

INSTALLATION, OPERATION AND INSTRUCTION MANUAL

PFC-100RC FIRE CONTROL PANEL FOR RELEASING DEVICE SERVICE



ALL SPECIFICATIONS SUBJECT TO REVISION



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GENERAL DESCRIPTION

This single zone fire control panel is designed to meet the requirements of Underwriters Laboratories Standard 864 for Local Control Units for Releasing Device Service, and to be compatible with NFPA-72, NFPA-12, NFPA-12A, NFPA-12B, NFPA-13 and NFPA-17.

SYSTEM FEATURES

- One Initiating Device Circuit, Selectable Style D (Class A) or Style B (Class B)
- One Style B (Class B) Dry Contact Initiating Device Circuit
- One Style Y (Class B) Indicating Appliance Circuit
- One Style Y (Class B) Releasing Circuit (Single Zone or Dry Contact Initiating Device Circuit)
- One Style B (Class B) Supervisory Circuit
- SPST (N.O.) (Form A) Auxiliary Trouble Contacts
- SPDT (Form C) Auxiliary Alarm Contacts
- 24VDC 200mA Auxiliary Power Output
- All Power Limited Circuits
- Alarm/Trouble Silence Switch
- Dry Contact Initiating Device Circuit
- Built in Trouble Buzzer
- 24 or 90 Hr Standby Available
- Compatible with 2 or 4-wire Detectors (Maximum 25 - 0.1mA Detectors)

ORDERING INFORMATION

Model	Description	Stock No.
PFC-100RC	Single Zone Releasing Panel (White Cabinet)	3005900
PFC-100RC	Single Zone Releasing Panel (Red Cabinet)	3005902
BT-40	Battery, 12 Volt, 4.0AH (24 hr. standby, 2 reqd.)	5130092
BT-80	Battery, 12 Volt, 8.0AH (60 hr. standby, 2 reqd.)	5130084
BT-120	Battery, 12 Volt, 12.0AH (90 hr. standby, 2 reqd.)	5130090

Spare or Replacement Parts:

Main Circuit Board Module for PFC-100RC	3005910
EOL Resistor 5.1K	5080600
EOL Resistor and Diode Assembly for Releasing Circuit	3005012
Transformer	5270184

SPECIFICATIONS**HOUSING**

Type: General purpose, indoor, steel enclosure with hinged removable cover and key lock
 Size: 18 1/2" x 14 1/4" x 4 3/4"
 Finish: Baked enamel, off-white with grey trim and red logo. Available in other colors and private labeling as required by users (consult factory).
 Knockouts: 8 combination 1/2"-3/4" knockouts. Two on each side, top and back
 Option: Bezel for semi-flush mounting in a 4" wall

POWER

- 117V AC, single phase, 60 Hz, 100 VA
- Standby - 60mA at 24VDC (see "Battery Requirements")
- Alarm - 130mA at 24VDC

TERMINATION

AC power, 3 #18 AWG wire leads are supplied with wire nuts. Battery leads are supplied with quick disconnect terminals. All other terminals are barrier type screw terminals capable of handling #14 AWG conductors .

TEMPERATURE RANGE

32°F to 120°F / 0°C to 49°C

APPROVALS AND LISTINGS**SERVICE USE**

NFPA 12 Carbon Dioxide Extinguishing Systems
 NFPA 12A Halon 1301 Fire Extinguishing Systems
 NFPA 12B Halon 1211 Fire Extinguishing Systems
 NFPA 13 Installation of Sprinkler Systems
 NFPA 17 Dry Chemical Extinguishing Systems
 NFPA 72 National Fire Alarm Code (Local: A, M, SS, service type; NC signaling type)

VISUAL INDICATORS (With door closed)

AC: Green LED indicates AC voltage reaches above 102 volts input.
 Alarm: Red LED indicates an alarm condition.
 System Trouble: Yellow LED indicates a trouble condition. Possible conditions are Ground Fault, Initiation Device Circuit Trouble, Supervisory Condition, Supervisory Trouble, Indicating Appliance Circuit Trouble, Battery Trouble, AC Voltage Trouble, Releasing Circuit disabled, 4-wire and/or auxiliary power.
 Silence: Yellow LED indicates the trouble buzzer and/or indicating appliance circuit has been silenced.
 Supervisory: Yellow LED indicates a supervisory condition has been activated.

DIAGNOSTIC INDICATORS

DS 1 Low or missing battery voltage
 DS 6 Supervisory cross
 DS 7 No auxiliary power
 DS 8 No 4-wire power
 DS 9 Ground Fault
 DS 10 Releasing Circuit over current
 DS 11 High resistance or open in:
 Dry Contact Initiating Device Circuit
 Supervisory
 Signal
 Releasing
 DS 12 Indicating appliance circuit over current
 DS 13 Initiating circuit high resistance or open on

INITIATING DEVICE CIRCUIT

- One circuit for heat and/or compatible 2-wire smoke detectors and manual initiating devices. Circuit can be used in a Style D (Class A) or Style B (Class B) mode, is latching and power limited.
- Maximum allowable line resistance - 25 Ohms
- Maximum short circuit current - 80 mA
- Maximum open circuit voltage, with 24VDC battery input - 27.5 VDC
- Minimum voltage (at the end of the line) with 20.4 VDC input - 17 Volts
- Normal standby loop current approximately 5 mA
- End of line resistor - 5.1K
- Maximum number of 0.1 mA detectors - 25
- Maximum impedance for alarm - 1400 Ohms
- Current decrease causes system trouble
- Maximum ripple voltage - 2 Volts

DRY CONTACT INITIATING DEVICE CIRCUIT

- One Style B (Class B) latch power limited circuit
- Normal Standby loop current approximately 3mA
- End of line resistor - 5.1K
- Maximum allowable line resistance 100 ohms
- Maximum impedance for alarm 1000 ohms
- Short circuit current - 15 mA maximum
- Nominal voltage - 17 VDC

SUPERVISORY CIRCUIT

- One Style B (Class B) non-latching, power limited circuit
- Normal standby loop current - approximately 3 mA
- End of line resistor - 5.1K
- Maximum allowable line resistance - 100 Ohms
- Current increase causes supervisory signal
- Current decrease causes system trouble
- Short circuit current - 15 mA maximum
- Nominal voltage - 17 VDC

INDICATING APPLIANCE CIRCUIT

- One Style Y (Class B) power limited circuit that reverses polarity on alarm
- Normal standby current - approximately 3 mA
- End of line resistor - 5.1K
- Rated - 24 VDC, 500 mA maximum

RELEASING CIRCUIT

- One Style Y (Class B) power limited circuit that reverses polarity to release extinguishing agent.
- Normal standby current - approx. 3 mA
- End of line resistor - 5.1K
- Time delay - Initiating Device Circuit, selectable approximately 5 seconds or 45 seconds (see “Compatibility Data” for extinguishing agent control valves).
- Time delay - Dry contact circuit, approximately .5 seconds
- Rated - 24 VDC, 1 Amp Max. On time is approximately 90 seconds or continuous.

NOTE: The maximum allowable line resistance is: $R_{line} = 1V \div \text{current in release mode (amps)}$

AUDIBLE INDICATOR

Built in buzzer operates on trouble conditions and alarm conditions if so programmed.

CONTROL SWITCHES

- Reset Switch - Resets all alarm circuits, if the condition has been corrected, and removes power from the initiating device, and 4-wire detector power circuit.
- Silence - In the Silence position this switch restores all signaling devices, and the trouble buzzer. If selected, the trouble relay contacts will also restore to normal.
- Releasing Circuit Disable Switch - In the Disable position this switch prevents operation of the releasing circuit.

AUXILIARY POWER AND 4-WIRE DETECTOR POWER OUTPUTS

Regulated 24VDC. The 4-wire detector output is interrupted during the reset period. The combined load on these two circuits is limited to 200 mA. NOTE: For use with Wheelock modes LS, MS or MT 24 VDC notification appliances.

AUXILIARY CONTACT OUTPUTS

- One set SPDT (Form C) for Alarm. One set SPST (N.C. Form B) for Trouble.
- Both rated 2A - 30V AC/DC Resistive

NOTES:

1. Reset is instantaneous.
2. Control switches are accessible only when door is open.
3. Trouble buzzer will be re-activated when the panel is reset if any trouble condition still exists.
4. Trouble relay is energized when all conditions are normal.

BASIC OPERATION**ALARM CONDITION (INITIATING DEVICE OR DRY CONTACT DEVICE CIRCUIT)**

Operation of one detector or manual station will result in the following:

- a) Operation of the audible and/or visual devices that are connected into the indicating appliance circuit.
- b) Operation of the red alarm LED.
- c) Transfer of the auxiliary alarm relay contacts.
- d) The polarity of the voltage on the releasing circuit will reverse after 5 or 45 seconds (Dry Contact Circuit fixed at .5 seconds) for a period of approximately 90 seconds or continuous.
- e) Sound local buzzer if selected.

SUPERVISORY CONDITION

Operation of a device that is connected into the supervisory circuit will cause the yellow supervisory indicator to come on and will also cause a system trouble condition (see “System Trouble Indications”).

TROUBLE CONDITIONS

CAUTION: With the exception of the loss of the AC-ON LED and transfer of the auxiliary trouble relay contacts, none of the trouble indicators will operate on loss of AC power unless an adequately charged battery is properly connected.

Following are the conditions that will result in a system trouble:

- 1) A decrease in the current in the initiating device circuit to approximately 3 mA.
- 2) An increase in the current to approximately 10 mA or a decrease to approximately 2.0 mA in the indicating appliance circuit.
- 3) A decrease in the current in the supervisory circuit to approximately 2.0 mA or activation of a supervisory device.
- 4) Loss of or a decrease of battery voltage to approximately 23 Volts.
- 5) A ground fault on any circuit.
- 6) Loss of, or reduction of AC input voltage to approximately 80 Volts.
- 7) Loss of auxiliary power at terminals 3 or 5.
- 8) An increase in the current to approximately 10 mA or a decrease to approximately 2.0 mA in the releasing device circuit.
- 9) Operation of the “Releasing Circuit Disable” switch to the disable position.
- 10) Connecting an indicating appliance backwards

SYSTEM TROUBLE INDICATIONS

CAUTION: A problem in an audible or visual device may not be apparent when the panel is in a normal condition. If a trouble condition is indicated when the panel is in the alarm condition the problem must be located and corrected.

A system trouble condition will result in the following:

- 1) Operation of the built in trouble buzzer.
- 2) Operation of yellow trouble indicator.
- 3) Transfer of the auxiliary trouble relay contacts.

The panel will restore automatically to a normal condition when all trouble conditions are cleared.

NOTE: If the initiating device circuit is programmed for Style D (Class A) and the circuit has been opened for several seconds, the reset switch must be operated to clear the trouble condition.

TO SILENCE AN ALARM OR TROUBLE CONDITION

To silence an alarm or trouble condition operate the silence switch to the silence position then release the switch.

CAUTION: Do not silence an alarm condition without investigating and determining that an emergency condition does not exist.

Silencing an alarm condition will restore all the devices that are connected to the indicating device circuit but will not restore the auxiliary alarm relay contacts. The red alarm LED will remain on and the yellow silence LED will turn on.

Silencing a trouble condition will silence the built in buzzer and turn on the yellow silence LED. The yellow trouble LED will remain on. The trouble relay contacts will restore to normal if selected. The panel will restore automatically to a normal condition when all trouble conditions are cleared.

NOTE: If the initiation device circuit is programmed for Style D (Class A) and the circuit has been opened for several seconds, the reset switch must be operated to clear the trouble condition.

TO RESET AN ALARM CONDITION (INITIATING CIRCUIT PROGRAM FOR STYLE D (CLASS A))

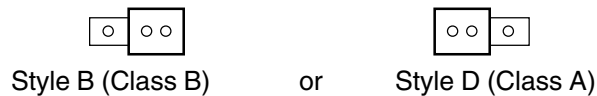
Determine the cause of the alarm condition and if necessary remove the cause. Operate the reset switch to the reset position, then release the switch. The trouble buzzer and LED will come on when the switch is in the reset position. When the switch is released the buzzer and LED will restore to normal if there are no existing trouble conditions. They will remain on if a trouble condition exists.

SELECTING STYLE D (CLASS A) OR STYLE B (CLASS B) INITIATING DEVICE CIRCUIT OPERATION

(Class A initiating device circuitry is required for FM Approved sprinkler system release.)

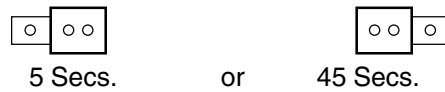
NOTE: See page 14 for location of programming jumpers.

The unit is shipped for Style B (Class B). To program for Style D (Class A), move header JP3 as shown:



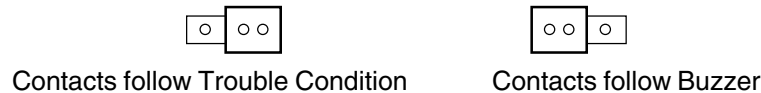
SELECTING RELEASING CIRCUIT TIME DELAY

The unit, as shipped, has a pre-discharge time delay for activation of the releasing circuit of approximately 5 seconds. To increase the time to approximately 45 seconds, move header JP2 as shown:



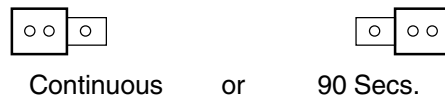
SELECTING TROUBLE RELAYS FOLLOWING TROUBLE BUZZER

The unit, as shipped, will have the trouble contacts remaining in a closed position as long as a trouble condition exists. To open trouble contacts when unit is silenced, move header JP4 as shown:



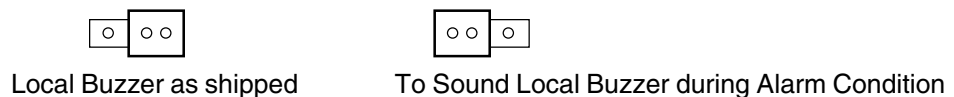
SELECTING RELEASING TIME

The unit, as shipped, has a continuous release time. To change to 90 seconds, move header JP1 as shown:



SELECTING LOCAL BUZZER TO SOUND UNDER ALARM CONDITIONS

The unit, as shipped, will not sound the local trouble buzzer during alarm. To sound the local buzzer under alarm conditions program JP5 as shown:



INSTALLATION

Please read entire manual before attempting installation of this panel.

CAUTION: This panel should be installed and maintained in accordance with Section 760 (Fire Protection Signaling Systems) and all other applicable sections of the National Electrical Code, all applicable NFPA Codes and Standards and the authority having jurisdiction.

The unit should be installed in a dry location, approximately 5 ft. from the floor where it will be conveniently accessible for testing and servicing.

The main circuit board module may be removed to ease installation.

CAUTION: If not connecting the solenoid at this time, do not install the diode/resistor assembly across terminals 21 and 22, install a 5.1K resistor only. The diode/resistor assembly must only be installed IN SERIES with the solenoid.

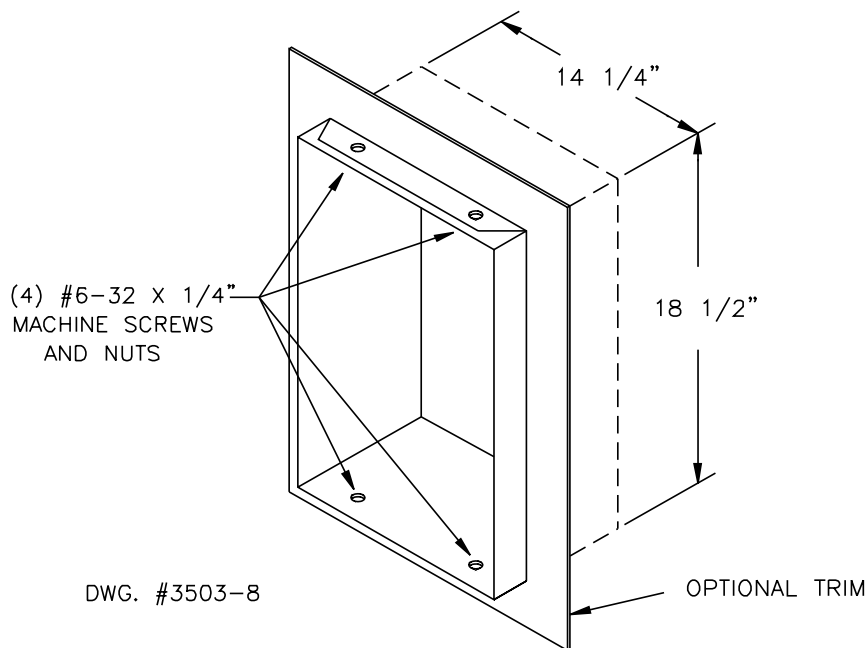
Install all required conduits, external wiring and devices and make all connections that are external to the panel.

With the AC power turned off at the circuit breaker panel, connect the 120VAC hot, neutral and ground as shown on the connection drawing. Turn the AC power on and connect the battery leads. The green LED should be on, all other indicators should be off. If the battery is not fully charged a trouble condition may appear for some period of time. It is recommended that the battery be charged for 24 hours before placing the system in service.

Taking one circuit at a time, remove the 5.1K resistor from the panel, connect the circuit wires to the panel and place the correct device across the circuit at the end of the line as shown on the connection drawing. If the initiating device circuit is connected as a Style D (Class A) circuit connect end of line resistor as shown. Verify that the panel restores to a normal, after wiring for each circuit is complete. When the initiating device circuit is connected to the panel it will be necessary to operate the reset switch to extinguish the trouble indicator.

INSTALLATION OF BEZEL FOR SEMI-FLUSH INSTALLATIONS.

For semi-flush installations mount the housing so that the front edge protrudes 1" from the finished wall surface. After all conduits and wiring are in place and the wall surface is completely finished, slide the trim bezel in place and fasten with 4 #6-32 x 1/4" machine screws and nuts.



CIRCUIT BREAKERS

There are two circuit breakers in this panel, one for the primary (AC) power and one for the secondary (battery) power. If either of these breakers trip a system trouble will occur. If the AC breaker trips the green AC-ON LED will be extinguished.

If the secondary power breaker trips, diagnostic LED DS 1 will come on, indicating low or missing battery.

RESETTING CIRCUIT BREAKERS

The circuit breakers for AC power (CB2, located lower left of panel) and battery power (CB1, located upper left of panel) reset when the white button, located in the center of the circuit breakers, is pressed. See illustration on page 14.

The electronic circuit breakers for the indicating and releasing circuit reset when the momentary switch (SW1, located upper left of panel) is pressed. A system trouble will be generated and DS11 will light. DS10 and/or DS13 will be off. See illustration on page 14.

INACTIVE CIRCUITS

All inactive alarm and supervisory initiating device circuits and indicating appliance circuits must have the end-of-line resistor installed on the panel terminals. On circuits that have four terminals, this resistor must be on the outside two terminals.

BATTERY REQUIREMENTS

This panel requires a 24 volt gel-cell battery for proper operation. 24 hours of standby power is required for Extinguishing System Release. 90 hours of standby power is required on FM Approved deluge - Preaction Sprinkler System Release.

The chart below will assist you in selecting the proper size battery:

Battery Size	Hours of Standby	Maximum Auxiliary Current Load
4 AH	24	.100
8.0 AH	24	.175
8.0 AH	90	0
12.0 AH	24	.250
12.0 AH	90	.075

BATTERY SIZE REQUIREMENTS

To use Calculation Table:

- 1) List in column #1 all devices used in the system, include all modules, bells, horns, door holders, and smoke detectors (see table #1 or manufacturers specifications).
- 2) List in column #2 the quantity of each device.
- 3) List in column #3 the standby current of each device (exclude all signal indicating devices).
- 4) List in column #5 the alarm current of each device.
- 5) For each line, multiply the figure in column #2 by the figure in column #3 and enter the product in column #4. Then multiply the figure in column #2 by the figure in column #5 and enter the product in column #6.
- 6) Add the figures in column #3 and #6, enter the sums in the appropriate Total mA box.
- 7) Convert these figures from milliamperes to amperes by multiplying by .001, enter the product in the appropriate Total A box.
- 8) Multiply the standby total amperes by required time in hours from table 2.
- 9) Divide the alarm total amperes by 12 (5 mins.).
- 10) Add the standby AH and the alarm AH and divide this sum by .85 (efficiency factor). Select a battery that has an AH rating above this figure but not less than 6.5AH.

TABLE 1 CURRENT REQUIREMENTS		
Module/Device	Standby mA	Alarm mA
PFC-100RC	60	130*
*Includes one zone short circuit current.		

TABLE 2 SECONDARY POWER SUPPLY REQUIREMENTS		
NFPA Standard	Standby Time	Alarm Time
NFPA-72 National Fire Alarm Code Local Systems	24 hrs.	5 mins.
FMRC 1011 and 1012, Deluge and Pre-action Systems	90 hrs.	10 mins.

TABLE 3 BATTERY CALCULATION TABLE					
1 Module/Device	2 Quantity	3 Standby mA Per Unit	4 Total Standby Current	5 Alarm mA Per Unit	6 Total Alarm Current
Total mA				Total mA	
Convert to A			x .001	Convert to A	x .001
Total A				Total A	
Multiply by hours from Table 2			x _____	5 min/12 or 10 min/6	÷ _____
Total Standby AH				Total Alarm AH	
			_____ + Total Standby AH	Total AH	
				Efficiency Factor	÷ .85
				Required AH	

Use a battery with a higher AH rating than the Required AH.

TEST PROCEDURE

CAUTION: The system should be inspected as described below at the time of installation and on a monthly basis, or more frequently if required by the authority having jurisdiction.

- 1) Notify the proper building personnel so that audible and visual signals can be ignored.
- 2) Momentarily open each of the following circuits and observe that a trouble condition occurs during the period of time that the circuit is open and that the panel automatically restores to normal when the circuit is restored. If the initiating device circuit Program Style D (Class A) is open for more than several seconds the Reset switch must be operated to clear the trouble indication.
 - a) The initiating device circuit.
 - b) The supervisory device circuit
 - c) The indicating appliance circuit.
 - d) The battery circuit.
 - e) The releasing circuit.
- 3) With the panel in the normal standby condition, momentarily short the indicating appliance circuit. This should create a trouble condition.

CAUTION: Do not short the indicating appliance circuit when the panel is in the alarm condition.
Press SW1 to reset.

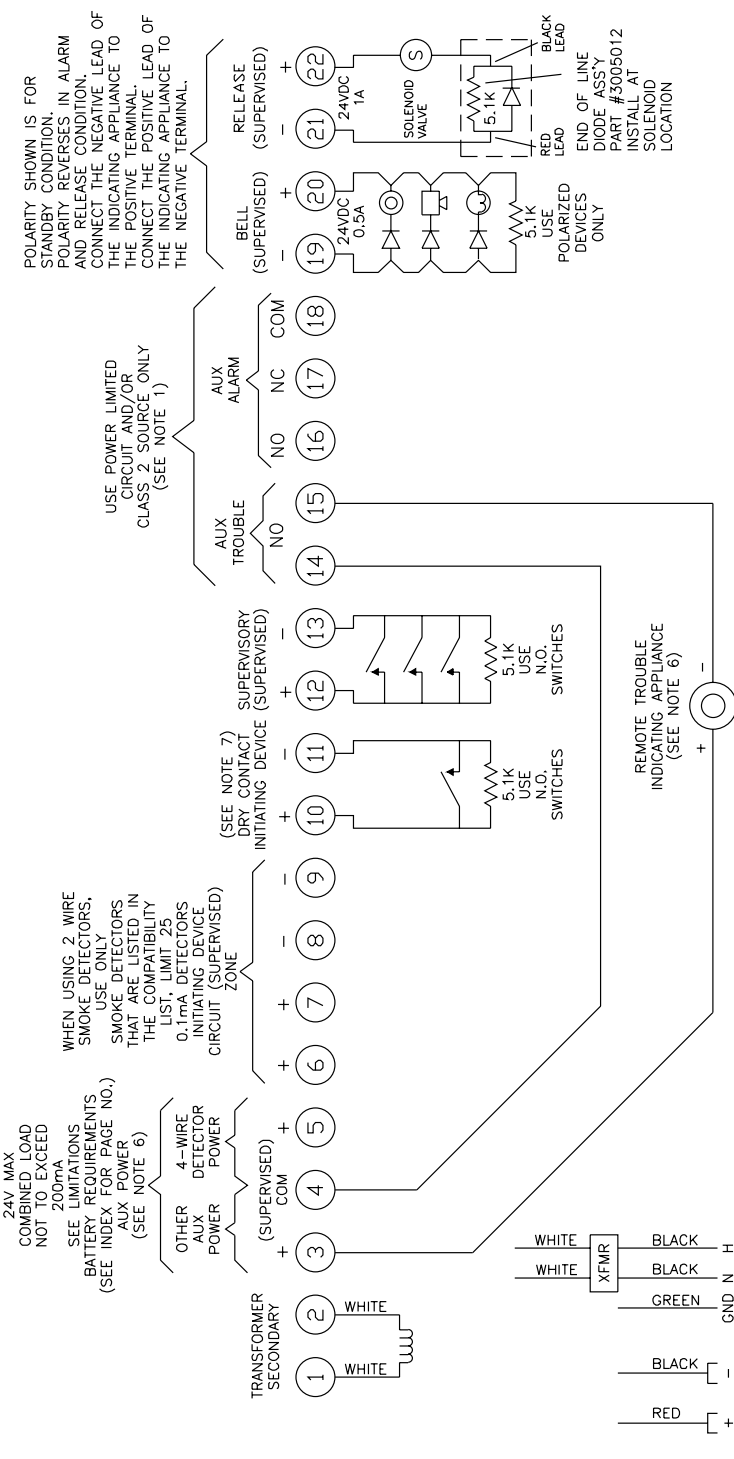
With the panel in the normal standby condition, momentarily short the releasing circuit. This should create a trouble condition.

CAUTION: Do not short the releasing circuit when the panel is in the alarm condition.
Press SW1 to reset.
- 4) With the panel in the normal standby condition, momentarily short the supervisory circuit. This should create a trouble condition and also cause the supervisory LED to come on.
- 5) Remove the two wires from the releasing circuit, reverse and reconnect them. The panel should go to a trouble condition and remain there (if the panel restores to a normal condition when the leads are reversed it indicates that the diode in the end of the line assembly is open and the solenoid valve can not operate until the end of line diode assembly has been replaced). Disconnect and restore the leads to their correct position. The panel should restore to a normal condition.
- 6) Operate the release circuit disable switch to the disable position. This should create a trouble condition. Silence the trouble buzzer by operating the silence switch to the silence position.
- 7) Turn off the AC power at the circuit breaker panel. This will cause the green AC-ON LED to go off.
- 8) Operate each device on the initiating device circuit and observe that all the alarm indicators operate. The panel may be restored by momentarily operating the Reset switch, in the panel to the Reset position.

WARNING: If the release circuit disable switch is not in disable position, the panel will activate a release.

- 9) Restore the AC power and the Releasing circuit disable switch to normal. Observe that all indicators except the green AC-ON LED are off.
- 10) Notify all building personnel that the tests have been concluded.

CONNECTION DRAWING FOR PFC-100RC (IDENTIFIER "A")



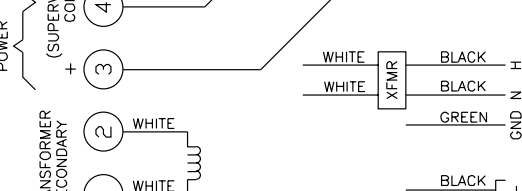
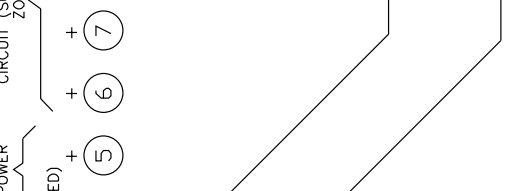
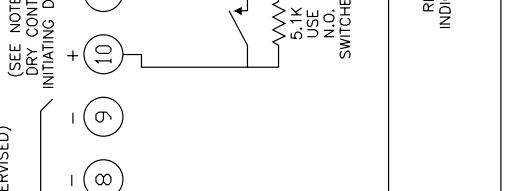
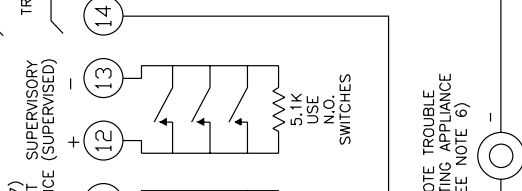
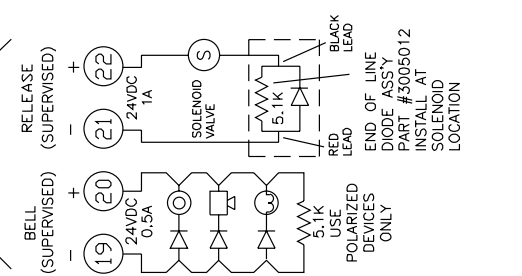
POLARITY SHOWN IS FOR STANDBY CONDITION. POLARITY REVERSES IN ALARM AND RELEASE CONDITION. CONNECT THE NEGATIVE LEAD OF THE INDICATING APPLIANCE TO THE POSITIVE TERMINAL. CONNECT THE POSITIVE LEAD OF THE INDICATING APPLIANCE TO THE NEGATIVE TERMINAL.

USE POWER LIMITED CIRCUIT AND/OR CLASS 2 SOURCE ONLY (SEE NOTE 1)

WHEN USING 2 WIRE SMOKE DETECTORS, USE ONLY SMOKE DETECTORS THAT ARE LISTED IN THE COMPATIBILITY LIST, LIMIT 25

OTHER AUX DETECTOR POWER (SEE NOTE 6)

REMOVAL INSTRUCTIONS



WARNING: EXCEEDING RECOMMENDED RATINGS MAY VOID WARRANTY!

THIS PANEL MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE, ALL LOCAL CODES, ALL APPLICABLE NFPA STANDARDS AND ANY AUTHORITY HAVING JURISDICTION. THIS PANEL IS DESIGNED FOR GENERAL PURPOSE INDOOR USE ONLY

WHEN USING 2 WIRE SMOKE DETECTORS, USE ONLY SMOKE DETECTORS THAT ARE LISTED IN THE COMPATIBILITY LIST, LIMIT 25

OTHER AUX DETECTOR POWER (SEE NOTE 6)

REMOVAL INSTRUCTIONS

REMOVAL INSTRUCTIONS

REMOVAL INSTRUCTIONS

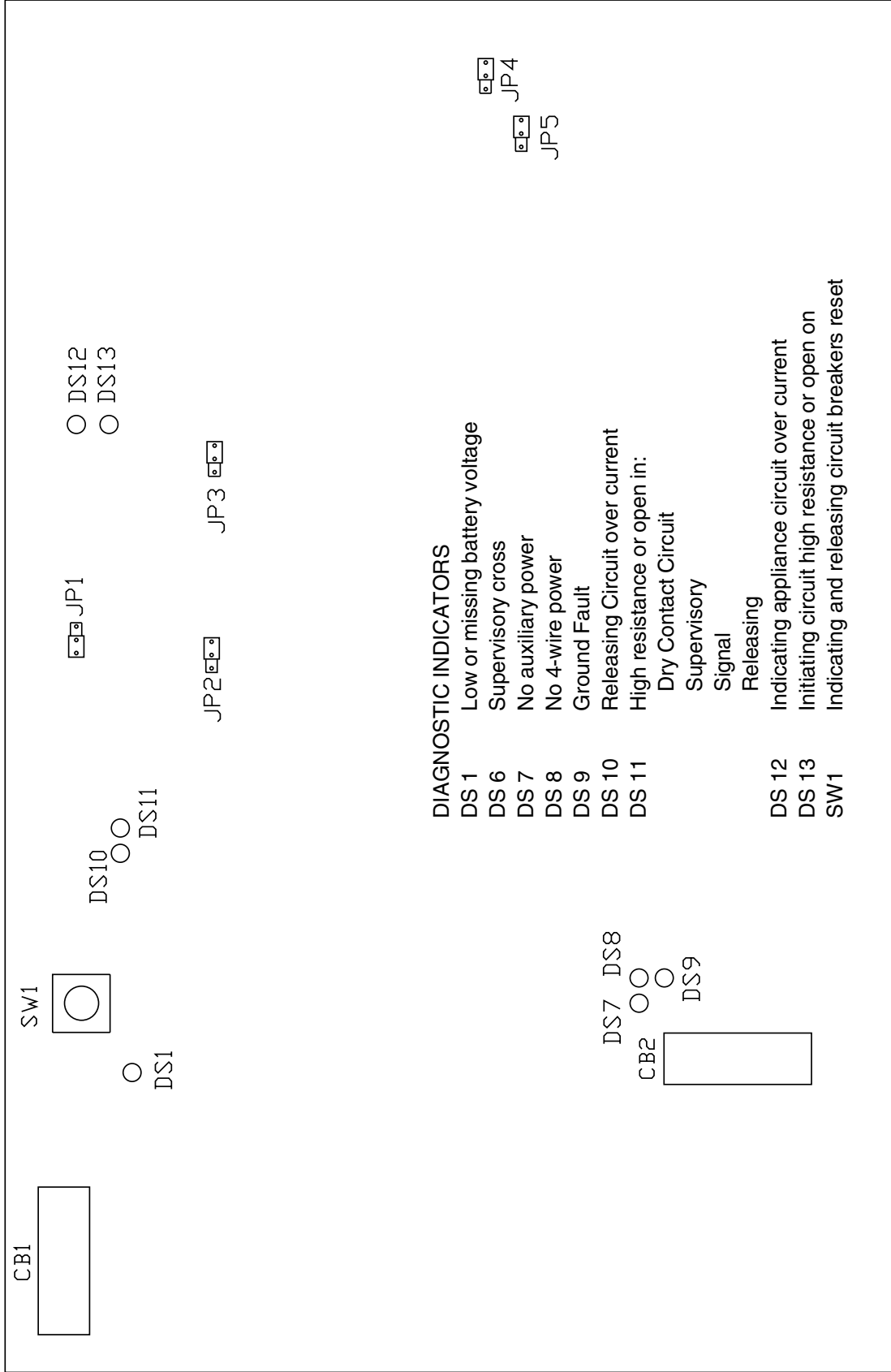
REMOVAL INSTRUCTIONS

When using the PFC-100RC in conjunction with the Potter QRS switch, a component part of the TYCO Electronic Accelerator. DO NOT connect any other initiating devices to any initiating zone of the PFC 100RC. Doing so could result in unintended operation of the dry pipe system.

CAUTION

NOTES:
 1. AUX CONTACTS RATED 2A-30V AC/DC RESISTIVE.
 ALL AUXILIARY CONTACTS ARE SHOWN IN THE NORMAL CONDITION. NOT TO BE USED FOR MOTOR LOADS OR PILOT DUTY APPLICATION.
 2. REFER TO TABLE FOR BATTERY AMP HOUR REQUIREMENTS.
 3. ALL CIRCUITS POWERED BY THIS PANEL ARE POWER LIMITED
 4. MAXIMUM RIPPLE VOLTAGE 2V
 5. USE STK. NO. 5080600 FOR ALL 5.1K END-OF-LINE RESISTORS.
 6. FOR REMOTE TROUBLE USE ANY UL LISTED 24 VDC AUDIBLE OR VISUAL INDICATING APPLIANCE. CONNECT ONLY DRY CONTACT DEVICES SUCH AS PULL STATIONS, CONVENTIONAL HEAT DETECTORS, WHEN USING THE POTTER QRS. DO NOT CONNECT 2 WIRE SMOKE DETECTORS. REFER TO TYCO DOCUMENT TFP 1100.

LOCATION DRAWING OF DIAGNOSTIC LEDES AND JUMPERS ON MAIN CIRCUIT BOARD MODULE

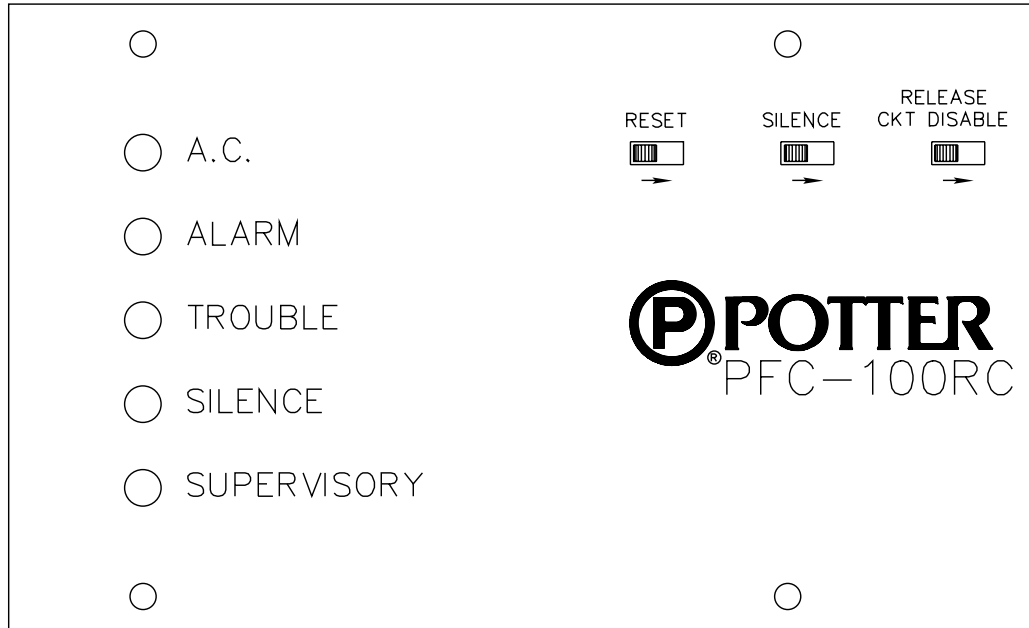


DIAGNOSTIC INDICATORS

- DS 1 Low or missing battery voltage
- DS 6 Supervisory cross
- DS 7 No auxiliary power
- DS 8 No 4-wire power
- DS 9 Ground Fault
- DS 10 Releasing Circuit over current
- DS 11 High resistance or open in:
 - Dry Contact Circuit
 - Supervisory Signal
 - Releasing
- DS 12 Indicating appliance circuit over current
- DS 13 Initiating circuit high resistance or open on
- SW1 Indicating and releasing circuit breakers reset

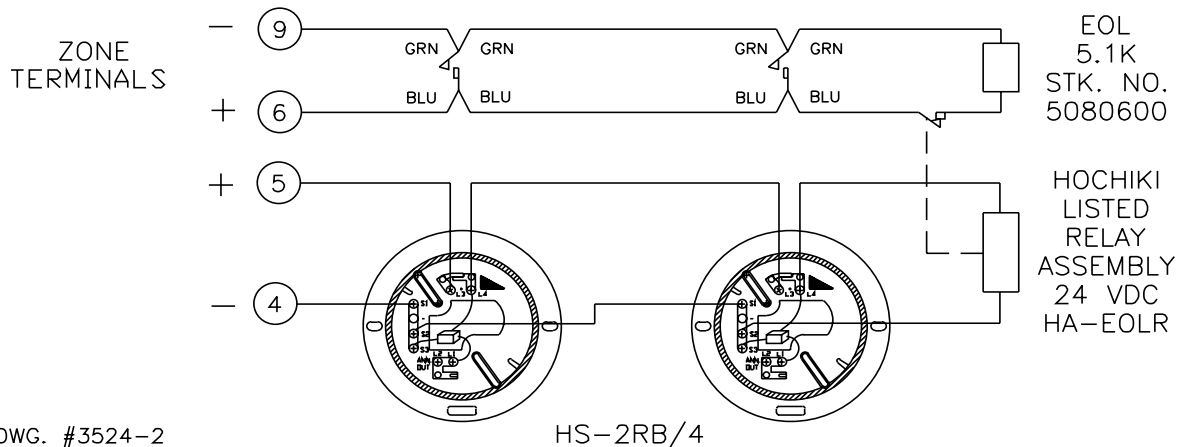
DWG. #3524-5

FRONT PANEL



DWG. #3524-6

TYPICAL 4-WIRE DETECTOR CONNECTION DRAWING (CLASS B CKT. SHOWN)



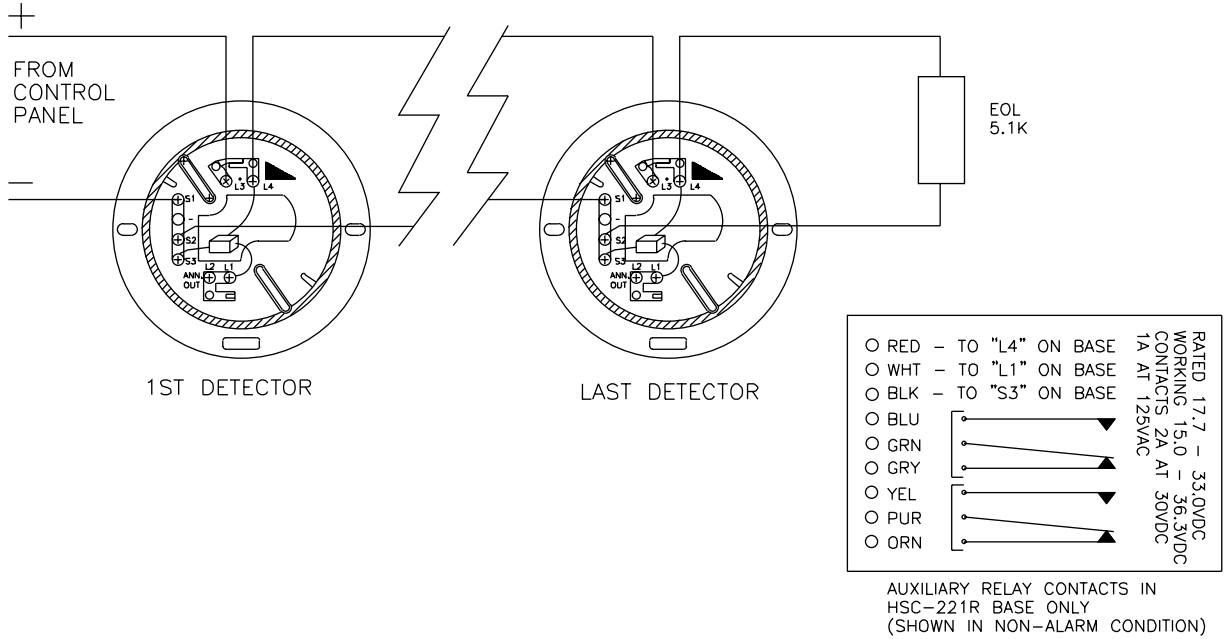
DWG. #3524-2

HS-2RB/4

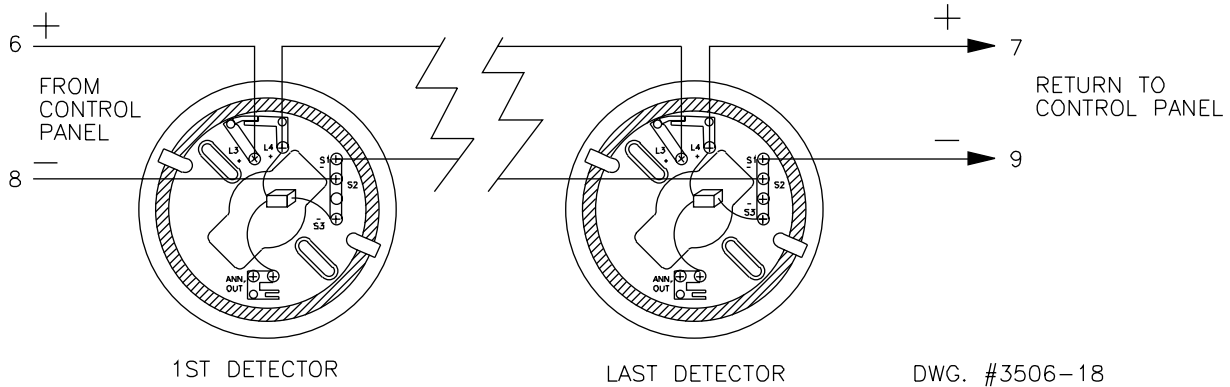
TYPICAL 2 WIRE DETECTOR CONNECTION DRAWING

Base wiring for Hochiki models SIH-24F Ionization Detectors and SLK-24FH Photoelectric Detectors.

TYPICAL CLASS B (STYLE B) WIRING USING HSB-21, HSB-221N OR HSC-221R BASES
 (These bases can be used in Class B or Class A wiring)



TYPICAL CLASS A (STYLE D) WIRING USING YBA-M21 OR YBA-M221 BASES
 (These bases can be used in Class B or Class A wiring)



<u>Activation</u>	<u>6" Dia. Base</u>	<u>4" Dia. Base</u>	<u>Impedance</u>	<u>Relay Contact</u>
Single detector	HSB-221N HSC-221R	YBA-M221	390 Ohms 390 Ohms	no yes

The 4" diameter bases will mount on a 3" octagon box. The 6" diameter bases will mount on a 3" or 4" octagon box or a 4" square box.

**2-WIRE SMOKE DETECTOR COMPATIBILITY DATA
SYSTEM SENSOR (BRK) (MAX. NO. OF DETECTORS PER ZONE IS 20)**

DET. MODEL	IDENTIFIER	BASE MODEL	IDENTIFIER
1400	A	N/A	N/A
1451	A	B401B	A
2400	A	N/A	N/A
2400TH	A	N/A	N/A
2451	A	B401B	A
2451TH	A	B401B	A

DETECTION SYSTEMS (MAX. NO. OF DETECTORS PER ZONE IS 25)

DET. MODEL	IDENTIFIER	BASE MODEL	IDENTIFIER
DS200	A	MB200-2W	A
DS200HD	A	MB200-2W	A
DS250	A	MB2W / MB2WL	A
DS250TH	A	MB2W / MB2WL	A

ESL (MAX. NO. OF DETECTORS PER ZONE IS 25)

DET. MODEL	IDENTIFIER	BASE MODEL	IDENTIFIER
611U	S10	601U	S00
611UD	S10	601U	S00
611UT	S10	601U	S00
612U	S10	601U	S00
612UD	S10	601U	S00
613U5	S10	601U	S00
611UD	S10	609U10	S00
612UD	S10	609U10	S00
425C	S10	N/A	N/A
425CT	S10	N/A	N/A

POTTER (MAX. NO. OF DETECTORS PER ZONE IS 25)

DET. MODEL	IDENTIFIER	BASE MODEL	IDENTIFIER
SLR-24	HD-3(HOCHIKI)	HSB-221N HSB-221 HSC-221R NS6-221 NS4-221	HB-54(HOCHIKI) HB-54(HOCHIKI) HB-71(HOCHIKI)
SLR-24H	HD-3(HOCHIKI)	HSB-221N HSB-221 HSC-221R NS6-221 NS4-221	HB-54(HOCHIKI) HB-54(HOCHIKI) HB-71(HOCHIKI)
SIJ-24	HD-3(HOCHIKI)	HSB-221N HSB-221 HSC-221R NS6-221 NS4-221	HB-54(HOCHIKI) HB-54(HOCHIKI) HB-71(HOCHIKI)

FENWAL (MAX. NO. OF DETECTORS PER ZONE IS 35)

DET. MODEL	IDENTIFIER	BASE MODEL	IDENTIFIER
CPD-7051	I51FE1	2-WIRE	FE51A
PSD-7155	P55FE1	2WRLT	FE52A
PSD-7156	P56FE1	2WRB	FE55A

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 DH-51, Identifier DH22FE5 (for CPD-7051 and PSD-7155 detectors only)

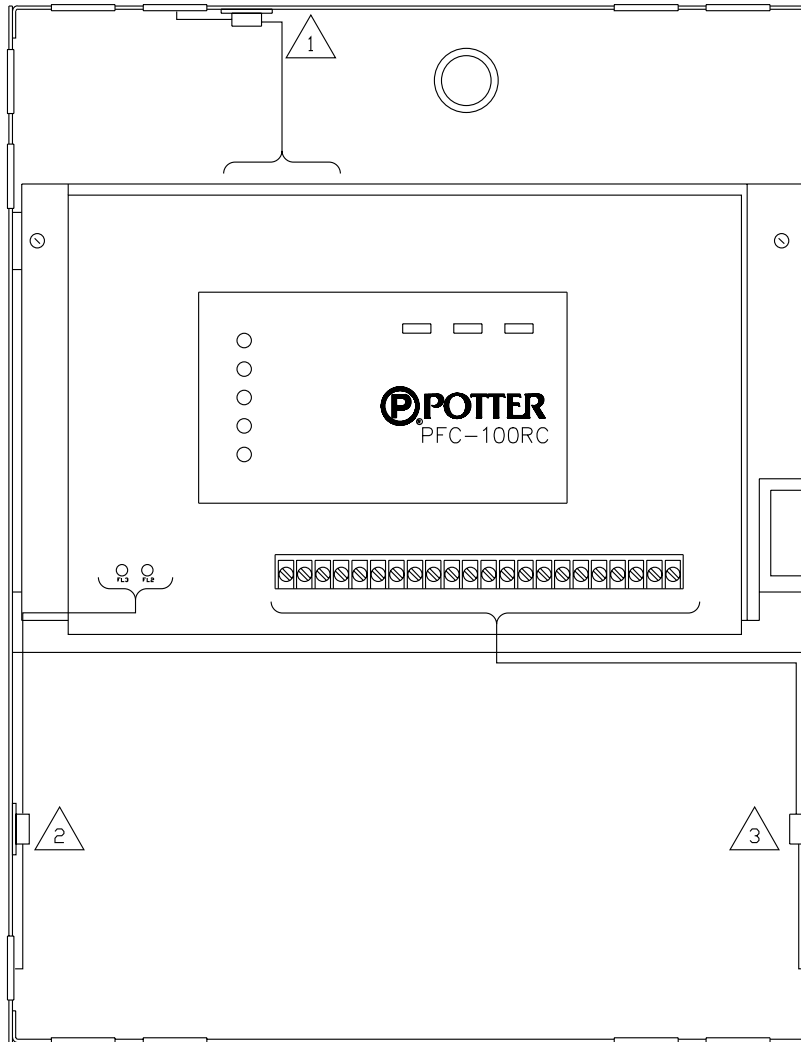
POTTER (MAX. NO. OF DETECTORS PER ZONE IS 25)

DET. MODEL	IDENTIFIER	BASE MODEL	IDENTIFIER
PS-24	HD-3(HOCHIKI)	SB-46	HB-71(HOCHIKI) HB-54(HOCHIKI)
PS-24H	HD-3(HOCHIKI)	SB-46	HB-71(HOCHIKI) HB-54(HOCHIKI)
IS-24	HD-3(HOCHIKI)	SB-46	HB-71(HOCHIKI) HB-54(HOCHIKI)

NOTE: IF SYSTEM SENSOR DETECTORS ARE MIXED WITH OTHER MANUFACTURERS DETECTORS, DO NOT EXCEED 20 PER ZONE. ONLY ONE DETECTOR CAN BE SUPPORTED IN ALARM PER ZONE.

AUTOMATIC WATER CONTROL VALVES COMPATIBILITY DATA			
USING THE FOLLOWING SOLENOIDS	WATER VALVE MANUFACTURER	WATER VALVE DESIGNATION	SIZE NPS
ASCO Solenoid Valves Model T8210A107, Model R8210A107, Model 8210A107, 24VDC SKINNER Solenoid Valve Model 73218BN4UNLVNOC111C2, 24VDC	Figgie Fire Protection Systems (Formally ASCOA)	Models D and F	2 1/2", 4", 6"
	Grinnell Corp.	Grinnell or Gem Model A-4 Grinnell or Gem Model B Grinnell or Gem Model F445 Grinnell or Gem Model F470	4", 6" 2" 2 1/2" 4", 6"
SKINNER Solenoid Valve Model 73218BN4UNLVNOC111C2, 24VDC	Central Sprinkler	Model A	6"
	Reliable Automatic Sprinkler Co. Inc.	Model A Models B and BX	2 1/2" 4", 6", 100mm, 150mm
	Globe Fire Sprinkler Corp.	Model F	2 1/2", 4", 6"
	Star Sprinkler Corp.	Model A Model G	3", 6" 3", 6"
ASCO Solenoid Valves Model T8210A107, Model R8210A107, Model 8210A107, 24VDC	The Viking Corp.	Model E-1	1 1/2", 2", 3", 4", 6"
FIXED EXTINGUISHING SYSTEMS CARBON DIOXIDE SYSTEMS COMPATIBILITY DATA			
MANUFACTURER		CO2 SOLENOID ACTUATOR	VOLTAGE
Fike Protection Systems Division of Fike, Inc.		C85-102	24VDC
ALARM INDICATING APPLIANCE COMPATIBILITY DATA			
All Alarm Indicating Appliances must be UL listed, 24VDC devices			

WIRE ROUTING FOR PFC-100RC



DWG. #3524-8

- 1 POWER INPUTS (TO TRANSFORMER)
- 2 BATTERY LEADS
- 3 USING THE CABLE CLAMPS PROVIDED ROUTE ALL OTHER WIRING AWAY FROM POWER INPUT WIRING

NOTE :
ALL FIELD INSTALLED WIRING CONNECTED TO THIS PANEL MUST MAINTAIN A SPACING OF 1/4" BETWEEN ALL ELECTRIC LIGHT, POWER, CLASS 1 OR NON-POWER LIMITED FIRE PROTECTIVE SIGNALING CONDUCTORS. SEE PAGE 13 FOR DETAILED WIRING CONNECTION DRAWING.