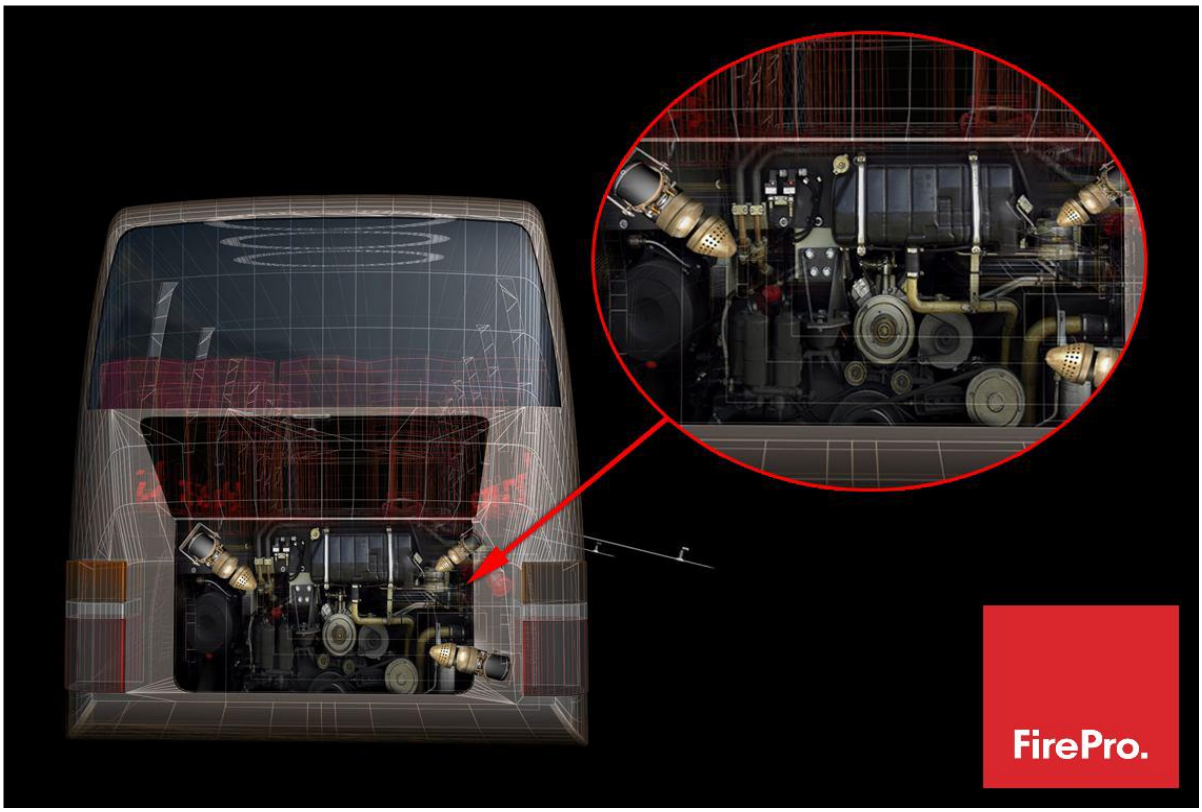
FirePro. Reinventing Fire Suppression

Control Panel
Model 08100

Rev 3.4

DENNING
MANUFACTURING PTY LTD



CONTENTS

1 DRIVERS INSTRUCTIONS

IN THE EVENT OF FIRE IN THE ENGINE COMPARTMENT AT THE REAR OF THE BUS

- **A FirePro fire suppression system is installed on this bus.**
- **The fire suppression system in MANUAL only – not automatic**
- **The fire indicator & actuation panel is mounted in easy reach of the bus operator.**
- **The FIRE CONTROL PANEL will indicate and sound a driver only red light and low level audible alarm when the fire detection system in the engine compartment detects a fire.**
- **The driver when safe to do so will stop the bus at the side of the road.**
- **TURN OFF THE ENGINE**
- **EVACUATE PASSENGERS TO A SAFE AREA.**
- **Lift the RED Switch Guard on the fire panel AND PRESS THE TOGGLE SWITCH.**
- **The fire suppression system in the engine compartment will discharge the gas to extinguish the fire.**
- **The gas is white in colour and is based on potassium carbonate and will not harm humans; the gas will naturally dissipate to atmosphere.**
- **Do not allow passengers back onto the bus.**
- **Call the fire brigade, police or ambulance as required on 000.**

2 SYSTEM ACTIVATION

Should the system be activated :

1. Keep the FirePro suppression gas within the risk until the fire is extinguished and not able to re-ignite.
2. Do not start engine or fans until the fire is extinguished – otherwise the exhaust fans will restart and gas will escape and could allow the fire to re-ignite.
3. Recommended cleanup after discharge is with soapy water and a cleaning agent based on citric acid.

3 GENERAL OPERATIONS

This compact, control panel provides operator interactive control of your fire alarm and fixed fire extinguishing system.

This is a MANUALLY ACTIVATED SYSTEM .

The FIP (fire indicator panel) incorporates-

1. A non-monitored Detection zone fire alarm using Linear Heat Detection Cable.

2. 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.

3. 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.

4. Power Supply **-** The POWER supply to the FirePro alarm is designed to operate nominally on 12 to 24vDC supply. If not lighted then power has been interupted.

5. When a fire is detected by the LHD cable, 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.

6. FirePro Monitor Indicators -
    - **Power ON** light iluminated – system okay and ready for activation.
    - **FIRE** Red light – Fire Alarm.

4 COMPONENT DESCRIPTION

FP-08100

Control Panel

FirePro Aerosol Generator

100g – 500g Unit.
Constructed from Stainless Steel.
Comes with installed Deutsch Plug for easy install.

FP-6200

Heavy Duty Bracket 316 SS.
Suits FP-100, 200, 500 FirePro Aerosol Generators.

FP-9510

Linear Heat Detection Cable 182° C

FP-9511

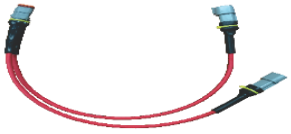
Linear Heat Detection Installation kit. Mounting Clips, 2x Junction Boxes with strain relief cable glands NO EOL as not monitored.

FP-9500

2 Hour Fire Rated Shielded Cable.

FP-8960

Signage for the System. A sheet of different size labels.



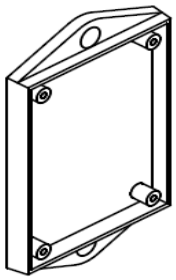
FP-8912

Wiring loom and Splitter Cable for installaion of multiple FirePro generators.

FP-8800

System Test Lamp – this unit simulates a FirePro generator.

5 INSTALLATION



Mounting

The panel is to be mounted by two bolts 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.

Cable Requirements

All cabling in the FirePro Installation MUST be done using 0.75mm shielded Fire Rated Cable. Components and devices may be mounted to bulkheads, but CARE must be taken to ensure that all cables are isolated, to ensure that there is not accidental grounding. All RF shielding from cables MUST be grounded by connecting them appropriately in the deutsch plugs.

Colour Coded Cables

Cables are colour coded for easy identification. When installing system, cables should be only connected to the correctly coded cable.

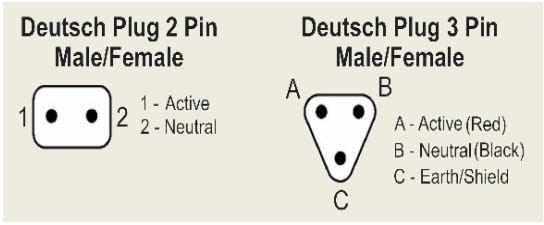
Colour		Circuit
	Red	Power
	Yellow	Activation
	Green 1	Detection 1
	Orange	Sounder

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

Extension Leads

Where required, extension leads may be made to suit the positioning of components. The leads should be made usind Deutsch Plugs must be used to ensure water-proof connections are made throughout the installation. To prepare :

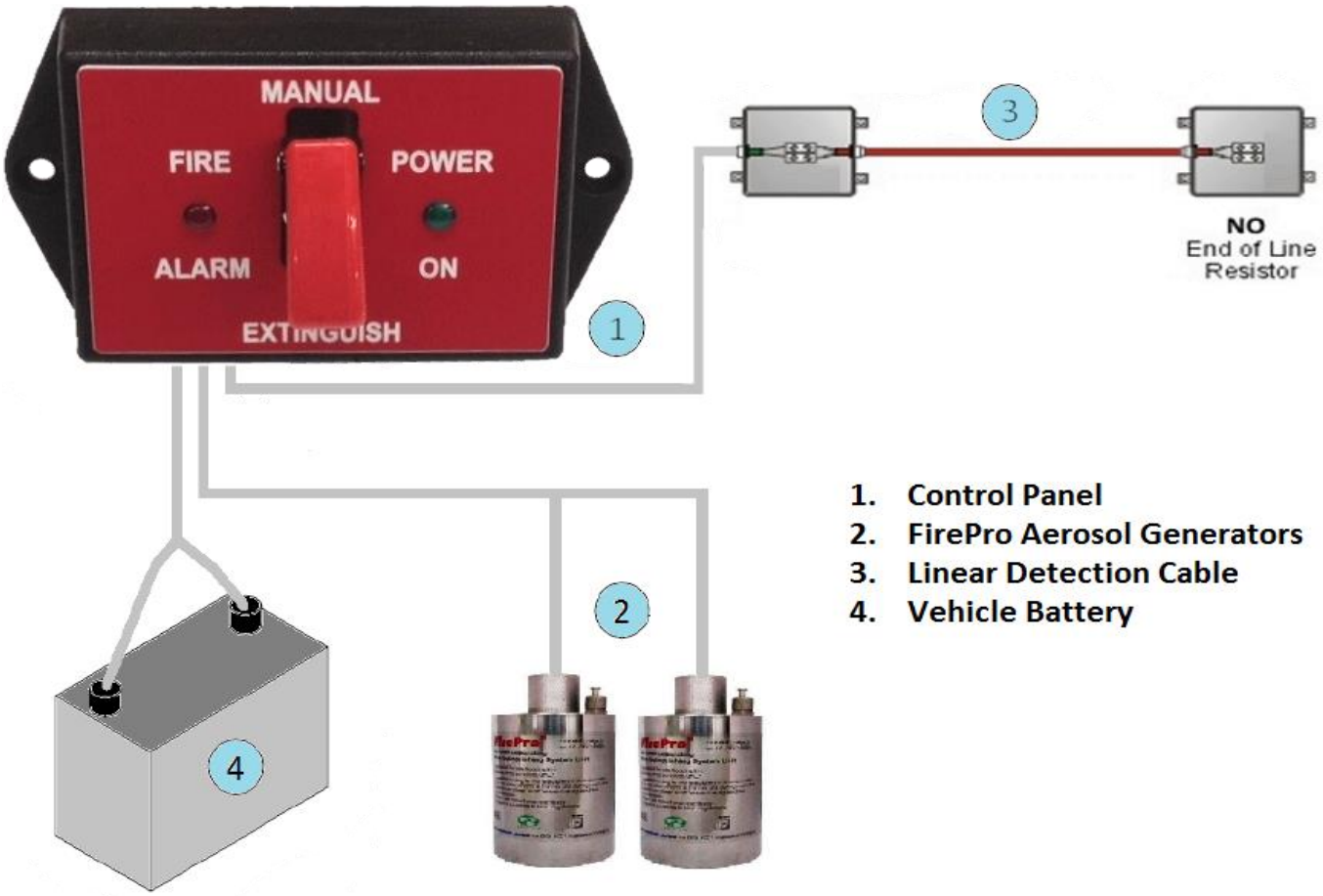
Cut cable to required length and strip outer insulation to approximately 50mm. Strip inner insulation to approximately 6mm and using a Deutsch Crimping tool, fix pins to the exposed ends of the cable, including the earth.



Place heat shrink over the end of the cable. Identify correct socket on plug by the numbers/letter on the side of the plug and push through the gasket at the bottom of the plug until a click is heard and the pin is locked in place.

Place the locking mechanism inside the plug to ensure pins are secure. (Male plugs Orange - Female plugs Green). Using the heat shrink, seal the back of the plug.

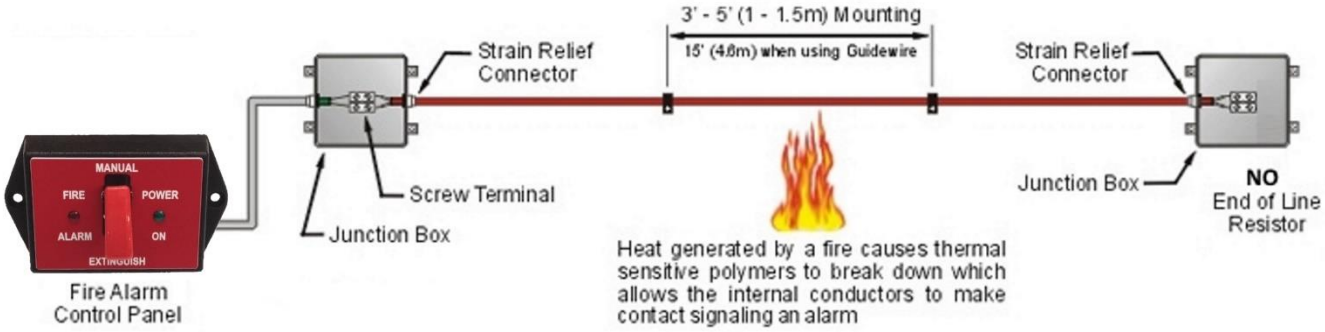
Wiring Diagram Overview



Power Supply

Power – 12 to 30vDC direct from Battery. 5A fuse required on incoming power supply.

Detection – Linear Heat Detection



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.

6 SERVICING & MAINTENANCE

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 must be kept, recording all the relevant events concerning the installation. The logbook contains the items required that give a picture and provide for the recording of various things during the life of the installation. In the logbook you will find the following:

Content of logbook:	**In the appendices of the Logbook:**
General details	Schematic diagrams
Devices used	Photos of the Original FirePro Installation
Date of each inspection	Inspection reports
Comments re outcome of each inspection	

7 OPERATION - ACTIVATION

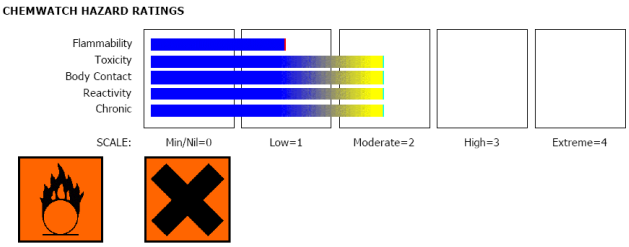
How Does it Work

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. At 300^0C the SBK block changes to a potassium based gas to extinguish the fire.

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

8 SAFETY DATA SHEET

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***.

PRODUCT NAMECELANOVA FIREPRO **PRODUCT USE** Fire extinguishing agent.	**HAZARDOUS SUBSTANCE. DANGEROUS GOODS.** **According to NOHSC Criteria, and ADG Code.** CHEMWATCH HAZARD RATINGS 

POISONS SCHEDULE - None

RISK	SAFETY
• Contact with combustible material may cause fire. • Harmful if swallowed • Irritating to eyes and skin. • May cause SENSITISATION by skin contact. • Harmful to aquatic organisms may cause long-adverse effects in the aquatic environment. • Cumulative effects may result following exposure • May produce discomfort of the respiratory. system* • Possible respiratory sensitiser*. • May possibly affect fertility* (limited evidence).	• Keep away from combustible material • Avoid exposure - obtain special instructions before use. • To clean the floor and all objects contaminated by this material use water and detergent. • Keep away from food drink and animal feeding stuffs. • In case of contact with eyes rinse with plenty term of water and contact Doctor or Poisons Information Centre. • If swallowed IMMEDIATELY contact Doctor or. Poisons Information Centre (show this container or label). • This material and its container must be disposed of as hazardous waste.

FIRST AID MEASURES

SWALLOWED	• 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. • 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.
EYE	• If this product comes in contact with the eyes: • Wash out immediately with fresh running water. • 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.
SKIN	• If skin contact occurs: • Immediately remove all contaminated clothing, including footwear. • Flush skin and hair with running water (and soap if available). • Seek medical attention in event of irritation.
INHALED	• If dust is inhaled, remove from contaminated area. • Encourage patient to blow nose to ensure clear passage of breathing. • If irritation or discomfort persists, seek medical attention.

9 SPECIFICATIONS

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 Length of Linear Heat Detection	50m