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FirePro. Reinventing Fire Suppression

1 Introduction

General Information

The FirePro FP-08450 Fire Control Panel is a combined detection and extinguishant system. The FIP (fire indicator panel) incorporates:

- 1x Non Monitored Detection circuit using Linear Heat Detection Cable;
- 1x Non Monitored Extinguishing Discharge circuit;
- 1x Non Monitored Siren/Strobe circuit;
- FirePro Monitor Indicators -
 - **Power ON** light iluminated system okay and ready for activation.
 - **FIRE** Red light Fire Alarm.

This is a MANUALLY ACTIVATED SYSTEM

How Does it Work

All **FirePro** Fire Extinguishing Aerosol Generators use the latest generation FPC solid compound. Upon activation, the solid compound is transformed into a rapidly expanding, highly efficient gas, based on Potassium salts. It does not deplete oxygen levels. **Its built-in fail-safe activation system** ensures operation of the generators when required, even if everything else fails. The FirePro Aerosol Generators have a certified life of 15 years, with minimal maintenance required.

Ozone Depletion Potential $(O.D.P.) = 0$	Atmospheric Life Time $(A.L.T.) = 0$
Global Warming Potential (G.W.P.) = 0	Non-corrosive & Non-toxic

In Case of Fire

If a fire occurs, equipment operators should do the following:

- 1. Detection will initiate an alarm condition on the FirePro System
- 2. Evacuate all personnel from the risk area.
- 3. Close all hatches and openings, and shutdown engines and any extraction fans or vents.
- 4. Manual actuation is from Panel via switch. The Actuate Switch has a Protective cover to prevent accidental activation. To activate the system flip open the Protective switch cover and push the spring loaded toggle switch.
- 5. When pressed then the manual release switch will immediately ACTIVATE the Fire System. It will also activate the alarm(s) and the Fire LED will flash.
- 6. Keep the FirePro suppression gas within the risk until the fire is extinguished and not able to re-ignite.
- 7. Do not start engine or fans until the fire is extinguished. Operating the exhaust fans will enable the gas to escape the risk area and could allow the fire to re-ignite.
- 8. Do not enter the risk until it has been rendered safe.
- 9. Recommended clean up after discharge is with soapy water or cleaning agent based on citric acid.
- 10. Following a discharge, replace all installed FirePro Generators.



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Rev 4.1



3 Design Considerations

3.1 Main Power Supply Input

The FP-08800 Fire Control Panel provide a single power supply input that is compatible with 12 / 24vDC. If adequate power is not supplied, the power LED will not be illuminated.

3.2 Siren/Strobe Output

When a fire is detected by the LHD cable (if Installed), the internal siren in the FIP will sound and the RED fire indicator light will flash, and the external siren (if installed) will sound. The internal and external sirens will also sound whenever the fire system activation occurs.

3.3 Discharge Output

The maximum number of FirePro generators able to be discharged by the FP-08800 Fire Control Panel is limited by the voltage of the main power supply. That is:

Voltage 12vDC Max =	2 Units	Voltage 24vDC	Max = 4 Units
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If a risk area requires a greater number of FirePro generators, the Discharge Delay module must be used. The module will discharge generators in multiples up to the maximum as above. **If the number of FirePro generators connected to each output is greater than the**

maximum, the fire system will not operate.

When multiple FirePro generators are connected to a single output, they **must** be connected using the FP-08919 Splitter Lead.

3.4 **Detection Circuit**

The detection circuit can support Linear Heat Detection Cable. When a fire is detected by the LHD cable (if Installed), the siren in the FIP will sound and the RED fire indicator light will flash. To activate the Fire System lift the cover for the switch and push the toggle switch. The siren will stop once the activation switch has been pushed and the fire indicator light will stay illumated.

3.5 Mounting

The panel is to be mounted vertically by means of two bolts or screw through the mounting holes in the flange on the outside of the FIP, as shown below. No penetrations are to be made through the casing of the panel, except for cable entry. It may be necessary to complete all wiring and any programming of the detection mode prior to mounting the FIP.



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Cabling Requirements 3.6

Cable Requirements - All cabling in the FirePro Installation MUST be done using 0.75mm shielded Fire Rated Cable. Care taken to ensure that all cables are isolated, and that RF shielding on cable is stripped back to ensure that there is not accidental grounding. Cables are colour coded for easy identification.

Extension Leads - Deutsch Plugs must be used to ensure water-proof connections are made throughout the installation.

> In Addition to Color Coding the back of the panel is Marked as shown.

Installation of FirePro Generators 4

FirePro Condensed Aerosol Fire Extinguishing System Arrangement.

- FirePro units and system components installed to allow inspection and maintenance.
- Locate FirePro units where they are not exposed to mechanical damage, exposed to chemicals, or weather conditions, that may render them inoperative. Protective provisions shall be adopted, if necessary.
- FirePro units shall be securely installed. Use heavy duty brackets where necessary. • Brackets should be capable of handling the risk environment, including vibration.

FirePro units must be installed at NOT less than the minimum safe distances as specified in the design calculations.

Means for prompt rescue of any trapped personnel shall be provided, including:

- Adequate aisle ways/routes of exit.
- Alarms audible and visual, that operate immediately on detection of the fire.
- Signs in accordance with relevant standards for the installation.

System components shall be positioned to the minimum clearances from energized electrical parts as per: AS 4487 and AS 3000.

Handling and Storage - when handling the Condensed Aerosol Generators do not:

Disassemble the unit

•

Carry out any welding work in the vicinity of the fire • extinguishing system components.

STORAGE and OPERATIONAL CONDITIONS

Temperature: -54 and +54°C •

mechanical damage to the casing.

Exert force or impact which creates physical or

- Humidity: maximum 98% RH
- Service life: 15 years (date of manufacture appears on each generator)













Positioning

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FirePro.



5 Connection of Multiple FirePro Generators

Where multiple FirePro Generators are installed, connect using the FP-08919 Splitter Lead.

Splitter Leads can be installed at any point on the activation. For ease of install, servicing and efficient field wiring, Splitter Leads should be installed in areas easy to access and minimise extension leads.



The supply voltage of any system will determine the no of FirePro units which can be used





6 Installation

Wiring Diagram Overview



Power Supply

Power – 12 to 30vDC 5A fuse or circuit breaker to be installed on incoming power supply.

Siren / Strobe Unit

BANSHEE multi-tone sounder/strobe - suitable for internal or external locations.



Specifications				
Voltage:	9 – 30vDC			
Current:	12v - Max 60mA	24v - Max 39mA		
Sound Output:	101dB(A)			
Beacon:	0.7j			
Flash Rate:	60/min (1Hz)			
Temperature:	-20 C to +55 C			
IP Rating:	FP-08940 – IP 45	FP-08941 – IP 66		

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Detection – Linear Heat Detection(only)

The panel may be installed with fire detection or with no detection. If Detection required simply connect the LHD cable to the detection circuit. Linear Heat Detection (LHD) is a line-type form of fixed temperature heat detection used in common commercial and industrial environments. This linear cable can detect a fire anywhere along its entire length. LHD Cable



detection systems are easy to design, install, operate and maintain. Max 500m of LHD Cable can be used. LHD Cable works using a twisted pair, tri-metallic conductors sheathed in advanced thermal polymers. In a fire the LHD insulation will breakdown and make contact, signalling the control panel of an alarm. As the LHD is not monitored by the panel – NO End of Line resistor is required.

The linear cable must be installed appropriately for the risk area.

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Servicing & Maintenance 7

The FirePro Suppression system should be serviced at least every 6 months in accordance with AS 1851, more often in aggressive environments. Periodic visual inspections of the installed system must also be conducted by the operators to ensure all installed parts are free from debris, rust, or electrical faults. Six Monthly servicing must only be undertaken by accredited service technicians.

NO PERSONNEL SHOULD BE IN THE RISK AREA DURING TESTING UNTIL THE FIP IS FULLY ISOLATED

Servicing and Maintenance Procedure

- 1. Disconnect the FirePro activation circuit (Yellow) at the panel, and connect the FirePro simulator.
- 2. Visually inspect all installed FirePro Generators, cable, connections, detection devices and siren/strobes. Look for any signs of damage or wear and replace as necessary.
- 3. Test the function of all connected detection devices. Testing method will depend on the specific device, check product manual if unsure.
- 4. Test the function of the siren/strobe by putting the detection circuits into alarm and ensure that the siren/strobe can be heard and is illuminated.
- 5. Activate the system after ensuring the FirePro Simulator is connected.

Note: the FirePro Simulator stay illuminated until the reset button on the simulator is pressed.

6. Reconnect the FirePro activation circuit.

System Logbook

A logbook recording all the relevant events concerning the installation. The logbook contains the items required that provide for the recording of all events during the life of the installation.

Content of logbook: Devices used Date of each inspection Comments re outcome of each inspection

In the appendices of the Logbook: Schematic diagrams Photos of the Original FirePro Installation Inspection reports

Specifications 8

Size of Dash Panel	125mm (w) x 95mm (h)		
Size of Dash Cutout	105mm (w) x 68mm (h) Min clearance behind Panel 80mm		
Max Number of FirePro Units	12v - 2 FP Units	24v – 4 FP Units	
Power Supply	12-24vDC		
Fuse for Power Supply	5A		
Max of Linear Heat Detection	50m		



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9 Safety Data Sheet (SDS) FirePro

This is an EXTRACT ONLY from the full SDS. The SDS is prepared by Chemwatch - to view the full SDS go to *www.chemwatch.com.au*.



POISONS SCHEDULE - None

RISK SAFETY • Contact with combustible material may cause fire. · Keep away from combustible material • Avoid exposure - obtain special instructions before use. · Harmful if swallowed • Irritating to eyes and skin. • To clean the floor and all objects contaminated by this material May cause SENSITISATION by skin contact. use water and detergent. · Harmful to aquatic organisms may cause long- Keep away from food drink and animal feeding stuffs. adverse effects in the aquatic environment. In case of contact with eyes rinse with plenty term of water and contact Doctor or Poisons Information Centre. Cumulative effects may result following exposure • May produce discomfort of the respiratory. • If swallowed IMMEDIATELY contact Doctor or. Poisons system* Information Centre (show this container or label). Possible respiratory sensitiser*. • This material and its container must be disposed of as May possibly affect fertility* (limited evidence). hazardous waste. FIRST AID MEASURES If swallowed do NOT induce vomiting. • If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. **SWALLOWED** • Never give liquid to a person showing signs of being sleepy or with reduced awareness. · Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice. • If this product comes in contact with the eyes: • Wash out immediately with fresh running water. EYE • Ensure complete irrigation of the eye. Seek medical attention without delay; if pain persists or recurs seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. • If skin contact occurs: • Immediately remove all contaminated clothing, including footwear. SKIN • Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation. • If dust is inhaled, remove from contaminated area. **INHALED** • Encourage patient to blow nose to ensure clear passage of breathing. If irritation or discomfort persists, seek medical attention.

10 Maintenance Checklist

Date of Service:		Machine Identifier				
Service Completed by: Name Signature		Name	Description			
		Signature	Branch / Location			
		SIX MONTHLY SER	VICE REOUIREM	ENTS		
		Item		Pass/Fail	Action / Comments	
1.0	Isolate System					
	Plug in FirePro Test	Modules in place of FirePro Aer	osol Units			
2.0	Control panel	dist assessed for size works with	Dealers as very fixed			
2.1	Clean and remove of Check that all indice	airt, grease and foreign material	. Replace as required.			
2.2						
3.0	Inspect FirePro den	erators to ensure they are in go	od condition			
3.1	Check mounting br	ackets are in good condition and				
3.2	Check Dust Covers	are in good condition – replace	as necessary			
3.4	Check FirePro Gene	erators are at predetermined aim	ina noints			
5.1	Flectrical system	- Check all wiring connections	are intact and in			
4.0	position	check an while of the connections				
5.0	Check warning a	nd instruction labels are in pla	ace, visible and legible.			
6.0	Discharge Testing	g from Control Panel				
6.1	Perform a discharge	e test by pressing activation swit	ch on panel.			
6.2	Following activation	, ensure the Test Module Red L	ED has operated.			
7.0	System control a	nd indicating equipment.				
7.1	During discharge test, ensure operation of all installed siren/strobe(s).					
8.0	Update Service Tag	– and logbook				
		ANNUAL SERVIC	CE REQUIREMEN	TS		
	Complete all 6 mon	thly routine service activities.				
9.0	FirePro Aerosol G	enerators				
10.0	Check manufacture date for installed FirePro generator. Replace any generator that has exceeded service life.					
11.0	Operational Con	ditions – Check that there h	as been no changes to			
	arrangement of equipment which will adverty affect the extinguishing agent					
	discharge or reter	ntion. Such things as enclosu				
	airflows or high temperature protected areas.					
12.0	12.0 Environmental Conditions – Check that the fire system and its components are suitable for the environmental conditions in which the					
	machine is operation					
12.0	mining, and road gradient and slopes are within orientation limits.					
13.0	Design Survey - (cneck against the baseline data,	ror alterations, changes			
	not use of operating environment, or other factors that could affect the performance of the fire protection system					
14 0	Pick According	- required to be reviewed and	ary 5 years or after any			
17.0	incident. Review document to ensure system compliance. Check if document is current.					
15.0	.0 Update Service Tag – and logbook					
L				·		

IMPORTANT: Testing should be performed when the fire control panel is not in an alarm/fault condition.