Electric Release Panel Wiring Tips

Model PDRP-1001 Releasing Panels are compact single enclosure units containing power supply, standby batteries, battery charger and detector, waterflow, tamper, alarm and solenoid valve connections. These control panels are single area panels that include DIP switches for field setting as two area or single area cross zoned versions. These control panels are microprocessor controlled with mounting slots for any two of the three optional module boards. The optional module connectors are located at J5 and J8 on Field Wiring Diagrams. Opt1 jumper wire must be cut to install module on J5 and Opt2 jumper wire must be cut to install module on J8. Refer to the PDRP-1001 booklet for installation information.

SPECIFICATIONS

AC Power
120 VAC, 50/60 Hz, 1.2 amps
230 VAC, 50 Hz, 0.65 amps
Wire size: Minimum #14 AWG with 600V insulation

Initiating Circuits
Power-limited circuitry
Operation: Class A/Class B
Standby voltage: 24 VDC (ripple - 10mV p/p)
Alarm current: 15 mA minimum
Short circuit current: 40 mA maximum
Maximum detector current in standby: 2 mA per zone
Maximum loop resistance: 200 ohms
End-of-line resistor: 4.7K ohms, $^1/_2$ watt
Detector loop current is sufficient to ensure operation of one alarmed detector per zone.
Supervisory current: 5 mA

Indicating Appliance and Releasing Circuits
Power-limited circuitry
Maximum voltage drop due to wiring: 2 VDC
Standby voltage: 24 VDC
Fuses: 2 AG, 4 amperes
Total current to all external devices: 2.25 amps maximum
Maximum signaling current per circuit: 2.25 amps
End-of-line resistor: 4.7K ohms, $^1/_2$ watt

Alarm and Trouble Relays
2.0 amps @ 30 VDC
0.5 amps @ 30 VAC

24 VNR Non-resettable Power
Total DC current available from this output is up to 200 mA
Maximum ripple voltage 10mV p/p

Dimensions
14.5" wide X 16" high X 5" deep

SYSTEM INSTALLATION AND SERVICE

General

Control Panel – The Model PDRP-1001 Releasing Panel current output is 2.2 amps maximum. The total current drain for all system components: remote trouble signal, alarm bell, solenoid valve and smoke detector must not exceed this output.

The electrical control unit, standby batteries and rectifier are in one panel. The panel should be mounted at a convenient observable location near the deluge valve.

All wiring shall be installed in accordance with the National Electrical Code and the manufacturer's drawings. Wire no smaller than No. 14 AWG shall supply A.C. power to the panel. The panel requires 120/220 Vac, 1.2 amp input power.

Prior to powering the panel or installing optional modules, complete all wiring for the detectors, alarm and trouble bell and solenoid valve wiring to the panel as shown on the appropriate Field Wiring Diagram (Figures 1 - 12). Prior to connecting batteries and A.C. power, refer to the PDRP-1001 installation booklet and the appropriate Test Outline in this bulletin for start-up sequence and indications of correct operation.

Two 12V - 12 AH batteries are required for 90 hours of standby condition. These are maintenance free and leak proof gel cell batteries. These batteries require 48 hours to reach full charge after connection to the panel.

Detectors – Smoke detectors must be an approved normally open two wire type without auxiliary relay or 4 wire with relay. They must be installed in accordance with approved spacing (Ref. NFPA 72E) and with the manufacturer's instructions. The number of smoke detectors in a circuit should be limited to the maximum number recommended by the manufacturer. Any number of approved normally open thermal detectors or manual emergency stations may be installed in one detector circuit. Thermal detectors must also be installed in accordance with approved spacing and with the manufacturer's instructions. Thermal detectors and/or manual emergency stations may be intermixed with smoke detectors in the same detector circuit.

The detector circuit resistance shall not exceed 200 ohms. Resistance may be measured as follows:

1. Disconnect detector circuit wires from panel.
2. Short terminals of detector furthest from panel.
3. Measure resistance - each of the disconnected wires to the other
4. Resistance shall not exceed 200 ohms.

Maximum wire length is as follows:

Wire Size	Pull Length to Furthest Detector	Total Loop Length
18 AWG	10,000'	20,000'
16 AWG	16,000'	32,000'
14 AWG	24,000'	48,000'
12 AWG	40,000'	80,000'

Continuity of detector circuit wiring must be maintained when adding detectors, as shown on Field Wiring Diagrams, to maintain circuit supervision. In addition, both wires of the circuit must be broken at each detector terminal screw. When wired in this manner, any attempt to disconnect a detector will operate the trouble signal.

The detector circuit will lock-up for either an alarm or trouble condition. After the alarm condition is corrected, operate the reset switch to restore the system to normal. Trouble annunciation resets automatically when trouble conditions are corrected.

Alarm Bell – A polarized alarm bell, horn or strobe light should be located where the alarm will readily be noticed. An end of line resistor must be installed after the furthest alarm device as shown on the Field Wiring Diagram to maintain circuit supervision. If no alarm device is connected, circuit continuity must be maintained by a 4.7K ohm resistor connected across the alarm circuit terminals. Never short or jumper these terminals. Wire size for the alarm circuit should be No. 14 AWG.

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Trouble Indication – A non-silenceable remote trouble bell may be connected to the trouble dry contacts. Form C dry contacts must be powered from the terminals marked 24VNR. The trouble bell circuit terminals must be left vacant when not used.

Solenoid Valve – The solenoid valve must be installed with its "in" port toward the Series 758 valve piston.

The solenoid valve circuit is supervised when wired as shown on the Field Wiring Diagrams. No E.O.L. resistor is to be used. Never jumper or short the solenoid valve circuit terminals.

Water Supply Control Valve Tamper Switch – A control valve tamper switch may be connected to the supervisory circuit (In #4) on the Field Wiring Diagrams. Remove the resistor from those terminals prior to making the connection. The water supply control valve position indicator switch contacts must be open when the control valve is open.

Water Flow Alarm Pressure Switch – When a water flow alarm pressure switch is installed in the valve basic trim, the switch is pressure operated to actuate electric alarms when water enters the system. Refer to the installation sheet packed with each switch for details.

Optional Module Boards

For module specifications and installation instructions, refer to System Sensor Doc. # 50734, PDRP-1001/PDRP-10001A Deluge/ Preaction Control Panel.

Transmitter Module (4XTM) – The Transmitter Module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity circuits. Also included is a DISABLE switch and disable trouble LED. As a jumper option, the alarm reverse polarity circuit will open on trouble if no alarm exists.

Remote Annuciator (RZA-4X) – The Remote Annunciator mounts on a standard single-gang box and provides the following:

- System Trouble LED (yellow)
- Local Piezo Sounder
- Silence Switch (for local sounder)
- Alarm/Waterflow Bell Detected LED (red)
- Waterflow/Supervisory Bell LED (red)
- Releasing Circuit 1 LED (red)
- Releasing Circuit 2/Supervisory Bell LED (red)

NOTE: The Remote Annuciator requires the use of an Annuciator Driver module (below).

Annuciator Driver Module (4XLM) – The Annuciator Driver module supports the RZA-4X Remote Annuciator. The Annuciator Driver Module mounts to the main board, occupying one of the two option connectors.

Zone Relay Module (4XZM) – The Zone Relay module provides Form-C contacts for the following:

- Alarm/Waterflow Bell
- Waterflow/Supervisory Bell
- Releasing Circuit 1
- Releasing Circuit 2/Supervisory Bell
- System Alarm
- System Trouble

MODEL PDRP-1001 PANEL INSTALLATION

- Surface mount the control panel at a convenient observable location near the deluge valve.
- Prior to connecting the control panel, complete all wiring to detectors, alarm and trouble bells, and solenoid valve as shown in the appropriate Field Wiring Diagram. Observe compliance with all applicable codes.
- Thermal and smoke detectors may be intermixed in the same detector circuit.
- Check all wiring for short circuits and continuity.
- Check control panel DIP switches for proper setting as shown on Field Wiring Diagrams. DIP switches are factory set for single zone panel. Field setting is required for two area and cross-zoned panels as shown on the Field Wiring Diagrams. Slide switches to position shown then reset panel.
- Connect detector, alarm bell, trouble bell and solenoid valve wiring to panel according to Field Wiring Diagram. Alarm and trouble bell polarity must be observed.
- Connect the non-energized A.C. power wires to the terminals indicated on the Field Wiring Diagram.
- Install (2) batteries as shown in Field Wiring Diagram. DO NOT INSTALL battery jumper wires, only install all other battery wires.
- Test per appropriate Control Panel Test Outline.
- Circuit continuity must be maintained across terminals (B+ and B-) marked Out #1, #2, #3, #4 and In #1, #2, #3, #4. Never short or jumper these terminals. If no devices are connected, install a 4.7K ohm $^1/_2$ watt resistor.
- If problems are encountered during testing, see troubleshooting guide on page 18.

Field Wiring Diagrams for the Single Area Control Panel are shown on the following Figures:

Fig.	Detector Type	Detector Circuit Wiring	Approvals
1	Thermal	Class A	UL Listed/ FM Approved
2	Smoke	Class A	UL Listed
3	Thermal	Class B	UL Listed
4	Smoke	Class B	UL Listed

Field Wiring Diagrams for the Two Area Control Panel are shown on the following Figures:

Fig.	Detector Type	Detector Circuit Wiring	Approvals
5	Thermal	Class A	UL Listed/ FM Approved
6	Smoke	Class A	UL Listed
7	Thermal	Class B	UL Listed
8	Smoke	Class B	UL Listed

Field Wiring Diagrams for the Single Area Cross Zoned Panel are shown on the following Figures:

Fig.	Detector Type	Detector Circuit Wiring	Approvals
9	Thermal	Class A	UL Listed
10	Smoke	Class A	UL Listed
11	Thermal	Class B	UL Listed
12	Smoke	Class B	UL Listed

Model PDRP-1001
Single Area Releasing Panel

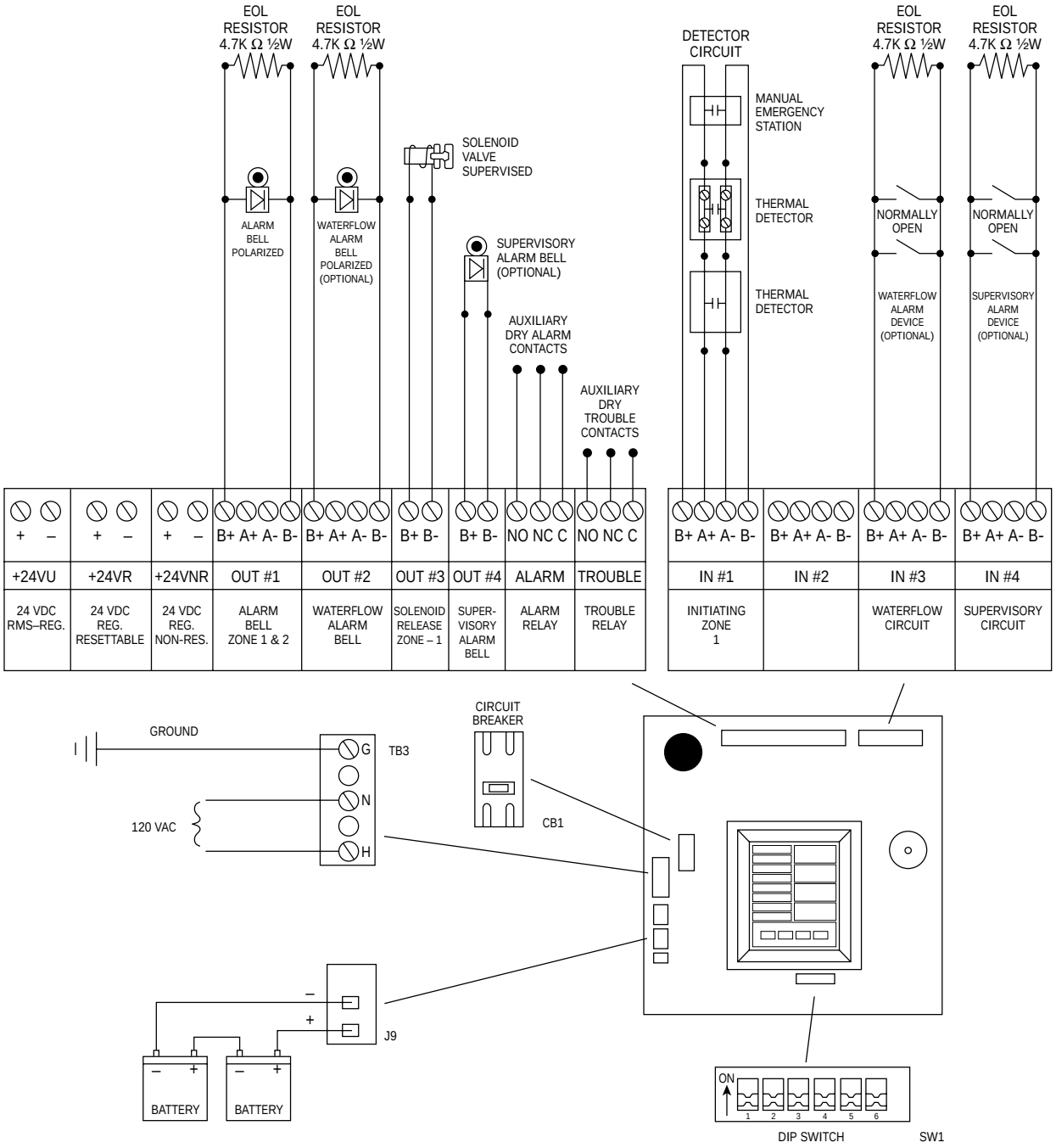
This control panel configuration is used where one fire area is protected by one deluge valve. The panel provides detector, alarm and solenoid valve circuitry for operation of one deluge valve. The necessary power supply, as well as standby emergency power supply, battery charger and rectifier circuitry are contained within the panel.

Test Outline Single Area Control Panel		AC Power	System Alarm	Release	Supervisory	System Trouble	Circuit Trouble	Alarm Silence	Power Trouble	Zone 1		Zone 2		Waterflow		Supervisory		Solid Tone	Rapid Beep	Slow Beep	Low Battery*	Ground Fault*
Operation	Simulates									Trouble	Alarm	Trouble	Alarm	Trouble	Alarm	Trouble	Alarm					
1. Initial Setup a. Connect Battery Jumpers, No. A.C. b. Press Tone Silence Switch						On														On		
						On																
2. Power AC Line	Normal Standby Condition	On																				
3. Press and Hold System Reset		On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On				
4. a. Press AC Circuit Breaker Button b. Release AC Circuit Breaker Button	AC Power Failure					On														On		
	AC Power Restored	On																				
5. Temporarily Remove Both Battery Jumpers	Battery Failure	On				On			On											On	On	
6. Temporarily Disconnect Wire From Terminal Marked Out #1 B+	Break in Alarm Bell CKT	On				On	On													On		
7. Temporarily Short Terminals Marked Out #1 B+ & B-	Short in Alarm Bell CKT	On				On	On													On		
8. Temporarily Short to Ground Terminal Marked Out #1 B-	Ground Fault	On				On			On											On		On
9. Temporarily Disconnect Wire From Terminal Marked Out #3 B+	Break in Solenoid Valve CKT	On				On	On													On		
10. Temporarily Disconnect Wire From Terminal Marked In #1 B+	Break In Smoke/Heat Detector CKT	On				On				On										On		
11. Temporarily Disconnect Wire From Terminal Marked In #2 B+	Break In Manual Pull Detector CKT	On				On						On								On		
12. Temporarily Disconnect Wire From Terminal Marked #3 B+	Break In Waterflow Detector CKT	On				On								On						On		
13. Temporarily Disconnect Wire From Terminal Marked In #4 B+	Break In Supervisory Detector CKT	On				On										On				On		
14. Temporarily Short Terminals Marked In #1 B+ & B- Press Alarm Silence Press Reset	Smoke/Heat Detector Operation	On	On	On							On							On				
		On	On	On				On			On											
		On																				
15. Temporarily Short Terminals Marked In #2 B+ & B- Press Alarm Silence Press Reset	Manual Pull Station Detector Operation	On	On	On									On					On				
		On	On	On				On					On									
		On																				
16. Temporarily Short Terminals Marked In #3 B+ & B- Press Alarm Silence Press Reset	Waterflow Detector Operation	On	On												On			On				
		On	On					On							On							
		On																				
17. Temporarily Short Terminals Marked In #4 B+ & B- Press Tone Silence Press Reset	Supervisory Detector Operation	On			On											On			On			
		On			On											On						
		On																				
18. Operate Detector Press Reset	Fire	On	On	On							On							On				
		On																				

*Yellow L.E.D. visible below center control panel.

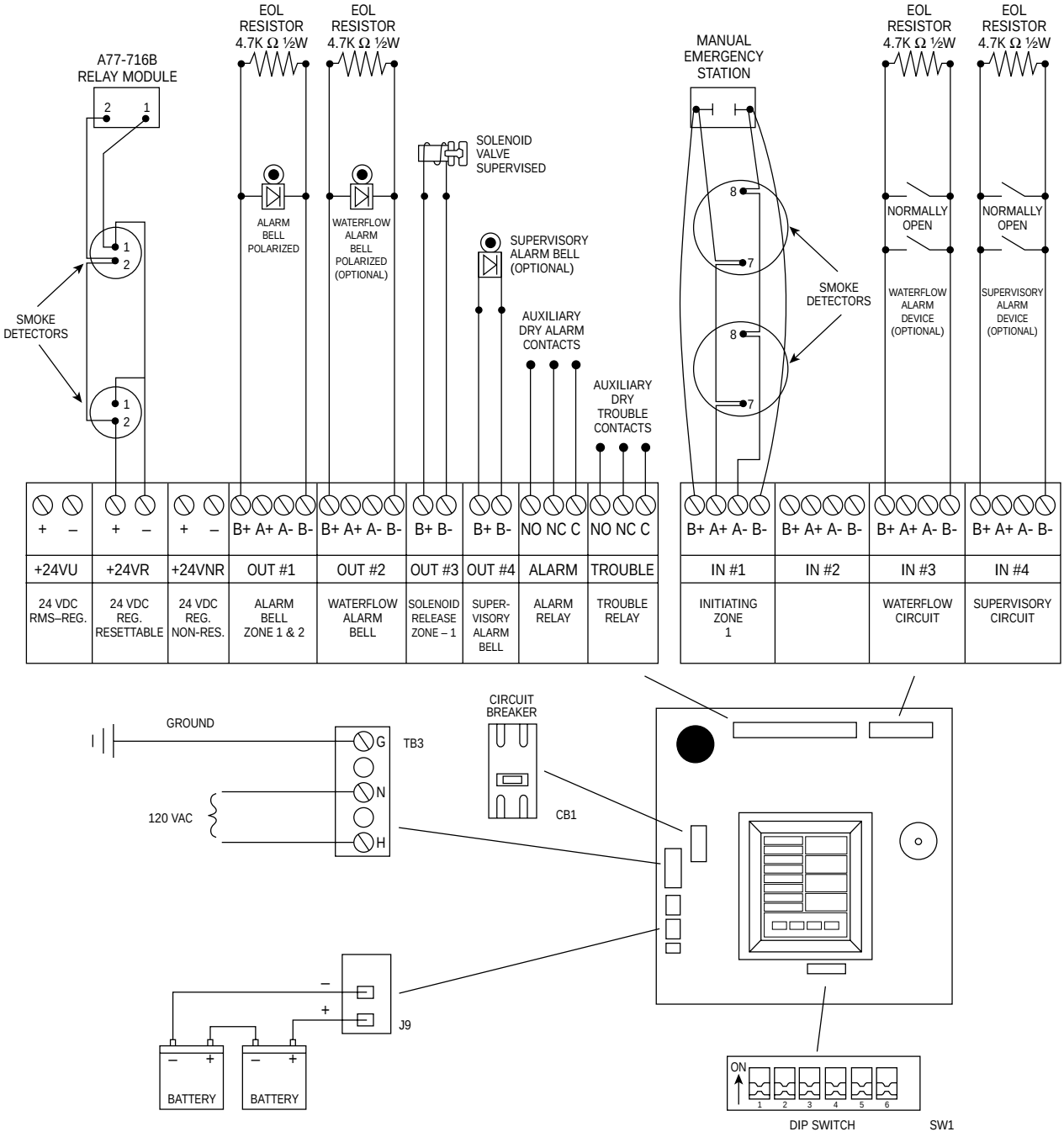
FIELD WIRING DIAGRAM – SINGLE AREA CONTROL PANEL (Fig. 1)

- Class “A” Detector Circuit Wiring
- Thermal Detector:
  Series 500 & 600 Detectors
- UL Listed/FM Approved
- Operation:
  In #1 or #2 operates Out #1 & #3
  In #3 operates Out #2
  In #4 operates Out #4



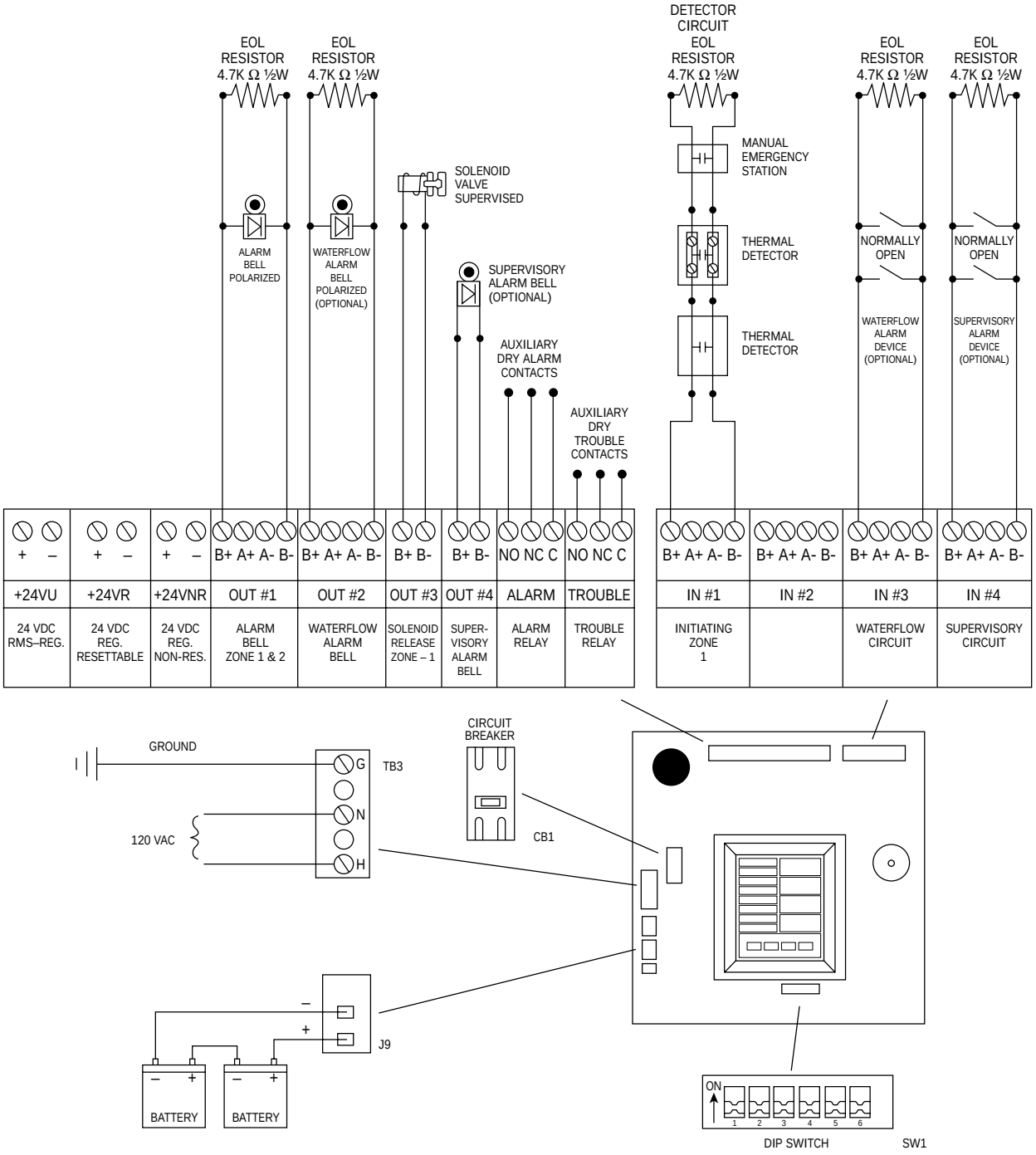
FIELD WIRING DIAGRAM – SINGLE AREA CONTROL PANEL (Fig. 2)

- Class “A” Detector Circuit Wiring
- Smoke Detector
  1424, 2424, 2424TH
- UL Listed
- Operation:
  In #1 or #2 operates Out #1 & #3
  In #3 operates Out #2
  In #4 operates Out #4



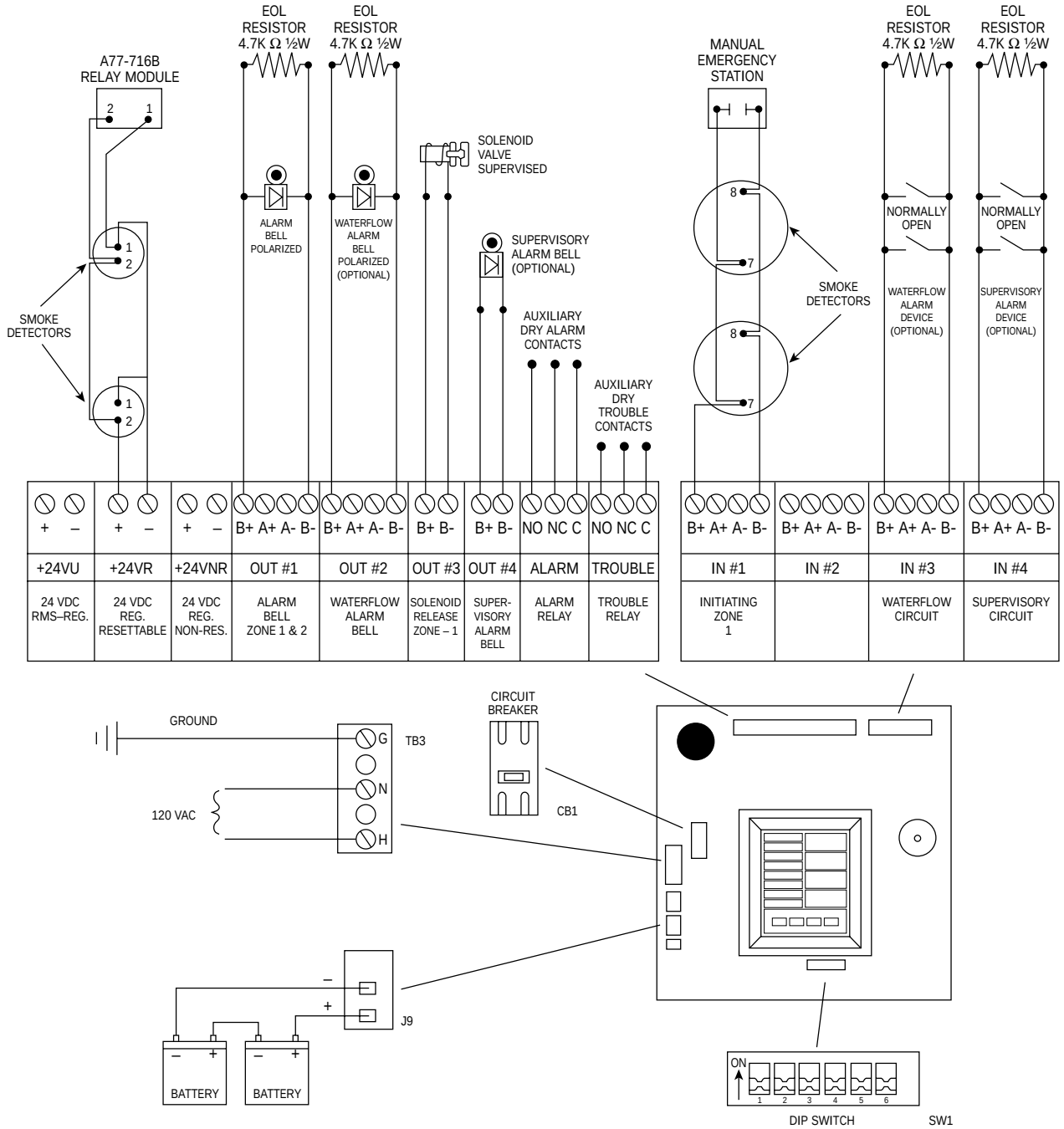
FIELD WIRING DIAGRAM – SINGLE AREA CONTROL PANEL (Fig 3)

- Class “B” Detector Circuit Wiring
- Thermal Detector:
  Series 500 & 600 Detectors
- UL Listed
- Operation:
  In #1 or #2 operates Out #1 & #3
  In #3 operates Out #2
  In #4 operates Out #4



FIELD WIRING DIAGRAM – SINGLE AREA CONTROL PANEL (Fig. 4)

- Class “B” Detector Circuit Wiring
- Smoke Detector:
  1424, 2424, 2424TH
- UL Listed
- Operation:
  In #1 or #2 operates Out #1 & #3
  In #3 operates Out #2
  In #4 operates Out #4



Model PDRP-1001
Two Area Releasing Panel

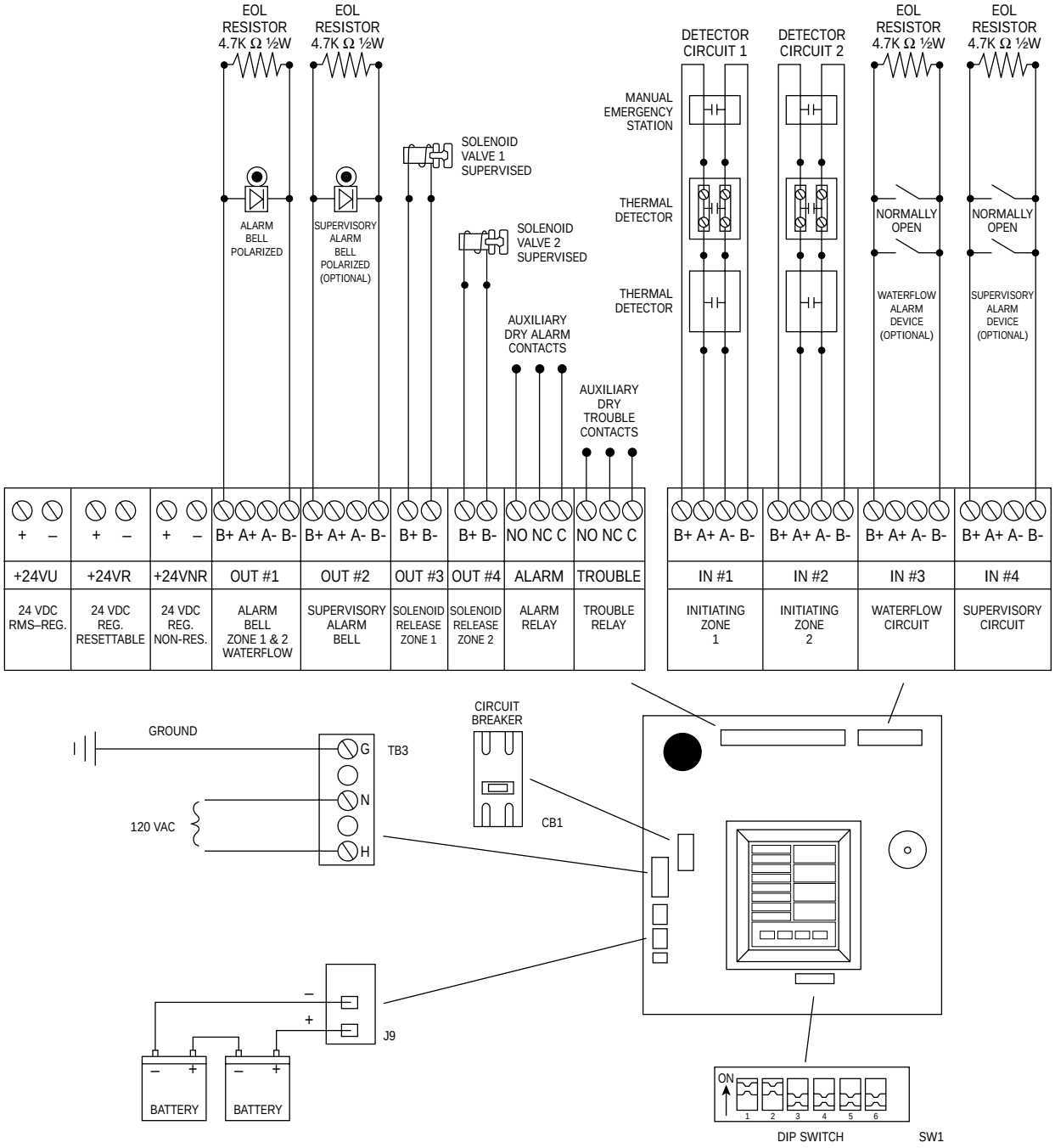
This control panel is used where two nearby areas are protected by two independent deluge valves. Two independent sets of detector and solenoid valve circuits and one common alarm circuit are powered by a common power supply, battery charger, standby emergency power supply and rectifier circuitry.

Test Outline Single Area Control Panel		AC Power	System Alarm	Release	Supervisory	System Trouble	Circuit Trouble	Alarm Silence	Power Trouble	Zone 1		Zone 2		Waterflow		Supervisory		Solid Tone	Rapid Beep	Slow Beep	Low Battery*	Ground Fault*
Operation	Simulates									Trouble	Alarm	Trouble	Alarm	Trouble	Alarm	Trouble	Alarm					
1. Initial Setup a. Connect Battery Jumpers, No. A.C. b. Press Tone Silence Switch						On														On		
						On																
2. Power AC Line	Normal Standby Condition	On																				
3. Press and Hold System Reset		On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On				
4. a. Press AC Circuit Breaker Button	AC Power Failure					On														On		
b. Release AC Circuit Breaker Button	AC Power Restored	On																				
5. Temporarily Remove Both Battery Jumpers	Battery Failure	On				On			On											On	On	
6. Temporarily Disconnect Wire From Terminal Marked Out #1 B+	Break in Alarm Bell CKT.	On				On	On													On		
7. Temporarily Short Terminals Marked Out #1 B+ & B-	Short in Alarm Bell CKT.	On				On	On													On		
8. Temporarily Short to Ground Terminal Marked Out #1 B-	Ground Fault	On				On			On											On		On
9. Temporarily Disconnect Wire From Terminal Marked Out #3 B+	Break in Solenoid Valve CKT. 1	On				On	On													On		
10. Temporarily Disconnect Wire From Terminal Marked In #4 B+	Break in Solenoid Valve CKT. 2	On				On	On													On		
11. Temporarily Disconnect Wire From Terminal Marked In #1 B+	Break in Detector CKT. 1	On				On				On										On		
12. Temporarily Disconnect Wire From Terminal Marked #2 B+	Break In Detector CKT. 2	On				On						On								On		
13. Temporarily Disconnect Wire From Terminal Marked In #3 B+	Break In Waterflow Detector CKT.	On				On								On						On		
14. Temporarily Disconnect Wire From Terminal Marked In #4 B+	Break in Supervisory Detector CKT.	On				On										On				On		
15. Temporarily Short Terminals Marked In #1 B+ & B- Press Alarm Silence Press Reset	Detector Operation CKT. 1	On	On	On							On							On				
		On	On	On				On			On											
		On																				
16. Temporarily Short Terminals Marked In #2 B+ & B- Press Alarm Silence Press Reset	Detector Operation CKT. 2	On	On	On									On					On				
		On	On	On				On					On									
		On																				
17. Temporarily Short Terminals Marked In #3 B+ & B- Press Alarm Silence Press Reset	Waterflow Detector Operation	On	On												On			On				
		On	On					On							On							
		On																				
18. Temporarily Short Terminals Marked In #4 B+ & B- Press Tone Silence Press Reset	Supervisory Detector Operation	On			On											On			On			
		On			On											On						
		On																				
19. Operate Detector Zone 1 Press Reset	Fire Zone 1	On	On	On							On							On				
		On																				
20. Operate Detector Zone 2 Press Reset	Fire Zone 2	On	On	On									On					On				
		On																				

*Yellow L.E.D. visible below center control panel.

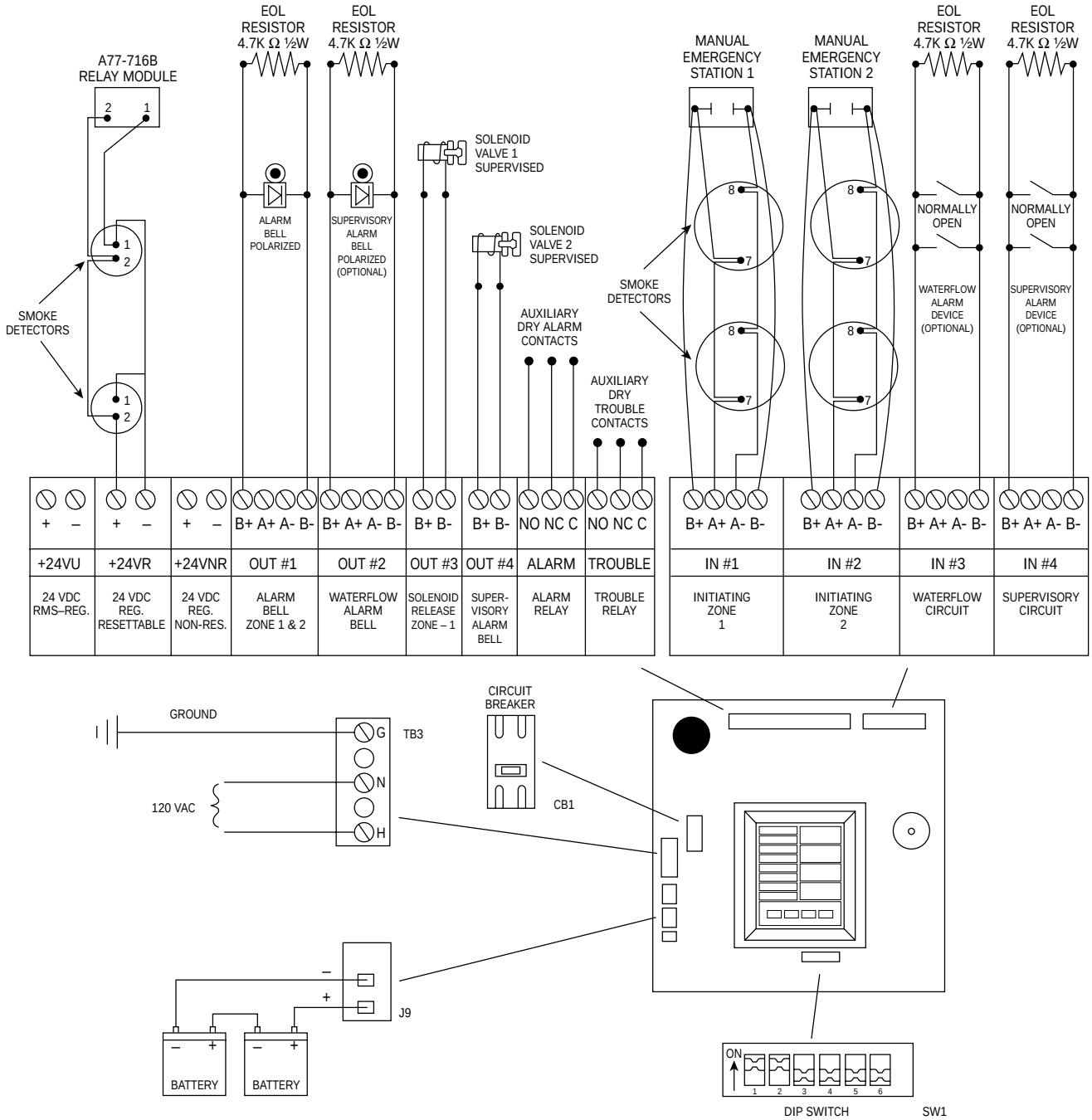
FIELD WIRING DIAGRAM – TWO AREA CONTROL PANEL (Fig. 5)

- Class “A” Detector Circuit Wiring
- Thermal Detector:
  Series 500 & 600 Detectors
- UL Listed/FM Approved
- Operation:
  In #1, In #2 or In #3 operates Out #1
  In #4 operates Out #2
  In #1 operates Out #3
  In #2 operates Out #4



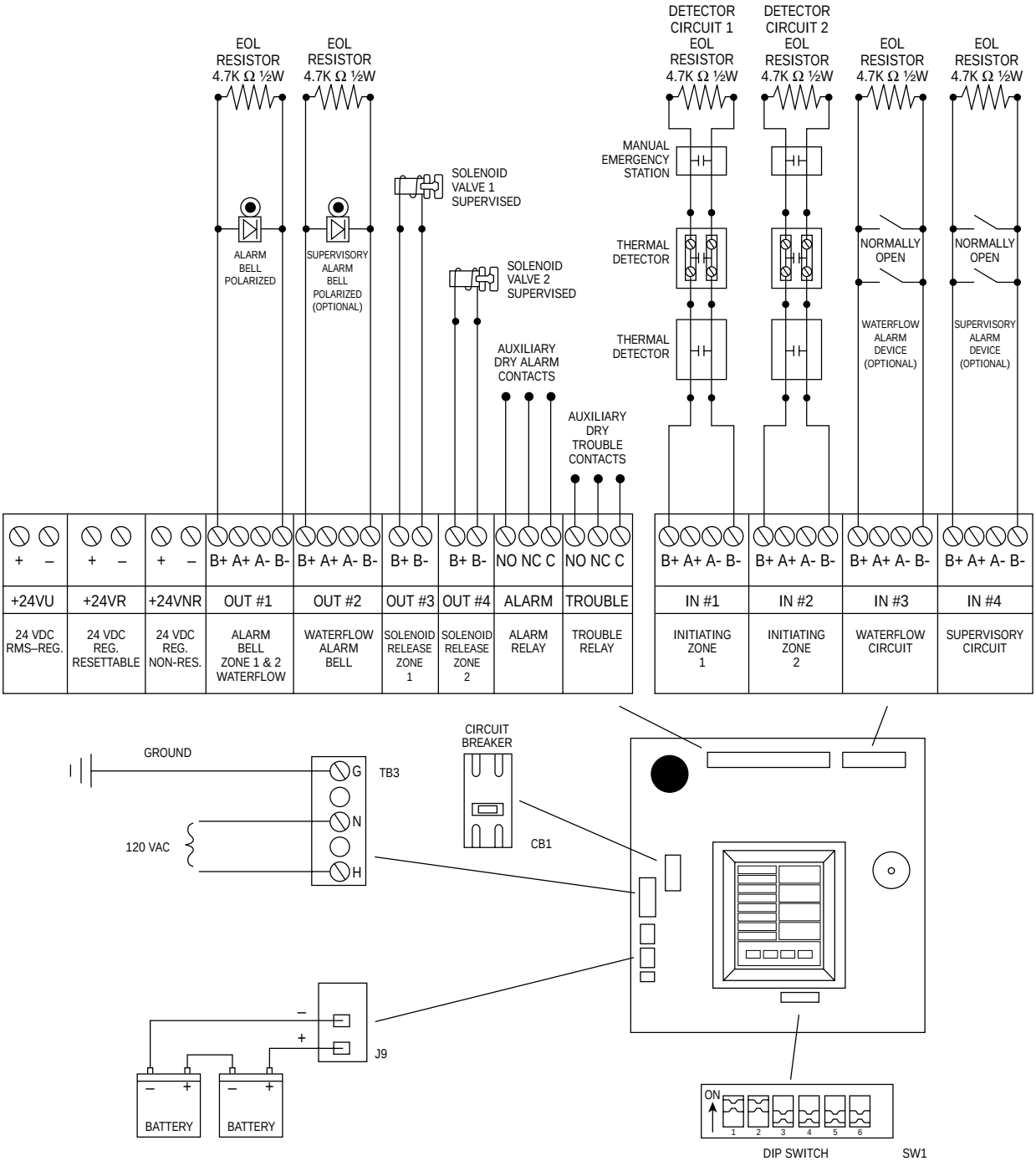
FIELD WIRING DIAGRAM – TWO AREA CONTROL PANEL (Fig. 6)

- Class “A” Detector Circuit Wiring
- Smoke Detector:
  1424, 2424, 2424TH
- UL Listed
- Operation:
  In #1, In #2 or In #3 operates Out #1
  In #4 operates Out #2
  In #1 operates Out #3
  In #2 operates Out #4



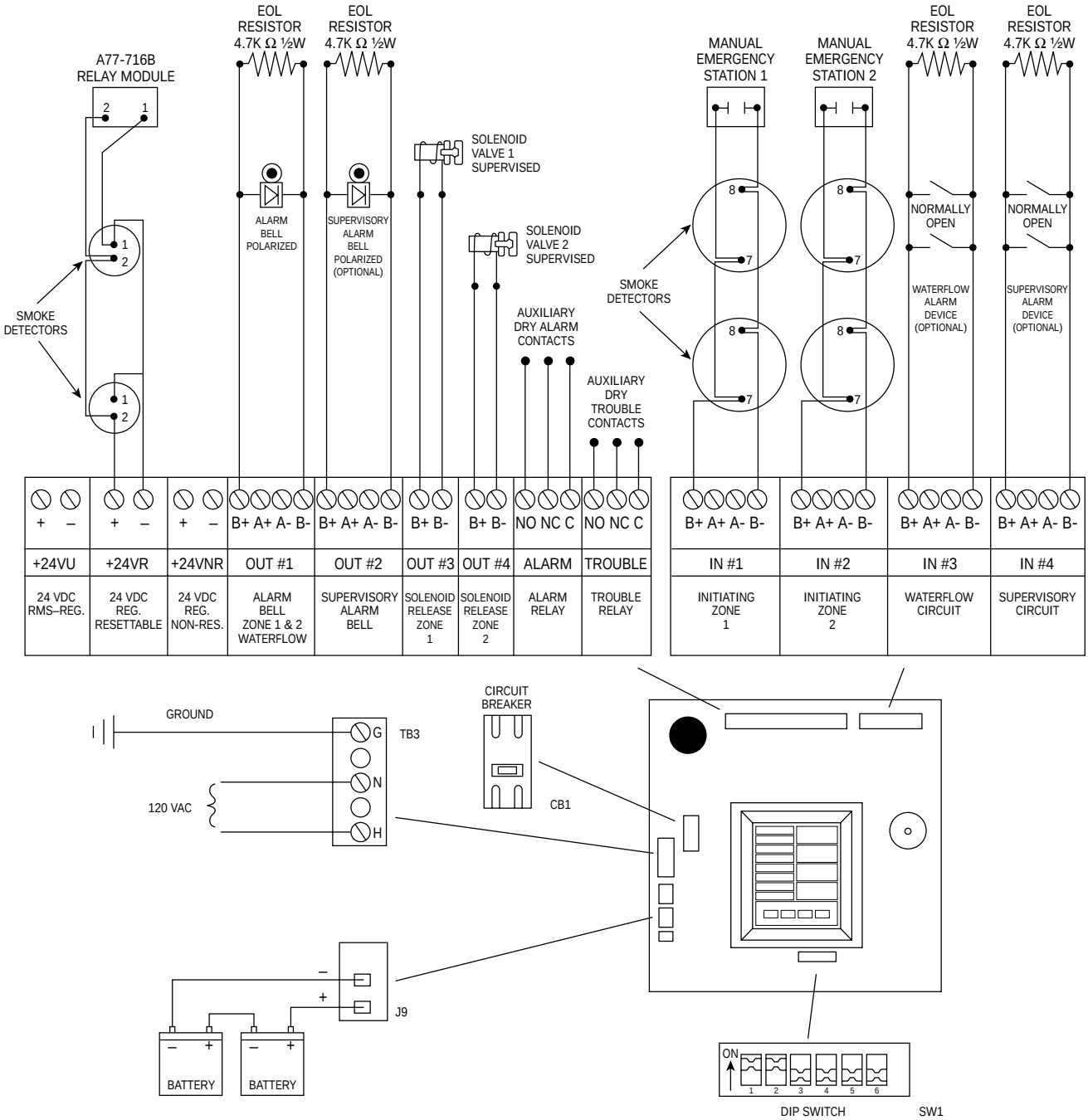
FIELD WIRING DIAGRAM – TWO AREA CONTROL PANEL (Fig. 7)

- Class “B” Detector Circuit Wiring
- Thermal Detector:
  Series 500 & 600 Detectors
- UL Listed
- Operation:
  In #1, In #2 or In #3 operates Out #1
  In #4 operates Out #2
  In #1 operates Out #3
  In #2 operates Out #4



FIELD WIRING DIAGRAM – TWO AREA CONTROL PANEL (Fig. 8)

- Class “B” Detector Circuit Wiring
- Smoke Detector:
  1424, 2424, 2424TH
- UL Listed
- Operation:
  In #1, In #2 or In #3 operates Out #1
  In #4 operates Out #2
  In #1 operates Out #3
  In #2 operates Out #4



Model PDRP-1001
Single Area Cross Zoned Releasing Panel

This control panel is used to protect one fire area while providing an additional feature which minimizes deluge valve operation caused by possible false activation of one detector. Two independent circuits of detectors, intermixed, each spaced in accordance with its listed spacing, are installed in one fire area. At least one detector from each circuit must operate before the deluge valve is opened.

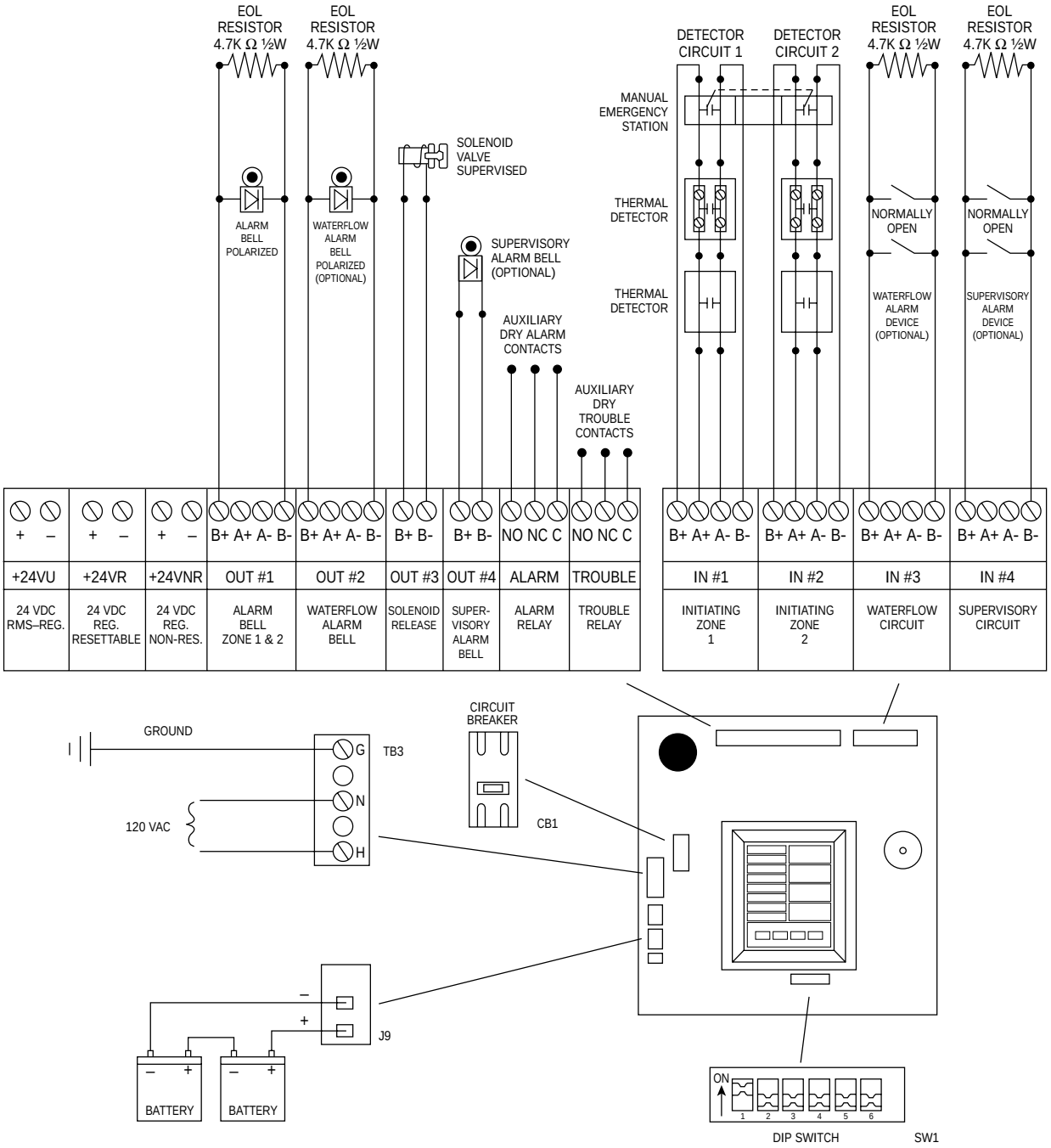
The panel contains two cross zoned detector circuits which operate one alarm and one solenoid valve circuit. Power supply, battery charger, standby emergency power supply and rectifier circuits are contained within this panel.

Test Outline Single Area Control Panel		AC Power	System Alarm	Release	Supervisory	System Trouble	Circuit Trouble	Alarm Silence	Power Trouble	Zone 1		Zone 2		Waterflow		Supervisory		Solid Tone	Rapid Beep	Slow Beep	Low Battery*	Ground Fault*
Operation	Simulates									Trouble	Alarm	Trouble	Alarm	Trouble	Alarm	Trouble	Alarm					
1. Initial Setup a. Connect Battery Jumpers, No. A.C. b. Press Tone Silence Switch						On														On		
						On																
2. Power AC Line	Normal Standby Condition	On																				
3. Press and Hold System Reset		On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On				
4. a. Press AC Circuit Breaker Button b. Release AC Circuit Breaker Button	AC Power Failure					On														On		
	AC Power Restored	On																				
5. Temporarily Remove Both Battery Jumpers	Battery Failure	On				On			On											On	On	
6. Temporarily Disconnect Wire From Terminal Marked Out #1 B+	Break in Alarm Bell CKT.	On				On	On													On		
7. Temporarily Short Terminals Marked Out #1 B+ & B-	Short in Alarm Bell CKT.	On				On	On													On		
8. Temporarily Short to Ground Terminal Marked Out #1 B-	Ground Fault	On				On			On											On		On
9. Temporarily Disconnect Wire From Terminal Marked Out #3 B+	Break in Solenoid Valve CKT.	On				On	On													On		
10. Temporarily Disconnect Wire From Terminal Marked In #4 B+	Break in Detector CKT. 1	On				On				On										On		
11. Temporarily Disconnect Wire From Terminal Marked In #2 B+	Break in Detector CKT. 2	On				On						On								On		
12. Temporarily Disconnect Wire From Terminal Marked #3 B+	Break In Waterflow Detector CKT.	On				On								On						On		
13. Temporarily Disconnect Wire From Terminal Marked In #4 B+	Break In Supervisory Detector CKT.	On				On										On				On		
14. Temporarily Short Terminals Marked In #1 B+ & B- Press Alarm Silence Press Reset	Detector Operation CKT. 1	On	On								On							On				
		On	On					On			On											
		On																				
15. Temporarily Short Terminals Marked In #2 B+ & B- Press Alarm Silence Press Reset	Detector Operation CKT. 2	On	On	On									On					On				
		On	On	On				On					On									
		On																				
16. Temporarily Short Terminals Marked In #1 B+ & B- and In #2 B+ & B- Press Alarm Silence Press Reset	Detector Operation CKT. 1 & 2	On	On	On							On		On					On				
		On	On	On				On			On		On									
		On																				
17. Temporarily Short Terminals Marked In #3 B+ & B- Press Alarm Silence Press Reset	Waterflow Detector Operation	On	On												On			On				
		On	On					On							On							
		On																				
18. Temporarily Short Terminals Marked In #4 B+ & B- Press Tone Silence Press Reset	Supervisory Detector Operation	On			On											On			On			
		On			On											On						
		On																				
19. Operate Detector Zone 1 & Zone 2 Press Reset	Fire Zone 1 & 2	On	On	On							On		On					On				
		On																				

*Yellow L.E.D. visible below center control panel.

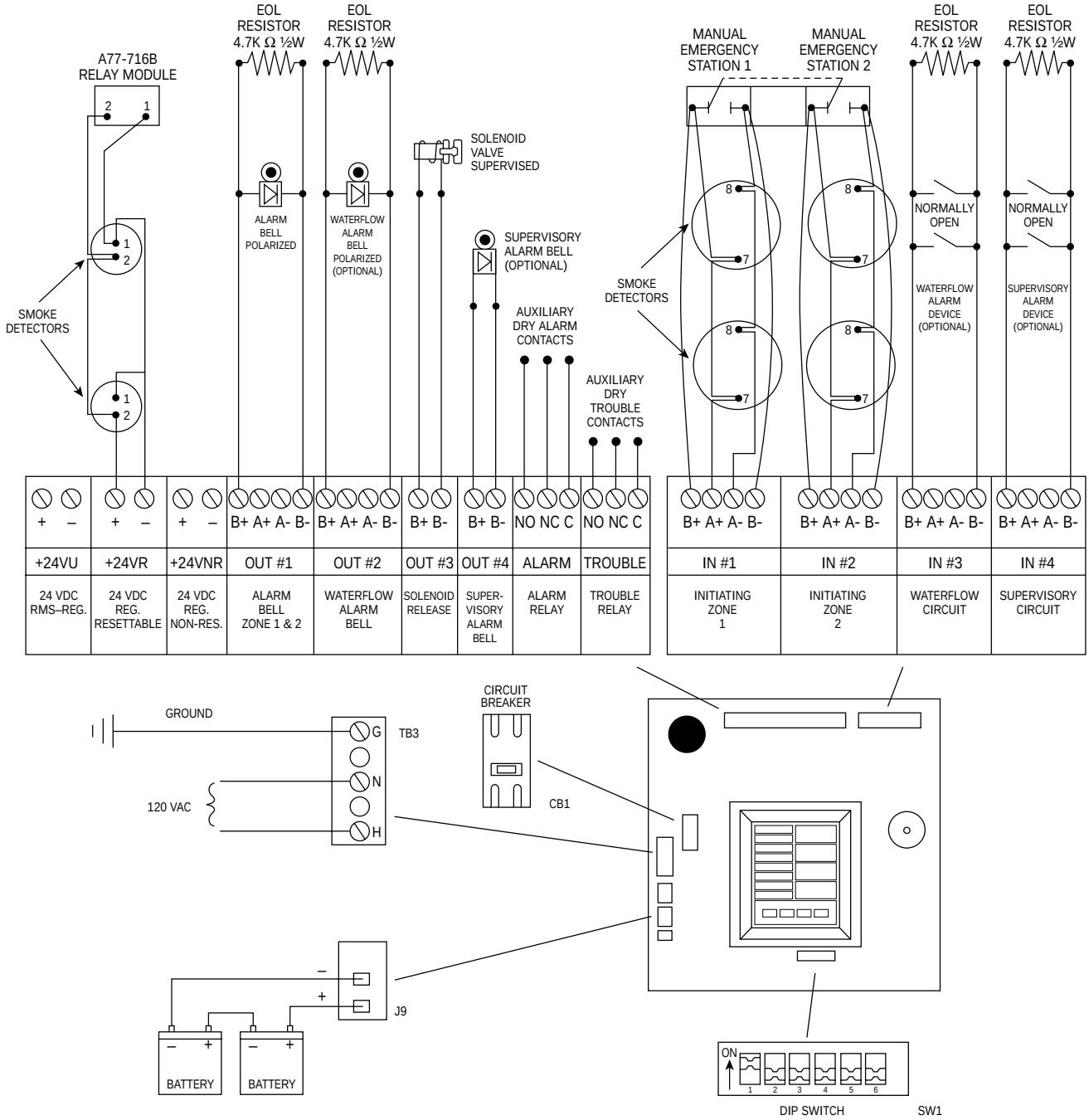
FIELD WIRING DIAGRAM – CROSS ZONED CONTROL PANEL (Fig. 9)

- Class “A” Detector Circuit Wiring
- Thermal Detector:
  Series 500 & 600 Detectors
- UL Listed
- Operation:
  In #1 or In #2 operates Out #1
  In #3 operates Out #2
  In #1 and In #2 operates Out #3
  In #4 operates Out #4



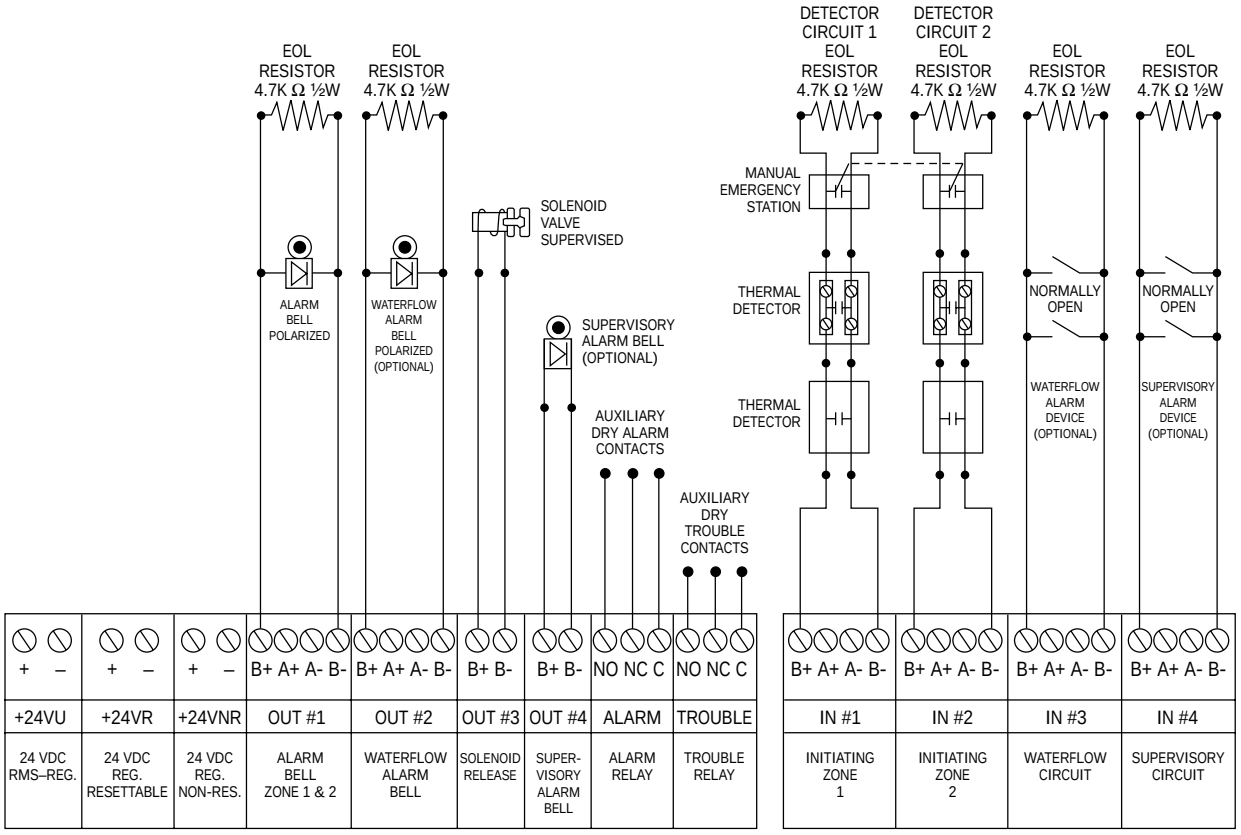
FIELD WIRING DIAGRAM – CROSS ZONED CONTROL PANEL (Fig. 10)

- Class “A” Detector Circuit Wiring
- Smoke Detector:
  1424, 2424, 2424TH
- UL Listed
- Operation:
  In #1 or In #2 operates Out #1
  In #3 operates Out #2
  In #1 and In #2 operates Out #3
  In #4 operates Out #4



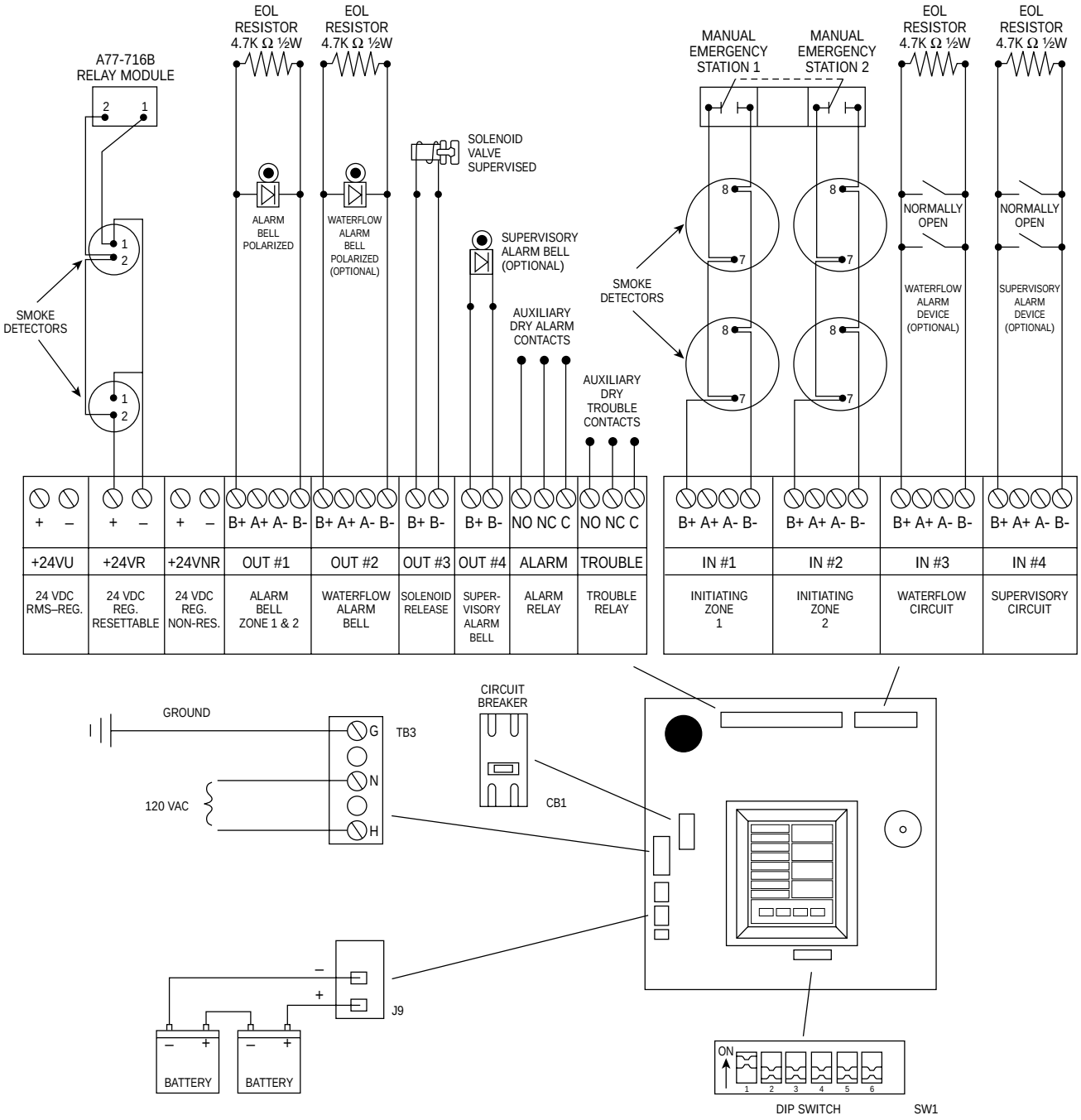
FIELD WIRING DIAGRAM – CROSS ZONED CONTROL PANEL (Fig. 11)

- Class “B” Detector Circuit Wiring
- Thermal Detector:
  Series 500 & 600 Detectors
- UL Listed
- Operation:
  In #1 or In #2 operates Out #1
  In #3 operates Out #2
  In #1 and In #2 operates Out #3
  In #4 operates Out #4



FIELD WIRING DIAGRAM – CROSS ZONED CONTROL PANEL (Fig. 12)

- Class “B” Detector Circuit Wiring
- Smoke Detector:
  1424, 2424, 2424TH
- UL Listed
- Operation:
  In #1 or In #2 operates Out #1
  In #3 operates Out #2
  In #1 and In #2 operates Out #3
  In #4 operates Out #4



TROUBLESHOOTING GUIDE FOR MODEL PDRP-1001 RELEASING PANEL

The following table provides a basic troubleshooting guide which indicates corrective action for the more common problems that may occur. This guide first separates the panel and the field wiring (Steps A through C). The panel is then tested (Step D). If the panel tests properly in Step D, the problem has then been isolated to the field wiring. Steps E1 through E8 systematically reconnect the panel and the field wiring. This allows the problem to be specifically located and corrected in the field wiring.

Prior to testing, notify the local Superintendent of Fire Alarms, then close main valve.

A. Disconnect AC power from panel.

B. Disconnect one end of each yellow battery jumper wire.

C. Disconnect all external wiring from control panel. Install 4.7 ohm $^1/_2$ watt resistors to terminals (B+ and B-) marked as follows:

1. Out #1, #2, #3, #4 and IN #1, #2, #3, #4. If a resistor is present, do not add another but verify its resistance - 4.7 ohm, replace if faulty.
2. Alarm and trouble terminals remain vacant.

D. Test panel as follows:

Operation	Panel Indication
1. Connect batteries, connect AC power. Reset circuit breakers. Press Silence and Reset switches.	AC ON
2. Press and hold Reset switch.	All LEDs on center panel and buzzer ON
3. Release Reset switch.	AC ON

The above indication is normal and therefore external wiring should be investigated.

E. The external circuit containing the problem may be identified by observing the control panel lights when reconnecting each external circuit, individually:

1. Alarm Circuit – Remove resistor from terminals marked Out #1 B+ & B- and connect alarm bell, observing correct polarity.

Symptom	Probable Cause	Correction
• System trouble • Circuit trouble	• Open circuit in wiring • E.O.L. resistor omitted • Non-polarized bell installed • Short in alarm CKT. • Polarity reversed	• Repair • Install • Replace with polarized bell • Repair • Correct bell polarity

2. Trouble Bell Circuit – Connect trouble bell to terminals marked Trouble, observing correct polarity.

Symptom	Probable Cause	Correction
• Bell does not ring during trouble condition. Simulate trouble by temporarily removing wire from terminal marked Out #1 B+	• Polarity reversed • Open CKT. in wiring • Faulty bell • Bell of incorrect voltage	• Correct polarity • Repair • Replace • Replace with 24 Vdc bell

3. Solenoid Valve Circuit – Remove resistor from terminals marked Out #3 B+ & B- and connect solenoid valve.

Symptom	Probable Cause	Correction
• Circuit trouble • System trouble	• Open CKT. in wiring • Open CKT. in solenoid	• Repair • Replace

4. Additionally for Two Area Panel – Remove resistor from terminals marked Out #4, B+ & B- and connect solenoid valve 2.

Symptom	Probable Cause	Correction
• Circuit trouble • System trouble	• Open CKT. in wiring • Open CKT. in solenoid	• Repair • Replace

5. Detector Circuit 1 Class A – Prior to connecting wires to panel, confirm continuity between wires to be connected to terminals marked In #1 B+ and In #1 A+, and terminals marked In #1 B- and In #1 A-. Confirm no continuity exists between wires to be connected to terminals marked In #1 B+ and In #1 B-, and terminals marked In #1 A+ and In #1 A-. Remove resistor from terminal marked In #1. Connect wires from detectors to terminals per appropriate field wiring diagram.

Symptom	Probable Cause	Correction
• Zone 1 trouble • System trouble	• Open in either detector loop.	• Repair
• Power trouble • System trouble • Ground fault	• Short to ground on either detector loop wire.	• Repair
• Zone 1 alarm • Alarm	• Short, loop to loop • Detector activated • Detector faulty	• Repair • Remove heat or smoke, press Reset switch • Replace

6. Detector Circuit 1 Class B – Remove resistor from terminal marked In #1. Connect wires from detectors to terminals B+ and B- per appropriate field wiring diagram.

Symptom	Probable Cause	Correction
• Zone 1 trouble • System trouble	• Open in detector loop. • E.O.L. resistor omitted	• Repair • Add
• Power trouble • System trouble	• Short to ground on either detector loop wire.	• Repair
• Zone 1 alarm • Alarm	• Short, loop to loop • Detector activated • Detector faulty	• Repair • Remove heat or smoke, press Reset switch • Replace

7. Additionally for Cross Zoned and Two Area Panels - Detector Circuit 2 Class A – Prior to connecting wires to panel, confirm continuity between wires to be connected to terminals marked In #2 B+ and In #2 A+, and terminals marked In #2 B- and In #2 A-. Confirm no continuity exists between wires to be connected to terminals marked In #2 B+ and In #2 B-, and terminals marked In #2 A+ and In #2 A-. Remove resistor from terminal marked In #2. Connect wires from detectors to terminals per appropriate field wiring diagrams.

Symptom	Probable Cause	Correction
• Zone 2 trouble • System trouble	• Open in either detector loop.	• Repair
• Power trouble • Ground fault • System trouble	• Short to ground on either detector loop wire.	• Repair
• Zone 2 alarm • Alarm	• Short, loop to loop • Detector activated • Detector faulty	• Repair • Remove heat or smoke, press Reset switch • Replace

8. Detector Circuit 2 Class B – Remove resistor from terminal marked In #2. Connect wires from detectors to terminals B+ and B- per appropriate field wiring diagram.

Symptom	Probable Cause	Correction
• Zone 2 trouble • System trouble	• Open in detector loop. • E.O.L. resistor omitted	• Repair • Add
• Power trouble • Ground fault • System trouble	• Short to ground on either detector loop wire.	• Repair
• Zone 2 alarm • Alarm	• Short, loop to loop • Detector activated • Detector faulty	• Repair • Remove heat or smoke, press Reset switch • Replace

This product shall be manufactured by Victaulic Company. All products to be installed in accordance with current Victaulic installation/assembly instructions.
Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.