POTTER
The Symbol of Protection

INSTALLATION MANUAL: IDC-6 INITIATING DEVICE CIRCUIT EXPANDER

NOTICE TO THE INSTALLER

This manual provides an overview and the installation instructions for the IDC-6 module.
All terminals are power limited and should be wired in accordance with the requirements of NFPA 70 (NEC) and NFPA 72 (National Fire Alarm Code). Failure to follow the wiring diagrams in the following pages will cause the system to not operate as intended. For further information, refer to the control panel installation instructions.
The module shall only be installed with listed control panels. Refer to the control panel installation manual for proper system operation.

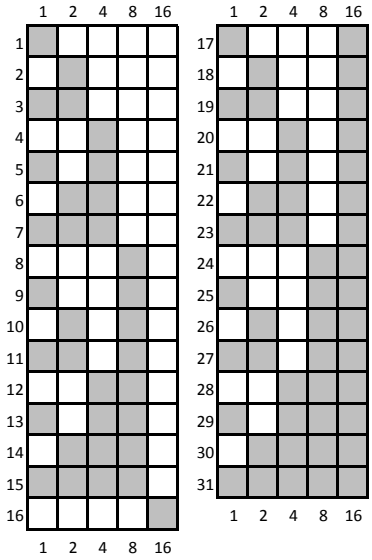
1. DESCRIPTION

The Initiating Device Circuit Expander (IDC-6) provides an additional 6 inputs per module. The panel supports up to thirty-one (31) IDC-6 modules. The circuits are power-limited and supervised. All inputs are suitable to monitor 2-wire smoke detectors. Smoke detectors shall be installed in compliance with NFPA 72. Inputs can also be used for automatic, manual, waterflow or supervisory service. The IDC-6 communicates via the PLink communication bus. The IDC-6 can be mounted in either the control panel cabinet, the intelligent power supply, AE-2, AE-8 or the AE-14 expander cabinet. Each card is mounted to the exclusive Stacker Bracket for secure and accessible mounting.

2. SETTING THE ADDRESS

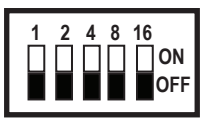
Each P-Link device has a ***five (5) position dip switch*** which is used to program the device address ranging from one (1) to thirty-one (31). The table below may be used to set dip switches when addressing any P-Link module:

FIGURE 1. DIP SWITCH SETTINGS TABLE (ADDRESSES 1–31)



Note: Each ***"gray" box*** indicates that the dip switch is ***"On,"*** and each ***"white" box*** indicates ***"Off."***
The examples shown below illustrate a P-Link's dip switch settings: the 1st example shows a P-Link module *not addressed* where all dip switch settings are in the *default "Off" position*, the 2nd illustrates an *addressed P-Link module* via the dip switch settings.

FIGURE 2. EXAMPLES OF P-LINK MODULE SHOWING DEFAULT DIP SWITCH SETTING (UNADDRESSED) & ADDRESSED



All dip switches are shown in the "Off" position.

Example shows this P-Link module address = 10. Dip switches #2 & 8 are in the "On" position.

Before connecting a device to the RS-485 connection, take the following precautions to prevent potential damage to the RS-485 connection.

- Power to the RS-485 connection is removed.
- Field wiring on module is correctly installed.
- Field wiring has no open or short circuits.

3. TECHNICAL SPECIFICATIONS

P-Link Standby Current	20 mA
P-Link Alarm Current	20 mA
IDC PWR Standby Current	30 mA (maximum Standby)
IDC PWR Alarm Current	270 mA (maximum Alarm)
Input Zone Wiring Resistance	100 ohms max
Input Zone Capacitance	1 mF max
Input Zone Short Circuit Current	47 mA
Operating Temperature Range	32° to 120°F (0° to 49° C)
Operating Humidity Range	10%-93% (non-condensing)
Max no. of IDC-6 Expanders	31
Dimensions (WxHxD)	4" x 6" x 1 5/8"

Note: IDC PWR can be provided by any fire listed source. Power must be 16 VDC- 33 VDC, and must be power limited.

4. INSTALLATION

The IDC-6 is connected to the fire control panels using a 4-wire RS-485 connection. The connection is power limited and supervised. The IDC-6 must be mounted in either a compatible fire alarm panel, the PSN-1000, or within 20 feet of the panel or power supply using the AE-2, AE-8, or the AD-14 expander cabinet. Each card is mounted to the exclusive Stacker Bracket for secure and accessible mounting.

The wiring diagrams shown below illustrate how to wire a IDC-6 as Class B and Class A.

FIGURE 3. CLASS B P-LINK AND IDC POWER WIRING

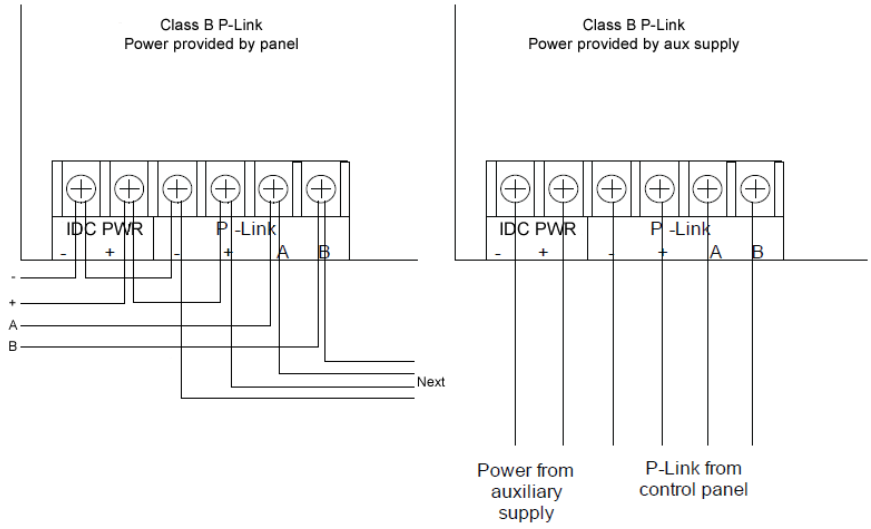


FIGURE 4. CLASS A P-LINK AND IDC POWER WIRING

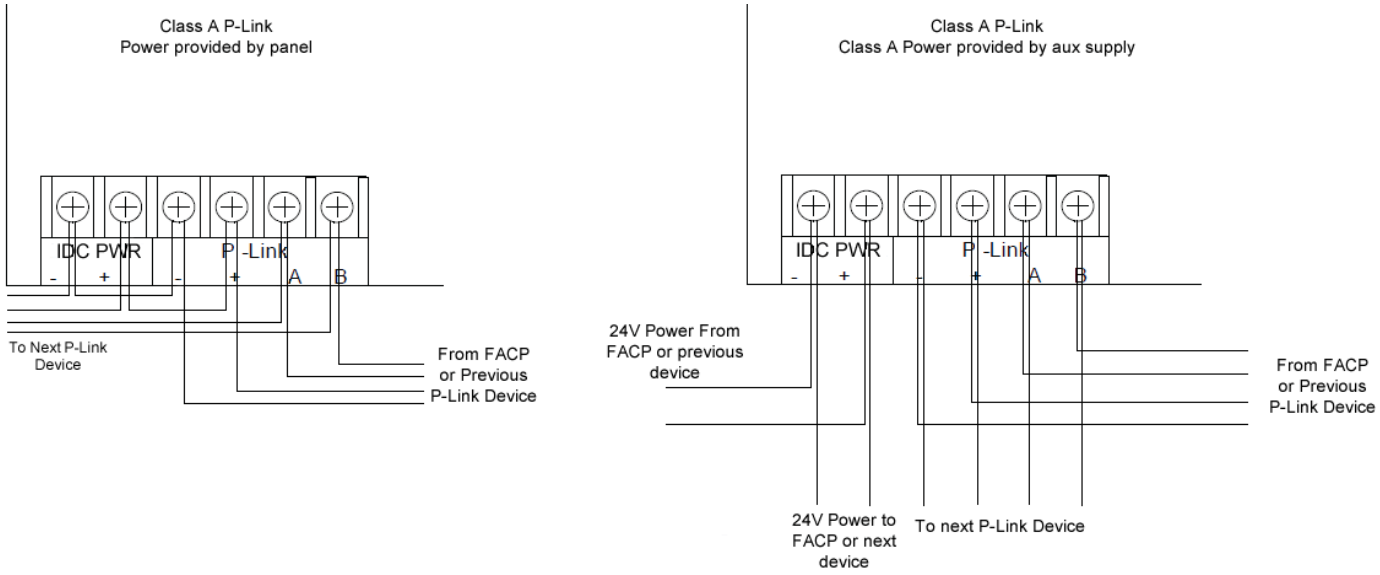
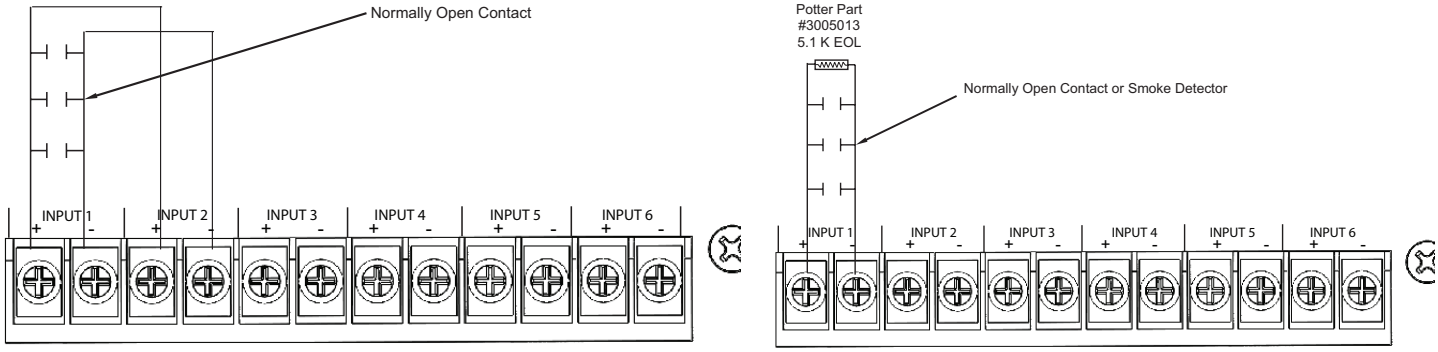


FIGURE 5. EXAMPLE OF WIRING A IDC-6 MODULE CLASS A (LEFT) OR CLASS B (RIGHT)



NOTES:

- Input 1 - Input 6 are power limited, 24 VDC inputs
- RS-485 wiring style supports class A and class B.
- RS-485 is power limited.
- Wiring for terminals (A, B) and (+, -) are supervised.
- All wiring is between #12 (max.) And #18 (min.).
- Wire preparation – strip all wires 1/4 inch from their edges as shown here:
  – Stripping too much insulation may cause a ground fault.
  – Stripping too little may cause a poor connection and subsequently an open circuit.

These instructions do not purport to cover all the details or variations in the equipment described, nor provide for every possible contingency to be met in connection with installation, operation and maintenance.

Specifications subject to change without prior notification.

For Technical Assistance contact Potter Electric Signal Company at 866-956-1211.

Actual performance is based on proper application of the product by a qualified professional.

Should further information be desired or should particular problems arise, which are not covered sufficiently for the purchaser's purpose, the matter should be referred to a distributor in your region.

TABLE 1: COMPATIBLE CONVENTIONAL SMOKE DETECTORS & BASES				
DETECTOR MODEL	**Identifier**	**Base Model**	**Identifier**	**Max No. of Detectors Per Zone**
SYSTEM SENSOR (BRK)				
1400	A	N/A	N/A	20
2400	A	N/A	N/A	20
2400TH	A	N/A	N/A	20
2W-B	A	N/A	N/A	20
2WT-B	A	N/A	N/A	20
DETECTION SYSTEM				
DS250	A	MB2W/MB2WL	A	25
DS250TH	A	MB2W/MB2WL	A	25
ESL				
611U	S10	601U	S00	25
611UD	S10	601U	S00	25
611UT	S10	601U	S00	25
612U	S10	601U	S00	25
612UD	S10	601U	S00	25
613U5	S10	601U	S00	25
611UD	S10	609U10	S00	25
612UD	S10	609U10	S00	25
425C	S10	N/A	N/A	25
425CT	S10	N/A	N/A	25
HOCHIKI				
SLR-24	HD-3	HSC-221R	HB-71	25
		HSB-221	HB-54	25
		HSB-221N	HB-54	25
		NS6-221		25
		NS4-221		25
		NS6-220	HB-3	25
SLR-24H	HD-3	HSC-221R	HB-71	25
		HSB-221	HB-54	25
		HSB-221N	HB-54	25
		NS6-221		25
		NS4-221		25
SIJ-24	HD-3	HSC-221R	HB-71	25
		HSB-221	HB-54	25
		HSB-221N	HB-54	25
		NS6-221		25
		NS4-221		25
SOC-24V	HD-3	HSB-221	HB-54	25
		NS6-221	HB-4	25
		NS4-221	HB-4	25
		NS6-220	HB-3	25
SOC-24VN	HD-3	HSB-221	HB-54	25
		NS6-221	HB-4	25
		NS4-221	HB-4	25
		NS6-220	HB-3	25

DETECTOR MODEL	Identifier	Base Model	Identifier	Max No. of Detectors Per Zone
SOE-24V	HD-3	NS4-100 and NS6-100	HB-55	25
		NS4-220 and NS6-220	HB-3	25
		NS4-221 and NS6-221	HB-4	25
		NS4-224 and NS6-224	HB-5	25
SOE-24H	HD-3	NS4-100 and NS6-100	HB-55	25
		NS4-220 and NS6-220	HB-3	25
		NS4-221 and NS6-221	HB-4	25
		NS4-224 and NS6-224	HB-5	25
FENWAL				
CPD-7051	151FE1	2-WIRE	FE51A	25
PSD-7155	P55FE1	2WRLT	FE52A	25
PSD-7156	P56FE1	2WRB	FE55A	25
ALL OF THE ABOVE FENWAL DETECTORS AND BASES CAN BE USED IN ANY COMBINATION. RETROFIT BASE ADAPTOR 70-501000-003, IDENTIFIER MAFE1 (FOR SERIES 70-201000 BASES, MODELS -001,-002,-003 AND -005). DUCT HOUSING WITH DETECTOR BASE DN-51, IDENTIFIER DH22FE5 (FOR CPD-7051 AND PSD-7155 DETECTORS ONLY).				
DETECTOR MODEL	**Identifier**	**Base Model**	**Identifier**	**Max No. of Detectors Per Zone**
POTTER				
PS-24	HD-3 (HOCHIKI)	SB-46	HB-71 (HOCHIKI)	25
			HB-54 (HOCHIKI)	25
		SB-93	HB-3 (HOCHIKI)	25
PS-24H	HD-3 (HOCHIKI)	SB-46	HB-71 (HOCHIKI)	25
			HB-54 (HOCHIKI)	25
IS-24	HD-3 (HOCHIKI)	SB-46	HB-71 (HOCHIKI)	25
			HB-54 (HOCHIKI)	25
CPS-24	HD-3 (HOCHIKI)	SB-46	HB-4 (HOCHIKI)	25
		SB-93	HB-3 (HOCHIKI)	25
CPS-24N	HD-3 (HOCHIKI)	SB-46	HB-4 (HOCHIKI)	25
		SB-93	HB-3 (HOCHIKI)	25
CPSD-24V	HD-3 (HOCHIKI	SB-46	HB-4 (HOCHIKI)	25
		SB-93	HB-3 (HOCHIKI)	25
CPSHD-24H	HD-3 (HOCHIKI	SB-46	HB-4 (HOCHIKI)	25
		SB-93	HB-3 (HOCHIKI)	25
PC-2P	PES	PC-6DB	PES	25
		PC-4DB	PES	25
PC-2H	PES	PC-6DB	PES	25
		PC-4DB	PES	25
PC-2PH	PES	PC-6DB	PES	25
		PC-4DB	PES	25
PC-2PN	PES	PC-6DB	PES	25
		PC-4DB	PES	25
NOTE: IF USING A MIX OF SYSTEM SENSOR AND OTHER SMOKE DETECTORS, A MAXIMUM OF 20 DETECTORS SHALL BE PERMITTED.				