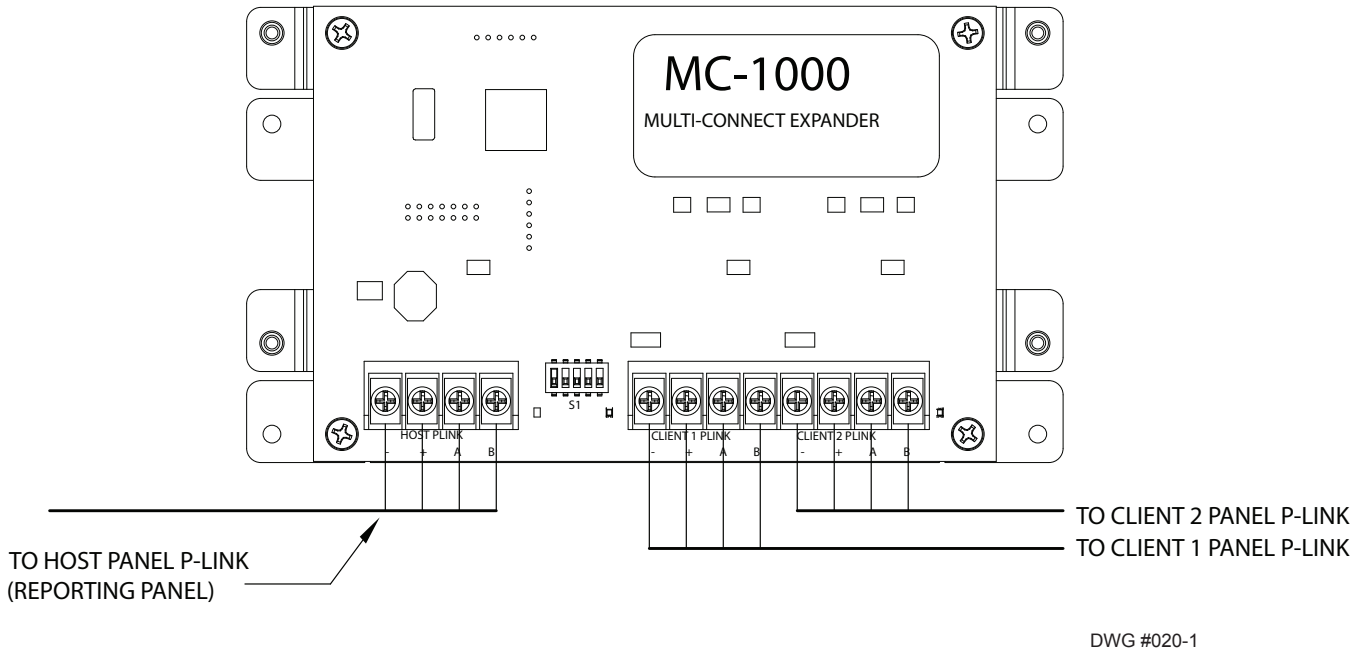
Setting Address

The MC-1000's address is set by **dip switch S1.** The address must be set in the range of one to thirty-one (1–31) to be recognized by the panel. *(Refer to the "Addressing P-Links" table for dip switch settings.)*

Figure 37. MC-1000's Panel View Showing Dip Switch Location

DWG #020-2

3.2 Addressing P-Link Modules

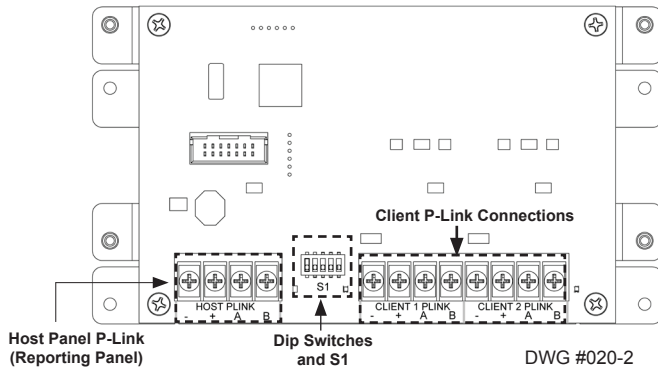P-Link modules' addresses are set by changing the dip switches located on each device.

P-Link Addresses

Each P-Link device has a *five (5) position dip switch* which is used to program the device address ranging from one (1) to thirty-one (31). The table below may be used to set dip switches when addressing any P-Link module:

Address	Dip Switch Settings					Address	Dip Switch Settings				
	SW-1	SW-2	SW-3	SW-4	SW-5		SW-1	SW-2	SW-3	SW-4	SW-5
1	On	Off	Off	Off	Off	17	On	Off	Off	Off	On
2	Off	On	Off	Off	Off	18	Off	On	Off	Off	On
3	On	On	Off	Off	Off	19	On	On	Off	Off	On
4	Off	Off	On	Off	Off	20	Off	Off	On	Off	On
5	On	Off	On	Off	Off	21	On	Off	On	Off	On
6	Off	On	On	Off	Off	22	Off	On	On	Off	On
7	On	On	On	Off	Off	23	On	On	On	Off	On
8	Off	Off	Off	On	Off	24	Off	Off	Off	On	On
9	On	Off	Off	On	Off	25	On	Off	Off	On	On
10	Off	On	Off	On	Off	26	Off	On	Off	On	On
11	On	On	Off	On	Off	27	On	On	Off	On	On
12	Off	Off	On	On	Off	28	Off	Off	On	On	On
13	On	Off	On	On	Off	29	On	Off	On	On	On
14	Off	On	On	On	Off	30	Off	On	On	On	On
15	On	On	On	On	Off	31	On	On	On	On	On
16	Off	Off	Off	Off	On						

Notes:
1. When assigning dip switch addresses, each device must have a unique number within each device type group. For example, a group of LCD annunciators may be assigned 1-10, and PSN-1000/PSN-1000(E) power expansion boards may also be assigned 1-10.
2. To print out a copy of the P-Links Dip Switch Settings table, click this *"Addressing P-Links"* link.

3.3 Addressing PAD Protocol Detectors & Modules

NOTICE
All detectors and modules require an address **prior** to connecting to the control panel. Refer to link to *"Addressing PAD Protocol Detectors & Modules"* shown in this section.

All PAD protocol detectors and modules require an address prior to connection to the panel. PAD device addresses are set using a *seven (7) position dip switch* to assign an address ranging from 1–127.

Notes:

1. Click the "*Addressing PAD Detectors & Modules*" *document link* to refer to the *"PAD Protocol Dip Switch Settings – Detectors & Modules" table*.

2. Go to *Potter's on-line training video* for more in-depth instructions.

    ▶ **Addressing PAD Devices**

3. For instructions on addressing Nohmi protocol detectors and modules, click the *"Addressing, Installing & Wiring Nohmi Protocol SLCs & Detectors"* *document link*.

3.4 Installing & Wiring PAD Protocol SLCs, Detectors and Modules

Wiring PAD Protocol SLCs (PAD100-SLCE)

The SLC loop on a PAD100-SLCE expansion module may be wired and configured as Class X, Class A or Class B. This section explains the wiring requirements, provides several examples and links to relevant datasheets and on-line training videos.

Notes:

1. To learn more about wiring and installing SLC detectors, go to *Potter's on-line training video.*

    ▶ **PAD Devices**

2. To learn about programming a SLC expansion loops, go to *"Section 5.7 – Programming Modules, SLC Expansion Modules (PAD100-SLCE & SLCE-127)"* located in this manual.

3. For instructions on installing Nohmi Protocol SLC detectors and modules, click the *"Addressing, Installing & Wiring Nohmi Protocol Detectors"* *document*.

SLC Wiring Requirements

The wiring parameters listed below **MUST** be followed to ensure proper operation of addressable devices connected to the SLC loop:
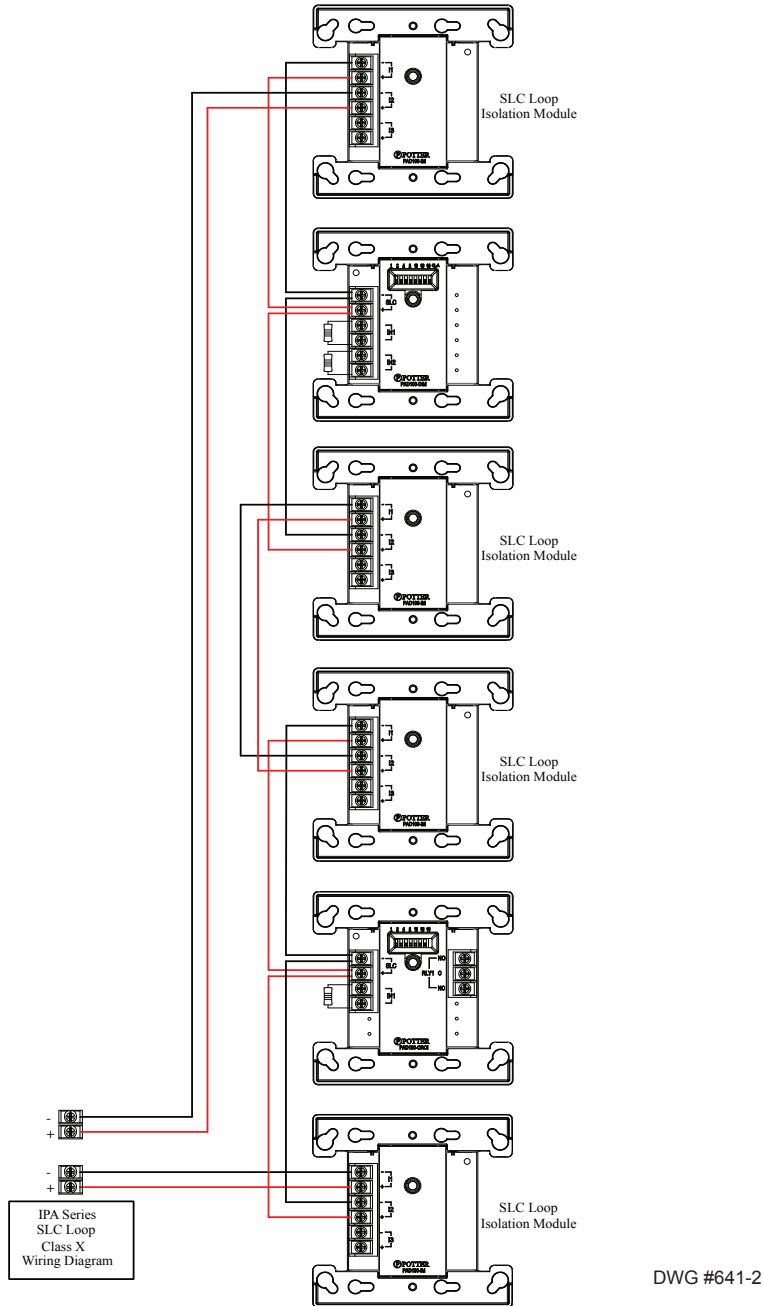
*   Maximum wire resistance must be calculated based on 0.1 ohm per Isolator Module (PAD100-IM) or Isolator Base (PAD100-IB)
*   All SLC wiring is low voltage and power limited.
*   Total resistance must be below 50 ohms.
*   Maximum loop capacitance must be 0.5 micro farads
*   Maximum PAD100-SLCE fully loaded loop current is 90.61 mA

PAD100-SLCE Class X Wiring Configuration

On the PAD100-SLCE expansion board, Class X wiring requires a PAD100-IB *(Isolator Base)* to be installed for each sensor and/or PAD100-IM *(Isolator Module)* to be installed on each side of each module. The maximum wiring resistance between a PAD100-IB/PAD100-IM and another PAD100-IB/PAD100-IM shall be less than 10 ohms and the total SLC circuit resistance must be below 50 ohms.

> **Note:** Class X requires a close nipple or conduit connection to every module or sensor for both protocols.

Figure 38. Example of PAD Protocol Class X Showing PAD1000-IMs Installed

SLC Loop
Isolation Module

SLC Loop
Isolation Module

SLC Loop
Isolation Module

- +

- +

IPA Series
SLC Loop
Class X
Wiring Diagram

SLC Loop
Isolation Module

DWG #641-2

PAD100-SLCE Class X Notes:

1. The Class X requires installation of isolators, and may be either the PAD100-IM (IM) or the PAD100-IB (IB).
2. The maximum wiring resistance between one IM/IB and another IM/IB shall be less than 10 ohm.
3. The maximum wiring resistance shall be calculated based on 0.1 ohm per IM / IB.
4. The SLC connection requires that the wires are separated and installed in conduit or other mechanical protection according to local codes and standards.
5. The Class X requires installation of an isolator close nipple or conduit connection to every module or sensor.
6. Maximum wiring resistance must not exceed 50 ohms.

PAD100-SLCE Class A Wiring Configuration

Figure 39. Example of PAD100-SLCE Class A Wiring

DWG #641-3
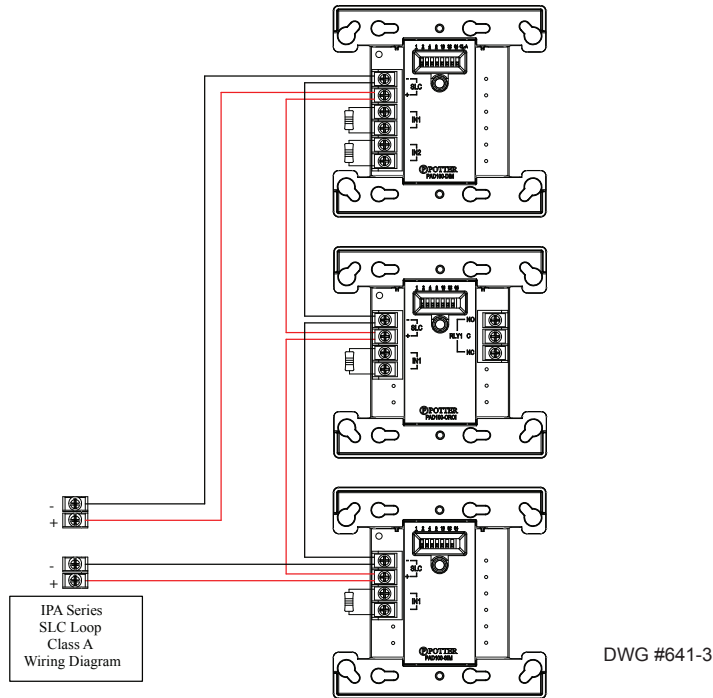
PAD100-SLCE Class A Notes:
1. The Class A configuration does **not** provide the level of protection as Class X.
2. The use of an Isolator Module / Isolator Base is **not** required.
3. The SLC connection requires that the wires are are separated and installed in conduit or other mechanical protection according to local codes and standards.
4. Maximum wiring resistance must not exceed 50 ohms.

PAD100-SLCE Class B Wiring Configuration

Figure 40. Example of PAD100-SLCE Class B Wiring

DWG #641-4
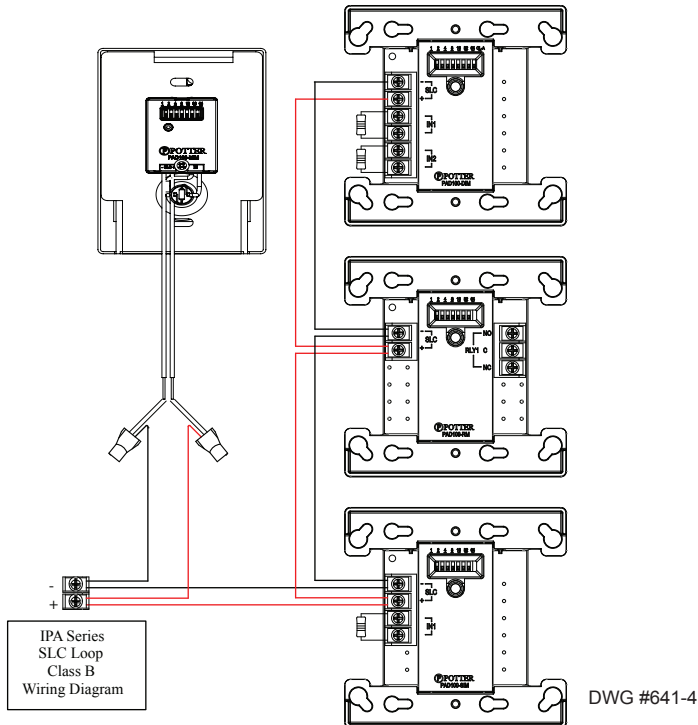
Installing PAD Protocol Addressable Detectors

Below is a list of PAD protocol addressable detectors. Each detector **must** be addressed prior to installation. Click on their respective link to go to the detector's datasheet for wiring and installation information.

*   Photo Detector (PAD100-PD)

*   Fixed Heat Detector (PAD100-HD)

*   CO Detector (PAD100-CD)

*   Combination Photo/Heat Detector (PAD100-PHD)

*   Duct Detector (PAD100-DUCT)

*   Duct Detector w/Relay (PAD100-DUCTR)

*   Duct Detector Remote Test Switch (PAD100-DRTS)

*   Duct Remote LED Indicator (MS-RA)

*   Duct LED w/Test Switch (MSKA-P/R)

    Notes:

    1. Click the **"*Addressing PAD Detectors & Modules*"** *document link* to view the *"PAD Protocol Dip Switch Settings" table*.

    2. Go to ***Potter's on-line training video*** to learn more about connecting addressable detectors and/or modules.

        ▶ **PAD Devices**

    3. For instructions on installing Nohmi protocol detectors and modules, click the "***Addressing, Wiring & Installing Nohmi Protocol Detectors***" *document link*.

Installing PAD Protocol Addressable Bases

Listed below are PAD addressable bases available for use with PAD addressable detectors. Each detector must be installed with one of the following bases:

*   Addressable 6" Base (PAD100-6DB)

*   Addressable 4" Base (PAD100-4DB)

*   Addressable Sounder Base (PAD100-SB)

*   Addressable Relay Base (PAD100-RB)

*   Addressable Isolator Base (PAD100-IB)

    Note: Go to ***Potter's on-line training video*** to learn more about installing ***PAD Addressable Bases/Detectors.***

        ▶ **PAD Devices**

Installing PAD Protocol Addressable Modules

This topic provides examples of wiring PAD protocol addressable modules. Click on their respective link to go to the module's datasheet for more information. All PAD addressable modules require an address prior to installation.

Notes:

1. Go to **Potter's on-line training video** to learn more about connecting **PAD Protocol Addressable Modules**.

    ▶ **PAD Devices**

2. For instructions on installing Nohmi protocol modules, click the "**Nohmi Protocol Addressing, Wiring & Installing**" document link**.**

Pull Station Modules (PAD100-PSSA / PAD100-PSDA)

The Single and Dual Action Pull Stations are non-coded and consume a single device address. The pull stations have leads that are connected directly to the SLC loop. Refer to the PAD100-PSSA / PSDA wiring example shown below.

Figure 41. PAD100-PSSA (Single Action) Pull Station Module Wiring Example

Dip Switches

FACTORY WIRED CONTACTS

FROM FACP OR
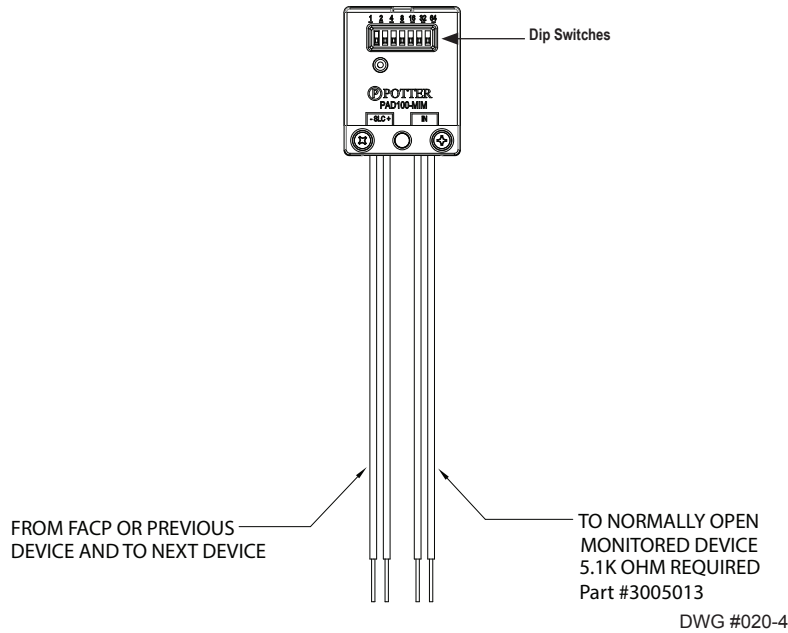PREVIOUS DEVICE

TO NEXT DEVICE

DWG #020-3
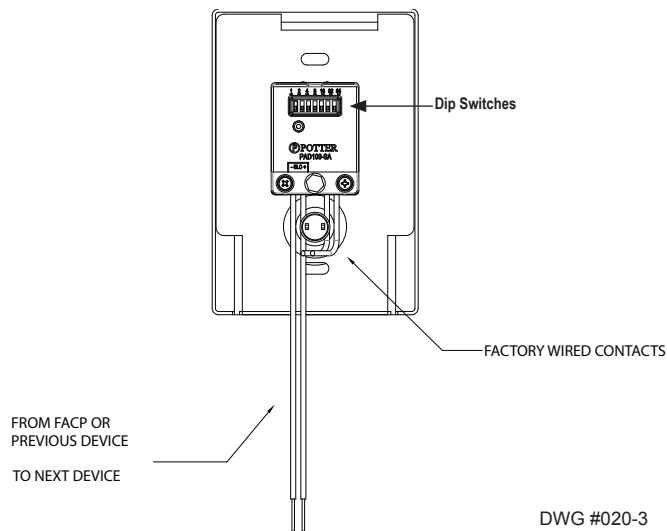
Setting Addresses

The PAD100-PSSA/PSDA's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Micro Input Module (PAD100-MIM)

The Micro Input Module (PAD100-MIM) is used to monitor the status of an initiating device that contains a *"normally open"* set of dry contacts. The figure below is an example of wiring a PAD100-MIM.

Figure 42. PAD Mini Input Module Wiring Example

Dip Switches

POTTER
PAD100-MIM

FROM FACP OR PREVIOUS
DEVICE AND TO NEXT DEVICE

TO NORMALLY OPEN
MONITORED DEVICE
5.1K OHM REQUIRED
Part #3005013

DWG #020-4

Setting Addresses

The PAD100-MIM's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Speaker Module (PAD100-SM)

The Speaker Module is an audio switch module typically used in voice evacuation applications. It is capable of switching one of the two audio input channels to its audio output channel. The module has one red LED which indicates the module's status. Refer to the figures that follow for examples of wiring a PAD100-SM as Class A and Class B.

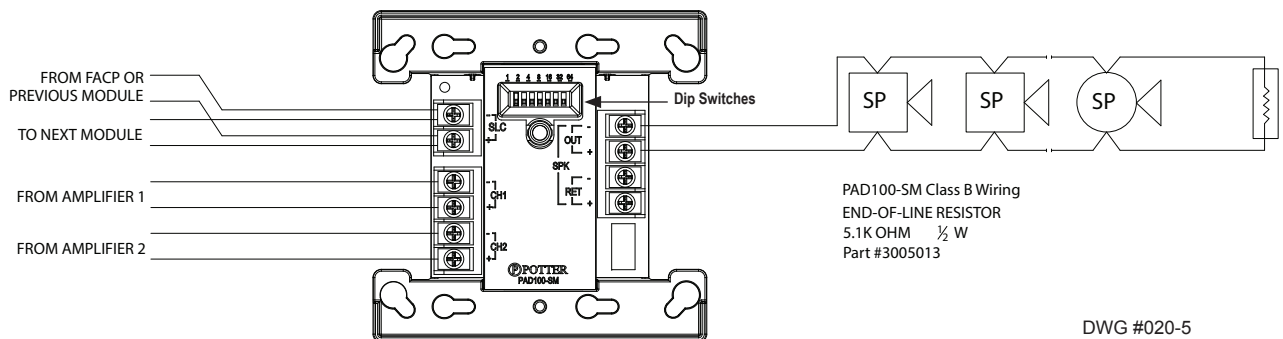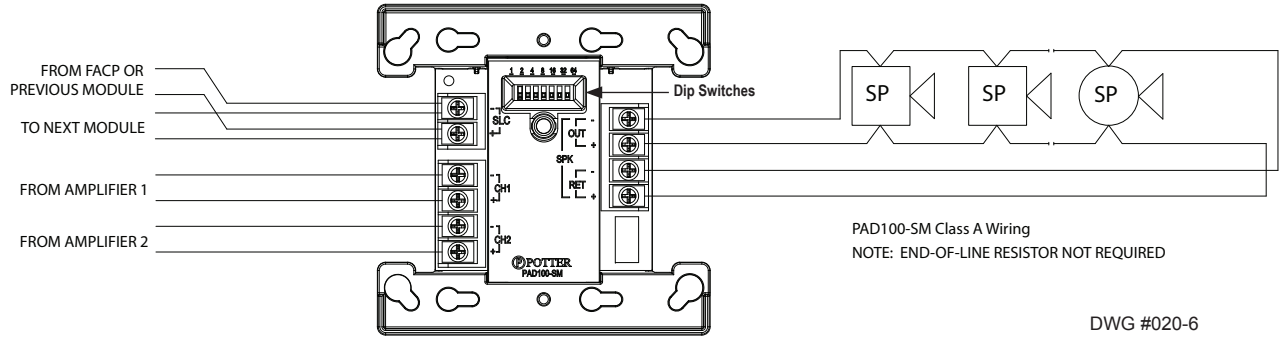**Figure 43. PAD Protocol Speaker Module (with one) Class B Output Channel Wiring Example**

FROM FACP OR
PREVIOUS MODULE

TO NEXT MODULE

FROM AMPLIFIER 1

FROM AMPLIFIER 2

SLC

OUT

SPK

RET

CH1

CH2

POTTER
PAD100-SM

Dip Switches

SP   SP   SP

PAD100-SM Class B Wiring
END-OF-LINE RESISTOR
5.1K OHM   ½ W
Part #3005013

DWG #020-5

Figure 44. PAD Protocol Speaker Module (with one) Class A Output Channel Wiring Example

FROM FACP OR PREVIOUS MODULE

TO NEXT MODULE

FROM AMPLIFIER 1

FROM AMPLIFIER 2

Dip Switches

PAD100-SM Class A Wiring
NOTE: END-OF-LINE RESISTOR NOT REQUIRED

DWG #020-6

Setting Addresses

The PAD100-SM's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Relay Module (PAD100-RM)

The Relay Module is an interface module providing one (1) Form C relay contact. It has 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. If the LED blink has been disabled via the programming software, in a normal condition the LED of the device will be off.

Figure 45. PAD Protocol Relay Module Wiring Example

FROM FACP OR PREVIOUS MODULE

TO NEXT MODULE

Dip Switches

ONE (1) FORM C RELAY CONTACTS

DWG #020-7
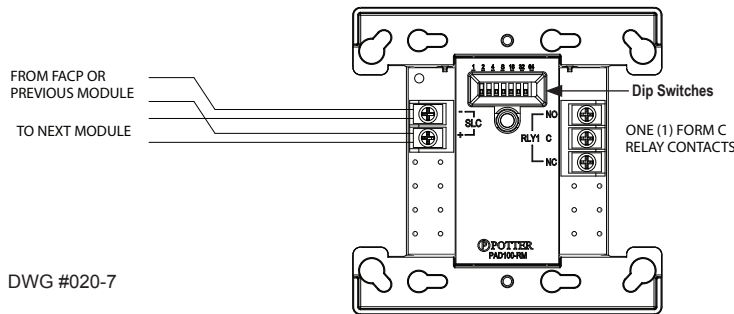
Setting Addresses

The PAD100-RM's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Notification Appliance Circuit Module (PAD100-NAC)

The PAD100-NAC module is used to provide either a NAC or releasing function. Refer to the figures below for Class A / B notification and releasing circuit wiring examples.

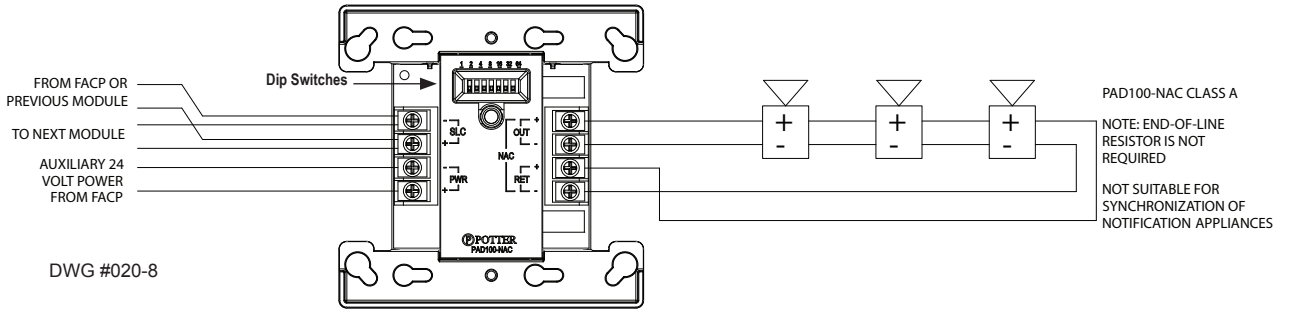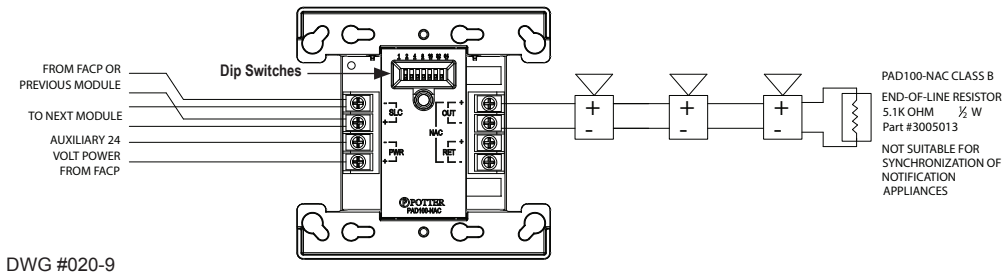Figure 46. PAD Protocol NAC Module Class A Wiring Example

DWG #020-8

Figure 47. PAD Protocol NAC Module Class B Wiring Example

DWG #020-9

When the NAC module is used for releasing, it must have a regulated power supply that has a battery back-up equal to that of the panel or greater. The output is a constant 24 VDC, regulated output. When connected to a releasing device, the circuit is a special application circuit.

> **Note:** Refer to the *"Releasing Solenoids Devices Listed"* *document* for listed releasing circuits.

Figure 48. PAD Protocol NAC Module as Releasing Circuit Wiring Example

DWG #020-10
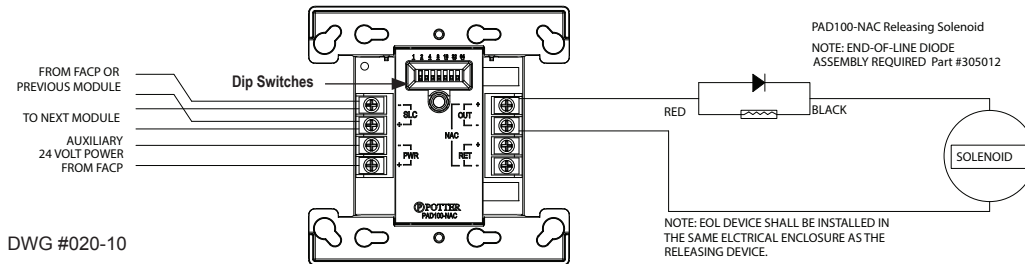
Setting Addresses

The PAD100-NAC's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Twin Relay-Twin Input Module (PAD100-TRTI)

The PAD-TRTI module provides two (2) Form C relay contacts and two (2) input points, which may be used to monitor sprinkler waterflow and valve tamper switches when they are located in the same proximity. The module includes one red LED which indicates the module's status. Refer to the figures below for examples of wiring a PAD100-TRTI as Class A and Class B.

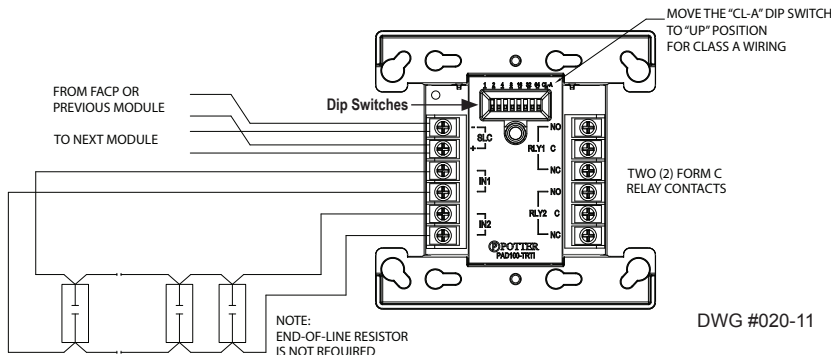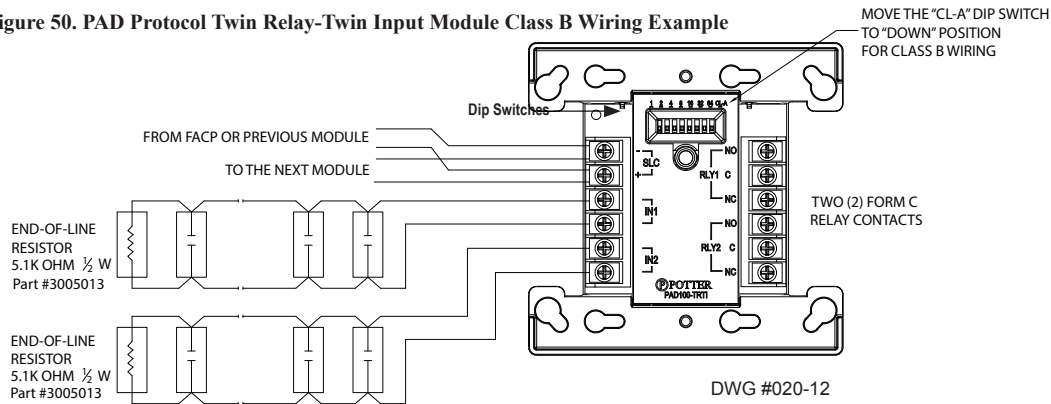**Figure 49. PAD Protocol Twin Relay-Twin Input Module Class A Wiring Example**

Figure 50. PAD Protocol Twin Relay-Twin Input Module Class B Wiring Example

Setting Addresses

The PAD100-TRTI's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Double Input Module (PAD100-DIM)

The Dual Input module is an interface module used to monitor dry contact devices, such as sprinkler waterflow, valve tamper switches, or conventional pull stations. It is capable of monitoring two separate Class B or one Class A circuits. Refer to the figures that follow for examples of wiring a PAD100-DIM as Class A and Class B.

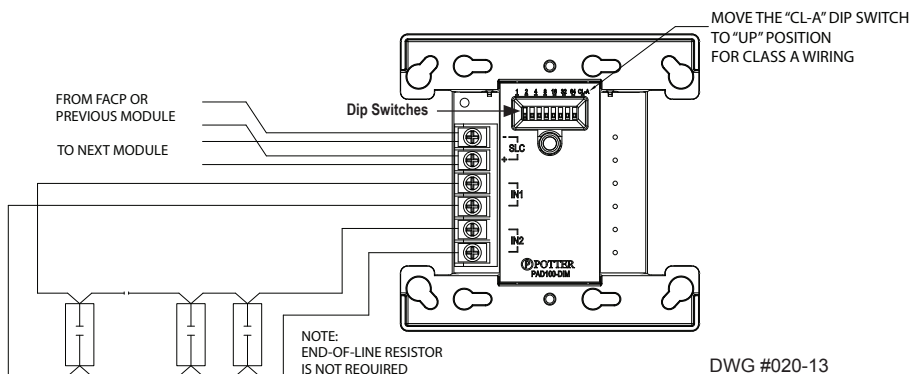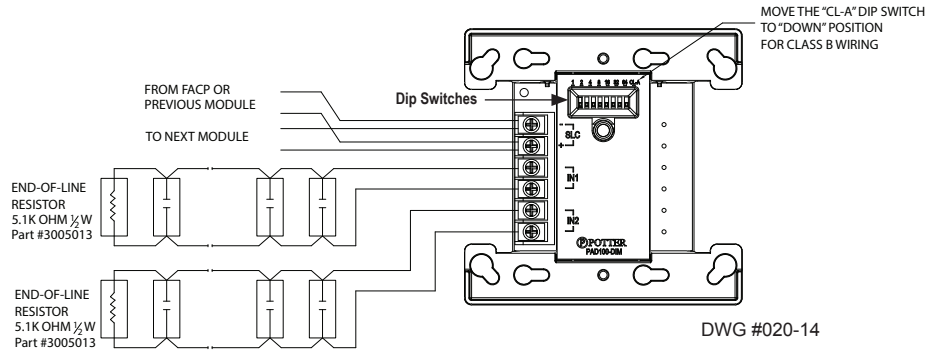**Figure 51. PAD Protocol Dual Input Module Class A Wiring Example**

3-41

Figure 52. PAD Protocol Dual Input Module Class B Wiring Example

DWG #020-14

Setting Addresses

The PAD100-DIM's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

One Relay-One Input Module (PAD100-OROI)

The One Relay-One Input Module provides one (1) Form C relay contact used to monitor a Class B circuit. It includes one red LED which indicates the module's status. Refer to the figure below for an PAD100-OROI wiring example.

Figure 53. PAD Protocol One-Relay One-Input Module Wiring Example
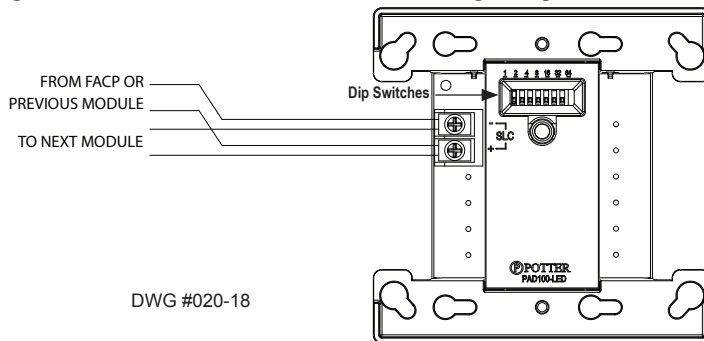

DWG #020-15
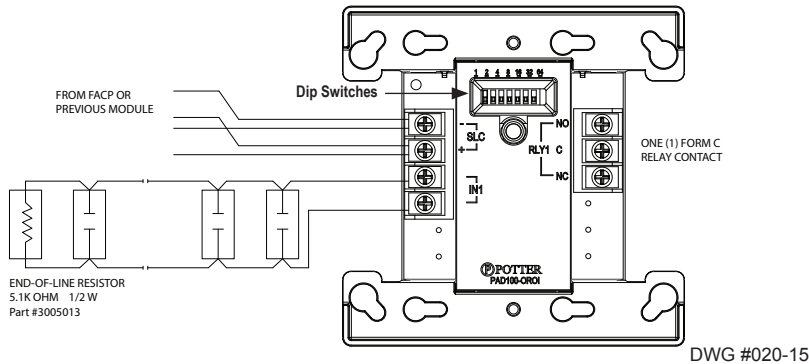
Setting Addresses

The PAD100-OROI's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Zone Module (PAD100-ZM)

The Zone Module is used to monitor 2-wire conventional smoke detectors, either two (2) Class B or one (1) Class A circuit. It requires a 24 VDC auxiliary power connection. The 24 VDC power source may be either an IPA series addressable panel, or a PSN-1000/E power supply. The PAD100-ZM may be wired as Class A or Class B. This module includes one red LED that indicates its status. Refer to the figures below for examples of wiring the Zone module as Class A and Class B.

Figure 54. PAD Protocol Zone Module Class A Wiring Example
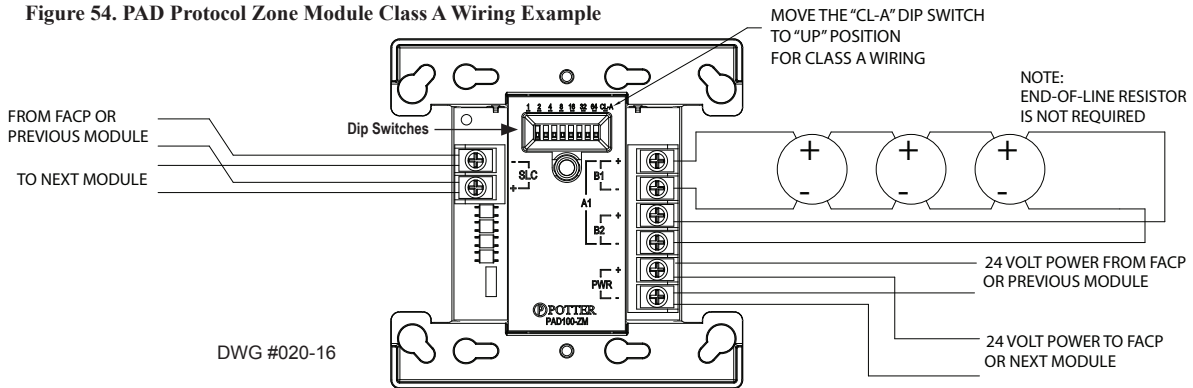
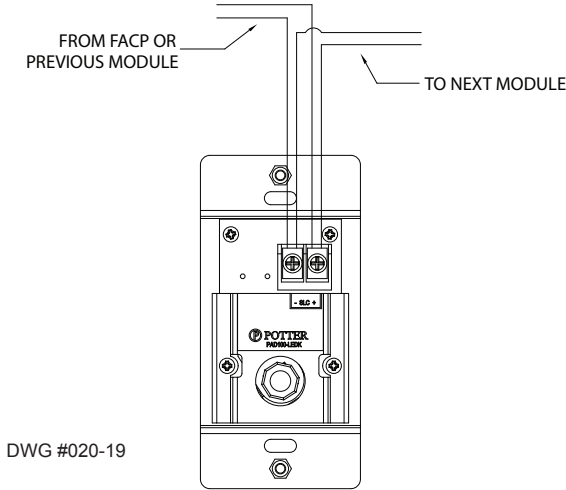**Figure 55. PAD Protocol Zone Module Class B Wiring Example**
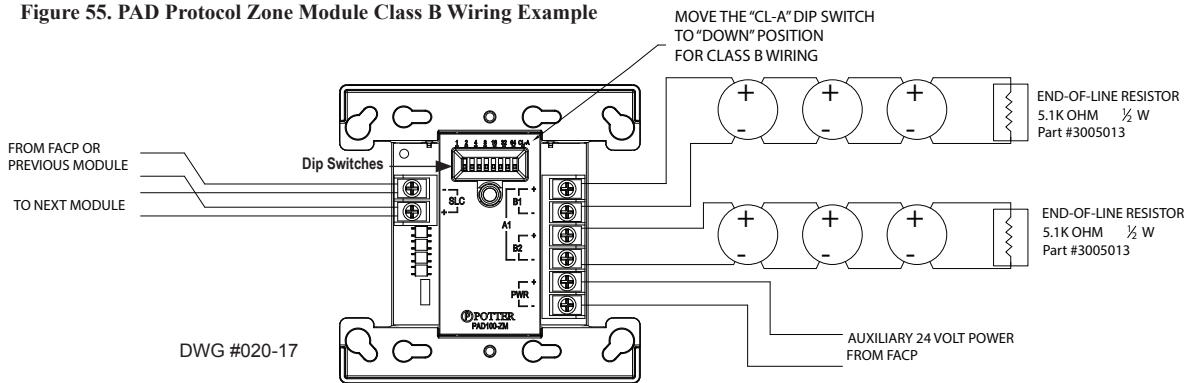
Setting Addresses

The PAD100-ZM's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Remote LED Module (PAD100-LED)

The Remote LED Module may be used to annunciate a wide range of system conditions. It has one (1) red LED to show the module's status. Refer to the figure shown below for a Remote LED wiring example.

Figure 56. PAD Protocol Remote LED Module Wiring Example

Setting Addresses

The PAD100-LED's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Remote LED w/Key Module (PAD100-LEDK)

The Remote LED w/Key Module provides a mappable key-switch input which may be used for a variety of system functions. Refer to the figure shown below for a PAD100-LEDK wiring example.

> **Note**: The PAD100-LEDK **cannot** be used as a remote test station.

**Figure 57. PAD Protocol Remote LED w/Key Module Wiring Example (Back view of module)**

Setting Addresses

The PAD100-LEDK address is assigned by setting the dip switches located on the front of the module (*not shown in the drawing above*). The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Single Input Module (PAD100-SIM)

The Single Input Module provides an interface used to monitor dry contact devices, such as sprinkler waterflow or valve tamper switches. It can monitor one Class B circuit. Refer to the figure below for an example of wiring a SIM module.

Figure 58. PAD Protocol Single Input Module Wiring Example
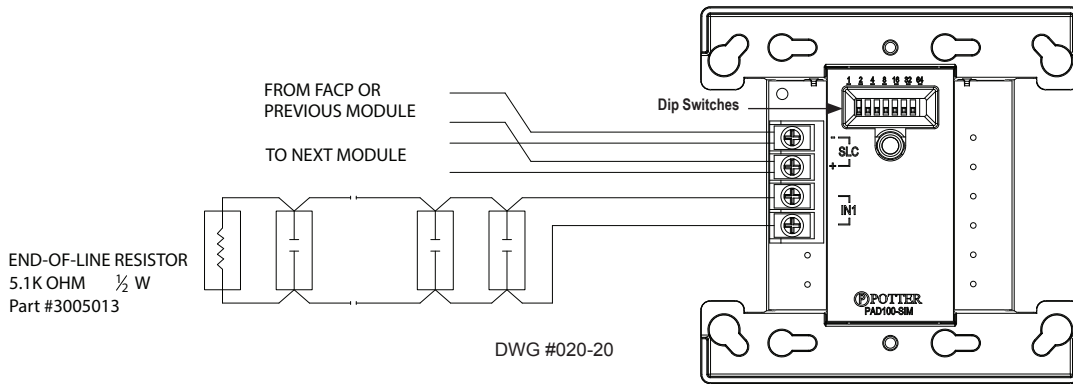

Setting Addresses

The PAD100-SIM's address is assigned by setting the dip switches located on the module as shown above. The address must be set in the range of 1–127 to be recognized by the panel. Refer to the *"Addressing PAD Detectors & Modules" link* to view the dip switch settings table.

Isolator Module (PAD100-IM)

The Isolator Module may be used when wiring other SLC modules or sensors as Class X, Class A and Class B to provide protection against short circuits. The PAD100-IM **does not** require an address but does consume power from the SLC loop. Refer to the wiring diagram shown below for an example of the Isolator Module.

Figure 59. PAD Protocol Isolator Module Wiring Example

FROM FACP OR
PREVIOUS MODULE

TO NEXT MODULE

TO NEXT MODULE

DWG #020-21
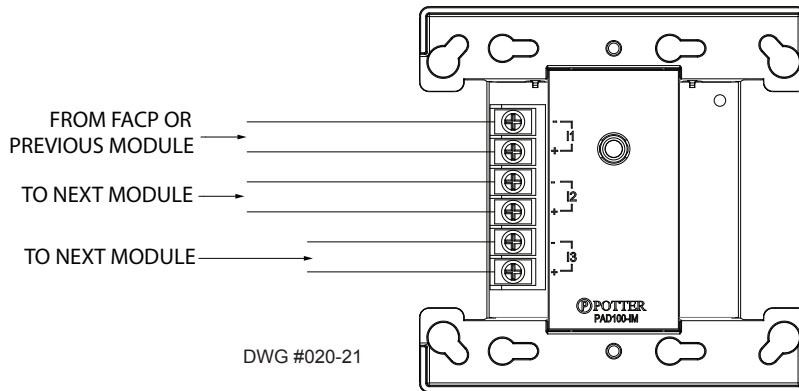
3.5 Notification Appliance Circuits Installation (NACs)

There are six (6) NAC circuits provided on the IPA-100 rated as continuous 3 amps at 24 VDC. The NAC circuits may be configured for Class A or Class B, as well as a releasing device.

Note: To learn more about installing NACs, go to **Potter's on-line training video** on configuring inputs.

▶ **NAC Configuration**

NAC Wiring

- Outputs are supervised and regulated.
- Circuits are power limited.
- NAC synchronization protocol is selectable, and may be configured for AMSECO®, Wheelock®, Gentex®, or System Sensor® strobe devices. For a list of compatible NAC models, go to "**Potter's Product Tools"** *web page*, and select the **"NAC Compatibility Document" link** *(Document #5403592)* for this information.
- The CA-6075 Class-A Expander may be installed to allow for Class A wiring of the NAC. The expander adheres to the same circuit rating, supervision and regulation as other circuits.

**NAC Maximum Wiring Impedance Formula**

The maximum impedance is a *function* of the *load* placed on the circuit. To calculate the maximum line current impedance, use the following formula:

(Alarm Current of Notification Appliances) x (Wire Resistance) < 3 Volts

NAC Class A & B Wiring Configurations

Examples of Class B and Class A wiring are shown below.

Figure 60. NAC Class B Wiring Example
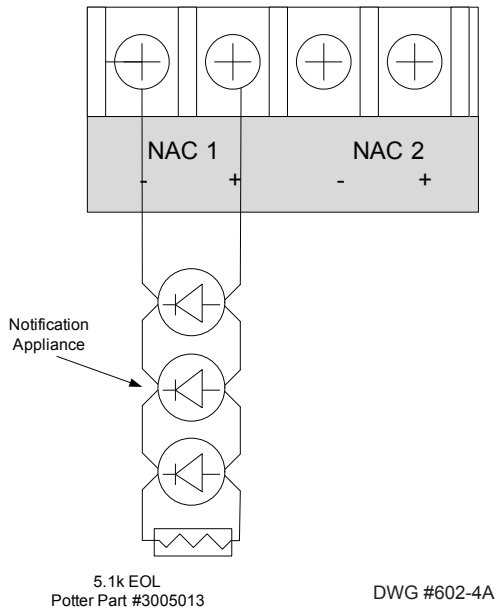
Notification Appliance

NAC 1
-    +

NAC 2
-    +

5.1k EOL
Potter Part #3005013

DWG #602-4A

Notes:
1. The part number for the listed end of line assembly is #3005013 EOL Resistor Assembly.
2. The panel has ground fault detection on the NAC circuits. The impedance to ground for ground fault detection is 0 ohms.

Figure 61. NAC Class A Wiring Example

NAC 1
-    +

NAC 2
-    +

NAC 1
-    +

NAC 2
-    +

Notification Appliance

DWG #602-5A
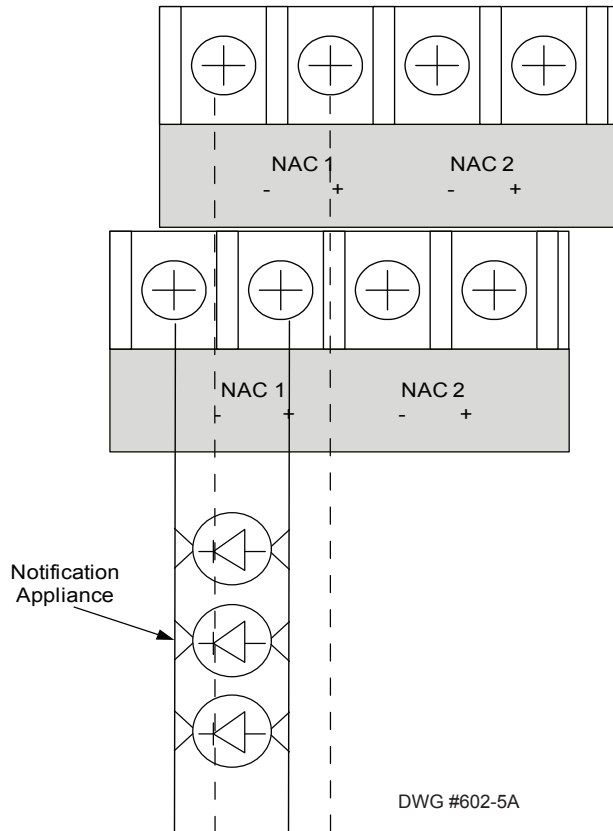
Note: The CA-6075 Class A expansion card is required to configure the NAC circuit as Class A.

NAC Wired as Releasing Device Circuit

The releasing device circuit is typically a NAC programmed to control a releasing device, such as a solenoid or squib. It is fully supervised and power limited. To view all <u>listed</u> releasing solenoid circuits, click the ***Releasing Solenoids*** document.

Figure 62. NAC Releasing Circuit Wiring with EOLD Assembly Example
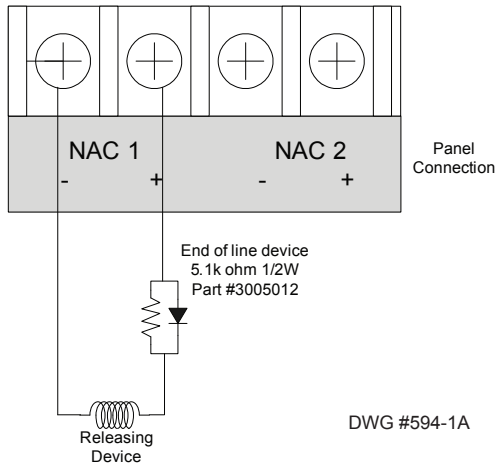
Notes:

1. When a NAC is configured as a releasing circuit, the End of Line Diode (EOLD) assembly must be installed. The EOLD part number is 3005012; it must be installed in accordance with the installation manual.

2. When the Control Panel is configured as a release system and installed according to appropriate codes and standards, the system **must** include a mechanical means to manually release the agent.

3. When the control panel is programmed for releasing, additional features are allowed specific to releasing.

Maximum Wire Impedance Formula

The maximum wiring impedance is a function of the load being applied. Calculate maximum resistance as follows:

(Total current of all connected devices) x (Wire resistance) <2.05 volts

3.6 I/O Circuits & Misc. Wiring Installation

The IPA-100 is equipped with two (2) I/O circuits that may be configured as either input or output devices. The panel has ground fault detection on the I/O circuits. The impedance to ground for ground fault detection is 0 ohms.

Notes:

1. To learn more about configuring I/O circuits, go to **Potter's on-line training videos:**

    ▶ **NAC Configuration** **and** ▶ **Input Configuration**

2. To learn more about configuring I/O circuits as a *Contact Input Alert function*, go to the following on-line training video:

    ▶ **Contact Input Alert**

3. To learn The I/O circuits **only operate as Class B**. Refer to the figure shown below for a wiring example of an I/O circuit configuration.

Figure 63. Example of I/O Circuit Wiring Example (Class B)
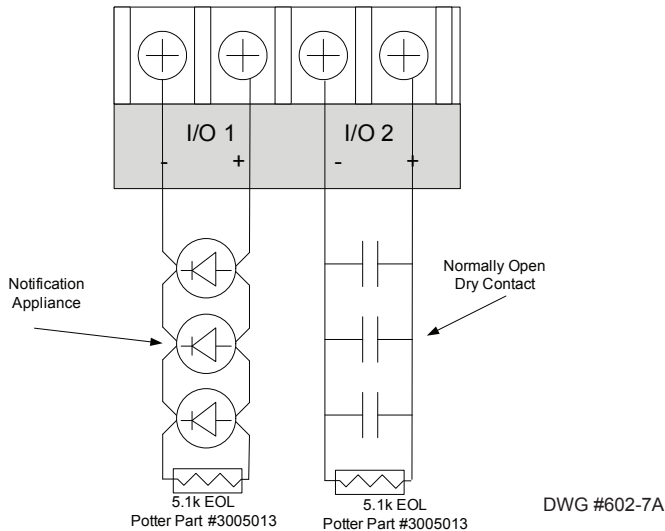
I/O Circuits as Inputs

When configured as inputs, the I/O circuits are used as a dry contact monitoring input, and are power limited and supervised.

Input Configuration Characteristics:

*   Maximum allowable wire length is 10,000 feet.
*   The selection of the contact input functions are the same as the contact input modules.

I/O Circuits as Outputs

When configured as outputs, each I/O circuit is rated for one (1) amp continuous current at 24 VDC.

Output Configuration Characteristics:

*   Supervised and regulated by the main panel board.
*   Reverse polarity upon activation.
*   Circuits are power limited.
*   I/O circuit synchronization protocol is selectable, and may be configured for AMSECO®, Wheelock®, Gentex®, System Sensor® or T4 option.

I/O Maximum Impedance Formula

The maximum impedance is a function of the load placed on the circuit. To calculate the maximum impedance, use the following formula:

(Alarm Current of Notification Appliances) x (Wire Resistance) < 3 Volts

Reverse Polarity Communication Line Circuit

Only I/O 1 – I/O 2 on the IPA-100 can be programmed as reverse polarity circuits. The short circuit current is rated at *24 VDC and 14 mA maximum*. Please refer to the figure below for an example of wiring a reverse polarity communication line circuit.

Figure 64. Reverse Polarity Communication Line Circuit Wiring
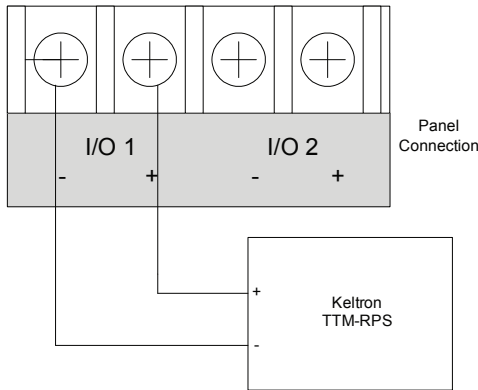
Note: IO circuit must configured as a Reverse Polarity circuit.

This connection is limited to same room installation . This connection shall be limited to 20 feet and enclosed in conduit or equivalently protected against mechanical injury .

DWG #602-8A

Notes:
1. The panel has ground fault detection on reverse polarity circuits; impedance to ground for ground fault detection is 0 ohms.
2. The short circuit current is power limited and supervised by a Keltron TTM-RPS transmitter module.
3. When configured for reverse polarity, the IPA-100 will indicate alarm and trouble events to a remote site.
4. The *Alarms override* trouble conditions.

Municipal Box Connection

When programmed as a municipal box connection, the circuit power is limited, supervised for open and short circuit conditions, and provides a local energy connection.

Figure 65. Municipal Box Wiring Example

End of line device
5.1k ohm 1/2W
Part #3005012
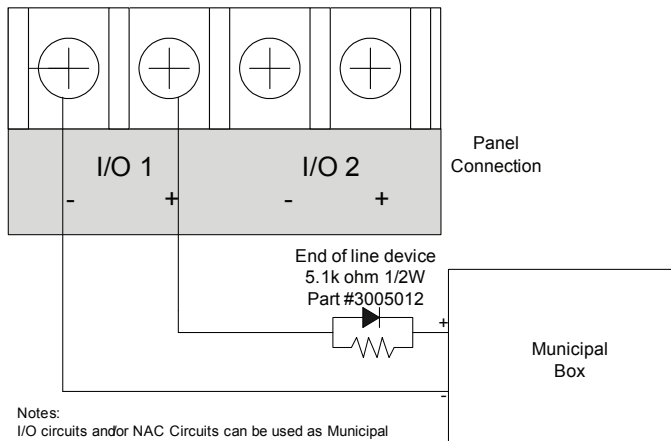
Municipal Box

Notes:
I/O circuits and/or NAC Circuits can be used as Municipal Box connection .

DWG #602-9A

The EOL device shall be installed in the same electrical enclosure as the Municipal Box.

Notes:
1. The trip current for NAC1–NAC2 is three (3) Amps, and one (1) Amp for I/O1–I/O2.
2. The maximum voltage rating is 24 VDC.
3. The panel has ground fault detection on municipal box connection circuits. The impedance to ground for ground fault detection is 0 ohms.

Relay Output Wiring

The panel has three (3) dedicated common relays. The dedicated trouble relay is a failsafe trouble relay that changes position anytime a trouble condition occurs.

> **Note:** Go to ***Potter's on-line training video*** to learn more about wiring relay output contacts.
>
> ▶ **Relay Output (Contacts)**

Relays have a contact rating of 24VDC / 3.0A, 125VAC / 3A, and Power Factor of 1.0. These outputs are *non-power limited* and *not supervised*.

> **Note**: If the power supply connected to the devices is power-limited, then the outputs are power limited.

Figure 66. Relay Outputs

TROUBLE			SUPERVISORY			ALARM		
NC	COM	NO	NC	COM	NO	NC	COM	NO
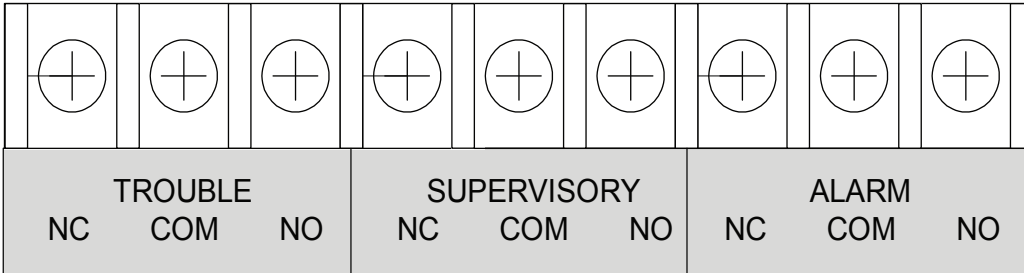
DWG #593-26

Section 4: Operation

This section provides an overview of the control panel's basic operations, which includes the status LEDs, function pushbuttons, LCD display and the numeric keypad. This section also contains a table on all **FACP Keypad Functions**, which describes each function. Refer to the **"FACP Keypad Functions"** *document* for step-by-step instructions on some of the keypad functions, such as *Set Date/Time, SLC PinPoint, SLC Stats, and Ethernet Status//IP Acct Status*.

> **Note:** The **IPA Control Panel Menu Tree reference sheet** may be printed to use as an aid in navigating the keypad's menu options.

Control Panel Basic Operation

The control panel is comprised of a two (2) line x 16-character LCD display panel, arrow keys, push button function keys, status LEDS, and the numeric keypad. A description of each component is included in this section; refer to the figure below for an example.

Figure 67. IPA-100 Control Panel Display
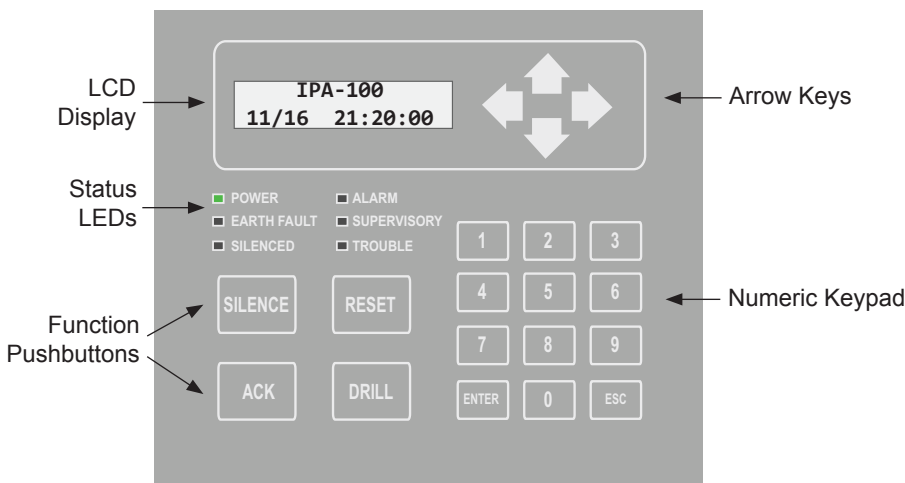
> **Note**: Authorized system operators must use a key to open the outer door of the cabinet.

LCD Display

The LCD panel displays the standard *Start-up menu* as shown below. The LCD displays up to 32 characters of information, providing important feedback to system users, *i.e., system messages, status information, trouble conditions, or input changes*. It also provides access to the Main Menu for daily system operations and specific programming functions, such as *"Walk Test," and "Pinpoint Details."*

Figure 68. LCD Start-Up Screen

> **Note**: You may customize the Start-up screen to display a specific job site name or other relevant descriptive text.

Menu Navigation Keys

The **arrow keys** allow you to scroll or move through the control panel menus. The **Enter** and **Esc** keys may also be used to navigate through menus; they are located on the numeric keypad. The table shown below provides a summary of the navigation keys.

Table 6: Menu Navigation Keys	
Push button	**Description**
	Moves/scrolls up or down through menus.
	Scrolls to the left or right to display details, if any, of current menu item. **Note:** When the LCD panel displays a LEFT and/or RIGHT arrow, this indicates more information may be viewed.
	Displays the Main Menu or selects the current menu option. **Note:** The blinking "➔" indicates the current menu option.
	Returns to previous menu or backs up to previous screen.

Numeric Keypad

The numeric keypad allows you to enter user codes when required to access restricted functions. Alternatively, the numbers may be used to quickly select menu options vs. using the *arrow* and *Enter keys* to select a function.

Figure 69. Control Panel Numeric Keypad

Function Pushbuttons

The four (4) function pushbuttons are used when system alarm / trouble conditions occur or to perform a fire drill.

Figure 70. Control Panel Pushbuttons

The table below provides a brief summary of the pushbuttons:

Table 7: Control Panel Pushbuttons	
Pushbutton	**Description**
ACK	Press to *acknowledge* the currently displayed condition.
SILENCE	Press to *silence* all outputs programmed as *silenceable* and buzzer.
RESET	Press to *reset* panel to *normal condition*.
DRILL	Press to begin a *fire drill*. • To learn how to <u>program</u> a fire drill zone, go to : ▶ **Programming a Fire Drill Zone** • Refer also to **Section 5: Programming Zones, Adding Points** in this manual to learn more about of these topics.

Status LEDs

The control panel's LEDs communicate system conditions by illuminating and/or flashing the applicable **green**, **red** or **amber** indicators. These are described in the table below.

Figure 71. Control Panel Status LEDs

Table 8: Status LEDs		
LED Type	**LED Color/Action(s)**	**Descriptions**
Power	Steady Green	Power is present. **Note:** If power is absent for more than 5 seconds, LED will extinguish.
Alarm	Flashing Red Steady Red	An alarm device is active. Alarm device is active and has been acknowledged at the FACP.
Pre-Release	Steady Amber	A releasing zone is in a Pre-discharge mode.
Release	Steady Red	A release condition is active.
Earth Fault	Flashing Amber	A ground fault is present.
Supervisory	Flashing Amber Steady Amber	A supervisory condition is present. Supervisory device is active and has been acknowledged at the FACP.
Silenced	Steady Amber	A fault condition has been silenced.
Trouble	Flashing Amber Steady Amber	A fault condition is present. Trouble device is active and has been acknowledged at the FACP.

FACP Keypad Operations

The FACP's keypad allows you to program and manage the FACP control panel's devices, modules, SLCs, and overall operations. All keypad functions are described in the table shown below and may be printed by accessing the *"FACP Keypad Functions"* document. The *"FACP Keypad Functions" document* also provides step-by-step instructions on many of these keypad functions.

Table 9: FACP Keypad Functions	
Menu Options	**Description**
1=View History	Displays panel's history events, such as system status messages, user logins, system power up, files transferred (uploaded/downloaded), etc.
2=Enable/Disable **Note:** The **Enable/Disable option** is **password protected** and may be accessed by authorized users only!	Allows detectors, modules or panel output circuits to be disabled. Includes the option to "*Disable by Point" or "Disable by Zone*." • *Disable by Point* is used to disable specific devices or circuits. • *Disable by Zone* may be used to disable a group of devices in a software zone. **Note:** Refer to the following on-line training video for more information on this function. ▶ **Disable & Enable Points**
3=Set Date/Time	Allows the panel's date and time to be changed.
4=Walk Test **Note:** The **Walk Test option** is **password protected** and may be accessed by authorized users only!	Walk Test is a convenient method to periodically test the fire alarm system. Multiple devices may be functionally tested without resetting the control panel after testing each device.

5=System Tools
 	
  1 = SLC Tools
  2 = Point Control
  3 = Ethernet Tools
  4 = DACT Test
  5 = DACT Reset
  6 = Erase History
  7 = Lamp Test
  8 = App Revisions
 	
Note: The **System Tools menu** is **password protected** and may be accessed by authorized users only!
	System Tools options allow you to monitor and manage the panel's SLC devices, Ethernet/IP connection setup, DACT information, and current software versions installed.
	
	1 = SLC Tools Options
	
	• *SLC Pinpoint* may be used to:
	  – Locate a device by activating its LED.
	  – View detector status and/or sensitivity information for a specific detector.
	  – Locate duplicate addresses which create *"Duplicate Trouble" conditions*.
	
	• *SLC Stats* is used to:
	  – Display device communication errors that occur whenever a device fails to respond when it's polled by the panel.
	  – Display the number of detected errors and the associated SLC device address.
	
	• *Clear Stats* may be used to clear/reset stats on all devices.

5=System Tools **2 = Point Control** *(Continued)*	**2 = Point Control** is used to manually activate specific detectors, modules and panel output circuits. • When activating an input device (*i.e., detector, monitor module*) the outputs associated with that device activates. • The LED associated with the input device does **not** activate.

Table 9: FACP Keypad Functions	
Menu Options	**Description**

5=System Tools *(cont'd)*
 	
    3 = Ethernet Tools
	3 = Ethernet Tools Options
	• *Ethernet Status* displays all Ethernet connection setup information, such as the panel/host name, IP address, Default Gateway address, etc.
	• *IP Acct Stats* displays the IP communication information between the control panel and the IP receiver.
	   – The number of packets sent from the panel's built-in IP communicator to the Central Station IP receiver displays.
	   – Detector status and/or sensitivity information for a specific detector displays.
	   – Packets that aren't received are recorded and display as "*dropped*."

5=System Tools
 	
    4 = DACT Test
    5 = DACT Reset
	4 = DACT Test is used to manually activate the panel's communicator to generate a ***"Test "signal*** to the ***Remote / Central Station receiver***.
	
	5 = DACT Reset is used to clear the buffer and abort any message the DACT is attempting to send. A power cycle does **not** occur.

5=System Tools
 	
    6 = Erase History
    7 = Lamp Test
	6 = Erase History allows all the events in the panel's History log to be cleared.
	
	7 = Lamp Test is used to test the LEDs on the LCD keypad (*i.e., Alarm, Supervisory, Silenced, Earth Ground, etc.*).

5=System Tools **8 = App Revisions**	**8 = App Revisions** displays the current software versions installed on the FACP and all modules.

6=Programming
 	
    1 = LEARN Menu
    2 = Panel Default
    3 = IP Settings
    4 = Dflt ID/Pswd
    5 = Prg ID/Pswd
 	
Note: The **Programming menu** is **password protected** and may be accessed by authorized users only!
	The **Programming menu options** are used to configure the panel, program devices, set up or change IP settings, and view/change panel and remote IDs and passwords.
	
	1 = LEARN Menu Option provides four (4) options to "*learn in*" **connected** and **addressed** devices, modules, SLCs, EOLs, and PSNs into the panel.
	• *LEARN All* learns in all devices, modules, SLCs, PSNs, etc.
	   Note: Choose this option to automatically configure the panel or after making any device change.
	• *EOL Learn* finds and learns in any EOL value that have been changed from the default 5.1K value for NAC circuits and PSN-1000s only!
	• *SLC Learn* is a shortcut option to learn in only SLCs installed since the last *"Learn All"* was completed.
	• *PSN Learn* is a shortcut option to learn in only PSNs installed since the last *"Learn All"* was completed.
	   Note: Refer to the *LEARN Programming on IPA Panels* document, **Section 5: LEARN Programming** in the "**IPA FACP Advanced Technical Field Installation & Programming Manual,"** and the following two (2) on-line training videos for more information on these topics.
	   ▶ **LEARN Programming Function** ▶ **Panel Start-Up**.

Table 9: FACP Keypad Functions	
Menu Options	**Description**
6=Programming **2 = Panel Default** *(Continued)*	**2 = Panel Default** allows the panel to be reset to the default settings.
6=Programming *(cont'd)* **3 = IP Settings (Ethernet)**	**3 = IP Settings** – These options are used to setup **Ethernet options** such as the IP settings used for IP communications, Email functions via the Internet connections and to allow data *(i.e., configuration file uploads/downloads)* to be transferred between the panel and the PC. **IMPORTANT NOTE!** These options are used only if the panel is connected to a Network and should only be assigned if instructed by the Network Administrator! • *DHCP Settings* are used to assign an IP address. • *Static IP* is used to assign a Static IP address. • *Subnet Mask* is used to assign a Subnet Mask IP address. • *Default Gateway* is used to assign a Default Gateway address. • *Alternate IP* is used to assign a Alternate IP address. • *Alt. Subnet* is used to assign a Alternate Subnet address. • *Default Gateway* is used to assign a Default Gateway address.

6=Programming
 	
   4 = Dflt ID/Pswd
   5 = Prg ID/Pswd
	4 = Dflt ID/Pswd is used to <u>reset</u> the programming software *user name / password* to the *default settings ("Potter" / "Potter")*.
	
	5 = Prg ID/Pswd is used to <u>change</u> the programming software *user name / password.*

7=Data Transfer
 	
   1 = Remote Access
   2 = Email Det Stat
   3 = Email History
   4 = Email Config
   5 = Email Test
   6 = Server Status
 	
Note: The **Data Transfer menu** is <u>**password protected**</u> and may be accessed by authorized users only!
	The **Data Transfer menu options** are used to provide remote access to a PC when needed to the panel for **data transfers** and **Email reporting** options.
	
	• *Remote Access* is used only for Networked panels to give access to a remote PC/annunciator to complete any of the data transfer options.
	
	• *Email Det Stat* is used to send a Detector Status report to one or more email addresses.
	
	• *Email History* is used to send a History report to one or more email addresses.
	
	• *Email Config* is used to send a Panel Configuration report to one or more email addresses.
	
	• *Email Test* is used to verify that the Email function is working.
	
	• *Server Status* checks status of *"POP3, "SMTP"* and *"NTP."*
	
	   Notes: To learn more about the *Data Transfer menu options*, refer to following topics located in *Section 5: Programming* of the *"IPA FACP Technical Field Installation & Programming Manual:"*
	
	   –Transferring Data, Uploading from Panel to the Computer, Downloading a Configuration File to the Panel and Email Functions.
	
	   Refer also to the following two (2) on-line training videos for more information:
	
	   ▶ **Remote Access** ▶ **Email Reporting**

Note: Refer to *"FACP Keypad Functions"* document for step-by-step instructions on many of these keypad functions!

IPA Panels Control Panel Menu Tree

This section provides a reference to menu options as they appear on the LCD panel. To print a copy of this menu tree, click the *IPA Control Panel Menu Tree* document link.

```
                              MAIN MENU
     ┌──────────────┬──────────────┬──────────────────┐
1=View History   2=Enable/Disable   3=Set Date/Time   4=Walk Test
                 ┌──────┴──────┐
             1=By Point     2=By Zone
                 │              │
          Select Device    Zone 1
          Internal SLC     1=Disable Inputs
          Internal PWR     2=Disable Outputs
```

```
                              MAIN MENU
     ┌──────────────┬──────────────┬──────────────────┐
5=System Tools   6=Programming   7=Data Transfer   ESC=Exit

5=System Tools:
1=SLC Tools
2=Point Control
3=Ethernet Tools
4=DACT Test
5=DACT Reset
6=Erase History
7=Lamp Test
8=App Revisions

  1=SLC Pinpoint
  2=SLC Stats
  3=Clear Stats
  ESC=Exit

  1=Ethernet Status
  2=IP Acct Stats
  ESC=Exit

6=Programming:
1=LEARN Menu
2=Panel Default
3=IP Settings
4=Dflt ID/Pswd
5=Prog ID/Pswd
ESC=Exit

7=Data Transfer:
Select Data
1=Remote Access
2=Email Det Stat
3=Email History
4=Email Config
5=Email Test
6=Server Status
ESC=Exit

  1=Username
  2=Password
  ESC=Exit

Programming
1=Learn All
2=EOL Learn
3=SLC Learn
4=PSN Learn
ESC=Exit

Ethernet Options
1=DHCP Settings
2=Static IP
3=Subnet Mask
4=Default Gateway
5=Alternate IP
6=Alt. Subnet
7=Alt. Gateway
```

TIP: To save time, enter the menu selection number on the keypad to select a function. For example, press "3" to select "Set Date/Time" from the Main Menu.

Section 5: Programming

This section provides an overview of the programming process, explains programming options and their parameters, and details on using the two programming methods: (1) the *LEARN* function, and (2) the **remote computer programming process**.

This section includes procedures on using the **panel configuration software** to upload and download configuration data between the panel and a remote PC, program zones, points and optional modules (*i.e., DACT, remote annunciators and a Class A card*), as well as adjust general panel settings, such as the system clock, day/night mode sensitivity settings, and display history or status events.

Programming Options

NOTICE
To users, installers, authorities having jurisdiction, and other involved parties: This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.

Table 10: Programming Options					
Topic	**Feature or Option**	**Permitted in UL (Y/N)**	**Possible Settings**	**Setting(s) Permitted in UL864?**	**Comment**
Misc	Idle LCD Message	Y	Yes/No	All Settings Allowed	
Misc	Display Events	Y	Initial Event Newest Event	Initial Event	Auto display of first event
Misc	SLC Blink	Y	Normal/Slow/Off	All Settings Allowed	
Misc	Alarm Verification Time	Y	0-60 Sec	All Settings Allowed	
Misc	Waterflow Delay	Y	0-255 Sec	0–90 Sec	
Misc	AC Report Delay	Y	30 Minutes to 30 Hours	1–3 Hours	For UL864 use 1-3 Hr
Misc	DH Low AC Dropout Delay	Y	No delay, 15 sec, 1 minute, 5 minute	All Settings Allowed	
Misc	Autotest Time	Y	Time of Day	All Settings Allowed	
Misc	Autotest Interval	Y	1-24 Hours	All Settings Allowed	
Misc	Strobes Active When Silenced	Y	Yes/No	All Settings Allowed	
Misc	50 Hz AC	Y	Yes/No	All Settings Allowed	
Misc	CO Tone on Annunciators	Y	Yes/No	All Settings Allowed	
Misc	Low Temp Events Are Supervised	Y	Yes/No	All Settings Allowed	
Misc	Display AM/PM	Y	AM/PM, 24 Hour	All Settings Allowed	
Misc	SNTP Server	Y	North-America.Pool.NTP.org	All Settings Allowed	
Misc	Time Zone	Y	24 Time Zone Selections	All Settings Allowed	

**Table 10: Programming Options**
Topic	**Feature or Option**	**Permitted in UL (Y/N)**	**Possible Settings**	**Setting(s) Permitted in UL864?**	**Comment**
Misc	DST Enabled	Y	Yes/No	All Settings Allowed	
Misc	DST Start	Y	Month/Day	All Settings Allowed	
Misc	DST End	Y	Month/Day	All Settings Allowed	
Zone	Zone	Y	Alarm Supervisory PAS Auxiliary Releasing Fire Drill Waterflow Alert System Alarm System Supervisory System Trouble CO Alarm CO Supervisory	All Settings Allowed	
Zone	Alarm Count	Y	1-10	All Settings Allowed	
Zone	Silenceable	Y	Yes/No	All Settings Allowed	
Zone	Silence Inhibit	Y	Yes/No	All Settings Allowed	
Zone	Auto Silence	Y	Yes/No	All Settings Allowed	
Zone	Auto Unsilence	Y	Yes/No	All Settings Allowed	
Zone	Restore Delay	Y	0-300 Sec	Full range allowed	
Zone	Latching	Y	Yes/No	All Settings Allowed	
Zone	Local	Y	Yes/No	All Settings Allowed	
Zone	Output Pattern	Y	Constant ANSI Temp 3 March Code Double Time ANSI Temp 4	All Settings Allowed	
Zone	Day Sensitivity	Y	1.1%-3.5%	Full range allowed	Within listed range of sensor
Zone	Night Sensitivity	Y	1.1%-3.5%	Full range allowed	Within listed range of sensor
Zone	Heat Setting	Y	135˚F-185˚F	Full range allowed	Within listed range of sensor
Zone	Low Temp Heat Sens	Y	0˚F-135˚F	Full range allowed	
Zone	Enable PAD100 ROR	Y	Yes/No	All Settings Allowed	
Zone	Combo ROR/Fixed Setting	Y	135˚F-174˚F	All Settings Allowed	Within listed range of sensor
Releasing	Abort Type	Y	ULI, IRI, AHJ, NYC	ULI	
Releasing	Pre-Release Timer	Y	0-60 Sec	Full range allowed	Length of time of pre-release
Releasing	Pre-Release Pattern	Y	Constant ANSI Temp 3 March Code Double Time ANSI Temp 4	All Settings Allowed	Pattern from NAC during Pre-Release

			Table 10: Programming Options		
Topic	**Feature or Option**	**Permitted in UL (Y/N)**	**Possible Settings**	**Setting(s) Permitted in UL864?**	**Comment**
Releasing	Manual Release Timer	Y	0-30 Sec	Full range Allowed	Length of time of Pre-Release
Releasing	Manual Release Abort Allowed	Y	Yes/No	All Settings Allowed	Specifies whether Manual Release is Cancellable
Releasing	Soak Time	Y	0-20 Minutes	Full range Allowed	Length of time the release circuit is active post release
SLC Point	Type PAD Protocol	Y	Photo Detector (PAD100-PD) Fixed Heat Detector (PAD100-HD) CO Detector (PAD100-CD) Combination Photo/Heat Detector (PAD100-PHD) Duct Detector (PAD100-DUCT) Duct Detector w/Relay (PAD100-DUCTR) Duct Detector Remote Test Switch (PAD100-DRTS) Duct Remote LED Indicator (MS-RA) Duct LED w/Test Switch (MSKA/P/R) Mini Input Module (PAD100-MIM) Speaker Module (PAD100-SM) Pull Station Module Single Action (PAD100-PSSA) Pull Station Module Dual Action (PAD100-PSDA) Relay Module (PAD100-RM) Notification Appliance Circuit (PAD100-NAC) Twin Relay & Twin Input (PAD100-TRTI) Double Input Module (PAD100-DIM) One Relay & One Input (PAD100-OROI) Zone Module (PAD100-ZM) Remote LED (PAD100-LED) Remote LED w/Key (PAD100-LEDK) Single Input Module (PAD100-SIM)	All Settings Allowed	Specifies use/type of SLC device for PAD Protocol
SLC Point	Function PAD Protocol	Y	Sensor Only Sensor with Sound Base (PAD100-SB) Sensor with Relay Base (PAD100-RB) Sensor with Duct Relay Addr Relay General Purpose Addr Relay Zone Trouble Addr Relay HVAC Shutdown Addr Relay Reset Followers Addr NAC General Purpose Addr NAC Release Solenoid Addr Zone Module General Purpose Output Zone Trouble Output	All Settings Allowed	Specifies use/type of SLC device for PAD Protocol

Table 10: Programming Options					
Topic	Feature or Option	Permitted in UL (Y/N)	Possible Settings	Setting(s) Permitted in UL864?	Comment
SLC Point	Function Nohmi Protocol	Y	Photo Detector (PSA) Photo Duct Detector (DSA) Photo/Heat Detector (PSHA) Fixed Heat Detector (FHA) Combination Fixed / ROR Heat Detector (RHA) Conv. Zone Module (CIZM) Mini Contact Mod (MCM) Single Contact Mod (SCM) Dual Contact Mod (DCM) Mon. Output Mod (MOM) Twin Relay Module (TRM) Sounder Base (ASB) Relay Base (ARB)	All Settings Allowed	Specifies use/type of SLC device for Nohmi Protocol
SLC Point	Dry Contact Input Functions PAD and Nohmi Protocol	Y	Pull Station Water Flow Supervisory Tamper Fire Drill Trouble Monitor Aux Abort Release Follower Reset Silence Fire Alarm Disable Inputs Disable Outputs Disable Inputs and Outputs Lamp Test CO Alarm CO Supervisory HVAC Reset Medical Alert Tornado Alert Process Alert Security Alert	All Settings Allowed	Applies to all dry-contact input devices and circuits
SLC Point	Alarm Verif	Y	Yes/No	All Settings Allowed	
SLC Point	Supervisory	Y	Yes/No	All Settings Allowed	
NACs	Function	Y	General Purpose AMSECO Sync Gentex Sync Gentex Sync with T4 System Sensor Sync Wheelock Sync Constant Output Resettable Output Door Holder Output ANSI Output City Tie Output Release Solenoid Output Sounder Base Power	All Settings Allowed	Specifies use of NAC circuit(s)
Day/Night	Smoke Sensitivity	Y	Full listed range of smoke detector	All Settings Allowed	Up to 50 holidays where day mode is not active

Table 10: Programming Options					
Topic	**Feature or Option**	**Permitted in UL (Y/N)**	**Possible Settings**	**Setting(s) Permitted in UL864?**	**Comment**
DACT	Daily Test Call	Y	Any time of day	All Settings Allowed	Alternates between line 1 and 2 if line 2 is enabled
Email	Email Status Reports	N	Alarms, Troubles, Supervisory Test, History & Status Reports		
IP-Dialer	IP Based Central Station Reporting	Y	Alarms, Supervisory, Trouble & Test Reports	All Settings Allowed	

Programming Overview

There are two ways to program the FACP: (1) the *LEARN* function, and (2) the **remote computer panel software**.

The *LEARN* function is accessed through the control panel, and is an efficient way to automatically configure all system devices. *LEARN* detects all connected, addressed devices, assigns a name and selects the applicable device type (*i.e., module, sensor or P-Link device)*. The system configuration mirrors a basic fire protection system where all inputs and outputs are a one-to-one relationship.

The **panel's programming software** allows custom programming and configuration for all points via a network or remote computer. At the click of a mouse, you may fine-tune device behavior characteristics or create mapping zones for a more sophisticated fire protection system. By using the system software, you will realize the power and flexibility of the IPA-100 system. *(Please refer to "Panel Software Overview" and "Mapping Zones Overview" topic headings later in this section for details on these procedures.)*

The Programming Cycle

The following steps are recommended to programming the system:

1. Install Software (*required*)
2. Register the Software (*required*)
3. Address and Install SLCs & P-Link Modules
4. Run LEARN
5. Connect Ethernet Cable
6. Upload Data to Computer
7. Program the System
8. Download Configuration File

Notes:

- Steps 1 & 2 are **not** optional! By following the recommended programming steps, programming errors may be eliminated.
- To learn more about the entire panel start-up/programming cycle, go to *Potter's on-line training video*.

   ▶ **Panel Start-Up**

Software Installation

Potter's programming software is compatible with all versions of Windows and requires the latest version of Microsoft .NET Framework. It incorporates conventional shortcuts and features (*i.e., drag and drop, right click to display short cut menus, etc.*). The software's flexibility enables you to effectively program individual and/or groups of devices.

To install and register the software:

- Click the ***Potter's Programming Software website link***.
- Locate the applicable ***IPA software*** to download, and click one of the following options: 💾 Installer | 📄 Zip Package
  - **Use "Installer" to download software to remote PC. Program is accessible once download is complete.**
  - **Use "Zip Package" to download the software in a zipped file. Program must be unzipped (or decompressed) before the program can be used.**
- Click the **executable file** and follow the **"***Welcome to the Potter Fire Panel (Update Utility) Setup Wizard***" steps.**
  - The default installation directory is: ***C:\ProgramFiles (x86)\Potter\Potter Fire Panel (Update Utility.)*** You may change the location of the application files, if needed.
  - Continue following the **Wizard steps** until the software is successfully installed.
  - The software automatically creates a **program shortcut icon** on the desktop for convenience.
- Register via the ***PotterLink software license website*** prior to programming.
  - To learn how to register your software, click this ***"PotterLink Software License Registration Instructions"*** *document link* and/or watch ***Potter's on-line training video*** on this topic.

     ▶ **PotterLink Registration**

  - Click the ***"PotterLink Dealer Admin Quick Start"*** *document link* to learn how to add a new user. Refer to the ***"PotterLink Software - Managing Registered Computers & Users"*** *document* for instructions on managing the computers and users.

LEARN Programming

The *LEARN mode* enables you to efficiently program all connected, addressed input / output detectors. Only authorized users may access this function, and the programming user code is required. To print out the "*LEARN Programming on IPA Panels*" instructions shown below, click the ***"LEARN Programming on IPA Panels"*** *link*.

LEARN generates a list of all points, which may be viewed through the Points and Zones functions on a remote computer.

Notes:

1. To learn more about using the LEARN feature, go to ***Potter's on-line training video.*** Please note that this video shows a PFC-6000 series panel and menu options are different.

   ▶ **LEARN Programming Function**

2. For information on addressing PAD protocol detectors and modules, refer to **"Section 3: Installation – Addressing PAD Protocol Detectors"** for detailed instructions or click the ***"Addressing PAD Detectors & Modules"*** *link*.

3. For information on addressing Nohmi protocol detectors, click the ***"Nohmi Protocol – Addressing, Installing and Wiring Detectors & Modules"*** *link*.

To run the LEARN function:

1. From the control panel, press the **ENTER button.** The *Main Menu* displays.

   - Press **6** to select **Programming**. The *"Enter Code" prompt* displays.
   - Enter the *user code;* the default code = **"1111."**
     The *Programming menu* displays.
   - Press **1** to select the **LEARN Menu**, then choose <u>one</u> of the following *LEARN options* as described below:

```
Main Menu
1=View History
2=Enable/Disable
3=Set Date/Time
4=Walk Test
5=System Tools
6=Programming
    1=LEARN Menu
       1=Learn All
       2=EOL Learn
       3=SLC Learn
       4=PSN Learn
       ESC=Exit
```

Table 11: Learn Menu Options	
Option	**Description**
1=Learn All	Choose this option to initially set up the panel to *"learn in"* all connected and addressed (*as required*) devices *(including detectors, modules, SLCs, EOLs, PSNs, etc.)* into the panel.
	Note: The *"Learn All"* option requires the most processing time since the program searches and detects all devices.
2=EOL Learn	Choose this option to *"learn in"* any EOL values that have been changed on NAC circuits and PSN-1000s from the default 5.1K value.
3=SLC Learn	Choose this option to *"learn in"* only SLC devices installed since the last *"Learn All"* was completed.
4=PSN Learn	Choose this option to *"learn in"* PSN-1000 power supplies installed since the last *"Learn All"* was completed.
	Note: When this option is used, the EOLs on this power supply have not been learned. Choose the *"EOL Learn" option* next to *"learn in"* the EOLs. This is required when the standard 5.1K ohm resistor isn't used.
ESC=Exit	Press to return to the Main Menu.

   - Once a *LEARN option* is selected, the *"SLC Initializing" prompt* displays, and the system begins the initialization process.

2. Results are grouped by **device type**. If no changes are detected, *"No changes"* displays.

   - Use the do**wn arrow** to scroll through results by device type:

     1=P-Link Found
     2=P-Link Removed   **Note: The "Pts" abbreviation refers to addressable SLC points.**
     3=Pts Found *(Pts = Points)*
     4=Pts Removed
     5=Pts Changed
     Esc=Exit

   - Press **Esc** when finished reviewing results. Press **Esc** again to exit the **Programming menu**. The system prompts to save or discard changes.

3. Press **1** to **save** changes; press **2** to **discard** changes.

   - If option **1** is selected, the *"Accept confirmation" prompt* displays.   **Note: If changes are saved, the system automatically restarts.**
   - Press **Enter** to accept or **Esc** to discard.   **If the changes are discarded, the system returns to the Main Menu.**

Connecting the Computer and Panel

This section provides instructions on setting up connectivity between a PC/computer and the control panel, referred to as *"direct connect."* After completing this process, you may program your system using the panel configuration software.

> **Note**: These instructions are relevant to all system configurations. If your PC is networked, any procedural differences are noted throughout. To print out the "*direct connect*" instructions only, click the ***"Direct Connect Panel to PC & Panel Setup"*** *link*.

Connecting a Computer directly to the Panel:

1. Connect the computer to the panel with a standard Ethernet patch cable via the **Ethernet port.**

> **Note**: If the panel is networked, connect your computer to the Network to program it.

Figure 72. Control Panel Ethernet Port

Programming "P-Comm"
Ethernet port.

Note: "Green" & "Yellow" LEDs
on "P-Comm" illuminate when
the laptop's Ethernet cable is
plugged into the P-Comm port.

SLC Program
Terminals

DWG #593-21
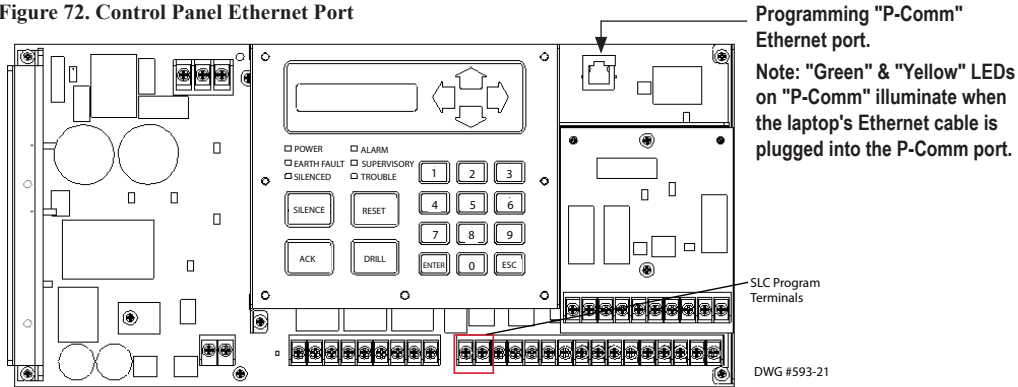
2. The following series of messages display on the LCD:

IPA-100
Obtaining IP

Displays for approximately
15-20 seconds.

IPA-100
Private IP

Displays only on direct
connect panels!
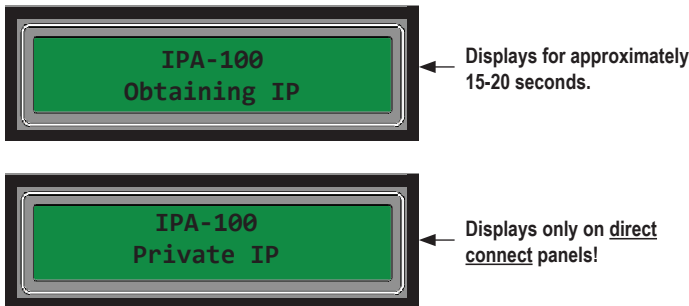
Notes for Networked Panels Only:

• If your panel is ***networked***, you'll see an *"Initializing IP" message* before the *"Obtaining IP" message*.

• The *"Private IP" message* does **not** display on networked panels; it displays only if your panel is ***directly connected*** to your PC.

3. The *"IP address"* and "*IP configured*" prompts display alternatively for approximately 30 seconds until the configuration is completed.

IP address
169.254.150.70

IPA-100
IP Configured
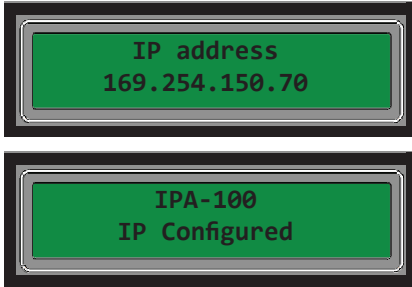
This is the <u>Private IP address</u> for panels <u>directly connected</u> to the PC!

Important Note!
If the Installer assigns a "<u>static</u>" IP address to the panel, the panel uses the "<u>static</u>" IP address even if the panel is directly connected to the PC.

Notes:

- **Write down the IP address!** If your PC is directly connected to the panel, use the **Private IP address** shown above *("169.254.150.70")* <u>unless</u> the Installer assigned a *"static" IP address.*

- **The IP address is <u>required</u>** to transfer programming data between the panel and the computer.

- **For panels connected to a network only:**

  – If the IP address is assigned by your Network Administrator! **Do NOT** change it without consulting with the Network Administrator!

  – If Ethernet connectivity is lost, the message *"Ethernet Lost"* displays. This indicates that the Ethernet cable is disconnected at the panel or network (computer) port.

Transferring Data

This section provides step-by-step instructions for uploading and downloading configuration files. The five (5) **"Transfer" icons** are located at the top of the **Programmer window** next to the **"Print"** and **"Export" icons.** The table below briefly describes the *Transfer icons* only.

Note: For information on **<u>printing</u>** *History or Detector Status reports* and others, such as a *Points List or Zones List reports*, refer to *"5.5 Printing Reports"* topic located later in this section.

Table 12: Transfer Functions	
Icons	**Description**
	Downloads *configuration file* from computer to panel.
	Uploads *configuration file* from panel to computer.
	Uploads *History (events) file* from panel to computer.
	Uploads *Detector (sensitivity) Status file* from panel to computer.
	Clears *DCR errors*. The *"DCR error"* occurs when an non-protected detector or module is installed on a panel that is in the *"Protected mode."* The *"Protected mode" option* is set through the *"General Options"* programming function. Refer to *"Table 14"* located in the **"General Options" heading** for details. **Note:** Refer to the **Potter on-line training video** on this topic to learn more about this topic. ▶ **Protect Mode & DCR Errors**

The **Transfers section** displays at the bottom of the programmer software window at all times. The **Transfers window** size can be adjusted when needed to display more information in other windows, such as the *"Zones" or "Points" windows,* and lists all completed transfers. This region displays transfer details, including their date and time.

Figure 73. Example of Programming Window Showing Transfer Icons and Transfer Section

Double-click to open a specific transfer file.

Transfer files display type, status, time & date, etc. of transfer.

The "Transfers" section displays uploads / downloads between the panel and remote computer plus history / detector status information.
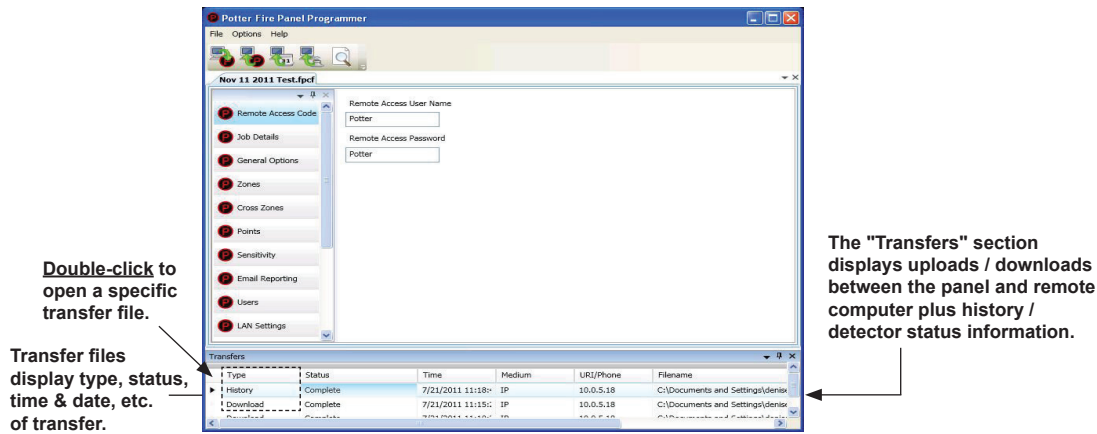
Notes:

- To **open** a specific transfer file, double-click on the *"Transfer" type (i.e., History, Status, etc.).*

- To learn about software shortcuts, go to the following on-line training video.

  ▶ **Software Shortcuts**

Uploading from Panel to Computer

The ▣ **Upload Configuration File to Computer transfer icon** is used to upload the configuration or programming file from the panel to the computer. This is done after the LEARN function is completed or whenever devices are added or removed from the panel.

Note: To learn more on transferring data between the panel and computer, go to *Potter's on-line training video*.

  ▶ **Panel Start Up**

*To **upload** the programming file to the computer:*

1. Click the ▣ **icon.** The **Transfer dialog box** displays as shown below.

   Figure 74. Example of Transfer Upload Dialog Box

   Verify that "Upload" is selected here.
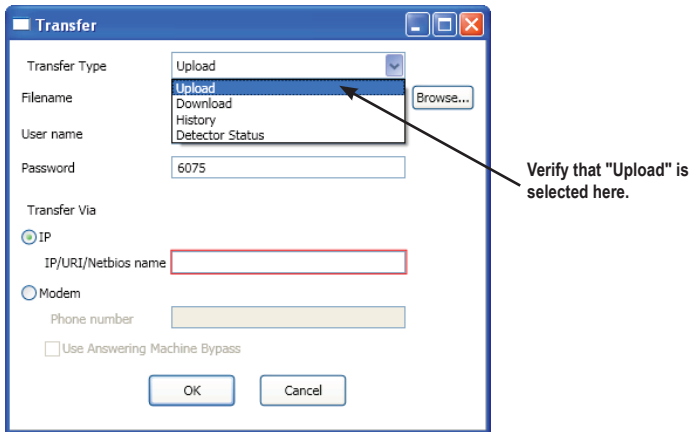
2. Verify that **Upload** is selected in the *"Transfer Type" field.*

3. Enter a **configuration filename** in the *"Filename" field* or **leave the filename blank** to have the panel assign a name.

Figure 75. Example of Transfer – Upload Window

To lookup the panel's IP address or panel name, refer to "Lookup Panel's IP" which follows this topic.
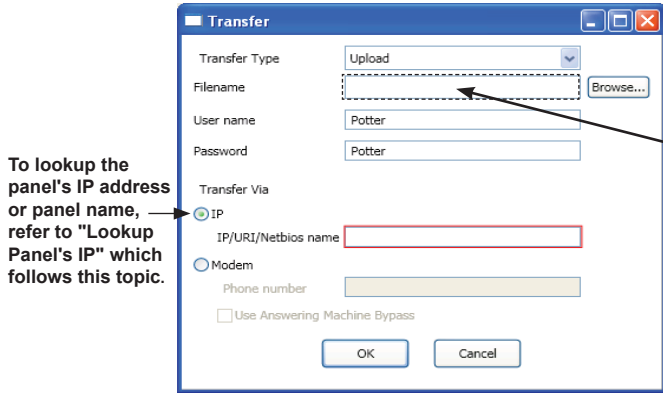
You have 2 options for <u>naming</u> an upload transfer file:
1. **Enter a descriptive name.**
2. **Let the panel create a filename comprised of the <u>date</u>, <u>time</u> and <u>type</u> of transfer by leaving the field blank.**

   For example:

   "Config 2015-11-15 15-36-03-11.vcf" represents an uploaded configuration file on 11-15-2015, at 3:36 p.m. (15-36-03-11 time stamp is shown in 24-hrour / military time and includes seconds, and miliseconds.

4. Enter an **IP address** or **panel name** in the *"Transfer Via IP" field.*

   Notes:
   - If you are unsure of your panel's **IP address**, refer to the *"Lookup Panel's IP" document* link.
   - If you are connecting via a modem, please refer to **"Appendix B: Modem Connectivity Setup."**

5. Click **OK.** The **Transfers region** displays the uploaded file.

   Note: All transfer files are <u>saved</u> to a *default file location on your computer.* Refer to **"Lookup File Default"** instructions in this section to learn how to view and/or change the default file location.

Figure 76. Example of Transfers Upload Results

Type	Status	Time	Medium	URI/Phone	Filename
Upload	Complete	05/09/2016 04:38	IP	10.0.5.54	C:\Users\terryg\Documents\Config 2016-05-09 16-38-35-34.fpcf

- The *configuration file* includes all devices detected during the LEARN process, which are uploaded to the PC's configuration software. Additional programming of these devices may be performed using the panel programming software.
- Refer to the *"Section 5.1 – Programming Points" heading* to learn about configuring points.

Lookup Panel's IP & Name

To lookup your panel's IP and/or name:

1. At control panel, press **ENTER** to display the **Main Menu**.
2. Press **5** to access **System Tools**.
3. The **"ENTER CODE" prompt** displays. Enter the user code to continue *(default user code = "1111")*.
4. Press **3** to select **Ethernet Tools.**
5. Press **1 – Ethernet Status** to view panel's information as shown below:

   - **Host Name = Panel's Name** *(Example: IPA400000001128, <u>write</u> down actual name)*
   - **MAC =** *(Example: 00-50-B2-AB-32-34)*
   - **Subnet Mask =** *(Example: 00-50-B2-AB-32-34)*
   - **IP Address = 169.254.150.70** *(<u>Write</u> down this number!)*
     Important Notes!
     – This is the *<u>default</u> IP address* for panels **directly** **connected** to the PC!
     – The Installer may change the default IP address to a *"static" IP address*! If so, the panel uses the **assigned** *"static" IP address*!
     – If your panel is **connected** to a **network**, the IP address may be assigned via the DHCP or may be assigned by your Network Administrator! Do **NOT** change it without consulting with the Network Administrator!

6. Press **ESC** until the **Main Menu** displays. To print out these instructions, click the *"Lookup Panel's IP"* **link**.

```
Main Menu
1=View History
2=Enable/Disable
3=Set Date/Time
4=Walk Test
5=System Tools
        3=Ethernet Tools
            1=Ethernet Status
```

Lookup Default File Location

To lookup and/or change your panel's default file location:

1. From the programming software, select the *"Options – Preferences" menu option*.

<div align="center">Figure 77. Example of Options – Preferences Dialog Box</div>

The "<u>default</u>" file folder is shown here. You may change the default, if wanted.

Note: See "Tool Tips" for more information on this option.

Click this button if you want to view folders on your PC and change default location.
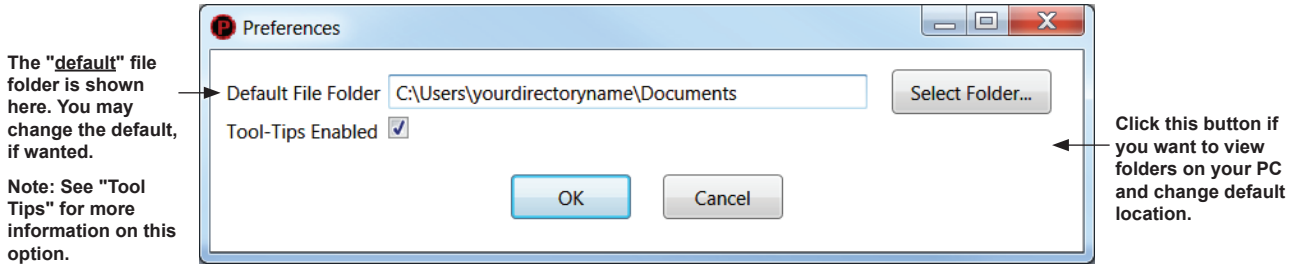
2. Click in the *"Default File Folder" field* to change location, if wanted. You may alternatively use the *"Select Folder" button* to locate a new default file location.

3. Click in the *"Tool-Tips Enabled" selection box* to enable/disable the programming tips. *Refer to the "Tool Tips" topic covered later in this section for details.*

   Note: *Tool Tips* display additional information about programming fields whenever the mouse is hovered over the field.

4. Click *OK* to save changes.

Downloading a Configuration File to Panel

The **Download Configuration File to Panel icon** allows you to download the configuration file from the computer to the panel. There are two steps in successfully completing this function:

1. Choose *"Enable Remote Access"* at the panel if downloading to the panel through a network, otherwise the panel will not allow the program to be downloaded.

   Notes:
   • If your PC is **directly** connected to the panel versus a network, this step is **not** necessary.

   • Verify that the *Remote User Name and Password* match the panel's user name and password. If they don't match, an error message displays and the download will not be completed.

2. Click the icon, then click **OK** to begin download. *(See "Procedure to Download a Configuration File" on the next page for detailed steps.)*

Enable Remote Access (For Panels <u>Connected</u> to <u>Network</u> only!)

To enable remote access:

1. At control panel, press **ENTER** to display the **Main Menu**.

2. Press **7** to select **Data Transfer**.

3. The **"ENTER CODE"** prompt displays. Enter the *user code* to continue.

4. The **Select Data option** displays. Press **1** to select **Remote Access.**

5. Press **ESC** to return to **Main Menu.**

   Note: Once enabled, the remote access will *"time out"* after thirty (30) minutes if contact is not established.
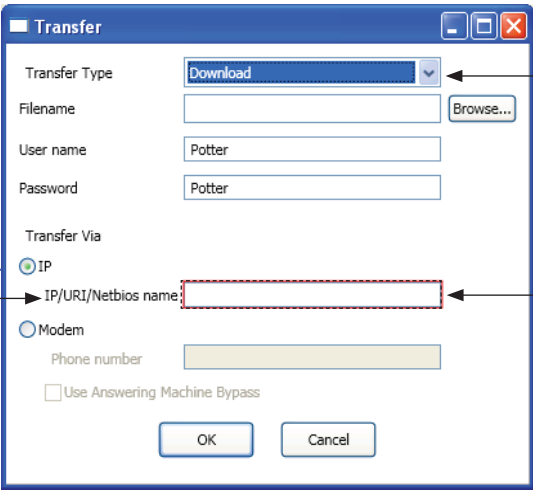
```
Main Menu
1=View History
2=Enable/Disable
3=Set Date/Time
4=Walk Test
5=System Tools
6=Programming
7=Data Transfer
        1=Remote Access
```

Procedure to Download a Configuration File

To <u>download</u> the configuration file:

1. Click the [icon] **icon.** The **Transfer dialog box** displays.

Figure 78. Example of Transfer Download Dialog Box

Verify that "Download" is selected here.

If your panel is <u>directly</u> connected to your PC, use the default IP address shown here:

169.254.150.70

Important Notes!

*   If the Installer changed the default IP address to a "static" IP address, use <u>that</u> assigned "static" IP address.
*   If your panel is <u>connected</u> to a <u>Network</u>, you must lookup your panel's IP address!

Click the "<u>Lookup Panel's IP and Name</u>" **link** for steps to verify the IP address.

2. Verify that **Download** is selected in the *"Transfer Type" field.*

3. The **configuration filename** automatically displays in the *"Filename" field.*

4. Enter the **IP address** in the *"Transfer Via IP" field*. Look up the IP address, if necessary!

5. Click **OK.** The **Transfers region** displays the downloaded file.

Figure 79. Example of Transfers Window Showing Download Completed

Note: To learn more on transferring data between the panel and computer, go to *Potter's on-line training video*.

[▶] **Panel Start Up**

File New

The ***File New menu option*** is used to complete <u>all</u> programming from scratch on the computer. You <u>must</u> select the correct panel model prior to programming.

>   **Note**: It is imperative that you choose the correct panel model **<u>prior</u>** to programming, otherwise, you cannot complete a successful download to the panel.

Figure 80. Example of File New Dialog Box
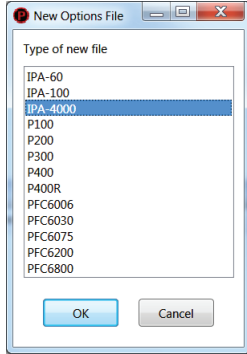
File Save / Save As

Once programming has been completed, save the configuration file using either the ***"File – Save" or "File – Save As" function***.

Figure 81. Example of "Save Panel File" Dialog Box
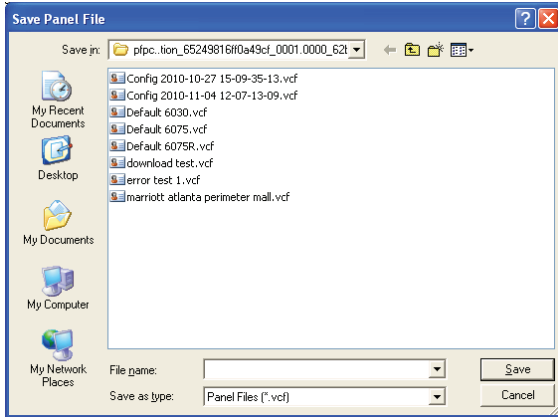
>   **Notes**:
>   1.   All site specific configuration data is stored in the panel's non-volatile memory.
>   2.   The next time programming changes are made, the original configuration file may be overridden with the changes. When this is done, the original programming report information is lost.
>   3.   The panel configuration file has a *.vcf file extension*.

Audit Errors

Audit errors are identified with *"pink" highlighting*, plus the cause for the error displays when the mouse is hovered over it. All errors should be corrected before saving; however, if you choose to save the file with errors, it cannot be downloaded.

Figure 82. Example of the "Audit Errors - Save anyway?" Dialog Box
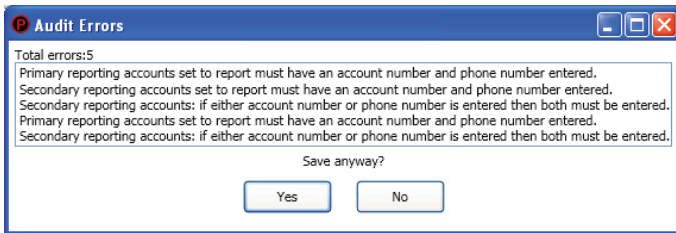
Panel Software Overview

This topic addresses how to navigate through the *Panel Configuration Software* and explains the purpose of Tool Tips.

Window Regions Overview

When a ***menu function* (***i.e., Remote Access Code, Job Details, Zones, etc.)*** is selected from the **Panel options** located on the left, the applicable information displays on the right. Several examples shown below illustrate this operation. Use the scroll bar or click on a menu option to display the applicable menu window on the right.

Figure 83. Examples of Panel Software Programming Window Showing "Remote Access Code" and "Job Details' Functions
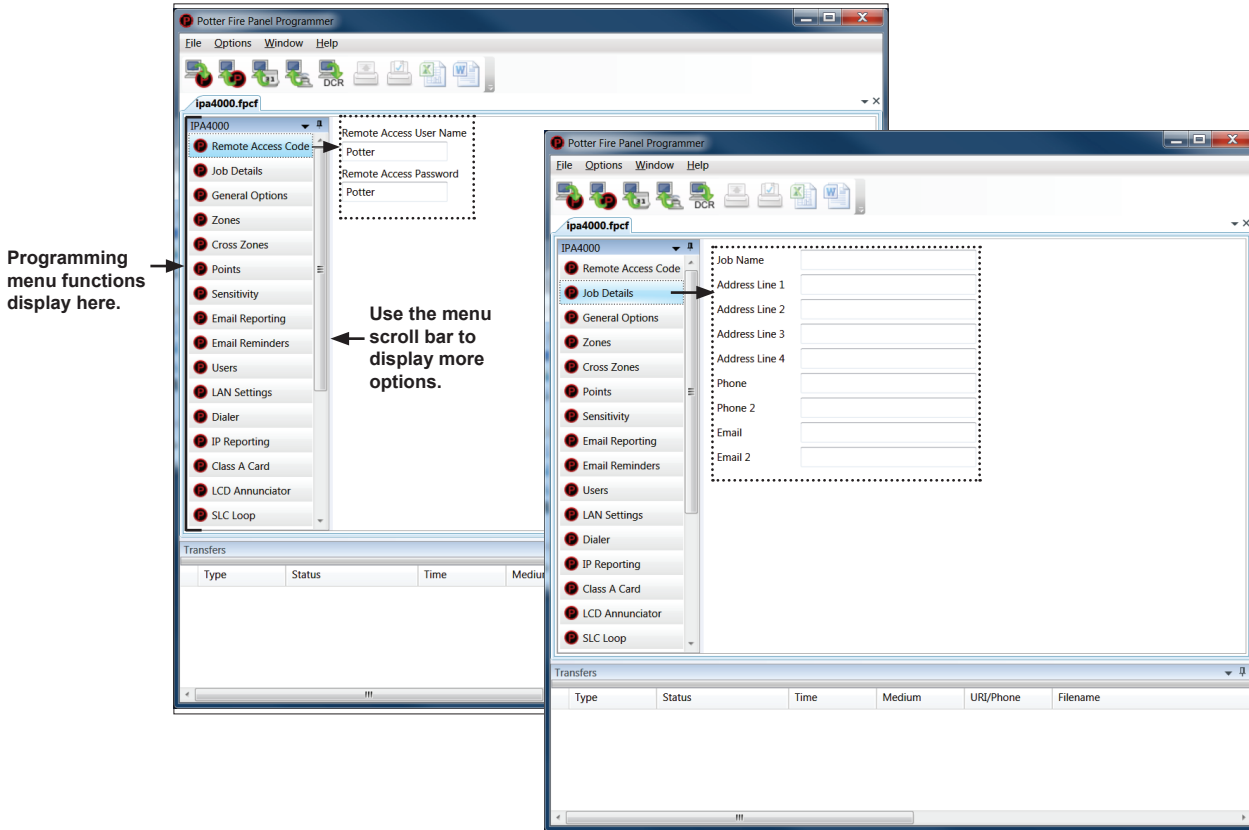
Tool Tips

"Tool Tips" display when the mouse is hovered over a field to aid the installer in programming the panel. For example, when the mouse is hovered in the ***"System Idle Message" field*** located on the ***General Options*** programming window, it displays the tip shown below:

Figure 84. Example of "Tool Tips" on General Options Window
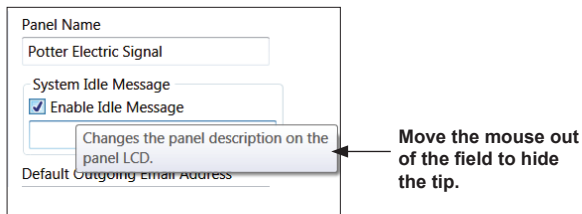
Tips are useful when you're first learning how to use the programming software, however, the experienced user may choose to disable them as shown below.

To disable Tool-Tips:

1. From the programming software, select the ***"Options - Preferences" menu option***.

2. Click in the ***"Tool-Tips Enabled" selection box*** to disable.

3. Click ***OK***.

Programming Functions Descriptions

The table below provides a snapshot of the menu order along with a brief description of each. Details for these options are provided on the following pages.

Table 13: Programming Menu Options	
Menu Option	**Description**
Remote Access Code	Display remote access *"User Name"* and *"Password."*
Job Details	Enter site specific information.
General Options	Customize general panel software settings, such as alarm verification time, and door holder low AC dropout delay.
Zones	Define and configure zone's characteristics and mapping points.
Cross Zones	Establish relationships between multiple zones.
Points	Define and view all addressable and non-addressable points.
Sensitivity	Enable Day/Night Sensitivity, setup Holiday schedule, and other related sensitivity options.
Email Reporting	Schedule Email reports by day and time; setup Email addresses, select type of report(s) to send to each Email addressee, and setup report panel event status.
Email Reminders	Create and schedule customized daily, weekly, monthly or yearly reminder Emails.
Users	Create up to ten (10) user codes and passwords, and set access rights.
LAN Settings	Configure Ethernet connectivity options if panel connects to a Network (**L**ocal **A**rea **N**etwork).
Dialer	Add or remove the UD-1000 DACT module.
IP Reporting	Configure IP reporting options for primary and secondary accounts.
Class A Card	Add or remove CA-6075 module.
LCD Annunciator	Add or remove RA-6500R, RA-6500F and/or RA-6075R modules.
SLC Loop	Add or remove PAD100-SLCE and/or SLCE-127 Loops.
Power Supply	Add or remove PSN-1000 / PSN-1000(E) modules.
DRV-50	Add or remove DRV-50 driver modules.
LED-16	Add or remove LED-16 and/or LED-16F annunciators.
RLY-5	Add or remove RLY-5 modules.
FCB-1000	Add or remove a FCB-1000 module.
SPG-1000	Add or remove SPG-1000 modules.
FIB-1000	Add or remove FIB-1000 modules.
MC-1000	Add or remove a MC-1000 module.

Remote Access Code *(User Name & Password)*

The **Panel Configuration window** displays the default *Remote Access User Name* and *Remote Access Password* on the right section of the screen as shown below.

Figure 85. Example of the Remote Access User Name and Password Screen
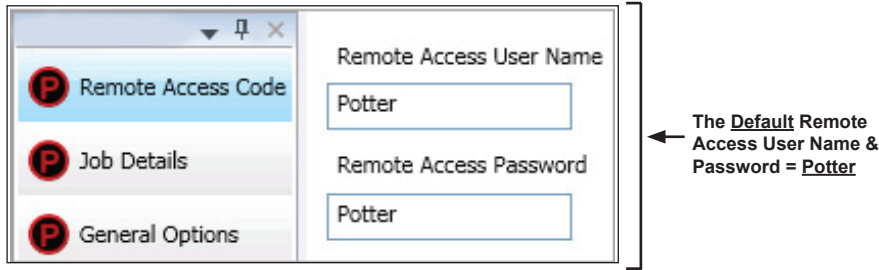
Notes:

1. The default remote user name and password may be changed to increase security on the system.

2. In order to upload / download the configuration file, the username and password must match the information stored in the panel.

3. Go to *Potter's on-line training video* to learn more about this topic:

   ▶ **Remote Access**

Job Details

The *Job Details window* is used to enter site specific information, such as the company name, address and phone numbers. This information is stored in the panel and used when receiving Emails from the panel.

Note: Go to *Potter's on-line training video* to learn more about this topic.

▶ **Job Details**

To enter job site information:

1. Click the **Job Details** menu option. The *Job Details window* displays.

Figure 86. Job Details Window

Job Name	Potter Fire Control Panel
Address Line 1	5757 Phantom Drive
Address Line 2	Suite 125
Address Line 3	Hazelwood, MO 63042
Address Line 4	
Phone	1-800-325-3936
Phone 2	
Email	tech@pottersignal.com
Email 2	customerservice@pottersignal.com

2. Click in each field or press the **TAB key** to enter the applicable information.

General Options

The **General Options window** contains a variety of general panel settings, such as the *panel's default name, idle message,* and the time an *Autotest* will be sent to the monitoring station. Refer to the **"General Options Field Overview" table** on the next page for details on all field options.

   Note: Go to **Potter's on-line training video** to learn more about this topic.

   ▶ **General Options**

Figure 87. General Options Window Showing Field Defaults

Click <u>here</u> to select the *"Enable Idle Message"* option.

Refer to the **"General Options"** table on the next page to learn more!

Click this option to prevent detectors or modules from being installed without authorization. Refer to the *"General Options"* table for more information.

Click the drop-down arrow to select a different delay option.

When selected, strobes will remain active when **"Silence"** button is pressed.

To setup general options:

1. Click the **General Options** menu option.

2. Click in the "**Panel Name" field** and enter a descriptive panel name.

3. Click or press the **TAB key** to the "**Enable Idle Message" selection box**.

    • Click to select this option (*displays " ✔ " in field's checkbox*). To uncheck or deselect this option, click again.

    • Enter a message in the **"System Idle Message" field**.

4. Click or press **TAB** to the **Default Outgoing Email Address" field**.

5. Continue selecting all applicable fields, as needed. Refer to the **"General Options Field Overview" table** on the next page for field descriptions.

Table 14: General Options Field Overview	
Option	**Description**
Panel Name	*Default = None;* enter a descriptive panel name.
System Idle Message Enable Idle	*Default = None;* when enabled, changes the panel description on the panel's LCD.
Default Outgoing Email	*Default = None*; the panel uses the email address via *"Data Transfer"* menu of FACP.
Display Events	*Default = Initial Event.* This setting defines the order of events as seen on the LCD. *"Initial Event"* displays the oldest event at the top of the list; *"newest event"* displays the newest events at the top.
SLC Blink	*Default = Normal;* this option defines the LED characteristics of SLC devices. Other SLC choices are "*Slow*" or "*Off*."
Alarm Verification Time (seconds)	*Default = 60 seconds.* Defines the alarm verification time; time can be adjusted to 30-60 seconds.
Water Flow Delay (seconds)	*Default = 0 seconds.* Adds extra delay in seconds to water flow switches; it can be adjusted to 0-90 seconds.
Low AC Report Delay (hours)	*Default = 1 hour*. Defines delay before sending AC loss trouble signal to central station and can be set between 0-30 hours.
Protected Mode	*Default = None*. When the "*Protected Mode*" is selected, unauthorized installers are prevented from replacing SLC detectors. *Example*: If an authorized installer replaces a detector, they must click the **"Clear DCR Error" icon** in the software to clear the trouble. *Note:* Refer also to the **"Transferring Data" heading** covered earlier in this section.
Door Holder Low AC Dropout Delay	*Default = 15 seconds.* Defines the time the door holder remains active when there is a AC loss on the system.
Autotest Time	*Default = 2:00 AM;* defines the time of day the test signal will be sent to the central station.
Autotest Interval	*Default = 24 hours;* defines the time between autotest signals; can be adjusted to 1-24 hours.
Strobes Active When Silenced	*Default = OFF*; when checked, the strobes remain active when Silence button is pressed.
Enable Power Line Clock Synchronization	*Default = ON*; clock is synchronized to the AC power source.
Enable CO Tone (Temp-4) on Annunciators	*Default = ON*; CO detectors will sound Temporal-4 pattern on Annunciators.
Low Temp Events Are Supervisory	*Default = OFF*; when checked, heat detectors designated for low temp will annunciate as Supervisory signal at the FACP.
Disable 24 hour PZT Resound	*Default = OFF*; when checked, the panel prevents sounders on Annunciators from sounding after 24 hours if off-normal condition remains.
Display Time as AM/PM	*Default = ON*; panel displays time with AM/PM designation. When box is unchecked, time is displayed as 24 hour clock.
Synchronize to Network Time; Simple Network Time Protocol (SNTP) Server	*Default = ON*; panel obtains the correct time from the specified SNTP server.
Time Zone	*Default = CST Central Standard*; set the time zone to allow for accurate time on the FACP.
Enable Daylight Savings Time Adjustment	*Default = ON*; time will be automatically adjusted for daylight savings time. Defines daylight savings time start and end date.

Day/Night Sensitivity Mode and Holiday Scheduling

The **Sensitivity option** allows you to enable the *"Day/Night Sensitivity"* feature, establish the starting and ending times for *"Night"* sensitivity, create a *"Holiday Schedule,"* and choose the days of the week that the job site is normally occupied.

Notes:

1. The *"Day/Night Sensitivity" option* is **not** selected or enabled by default.

2. Go to **Potter's on-line training video** to learn more about this topic.

   ▶ **Sensitivity Programming**

To enable day/night sensitivity and setup holidays:

1. Click on the **Sensitivity menu option**. The *Sensitivity window* displays.

   Figure 88. Example of the Day/Night Sensitivity Enabled
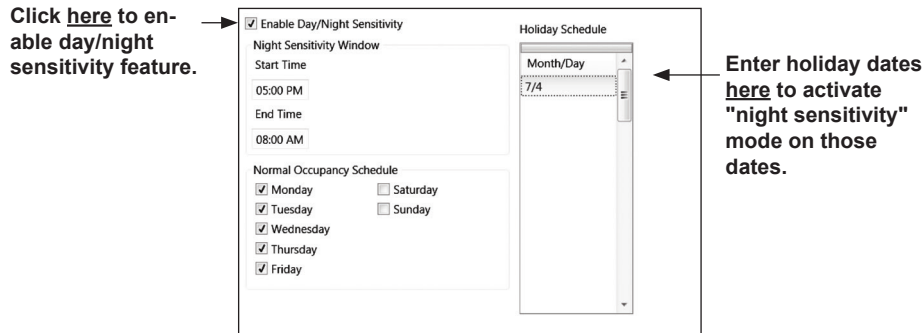
2. Click in "**Enable Day/Night Sensitivity" selection box** to enable.

3. Click in **"Start and End Times"** to adjust as needed.

4. Click in each applicable day of the week in the **"Normal Occupancy Schedule"** field.

5. In the "**Holiday Schedule" field list**, enter the **"Month/Day"** of each applicable holiday.

   Note: You may enter up to fifty (50) holidays in the *"Holiday Schedule" field*, which enables night sensitivity mode on those dates.

Users Codes

The **Users** option allows you to create up to ten (10) user code profiles, as needed. Each profile may have different access rights, which controls the panel functions a user may access as well as the option to connect to the ***Facility Management Tool (FMT)***.

> **Notes:**
>
> • Go to ***Potter's on-line training video*** to learn more about this topic.
>
>   ▶ **User Codes**
>
> • Click the **"Facility Management Tool"** *product link* to learn how to install and program the FMT application or go to ***Potter's on-line training video*** to learn more about this topic.
>
>   ▶ **Facility Management Tool**

To create a new user:

1. Click on the **Users menu option** to display the ***User's window***.

Figure 89. Example of Users Profile Window

These fields allow the user access to these panel functions when selected.

These 2 "PC Connect" fields may be selected to allow the user access to the "*Facility Management Tool.*"

Name	User Code	System Reset	System Silence	Acknowledge	Fire Drill	Review History	Enable Disable	Set Date/Time	Walk Test	Tools	Programming	Data Transfer	PC Connect Unsupervised Multi User	PC Connect Supervised Single User
Default Access		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	☐	☐
Eng. Office	789	☐	☐	☐	☐	✓	☐	☐	☐	☐	☐	☐	✓	✓
Security Off	456	☐	☐	☐	☐	✓	☐	☐	☐	☐	☐	☐	✓	✓
User 2	222	✓	✓	✓	✓	✓	✓	✓	✓	✓	☐	☐	☐	☐
Command Ctr	123	✓	✓	✓	✓	✓	☐	✓	☐	☐	☐	☐	☐	☐
User 1	111	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	☐	☐
User 7		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
User 8		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
User 9		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Double-click in the ***"Name" field*** *t*o enter an user's name.

3. Double-click in the ***"User Code" field*** to enter an unique code for user.

4. Click in the remaining field selection boxes *("System Reset," "System Silence," ... "Data Transfer")* to grant access to those options for each user.

5. Click in the last two (2) fields, ***"PC Connect Unsupervised Multi User" and "PC Connect Supervised Single User"*** to allow the user access to the ***Facility Management Tool***.

6. Repeat steps for up to 10 user codes.

    Note: The access rights for the *"Default Access" user code* can be modified if needed.

Network Settings

The Network Settings option allows the installer to setup the panel's Network configuration settings, which is required if your panel is <u>connected</u> to a <u>network</u>. The Network settings must be programmed to use the IP communicator and Email functions via the Internet connection, as well as any data transfer function (*i.e., uploading, downloading, etc.*). *See **"Transferring Data"** covered earlier in this section for more information on these topics.*

> **Notes:**
>
> • If your panel is **<u>directly</u>** connected to the panel, this information is **NOT** relevant to you.
>
> • Go to ***Potter's on-line training videos*** to learn more about this topic.
>
>   ▶ **LAN Settings**
>
>   ▶ **P-Comm Network Connection**

Connecting the Panel to a Network

If the panel is connected to a network, it must have Internet connectivity in order to transfer files, use the IP communicator or the Email functions. This is usually accomplished by installing an Ethernet drop near the panel.

> **Note:** Do **not** change the IP address unless instructed by your Network Administrator. To learn more about this topic, go to **Potter's on-line training video**.
>
> ▶ **Setting a Static IP Address**

The IP address can be set one of two ways:

- The panel has a built in **DHCP (Dynamic Host Configuration Protocol)** and will ask for an **IP address** from the *"Host Computer"*.

- The Installer may set the **IP address** using the software's **Static IP** function.

Figure 90. Setting the IP Address (DHCP or Static IP)
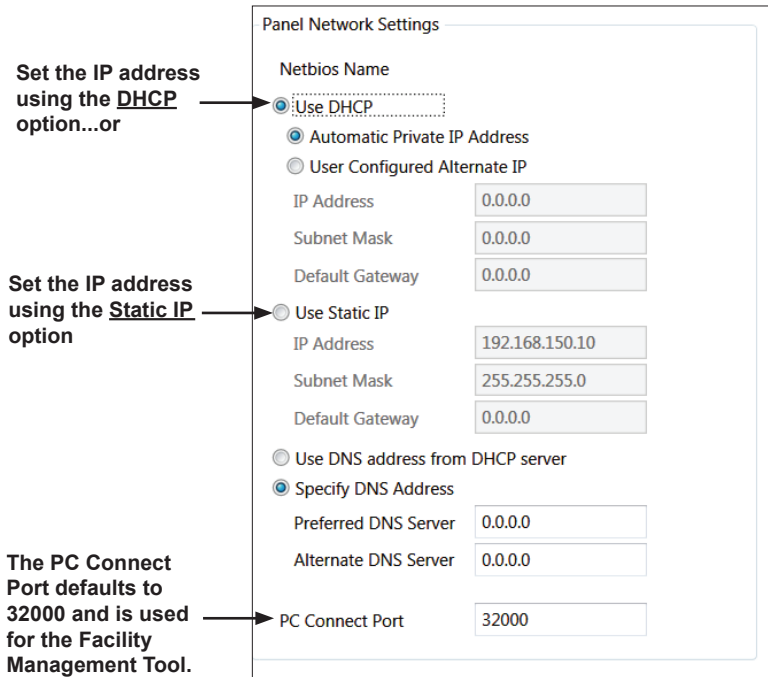
	Panel Network Settings
	Netbios Name
Set the IP address using the DHCP option...or →	⦿ Use DHCP
	⦿ Automatic Private IP Address
	○ User Configured Alternate IP
	IP Address 0.0.0.0
	Subnet Mask 0.0.0.0
	Default Gateway 0.0.0.0
Set the IP address using the Static IP option →	○ Use Static IP
	IP Address 192.168.150.10
	Subnet Mask 255.255.255.0
	Default Gateway 0.0.0.0
	○ Use DNS address from DHCP server
	⦿ Specify DNS Address
	Preferred DNS Server 0.0.0.0
	Alternate DNS Server 0.0.0.0
The PC Connect Port defaults to 32000 and is used for the Facility Management Tool. →	PC Connect Port 32000

NOTICE

System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

Email Functions

The IPA-100 comes with built-in Email capabilities. The panel automatically sends status Emails, including Alarms, Troubles, Supervisory and Test events, to the Email addresses entered on the "*Email Reporting*" *window (see example below)*. Customizable Email reminders may optionally be created and scheduled by the installer. Reports may also be received via email on an *"on-demand" basis*, which is explained in *"Section 5.5 Printing Reports"* located later in this section.

Note: To learn more on Email reporting functions, go to *Potter's on-line training video.*

▶ **Email Reporting**

Figure 91. Email Reporting Window

Event History and Detector Status reports may be scheduled to be sent on specific days of the week, time or day of the month. Up to twenty (20) Email addresses may be programmed on this window. After the *"Email Reporting" section* is completed and downloaded into the panel, the panel will start sending Emails according to programming.

The panel is capable of sending automatic and on-demand reports because it has a designated outgoing Email address comprised of its model and serial numbers. On-demand reports can be requested directly from the panel's *"Data Transfer" function* or remotely from a PC, if the user has a valid Email address programmed on the *"Email Reporting" window*.

The panel's Email address is structured as: **IPA100XXXXXXX@potterlink.com** where **"IPA100XXXXXXX"** refers to the **"panel serial number."** The <u>serial number</u> is the same as the <u>NetBIOS name</u>, and is located on the panel as shown below.

Note: Outgoing panel Emails are routed through a dedicated server. You must make a notation of your panel's outgoing Email address in order to send Email requests remotely.

Figure 92. Panel Serial Number Location
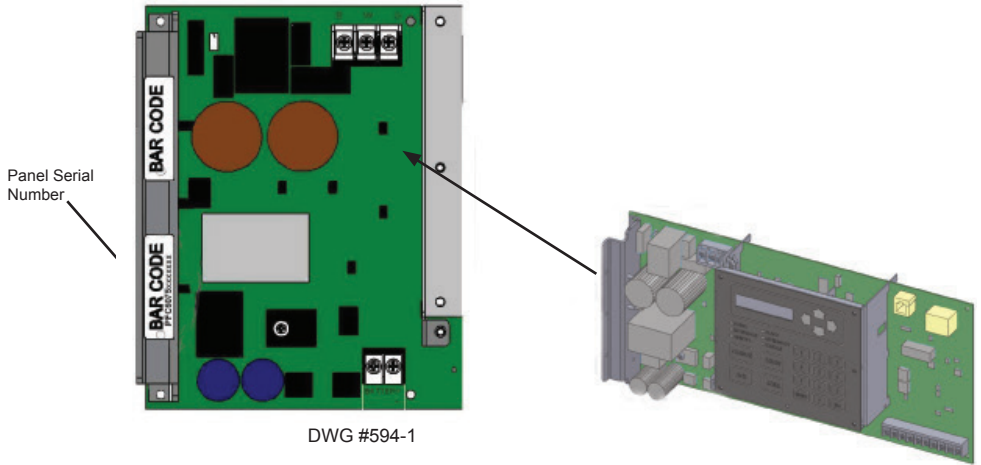
DWG #594-1

NOTICE
System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

Email Notification Requirements

The following table lists the necessary hardware and Internet connectivity requirements to use Email notification functions.

Table 15: Email Notification Requirements	
Item	**Requirement**
Hardware	10/100 Mbps Ethernet Network
IP Address Protocol	DHCP or Static IP (factory default is DHCP)
Outbound Connectivity	• Must have outbound access to Internet (*mail server connections only*). • Port 10025 for SMTP • Port 110 for POP3
Inbound Connectivity	None required or utilized.

Email Report Programming

Use Potter's programming software to program when to send the *Event History and Detector Status reports,* and setup the list of email addresses to receive each selected report.

To schedule the Event History and Detector Status reports, setup email addresses and select report type(s):

1. Click on the **Email Reporting option** to display the *Email Reporting window*.

2. Click in the *days of the week's selection box,* as shown below, to choose the days the report(s) will be sent.

Figure 93. Email Reporting Window Showing Days of the Week, Time & Day of the Month Selected

3. Adjust ***time***, if necessary, and select a ***day of the month*** to send reports on a specific day of the month.

4. In the *"Email address" section* enter the following:
   - Enter up to twenty (20) Email addresses, as needed.
   - Select the ***"Enable Email Requests" option*** to allow the addressee to request reports from the panel.

     Note: If the "**Enable Email Requests**" option is not selected, the panel ignores the request for an *"on-demand"* report. See ***"Section 5.5 Printing Reports"*** located later in this section for *"on-demand"* reporting details.
   - Select each type of event(s) and/or report(s) to send to each applicable Email address.

Figure 94. Email Reporting Showing Enable Email Requests Selected

<div style="text-align:center;">

NOTICE

</div>

System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

Email Sent from Panel's Keypad

To send a report from the keypad:

1. Select the **Data Transfer (***Menu Option 7***)** on the panel menu.

2. The **"Enter Code" prompt** displays. Enter the ***panel's user code*** = **"1111"** *(default user code)*.

3. Select one of the transfer options as described below:

<div style="text-align:center;">

Table 16: Data Transfer Options

</div>

Option	Description
1=Remote Access	Used to enable remote access
2=Email Det Stat	Allows user to Email a detector status file
3=Email History	Allows user to Email a history file
4=Email Config	Allows user to Email a panel configuration file (.fpcf)
5=Email Test	Allows user to send a test Email
6=Server Status	Allows Email server status to be verified

4. Select one or more Email address using one of the following options:

   •   Choose **"1 = Use Default"** to select the address entered in **"General Options"** *(as shown in the example below)*.

   •   Choose **"2 = Browse List"** to scroll through and select one or more Email addresses previously entered in the **"Email Reporting" section** of the programming software.

   •   Choose **"3 = Specify New"** to enter a new Email address. Use the ***arrow keys (up/down/left/right)*** to enter the address.

   Note: If you must enter a new email address, it's more efficient to add it through the **"Email Reporting" programming software option**. Refer to the **"Email Report Programming"** topic in this section for more details.

<div style="text-align:center;">

Figure 95. Example of the Default Outgoing Email Address Shown on the General Options Window

</div>
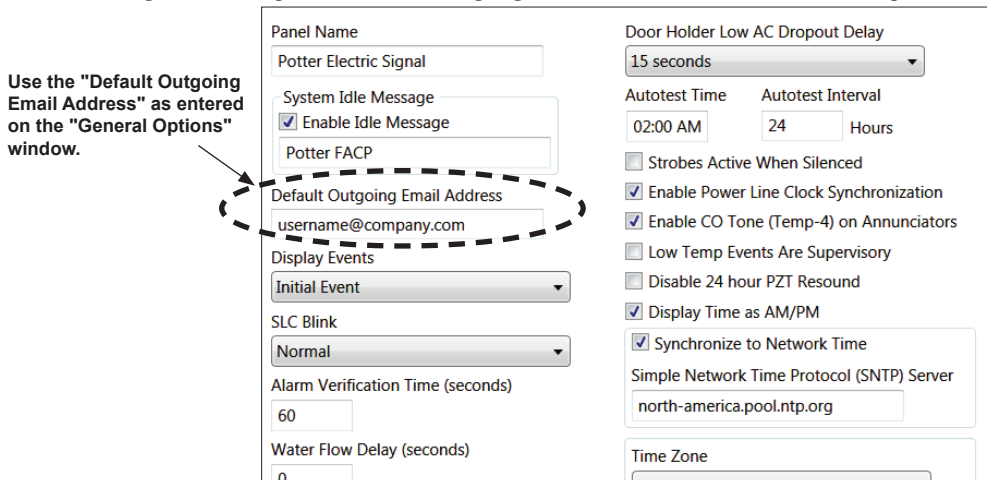
5. Press **ESC** multiple times to return to the *Main Menu screen*.

NOTICE

System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

Email Report Requested from PC

To request a report from a remote PC:

1. Open or create a new Email.

2. In the **"To" field,** enter the panel's Email address as shown below. *(Refer to the **"Panel Serial Number Location"** shown earlier in this topic to locate the serial number.)*

Figure 96. Example of Keywords Entered in Email Subject Field

Enter the panel's serial number as shown on the control panel's label.

Enter one or more keywords here; they are NOT case sensitive.
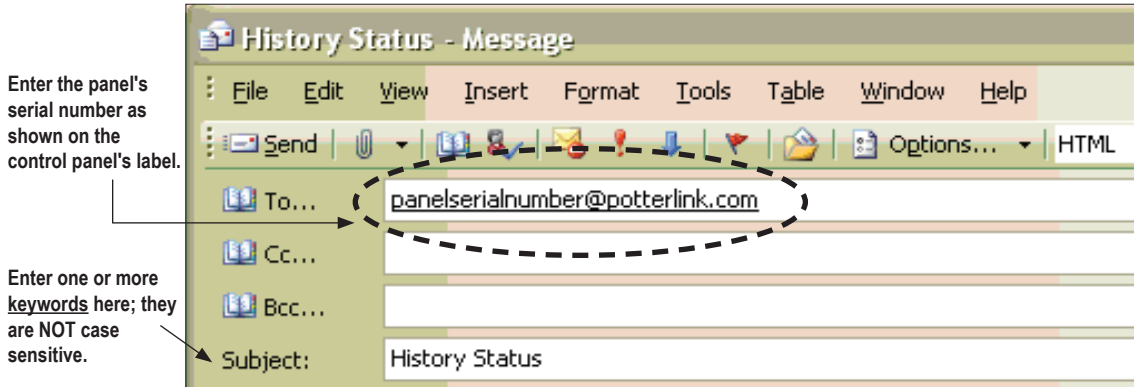
3. In the **"Subject" field,** enter one or more of the following keywords:
   - *History* to send a current event history report back to sender.
   - *Status* to send a current detector (sensitivity) status report back to sender.
   - *Configuration* to send a current configuration file back to sender.
   - *Unsubscribe* to stop the current Email settings for the sender until panel is reset or that Email address sends a "*Subscribe*" to the panel.
   - *Subscribe* to activate Email settings for the sender.

4. There are no restrictions on contents entered into the body of the Email.

   Important Reminders!

   - The person sending the Email **must** be added to the Email list in the *"Email Reporting" section* of the software as shown below. If the sender is not in the list, the panel will not respond.

   - The *"Enable Email Requests"* option **must** also be checked for the sender to receive Emails when requested from the panel or a remote PC.

   Figure 97. Email Reporting Window

Sender's Email address must be in the Email list and the "Enable Email Requests" box must be checked.

Email reports on these days
- ☑ Monday ☐ Saturday
- ☐ Tuesday ☑ Sunday
- ☑ Wednesday
- ☐ Thursday
- ☑ Friday

Email reports at this time
12:00 AM

Email reports on this day of the month
15

Note: Choose the report(s) and event type(s) for **each** email addressee.

If a particiular report or event type hasn't been selected for a user, they may still receive one or more of those reports /events from a remote PC.

To do this, select the **Transfer option**, then click **Browse List** to select one or more email addressee.

Email	Enable Email Requests	Alarms	Troubles	Supervisory	Test	Event History Reports	Detector Status Reports
controlcenter1@gmail.com	☑	☑	☑	☑	☑	☑	☑
controlcenter2@gmail.com	☑	☑	☐	☑	☐	☑	☑
controlcenter3@gmail.com	☑	☑	☐	☐	☑	☑	☑
	☐	☐	☐	☐	☐	☐	☐

NOTICE

System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

Receiving Email Status Reports

When a system status (*Alarm, Supervisory, Trouble events*) Email is received, the body of the Email contains the information entered in the *"Job Details" section* of the software (*as shown below*). If nothing is entered in the software, the body of the Email will only indicate the events that occurred. The events are listed after the *"Job Details"* information. They are formatted with a date/time stamp showing when the event occurred, event type, and the event description or the point information.

Figure 98. Example of Job Details in System Status Email

When a history or detector (sensitivity) status Email is received it contains two (2) attachments:

- A text file (.txt)
- A comma separated values (.csv) file

Figure 99. Example of a Detector "Sensitivity" Status "Text" file (Shown Partially Only

NOTICE
System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

Figure 100. Examples of a History Text & History Comma Separated Value Files (Shown Partially Only)

Creating Email Reminders

Email reminders are fully customizable Email messages that may be sent based on a predefined schedule. The *Email subject and body* are defined by the installer, and they may choose to attach *History* and/or *Detector Status reports*. Up to eight separate Email reminders can be created to be sent on a daily, weekly, monthly or yearly schedule.

Note: Go to *Potter's on-line training video* to learn more about creating email reminders.

▶ **Email Reminders**

Figure 101. Example of the Email Reminder Window Shown "Disabled" (*Default Setting*)

NOTICE
System Email communications and functions are intended for informational reporting purposes only. They are intended to be used as a convenience function. Email communications should NOT be used as a primary means of reporting emergency information.

To create email reminders:

1. Select the ***Email Reminders*** menu option.

2. Click on the applicable ***"Reminder #" tab*** (*Reminder #1 to Reminder #8*)

3. Click a ***Schedule option***, and complete the applicable reminder settings:
   - ***"Yearly"*** – Select *Months to send*, *Day of month* and *Time*.
   - ***"Monthly"*** – Select *Months to send*, *Day of month* and *Time*.
   - ***"Weekly"*** – Select *Days to send* and *Time*.
   - ***"Daily"*** – Select *Time to send*.

4. Click in *"Attach History"* or *"Attach Detector Status"* selection box(es), as needed.

5. Complete the following email information as follows:
   - ***"To" field*** – Enter up to 20 addressees.
   - ***"Subject" field*** – Enter an applicable subject.
   - ***"Body" field*** – Enter applicable text. Up to *2000 total characters* may be entered in the *"Body" email field* across *"Reminders #1 - #8"* is 2000 characters.

Figure 102. Example of a Weekly History Report Reminder

Note: There's a 2000-char-acter total limit that may be entered in the "Body" field of all reminders!

6. Continue setting up additional *"Reminders,"* as needed.

Programming Zones & Points

System programming involves defining the function of devices and their relationships to each other, referred to as "*mapping*." The installer can define behavior characteristics of individual or groups of devices, map devices into zones, and further customize the system using the panel configuration software from a computer.

The panel configuration software features include:

- Easy to use Windows-based editing techniques, including *drag and dr*op between windows.
- Flexibility in configuring points into multiple zones promoting sophisticated mapping relationships.
- Simple sorting and grouping by select fields enhances viewing and analysis of data.
- Options to view points by type, address and function or description.

   Note: Refer to the following ***on-line training video*** to learn more about programming zones on IPA panels.

   ▶ **Zones**

Mapping Zones Overview

Mapping is creating relationships between devices, modules and sensors and their behavior between each other. Whereas, the "*zone*" is the framework in which the devices are grouped. These terms and other related mapping concepts are provided in this section.

Single Zones

The *LEARN* function creates or maps a basic, one-to-one relationship where all devices are automatically grouped into **one zone**. When all devices are in the same zone, and an input device is activated, all output devices will activate. Please refer to the illustration below for an example of a one-to-one device relationship:

Figure 103. Mapping all Devices to One Zone
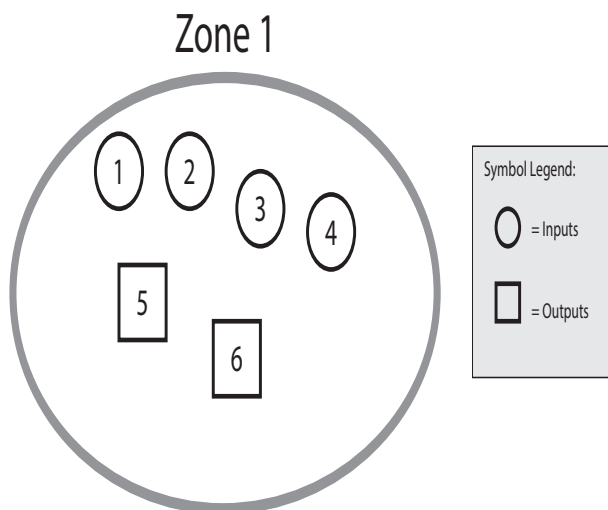
Multiple Zones

The panel configuration software allows the operational mode behavior of devices to be customized by grouping them into a maximum of 1500 different zones. This flexibility enables you to configure system points to maximize protection throughout the site.

When devices are grouped into different zones, unique relationships between devices can be created for specific outputs or events. The *"Zones" and "Points" programming functions* can be used to efficiently group points to follow a sequence of events producing the same combination of outputs into different zones.

Mapping Terminology

The table below provides mapping terms that may be helpful in understanding the mapping concept:

Table 17: Mapping Terminology	
Term	**Definition**
Mapping	Creating relationships between devices, modules and sensors and defining their behavior.

Zone	A group of devices.
	
	• Zones may represent a group of devices located in a specific **physical** area at the site.
	
	   Example: Zone 1 comprised of all devices located in the main lobby of a hotel, [*i.e., pull station #1, one (1) sounder base, and one (1) strobe-NAC].*
	
	• Zones may represent a set of devices configured for a specific function; their location may be scattered throughout the site. This group is a "**logical**" grouping or zone.
	
	   Example: Zone 2 comprised of all devices in Zone 1 as described above, **plus** a 2nd pull station located at end of a hallway and two (2) additional Sounder bases.
	
	Notes:
	1. If all input / output devices are grouped into one (1) zone, when any input is activated, all outputs activate.
	2. A device or point may be mapped into more than one (1) zone.

Point	Any specific device, module or appliance connected to the panel.
Latching	Device **will not** automatically reset; device must be **RESET** at the keypad to remove condition.
Non-Latching	Device **will** automatically reset when condition is no longer present, *i.e., smoke detector resets once condition clears.*
Cross Zoning	The purpose of creating cross zones is to ensure that two (2) or more separate zones are activated before an output zone is triggered. **Example**: Smoke detector in Zone 1 (R&D Lab), and a heat detector in Zone 2 (Main entrance) are activated, triggers an air handler circuit. • The redundancy in this example provides verification of an alarm condition by requiring that both sensors in two (2) different zones are activated before an output occurs. • There are no limits to the number of cross zones that can be mapped to the same output; as soon as a pair of input devices detects an "*alarm*" condition, the output will be activated.

Zone Types (Styles)

You may define or configure each zone to serve a specific purpose or to create specific output results. Refer to the **"5.1 Programming Zones"** topic heading for details on programming and configuring zones. The table below describes the different zone styles available.

Table 18: Zone Styles	
Zone Type	**Description**
Alarm	• **Default zone type**. • Sets system into an Alarm condition when any input is activated.
Supervisory	Used for all Supervisory inputs.
Positive Alarm Sequence	Implements Positive Alarm Sequence.
Auxiliary	Used for all "Aux" inputs.
Releasing	Dedicated to handling release sequence.

Table 18: Zone Styles	
Zone Type	**Description**
Fire Drill	Comprised of input / output devices that will activate when running a Fire Drill.
Waterflow	Used for reporting water flow event notifications to central station.
Alert	Used for all "Alert" inputs.
System Alarm	Used for outputs that will be activated upon any alarm.
System Supervisory	Used for outputs that will be activated upon any supervisory.
System Trouble	Used for outputs that will be activated upon any trouble.
CO Alarm	Used for outputs that will be activated upon any CO alarm.
CO Supervisory	Used for outputs that will be activated upon any CO supervisory.

5.1 Programming Zones

Zones provide the framework for grouping devices or points in order to create relationships between those devices, modules, and or sensors. Each zone should be created and programmed before points are placed or moved into them.

Zone Programming Options

Zone attributes or programming options provide control of the overall behavior of devices within a zone. Each zone may be configured as latching or non-latching, silenceable vs. non-silenceable, among other attributes. Releasing zones have additional programming options that provide control over the abort type, timer settings and soak time. All zone options are explained in the *"Zone Programming Options" table* shown below.

Figure 104. Example of Zone Programming Fields

The following table briefly describes zone programming options:

Table 19: Zone Programming Options	
Option	**Description**
Zone Name *Default = Zone "x"* *(where "x" is a sequential number)*	• Zone name may be up to sixteen (16) alphanumeric characters.
Style *Default = Alarm*	• Defines the zone's purpose or to create specific output results or events between devices that are mapped in the zone.
Alarm Count *Default = 1*	• Defines the number of detectors that must be active in the zone before outputs are activated. • Default is one (1); up to 10 inputs may be selected. • Pullstations activate zone immediately.
Silenceable / Non-Silenceable *Default = Silenceable*	• If zone is defined as "*silenceable*" this allows an operator to silence outputs by pressing the *SILENCE button.*

Table 19: Zone Programming Options	
Option	**Description**
Latching / Non-Latching *Default = Latching*	• Available for one **(1) count zone only**. • Latching zone requires operator to press **Reset**. • Non-latching zone will automatically turn off outputs when condition clears.
Local / Non-Local *Default = Non-Local*	• Used only for "*Report by Zone*" option. • Allows a zone to be specified as non-reporting.
Output Pattern *Default = Constant*	• Defines the output pattern of general-purpose NAC circuits in the zone that occurs during alarm conditions. • Click on drop-down arrow to display and select an option: *Constant 24VDC* *ANSI/Temp 3 . 5 sec on, .5 sec off, .5 sec on, .5 sec off, 5 sec on, 1.5 sec off* *March Code 60 signals per minute* *Double Time 120 signals per minute* *ANSI/Temp 4 .5 sec on, .5 sec off, .5 sec on, .5 sec off, 5 sec on, 5 sec off,* *.5 sec on, 1.5 sec off*
Day Sensitivity *Default = 3.5%* Range: 1.1% – 3.5%	The **3.5% default** represents the percentage of obscuration per foot for all smoke sensing detectors. • The term "*obscuration*" refers to the amount of reduction in air transparency caused by smoke. • Day sensitivity is functional during the time a building is normally occupied.
Night Sensitivity *Default = 2.5%* Range: 1.1% – 3.5%	The **2.5% default** represents the percentage of obscuration per foot for all smoke sensing detectors. • The term "*obscuration*" refers to the amount of reduction in air transparency caused by smoke. • Night sensitivity is functional during the times the building is unoccupied, *i.e., weekends, Holidays*.
Heat Sensitivity *Default = 135˚F* Range: 135˚F – 185˚F	Sets alarm threshold for Fixed Temperature Heat Detectors (*PAD100-HD and Nohmi protocol FHA*).
Low Temp Heat Sensitivity *Default = 40˚F* Range: 0˚F – 135˚F	Sets low temperature threshold on heat detectors in the zone (*PAD100-HD & PAD100-PHD*).
Enable PAD100 ROR *Default = Not Enabled*	Enables the Rate of Rise Heat aspect on a PAD100-HD.
Fixed/ROR Heat Sensitivity and 15˚ increase in 1 minute *Default = 135˚F* Range: 135˚F – 174˚F	Sets fixed temperature alarm threshold for Fixed/Rate of Rise Heat Sensor *(Nohmi Protocol RHA)*.
Auto Silence Timer *Default = 0 minutes* Range: 0 – 360 minutes	Defines the amount of time before silenceable outputs are automatically shut down.
Auto Unsilence Timer *Default = 0 minutes* Range: 0 – 60 minutes	Defines the amount of time before any silenced NACs are reactivated; outputs only reactivate if panel is still in alarm.

Table 19: Zone Programming Options

Option	Description
Silence Inhibit Timer *Default = 0 minutes* Range: 0 – 60 minutes	Defines the amount of time you may <u>**not**</u> silence an output when in alarm.
Restore Delay *Default = 0 seconds* Range = 0 – 300 seconds	Defines the amount of time before restoring an output when the panel is reset.
Relay Activation Delay *Default = 0 seconds* Range = 0 – 300 seconds	Defines the amount of time before activating a relay when the zone becomes active.

Abort Type
Default = None
("Releasing" zones only.)
	Defines the manual input type, typically a switch, which stops or delays the extinguishing agent from being released.
	
	The abort types are:
	
	1. **ULI (**Underwriters Laboratories Inc.)
	   - If abort switch is pressed during the pre-discharge time and the time remaining is **greater than (>) 10 seconds**, the timer will continue counting down to 10 seconds, and then stops.
	   - If abort switch is pressed during pre-discharge timer and the time left is **less than (<) 10 seconds**, the timer will be set to 10 seconds and holds.
	   - As long as the abort switch is active, the timer will not count down.
	   - If the switch is released, the pre-discharge time will resume the countdown.
	   - Abort sequence can be repeated as many times as desired.
	   - Trouble is generated if the abort switch is pressed when there is no pre-discharge occurring.
	
	2. **NYC (**Not UL Listed)
	   - If abort switch is pressed during the pre-discharge time, then 90 seconds is added to the remaining time. Since **manual release time MAX is 30 seconds**, and **AUTO release time MAX is 60 seconds,** the resulting **maximum value is 150 seconds**.
	   - As long as the abort switch is active, the timer will hold at the new value.
	   - If the switch is released, the pre-discharge time will resume the countdown.
	   - NYC mode is a one-shot operation, cannot be used more than once.
	   - Trouble is generated if the abort switch is pressed when there is no pre-discharge occurring.
	
	3. **IRI (Industrial Risk Insurers)**
	   • Abort switch must be pressed before any pre-discharge begins.
	   • When the alarm count is reached, the pre-discharge time begins counting down to 10 seconds and holds.
	   • As long as the abort switch is held, the pre-discharge timer will stop and holds at 10 seconds.
	   • IRI mode is a one-shot operation, but resets to 10 seconds like ULI.
	   • IRI is unique in that the user must press the abort switch prior to the pre-discharge timer starting.
	
	(Continued)

Table 19: Zone Programming Options	
Option	**Description**

Abort Type
 	
Default = None
 	
("Releasing" zones only.)
	(Continued)
	
	4. **AHJ** (Not UL Listed)
	  • Operates like ULI, except the time is set to 30 seconds when abort is pressed.
	  • If abort switch is pressed during the pre-discharge time and the time left is **greater than (>) 30 seconds** the timer will continue counting down to 30 seconds, and then stops.
	  • If abort switch is pressed during pre-discharge time and the time left is **less than (<) 30 seconds**, the timer will be set to 30 seconds and holds.
	  • As long as the abort switch is active, the timer will not count down.
	  • If the switch is released, the pre-discharge time will resume the countdown.
	  • Abort sequence can be repeated as many times as desired.
	  • Trouble is generated if the abort switch is pressed when there is no pre-discharge occurring.

Pre-Release Timer ***Default = 60 seconds*** Range = 0 – 60 seconds *("Releasing" zones only.)*	This timer counts down prior to the release of the extinguishing agent; the timer starts when the appropriate sensors activate the releasing function.
Pre-Release Pattern ***Default = Constant*** *("Releasing" zones only.)*	• Specifies output pattern for general purpose NAC circuits when a pre-release timer is active. • Click on drop-down arrow to display options: *Constant 24VDC* *ANSI/Temp 3 .5 sec. on, .5 sec. off, .5 sec. on, .5 sec. off, .5 sec. on, 1.5 sec. off* *March Code 60 signals per minute* *Double Time 120 signals per minute* *ANSI/Temp 4 .5 sec on, .5 sec off, .5 sec on, .5 sec off, 5 sec on, 5 sec off, .5 sec on, 1.5 sec off*
Manual Release Timer ***Default = 30 seconds*** Range = 0 – 30 seconds *("Releasing" zones only.)*	This timer is used to delay the release of the extinguishing agent when the manual input is initiated.
Man-Release Abort Allowed ***Default = None*** *("Releasing" zones only.)*	The default condition **does not** allow manual release to be affected by the abort. To allow manual release to be aborted, click in the *"Man-Release Abort Allowed"* selection box to enter a (✓) check mark.
Soak Time ***Default = 0 minutes*** Range = 0 – 60 minutes *("Releasing" zones only.)*	This setting determines the solenoid activation time or amount of time the extinguishing agent is released.

Creating Zones

This topic explains how to create a zone. Refer to the following on-line training videos to learn more about programming zones.

Table 20: Programming Zones Training Videos	
Descriptions	**Links**
This video explains how to program zones on an IPA panel.	▶ **Zones**
These two videos explain zone programming settings, the zone window layout, and assigning points to zones to activate outputs on PFC-6000 series panels.	▶ **Zones Programming 1** ▶ **Zones Programming 2**
This video covers how to activate NACs on the PFC-6000 series panels to setup a fire drill application.	▶ **Fire Drill Zone Programming**
This video covers how to create a Supervisory zone using Potter programming software, and learn how to quiclly add points to the zone on PFC-6000 series panels.	▶ **Supervisory Zone Programming**
This video explains how to program a zone as HVAC restart available on IPA panels only.	▶ **HVAC Restart**
The video shows how to disable groups of points via the keypad or a key switch on a PFC-6000 series panel.	▶ **Disable/Enable Input & Output Points Programming**
This video shows how to program a zone for elevator recall on PFC-6000 series panels.	▶ **Elevator Recall Programming Example**

To create a zone:

1. In the **Zones Programming window**, **right click** on any zone name to display the **Zones shortcut menu.**

Figure 105. Example "Zones Shortcut Menu" – Add Zones
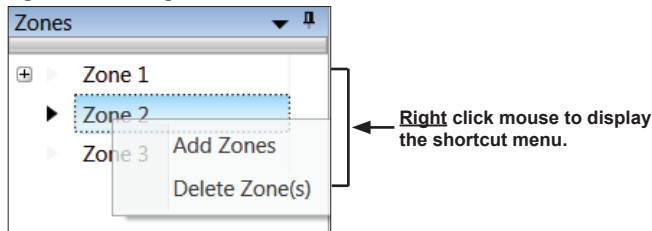
2. *Left click* on "**Add Zones**" to display the *Add Zones dialog box*.

Figure 106. Example of "Add Zones Dialog Box"
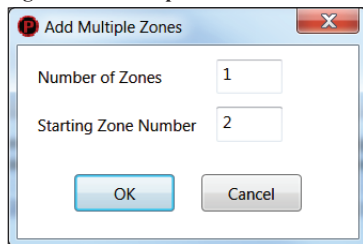
- *"Number of Zones" field* – Defaults to 1 zone.
- *"Starting Zone Number" field* – The panel automatically numbers the next sequential zone #.

3. Click **OK** to add one zone or press **Cancel** to exit without adding.

The **Zones Programming window** lists the added zone.

Figure 107. Zones Window Showing New Zone Added
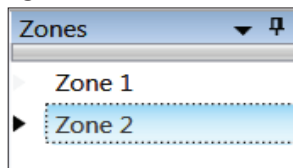
Configuring Zones

The next step in setting up a zone is to customize its attributes, which may include changing the zone's name, type, and selecting other characteristics (*i.e., constant, double time output pattern, latching or non-latching, silenceable, auto-silence timer, pre-release timer and pattern, etc.*).

Refer to the example shown below for brief descriptions of the *"Zones Programming Window"* regions.

Figure 108. Example of "Zones Programming Window"

To configure a zone:

1. Select the *Zones programming option*.

2. Click to select the *Zone* to display its attributes in the *"Zones Attributes" pane*.

Figure 109. Example of Zone 2 Selected as Shown in the "Zones Attributes Window"

3. Double-click in the *"Name" field* to add a descriptive name, if wanted. For example: *"Main Lobby" or "Server Room."*

   Note: Up to 20 alphanumeric characters may be entered.

4. Click the *"Style" field's* ▼ drop-down arrow to display the zone style list.

   • Click the applicable zone style.

   • For style descriptions, refer to the *"Zone Styles Table."*

5. Click or press *TAB* to continue editing zone's attributes.

   Notes:

   • Refer to the *Tool Tips* for each field's description or refer to the *"Zone Programming Options Table"* shown earlier in this section for field descriptions.

   • To learn how to select and program multiple zones at the same time and other keyboard shortcuts, click the *"Keyboard Shortcuts & Tips"* document link.

5.2 Programming Points Overview

This section addresses how to program points through the **"Points" programming** function. Each NAC, I/O and detector *(referred to as a "point")* may have a unique function in relation to the zone as well as the entire system. The installer determines the point's role, and its specific behavior characteristics by selecting the applicable options.

The **"Points" programming window** shows all *built-in power supplies* comprised of NACs 1&2, I/Os (IO Ck 1&2), and SLC points (1–127) on the main *("Built-in")* SLC Loop. If the built-in SLC is disabled, and an SLC expansion board (*(either PAD or Nohmi protocol)* is installed on the panel, it will be listed in this window.

Note: The **"Points" programming window** examples in this manual show an IPA-4000's programming. Please note that all windows may depict six (6) NACs and four (4) I/Os, as well as multiple SLCs installed.

Figure 110. Points Programming Window Showing PAD Protocol Default Settings on the Built-In SLC

Notes:

- The panel's *built-in points* (*NACs, I/Os and SLC points*) are listed at the top of the "*Points" programming window*. Points 1-127 are listed beneath all built-in points.

- If the on-board SLC loop is disabled and an SLC expandion board is installed (*PAD100-SLCE or SLCE-127*) it will be automatically named as **"SLC 1"** when added. The expansion board supports up to 127 points.

- To learn about programming the SLC expansion loop (*PAD100-SLCE and/or SLCE-127*), go to **"5.7 Programming Modules, SLC Expansion Boards"** in this manual.

5.3 Programming NAC & I/O Functions (On-Board Circuits)

The four (4) on-board circuits (*NACs 1&2, I/O Ckts 1&2*) are automatically configured as *"Conv NAC General Purpose,"* but each may be reprogrammed and renamed. The I/O circuits have additional configuration options since they may also be programmed as inputs.

Notes:

1. To learn how to configure I/O circuits, go to ***Potter's on-line training videos:***

   ▶ **NAC Configuration** and ▶ **Input Configuration**

2. To learn how to configure I/O circuits to function as a *Contact Input Alert*, go to the following on-line training video:

   ▶ **Contact Input Alert**

Refer to the ***"Points" programming window*** below that shows NAC and I/O circuit default settings:

Figure 111. NAC and I/O Circuit Defaults as Shown on the Points Programming Window

All NACs and I/Os default to this function.

Device	Addr	Name	Type	Function	Supervisory	Alarm Verification	Low Temp	EOL Value (k Ohm)	LED Blink Disabled
Built-in Pwr Sup	1	NAC 1	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	2	NAC 2	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	3	NAC 3	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	4	NAC 4	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	5	NAC 5	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	6	NAC 6	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	7	IO Ckt 1	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	8	IO Ckt 2	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	9	IO Ckt 3	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	10	IO Ckt 4	N/A	Conv NAC General Purpose	☐	☐	☐	5.1k	☐

Each NAC and I/O circuit may be programmed with <u>one</u> of the following options:

Figure 112. NAC and I/O Circuit Functions as Shown on the Points Programming Window

Conv NAC General Purpose ▼

Unused
Conv NAC General Purpose
Conv NAC AMSECO Sync
Conv NAC Gentex Sync
Conv NAC Gentex Sync with T4
Conv NAC System Sensor Sync
Conv NAC Wheelock Sync
Conv NAC Aux Constant
Conv NAC Aux Resettable
Conv NAC Aux Door Holder
Conv NAC Aux Door Holder Low AC Drop
Conv NAC Aux ANSI
Conv NAC City Tie
Conv NAC Release Solenoid
Conv NAC Sounder Base Power

These options are available for <u>both</u> NACs and I/O circuits.

Refer to the "NAC & I/O Circuit Functions" table on the next page for descriptions.

Unused
Conv NAC General Purpose
Conv NAC AMSECO Sync
Conv NAC Gentex Sync
Conv NAC Gentex Sync with T4
Conv NAC System Sensor Sync
Conv NAC Wheelock Sync
Conv NAC Aux Constant
Conv NAC Aux Resettable
Conv NAC Aux Door Holder
Conv NAC Aux Door Holder Low AC Drop
Conv NAC Aux ANSI
Conv NAC City Tie
Conv NAC Release Solenoid
Conv NAC Sounder Base Power
Contact Input Pull Station
Contact Input Water Flow
Contact Input Supervisory
Contact Input Tamper
Contact Input Fire Drill
Contact Input Trouble Monitor
Contact Input Aux
Contact Input Abort
Contact Input Release Follower
Contact Input Reset
Contact Input Silence
Contact Input Fire Alarm
Contact Input Disable Inputs
Contact Input Disable Outputs
Contact Input Disable Inputs and Outputs
Contact Input Lamp Test
Contact Input CO Alarm
Contact Input CO Supervisory
Trigger IO Reverse Polarity
Trigger IO Reverse Polarity No Trouble
Contact Input HVAC Restart
Contact Input Medical Alert
Contact Input Tornado Alert
Contact Input Process Alert
Contact Input Security Alert

These options are available for I/O circuits <u>only</u>!

Refer to the "I/O Circuit Functions" table on the next page for descriptions.

The following two (2) tables provide NAC and I/O circuit function descriptions. The **first** table is applicable for **both NAC and I/O** circuits, whereas the **second** table is applicable for **I/O circuits only**.

	Table 21: NAC & I/O Circuit Functions	
Type	Function	Description
N/A	Unused	Circuit is unused.
N/A	Conv NAC General Purpose	Conventional general purpose NAC; obeys zone "*output pattern*" programming.
N/A	Conv NAC AMSECO Sync	Drives conventional AMSECO synchronized horns / strobes.
N/A	Conv NAC Gentex Sync	Drives conventional Gentex synchronized horns / strobes.
N/A	Conv NAC Gentex Synch with T4	Drives conventional Gentex synchronized horns / strobes with T4.
N/A	Conv NAC System Sensor Sync	Drives conventional NAC System Sensor synchronized horns / strobes.
N/A	Conv NAC Wheelock Sync	Drives conventional Wheelock synchronized horns / strobes.
N/A	Conv NAC Aux Constant	Conventional circuit providing constant DC power.
N/A	Conv NAC Aux Resettable	Conventional circuit providing constant DC power; disconnects power during system reset.
N/A	Conv NAC Aux Door Holder	Conventional circuit providing constant DC power; disconnects when an alarm occurs.
N/A	Conv NAC Aux Door Holder Low AC Drop	Conventional circuit providing constant DC power; disconnects on AC Loss or when an alarm occurs.
N/A	Conv NAC Aux ANSI	Conventional circuit providing always on ANSI pattern used for ASB pattern synchronization.
N/A	Conv NAC City Tie	Conventional circuit Municipal box connection.
N/A	Conv NAC Release Solenoid	Conventional circuit solenoid output.
N/A	Conv NAC Sounder Base Power	Conventional NAC Sounder Base Power. Obeys zone "output pattern" programming.

The table shown below describes functions available for **I/O circuits only**.

	Table 22: I/O Circuit Functions	
Type	Function	Description
N/A	Contact Input Pull Station	Pull Station Input
N/A	Contact Input Water Flow	Water flow input obeys water flow delay as defined in "*General Options*."
N/A	Contact Input Supervisory	Supervisory Input
N/A	Contact Input Tamper	Tamper Input reports as supervisory.
N/A	Contact Input Fire Drill	Fire Drill Input activates a fire drill.
N/A	Contact Input Trouble Monitor	Trouble Input creates a trouble condition.
N/A	Contact Input Aux	Aux input reports as untyped alarm.
N/A	Contact Input Abort	Abort input is used only with releasing applications.
N/A	Contact Input Release Follower	Release Follower input causes immediate activation of release solenoid.
N/A	Contact Input Reset	Reset input initiates system reset.
N/A	Contact Input Silence	Silence input initiates system silence.

Table 22: I/O Circuit Functions		
Type	**Function**	**Description**
N/A	Contact Input Fire Alarm	Fire Alarm input initiates a fire alarm.
N/A	Contact Input Disable Inputs	Disables programmed inputs.
N/A	Contact Input Disable Outputs	Disables programmed outputs.
N/A	Contact Input Disable Inputs & Outputs	Disables both programmed inputs and outputs.
N/A	Contact Input Lamp Test	Initiates lamp test.
N/A	Contact Input CO Alarm	CO alarm
N/A	Contact Input CO Supervisory	CO supervisory
N/A	Trigger I/O Reverse Polarity	Reverse Polarity Output report trouble
N/A	Trigger I/O Reverse Polarity No Trouble	Reverse Polarity Output report no trouble
N/A	Contact Input HVAC Restart	Initiates HVAC restart.
N/A	Contact Input Medical Alert	Initiates medical alert.
N/A	Contact Input Tornado Alert	Initiates tornado alert.
N/A	Contact Input Process Alert	Initiates process alert.
N/A	Contact Input Security Alert	Initiates security alert.
Notes! 1. **Dry contact input options may be used with any *Contact Input Module*, such as the *PAD100-DIM, PAD100-SIM, and PAD100-TRTI;* available for on-board I/O circuits.** 2. **When using an input module on an abort function, there is a 6-second delay before panel responds.**		

5.4 Programming PAD Protocol Points

The panel supports 2 types of SLC devices – *PAD and Nohmi protocol.* The on-board SLC is PAD protocol, however, it can be disabled, if necessary, to program a SLC expansion board (PAD100-SLCE / SLCE-127).

> **Note**: Refer to *Section 5.7 Programming Modules*, to learn how to disable the on-board SLC loop and program a PAD100-SLCE or SLCE-127 expansion board.

This section includes the following information:

1. An overview of *PAD protocol detector* programming options and examples.
2. A *"PAD Protocol SLC Points Programming Options"* table providing detector / module descriptions.
3. Step-by-step instructions on programming PAD detectors / modules.
4. Examples of Multi-Mode detectors / modules.

> **Note:** Refer to one of the applicable *Potter's on-line training videos* shown here to learn more about these topics:
> ▶ **PAD Devices**
>
> ▶ **SLC Devices (Nohmi Protocol)**

Points Programming Window Overview

The *Points Programming window* displays all points as *"Unused"* in the *"Type" field* if you haven't run the **LEARN function**. In this case, all points will have to be individually programmed. If the **LEARN function** has been run, then the following summary points are applicable:

• **The *"Type"* field displays a description of how the point is used** *(i.e., PAD100-PD, PAD100-CD, PAD100-ZM, etc.)*.

• **The "Function" field displays a function description based on the point's "Type."** Each point's *"Function"* may be further programmed by choosing an option from the drop-down list.

Figure 113. Example of Points Programming Window Showing PAD Points (*after running LEARN*)

"SLC 2" represents an optional PAD100-SLCE expansion board.

Note: This example illustrates an IPA-4000 panel. If an SLC expansion board is installed on an IPA-100 / IPA-60 panel, it will be named "SLC 1."

Points 11 & 12 may be programmed with multiple input functions. Refer to *"Points with Multiple Functions Examples"* shown in this section for more information.

PAD Protocol Points Programming Options

Refer to the table below for a list of PAD protocol points programming options:

Table 23: PAD Protocol SLC Points Programming Options		
Type	**Function**	**Description**
PAD100-PD	Sensor Only Sensor with PAD100-SB Sensor with PAD100-RB	Photo Detector; optional Addressable Sounder Base or Addressable Relay Base
PAD100-HD	Same as above	Fixed Heat Detector
PAD100-CD	Same as above	CO Detector
PAD100-PHD	Same as above	Photo-Heat Detector are individually mappable
PAD100-PHD (Split)	Same as above	Photo-Heat Detector are individually mappable

Table 23: PAD Protocol SLC Points Programming Options		
Type	**Function**	**Description**
PAD100-DD	Sensor Only Sensor with Duct Relay	Duct Detector Sensor; optional Duct Relay output
PAD100-SIM/MIM	All I/O options available as shown in the *"I/O Circuit Functions"* *table.*	Single Class B Input; Single Input Module / Mini Input Module
PAD100-DIM	[Multi Module] All I/O options available as shown in the *"I/O Circuit Functions"* *table.*	Configured for <u>two</u> Class B Inputs; Dual Input Module
PAD100-DIM (CL-A)	All I/O options available as shown in the *"I/O Circuit Functions"* *table.*	Configured for <u>one</u> Class A Input; Dual Input Module
PAD100-RM	Addr Relay General Purpose Addr Relay Zone Trouble Addr Relay HVAC Shutdown Addr Relay Reset Follower	Single Form C Relay Output; Relay Module
PAD100-OROI	[Multi Module] Addr Relay General Purpose Addr Relay Zone Trouble ← Relay 1 Addr Relay HVAC Shutdown Addr Relay Reset Follower Unused All I/O options available as shown in the *"I/O Circuit Functions"* *table.* ← Input 1	<u>One</u> Form C Relay Output & <u>One</u> Contact Input; One Relay–One Input Module
PAD100-TRTI	[Multi Module] Addr Relay General Purpose Addr Relay Zone Trouble ← Relays 1 & 2 Addr Relay HVAC Shutdown Addr Relay Reset Follower Unused All I/O options available as shown in the *"I/O Circuit Functions"* *table.* ← Inputs 1 & 2	<u>Two</u> Class B Inputs & <u>Two</u> Form C Relay Outputs; Twin Relay–Twin Input Module
PAD100-TRTI CL-A	[Multi Module] Unused Addr Relay General Purpose Addr Relay Zone Trouble ← Relays 1 & 2 Addr Relay HVAC Shutdown Addr Relay Reset Follower Unused All I/O options available. Refer to the *" I/O Circuit Functions"* *table.* ← Input 1	<u>One</u> Class A Input & <u>Two</u> Form C Relay Outputs; Twin Relay–Twin Input Module
PAD100-NAC	Addr NAC General Purpose Addr NAC Release Solenoid	Single Notification Appliance Circuit Output; NAC Module

Table 23: PAD Protocol SLC Points Programming Options		
Type	**Function**	**Description**
PAD100-ZM	[Multi Module] Unused Addr Zone Module	Configured for <u>two</u> Class B Zone Inputs; Zone Module
PAD100-ZM CL-A	[Multi Module] Unused Addr Zone Module	Configured for <u>one</u> Class A Zone Input; Zone Module
PAD100-LED	General Purpose Ouput Zone Trouble Output	LED Indicator Module; LED Module
PAD100-LEDK	[Multi Module] General Purpose Ouput ⟵ LED Zone Trouble Output All I/O options available as shown in the *"I/O Circuit* ⟵ Keyswitch *Functions"* table.	LED Indicator Module with Keyswitch; LED with Keyswitch Module
PAD100-SM	General Purpose Ouput	Audio Switch Module; Speaker Module

Programming PAD Points Instructions

This topic provides step-by-step instructions on programming *PAD protocol points*. To learn how to configure *Nohmi protocol points*, refer to the linked document shown below. All instructions show how to program from the *"Points Programming"* window, however, points may also be programmed from the *"Zones Programming"* window.

> **Notes:**
>
> • For instructions on programming ***Nohmi Protocol points***, click this **"*Programming Nohmi Protocol Points*"** *document link*.
>
> • To review how to install and set dip switches on PAD detectors and/or modules, refer to ***"Section 3.4 – Installing PAD Protocol SLCs, Detectors & Modules"*** located in this manual.
>
> • Use the ***"LEARN" programming function*** after all points have been addressed to automatically configure all connected detectors / modules. Then, use these programming instructions to individually program or fine-tune points. Click this ***"LEARN Programming"*** *document link* to review the LEARN function.
>
> • Refer to ***Potter's on-line training videos*** to learn more about configuring points:
>
>   ▶ **PAD Points**   ▶ **Programming Nohmi Protocol Points**
>
> • To select and program multiple points at the same time, refer to the **"*Keyboard Shortcuts & Tips*"** *document*.

To program/configure a point:

1. Start from the **"Points Programming" window.**

Use the scroll bar to display more SLC points.

Figure 114. Example of the Points Programming Window

SLC 2 represents an optional SLC loop (PAD100-SLCE) installed on the panel.

Note: This example illustrates an IPA-4000 panel. If an SLC expansion board is installed on an IPA-100 / IPA-60 panel, it will be named "SLC 1."

Device	Addr	Name	Type	Function	Supervisory	Alarm Verification	Low Temp	EOL Value (k Ohm)	LED Blink Disabled
SLC 2	1	Point 1	PAD100-PD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	2	Point 2	PAD100-PD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	3	Point 3	PAD100-HD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	4	Point 4	PAD100-HD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	5	Point 5	PAD100-CD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	6	Point 6	PAD100-PHD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	7	Point 7	PAD100-DD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	8	Point 8	PAD100-NAC	Addr NAC General Purpose	☐	☐	☐	N/A	☐
SLC 2	9	Point 9	PAD100-NAC	Addr NAC General Purpose	☐	☐	☐	N/A	☐
SLC 2	10	Point 10	PAD100-RM	Addr Relay General Purpose	☐	☐	☐	N/A	☐
SLC 2	11	Point 11	PAD100-ZM	Multi Module	☐	☐	☐	N/A	☐
SLC 2	11.1	Point 11.1	Input 1	Addr Zone Module	☐	☐	☐	N/A	☐
SLC 2	11.2	Point 11.2	Input 2	Addr Zone Module	☐	☐	☐	N/A	☐
SLC 2	12	Point 12	PAD100-TRTI CL-	Multi Module	☐	☐	☐	N/A	☐
SLC 2	12.1	Point 12.1	Relay 1	Addr Relay General Purpose	☐	☐	☐	N/A	☐
SLC 2	12.2	Point 12.2	Relay 2	Addr Relay General Purpose	☐	☐	☐	N/A	☐
SLC 2	12.3	Point 12.3	Input 1	Contact Input Pull Station	☐	☐	☐	N/A	☐

2. Use the **scroll bar,** if needed, to display SLC points, and click the "*point*" to select it, as shown below.

Figure 115. Example of Point 13 Selected

Point 13 is highlighted in "blue" and the "selection" arrow is shown here.

Device	Addr	Name	Type		Supervisory	Alarm Verification	Low Temp	EOL Value (k Ohm)	LED Blink Disabled
SLC 2	13	Point 13	Unused		☐	☐	☐	N/A	☐
SLC 2	14	Point 14	Unused		☐	☐	☐	N/A	☐
SLC 2	15	Point 15	Unused		☐	☐	☐	N/A	☐
SLC 2	16	Point 16	Unused		☐	☐	☐	N/A	☐
SLC 2	17	Point 17	Unused		☐	☐	☐	N/A	☐
SLC 2	18	Point 18	Unused		☐	☐	☐	N/A	☐
SLC 2	19	Point 19	Unused		☐	☐	☐	N/A	☐
SLC 2	20	Point 20	Unused		☐	☐	☐	N/A	☐

3. Double-click in **Name field** and enter a descriptive name (*up to 20 alphanumeric characters)*, if needed.

4. Click on the **Type field's** ▼ drop-down arrow to select an option.

Figure 116. Example of Point 13 Programmed as "PAD100-PD" (Photo Detector)

Point 13's type is "*PAD100-PD*" (an Addressable Photo Detector).

Device	Addr	Name	Type	Function	Supervisory	Alarm Verification	Low Temp	EOL Value (k Ohm)	LED Blink Disabled
SLC 2	12.2	Point 12.2	Relay 2	Addr Relay General Purpose	☐	☐	☐	N/A	☐
SLC 2	12.3	Point 12.3	Input 1	Contact Input Pull Station	☐	☐	☐	N/A	☐
SLC 2	13	Point 13	PAD100-PD	Sensor Only	☐	☐	☐	N/A	☐
SLC 2	14	Point 14	Unused		☐	☐	☐	N/A	☐
SLC 2	15	Point 15	Unused		☐	☐	☐	N/A	☐
SLC 2	16	Point 16	Unused		☐	☐	☐	N/A	☐
SLC 2	17	Point 17	Unused		☐	☐	☐	N/A	☐
SLC 2	18	Point 18	Unused		☐	☐	☐	N/A	☐
SLC 2	19	Point 19	Unused		☐	☐	☐	N/A	☐
SLC 2	20	Point 20	Unused		☐	☐	☐	N/A	☐

5. Click on the ***Function field's*** [▾] to select a function, as needed. In this example, the *PAD100-PD* is programmed to function with an *"PAD100-SB" (Addressable Sounder Base) vs. "Sensor Only."*

Note: Some detectors, like the PAD100-PD, may be programmed to function as a *"sensor only"* or with multiple input / output functions (*i.e., Addressable Sounder Base / Relay Base*). Refer to the ***"Points with Multiple Functions Examples"*** heading that follows this topic for more information.

Figure 117. Example of Point 13 Programmed as "PAD100-PD & Sounder Base (PAD100-SB)"

Point 11 programmed as "Sensor with Addressable Sounder Board"

6. Click to select one or more of the *additional input functions,* as shown in the example below. Refer to the *"Input Points Programming Options" table* below for brief descriptions of these input options *(i.e., Supervisory, Alarm Verification, etc.)*.

Note: These options are available for **specific** input detectors only! See table shown below for details.

Figure 118. Example of Point 13 Programmed as "Photo Detector with Sounder Base" & Input Options Selected

Point 12 shown programmed with several input options.

Table 24: Input Points Programming Options	
Option	**Description / Examples**
Supervisory	• Designates a detector as a supervisory input instead of an alarm input. • Available for addressable inputs only, i.e., heat detectors, smoke detectors, duct detectors, photo-heat combo, etc. • Tamper devices automatically selects supervisory (i.e., contact input tamper).
Alarm Verification	• Specifies that a detector will utilize the alarm verification feature. • Available for Photo Detectors only.
Low Temp	• Indicates that a device is at or below programmed temperature. • Available for Heat Detectors only.
EOL Value (k Ohm)	• LEARN function automatically detects EOL (End of Line) and programs accordingly. • Sets the EOL value for the circuit. • Available for NAC circuits only.
LED Blink Disabled	• Disables the LED of a specific point preventing the LED from blinking. • Available for PAD protocol detectors only.

7. Continue configuring other individual points, as needed.

Note: To learn keyboard shortcuts, click the ***"Keyboard Shortcuts & Tips"*** *document link* and/or go to ***Potter's on-line training video*** shown below.

▶ **Software Shortcuts**

Points with Multiple Functions Examples

Some detectors and modules may be programmed with two (2) or more I/O functions and are referred to as *"Multi-Module."* Each function is automatically assigned a *"sub-point" address* to delineate its unique function. Below are a few examples of *"Multi-Module" detectors and modules*.

Examples:

- When a *PAD100-DD (Duct Detector)* is programmed with a *"Duct Relay,"* one sub-point address is assigned *(see Point 5.0 below)*. The *"Relay Board"* can be programmed with a different function:

Point 5.0's function can be changed here!

| Built-in SLC | 5 | Point 5 | PAD100-DD ▾ | Sensor with Duct Relay ▾ |
| Built-in SLC | 5.0 | Point 5.0 | Relay Board | Addr Relay General Purpose ▾ |

- When a *PAD100-PHD (Combination Photo/Heat Detector-Split)* is programmed as an *"PAD100-SB,"* three (3) sub-point addresses are assigned *(see Points 6.0, 6.1 and 6.2)*.

Built-in SLC	6	Point 6	PAD100-PHD (Sp ▾	Sensor with PAD100-SB ▾
Built-in SLC	6.0	Point 6.0	Sounder Base	
Built-in SLC	6.1	Point 6.1	Photo Sensor	
Built-in SLC	6.2	Point 6.2	Heat Sensor	

- When a *PAD100-DIM (Dual Input Module)* is programmed, two (2) sub-points are assigned *(see Points 4.1 and 4.2)*. Each Input 1 and 2 can be programmed with separate functions.

Inputs 1 & 2 function may be changed!

Built-in SLC	4	Point 4	PAD100-DIM ▾	Multi Module
Built-in SLC	4.1	Point 4.1	Input 1	Contact Input Pull Station ▾
Built-in SLC	4.2	Point 4.2	Input 2	Contact Input Pull Station ▾

- When a *PAD100-TRTI (Twin Relay-Twin Input Module)* is programmed, four (4) sub-points are assigned *(see Points 3.1– 3.4)*. Each *Relay 1 & 2, Input 1 & 2* can be programmed with separate functions.

Relays 1 & 2 and Inputs 1 & 2 functions can be changed!

| Built-in SLC | 3 | Point 3 | PAD100-TRTI ▾ | Multi Module |
Built-in SLC	3.1	Point 3.1	Relay 1	Addr Relay General Purpose ▾
Built-in SLC	3.2	Point 3.2	Relay 2	Addr Relay General Purpose ▾
Built-in SLC	3.3	Point 3.3	Input 1	Contact Input Pull Station ▾
Built-in SLC	3.4	Point 3.4	Input 2	Contact Input Pull Station ▾

Adding (Moving) Points to a Zone

This topic addresses how to add or move a point into a zone from the *Zones programming window.* The steps are the same for any type of point.

> **Note:** For instructions on adding *Nohmi Protocol points to a zone,* click the "**Programming Nohmi Protocol Points**" document link.

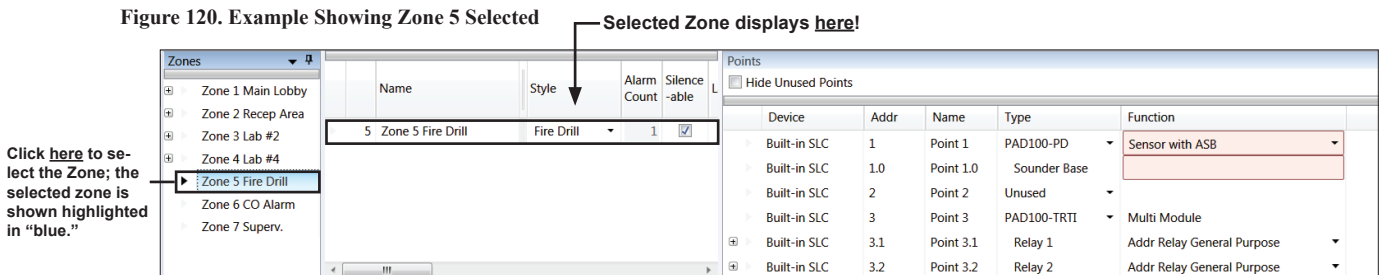***To move one point into one zone:***

1. Start from the *"Zones Programming" window* and adjust window panes, as needed, to display more information in the *Points window.*

Figure 119. Example of Resizing the Points Window

The Points window has been resized to display more information.
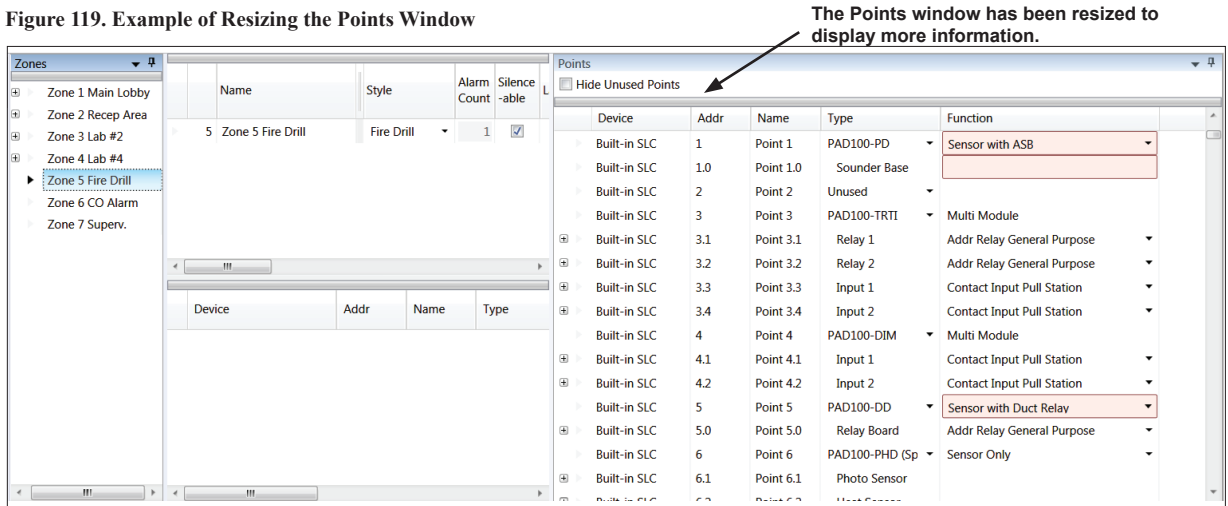
2. In the *Zones window*, click the *Zone Name* to select it; this is the zone you want to add or move point(s) into. *(The example below shows Zone 5 selected.)*

Figure 120. Example Showing Zone 5 Selected

Selected Zone displays here!

Click here to select the Zone; the selected zone is shown highlighted in "blue."

3. In the *Points window* use the scroll bar, if needed, to view the point to be moved.

4. Use ***drag and drop*** to move the point <u>*from*</u> the Points window <u>*into*</u> the zone.

Figure 121. Example of Moving Point 7 into Zone 5

Zone 5 is selected.

Point 7 displays <u>here</u> in Zone 5.
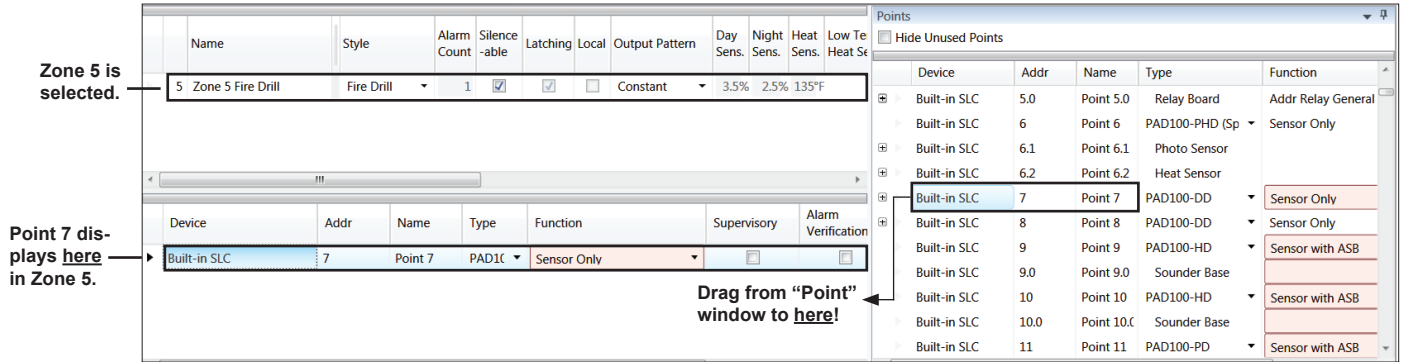
Tip: If you can't *drag and drop* the selected point, verify that the ***Programming window*** is **<u>not</u>** maximized. If it is, resize or minimize the window and try drag and drop again.

5. Repeat *Steps 2 – 4,* as needed, to continue adding points into the selected zone.

Deleting a Point from a Zone

This topic addresses how to delete a single point from a zone from the ***Zones programming window.***

To delete a point from a zone:

1. Click to select the <u>zone</u> in the ***Zones window*** to display all points currently in the zone.

2. Click to select the <u>point</u> in the ***Device window.***

Figure 122. Example of Selecting <u>One</u> Point to be Deleted from Zone 5

Point 7 is selected and highlighted in "blue."
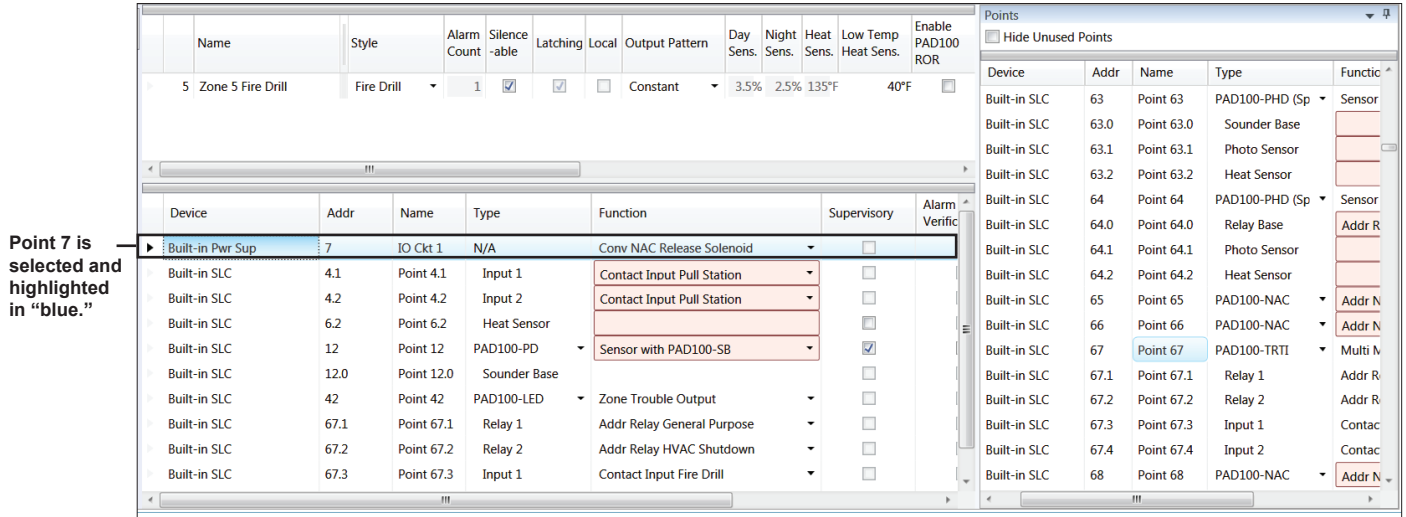
3. ***Right click*** the mouse on the point's (device) name, as shown below, to display the *"Remove selected point(s) from selected Zone(s)"* message.

Note: When a point is deleted from a zone, the detector is <u>not</u> deleted. It is no longer "*mapped*" to the zone.

Figure 123. Example of Deleting Point 7 from Zone 5

4. When the "*Remove selected point(s) ....*" *message* displays, ***left click*** the mouse to remove the point.

5. Repeat *Steps 1 - 4* as needed to continue deleting points.

Note: To learn several keyboard shortcuts, go to ***Potter's on-line training video.***

▶ **Software Shortcuts**

5.5 Printing Reports

This topic explains how to print panel configuration reports, such as a "*Points List*" or "*History Events Status*" report. These reports can be used to troubleshoot the panel or to provide programming information to the central or monitoring station. Sample reports and instructions for other printing options are linked in this topic.

Step-by-step instructions for printing the following reports are included in this topic:

- *Points List Report*
- *Zones List Report*
- *History (Events) Status Report*
- *Detector Sensitivity Status Report*
- *Dialer / IP Monitoring Report*

   Note: Go to ***Potter's on-line training video*** to learn more about this topic.

   ▶ **Printing Reports**
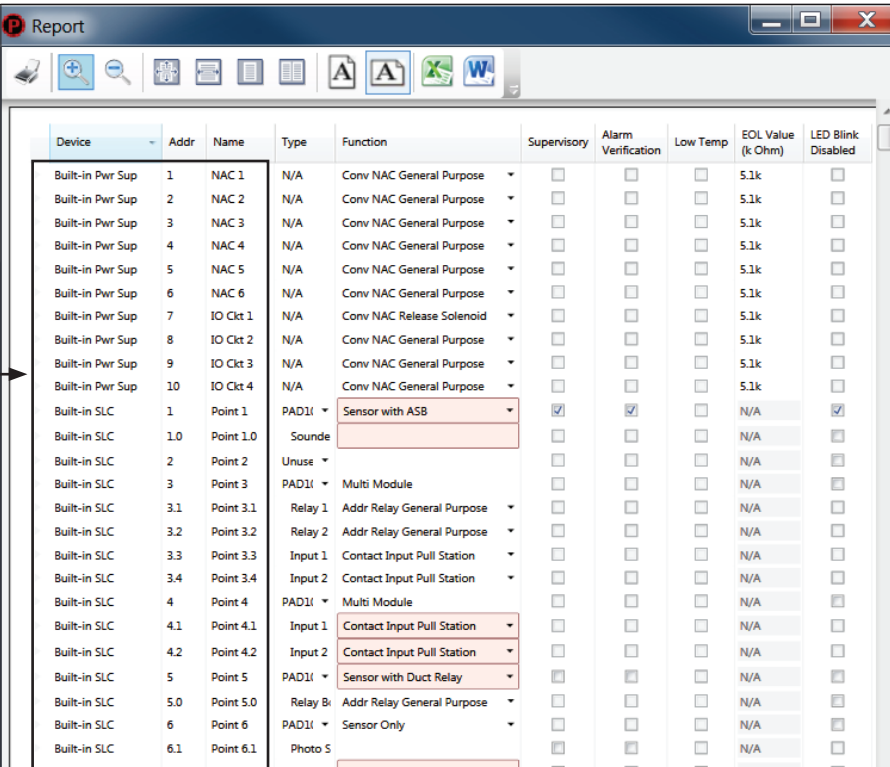
Report Printing Overview

The table below describes the four (4) (report) printing icons that are available from most of the programming options.

Table 25: Printing & Exporting Options	
Icons	*Description*
	The **"Print the selected grid"** icon outputs <u>all</u> data *(in the selected window pane)* to a Report window.
	The **"Print the selected items"** icon outputs the <u>selected</u> item(s) to a Report window.
	The **"Export selected grid to Excel"** icon exports all data in the selected window pane to an Excel file. Data can be reformatted, as needed, printed and/or saved in Excel.
	The **"Export selected grid to Word"** icon exports all data in the selected window pane to a Word file. Data can be reformatted, as needed, printed and/or saved in Word.

   Note: To learn about the **"Export to Excel / Word" options,** and other reporting options, go to the **"Reporting Options"** document.

The **"Report" window** displays whenever a printing or exporting option is selected. The following examples illustrate the difference between the ⬚ *"Print the selected grid"* and the ⬚ *"Print the selected items"* options.
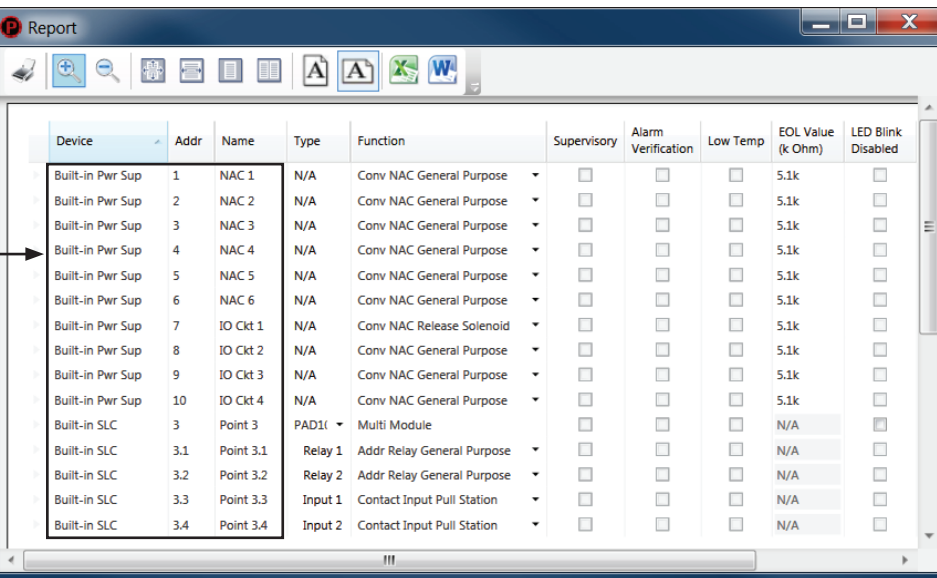
Example 1: Report Window Showing <u>All</u> Points via the"Print the Selected Grid" Option

All points will print on this report!

Note: This report spans across multiple pages; not all points are shown.

Example 2: Report Window Showing <u>Selected</u> Points via the"Print the Selected Items" Option

Only the "Built-in Power Supplies" (Points 1-10) and Point 3, including sub points 3.1-3.4, will print on this report!

Note: To learn how to select non-adjacent points (*i.e., Point 10, 22, 65 and 70*) and/or a range of points (*i.e., Points 15-22*), click this **"*Keyboard Shortcuts & Tips*"** document link. Refer also to **"*Reporting Options*"** to learn about exporting data to Excel / Word.

Report Window Icons

The **Report Window** provides several viewing and page layout options via the *report icons* shown at the top of the window. Refer to the example below and the table which briefly describes each icon.

Figure 124. Report Window Icons

Reporting icons display here!

Click the "Print" icon to print the entire report.

Use the scroll bar to display additional report pages, if any.
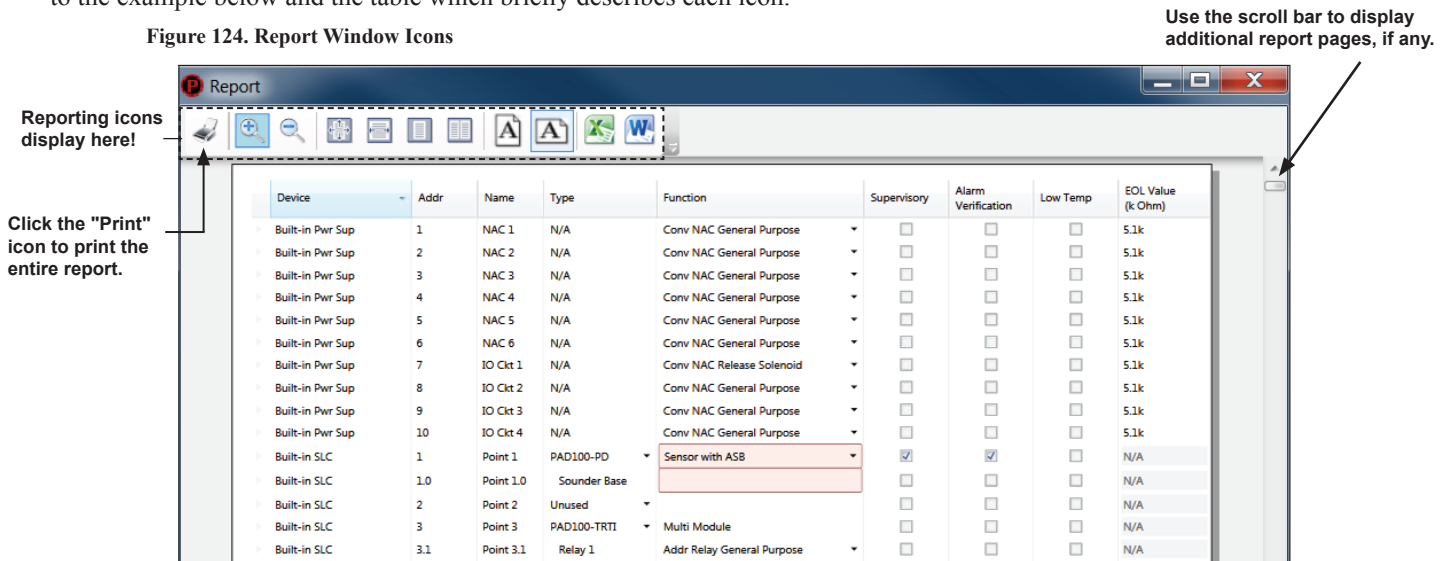
Table 26: Report Window Icons	
Icon	**Description**
	Displays a print dialog box to select printer, page range, # of printed copies, etc.
	Increases or magnifies the size of the report data.
	Decreases the size of the report data.
	View report at 100%.
	View data to fit page width.
	View report data as whole page.
	View report data two pages at a time.
	Portrait page layout (8-1/2" x 11").
	Landscape page layout (11" x 8-1/2").
	Export report to Excel.
	Export report to Word.

Note: To learn more about exporting data to Excel / Word, go to the **"Reporting Options"** *document*. Refer also to the **"Advanced Reporting Options"** *document* for information on sorting data alphabetically before outputting to a report and other options.

Printing a "Points List" Report

A "**Points List" Report** lists all points' programming information which may be printed for troubleshooting and/or documentation purposes.

To __print__ a"Points List" report:

1. Open the ***Points programming option,*** and click in the "***Points" window pane*** to select it.

Figure 125. Example of Points Window Selected

Blue highlighting indicates that the"Points" window is selected.

Tip: Adjust column width(s) to display all columns on the same page. Go to the "*Keyboard Shortcuts & Tips*" document for more details.

Device	Addr	Name	Type	Function		Supervisory	Alarm Verification	Low Temp	EOL Value (k Ohm)	LED Blink Disabled
Built-in Pwr Sup	1	NAC 1	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	2	NAC 2	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	3	NAC 3	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	4	NAC 4	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	5	NAC 5	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	6	NAC 6	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	7	IO Ckt 1	N/A	Conv NAC Release Solenoid	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	8	IO Ckt 2	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	9	IO Ckt 3	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in Pwr Sup	10	IO Ckt 4	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k	☐
Built-in SLC	1	Point 1	PAD100-PD	Sensor with ASB	▼	☑	☑	☐	N/A	☑
Built-in SLC	1.0	Point 1.0	Sounder Base			☐	☐	☐	N/A	☐
Built-in SLC	2	Point 2	Unused		▼	☐	☐	☐	N/A	☐
Built-in SLC	3	Point 3	PAD100-TRTI	Multi Module	▼	☐	☐	☐	N/A	☐
Built-in SLC	3.1	Point 3.1	Relay 1	Addr Relay General Purpose	▼	☐	☐	☐	N/A	☐
Built-in SLC	3.2	Point 3.2	Relay 2	Addr Relay General Purpose	▼	☐	☐	☐	N/A	☐

Note: A "***Points List" Report*** can only be generated and/or printed from the "***Points" programming window;*** you **cannot** use the "***Zones" programming window.***

2. Click the 🖨 ***Print selected grid icon*** to output all points to a ***Report window***.

Figure 126. Example of Report Window Listing All Points (*Only Page 1 Shown*)

Device	Addr	Name	Type	Function		Supervisory	Alarm Verification	Low Temp	EOL Value (k Ohm)
Built-in Pwr Sup	1	NAC 1	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	2	NAC 2	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	3	NAC 3	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	4	NAC 4	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	5	NAC 5	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	6	NAC 6	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	7	IO Ckt 1	N/A	Conv NAC Release Solenoid	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	8	IO Ckt 2	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	9	IO Ckt 3	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in Pwr Sup	10	IO Ckt 4	N/A	Conv NAC General Purpose	▼	☐	☐	☐	5.1k
Built-in SLC	1	Point 1	PAD100-PD	Sensor with ASB	▼	☑	☑	☐	N/A
Built-in SLC	1.0	Point 1.0	Sounder Base			☐	☐	☐	N/A
Built-in SLC	2	Point 2	Unused		▼	☐	☐	☐	N/A
Built-in SLC	3	Point 3	PAD100-TRTI	Multi Module	▼	☐	☐	☐	N/A
Built-in SLC	3.1	Point 3.1	Relay 1	Addr Relay General Purpose	▼	☐	☐	☐	N/A
Built-in SLC	3.2	Point 3.2	Relay 2	Addr Relay General Purpose	▼	☐	☐	☐	N/A
Built-in SLC	3.3	Point 3.3	Input 1	Contact Input Pull Station	▼	☐	☐	☐	N/A
Built-in SLC	3.4	Point 3.4	Input 2	Contact Input Pull Station	▼	☐	☐	☐	N/A
Built-in SLC	4	Point 4	PAD100-DIM	Multi Module	▼	☐	☐	☐	N/A
Built-in SLC	4.1	Point 4.1	Input 1	Contact Input Pull Station	▼	☐	☐	☐	N/A
Built-in SLC	4.2	Point 4.2	Input 2	Contact Input Pull Station	▼	☐	☐	☐	N/A
Built-in SLC	5	Point 5	PAD100-DD	Sensor with Duct Relay	▼	☑	☑	☐	N/A
Built-in SLC	5.0	Point 5.0	Relay Board	Addr Relay General Purpose	▼	☐	☐	☐	N/A
Built-in SLC	6	Point 6	PAD100-PHD (Sp	Sensor Only	▼	☐	☐	☐	N/A
Built-in SLC	6.1	Point 6.1	Photo Sensor			☑	☑	☐	N/A
Built-in SLC	6.2	Point 6.2	Heat Sensor			☑	☐	☑	N/A
Built-in SLC	7	Point 7	PAD100-DD	Sensor Only	▼	☑	☑	☐	N/A

To view the entire report, click the "*All Points Report*" here. Note that this report was exported / reformatted in Excel.

Go to the "*Reporting Options*" document for export instructions.

Note: It may take 15 seconds or more to generate a report if your panel has optional SLC expansion boards installed *(PAD100-SLCE and/or SLCE-127)*.

3. Click the 🖨 ***Print icon*** to print the report.

Printing "Zones List" Reports

A "**Zones List" Report** lists all zones' programming information which may be printed for troubleshooting and/or documentation purposes.

To print a"Zones List" report:

1. Open the ***Zones programming option,*** and ***drag the mouse*** down all zones as shown in the **"Zones" window.** All zones are selected and listed in the **"Zones" window pane** as illustrated below.

Figure 127. Example of All Zones Selected

Blue highlight-
ing indicates
that all zones
are selected.

All <u>selected</u> zones
display <u>here</u>!

2. Click in the **"Zones" window pane** to select it as shown in the example below.

Figure 128. Example of Zones Window Pane Selected

<u>All</u> zones listed in
the "Zones" pane
will print.

3. Click the ⎙ ***Print selected grid icon*** to output <u>all</u> zones to a ***Report window***.

Figure 129. Example of All Zones Report (*Partial Report Shown*)

Click the "All Zones
Report" here to view
as shown exported /
reformatted in Excel.

Go to the "Reporting
Options" document
for export instruc-
tions.

4. Click the 🖨 ***Print icon*** to print the report.

Printing a "History (Events)" Report

A "***History Events" Report*** lists a history of panel events, *i.e., troubles, alarms, etc.,* that have occurred since the last time it was uploaded (*or "transferred"*) from the panel. Up to 1,000 events will print on the report; the information may be used for troubleshooting and/or documentation purposes. Refer to the step-by-step instructions below to learn how to upload and print the panel history events.

To <u>print</u> a "History Status" report:

1. Click the [icon] *icon (Upload History File From Panel)* to display the ***"Transfers" dialog box***.

    Figure 130. Example of "Transfer" Dialog Box Showing "History" Selected
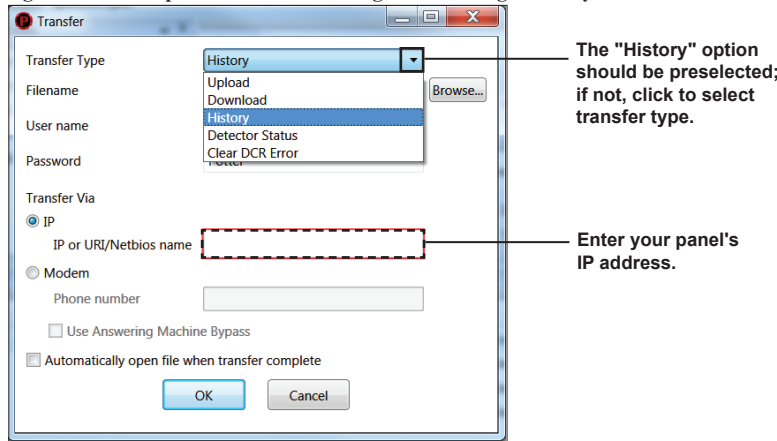
2. Complete the following ***"Transfer" fields*** as indicated:

    *   Enter a ***"Filename"*** *(optional)*.

    *   Enter your panel's **IP address** in the ***"Transfer Via IP" field***.

        Notes:
        *   If your panel is directly connected to the PC, enter the **default IP 169.254.150.70** *(unless changed by your Installer!)*.
        *   If you are unsure of your panel's **IP address**, click the *"Lookup Panel's IP"* document link.
        *   If you are connecting via a modem, please refer to "***Appendix B: Modem Connectivity Setup.***"

    *   Click the ***OK button*** to complete the *History transfer*. The uploaded file displays in the **"Transfers" section**.

        Figure 131. Example of "Completed" History File in Transfer Section
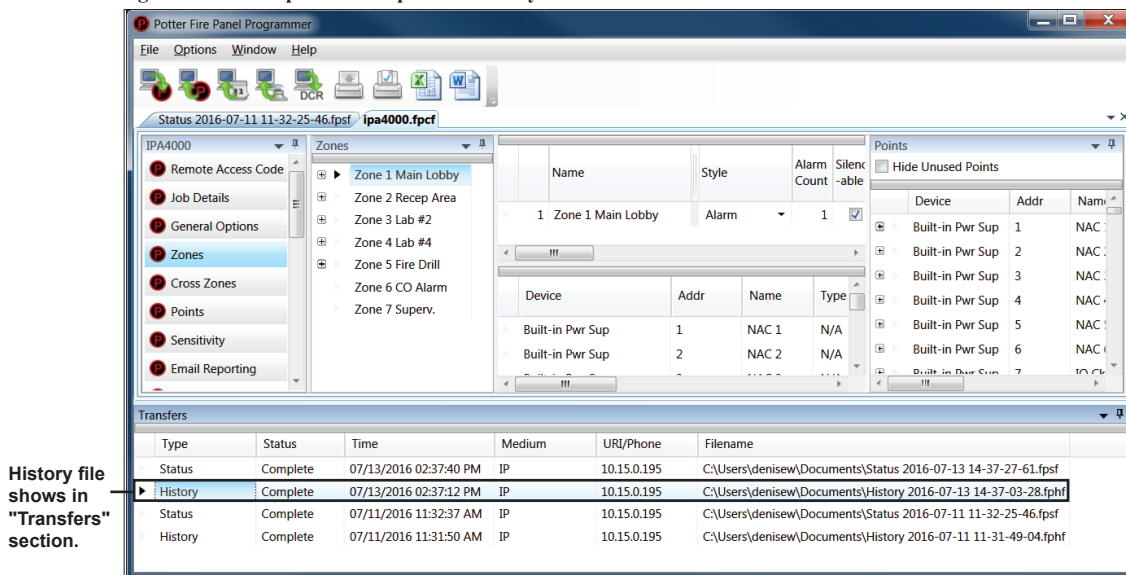
    Notes:
    *   Verify that the transfer was ***"Complete"*** as shown in the ***"Status" field***.
    *   If the transfer was **not** completed successfully, verify the panel's IP address and then repeat ***Steps 1 & 2***.

3. Next, *double-click* the *History file name* shown in the *"Type" field.*

Figure 132. Example of Viewing History Events

4. Click **anywhere** in the *"History events" window,* then click the [icon] *Print selected grid icon* to output to a *Report window*.

Click the **"History Report"**
here to view it as shown
exported / reformatted in
Excel.

Go to the **"Reporting**
Options" document for
export instructions.

5. Click the [icon] *Print icon* to print the report.

Printing a "Detector Sensitivity" Report

A "***Detector Sensitivity" Report*** lists detector settings or programming which may be used for troubleshooting and/or documentation purposes. Refer to the step-by-step instructions below to learn how to upload and print a *Detector Sensitivity Report*.

> **Note:** Refer also to the ***"Sample Detector Sensitivity (Status) Report"*** *document link* located at the end of these steps for an explanation of the report's field data.

To <u>***print***</u> ***a"Detector Sensitivity Status" report:***

1. Click the ⬚ icon *(Upload Detector Status File From Panel)* to display the ***"Transfer" dialog box***.

Figure 133. Example of "Transfer"Dialog Box Showing "Detector Status" Selected
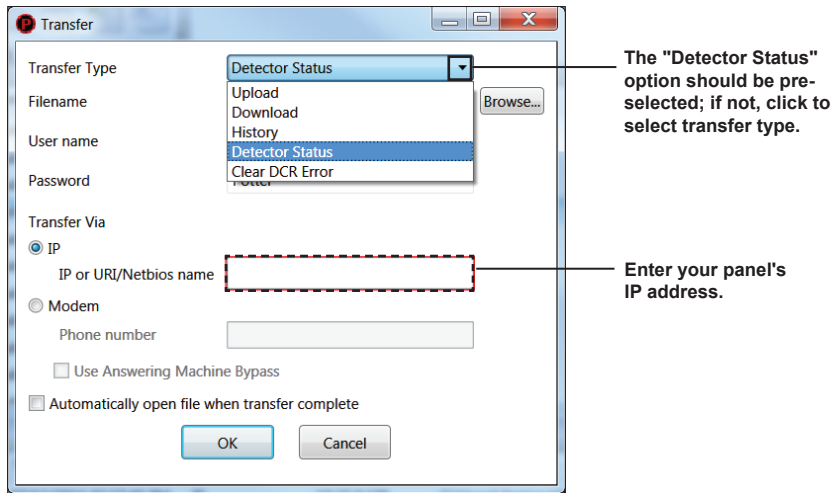
The "Detector Status" option should be pre-selected; if not, click to select transfer type.

Enter your panel's IP address.

2. Complete the following ***"Transfer" fields*** as indicated:

    *   Enter a ***"Filename"*** *(optional)*.

    *   Enter your panel's **IP address** in the ***"Transfer Via IP" field***.

        Notes:

        –   If your panel is directly connected to the PC, enter the **default IP 169.254.150.70** *(unless changed by your Installer!)***.**
        –   If you are unsure of your panel's **IP address**, click the *"Lookup Panel's IP"* document link to verify it.
        –   If you are connecting via a modem, please refer to **"***Appendix B: Modem Connectivity Setup***.***"*

    *   Click the ***OK button*** to complete the transfer; the *Detector Status file* is listed in the **"Transfers" section**.

Figure 134. Example of Detector Status File Shown in Transfers Section
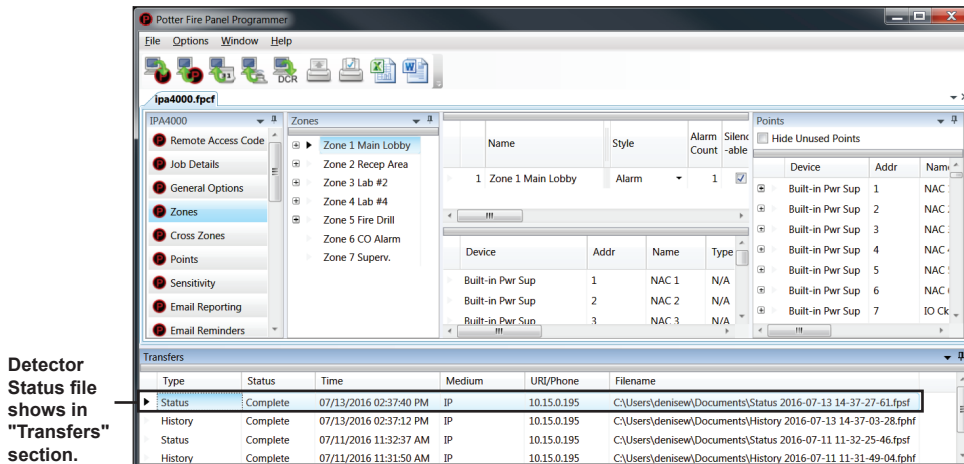
Detector Status file shows in "Transfers" section.

Notes:

–   Verify that the transfer was ***"Complete"*** as shown in the ***"Status" field***.
–   If the transfer was <u>**not**</u> completed successfully, verify the panel's IP address and then repeat ***Steps 1 & 2***.

3. Next, *double-click* the *Detector Status file name* shown in the *"Type" field.*

Figure 135. Example of Viewing Detector Status Information

4. Click **anywhere** in the *"Detector Status" window,* then click the 🖨 *Print selected grid icon* to output to a *Report window*.

Click the **"Detector Status Report"** here to view it as shown in exported and refor- matted in Excel.

Go to the **"Reporting Options"** document for export instruc- tions.

5. Click the 🖨 *Print icon* to print the report.

Notes:

• To view a "*Detector Status Report"* that contains explanations of all fields and data, click this **"IPA Panel Detector Status Sample Report with Explanations**" *document link*.

• To learn about how to test detectors' sensitivity, go to the following *Potter's on-line training video:*

▶ **Testing Sensitivity Reports**

Printing "Dialer / IP Monitoring" Reports

A "***Dialer / IP Monitoring Report"*** lists Dialer and/or IP reporting account information, such as the primary and secondary account IDs, phone numbers, and programming settings (*i.e., report alarms, troubles, supervisory, etc.*). If your panel has one or more communication receivers (*via Dialer and/or IP reporting accounts*), the information printed on these reports can be extremely helpful when troubleshooting communications issues between the panel and the central monitoring station.

Note: To learn how to program the *Dialer (DACT) and/or the IP Communicator*, refer to ***"5.7 Programming Modules – DACT (UD-1000)"*** and ***"Section 7: IP Communications,"*** respectively.

To <u>print</u> a"Dialer Monitoring" report:

1. Open the ***Dialer programming option.***

Figure 136. Example of the "Dialer" Programming Window

2. Click in the "***Reporting Accounts" window pane*** to select it.

Figure 137. Example of Selecting the Reporting Account Pane (via Dialer Programming Window)

Blue highlight-ing indicates that the "Report-ing Accounts" pane is selected.

3. Click the 🖶 ***Print selected grid icon*** to output reporting accounts information to a ***Report window***.

Figure 138. Example of Reporting Accounts Programming Shown on a Report Window

4. Click the 🖶 ***Print icon*** to print the report.

To __print__ a "IP Monitoring" report:

1. Open the ***IP Reporting programming option.***

Figure 139. Example of the "IP Reporting" Programming Window

Click the "*Expand*" button to display the primary account's settings.
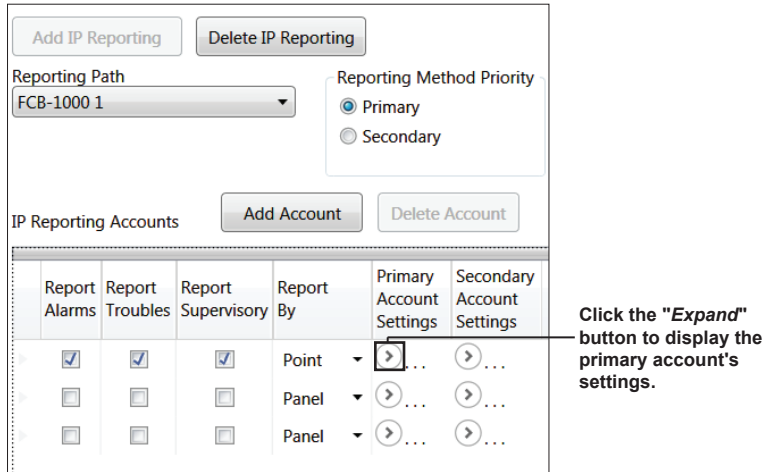
2. In the ***"IP Reporting Accounts" window,*** click the ***Primary Account Settings*** expand button to display its settings.

Figure 140. Example of Selecting the IP Reporting Account Pane (via IP Reporting Programming Window)

Click the "*Expand*" button to display the secondary account's settings.
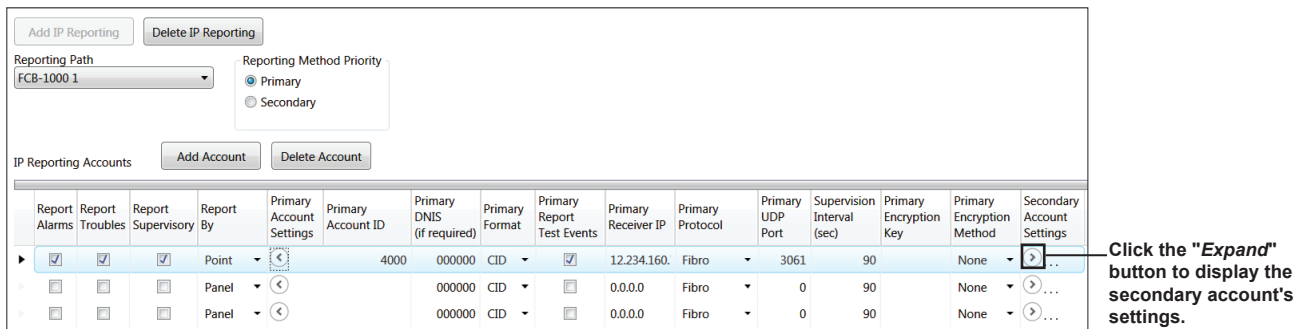
3. Click the ⬛ ***Print selected grid icon*** to output the IP reporting account information to a ***Report window***.

Figure 141. Example of IP Reporting Accounts Programming Shown on a Report Window

Click the "Dialer / IP Monitoring Report" here to view it.

Go to the "Reporting Options" document for export instructions.
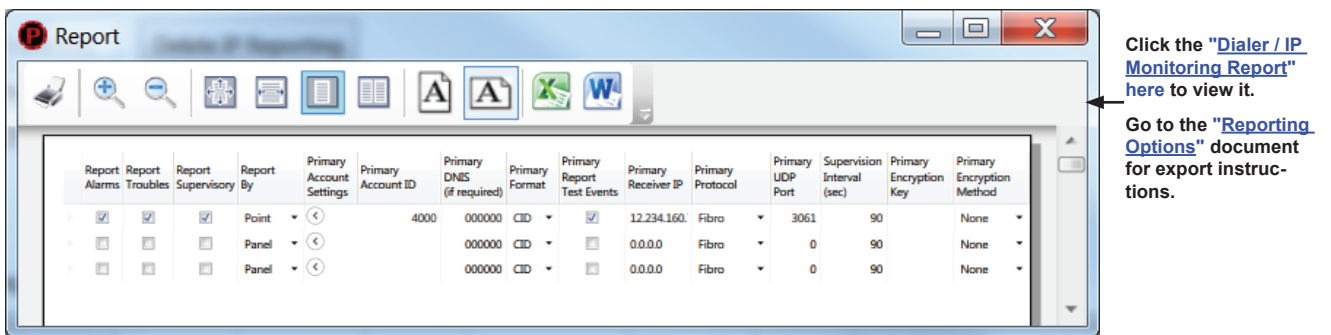
4. Click the ⬛ ***Print icon*** to print the report.

5.6 Cross Zone & Releasing Zone Configurations

The purpose of creating cross zones is to ensure that two (2) or more separate zones are activated before an output zone is triggered. Crossing two (2) zones is the most common configuration, however, up to eight (8) zones may be combined. In this case, when all the zones that have been crossed are active, the specified outputs will be activated. Several examples of releasing cross zones are provided in the next topic, **"Releasing Zone Configurations."**

> **Note**: Refer to **Potter's on-line video training** to learn how to program a panel located in a hotel example utilizing Addressable Sounder Bases mapped to cross zones.
>
> ▶ **Programming an Addressable Sounder Base & Cross Zones**

To create a cross zone:

1. Create two or more (*"Alarm" or "Supervisory" type*) zone(s) and name appropriately.

2. Configure and name devices.

3. Move devices into zones.

4. Open the **Cross Zones window**. Click in the **"Enabled" box**.

   Figure 142. Cross Zones Window Showing Enabled
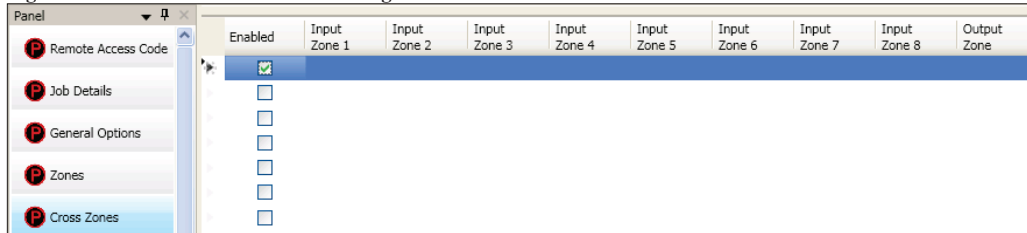
   Note: If the "*Enabled" option* is <u>not</u> selected, the cross zone relationship will not be in effect.

5. Program the cross zone, specifying the *input zone(s) and output zone*, as needed:

   • Click on the **"Input Zone 1's" drop-down arrow.** All available zones display.

   Figure 143. List of Available Zones Example
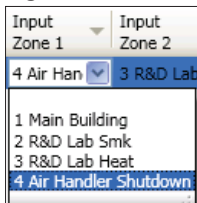
   • Click to select the next input zone (i.e., " *Input Zone 2"*).

   • Continue selecting input zones, as needed.

   • Click on "**Output Zone's" drop-down arrow** and select the *output zone*.

   Figure 144. List of Available Zones Example
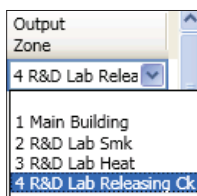
6. Repeat **Steps 4 & 5** to program additional cross zones, as needed.

—

Releasing Zone Configuration Examples

The IPA-100's flexibility provides a platform for a variety of releasing applications, as listed below. This topic addresses several releasing configuration examples that may be used for water and chemical agent releasing zones:

- One Count or Single Interlock
- Cross Zone/Two Count (Double Interlock)
- Cross Zone/Two Count with Abort

Single Interlock (One Count) Releasing Application

This releasing application requires the activation of <u>**one zone**</u> or a **manual release input** within a designated releasing zone to start the release sequence.

Figure 145. Example of Single Interlock (One Count) Releasing Application
One (1) releasing zone contains two (2) input devices and one (1) output. The output configured as releasing is activated when either the manual station or a detector in the releasing zone are active.

Zone 1: Releasing

Smoke Detector
Manual Release
1
2
Release Solenoid
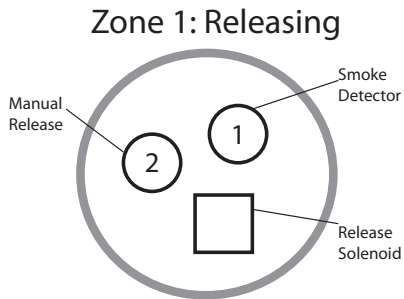
Cross Zone / Two Count (Double Interlock) Releasing Application

These releasing applications require the activation of <u>**two zones**</u> or a <u>**manual release input**</u> within a designated releasing zone to start the release sequence.

Figure 146. Example 1 of Cross Zone / Two Count (Double Interlock) Releasing Application
One (1) releasing zone contains input and output (device or manual release) with an abort switch. In this application, both sensors in the releasing zone or a manual release within the designated release zone must be activated to start the release sequence.

Zone 1: Releasing

Smoke Detector
Heat Combo
1
2
3
Manual Release
NAC Release Solenoid

1 & 2 to activate solenoid
OR
3 to activate solenoid
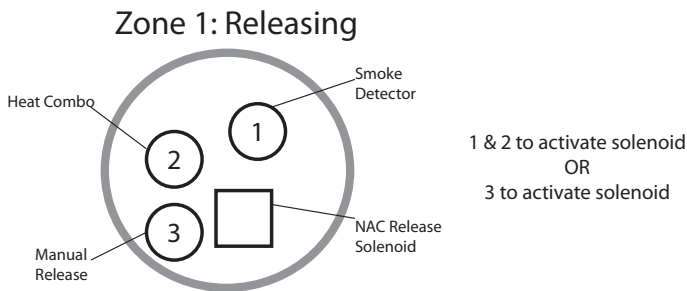
Figure 147. Example 2 of Cross Zone / Two Count (Double Interlock) Releasing Application
Three (3) separate zones are created, each containing one point. In this application, one (1) sensor within each of the cross zones or a manual release within the designated release zone must be activated to start the release sequence.

Zone 1: Releasing

Smoke Detector
Heat Combo
1
2
Abort Switch
NAC Release Solenoid
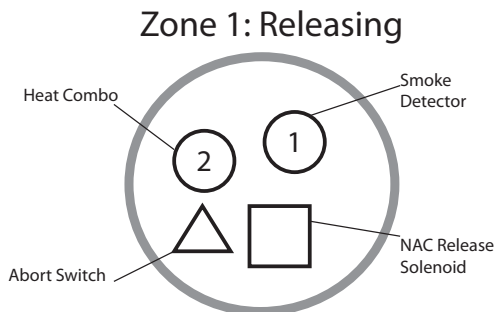
Two Count Releasing Application with Abort Switch

This releasing application requires the activation of **two sensors** or a **manual release input** within a designated releasing zone to start the release sequence. The timing of the release can be affected by the operation of an abort input within the designated releasing zone.

Activation of an input module classified for the **abort switch function** will initiate the abort type sequence as selected in programming. The abort switch must be pressed prior to the pre-discharge timer expires as programmed.

   Note: Any device being used to initiate the abort function should be clearly marked and or labeled.

Figure 148. Example of Two Count Releasing Application with Abort Switch
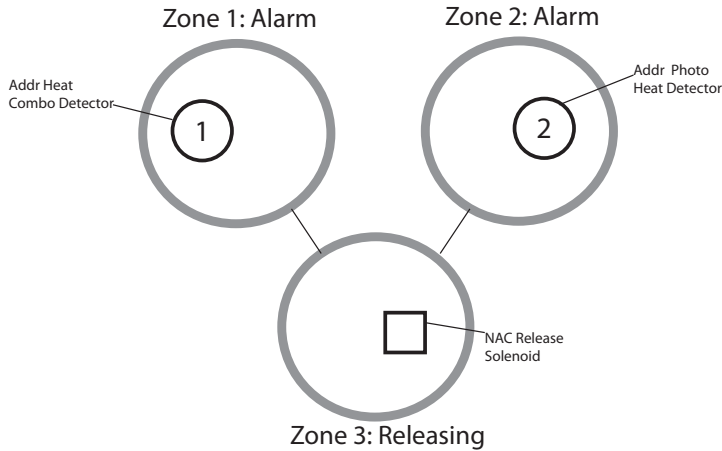
Cross Zone Releasing Application with Abort Switch

This releasing application requires the activation of at least **one sensor** within **each** of the designated "*Cross Zones*" or a manual release within the designated release zone to start the release sequence. The timing of the release can be affected by the operation of an abort input within the designated releasing zone.

Activation of an input module classified for the **abort switch function** will initiate the abort type sequence as selected in programming. The abort switch must be pressed prior to the pre-discharge timer expires as programmed.

   Note: Any device being used to initiate the abort function should be clearly marked and or labeled.

Figure 149. Example of Cross Zone Releasing Application with Abort Switch
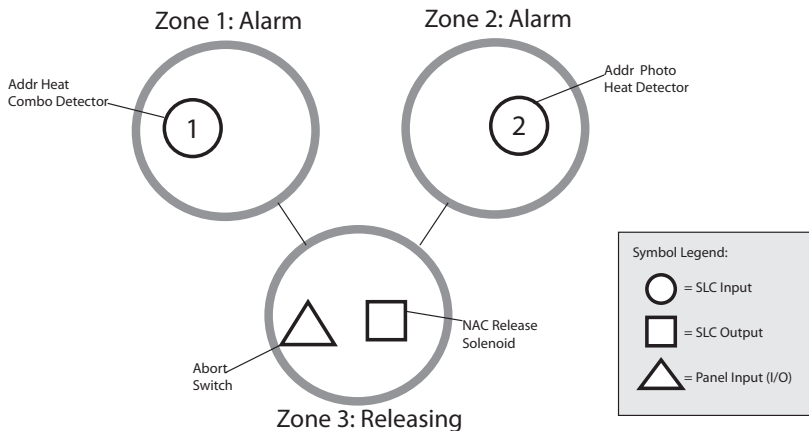
5.7 Programming Modules

This section explains how to program P-Link modules, such as the PAD100-SLCE expansion board, CA-6075 Class A expansion card, remote annunciators *(RA-6500R, RA-6500F and RA-6075R)*, and others.

SLC Expansion Module (PAD100-SLCE or SLCE-127)

The IPA-100 may be equipped with one (1) SLC expansion board *(PAD100-SLCE and/or SLCE-127)* if the on-board SLC loop is disabled. The PAD100-SLCE and SLCE-127 support up to 127 points, and it's SLC's name, address and class may be changed to support Class A or B wiring.

> **Note:** For information on installing SLC expansion boards refer to "***Section 3.1 P-Link Detectors & Modules – SLC Expander Board Installation"*** located in this manual.

To program a PAD or NOHMI protocol SLC loop:

1. Select the ***SLC Loop option*** from the system panel. The ***"Add Device" window*** displays.

   Figure 150. Example of the "Add SLC Device" Window

2. Click on the ***"Address" drop-down arrow*** to and choose an address (1-127).

   Click here to select an address!

3. Choose the ***SLC loop protocol*** (*PAD or Nohmi*).

   Protocol defaults to "PAD" here.

   • **Default = PAD protocol,** choose this if a PAD100-SLCE is added.
   • Choose **Nohmi protocol** if a SLCE-127 is added.

   > **Note:** The "***SLC Name"*** updates from ***"Built-in SLC"*** to ***"SLC 1"*** once the SLC loop is added.

4. Click the ***"Class" (A or B) drop-down arrow*** to select, if needed

   Click here to choose SLC loop Class. "PAD" here.

Class A Expander Module (CA-6075)

The IPA-100 supports one (1) Class A Expander card.

> **Note:** To learn about installing a CA-6075 Class A expansion board refer to "*Section 3.1 P-Link Detectors & Modules – Class A Expander Module Installation*" located earlier in this manual.

To add and program a Class A module:

1. Select the ***Class A Card option*** from the system panel. The ***"Add Device" window*** displays.

    Figure 151. Example of Class A Card – Add Device Window
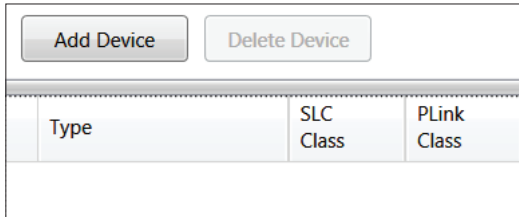
2. Click the [Add Device] ***button*** to add a Class A Card.

    Figure 152. Example of Add Device Window Showing One Added Class A Card
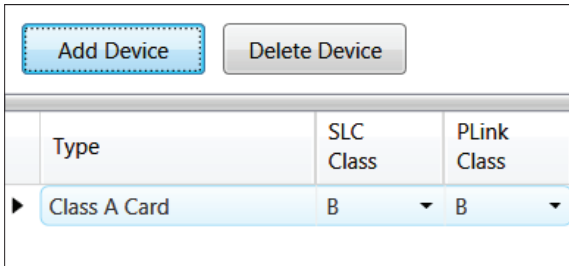
    > **Note:** The Class A Card defaults to Class B for both the *"SLC Class"* and *"PLink Class"* types.

3. Configure the Class A card, if needed, as follows:

    *   Click the ***"SLC Class" drop-down arrow*** to select Class A.
    *   Click the ***"Plink Class" drop-down arrow*** to select Class A.

    Figure 153. Example of Programming a Class A Card
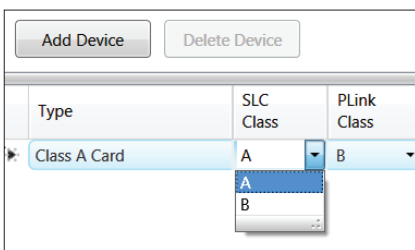
    > **Note**: If you attempt to add more than one (1) Class A card, the following message displays.

    Figure 154. Example of "Unable to Add Dialog Box"
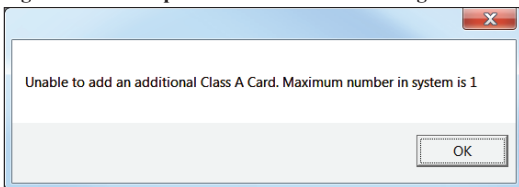
Remote Annunciators (RA-6500R / RA-6500F and RA-6075R)

The IPA-100 supports up to thirty-one (31) remote annunciators in any combination of RA-6500R, RA-6500F, and RA-6075R. Each LCD annunciator may be programmed with a unique name to help identify the location of an "*off normal*" condition.

> **Note:** To learn about installing a remote annunciator refer to "***Section 3.1 P-Link Detectors & Modules – Remote Annunciator Installation"*** located earlier in this manual.

To add and program a remote annunciator:

1. Select the **LCD Annunciator option** from the system panel. The ***"Add Device" window*** displays.

   Figure 155. Example of LCD Annunciator – Add Device Window

   The "Internal" LCD cannot be reconfigured or deleted!
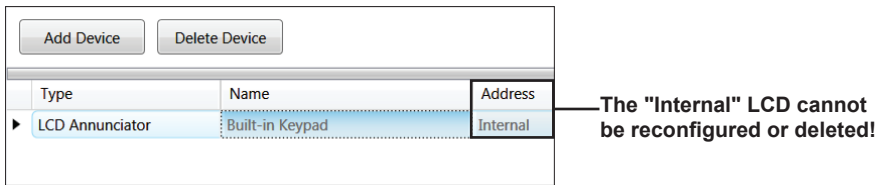
2. Click the ⬚ Add Device *button* to add an annunciator.

   Figure 156. Example of the Adding a LCD Annunciator
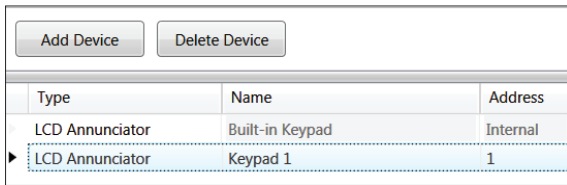
3. Configure the annunciator, as needed:

   • Double-click in the *"Name" field* to change the default name (*i.e., Keypad 1, Keypad 2, etc.*).
   • Double-click in the *"Address" field* to enter a different address (*i.e., 1, 2, 3, etc.*).

   Figure 157. Example of the Configuring Added LCD Annunciators
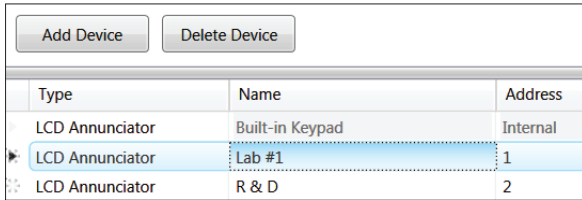
4. Repeat **Steps 2 & 3** to continue adding annunciators.

DACT (UD-1000)

Each panel may have one (1) **DACT module** (*Digital Alarm Communicator Transmitter*), which provides notification of alarms, troubles, and supervisory conditions to a remote monitoring company via telephone lines. The "**Dialer" programming option** allows you to configure two (2) telephone numbers by setting up their phone line options, such as the number of rings, phone line prefixes, etc.

Figure 158. Example of the "Add Dialer" DACT Window

Programming Notes:

1. If the system has been programmed to use a dialer, and two (2) phone lines are used, the DACT alternates between lines on each daily test call.
2. A daily test is automatically sent to a remote monitoring location; the test time may be programmed through the "*General Options*" *programming window* via the *"Time to Send Autotest" field*.
3. If a DACT (UD-1000) is installed and the IP Communicator is programmed, the daily test call can be sent to both reporting accounts. *(Please refer to* **"Section 7: IP Communication"** *in this manual for more information on this topic.)*
4. If a DACT is not installed and the IP Communicator is not programmed, the system will operate as a local panel.

Reporting Accounts

The "*Reporting Accounts" section* is used to program the reporting options for sending alarms, troubles and supervisory notification reports to the remote monitoring company. A minimum of one (1) *reporting account* must be configured, and a maximum of five (5) may be programmed. Each reporting account must have a designated *primary* and/or *secondary reporting account ID* setup.

Figure 159. Example of Dialer Reporting Accounts (Shown with "Panel Selection" field to select/ MC-1000 Modules)

Notes:

- To learn about installing a DACT (UD-1000) refer to "**Section 3.1 P-Link Detectors & Modules – DACT Installation"** located earlier in this manual.

- If a MC-1000 (*Multi-Connect module*) is installed, panels may be selected via the *"Panel Section" field* shown above to report events via the DACT. Refer to the **"Multi-Connect Module (MC-1000)"** programming topic in this section for more details.

- To learn more about installing and programming MC-1000 modules, watch ***Potter's on-line training video:***

  ▶ **MC-1000**

To add and program a DACT module:

1. Select the **Dialer option** from the system panel. The **"Add Dialer" window** displays.

2. Click the [Add Dialer] **button** to add a dialer.

Figure 160. Example of the Dialer Programming Window

Device Name / ID defaults are shown; these may be modified, if needed.

To change these defaults refer to Step #4 below.

The "Reporting Method" default is "Primary." See Steps #5-7 below for details.

NOTE: If your panel is programmed for "IP Reporting" as the primary reporting method, the DACT should be programmed as the "Secondary" reporting method. Refer to "Section 7: IP Communication" in this manual for more information on this topic.

3. Click in the **"Device Name"** and/or **"Device ID"** fields to change defaults, if needed (*i.e., Dialer 1 and/or 1, 2, 3, etc.*).

4. In the **"Phone Line 1 and Phone Line 2"** options, make changes according to each phone line's setup requirements.

Figure 161. Example of Phone Lines Options

Phone Lines are **enabled** by default; if disabled, DACT will not detect phone line & cannot dial out.

These fields have been changed according to each phone line requirements.

In this example, phone line #2 requires a "9" prefix & a 2-second pause before dialing out.

Each "," (comma) creates a 1-second pause before the dialer attempts to dial a reporting account number.

This option defaults to "Primary" indicating that the DACT is the 1st path of communication.

- **Enabled** – both phone lines are automatically enabled; click to remove check mark to disable phone line.
- **Answering Machine Bypass** – when checked, phone line will bypass answering machine.
- **Enable Line Monitor** – when checked, phone line will be monitored for voltage (15V ± 5V).
- **Disable Dial Tone Detection** – when checked, dialer will not check for dial tone before dialing.
- **Number of Rings** – Enter the # of rings before DACT picks up call when dialing into panel from a remote location.
- **Line Prefix** – Enter any numbers or characters required to access phone line.

   Note: In the example shown above, *Phone Line #2* requires a **"9" prefix** to get an outside line, plus **two (2) commas** which instructs the dialer to pause 2 seconds before dialing out.

5. In the **"Reporting Method Priority"** field, choose either *Primary* or *Secondary*, as explained below:
   - **Primary** – By default, the Dialer is selected as the first path of communication to the remote monitoring station.
   - **Secondary** – When selected, the Dialer will be the alternate path of communication.

6.   Click the [Add Account] **button** to add a **Reporting Account.** Up to **5 reporting accounts** (*each supporting a "Primary" and "Secondary" account*) maybe added.

Figure 162. Example of Reporting Accounts Showing 3 Accounts Setup

Click each report option, as needed.

Enter information as instructed by the monitoring station.

Click the drop-down arrow to select a "Report By" option.

This field displays only if a MC-1000 is installed and is the "Host" panel. Refer to "Section 5.7 Programming Modules, MC-1000," for more information.

7.   Setup the added reporting account, as described below:

- Click to select each "**Report" type** (*i.e., Alarms, Troubles, Supervisory*, as needed, to send the applicable events to the designated monitoring station.

- Click the "**Report By" drop-dead arrow** to select the amount of information **(i.e., Panel, Zone, Point)** to send to the designated monitoring station.

- If the **"Panel Selection" field** is shown, complete this step as indicated below, otherwise go to **Step #8**.

Figure 163. Example of the "Select Panels to Report" Dialog Box Showing 2 Panels Selected

Click to select applicable panels to report.

Note: The panels listed here were programmed in the MC-1000 module.

– Click the [Panels] **button** to display the **"Select Panels to Report" dialog box** as shown above.

– The number of panels listed is based on the number of MC-1000's installed.

– Click in each panel's **"Select" box** to report on the panel; click again to remove selection, if needed.

– Click **OK** to save selections.

8.   Enter the "**Primary Accounts IDs" and "Primary Phone Number"** as provided by the monitoring station.

- Choose the **"Primary Format"** (*CID is default*) as required by monitoring station.

  Note: Both SIA-DCS and Ademco Contact ID protocols are supported.

- Click the **"Primary Report Test Events"** *selection box* to send auto test signals to the monitoring station.

- Enter the "**Secondary Accounts IDs" and "Secondary Phone Number"** as provided by the monitoring station.

- Choose the **"Secondary Format"** (*CID is default*) as required by monitoring station.

  Note: Both SIA-DCS and Ademco Contact ID protocols are supported.

- Click the **"Secondary Report Test Events"** *selection box* to send auto test signals to the monitoring station.

9.   Repeat **Steps #7 & 8**, as needed, to setup additional reporting accounts.

LED Annunciators (LED-16 or LED-16F)

This panel supports up to ten (10) LED annunciators and/or DRV-50s in any combination. The LED-16/LED-16F annunciator provides sixteen (16) LEDs, which may be assigned to a specific zone; when that zone becomes active, the LED will display the alarm, supervisory or trouble conditions. Each LED annunciator also provides five (5) non-programmable system LEDs that annunciate the overall system condition (*Power, Earth, Silenced, Alarm, Supervisory and Trouble*).

> **Note:** To learn about installing a LED annunciator refer to "***Section 3.1 P-Link Detectors & Modules – LED Annunciators Installation"*** located earlier in this manual.

To add and program a LED annunciator:
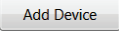
1. Select the ***LED Annunciator option*** from the system panel.

2. Click the [Add Device] ***button*** to add a LED annunciator. The ***"Add Device" window*** displays.

<p align="center">Figure 164. Example of the Add LED-16/LED-16F Device Window</p>
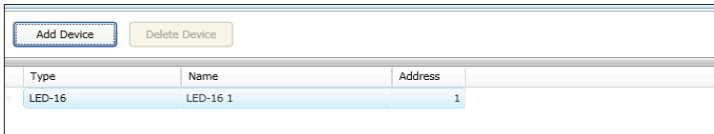
3. Configure the annunciator as follows:

    *   Double-click in the ***"Name" field*** to change the default name (*i.e., LED-16 1, LED-16 2, etc.*).
    *   Double-click in the ***"Address" field*** to enter a different address (*i.e., 1, 2, 3, etc.*).

4. Repeat ***Steps 2 & 3,*** as needed, to continue adding LED-16s.

LED Driver (DRV-50)

The panel supports up to ten (10) LED drivers and/or LED-16/LED-16F in any combination. The DRV-50 provides up to 50 LED outputs which may be mapped to any zone. Like the LED annunciator, the DRV-50 provides five (5) non-programmable system LEDs that annunciate the overall system condition, (*Power, Earth, Silenced, Alarm, Supervisory and Trouble*). Additionally, the LED driver has four (4) programmable supervised dry contact inputs.

> **Note:** To learn about installing a LED Driver (DRV-50) refer to "***Section 3.1 P-Link Detectors & Modules – LED Drivers Installation"*** located earlier in this manual.

To add and program a LED driver:
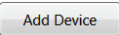
1. Select the ***DRV-50 option*** from the system panel.

2. Click the [Add Device] ***button***. The ***"Add Device" window*** displays.

<p align="center">Figure 165. Example of the Add DRV-50 Device Window</p>
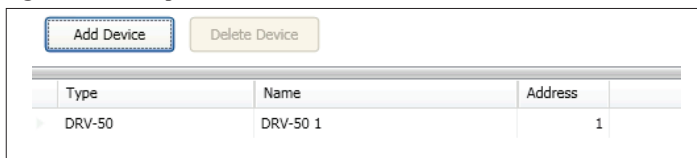
3. Configure the DRV-50 as follows:

    *   Double-click in the ***"Name" field*** to change the default name (*i.e., DRV-50 1, DRV-50 2, etc.*).
    *   Double-click in the ***"Address" field*** to enter a different address (*i.e., 1, 2, 3, etc.*).

4. Repeat ***Steps 2 & 3,*** as needed, to continue adding DRV-50s.

Relay Board (RLY-5)

The IPA-100 supports up to thirty-one (31) Relay Boards. Each RLY-5 provides five (5) Form-C relay outputs which may be individually mapped to any zone.

> **Note:** To learn about installing a Relay Board (RLY-5) refer to "**Section 3.1 P-Link Detectors & Modules – Relay Board Installation"** located earlier in this manual.

To add and program a relay board:

1. Select the **RLY-5 option** from the system panel.

2. Click the [Add Device] **button**. The **"Add Device" window** displays.

Figure 166. Example of the Add RLY-5 Device Window

Type	Name	Address	
RLY-5	RLY-5 1	1	
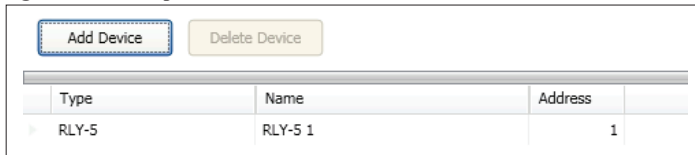
3. Configure the RLY-5, as needed:

   - Double-click in the **"Name" field** to change the default name (*i.e., RLY-5 1, RLY-5 2, etc.*).
   - Double-click in the **"Address" field** to enter a different address (*i.e., 1, 2, 3, etc.*).

4. Repeat **Steps 2 & 3**, as needed, to continue adding RLY-5s.

Fire Communications Bridge (FCB-1000)

The panel supports one (1) FCB-1000. The FCB-1000 provides a remotely-located IP connection into the panel, which may be designated as the IP reporting device versus passing through the on-board internet connection.

> **Note:** To learn about installing a FCB-1000 refer to "**Section 3.1 P-Link Detectors & Modules – Fire Communications Bridge Installation"** located earlier in this manual.

To add and program the FCB-1000:

1. Select the **FCB-1000 option** from the system panel.

2. Click the [Add Device] **button**. The **"Add Device" window** displays.

Figure 167. Example of the Add FCB-1000 Window

Click to expand the "Network Settings" details.

Type	Name	Address	
⊞ FCB-1000	FCB-1000 1	1	
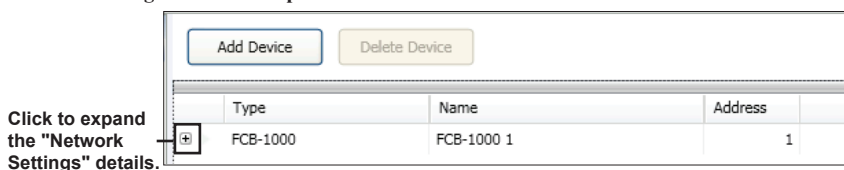
3. Configure the FCB-1000, as needed:

   - Double-click in the **"Name" field** to change the default name (*i.e., FCB-1000 1*).
   - Double-click in the **"Address" field** to enter a different address.

4. Click the *plus sign* (+) located in the left-most column to display the *"Network Settings"* options, as shown below.

Figure 168. Example of the FCB-1000 Network Settings Window

Click here to collapse *"Network Settings"* details.

This is the default Network setting. Refer to the *"Network Settings"* topic heading for more details.
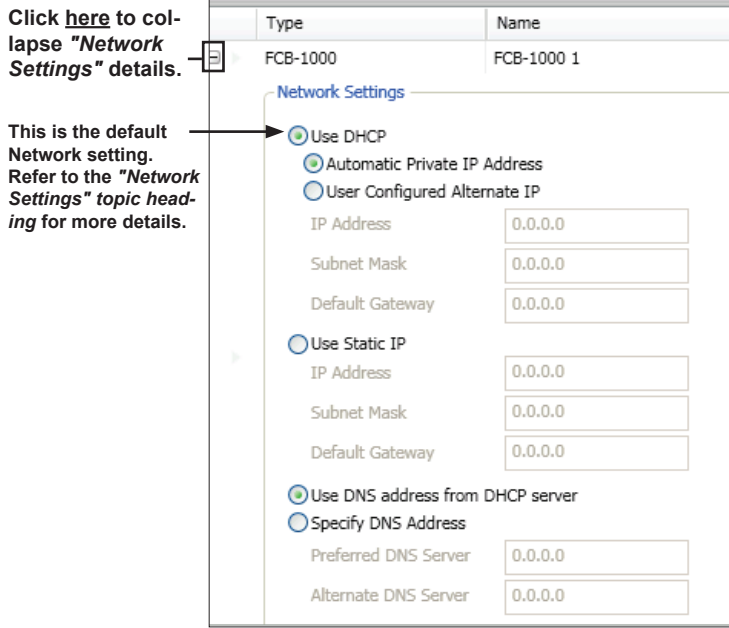
5. Set the *IP address* by choosing <u>one</u> of two methods:

    • The *"Use DHCP"* (i.e., DHCP or Dynamic Host Configuration Protocol) option is the default; an IP address automatically obtained when connected to a Network.

    • The "*Static IP"* option is used by the Network Administrator or Installer to set the static IP address via the software.

    Note: Refer to *"Network Settings"* covered earlier in this section to learn more about the this topic.

6. Click the *minus sign* (-) located in the left-most column to close the *"Network Settings" field options*.

Fiber Interface Bridge (FIB-1000)

The panel supports up to thirty (30) FIB-1000 boards. When programmed, the standard 4-wire P-Link bus is converted to and/or from fiber optic cable.

    Note: To learn about installing a FIB-1000 refer to "*Section 3.1 P-Link Detectors & Modules – Fiber Interface Bridge Installation"* located earlier in this manual.

To add and program the FIB-1000 bridge:

1. Select the *FIB-1000 option* from the system panel.

2. Click the [Add Device] *button*. The *"Add Device" window* displays.

Figure 169. Example of the Add FIB-1000 Window

Click here to choose Class A, if needed.
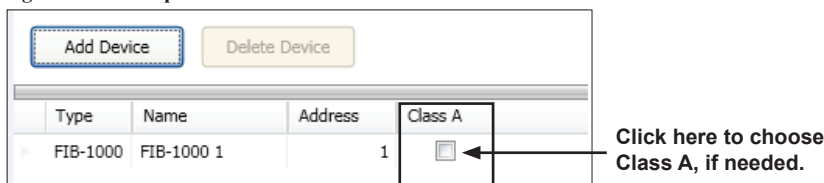
3. Configure the FIB-1000, as follows:

    • Double-click in the *"Name" field* to change the default name (*i.e., FIB-1000 1, FIB-1000 2*).

    • Double-click in the *"Address" field* to enter a different address.

    • Click the *"Class A" selection box* to configure the FIB-1000 fiber connection as Class A.

4. Repeat *Steps 2 & 3*, as needed, to continue adding FIB-1000s.

Serial Parallel Printer (SPG-1000)

The SPG-1000 module allows up to thirty-one (31) serial and/or parallel printers to be used to log system events.

Notes:

- Parallel printers must be connected to the *DB25 (J1)* connector, serial printers to the *DB9 (J2)* connection.
- To learn about installing a SPG-1000 refer to "***Section 3.1 P-Link Detectors & Modules – Serial Parallel Gateway Installation"*** located earlier in this manual.

To add and program the SPG-1000:
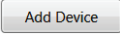
1. Select the **SPG-1000 option** from the system panel.

2. Click the [Add Device] *button*. The *"Add Device" window* displays.

Figure 170. Example of the Add SPG-1000 Window

Click in any applicable selection box to configure module. See Step #4 for details.

Double-click in other applicable fields to change defaults. Refer to descriptions shown below.

3. Double-click in the *"Name" and/or "Address" field(s)* to change the default name / address (*i.e., SPG-1000 1, SPG-1000 2*).

4. Select the applicable *"Parallel / Serial" setting options* as described below:

PARALLEL PRINTERS:

Event Printing Enabled	If selected, system events are logged to a connected parallel printer via the **DB25 connector**.
Supervise Out of Paper	If selected, the SPG-1000 continuously monitors the connected printer for an out of paper condition. When this condition occurs, a *"Trouble" event i*s generated and is annunciated by the panel.
Supervise Off-line	This option continuously monitors the connected printer for an off-line condition, if selected. When this condition occurs, a "*Trouble" event* is generated and annunciated by the panel.
Off-line time (secs)	If this option is selected, the off-line time specifies the amount of time the condition must be present before a *"Trouble" event* is generated. Default time is 60 seconds.

SERIAL PRINTERS:

Event Printing Enabled	If selected, system events are logged to a connected serial printer via the **DB9 connector.**
Supervise Port	If selected, the SPG-1000 continuously monitors the connected printer for the presence of a serial printer; if not connected, a *"Trouble" event* is annunciated.
Baud Rate	This option specifies the baud rate used to transmit data to the connected printer; default is *9600 baud rate*.
Flow Control	If selected, this specifies the flow control method when sending data to the printer. Refer to specifications of the connected printer for proper settings.
Data Bits	This option specifies the number of data bits used when sending data to the printer. Refer to specifications of the connected printer for proper settings.
Parity	This option specifies the parity used when sending data to the printer. Refer to specifications of the connected printer for proper settings.
Stop Bits	This option specifies the number of stop bits used when sending data to the printer. Refer to specifications of the connected printer for proper settings.

5. Repeat *Steps 2-4*, as needed, to continue adding and programming additional printers.

Multi-Connect Module (MC-1000)

The IPA-100 panel supports thirty-one (31) MC-1000 modules. The MC-1000 allows IPA panels to share a single reporting technology. When programming a MC-1000, the module must be identified as either a **"Host"** or **"Client."** When "**Host**" is selected, the panel supplies the communication path via phone line(s) or an Internet connection for one or more panels. When the **"Client"** is selected, another panel must be designated as the "**Host.**"

Notes:

1. The MC-1000 module directly impacts programming the DACT and/or IP Communication. Refer to their respective programming topics, as follows: **"Section 5.7: Programming Modules – DACT (UD-1000), and "Section 7: IP Communication."**

2. To learn about installing a MC-1000 refer to "**Section 3.1 P-Link Detectors & Modules – Multi-Connect Module Installation"** located earlier in this manual.

3. Go to **Potter's on-line training video** for steps on installing and programming this module.

   ▶ **MC-1000**

To add and program a MC-1000 module:

1. Select the **MC-1000 option** from the system panel. The **"Add Device" window** displays.

   Figure 171. MC-1000 Add Device Window

   "Host" is selected by default.
   Each MC-100 supports up to 2 Clients.
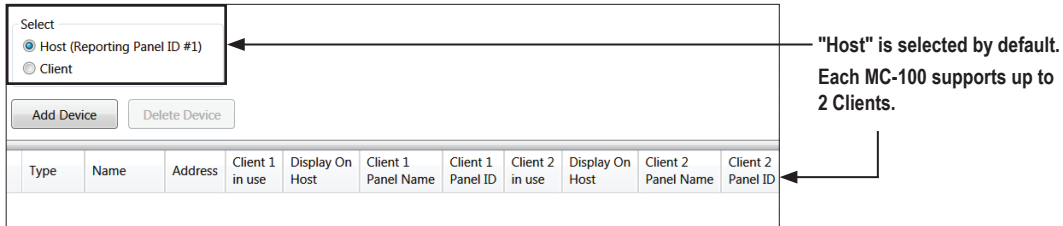
2. Program the **"Host"** (*this is the panel that provides the "reporting connection"*) as follows:

   • The **"Host" option** is preselected; click the [Add Device] *button* to display the Host's programming fields.

   Figure 172. MC-1000 Host Programming Fields

   Notice that Host is referred to as **"Reporting Panel ID #1,"** which cannot be changed. The Host module's name can be changed to a description to distinguish it from other Hosts.
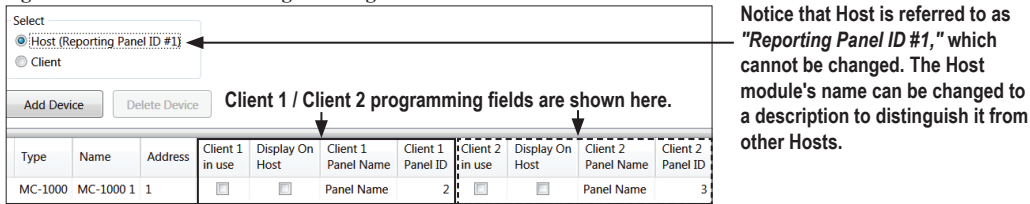
   • Double-click in the **"Name" and/or "Address."** Enter a descriptive name for the **"Host"** (*optional*), as shown below.

   Note: Descriptive names (*for both Host and Clients*) are optional, however, it's strongly recommended if multiple *MC-1000s* are added help to distinguish Client panels at the Host panel.

   Figure 173. MC-1000 Host with Descriptive Name
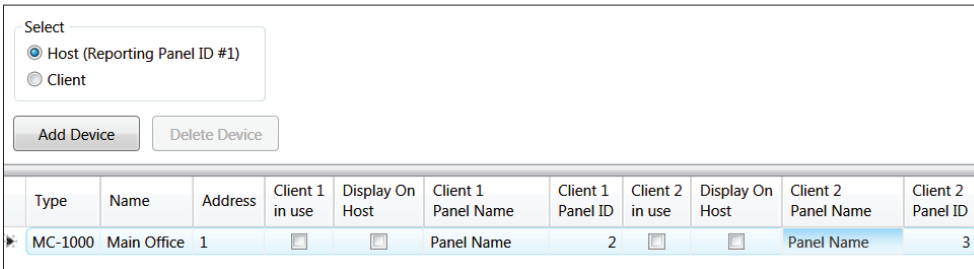
- Click in the applicable *Client 1 / Client 2 fields* as described below:
  - Click to select *"Client 1 in use" and/or "Client 2 in use"* when a client panel is connected "*Client 1 / Client 2"* on the MC-1000.
  - Click to select *"Display on Host"* for applicable Client(s). When selected, *Alarm, Supervisory and Trouble events* display on the Host panel.
  - Double-click in the *"Client 1 and/or 2 Panel Name" fields* to enter a descriptive name(s).

    Note: This is optional, however, it's recommended that each "*Client" panel* is given a descriptive name to help distinguish which Client is using a specific reporting Host.

Figure 174. MC-1000 Host Programming Fields Completed

Important Note!
Client "Panel IDs" are determined by how the installer wired the panel(s).

By default, Client 1 = Panel ID #2 and Client 2 = Panel ID #3. The Host is Panel ID#1.

3. Program the *"Client"* as follows:
   - Click to select the *"Client"* option, then the **Add Device** button.

Figure 175. MC-1000 – Programming Client(s)

   - Double-click in the *"Name" field* to enter the **Host's** descriptive name as entered in *Step #2* , if applicable.

     Note: In this example, *Host Panel #1 's name* has been changed to *"Main Office."*

Figure 176. MC-1000 – Client 1 Added

Click *"Client Connection"* dropdown arrow, if needed, to select Client # to connect to host.

   - Click on the *"Client Connection" drop-down arrow* to select the *Client connection* being used (*i.e., Client 1 / Client 2*).

     Note: The *Client's "Panel ID"* automatically reflects either *"2 or 3"* depending on the *"Client Connection"* selected; *Panel ID #1* is __reserved__ for the *Host panel*.

4. Repeat *Steps #2 & 3* to program up to 31 MC-1000 cards *(supporting up to 63 Clients panels)*. The example below shows three (3) MC-1000 cards programmed with one (1) or two (2) Clients each.

Figure 177. Example of 3 Host MC-1000s and Clients Added

Section 6: PSN-1000 / PSN-1000(E) – Installing, Operating & Programming

The PSN-1000 and PSN-1000(E) power supply boards provide power and communication expansion capability to the IPA-100 panels. Up to thirty-one (31) per system can be added each providing two (2) input points, and six (6) notification circuits and a P-Link interface. They provide an electrically isolated P-Link repeater output that supports additional power and communications distance. The PSN-1000(E)'s larger cabinet allows space for mounting up to six (6) additional P-Link and expansion cards *(i.e., PAD100-SLCE / SLCE-127, FIB-1000, etc.)*.

> **Notes**:
> - To learn more about the intelligent PSN-1000/PSN-1000E power supply, refer to the **PSN-1000(E)** on-line documents and resources located on Potter's website.
> - Refer to the *"PSN-1000 Releasing Capabilities on IPA Panels"* *document* to learn about PSN-1000 releasing capabilities on IPA panels.
> - Go to *Potter's on-line training video* to learn about programming this module.
>   - ▶ **Programming P-Link Devices**
> - To learn about other available PSN Series Power Supplies (PSN-106 / PSN-64), go to the Potter on-line training video and/or the *"PSN Series Power Supplies Dip Switch Programming Quick Start"* *document*.
>   - ▶ **PSN Series Power Supply Programming (PSN-106/PSN-64)**

Board Specifications

Cabinet Descriptions

- Sixteen (16) gauge sheet steel with hinged, locked doors
- Enclosure dimensions
    PSN-1000 – 16" x 17" x 3-7/8" (non-removable door)
    PSN-1000(E) – 26" x 17.6" x 3.75" (removable door)

Visual Indicators

- LED indicators (*Green & Amber*)

Environmental Specifications

- Mount indoors only.
- Temperature 32° to 120°F, humidity 93% non-condensing.
- Verify panel is properly grounded.
- Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides, bottom, or rear of the cabinet. Verify that they will not interfere with the batteries or other components.
- The panel must be tested and maintained in accordance with all local and national codes and ordinances. Refer to *Appendix D: PSN-1000/PSN-1000(E) Maintenance and Testing* for information on maintenance and testing recommendations.

Electrical Specifications

Please refer to the table below for the board's electrical specifications:

Table 27: PSN-1000/PSN-1000(E) Board Electrical Specifications			
# NACs	Rating per NAC	Input Circuits	Class
6	3 Amp	Dry Contact Inputs	Class A, X or B NACs are Power Limited **Note:** Refer to *"Notification Appliance Circuit Installation – NACs Wiring"* located in this section for Class A wiring requirements.

Wiring Specifications

There are several wiring requirements to consider **before** connecting circuits to the PSN-1000/PSN-1000(E) board:
1) the circuit separation, and 2) wiring types.

Circuit Separation

- Separations between the different wiring types **must** be maintained by at least ¼ inch and the wire insulation **must** be for the higher voltage.
- The two cabinets have various conduit knockouts located for ease of wire installation and allowing the installer to maintain power limited and non-power limited connections.

Wiring Types

Wiring specifications must be followed to prevent damage and/or other consequences.

Table 28: PSN-1000/PSN-1000(E) Board Circuit Wiring Types		
Type of Circuit	**Wiring Type**	
	Voltage	**Power**
AC Connection	High Voltage	Non-Power Limited
Battery Connection	Low Voltage	Non-Power Limited
Trouble Relay	Low Voltage	Non-Power Limited
Low AC Relay	Low Voltage	Non-Power Limited
Notification Device Circuits (NACs)	Low Voltage	Power Limited
Input Circuits	Low Voltage	Power Limited
P-Link RS-485 Connections	Low Voltage	Power Limited

Cabinet Dimensions

Figure 178. PSN-1000(E) Cabinet Dimensions

6-135
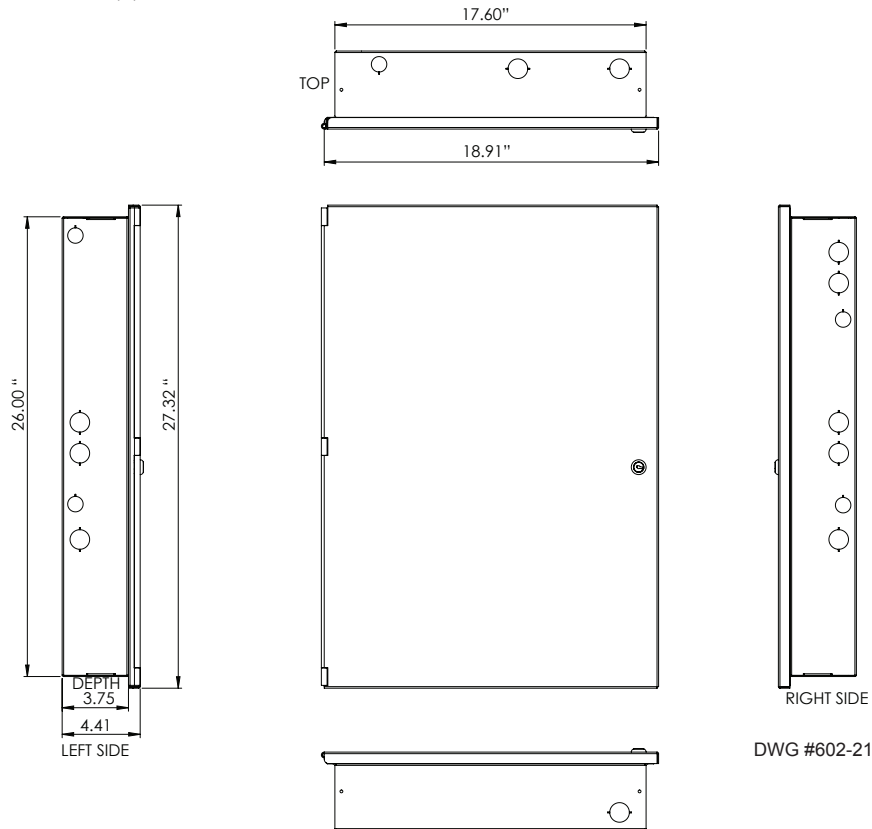
Cabinet Installation

The PSN-1000/PSN-1000(E) slides into the guides located at the bottom of the panel, and then secured with screws as shown in the following illustration.

Figure 179. PSN-1000 Panel Installation Showing Cabinet

DWG #602-22
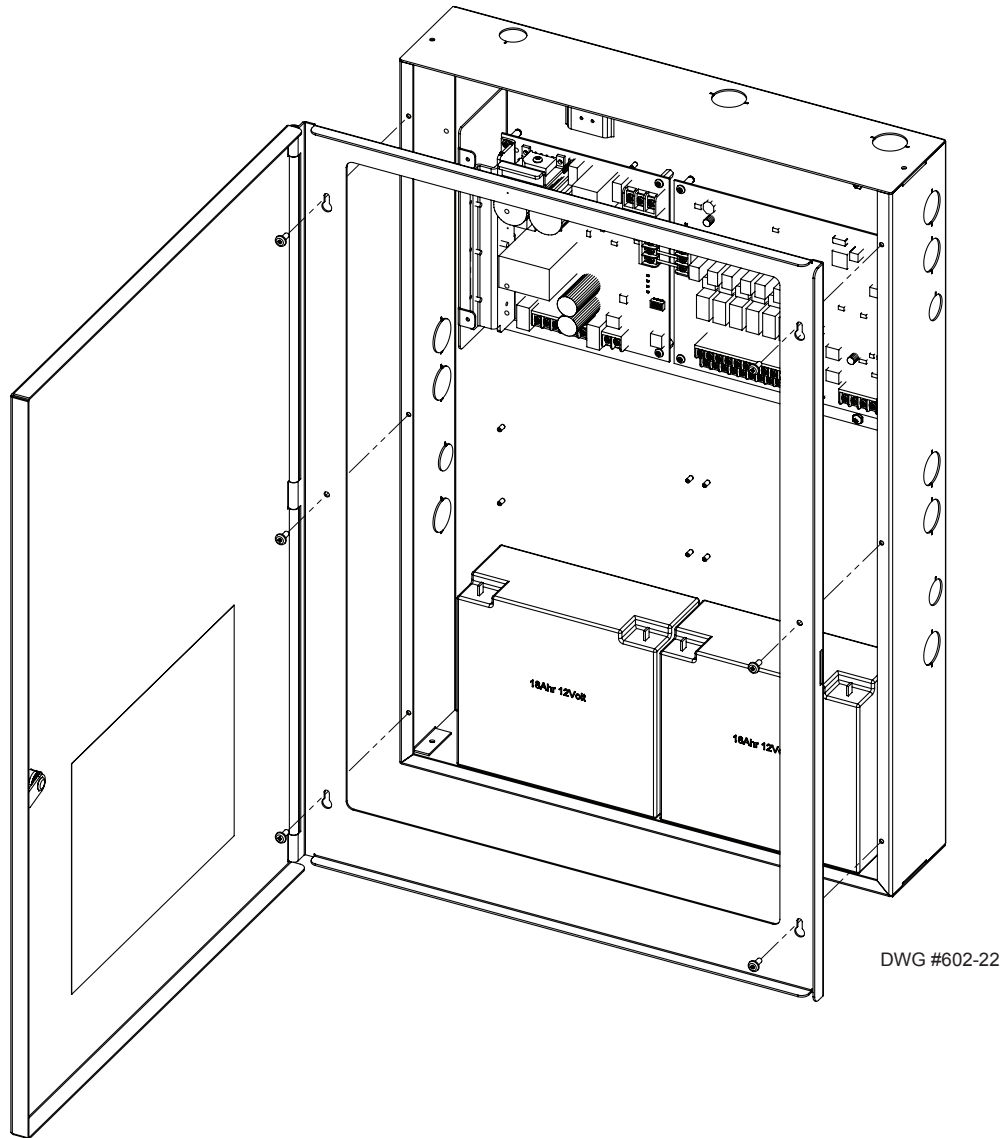
Cabinet Wiring Connections

Figure 180. PSN-1000 Wiring

120VAC 50Hz-60Hz
240VAC 50Hz-60Hz
Connect to separate
unswitched AC circuit

Non-power limited
relay connection

Non-power limited
battery connection

P-Link
Terminals

Power limited
wiring

18Ahr 12Volt

18Ahr 12Volt

DWG #602-23
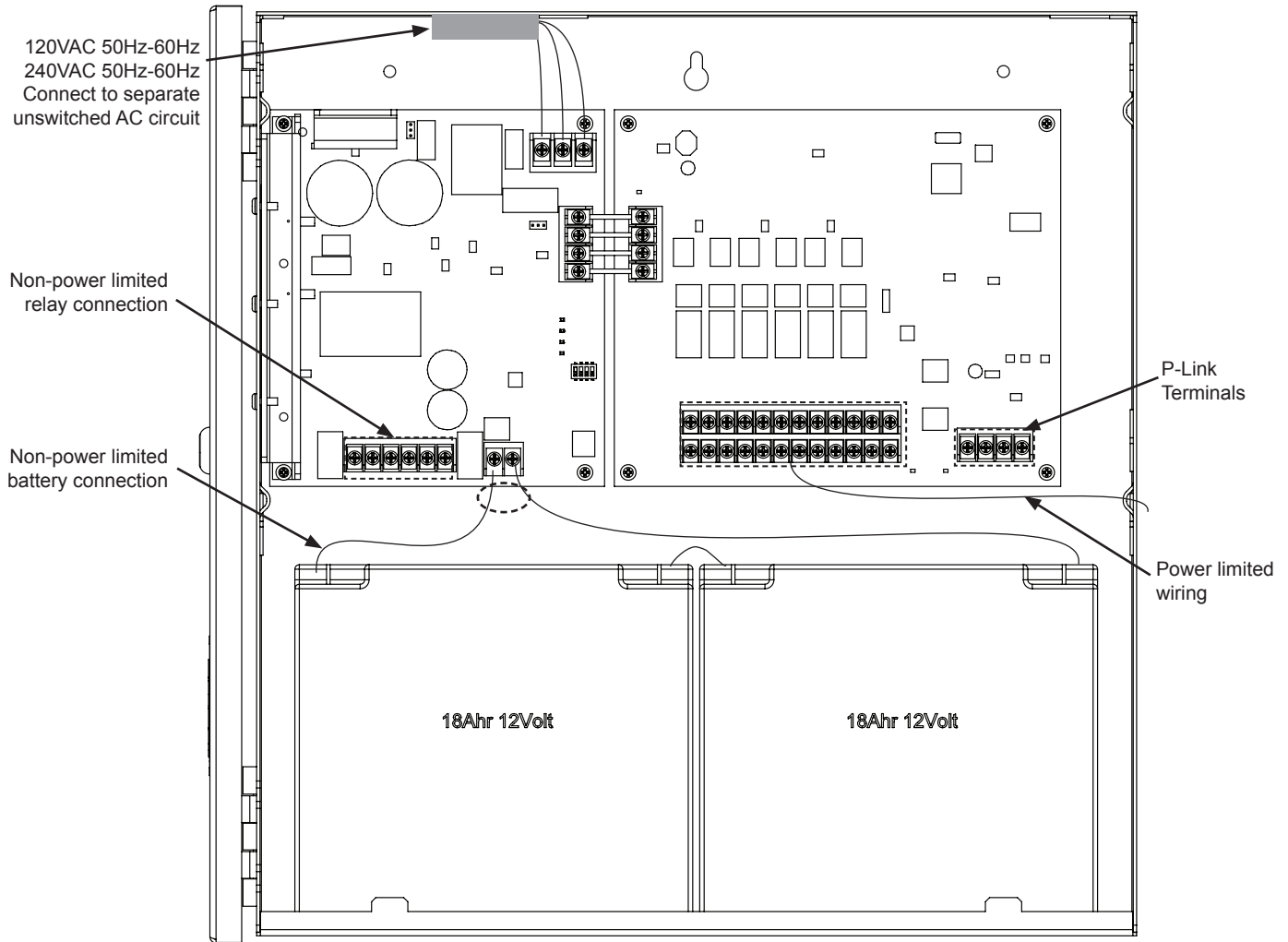
Rechargeable Battery Circuit

The battery charging circuit is on the power supply board providing terminal connections to connect the wire leads. The battery must be a recognized or listed sealed lead acid battery or equivalent.

The battery circuit is rated for 8 to 55 AH batteries and will operate the panel alarm for at least 24 hours and 5 minutes. The cabinet will house up to two (2) 18 AH batteries.

The battery charging voltage is approximately 27.3 VDC and the circuit is supervised. The maximum battery charging circuit is 1.0 amp DC.

Battery Circuit Calculation

Before selecting the battery, the installer <u>must</u> determine the minimum size batteries for standby and alarm times desired for each application. If the wrong batteries are installed or incorrect current draw used, the proper standby and minimum alarm time will not be present.

The calculation worksheets listed below are shown on the following pages. Please refer to these to calculate the battery size and current draw required for each application and SLC:

1. *Battery Calculation Worksheet*
2. *SLC Current Draw Worksheet for PAD100-SLCEs (PAD Protocol)*
3. *SLC Current Draw Worksheet for SLCE-127s (Nohmi Protocol)*

   Note: Click the link to download the on-line PSN-1000 Series calculator: **PSN-1000(E) Calculator Worksheet**

PSN-1000/PSN-1000(E) Battery Calculation Worksheet
Complete one for all P-Link devices powered by the PSN-1000 / PSN-1000(E)

Device Type	Qty	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm (mA)
PSN-1000 / PSN-1000(E) Main Board	**1**	60		200	**200**
LCD Remote RA-6075R		20		25	
LCD Remote RA-6500R / RA-6500F		20		50	
PSN-1000/E Power Expander		15		15	
LED-16 / LED-16F P-Link LED-Current (if applicable, see Note 6)		25 15		25 210	
DRV-50 Driver Module LED-Current (if applicable, see Note 6)		25 10		25 215	
RLY-5 Relay Module Relay Current (if applicable, see Note 6)		25 10		35 135	
FCB-1000 Fire Communications Bridge		25		25	
FIB-1000 Fiber Interface Bridge		30		30	
SPG-1000 Serial Parallel Gateway		40		40	
MC-1000 Multi-Connect Module		10		10	
NAC 1					
NAC 2					
NAC 3					
NAC 4					
NAC 5					
NAC 6					
SLC Current Draw					
		Total (ma)		Total (ma)	
	Convert to Amps		**x 0.001**	Convert to Amps	**x 0.001**
	(*Refer to maximum allowable standby current) Total A:			Total A:	
	Multiply by standby hours		**x____**	60 minutes per hour Alarm time (minutes) *Example:* 5 minute alarm: enter 12 10 minute alarm: enter 6	**÷____**
	Total Standby AH			Total Alarm AH	
				+Total Standby AH	
				Total AH	
				Efficiency Factor	**÷ 0.85**
				Required AH	

*Maximum Allowable Standby Current (UL 24-Hour standby time)	
7 AH	.230 A
18 AH	.619 A
33 AH	1.151 A
55 AH	1.930 A

Important Notes:
1) FACP enclosure can house up to two (2) 18 AH batteries. Larger batteries require accessory enclosure, part #SSU00500.
2) NFPA 72 requires 24 hours of standby power followed by 5 minutes alarm activation.
3) NFPA 12, 12A requires 24 hours and five minutes of alarm activation.
4) Door holder circuits configured to disconnect upon AC loss need not be included in the battery standby calculation since they will not draw power during that time. Door holders will contribute to standby current draw when AC is present.
5) Total current must not exceed power supply rating (10.0A).
6) LED/Relay current must be accounted for in the battery calculations for the supply source.

SLC Current Draw Worksheet for __one__ PAD100-SLCEs (PAD Protocol)					
Device Type	**Qty**	**Standby (mA)**	**Total Standby (mA)**	**Alarm (mA)**	**Total Alarm (mA)**
PAD100-SLCE Expansion Board (PAD protocol)		60	60	60	**60**
Photo detector (PAD100-PD)		.300		.300	
Fixed heat detector (PAD100-HD)		.300		.300	
CO detector (PAD100-CD)		.300		.300	
Combination photo/heat detector (PAD100-PHD)		.300		.300	
Duct detector (PAD100-DUCT)		.300		.300	
Duct detector w/relay (PAD100-DUCTR) *Notes 4 & 5		.500		.500	
Duct detector remote test switch (PAD100-DRTS)		10.0		15.0	
Mini input module (PAD100-MIM)		.200		.200	
Speaker module (PAD100-SM)		.240		.240	
Pull station module single action (PAD100-PSSA)		.200		.200	
Pull station module dual action (PAD100-PSDA)		.200		.200	
Relay module (PAD100-RM)		.240		.240	
Notification appliance circuit (PAD100-NAC) *Note 2		.200		.200	
Twin relay-twin input module (PAD100-TRTI)		.240		.240	
Double input module (PAD100-DIM)		.240		.240	
One relay-one input module (PAD100-OROI)		.240		.240	
Zone module (PAD100-ZM) *Note 1		.240		.240	
Remote LED module (PAD100-LED)		.240		.240	
Remote LED w/Key (PAD100-LEDK)		.200		.200	
Single input module (PAD100-SIM)		.240		.240	
Addressable sounder base (PAD100-SB) *Note 3		.200		.200	
Addressable replay base (PAD100-RB)		.200		.200	
Isolator base (PAD100-IB)		.150		.150	
Isolator module (PAD1000-IM)		.150		.150	
SLC alarm LED Current	n/a	n/a		n/a	36.0
		SLC Standby Current		**SLC Alarm Current**	

* Note 1: PAD100-ZM requires 24VDC power source. Standby Current = 15.0 mA. Alarm Current = 60.0 mA.
* Note 2: PAD100-NAC requires 24VDC power source. Standby Current = 3.0 mA. Alarm Current = 8.0 mA.
* Note 3: PAD100-SB requires 24VDC power source. Standby Current = 4.0 mA. Alarm Current = 30.0 mA.
* Note 4: PAD100-DUCTR requires 24VDC power source. Standby Current = 30.0 mA. Alarm Current = 60.0 mA.
* Note 5: When connecting the MS-RA/MSKA/P/R power source, Standby Current = 45.0 mA. Alarm Current = 90.0 mA.

SLC Current Draw Worksheet for <u>one</u> SLCE-127s (Nohmi Protocol)

Device Type	Qty	Standby (mA)	Total Standby (mA)	Alarm (mA)	Total Alarm (mA)
SLCE-127 Expansion Board (Nohmi Protocol)		60	60	60	60
Analog photo smoke detector (PSA)		0.325		0.325	
Analog photo smoke / fixed heat detector (PSHA)		0.325		0.325	
Analog fixed temperature heat detector (FHA)		0.325		0.325	
Analog rate of rise/fixed temperature heat detector (RHA)		0.325		0.325	
Analog photo DUCT smoke detector (DSA)		0.325		0.325	
Conventional initiating zone module - 4 inch mount (CIZM-4) *Note 1		0.325		1.000	
Miniature contact module (MCM)		0.325		0.325	
Single contact module - 4 inch mount (SCM-4)		0.325		1.000	
Dual contact module - 4 inch mount (DCM-4)		0.325		1.000	
Monitored output module - 4 inch mount (MOM-4) *Note 2		0.325		1.000	
Twin relay module - 4 inch mount (TRM-4)		0.325		1.000	
Short circuit isolator (SCI)		0.325		2.34	
Analog sounder base (ASB) *Note 3		0.325		0.325	
Analog relay base (ARB) *Note 4		0.325		0.325	
Isolator base (AIB)		0.325		2.34	
SLC alarm LED Current	n/a	n/a		n/a	27.0
		SLC Standby Current		**SLC Alarm Current**	

*Note 1: CIZM requires 24VDC power source. Standby current Class A = 4.90 mA, Class B (8.5 mA), Alarm Current = 50.0 mA
*Note 2: MOM requires 24VDC power source. Standby current = 1.60 mA, Alarm Current = 1.60 mA
*Note 3: ASB requires 24VDC power source. Standby current = 5 mA, Alarm Current = 100 mA
*Note 4: ARB requires 24VDC power source. Standby current = 5 mA, Alarm Current = 50 mA

Notification Appliance Circuits Installation

There are six (6) NAC circuits provided on the PSN-1000/PSN-1000(E) rated as continuous 3 amps at 24 VDC and may be configured for Class A or Class B. *(Please refer to the Class A and B wiring examples shown in this section.)* The circuits reverse polarity upon activation and are marked accordingly on the board and illustrations.

NAC Wiring

- Outputs are supervised and regulated.
- NAC circuits are power limited.
- Type of NAC output is selectable, and may be configured for strobe synchronization with AMSECO®, Wheelock®, Gentex®, or System Sensor® strobe devices. For a list of compatible NAC models, go to "***Potter's Product Tools"*** *web page*, and select the *"NAC Compatibility Document" link (Document #5403592)* for this information.
- Class-A operation is accomplished by using a pair of NAC circuits (NAC 1&2, NAC 3&4 and NAC 5&6); this pairing provides three (3) Class A circuits, each rated for a continuous 3 amps at 24 VDC.

NAC Maximum Impedance Formula

The maximum impedance is a *function* of the load being applied to the circuit. In order to calculate the maximum impedance as follows:

(Alarm Current of Notification Appliances) x (Wire Resistance) < 3 Volts

NAC Wiring Configurations

Examples of Class A and B follow.

Figure 181. PSN-1000E Class B NAC Wiring Example
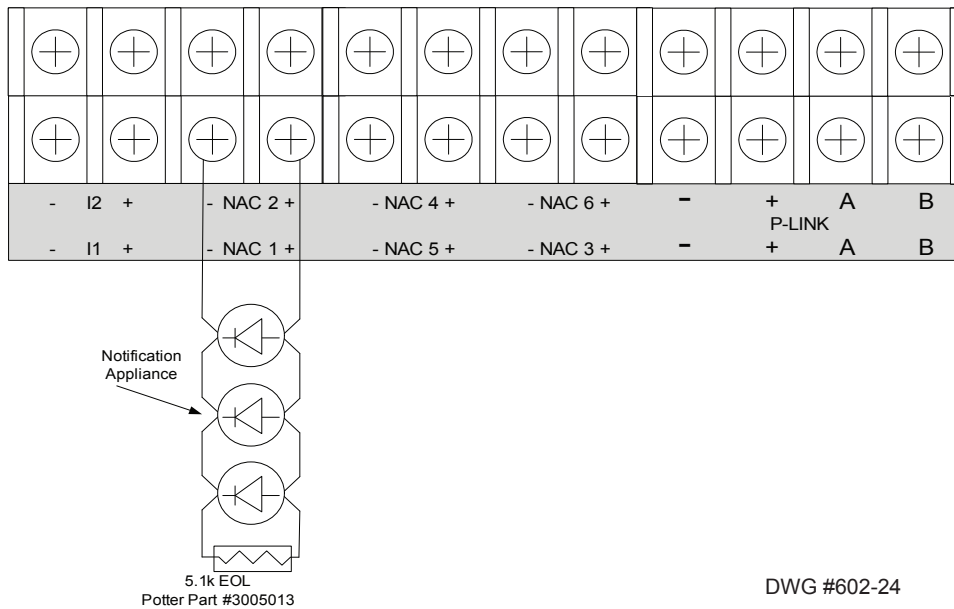
DWG #602-24

Notes:
1. The part number for the listed end of line assembly is #3005013 EOL Resistor Assembly.
2. The EOL value is programmable via the programming software for any value between 2K and 27K.
3. The panel has ground fault detection on the NAC circuits. The impedance to ground for ground fault detection is 0 ohms.

Figure 182. PSN-1000 / PSN-1000 (E) Class A NAC Wiring Example
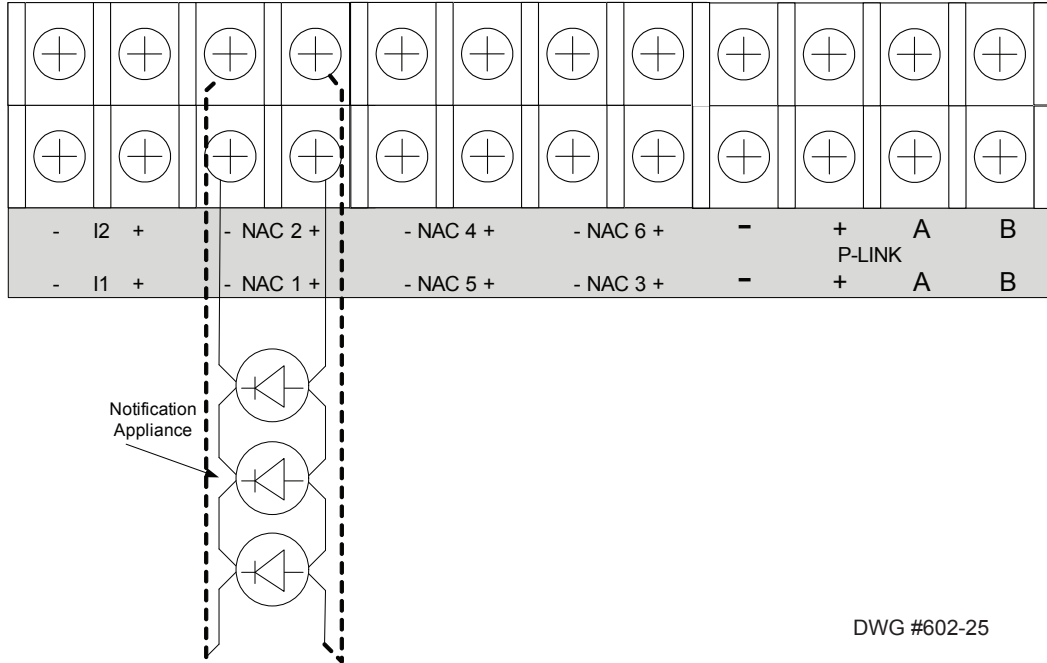
DWG #602-25

PSN-1000/PSN-1000(E) as Releasing Device Circuit

The releasing device circuit is typically a NAC programmed to control a releasing device, such as a solenoid or squib. Any of the PSN-1000/PSN-1000(E) NACs may be programmed as a releasing circuit. All are fully supervised and power limited. The output is a constant 24 VDC, regulated output. When connected to a releasing device, the circuit is a special application circuit and listed with the device.

Figure 183. PSN-1000 / PSN-1000 (E) Releasing Circuit Wiring Example

End of line device
5.1k ohm 1/2W
Part #3005012

Note:
EOL Device shall be installed in the same
electrical enclosure as the releasing device.
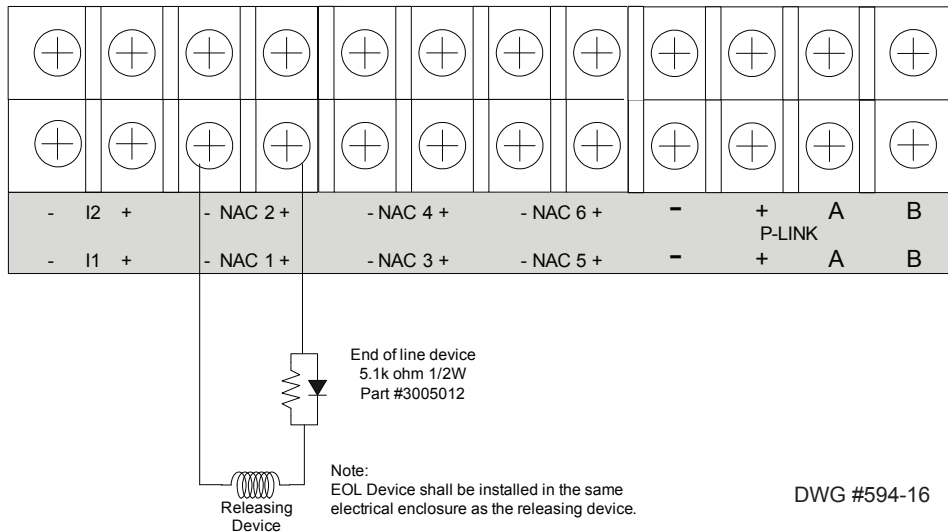
Releasing
Device

DWG #594-16

Note: When a PSN-1000/PSN-1000(E) is configured as a releasing circuit, the *End of Line Diode (EOLD)* assembly must be installed. The EOLD part number is 3005012; it must be installed in accordance with the installation manual.

Input Circuits

The panel is equipped with two (2) input circuits, **I1 and I2**, that are low voltage, power limited, and supervised. When configured, the circuits function as dry-contact monitoring circuits.

   Note: These circuits <u>operate as Class B only</u>. Please refer to the figure shown below.

Configuration Characteristics

   • Maximum allowable wire length is 10,000 feet.
   • Maximum allowable wiring resistance is 100 ohms.
   • Maximum wiring capacitance is 1 uF.
   • Maximum IDC voltage is 24 VDC.
   • Maximum IDC current is 15 ma.

Figure 184. Example of PSN-1000 / PSN-1000(E) Input Circuit – Normal Open Dry Contact
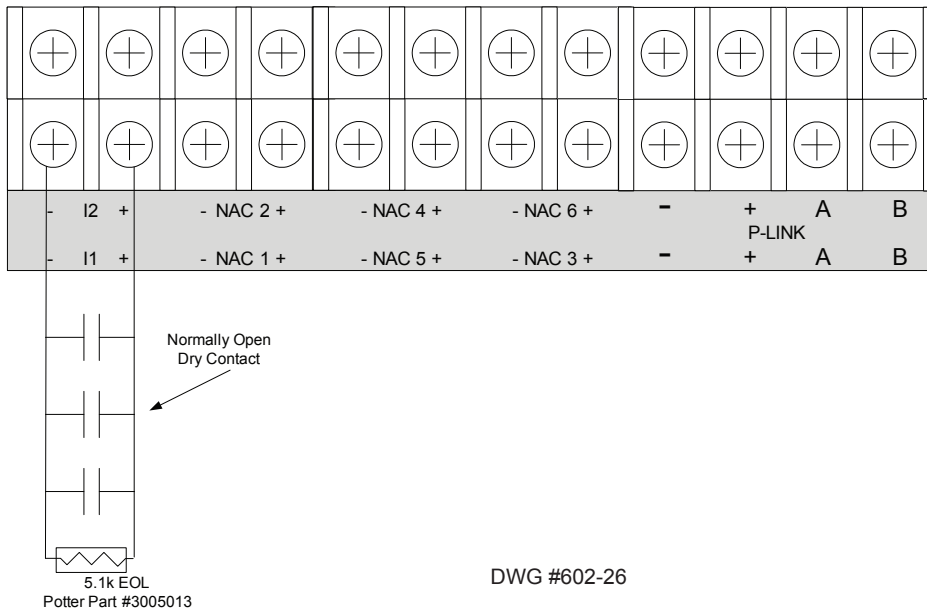
DWG #602-26

5.1k EOL
Potter Part #3005013

Notes:
1. The part number for the listed end of line assembly is #3005013 EOL Resistor Assembly.
2. The EOL value is programmable via the programming software for any value between 2K and 27K.
3. The panel has ground fault detection on the input circuits. The impedance to ground for ground fault detection is 0 ohms.
4. The end of line resistor is a 5.1K ohm resistor.

Wiring to Control Panel

The control panel communicates with and supervises the PSN-1000/PSN-1000(E) via the main P-Link circuit. This connection is electrically isolated from the rest of the PSN-1000/PSN-1000(E).

Figure 185. P-Link Wiring from Control Panel
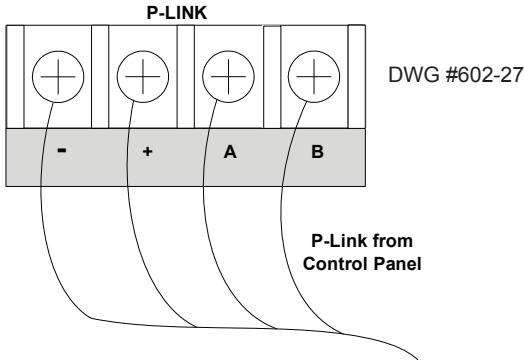
Repeater Output

The PSN-1000/PSN-1000(E) repeater output provides power which supports additional P-Link devices, including LCD Annunciators, SLC Loop expanders *(PAD100-SLCE and/or SLCE-127),* and the Multi-Connect module *(MC-1000)*. This is possible because the P-Link repeater output reconditions and repeats all P-Link communications. Refer to the following figures for examples of Class A and B wiring.

Configuration Characteristics

- PSN-1000 current rating is one (1) amp.
- PSN-1000 voltage rating is 24 VDC.
- The maximum wire length is 6,500 feet.
- Wiring is fully supervised and power limited.

Maximum Wire Resistance Formula

The maximum resistance is based on the *load* placed on the circuit. To calculate the maximum wire resistance, use the following formula:

(Total Annunciator Alarm Current) x (Wire Resistance) < 6 Volts

Note: Any connection to ground of 0 ohms will be annunciated as a ground fault.

Figure 186. P-Link Class B (Repeater) Wiring Example
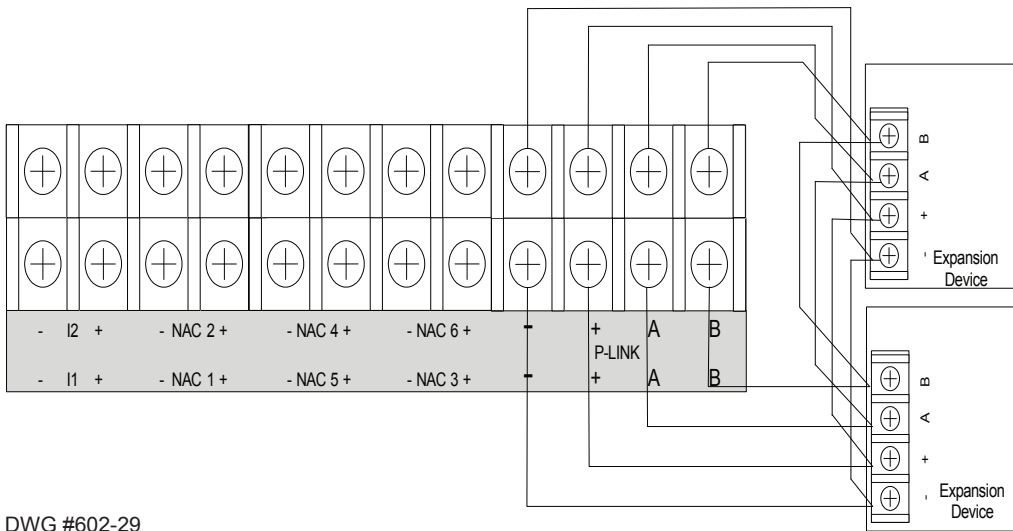
DWG #602-29

Figure 187. P-Link Class A Wiring Example

To the next device

- I2 +   - NAC 2 +   - NAC 4 +   - NAC 6 +   −   +   A   B
P-LINK
- I1 +   - NAC 1 +   - NAC 5 +   - NAC 3 +   −   +   A   B

B
A
+
,   Expansion Device

B
A
+
,   Expansion Device

DWG #602-28
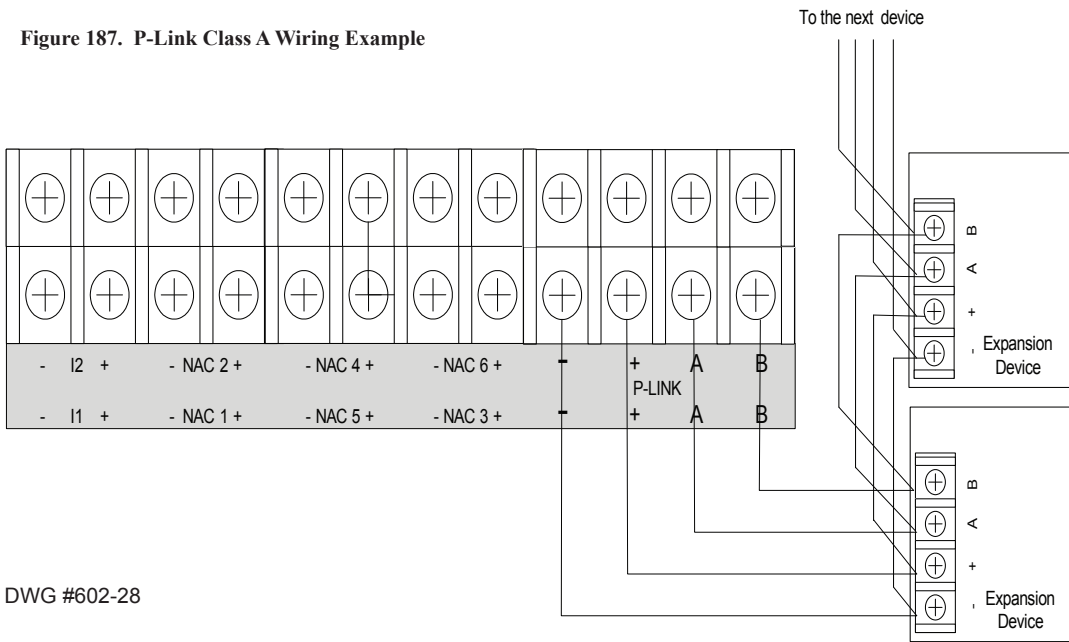
Municipal Box Connection

When the PSN-1000/PSN-1000(E) is programmed as a municipal box connection, the circuit is power limited and supervised for open and short circuit conditions. It also provides a local energy connection. Please refer to the figure shown below for a wiring example.

Configuration Characteristics

- NAC1-NAC6's trip current is 3 amps.
- Maximum voltage rating is 24 VDC.

Figure 188. PSN-1000 Configured as Municipal Box

- I2 +   - NAC 2 +   - NAC 4 +   - NAC 6 +   −   +   A   B
P-LINK
- I1 +   - NAC 1 +   - NAC 5 +   - NAC 3 +   −   +   A   B

End of line device
5.1k ohm 1/2W
Part #3005012

+

Municipal Box

−

Notes:
The EOL device shall be installed in the same electrical enclosure as the Municipal Box

DWG #602-31
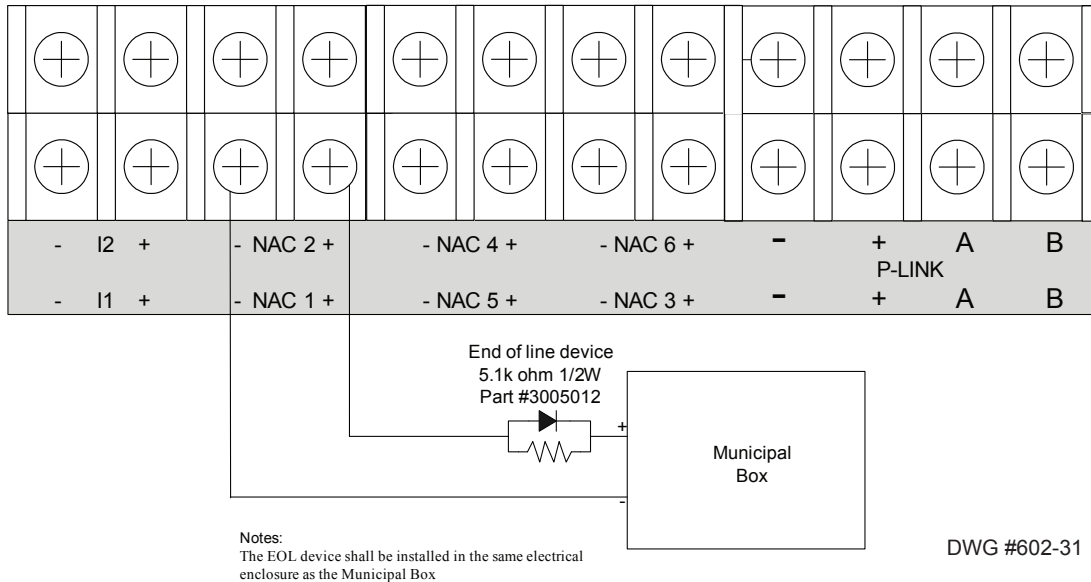
Notes:

1. The panel has ground fault detection on municipal box connection circuits.
2. The impedance to ground for ground fault detection is 0 ohms.

Relay Outputs

The board has two (2) relay outputs: a dedicated **Trouble relay** and a **Low AC relay**. The dedicated *Trouble relay* is a failsafe trouble relay that changes position anytime a trouble condition occurs.

The relays have a contact rating is 24VDC / 3.0A, 125VAC / 3A, and a Power Factor of 1.0. These outputs are *non-power limited* and *are not supervised.*

   Note: If the power supply is power-limited, then the outputs are power limited.

Figure 189. PSN-1000's Relay Outputs

LOW AC

NC   COM   NO

TROUBLE

NC   COM   NO
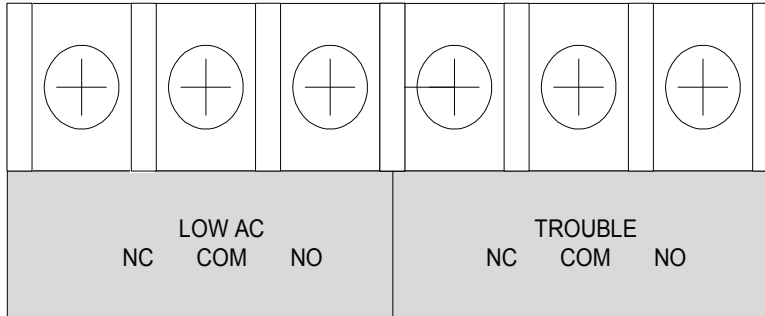
DWG #602-32

PSN-1000/PSN-1000(E) Operations

The PSN-1000/PSN-1000(E) operates as a fully integrated power expander. The input circuits and/or NAC circuits are configured in the same manner as any input circuit or NAC circuit in the system. Circuit functions and zone assignments are defined using the system software.

Status LEDs

The PSN-1000/PSN-1000(E)'s status LEDs communicate system conditions by illuminating and/or flashing the applicable **green** or **amber** indicators. These are described in the table shown below.

Table 29: PSN-1000/PSN-1000(E) Status LEDs		
LED Type	**LED Color/Action**	**Description**
AC Power	Steady Green	**ON** = AC present; **OFF** = AC not present
Low Battery	Steady/ Flashes Amber	**OFF** = No Fault; **Flashing** = Low Battery conditions **ON** = Battery Charger Failure **Note**: The PSN-1000 transfers from AC to battery instantly upon AC failure or brownout. The trouble relay on the panel will indicate the low AC condition after the Low AC Report Delay has elapsed.
Earth Fault	Flashing Amber	Indicates that an earth fault is detected.
Comm.	1 Flash Green	Flash indicates successful communication with the NAC control board.
Bulk Comm.	Flashing Green	Flash indicates successful communication with the bulk supply board.
RPTR Comm.	Flashing Green	Indicates when P-Link repeater communications are occurring.
Main Comm.	Flashing Green	Flash indicates when P-Link commands are received from the control panel.

PSN-1000/PSN-1000(E) Programming

The panel can be programmed to support up to thirty-one (31) PSN-1000/PSN-1000(E) Power Expanders. Each power supply provides six (6) NAC circuits (3A max), and two (2) dry contact input circuits. Both Class A and B configurations are supported; however, Class A requires that NAC circuits are paired as follows: NAC 1&2, NAC 3&4 and NAC 5&6, to provide three (3) Class A circuits.

Adding a Power Supply

To add and program a power supply:

1. Select the **Power Supply function** from the system panel. The *"Add Power Supply" window* displays.

   Figure 190. Example of Add Power Supply Window

2. Click the [Add Device] *button* to create a new power supply.

   Figure 191. Example of Added Power Supply Showing Default Settings

3. Configure the power supply, as needed:
   - Double-click in the *"Name" field* to change the default name.
   - Double-click in the *"Address" field* to enter a different address.
   - Click on the *"PLink Class" drop-down arrow* to select Class A for the repeated P-Link circuit.
   - Click on the applicable *"NAC Class" fields (NAC 1/2, 3/4, 5/6)* to select Class A for NACs.

   Figure 192. Example of Power Supply "Class for P-Link" Operation

   Class A & B Notes:
   1. If a power supply's PLink is Class A, select the applicable NACs (NAC 1/2, NAC 3/4 or NAC 5/6).
   2. If a power supply's PLink is Class B, programming is completed.
   3. Class A operation may be independently selected for the P-Link repeater output and any of the NAC circuit pairs.

4. Repeat *Steps #2 & 3,* as needed, to add and program additional power supplies.

Deleting a Power Supply

To delete a power supply:

1. Select the **Power Supply function** from the system panel to display all current power supplies.

Figure 193. Example of Power Supply Window

Note: *The __Internal Power Supply cannot__ be deleted as shown in the following message.*

Figure 194. Example of Internal Power Supply "Cannot Be Deleted" Dialog Box
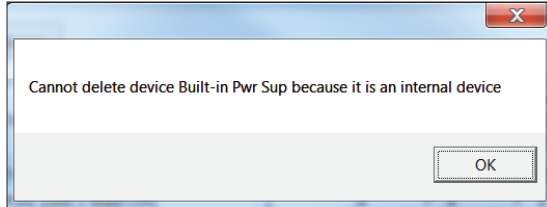
2. Click anywhere in the power supply's line to select, then click the Delete Device *button*.

Section 7: IP Communication

The system's built-in, on-board IP Communicator provides notification to a remote monitoring company when alarms, troubles, and supervisory conditions occur. The IP Communicator is listed with an IP capable Sur-Guard receiver by means of the Fibro protocol. Up to 64 reporting accounts can be created via the IP; the DACT (UD-1000) is limited to 5 accounts.

Notes:

1. The UD-1000 or DACT may also be installed to provide notification to a remote monitoring company via telephone lines.

2. The MC-1000 (*Multi-Connect module*) may be installed on IPA panels to allow a single reporting method to be shared between panels *(via the IP Communicator and/or DACT)*. Refer to *"Section 5: Programming Module, Multi-Connect Module (MC-1000)"* for more information on programming the MC-1000.

3. Refer to *Potter's on-line training video* to learn more about setting up the IP connection.

   ▶ **P-Comm Network Connection**

IP Communicator Overview

Programming options allow you to select accounts for test events and alarm, trouble, and supervisory conditions. You may set up IP parameters, such as when and where to send reports by specifying IP addresses and other report output options. An example of the *IP Reporting window* is shown below.

Figure 195. Example of the IP Reporting Window Showing Reporting Path Options

The "Reporting Path" options are explained on the next page.

Up to 64 reporting accounts can be added.

The "Panel Selection" field displays only if a MC-1000 is installed and is the "Host" panel.

Primary and Secondary reporting accounts are programmed here.
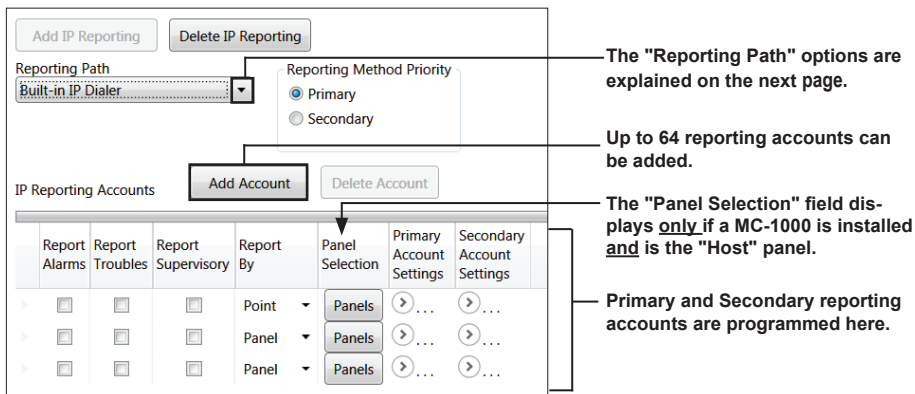
Notes:

1. A daily test can automatically be sent to a remote monitoring location; the test time may be programmed through the *General Options program window – "Time to Send Autotest" field.*

2. If a MC-1000 (*Multi-Connect module*) is programmed, panels may be selected (*see "Panel Selection" field above)* to report events via IP Reporting. Refer to *Potter's on-line training video* on the *MC-1000 module* to learn more.

   ▶ **MC-1000**

3. If the system has been programmed to use the IP Communicator and the UD-1000, the daily test call can be sent to both reporting accounts.

4. If the IP Communicator is not programmed and the UD-1000 is not installed, the system will operate as a local panel.

5. Where the fire alarm transmitter is sharing on-premises communications equipment, the shared equipment shall be UL listed.

6. Secondary power shall be provided for all equipment necessary for the transmission and reception of alarm, supervisory and trouble signals at the protected premises.

7. If communication errors occur, refer to one of the following *Potter's on-line training videos* if using Windows 7 or 8 to troubleshoot IP conflicts:

   ▶ **Troubleshooting Direct Connect IP Conflict (Windows 7)**

   ▶ **Troubleshooting Direct Connect IP Conflict (Windows 8)**

Programming the IP Communicator

IP Reporting Accounts
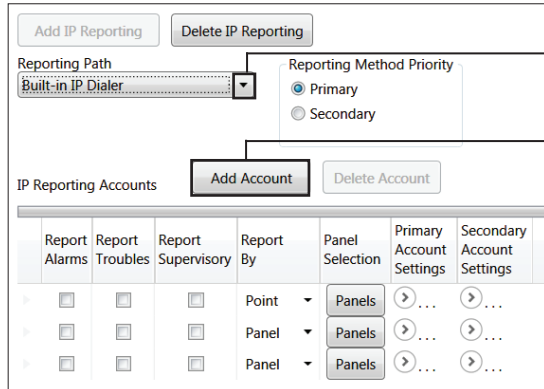
The "*IP Reporting Accounts" section* is used to program the IP Communicator operations and to customize the format of the reporting accounts. You may choose different settings for Alarms, Troubles and Supervisory conditions for each reporting account. Up to 64 IP accounts may be created, unlike the DACT (UD-1000) which is limited to 5 reporting accounts.

To add and program a IP Dialer:

1. Select **IP Reporting** from the system panel, and click the [Add IP Reporting] *button.*

   The "*IP Reporting" window* displays.

   Figure 196. Example of the IP Reporting Window

The "Reporting Path" drop-down allows you to select either the Built-in IP Dialer or the FCB-1000 as the reporting path.
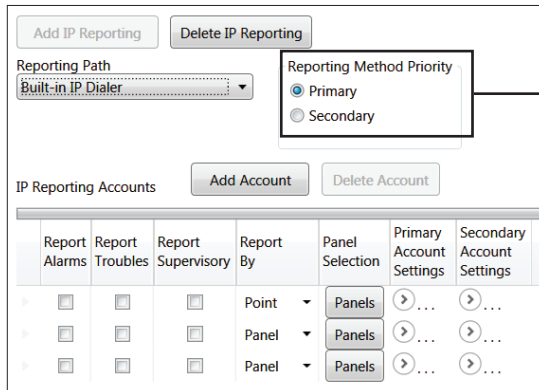
The "IP Reporting Accounts" (Primary / Secondary) are added and programmed in this section.

Three (3) reporting accounts are automatically listed in the IP Reporting Accounts section.

Up to 64 total may be added, if needed.

2. In the ***Reporting Path*** *field* choose a reporting path, as described below:

   - **Built-in IP Dialer** – Choose this option to use the built-in IP dialer to send all panel notifications of alarms, troubles, and supervisory conditions to central station via this option.
   - **FCB-1000 1** – Choose this option if a Fire Communications Bridge has been installed to provide a remotely-located IP connection and to send all panel notifications of alarms, troubles, and supervisory conditions to central station via this module.

3. In the ***Reporting Method Priority*** *field* select the applicable priority.

   Figure 197. IP Reporting Window Showing Reporting Method Priority Selections

The "Reporting Method" defaults to Primary for the currently selected "Reporting Path."

NOTE: If your panel is programmed for *"IP Reporting"* as the <u>primary</u> reporting method, and the DACT is also used, the DACT should be pro-grammed as the <u>secondary</u> reporting method.

   - **Primary** – By default, the Built-in IP communicator is selected as the first path of communication to the remote monitoring station.
   - **Secondary** – When selected, the IP communicator is used as the alternate path of communication to the remote monitoring station.

4. In the ***IP Reporting Accounts section***, program each reporting account, as shown below:

Figure 198. Example of Reporting Accounts Showing Report Types Selected

Click to select each option.

This field displays <u>only</u> if a MC-1000 is installed <u>and</u> is the "Host" panel.

Note: For MC-1000 programming information, refer to *"Section 5.7 Programming Modules, MC-1000."*
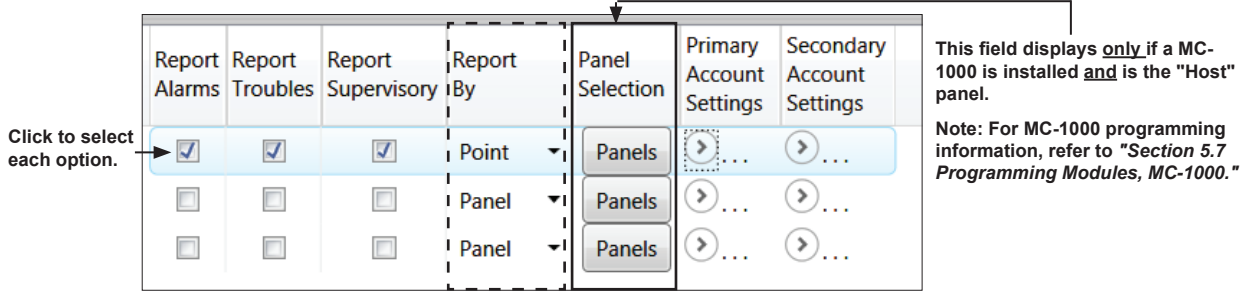
• Click in each applicable "***Report***" *type (Alarms, Troubles, Supervisory)* to send those events to the monitoring station.

• Click the "***Report By***" *drop-down arrow* to select the amount of information *(i.e., Panel, Zone, Point)* to send to the monitoring station.

• If the ***"Panel Selection" field*** is shown, complete this step as indicated below, otherwise go to ***Step #5***.

Figure 199. Example of the "Select Panels to Report" Dialog Box Showing 2 Panels Selected
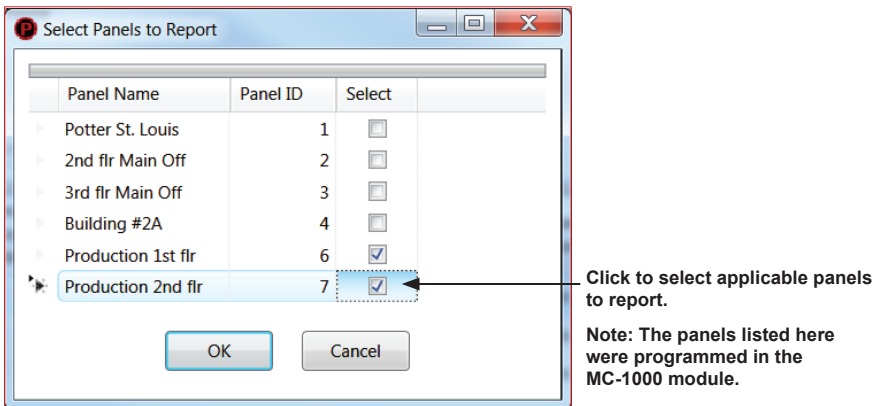
Click to select applicable panels to report.

Note: The panels listed here were programmed in the MC-1000 module.

– Click the [Panels] *button* to display the ***"Select Panels to Report" dialog box*** as shown above.

– The number of panels listed is based on the number of MC-1000's installed.

– Click in each panel's ***"Select" box*** to report on the panel; click again to remove selection, if needed.

– Click **OK** to save selections.

5. Click the "***Primary Account Settings***" ⊙... *ellipses button* to display its programming fields as shown below.

Figure 200. Example of the "Primary Account Settings" Fields Dsiplayed

• Enter the ***"Primary Account ID"*** as provided by the monitoring station.

• In "***Primary DNIS (if required)" field,*** enter the applicable DNIS as provided by the monitoring station.

• Select the ***"Primary Format"*** *(CID is default)* as required by monitoring station.

Note: Both SIA and Ademco Contact ID protocols are supported.

• Click the ***"Primary Report Test Events"*** *selection box* to send auto test signals to the monitoring station.

- Double-click in "***Primary Receiver IP"*** and enter the **IP address** as provided by the monitoring station.

- Select the ***"Primary Protocol"*** reporting protocol; ***"Fibro"*** is the default.

- Click in the "***Primary UDP Port" field*** and enter the *UDP Port* as provided by the monitoring station.

  Note: The *UDP* or *User Data Protocol* is the pathway for which data is sent and received between the panel and the remote monitoring station.

- Double-click in the "***Supervision Interval (sec)" field*** to adjust the amount of time the IP communicator sends a supervision signal to the monitoring station.

  – Default setting is ***"90" seconds***.

  – Coordinate the supervision time with the monitoring station. The receiver is programmed with a specific window of time to "*see*" the supervision signal. If the supervision signal is not seen within the programmed time, the receiver generates a *Trouble signal* after six (6) failed communication attempts.

- Double-click in the "***Primary Encryption Key" field,*** if provided by the monitoring station.

- Click in the "***Primary Encryption Method" field*** to select method, if provided by the monitoring station.

- Click the "***Primary Account Settings"*** collapse button to close or contract its programming field.

6. Click the "***Secondary Account Settings"*** … *ellipsis button* to display its programming fields and repeat **Step #5** to program the secondary account.

Appendix A: Basic Operating Instructions

These instructions must be framed and displayed next to the IPA-100 panel in accordance with NFPA 72 fire code for Local Protected Fire Alarm Systems. Test the system in accordance to NFPA 72.

Table 30: Button Functions	
Button	**Function**
ACK	
Arrows	
Drill	
Esc	
Reset	
Silence	

Table 31: Operating Instructions	
Operation	**Task**
Silence Alarms, Troubles	Press the **SILENCE** pushbutton.
Acknowledge Alarms, Troubles	Press the **ACK** pushbutton.
Reset Alarms	Press the **RESET** pushbutton.
View Alarms, Troubles	Press **arrows** to view alarms / troubles.
Conduct a Fire Drill	Press the **DRILL** pushbutton**;** press the **RESET** button to exit Drill mode.
View Point's Status	• Press **ENTER** to display the **Main Menu**. • Press **5 – System Tools**; enter **panel's code**. • Press **2 – Point Control**. • Scroll **Up/Down** to choose **Internal SLC** / **PWR**, and press **ENTER.** • Enter **Addr / Ckt No.** and press **ENTER**. • Press **Up/Down** to view previous / next points.
Check Detector Sensitivity	• Press **ENTER** to display the **Main Menu**. • Press **5 – System Tools**; enter **panel's code**. • Press **1 – SLC Tools**. • Press **1 – SLC Pinpoint**. • Enter **Addr #**, press **ENTER**; detector address and type displays. • Press **ENTER** to display current usage. • Press **Up** to display **Day/Night Sensitivity settings**. • Press **Up / Down** to scroll through point's day / night sensitivity settings.

<table>
<tr><td colspan="2" align="center">Table 31: Operating Instructions</td></tr>
<tr><td>Operation</td><td>Task</td></tr>
<tr>
<td>Set Date / Time</td>
<td>

- Press **ENTER** – **Main Menu**.
- Press **3** – **Set Date / Time**.
- Use keypad to enter correct date; use **right arrow** to move through date field and to display time field.
- Press **ENTER** to save changes.
</td>
</tr>
<tr>
<td>Enable / Disable Point</td>
<td>

- Press **ENTER** – **Main Menu**.
- Press **2** – **Enable/Disable**; enter **panel's code**.
- Press **1** – **By Point**
- **Up / Down** to select **Device / Internal SLC** / **PWR,** and press **ENTER.**
- Enter **Addr / Ckt No.** and press **ENTER.**
- Press **Up / Down** to scroll.
- Point's current status displays "*Normal*" if enabled, or "*Disabled*".
- Press **ENTER** to *change status;* press **ENTER** to save or **ESC** to exit without saving.
</td>
</tr>
<tr>
<td>View Event History</td>
<td>

- Press **ENTER** – **Main Menu**.
- Press **1** – **View History**.
- Press **Left / Right** to view next / previous events.
- Press **ESC** to exit.
</td>
</tr>
<tr>
<td>Service Call:</td>
<td></td>
</tr>
</table>

Appendix B: Modem Connectivity Setup

If your computer uses a modem for connectivity to the panel, choose the **Options – Communications menu option**. This involves choosing "Modem" as the transfer medium, and specifying the modem com port. In rare instances, a modem may also require an initialization string. Refer to your manufacturer's instructions for this information.

To setup a modem:

1. Select **Options – Communication.** The "*Communication – Options" dialog box* displays.

Figure 201. Example of Modem Communication Setup
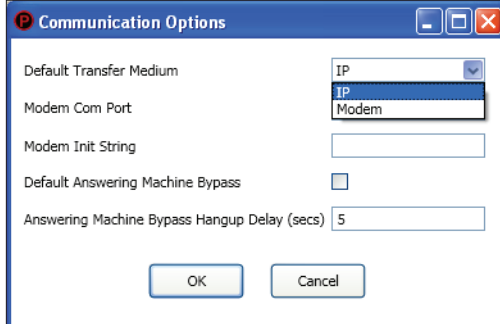
2. Click in "*Default Transfer Medium" field* and select "*modem*".

3. Click in "*Modem Com Port" field t*o select the applicable com port. If required, enter the initialization string.

Figure 202. Example of Com Port Modem Setup
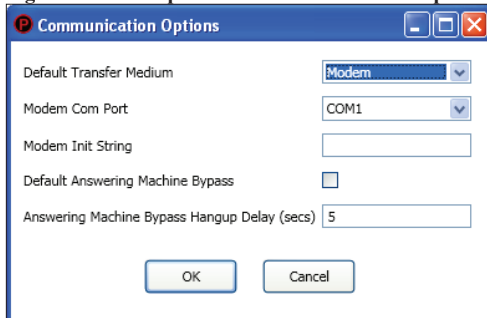
4. Click **OK** to save changes.

Appendix C: System Maintenance and Testing

Acceptance Test

The control panel is required to be installed in accordance with local and state building codes and NFPA 72 (*National Fire Alarm Code*). At the conclusion of each original installation or modification of this system, the control panel and related system is required to be inspected and tested in accordance with NFPA 72 to verify compliance with the applicable standards.

Testing should be conducted by factory trained fire alarm technician(s) in the presence of a representative of the Authority Having Jurisdiction (AHJ) and the building owners representative. Refer to NFPA 72 *(National Fire Alarm Code)*, Inspection Testing and Maintenance.

Periodic Testing and Service

Periodic testing and maintenance of the control panel, all initiating devices, all notification appliances and any other associated equipment is essential to ensure the system will operate as designed in emergency situations. Service and test the control panel according to the schedules and procedures outlined in the following documents:

- NFPA 72, Inspection, Testing and Maintenance.
- Service manuals and instructions for any and all peripheral devices installed in the system. It is very important that any and all trouble conditions (or faults) be corrected immediately.

Operational Checks

During interim periods between formal testing and at regular intervals the control system should be subjected to the following operational performance checks. The Authority Having Jurisdiction (AHJ) should be consulted for requirements on frequency of system testing.

- Check that the green AC power LED is lit.
- Check that all amber LED's are off.
- Using the system menus, perform a Lamp Test function. Verify that all LED's and LCD segments operate.
- Before proceeding: (1) Notify the fire department and the central alarm receiving station if transmitting alarm status conditions; (2) Notify facility personnel of the test so that alarm-indicating devices are disregarded during the test period; and (3) When necessary, bypass activation of alarm notification appliances and speakers (if installed) to prevent sounding of evacuation signals.
- Activate an input device (*i.e., manual station, heat or smoke detector*), and check that all notification appliances function.
- Notify Fire Department, central alarm receiving station and /or building personnel when finished with testing the system.
- The test of ground fault must be measured in below 10k ohms impedance.

AC Fuse

The control panel has one fuse on the board for the AC power over current protection. The AC fuse is rated at 8A 250VAC Time-Lag and screened onto the main board as F1.

Battery Maintenance

The system has been designed to use maintenance-free sealed lead acid batteries. These sealed lead acid batteries do not require any additional water or electrolyte. The system will keep all batteries fully charged by the system's power supply modules float charger. A typical discharged battery will recharge at 1.0 A and reaches the float voltage of 27.3 VDC within 48 hours. The battery is to remain in the cabinet with nothing on or around the batteries.

Replacement and Testing Recommendations

The batteries are to be replaced at least once every four years or more frequently if specified by local AHJ and manufacturer recommendations. Batteries should be dated at the installation. Minimal replacement battery capacity displays on the control panel marking label. The batteries are required to be UL Recognized batteries with a date of manufacture permanently marked on the battery. The battery is to be tested at least annually and if the battery is showing signs of failure, it should be replaced. Immediately replace a damaged or leaking battery, and always replace batteries in pairs.

Proper Handling / First Aid Procedures

- In the event a battery leaks and contact is made with the Sulfuric Acid, immediately flush eyes and/or skin with water for at least 15 minutes. Water and household baking soda provides a good neutralizing solution for Sulfuric Acid.
- If Sulfuric Acid makes contact with eyes, seek immediate medical attention.
- Ensure proper handling of the battery to prevent short-circuits.
- Take care to avoid accidental shorting of the leads from uninsulated work surfaces, tools, jewelry and coins.
- If a battery is shorted, the battery and any connected equipment may be damaged. Additionally, a short may injure personnel.

Appendix D: PSN-1000/PSN-1000(E) Maintenance and Testing

⚠ **CAUTION**

De-Energize Unit Prior to Servicing.

The power supply board has one fuse on the board for the AC power over current protection.

The AC fuse is rated at 8A 250VAC Time-Lag and screened onto the main board as F1.

The batteries are to be replaced at least once every four years. The batteries are required to be UL recognized batteries with a date of manufacture permanently marked on the battery. The battery is to be tested at least annually and if the battery is showing signs of failure, it is to be replaced.

The battery is to remain in the cabinet with nothing on or around the batteries. Only properly sized sealed lead acid batteries are to be used with the control panel. Use of another battery or not providing the proper clearance may result in a fire or an explosions.

The PSN-1000 is required to be installed in accordance with local and state building codes and NFPA 72 (National Fire Alarm Code).

The PSN-1000 and related system is required to be inspected and tested in accordance with NFPA 72.

Appendix E: Compatible Devices Table

This section provides a listing of all NAC appliances, two-wire (2-wire) smoke detectors, SLC circuit devices, optional modules, and other device compatibilities.

Table 32: Device / Modules Compatibilities	
Module/Device	**Compatibilities**
NAC Appliances	Refer to document the "***NAC Compatibility Document #5403592***" located on ***Potter's "Product Tools" web page*** in multiple product categories.
Two-Wire (2-Wire) Smoke Detectors	None listed with the control panel, all devices listed the PAD100-ZM or CIZM, please refer to the PAD100-ZM or CIZM Installation Sheet. Note: PAD100-ZM and CIZM modules require a 24 VDC power source. When using the CIZM, the power source must be 19.0 VDC – 26.4 VDC. When using the PAD100-ZM, the power source must be 19.6 VDC – 28 VDC. Power source must be power limited, and UL1481 listed.
Releasing Circuit Devices (all 24 VDC Devices, only one device per circuit)	FM200 Electric Valve Actuator – 18481 Minimax MX1230 and MX200 with Minimax 8876677 and 889323 Nohmi – Koatsu R85M14, R85M10-N Skinner – 73218BN4UNLVNOC111C2 Skinner – 73212BN4TNLVN0C322C2 TLX PA0036 Victaulic – 753-E Series Viking – 11591, 11601, 11602, 13843 and 13844 **Note:** To print out a copy of these devices, click the "***Releasing Circuit Devices" link***.
SLC Devices	**Nohmi Protocol** PSA – Photoelectric Smoke Detector PSHA – Photoelectric/Heat Smoke Detector FHA – Fixed Temperature Heat Detector RHA – Rate of Rise/Fixed Temperature Heat Detector DSA – Photo Duct Detector AIB – Addressable Isolator Base ARB – Addressable Relay Base ASB – Addressable Sounder Base APS – Addressable Pull Station MCM – Miniature Contact Module SCM-4 – Single Contact Module DCM-4 – Dual Contact Module TRM-4 – Twin Relay Module MOM-4 – Monitored Output Module CIZM-4 – Conventional Input Zone Module SCI – Short Circuit Isolator **PAD Protocol** PAD100-PD – Photo Detector PAD100-HD – Heat Detector PAD100-CD – CO Detector PAD100-PHD – Combination Photo/Heat Detector PAD100-DUCT – Duct Detector PAD100-DUCTR – Duct Detector w/Relay PAD100-DD – Duct Detector Sensor PAD100-DRTS – Duct Detector Remote Test Switch MS-RA – DUCT Remote LED Indicator MS-KA/P/R – DUCT LED w/Test Switch PAD100-PSSA – Pull Station Module Single Action PAD100-PSDA – Pull Station Module Dual Action PAD100-MIM – Mini Input Module PAD100-SM – Speaker Module PAD100-SB – Addressable Sounder Base PAD100-RB – Addressable Relay Base PAD100-IB – Addressable Isolator Base PAD100-IM – Isolator Module PAD100-RM – Relay Module PAD100-NAC – Notification Appliance Circuit PAD100-TRTI – Twin Relay–Twin Input PAD100-DIM – Double Input Module PAD100-OROI – One Relay–One Input PAD100-ZM – Zone Module PAD100-LED – Remote LED PAD100-LEDK – Remote LED w/Key PAD100-SIM – Single Input Module

Table 32: Device / Modules Compatibilities	
Module/Device	**Compatibilities**
DACT/DACR (UD-1000 DACT)	The DACT transmits in Ademco Contact ID and Security Industries Association's Digital Communication Standards (SIA-DCS). Each account may be configured for Contact ID or SIA-DCS independent of the other account's setting. Therefore, some account(s) could be Contact ID and others could be SIA-DCS or vice versa. Similarly, accounts could be the same reporting type.
Receivers	Silent Knight Model 9500/9800 (Ademco MX8000) Sur-Gard System III – SG-DRL3 (POTS Line Card)
IP Reporting	Sur-Gard System III – SG-DRL3-IPCA (Network Line Card) **Notes:** • Where the fire alarm transmitter is sharing on-premises communications equipment, the shared equipment shall be Listed. • Secondary power shall be provided for all equipment necessary for the transmission and reception of alarm, supervisory and trouble signals at the protected premises. • Secondary power shall be provided for all equipment necessary for the transmission and reception of alarm, supervisory and trouble signals at the supervising station. • The connection between the FACP and on-premises communications equipment shall be limited to 20 feet and enclosed in conduit or equivalently protected against mechanical injury.
RS-485 Devices	PAD100-SLCE – PAD Protocol SLC Extension Board SLCE-127 – Nohmi Protocol SLC Extension Board RA-6500R / RA-6500F – LCD Remote Annunciator RA-6075R – LCD Remote Annunciator PSN-1000(E) – Intelligent Power Supply Expander LED-16 / LED-16F – LED Annunciator DRV-50 – LED Driver RLY-5 – Relay Board FCB-1000 – Fire Communications Bridge FIB-1000 – Fiber Communications Bridge SPG-1000 – Serial/Parallel Gateway MC-1000 – Multi-Connect Module
Class A Expander	**CA-6075 Class A Expander**
Printers	Keltron 90 Series Fire Alarm Printer or other UL Listed fire alarm printer (Ancillary).

Appendix F: Troubleshooting Tips

This section provides basic error messages, their descriptions and recommended actions for each condition.

Table 33: Troubleshooting	
Error Message	**Error Description/Action**
Keypad "##": Missing	The panel is not able to communicate with the annunciator. *Action: Check wiring and programming.*
SLC "##": TYPE ERR	Device is not programmed for the correct function. *Action: Program device for correct function.*
SLC "##": XTRA DEV	FACP found a non-programmed device. *Action: Run LEARN or program specific device.*
SLC "##": DUP ADDR	FACP found multiple devices with the same address. *Action: Manually reassign address of one of the devices.*
SLC LOOP SHORTED	There is a short on the SLC loop wiring. *Action: Locate short and repair accordingly.*
NAC "##": OPEN	There is an open on the wiring. *Action: Locate open and repair accordingly.*
NAC "##": Shorted	There is a short on the Notification Circuit's wiring. *Action: Locate short and repair accordingly.*
SLC 1: Missing	The panel is not able to communicate with a device. *Action: Check device is currently operating and/or connect device to SLC loop.*

SLC "##": OPEN/PWR	• Monitored Output Module is missing 24 VDC connection.
	   Action: Check for 24 VDC to the device.
	• Back up batteries are missing or need to be replaced.
	   Action: Connect or replace batteries as needed.

Appendix G: IPA Panel Control Panel Menu

```
                              ┌─────────────┐
                              │  MAIN MENU  │
                              └─────────────┘
        ┌──────────────┬────────────┴──────────┬─────────────────┐
  ┌─────────────┐ ┌──────────────┐     ┌────────────────┐  ┌─────────────┐
  │1=View History│ │2=Enable/Disable│   │3=Set Date/Time │  │ 4=Walk Test │
  └─────────────┘ └──────────────┘     └────────────────┘  └─────────────┘
                   ┌──────┴──────┐
            ┌───────────┐  ┌───────────┐
            │ 1=By Point │  │ 2=By Zone │
            └───────────┘  └───────────┘
                  │              │
         ┌────────────────┐  ┌──────────────────┐
         │ Select Device  │  │ Zone 1           │
         │ Internal SLC   │  │ 1=Disable Inputs │
         │ Internal PWR   │  │ 2=Disable Outputs│
         └────────────────┘  └──────────────────┘
```

```
                              ┌─────────────┐
                              │  MAIN MENU  │
                              └─────────────┘
       ┌──────────────┬────────────┴──────────┬─────────────────┐
 ┌─────────────┐ ┌──────────────┐     ┌────────────────┐  ┌─────────────┐
 │5=System Tools│ │6=Programming │     │7=Data Transfer │  │  ESC=Exit   │
 └─────────────┘ └──────────────┘     └────────────────┘  └─────────────┘
        │              │                      │
 ┌────────────────┐ ┌────────────────┐ ┌────────────────┐
 │1=SLC Tools     │ │1=LEARN Menu    │ │Select Data     │
 │2=Point Control │ │2=Panel Default │ │1=Remote Access │
 │3=Ethernet Tools│ │3=IP Settings   │ │2=Email Det Stat│
 │4=DACT Test     │ │4=Dflt ID/Pswd  │ │3=Email History │
 │5=DACT Reset    │ │5=Prog ID/Pswd  │ │4=Email Config  │
 │6=Erase History │ │ESC=Exit        │ │5=Email Test    │
 │7=Lamp Test     │ └────────────────┘ │6=Server Status │
 │8=App Revisions │                    │ESC=Exit        │
 └────────────────┘                    └────────────────┘

 ┌────────────────┐                ┌────────────────┐
 │1=SLC Pinpoint  │                │1=Username      │
 │2=SLC Stats     │                │2=Password      │
 │3=Clear Stats   │                │ESC=Exit        │
 │ESC=Exit        │                └────────────────┘
 └────────────────┘

 ┌────────────────┐                ┌────────────────────┐
 │1=Ethernet Status│               │Ethernet Options    │
 │2=IP Acct Stats │                │1=DHCP Settings     │
 │ESC=Exit        │                │2=Static IP         │
 └────────────────┘                │3=Subnet Mask       │
                                   │4=Default Gateway   │
                  ┌────────────────┐│5=Alternate IP     │
                  │Programming     ││6=Alt. Subnet      │
                  │1=Learn All     ││7=Alt. Gateway     │
                  │2=EOL Learn     │└────────────────────┘
                  │3=SLC Learn     │
                  │4=PSN Learn     │
                  │ESC=Exit        │
                  └────────────────┘
```

> **TIP:** To save time, enter the menu selection number on the keypad to select a function. For example, press "3" to select "Set Date/Time" from the Main Menu.

Appendix H: Helpful On-Line Resources

This section contains a list of all linked information included in this manual and other resources that may enhance your knowledge and understanding of related products or applications.

TITLE/NAME	LINK(S)	DESCRIPTION
Documents Linked in IPA Manual		
Addressing P-Link Modules Table	**Addressing P-Links**	This document provides a table showing dip switch settings for addressing P-Link modules.
Addressing PAD Protocol Detectors and Modules	**Addressing PAD Detectors & Modules**	This document displays a table showing dip switch settings (1-127) for addressing PAD protocol detectors and modules.
IPA Panels Control Panel Menu Tree	**IPA Control Panel Menu Tree**	This document displays the menu options as they appear on IPA panel's LCD screen.
FACP Keypad Functions	**FACP Keypad Functions**	This document provides a table that summarizes all FACP keypad function. Step-by-step instructions on many of the keypad functions are also included, such as conducting a *Walk Test*, using the *Enable/Disable* feature, and *Point Control* function where specific points may be activated.
Direct Connect Panel to PC & Panel Setup, and **Links to Other Panel Setup & Connection Resources**	**Connecting a Panel to a PC & Panel Setup** **Connecting a Panel to a PC & Panel Setup – Links to Other Resources**	This document provides instructions on setting up a panel that is <u>directly</u> connected to a PC (*i.e., is NOT using a Network!*). Refer to the second document for a list of other related videos and documents on setting up and connecting the panel to a PC.
LEARN Programming on IPA Panels	**LEARN Programming**	The LEARN document provides step-by-step instructions on running the LEARN function on IPA panels to automatically program all addressed detectors and modules. EOLs will be automatically detected and programmed.
Lookup Panel's IP and Name	**Lookup Panel's IP and Name**	This document explains how to look up the panel's IP address and/or name. This information is required to transfer data between the panel and the PC.
NAC Compatibility Document (Document #5403592)	**NAC Compatibility Document**	This link displays the ***Documents & Resources – Product Tools web page***. Click on any of the ***NAC Compatibility links*** located beneath many of the products listed to display a list of all compatible NAC devices and appliances.
Nohmi SLC Wiring Isolator Device Load Calculation	**Nohmi Isolator Device Load Calculation**	This document explains how to calculate the total SLC device load when using isolators on a Nohmi SLC. Examples of Class X and Class A/B are provided.
Nohmi Protocol Addressing, Installing & Wiring Points, Detectors & Modules	**Nohmi Protocol Addressing, Wiring & Installing**	Read this document to learn how to address, install and wire Nohmi protocol detectors and modules.
Nohmi Protocol Programming Points, Detectors & Modules	**Programming Nohmi Points**	Step-by-step instructions showing how to program Nohmi protocol points (*i.e., SLCs, detectors, modules, etc.*).
PotterLink Software License Registration Instructions **(IPA Dealers only!)**	**PotterLink Software License Registration**	Refer to this document to learn how to register each panel before programming via the PotterLink software license website.
PotterLink Dealer Admin Quick Start: Adding New Users **(IPA Dealers only!)**	**PotterLink Dealer Admin Quick Start**	This document contains step-by-step instructions on adding new users to the Dealer PotterLink website.
PotterLink Software – Managing Registered Computers & Users **(IPA Dealers only!)**	**PotterLink Software – Managing Registered Computers & Users**	This document contains detailed information on managing the registered computers, how to use the *"Offline Code"* function, editing or deleting registered users, and monitoring panel activities via the *"Activity" log page* on the PotterLink software license website.

TITLE/NAME	LINK(S)	DESCRIPTION
Documents Linked in IPA Manual (cont'd)		
IPA Series Panel PSN-1000(E) Releasing Capabilities	**IPA Series Panel PSN-1000(E) Releasing Capabilities**	Refer to this document to review releasing circuit wiring examples and to learn how the PSN-1000(E) expands the efficiency of releasing applications on IPA panels.
PSN-1000(E) Expander Releasing Capabilities (PFC 6000 Series Panel)	**PSN-1000(E) Releasing Capabilities (PFC-6000 Series Panels)**	Refer to this document to review releasing circuit wiring examples and to learn how the PSN-1000(E) expands the efficiency of releasing applications on PFC-6000 series panels.
PSN-1000(E) IPA Panels Calculator Worksheet	**PSN-1000(E) Calculator Worksheet**	Click the PSN-1000 calculator link from the *Calculator web page* to calculate a PSN-1000(E)'s battery and voltage drop installed on IPA panels.
PSN-106/PSN-64 IPA Panels Calculator Worksheets	**PSN-106 & PSN-64 Calculator Worksheets**	Access the applicable calculator from the *Calculator web page* to calculate the battery and voltage drop installed on a IPA panel.
PSN Series Power Supply Dip Switch Programming Quick Start	**PSN Series Power Supplies Dip Switch Programming**	This quick start document is shipped with each PSN-106/PSN-64 power supply when ordered. It provides dip switch programming information.
Facility Management Tool (FMT)	**Facility Management Tool Manual**	This link displays the *Facility Management Tool website.* To view the software and download the manual, click the **"Get Started!" button** located at the bottom of the web page.
Releasing Solenoid Devices Listed	**Releasing Solenoids**	Provides a list of all listed releasing solenoids that can be connected to a NAC circuit on IPA panels.
Keyboard Shortcuts & Tips	**Keyboard Shortcuts & Tips**	This document explains how to use keyboard shortcuts to select a range and/or group of non-adjacent points and zones. These techniques may be used to expedite programming and printing custom reports.
Reporting Options	**Reporting Options**	This document explains how to export selected point and zone data to Excel and Word as well as output to a custom report.
Advanced Reporting Options	**Advanced Reporting Options**	This document explains how to sort a list of data, such as points or zones, alphabetically by a specific field (*i.e., functions, type, etc.*) prior to outputting to a report. You'll also learn how to "group" points/zones based on their programming to create custom reports.
Report Examples referenced in "Section 5.5 Printing Reports": • **All Points List** • **All Zones List** • **Sample Detector Sensitivity Status with Field Explanations** • **History Status** • **Detector Sensitivity Status** • **Dialer (DACT) / IP Monitoring** • **Grouped by Functions**	**All Points List** **All Zones List** **Sample Detective Sensitivity Status Report w/Field Explanations** **History Status Report** **Detector Status Report** **Dialer / IP Monitoring Report** **Grouped Points by Functions Report**	These reports are referenced and linked in *Section 5.5 Printing Reports of the "IPA FACP Advanced Technical Installation & Programming Manuals."*

TITLE/NAME	LINK(S)	DESCRIPTION
Documents Linked in IPA Manual (cont'd)		
Report Examples: • **All Points Exported to Excel (unformatted)** • **All Points Exported to Excel (formatted)** • **All Points Exported to Word (unformatted)** • **All Points Exported to Word (formatted)** • **Range of Points Exported to Excel (formatted)** • **Selective Zones Exported to Excel (formatted)** • **Selective, Multiple Points Exported to Excel (formatted)**	**All Points Exported to Excel (unformatted)** **All Points Exported to Excel (formatted)** **All Points Exported to Word (unformatted)** **All Points Exported to Word (formatted)** **Range of Points Exported to Excel** **Selective Zones Exported to Excel** **Selective Points Exported to Excel**	These reports are referenced and linked in the ***"Reporting Options"*** document*.
P-Link Modules Product Information (Datasheets, Installation Manuals, Drawings)		
PAD100-SLCE **(For IPA panels only!)**	**PAD100-SLCE**	This link provides access to the product datasheet, drawing(s) and other information, if available. **Note:** Log into the PotterLink IPA Dealer website to access.
SLCE-127	**SLCE-127**	Click the link to view the datasheet, drawing(s) and other related information.
RA-6500R, RA-6500F, RA-6075R **(RA-6500F for IPA panels only!)**	**RA-6500R** **RA-6500F** **RA-6075R**	Click the applicable link to view product datasheet, drawings and other information, if available. **Note**: The RA-6500F is available on IPA panels only!
UD-1000 DACT	**UD-1000**	This link provides access to the product datasheet, drawing(s) and other information, if available.
CA-6075 Class A Expander	**CA-6075**	Click the link to view the datasheet, drawing(s) and other related information, if available.
PSN-1000 / PSN-1000 (E) Series	**PSN-1000(E)**	This link provides access to the product datasheet, drawing(s), calculator, NAC compatibility and other information, if available.
LED-16 / LED-16F **(LED-16F for IPA panels only!)**	**LED-16** **LED-16F**	Click the applicable link to view product datasheet, drawings and other information, if available. **Note**: The LED-16F module is available on IPA panels only!
DRV-50	**DRV-50**	Click the link to view the datasheet, drawing(s) and other related information, if available.
RLY-5	**RLY-5**	Click the link to view the datasheet, drawing(s) and other related information, if available.
FCB-1000	**FCB-1000**	Click the link to view the datasheet, drawing(s) and other related information, if available.
FIB-1000	**FIB-1000**	This link provides access to the product datasheet, drawing(s), calculator, NAC compatibility and other information, if available.
SPG-1000	**SPG-1000**	Click the link to view the datasheet, drawing(s) and other related information, if available.
MC-1000 **(IPA Panels only!)**	**MC-1000**	This link provides access to the product datasheet, drawing(s), calculator, NAC compatibility and other information, if available. **Note:** Log into the PotterLink IPA Dealer website to access.
PSN-1000 Series	**PSN-1000 Series**	Click the link to view the datasheet, drawing(s) calculator and other related information, if available.

TITLE/NAME	LINK(S)	DESCRIPTION
PAD Protocol Product Information (Datasheets, Installation Manuals & Drawings)		
PAD100-PD	**PAD100-PD**	This link displays the product's datasheet and other relevant information, if available.
PAD100-HD	**PAD100-HD**	This link displays the product's datasheet and other relevant information, if available.
PAD100-CD	**PAD100-CD**	This link displays the product's datasheet and other relevant information, if available.
PAD100-DUCT	**PAD100-DUCT**	This link displays the product's datasheet and other relevant information, if available.
PAD100-DUCTR	**PAD100-DUCTR**	This link displays the product's datasheet and other relevant information, if available.
PAD100-DRTS	**PAD100-DRTS**	This link displays the product's datasheet and other relevant information, if available.
MS-RA and MSKA/P/R	**MS Series Remote Duct Accessories**	This link displays the MS series remote duct accessories product page.
PAD100-SB	**PAD100-SB**	This link displays the product's datasheet and other relevant information, if available.
PAD100-RB	**PAD100--RB**	This link displays the product's datasheet and other relevant information, if available.
PAD100-IB	**PAD100-IB**	This link displays the product's datasheet and other relevant information, if available.
PAD100-PSSA / PAD100-PSDA	**PAD100-PSSA-PSDA**	This link displays the product's datasheet and other relevant information, if available.
PAD100-MIM	**PAD100-MIM**	This link displays the product's datasheet and other relevant information, if available.
PAD100-SM	**PAD100-SM**	This link displays the product's datasheet and other relevant information, if available.
PAD100-IM	**PAD100-IM**	This link displays the product's datasheet and other relevant information, if available.
PAD100-RM	**PAD100-RM**	This link displays the product's datasheet and other relevant information, if available.
PAD100-NAC	**PAD100-NAC**	Notification Appliance Circuit specifications and installation instructions.
PAD100-TRTI	**PAD100-TRTI**	This link displays the product's datasheet and other relevant information, if available.
PAD100-DIM	**PAD100-DIM**	This link displays the product's datasheet and other relevant information, if available.
PAD100-OROI	**PAD100-OROI**	This link displays the product's datasheet and other relevant information, if available.
PAD100-ZM	**PAD100-ZM**	This link displays the product's datasheet and other relevant information, if available.
PAD100-LED	**PAD100-LED**	This link displays the product's datasheet and other relevant information, if available.
PAD100-LEDK	**PAD100-LEDK**	This link displays the product's datasheet and other relevant information, if available.
PAD100-SIM	**PAD100-SIM**	This link displays the product's datasheet and other relevant information, if available.
AE-2	**AE-2**	This link displays the product's datasheet and other relevant information, if available.

TITLE/NAME	LINK(S)	DESCRIPTION
Nohmi Protocol Product Information (Datasheets, Installation Manuals & Drawings)		
PSA	**Photoelectric Smoke Detector (PSA)**	This link displays the product's datasheet and other relevant information, if available.
FHA	**Fixed Temperature Heat Detector (FHA)**	This link displays the product's datasheet and other relevant information, if available.
RHA	**Rate of Rise/Fixed Temperature Heat Detector (RHA)**	This link displays the product's datasheet and other relevant information, if available.
ASB	**Sounder Base (ASB)**	This link displays the product's datasheet and other relevant information, if available.
ARB	**Relay Base (ARB)**	This link displays the product's datasheet and other relevant information, if available.
AIB	**Addressable Isolator Base**	This link displays the product's datasheet and other relevant information, if available.
APS-SA/DA	**Addressable Pull Station – Single Action / Dual Action (APS-SA/DA)**	This link displays the product's datasheet and other relevant information, if available.
AB-6	**Addressable 6" Base**	This link displays the product's datasheet and other relevant information, if available.
AB-4	**Addressable 4" Base**	This link displays the product's datasheet and other relevant information, if available.
MCM	**Miniature Contact Module (MCM)**	This link displays the product's datasheet and other relevant information, if available.
SCM-4	**Single Contact Module (SCM-4)**	This link displays the product's datasheet and other relevant information, if available.
DCM-4	**Dual Contact Module (DCM-4)**	This link displays the product's datasheet and other relevant information, if available.
TRM-4	**Twin Relay Module (TRM-4)**	This link displays the product's datasheet and other relevant information, if available.
MOM-4	**Monitored Output Module (MOM-4)**	This link displays the product's datasheet and other relevant information, if available.
CIZM-4	**Conventional Input Zone Module (CIZM-4)**	This link displays the product's datasheet and other relevant information, if available.
SCI	**Short Circuit Isolator (SCI)**	This link displays the product's datasheet and other relevant information, if available.
Potter's On-line Training Videos		
PotterLink Registration (IPA Panels only!)	**PotterLink Registration**	Watch this video to learn how to register all panels via the PotterLink software license website after the software is installed.
Addressing PAD Devices (IPA Panels only!)	**PAD SLC Addressing**	This video explains how to address PAD SLC devices (*i.e., detectors and modules*) by setting up dip switches on each device.
PAD Devices (IPA Panels only!)	**PAD SLC Devices (Installation)**	This video provides an overview of SLC circuits (Class A/B), types of wiring/cables, and an overview of addressable detectors, detector bases and addressable modules. Installation information is covered, including how to use isolators to isolate shorts, and power consumption considerations.
EOL Programmable Resistor (IPA Panels only!)	**Programming EOL Resistors**	Watch this video to learn how to program the EOL (end-of-line) resistors on IPA panels on NAC circuits and PSN-1000s only.
Contact Input Alert (IPA Panels only!)	**Contact Input Alert Programming**	This video provides instructions on programming a circuit as a Contact Input Alert (*i.e., Medical, Process/Alert, Tornado, Security*) via custom pull stations and NAC devices.
Zones (Programming on IPA Panels)	**Zones (Programming)**	Watch this video to learn how to program zones on IPA panels.

TITLE/NAME	LINK(S)	DESCRIPTION
Potter's On-line Training Videos (cont'd)		
HVAC Restart **(IPA Panels only!)**	**HVAC Restart Programming**	This video provides instructions on programming a zone as HVAC restart functionality; this new option is available on IPA panels only!
MC-1000 **(IPA Panels only!)**	**MC-1000**	The MC-1000 (Multi-Connect) P-Link module is available on IPA panels only. This video explains how share a common reporting technology via a shared phone line or Internet connection.
Protected Mode and DCR Error **(IPA Panels only!)**	**Protected Mode and DCR Error**	This video explains how to prevent an unauthorized user from disconnecting and/or connecting a new detector. This video will show you how to select the *"Protect Mode,"* and how to clear a *DCR error*.
Printing Reports (All Panels)	**Printing Reports**	This video teaches you how to print a variety of "on-demand" reports, such as an *"All Points List,"* and a *"Zones List."*
P-Link Modules Overview **(All Panels)**	**P-Link Modules Overview**	This video provides an overview of all P-Link modules, except the MC-1000 available on IPA panels only. Refer to the *MC-1000 training video* to learn about this module.
P-Link Module Installation **(All Panels)**	**P-Link Installation**	This video provides instructions on installing P-Link modules *(CA-6075, DACT, RA-6500, LED-16, etc.)*. **IPA Panels Note!** To learn how to install the MC-1000, refer to the *MC-1000 training video*.
P-Link Devices (Programming) **(All Panels)**	**P-Link Devices (Modules) Programming**	This video describes how to program P-Link modules *(i.e., CA-6075, RA-6500, FIB-1000, etc.)*. **Note**: Refer to the *"MC-1000 Module" video* for details.
Programming the DACT on the PFC-6006 Sprinkler Monitoring Panel (PFC-6006 Only)	**Programming the DACT on the PFC-6006**	Learn how to program the DACT on the PFC-6006 Sprinkler Monitoring Panel to report to a monitoring station.
PSN-1000 Installation **(All Panels)**	**PSN-1000 Installation**	Instructions on installing the intelligent power supply expansion board are presented.
PSN Series Power Supplies **(All Panels)**	**PSN Series Power Supply**	Instructions on programming the QuadraSync features available on the PSN-64 & PSN-106 power supplies are explained.
Introduction to Potter's Fire Alarm Panels (Software)	**Introduction to the PFC-6000 Series Panels Programming Software**	This video provides an overview of Potter's fire alarm panels programming software.
Panel Start-Up	**Panel Start-Up**	Provides an overview of installing the Potter programming software, opening and navigating in the program via the menu options, using program icons, creating folders and default save location, transferring files via upload / download functions, and verifying the IP address. **IPA Panels Note!** All IPA panels **must** be registered after the programming software is installed! Refer to the ***"PotterLink Registration** IPA video and/or the* **PotterLink Software License Registration document** to complete this step.
Installation Requirements **(All Panels)**	**Installation Requirements**	Provides an overview of hardware components, cabinet layout, specs, battery calculations, SLC current draw requirements, and environmental requirements.
Addressing SLC Devices (Nohmi Protocol Detectors)	**SLC Devices Addressing (Nohmi Protocol Detectors)**	Learn how to address Nohmi protocol devices using the hand-held programmer device.
SLC Devices (Nohmi Devices) **(All Panels)**	**SLC Devices (Nohmi Protocol)**	Explains installation and wiring Nohmi protocol devices.
NAC (Output) Configuration **Circuit Input Configuration** **(All Panels)**	**NAC Configurations** **Input Circuit Configurations**	These videos provide instructions on wiring, installing and programming circuits as inputs and outputs.

TITLE/NAME	LINK(S)	DESCRIPTION
Potter's On-line Training Videos (cont'd)		
Relay Contacts Wiring **(All Panels)**	**Relay Contacts**	Describes how to wire and install the three dedicated, Trouble, Supervisory and Alarm common relays.
Disable / Enable Points Programming Example (All Panels)	**Disable & Enable Points**	This video provides a programming example on how to disable and/or enable a group of points via the keypad or a key switch.
Keypad Functions videos: **(All Panels)** • **End User (Keypad) Features** • **Conducting a Walk Test** • **Viewing Pinpoint Detail** • **Testing Sensitivity**	**End Users Features** **Walktest Feature** **PinPoint** **Testing Sensitivity**	• **End User Features** – covers panel's keypad menu functions, including setting date/time, review panel history, active events, silencing & resetting alarm & run a fire drill. • **Conducting a Walk Test** – shows how to conduct a Walk test via the panel's keypad. • **Viewing Pinpoint Details** – illustrates how to use the Pin-Point keypad option to locate a detector, look for duplicate addresses, or check a detector's status. • **Testing Sensitivity Settings** – this comprehensive video explains NFPA Compliance requirements, obscuration, how send a sensitivity report and schedule Email status reports. **Note:** To learn how to program the panel's *Sensitivity Schedule via the programming software*, watch the ***"Sensitivity Schedule Programming" video***.
LEARN Programming **(All Panels)**	**LEARN Function**	Watch this video to review how to use the LEARN function to automatically program a panel after all detectors and modules have been addressed. **Note**: Refer also to the **Learn Programming on IPA Panels** document for additional instructions.
Software Shortcuts **(All Panels)**	**Software Shortcuts**	This video covers a range of software shortcuts which may be used when programming Points and Zones. A few of the topics addressed are: printing a Points List, selecting multiple points and/or zones, and using keyboard cut and paste shortcuts.
Remote Access Code **(All Panels)**	**Remote Access**	This video provides instructions on c*hanging* the panel's user name and password *(a/k/a "remote access")* to prevent unauthorized users from making changes to the panel.
Job Details / General Options **(All Panels)**	**Job Details** **General Options**	These two (2) videos provide instructions on programming the panel's job details and general options via the Potter programming software.
Sensitivity (Programming Settings) **(All Panels)**	**Sensitivity Schedule Programming**	Shows how to schedule the day/night time detector sensitivity settings using Potter's programming software.
User Codes **(All Panels)**	**User Codes**	Explains how to create user codes and user access rights using the Potter programming software.
Email Reporting **(All Panels)**	**Email Reporting**	Learn how to setup the panel's built-in Email reporting feature using the PC software.
Email Reminders **(All Panels)**	**Email Reminders**	Learn how to program Email Reminders.
Programming IP Reporting **(All Panels)**	**Programming IP Reporting**	This video shows you how to set up the IP primary & secondary reporting accounts, the UDP port number, and other settings to successfully send reports and events to the central monitoring station.
Programming Inputs & Outputs to Allow Points to be Disabled via the Keypad (All Panels)	**Disable/Enable Input & Output Points via the Keypad**	This video provides a programming example applicable to all panels on how to disable and/or enable a group of points via the keypad or a key switch module (*i.e., MCM, SCM or DCM*).
Programming Nohmi Points **(All Panels)**	**Points (Nohmi Protocol)**	Provides details on configuring Nohmi protocol points, power supplies and P-Link accessories via Potter's programming software.

TITLE/NAME	LINK(S)	DESCRIPTION
Potter's On-line Training Videos (cont'd)		
Programming Zones (All Panels) • **Zones Programming 1 and 2** • **Fire Drill Zone Programming** • **Supervisory Zone Programming** • **Addressable Sounder Base (ASB) Programming** • **Programming a Releasing Zone** • **Elevator Recall Programming** • **HVAC Restart (IPA only!)**	**Programming Zones 1** & **Programming Zones 2** **Fire Drill Zone Example** **Supervisory Zone Example** **Addressable Sounder Base Example & Cross Zones** **Programming a Releasing Panel** **Elevator Recall Programming Example** **HVAC Restart IPA Panels Only**	These programming videos provide instructions and examples on programming zones using the PC software. **Note:** The *Addressable Sounder Base programming video* shows how to configure multiple ASBs in a hotel with multiple floors utilizing General Alarm, Supervisory, Fire Drill and Cross zones.
Network Panel Communication videos: **(All Panels connected to a <u>Network</u>)** • **LAN Settings** • **Setting a Static IP Address** • **P-Comm Network Connection**	**LAN Settings** **Setting a Static IP Address** **P-Comm Network Connection**	• *LAN Settings* – This video explains how to set up your Network's LAN *(i.e., Local Area Network)*. • *Setting a Static IP Address* – If your Network Administrator instructs you to use a Static IP watch this video. • *P-Comm Network Connection* – This video comprehensively explains P-Comm's functionality, including how to communicate with the remote monitoring company via the built-in P-Comm Ethernet port. **For Direct Connect Panels Only!** If your panel is **directly connected** to a PC and experiences a communication conflict, refer to the two (2) *"Troubleshooting a Panel Directly Connected to a Computer" videos listed below.* Refer also to the **"Connecting a Panel to a PC"** *document*.
Direct Connect Panel to PC– Troubleshooting Panels **(All Panels <u>NOT</u> using a Network)**	**Troubleshooting Direct Connect IP Conflicts (Windows 7)** **or** **Troubleshooting Direct Connect IP Conflicts (Windows 8)**	Watch these videos if your panel is **directly** connected to a PC and communication conflicts occur.
Facility Management Tool (All Panels)	**Facility Management Tool**	Explains how to install, program and operate the FMT software.
Product Manuals		
IPA Panel ULLD Manuals: • **IPA-100 FACP Rev A** • **IPA-100 FACP Rev A** • **IPA-60 FACP Rev A** **(IPA Dealers Only!)**	**IPA-100 FACP ULLD** **IPA-100 FACP ULLD** **IPA-60 FACP ULLD**	These manuals are shipped with each applicable IPA panel when ordered but may be also accessed on-line. They provide information on programming, installing and operating each panel.
IPA-100 FACP Advanced Technical Field Installation & Programming Manual **(IPA Dealers Only!)**	**IPA-100 FACP Advanced Technical Field Installation & Programming Manual**	This comprehensive manual provides details on installing, wiring, programming and operating the IPA-100 panel. **Note:** Log into the PotterLink IPA Dealer website to access.
IPA-100 FACP Advanced Technical Field Installation & Programming Manual (IPA Dealers Only!)	**IPA-100 FACP Advanced Technical Field Installation & Programming Manual**	This comprehensive manual provides details on installing, wiring, programming and operating the IPA-100 panel. **Note:** Log into the PotterLink IPA Dealer website to access.
IPA-60 FACP Advanced Technical Field Installation & Programming Manual **(IPA Dealers Only!)**	**IPA-60 FACP Advanced Technical Field Installation & Programming Manual**	This comprehensive manual provides details on installing, wiring, programming and operating the IPA-60 panel. **Note:** Log into the PotterLink IPA Dealer website to access.

TITLE/NAME	LINK(S)	DESCRIPTION
Product Manuals (cont'd)		
PFC-6006 Sprinkler Monitoring Panel: Installation, Operation & Programming Manual	**PFC-6006 Sprinkler Monitoring Panel: Installation, Operation & Programming Manual**	This link displays the ***PFC-6006 Sprinkler Monitoring System's manual***. **Note:** The manual is shipped with each PFC-6006 panel when ordered.
PFC-6006 Panel & DACT Setup Quick Start Guide	**PFC-6006 Panel & DACT Setup Quick Start Guide**	This link displays the ***Potter's Product Tools website.*** • Links to additional product documents, such as the ***PFC-6006's "Quick Start Guide,"*** are available on this site. • Scroll to the applicable link and click to display the "***Quick Start Guide"*** to learn how to setup the DACT (or Dialer) via the keypad. **Note:** This document is shipped with each PFC-6006 panel when ordered.
Potter's Fire Products Manuals website	**Potter's Fire Panel Manuals**	This web page provides links to Potter's fire sprinkler, addressable and conventional fire alarm systems, power supplies, and all other fire product manuals.
Potter Training Information		
Potter Fire Systems Training	**Potter Fire Systems Training**	This website provides links to the following training tools and classes available on Potter's fire alarm systems: **Two-Day Live Training Class** – register for a class to learn how to install and program a fire systems panel. This classroom style training environment maximizes learning by including a series of hands-on training exercises covering topics such as setting up elevator recall, door holder and duct detector monitoring applications. **Webinars** – distance learning on a variety of topics with an instructor; topics may be customized to address customer's specific questions. **Online Certification** – this option allows installers to be certified on Potter's IPA and PFC-6000 series hardware and software. **Training Videos** – this link provides access to hardware and software training videos, including a wide range of topics.
Potter Sprinkler Monitoring Training	**Potter Fire Sprinkler Monitoring Training Videos** **Potter Fire Sprinkler Training Presentations**	The training video link provides access to a comprehensive video series that covers how to install a fire sprinkler monitoring system that includes VSR water-flow alarm switch, pressure switch and tamper switch selections. Videos also address how to install a releasing panel and notification appliances. The 2nd link provides two (2) training presentations on the following topics: • Dry Pipe Systems • Wet Pipe Systems
Potter Corrosion Solutions Training	**Potter Corrosion & Nitrogen Generator Solutions Training**	This website offers access to the following corrosion solutions training options: • Corrosion Videos • Corrosion Webinars • Nitrogen Generator Webinars

Normal Standby	The green AC POWER LED will be illuminated and the user defined message on the LCD will be displayed. If the AC power is removed for more than 5 seconds, the green AC power LED will extinguish.
Acknowledging	Off normal events are acknowledged by pressing the ACK key while reviewing events. After all events have been acknowledged, the buzzer will deactivate and the associated LED will stop flashing and remain on continuously. During Positive Alarm Sequence operation the "ACK" key must be pressed within 15 seconds of the alarm initiation to activate the investigation timer.
Alarm Condition	The red ALARM LED will be illuminated anytime an alarm is occurring in the system. The LCD will display the number of inputs in alarm, and the buzzer will be activated. The buzzer will remain active until all alarms have been acknowledged, or until the Silence key is pressed.
Silencing Alarm	When the system is in Alarm, the notification circuits (strobes and horns) can be shut off by pushing the SILENCE button.
Resetting Alarm	After the condition that caused the alarm has been identified and corrected, the system may be reset to the Normal Standby by pressing the RESET button.
Supervisory Condition	When a supervisory condition is detected, the amber SUPERVISORY LED will illuminate and the buzzer will sound. The LCD display will indicate the number of supervisory events that are active. The local buzzer will sound until all supervisory events have been acknowledged.
Restoring Supervisory Condition	If the Supervisory condition is non-latching, once the device is restored to the normal condition, the supervisory event will clear. If the supervisory condition is latching, the device that was activated must be restored and the RESET pressed.
Trouble Condition	When a fault condition occurs, the amber TROUBLE LED will illuminate and the local buzzer will sound until the fault is removed or the ACK button is pressed acknowledging the trouble condition. If the buzzer is acknowledged and the fault is not removed within 24 hours, the buzzer will resound.
Silencing Trouble(s)	When a trouble is occurring, the local buzzer will sound until either all troubles have been acknowledged or the SILENCE button is pressed.
Ground Fault	When a conductor contacts and earth ground, the amber EARTH FAULT LED will illuminate and the LCD display will provide further information of where the fault is located.
Pre-Release (Releasing Panels Only)	The amber Pre-Release LED will illuminate when the system is in a count down timer for an agent release. Additionally, pre-release events and countdown timers are displayed on the LCD.
Release (Releasing Panels Only)	The red Release LED will illuminate when a release condition is active. Additionally, release events will be displayed on the LCD.
Agent Release Abort (Releasing Panels Only)	If the system is being used as an agent releasing panel and a pre-discharge timer is programmed, the release may be aborted by pressing the abort switch. For ULI installations, pushing the Abort will allow the timer to countdown until 10 seconds and then halt. Releasing and reactivating the Abort will set the timer to 10 seconds.
Testing and Maintenance	Test this system monthly or more frequently as required by the AHJ. Before conducting any testing contact the building personnel and the monitoring facility as applicable. When testing a system configured for releasing, activate the releasing disconnect switch to prevent accidental discharge of a suppression system. Test the circuits as outlined in the Installation Manual. Test in accordance with NFPA 72 Inspection, Testing and Maintenance Chapter(s) and any local requirements. The batteries should be marked with the date of installation and replaced every four years or sooner if battery trouble occurs. Batteries should be checked with a tester acceptable to the AHJ such as a Stone Technologies model STC612A or equivalent. In case of a fuse replacement, refer to the Installation Manual for the proper rating. Contact the agency below for service or operational questions.

For service, contact:

Name: _____

Company: _____

Address: _____

Telephone: _____

Frame and display instructions adjacent to the fire alarm panel.

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