T E C H N I C A L N O T E

PREACTION-PAC™ - FIELD CONFIGURATION of ASSEMBLIES WITH VALVE INTERLOCK DESIGNATION "P1"

1. PURPOSE OF THIS TECHNICAL NOTE. **PREACTION-PAC™** assemblies designated as **"P1"** are factory-assembled to be field-configured to operate in either of two (2) ways:

- **Preaction Single Interlock**
- **Preaction Double Interlock Electric / Electric**

This Technical Note provides information on field-configuring assemblies equipped with each type of detection control panel offered by **UNITED Fire Systems**.

2. VALVE INTERLOCK DESIGNATION "P1". The valve interlock designation is part of the **PREACTION-PAC™** part number (P/N) and the serial number (S/N) of the assembly**.** Examples:

- P/N **G340P1NPF –** This assembly containing **"P1"** in the part number **IS** covered by this Technical Note.
- P/N **G320P22G** – This assembly containing "P2" in the part number **IS NOT** covered by this Technical Note.
- S/N **G3-30-P-1-N-E-0724-003** - This assembly **IS** covered by this Technical Note.
- **S**/N **G2-25-P-2-2-B-0724-004** – This assembly **IS NOT** covered by the information in this Technical Note;

Serial Number Location. The Serial Number is located on the serial number nameplate in the electrical (upper) enclosure.

3. OPERATION OF PREACTION SPRINKLER SYSTEMS. Refer to Table 1.

3.1 PREACTION SINGLE INTERLOCK. The low air pressure switch on the preaction valve trim is used as a supervisory signal ONLY. The low air signal does not affect the actuation sequence.

3.2 DOUBLE INTERLOCK ELECTRIC / ELECTRIC. The low air pressure switch on the preaction valve trim is used both as a supervisory signal and as a part of the actuation sequence.

Action	PREACTION SINGLE INTERLOCK	PREACTION DOUBLE INTERLOCK ELECTRIC / ELECTRIC
Fire Detector Alarm	**ALARM** signal at fire detection control panel	**ALARM** signal at fire detection control panel
	Activates PREACTION-PAC™ valve solenoid	**DOES NOT** activate **PREACTION-PAC** valve solenoid
	Water enters sprinkler piping	Water **DOES NOT** enter sprinkler piping
FOLLOWED BY:		
Sprinkler Head Activation	**LOW AIR** switch activates	**LOW AIR** switch activates
	Water discharges from open sprinkler head	Combined **LOW AIR** switch and fire detector activates valve solenoid
		Water enters sprinkler piping
		Water discharges from open sprinkler head

Table 1 – Operation of Preaction Sprinkler Systems

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IMPORTANT

PREACTION-PAC™ assemblies designated as **"P1"** are **NOT** equipped with the pneumatic actuator that permits valve operation as double interlock pneumatic / electric. If double interlock pneumatic / electric operation is desired, use a **PREACTION-PAC™** assembly with **"P2"** in the part number / serial number.

CAUTION

Certain authorities having jurisdiction (AHJs) may not accept double interlock electric / electric system actuation. **UNITED Fire Systems** strongly recommends checking with all applicable AHJs **BEFORE** configuring **a "P1"** designated **PREACTION-PAC™** assembly as double interlock electric / electric.

IMPORTANT

UNITED Fire Systems strongly urges all personnel responsible for installing and programming control panelsprovided with **PREACTION-PAC™** assemblies become thoroughly familiar with the contents of the panel's applicable installation and programming instruction manual.

4. CONFIGURATION – ADDRESSABLE CONTROL PANELS. Each model of **PREACTION-PAC™ "P1"** designated assembly is configured differently, depending on the factory-installed control panel. The LOW AIR switch is the key element in the field configuration procedure. Refer to **Table 2** for information on the factory connection of the LOW AIR switch to each addressable control panel.

Manufacturer	Panel Model No.	Wiring Diagram	Module				Notes
			Model No.	Position	Address	Circuit	
Notifier	NFS2-640	Figure 1	FDM-1	Upper	TENS = 0 ONES = 2	Upper T8-T9	
Kidde Fire Systems	Aries-SLX	Figure 2	AI	3rd From Top	002	IDC	
Potter	ARC-100	Figure 3	PAD-10-DIM	Lower	2	Upper IN1	
Fenwal	FN-6000	Same as Kidde Fire Systems Aries-SLX					1
Note 1 – Fenwal FN-6000 panel no longer available. Refer to information provided for Kidde Fire Systems Aries-SLX control panel.							

Table 2 – Factory Connection of LOW AIR Switch to Addressable Control Panels

4.1. For **SINGLE INTERLOCK** systems, program the addressable control panel so that the address that the low air switch is wired to act only as a supervisory signal.

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4.2. For **DOUBLE INTERLOCK ELECTRIC / ELECTRIC** systems, program the addressable control panel so that the address that the low air switch is wired to act BOTH as a supervisory signal AND an alarm signal when cross-zoned with the system's fire detectors

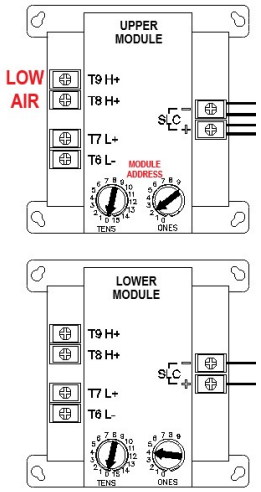

Figure 1
Low Air Switch Wiring
Notifier NFS2-640 Control Panel

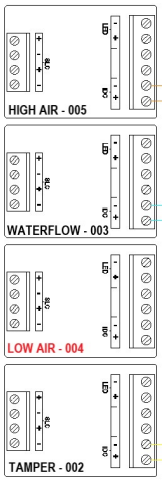

Figure 2
Low Air Switch Wiring
Kidde Aries-SLX Control Panel

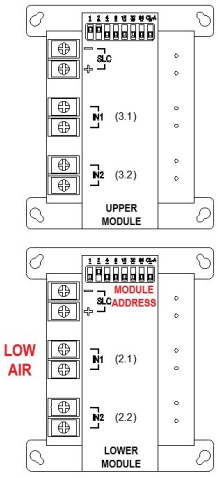

Figure 3
Low Air Switch Wiring
Potter ARC-100 Control Panel

5. CONFIGURATION – CONVENTIONAL CONTROL PANELS.

Each model of **PREACTION-PAC™ "P1"** designated assembly is configured differently, depending on the factory-installed control panel. The LOW AIR switch is the key element in the field configuration procedure. Refer to Table 3 for information on the factory connection of the LOW AIR switch to each conventional control panel, and the field changes and programming required.

			SINGLE INTERLOCK		DOUBLE INTERLOCK ELEC / ELEC	
Mfr.	**Model No.**	**Wiring Diagram**	**Zone Designation**	**Program**	**Zone Designation**	**Program**
Potter	4410G3	Figure 4	Zone 2 Sup	5	Zone 4	13
Potter	PFC-4410RC	Figure 5	Supervisory 2	5	Zone 2	13

Table 3 – Factory and Field Connection of LOW AIR Switch to Conventional Control Panels

5.1. POTTER MODEL 4410G3 CONVENTIONAL CONTROL PANEL. Refer to Figure 4,

5.1.1. SINGLE INTERLOCK.

A. Switch Wiring. The LOW AIR switch conductors are factory-connected to the terminals identified as ZONE 2 SUP. Leave these conductors in place.

B. Program. Refer to Pages 5-46 and 5-47 of the Potter 4410G3 Manual 5403751 dated 7/23. Program the panel with Program #5.

5.1.2. DOUBLE INTERLOCK ELECTRIC / ELECTRIC.

A. Switch Wiring. Move the LOW AIR switch wiring, as follows:

a. Remove 5.1K EOL device from Zone 4 terminals.
b. Remove LOW AIR switch conductors from Zone 2 Sup terminals.
c. Connect LOW AIR switch conductors to Zone 4 terminals. NOTE: Connection is not polarity-sensitive.
d. Connect 5.1K EOL device to Zone 2 terminals.

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B. Program. Refer to Pages 5-62 and 5-63 of the Potter 4410G3 Manual 5403751 dated 7/23. Program the panel with Program #13.

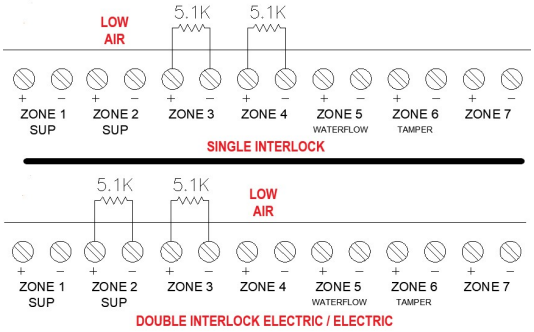

Figure 4
Low Air Switch Wiring - Potter 4410G3 Control Panel

5.2. POTTER MODEL PFC-4410-RC CONVENTIONAL CONTROL PANEL. Refer to Figure 5.

5.2.1. SINGLE INTERLOCK.

A. Switch Wiring. The LOW AIR switch conductors are factory-connected to the terminals identified as SUPERVISORY 2. Leave these conductors in place.

B. Program. Refer to Pages 30 and 31 of the Potter 4410-RC manual 5403550 dated 3/19. Program the panel with Program #5.

5.2.2 DOUBLE INTERLOCK ELECTRIC / ELECTRIC.

A. Switch Wiring. .Move the LOW AIR switch wiring, as follows:

a. Remove the 5.1K EOL device from Zone 2 terminals.
b. Remove LOW AIR switch conductors from SUPERVISORY 2 terminals.
c. Connect LOW AIR switch conductors to Zone 2 terminals. NOTE: Connection is not polarity-sensitive.
d. Connect 5.1K EOL device to Supervisory 2 terminals.

B. Program. Refer to Pages 46 and 47 of the Potter 4410-RC manual 5403550 dated 3/19. Program the panel with Program #13.

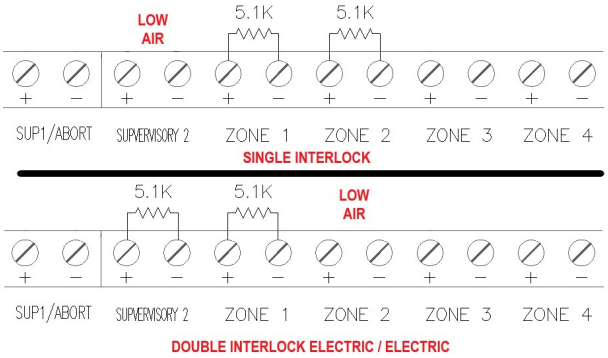

Figure 5
Low Air Switch Wiring - Potter 4410-RC Control Panel

Refer all questions about this Technical Note to the **UNITED Fire Systems** Technical Support Department. We stand ready to help. Thank you

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