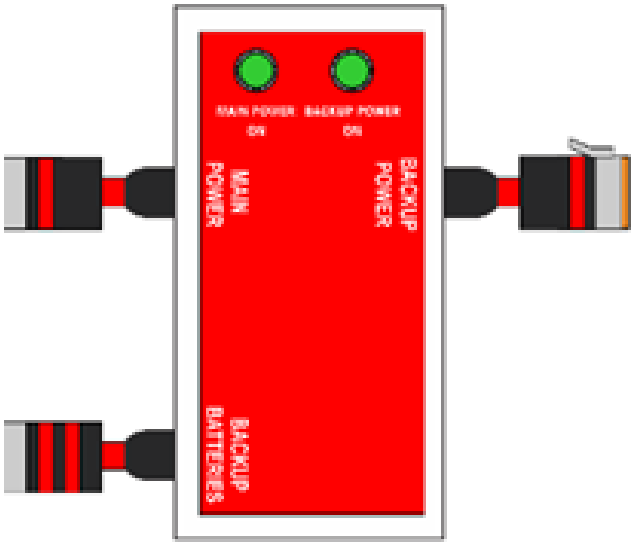
FirePro. Reinventing Fire Suppression

Power Control Module
Model 08874

Rev 1.0



Contents

1 Introduction

1.1 General Information

The FP-08874 Power Control Module provides a plug-in, supplementary power supply to be installed in conjunction with the FP-08450 or FP-08451 Fire Control Panel. The Power Control Module provides continuous power to the FirePro fire control panel (as per AS5062), in the event the main power supply fails.

The Power Control Module operates when both a Main Power supply and the backup batteries are connected. Should the main supply fail or drop below operating volatage, the module automatically switches the power supply to the backup batteries.

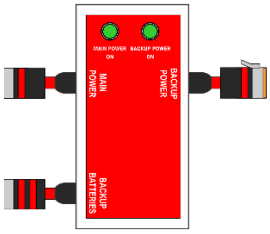
The FP-08874 is for use with systems that require extended backup (longer than 24 hours) or systems that exceed the limitations of the FP-08872 Power Control Module.

The FP-08874 is designed to connect to Sealed Lead Acid 12vDC Batteries with a capacity of up to 7Ah. The module includes an automatic low voltage cutoff system to avoid deep discharge of the backup batteries and extend service life.

1.2 AS5062 Vehicle and Mobile Plant Installations

Where a vehicle does not have two separate power supplies capable of operating the fire control panel for 24 hours, a Power Control Module must be installed to be compliant.

2 Components List

	**FP-08874 Power Control Module** Power Control Module, 12 - 24vDC, automatic low voltage cutoff	2x DP-2200	Deutsch Plug 2 Pin Male/Female, c/w heatshrink
	**Battery Leads** Include main connection lead and series connection lead c/w spade crimps		**Compatible Batteries** 12vDC SLA Batteries – up to 7Ah (Not Included)

3 Designs Considerations

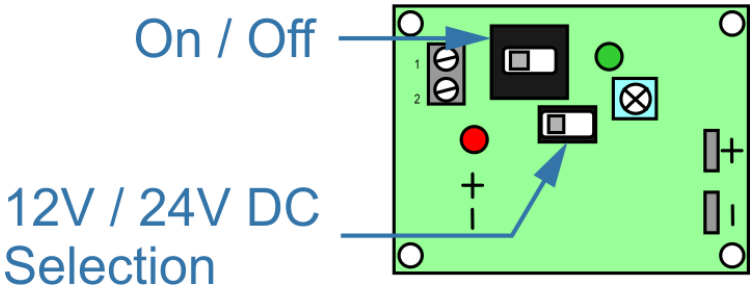
3.1 Power Supply Input

The FirePro 08874 Power Control Module is a multi-voltage backup power supply, able to be configured to operate on either 12-volt DC or 24-volt DC. The configuration of the Power Control Module should be based on the available power supply, as the main power supply input MUST have the same voltage as the selected operating voltage of the Power Control Module.

The main power supply should be connected directly to the vehicle battery – NOT through the vehicle's fuse block. This will ensure continuous power to the FIP and will not drain the backup batteries. The connection to the vehicle battery must be done using a FP-14016 Battery lead, with an inline fuse installed.

3.2 Selecting Operating Voltage

The FP-08874 Power Control Module can be configured to operate on either 12-volt DC or 24-volt DC main supply. The operating voltage is selected using the switch on the inside of the module, as shown in the picture below. The module should be turned off when changing the voltage selection, either by disconnecting the main power and backup power to the module or by using the internal "on/off" switch.



The voltage must be the same for the incoming voltage, the backup batteries and the output voltage.

Note: Selecting an incorrect voltage will cause the backup batteries to not fully charge and may cause damage to the module.

3.3 System Limitations

The FP-08874 Power Control Module is limited to use with only Sealed Lead Acid Batteries at a rating of 12 or 24VDC. Multiple batteries may be connected in series to reached 12 or 24VDC and increase capacity.

The largest recommended capacity for connected batteries is 7Ah. Where larger capacity batteries are required, your supplier must be consulted.

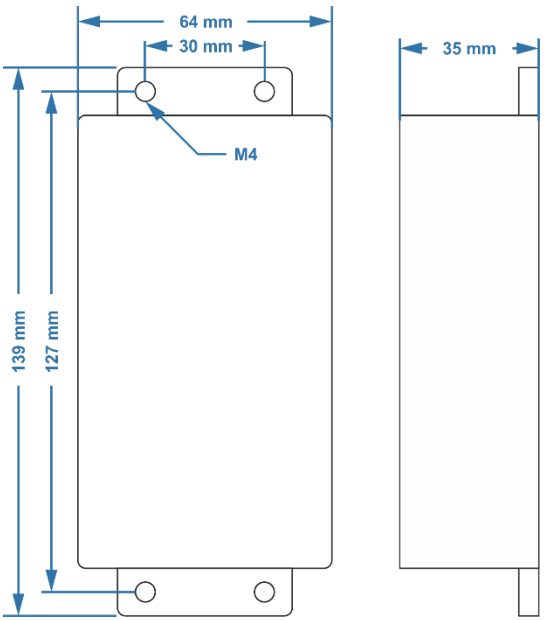
The maximum number of FirePro generators able to be discharged is limited by the voltage of the main power supply. That is:

Voltage 12vDC Max = 2 Units	**Voltage 24vDC** Max = 4 Units

3.4 Mounting

For correct installation, the Power Control Module must be mounted by four bolts or screws through the mounting holes in the flange on both sides of the Module. **No penetrations are to be made through the casing of the panel.**

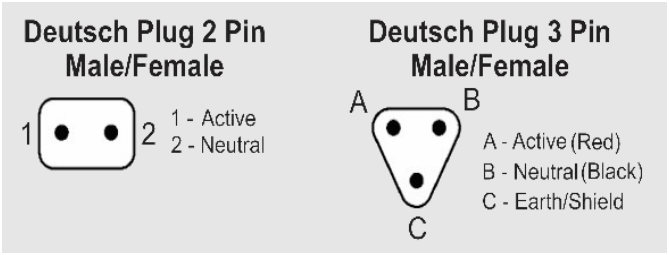
The Power Control Module enclosure is rated IP65, so should be installed in a convenient location, away from where it may be affected by large amounts of water. The module does not need to be installed adjacent to the fire control panel.



3.5 Cabling Requirements

When constructing extension leads the supplied Deutsch Plugs must be used to ensure water-proof connections are made throughout the installation.

1. Cut cable to required length and strip outer insulation to approximately 25-30mm.
2. Strip inner insulation to approximately 6mm and using a Deutsch Crimping tool, fix pins to the exposed ends of the cable, including the earth where applicable.
3. 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.



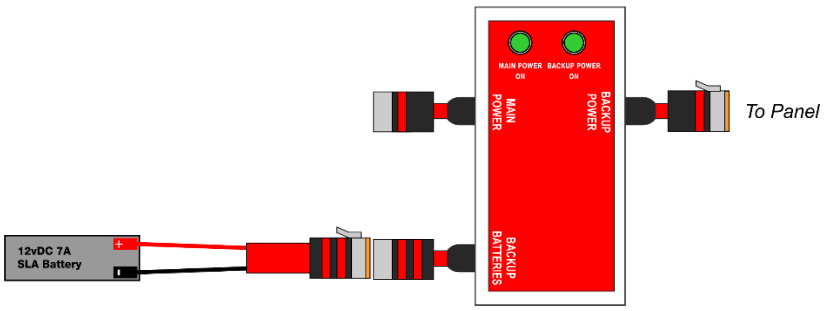
4. Place the locking mechanism inside the plug to ensure pins remain secure. (Male plugs; locking mechanism is orange. Female plugs; locking mechanism is green).
5. Using the heat shrink, seal the back of the plug.

Cables are colour coded for easy identification. When installing system, cables should be only connected to the correctly coded cable. Colour Coding for cables is as follows:

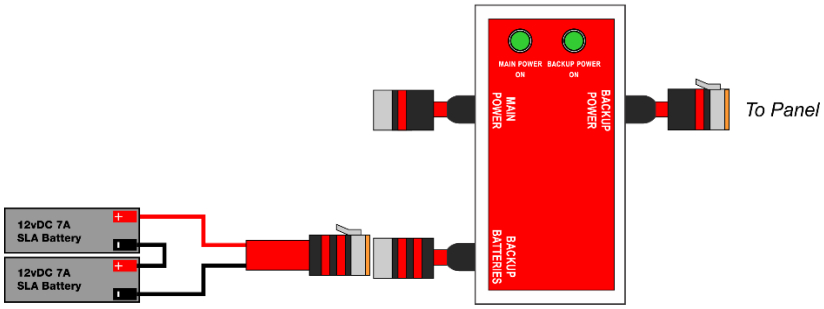
Colour	Circuit
Red 1	Power Supply
Red 2	Backup Batteries
Yellow 1	Activation
Yellow 2	Activation Delayed
Green 1	Detection 1
Green 2	Detection 2
Blue	Discharge Advice
Orange	Siren/Strobe
White	Relay Output

4 Installation

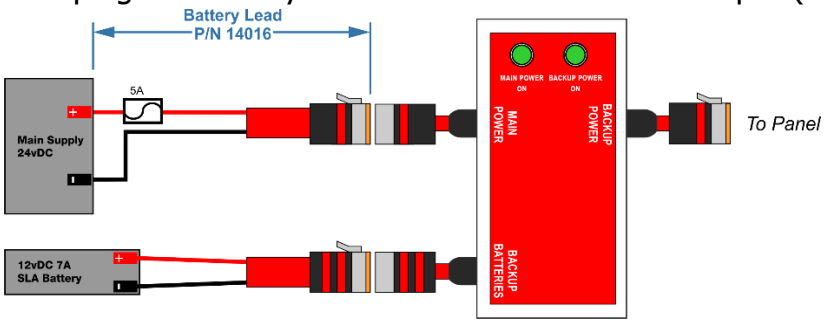
1. The output cable to the FIP should remain disconnected until all other steps are completed.
2. Check the voltage of the available main supply, and using the internal switch select the appropriate operating voltage for the module. **Note:** Selecting an incorrect voltage will cause the backup batteries to not fully charge and may cause damage to the module.
3. With the main supply voltage selected, it is now safe to connect the power supplies.
4. Using the supplied battery leads, connect the backup batteries to the "Backup Batteries" Input (marked red 2). **Note:** the module will not turn on until the main power supply has been connected.
   For 12vDC Main supply and Backup:



   For 24vDC Main supply and Backup:



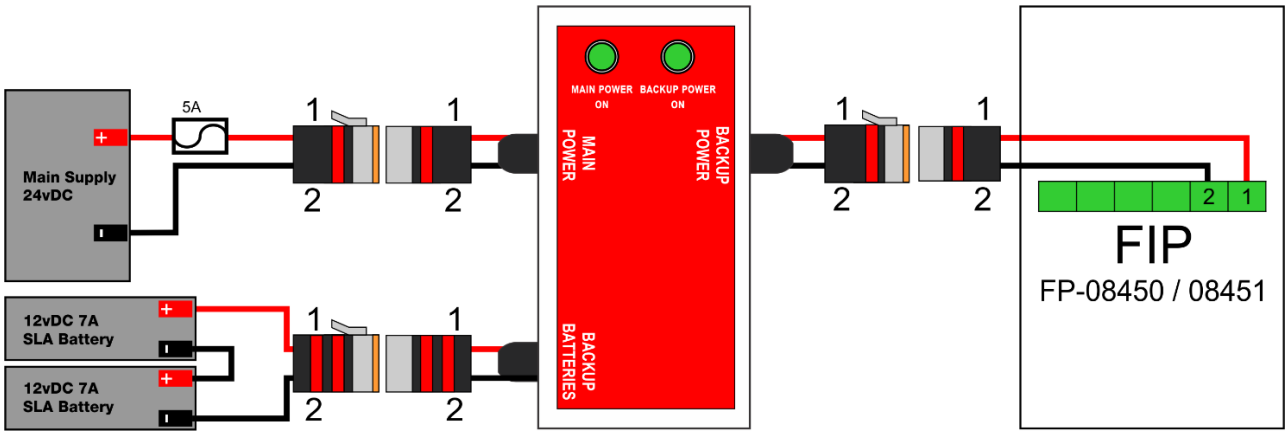
5. Using the FP-14016 Battery Lead, connect the Power Control Module directly to the vehicle battery and plug the Battery Lead into the "Main Power" Input (marked red 1).



6. If both connections have been done correctly, the "Main Power ON" and the "Backup Power ON" LED indicators will illuminate,
7. The FIP power cable can be connected to the "Backup Power" output (marked red 1).

Note: Any connections must observe polarisation as shown in wiring diagram. Incorrect connections will not provide power and may damage the module or FIP.

5 Wiring Diagram



6 Operation

The Power Control Module operates when both a Main Power supply and the backup batteries are connected. Should the main supply fail or drop below operating volatage, the module automatically switches the power supply to the backup batteries.

When the main supply has been connected the "Main Power ON" LED will illuminate to indicate that the main power supply is available and is charging the backup batteries.

When the backup batteries have been connected the "Backup Power ON" LED will illuminate to indicate that the backup batteries are available and capable of powering the fire system.

The Power Control Module has an automatic cut-off system designed to cutoff power from the backup batteries when the batteries are below a suitable operating voltage. The module includes an automatic low voltage cutoff system to avoid deep discharge of the backup batteries and extend service life.

7 Commissioning

Commissioning should be performed when main supply and backup batteries are connected, and fire control panel is not in an alarm/fault condition.

1. Isolate and disconnect the any installed FirePro aerosol generators. This should generate a fault on the fire control panel.
2. Connect a FirePro FP-08800 Test Module.
3. Disconnect main power supply and ensure "Main Power ON" LED indicator turns off.
4. Power supply will automatically switch to the backup batteries.
5. Ensure fire control panel remains operational and out of fault condition.
6. Reconnect main power supply.

8 Servicing and Maintenance

Inspection and servicing of the installed fire system should occur in accordance with the relevant Australian Standards. This should include a visual inspection of the enclosure to ensure the seals are intact.

Monitoring and operation of any installed modules should be tested as outlined in 6. Commissioning.

8.1 Replacing the Batteries

Sealed Lead Acid batteries **must** be changed every 3 years or if the backup batteries show signs of wear or damage. Both batteries must be replaced at the same time. New and old batteries **must not** be installed together. Old batteries should be disposed of in accordance with local regulations.

To replace the backup batteries:

1. Isolate and disconnect any installed FirePro aerosol generators. This should generate a fault on the fire control panel.
2. Connect a FirePro FP-08800 Test Module.
3. Isolate the Power Control Module by disconnecting both the output to the control panel and the input for the main power supply. Ensure the "Main Power ON" and "Backup Power ON" LED indicators turn off.
4. Disconnect and replace both batteries.
5. Reconnect main supply input. Ensure the "Main Power ON" and "Backup Power ON" LED indicators turn on.
6. Reconnect the output to the Control Panel. If installed correctly, the Control Panel will not be in a fault condition.
7. Disconnect the FirePro FP-08800 Test Module and reconnect all installed FirePro aerosol generators.

9 Troubleshooting

Problem	Possible Cause	Solution
"Main Power ON" LED not illuminating	Poor/Reversed connection to vehicle battery OR Inline fuse has blown	Check connection and polarity of battery lead and any extension cables. Check condition of the inline fuse and replace if necessary.
"Backup Power ON" LED not illuminating	Poor/Reversed connection to backup batteries OR Backup Batteries are below operating voltage	Check connection and polarity of battery lead and any extension cables. Check condition of backup batteries. Check main supply voltage is high enough to charge backup batteries.

For additional assistance, contact your supplier.

10 Specifications

	FP-08874	
	12vDC Main Supply	**24vDC Main Supply**
Dimensions - mm	139L x 64W x 35D	
Enclosure material	Die Cast Aluminium	
Operating voltage	10-14vDC	22-28vDC
Compatible Battery	1x 12vDC - max 7Ah	2x 12vDC (in series) – max 7Ah
Low Voltage Cut-off	9vDC	19vDC
Fault-sensing	Indicators for Power Source(s) Only	
Operating Temp.	-40 to 85ºC	
Ingress Protection	IP65	