



Reinventing
Fire Suppression

Siren & Shutdown Module Model 08860

Rev 3.1



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1 Introduction

1.1 General Information

The FP-08860 Siren & Shutdown Module provides a modular shutdown relay to be installed in conjunction with the FP-08450 or FP-08451 Fire Control Panel. The Siren & Shutdown Module allows for the fire control panel to shutdown or activate any necessary equipment when in an alarm condition. The Siren & Shutdown Module provides a volt free contact that can operate appropriately rated slave relays.

The module also includes a delay timer for the relay that can be set to suit for vehicle or site specific conditions.

1.2 AS5062 Vehicle and Mobile Plant Installations

Where the risk assessment requires the engine to be shut down on alarm, a FP-08870 must be installed to be compliant. Multiple Siren & Shutdown Modules can be connected together where multiple relay outputs are required in an install.

1.3 External Notification and Networking

Where equipment or a site requires networking to other equipment (e.g. a PLC) the shutdown relay module can be used to advise when the fire control panel is in an alarm condition.

2 Components List



FP-08860 Siren & Shutdown Module

Operates Siren and volt free contact for shutdown

1x DP-2010

Deutsch Plug 2 Pin Female, c/w heatshrink

1x DP-3010

Deutsch Plug 3 Pin Female, c/w heatshrink

3 Design Considerations

3.1 Siren/Strobes Output

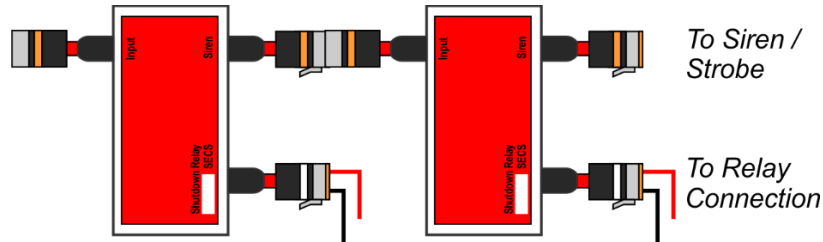
The recommended siren/strobe is the Flashni Xenon Sounder Beacon. In a typical install, the maximum number of supported sirens/strobes that can be installed is 5. When installed, Siren/Strobes are to be clearly visible and audible at all points around the risk area.

The siren/strobe output is a monitored circuit. Where a siren/strobe is not installed the supplied end-of-line diode (1N4004) **must** be installed on the siren output, otherwise the fire control panel will display a fault and the relay will not operate.

Where multiple modules are used sirens/strobes should be connected to the last installed module in the circuit.

3.2 Relay Output

In a typical install, the maximum number of supported shutdown modules that can be installed is 5. However, these can be connected to additional slave relays where required. Where multiple modules are used, the modules are to be connected using the siren/strobe output (marked orange) as below. There are no limitations to the individual programming of a module when multiple modules are connected together.



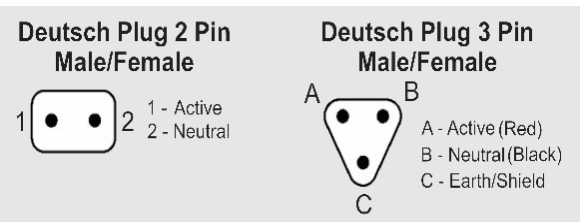
Direct connections of electrical equipment to the shutdown relay **must not** exceed the rating of the relay (see 11. Specifications), as this may damage the module and fire control panel.

The relay may be set to normally open or normally closed (see 6. Programming) to suit equipment or site specific conditions.

3.3 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	Power Supply
Yellow 1	Activation
Yellow 2	Activation Delayed
Green 1	Detection 1
Green 2	Detection 2
Blue	Discharge Advice
Orange	Siren/Strobe
White	Relay Output

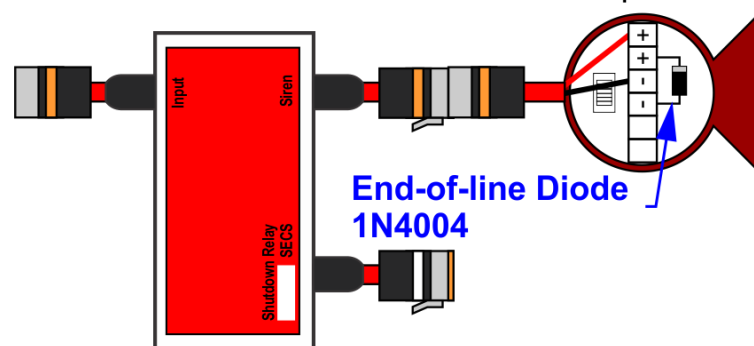
3.4 Mounting

For correct installation, the Siren & Shutdown 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.**

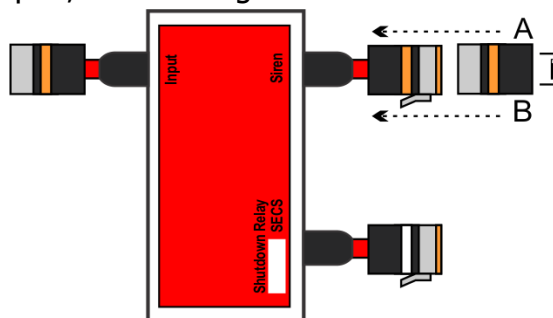
The Siren & Shutdown Module enclosure is rated IP65, so should be installed in a convenient location, away from where it may be affected by large amounts of water. The module does not need to be installed adjacent to the fire control panel.

4 Installation

1. The input cable from the FIP may be connected at any time. However, the FIP will remain in fault condition and the relay will not operate until all other steps are completed.
2. If using a siren/strobe, use an extension lead (built as per 3.4 Cabling Requirements) to connect the siren strobe to the "Siren" output on the module (marked orange). The supplied end-of-line diode should be installed in the unused positive/negative terminals of the last siren/strobe in the circuit. The diode is polarised, so the positive lead of the diode (marked with a grey band) should be terminated in the positive terminal of the siren/strobe, otherwise a fault will occur on the fire control panel.

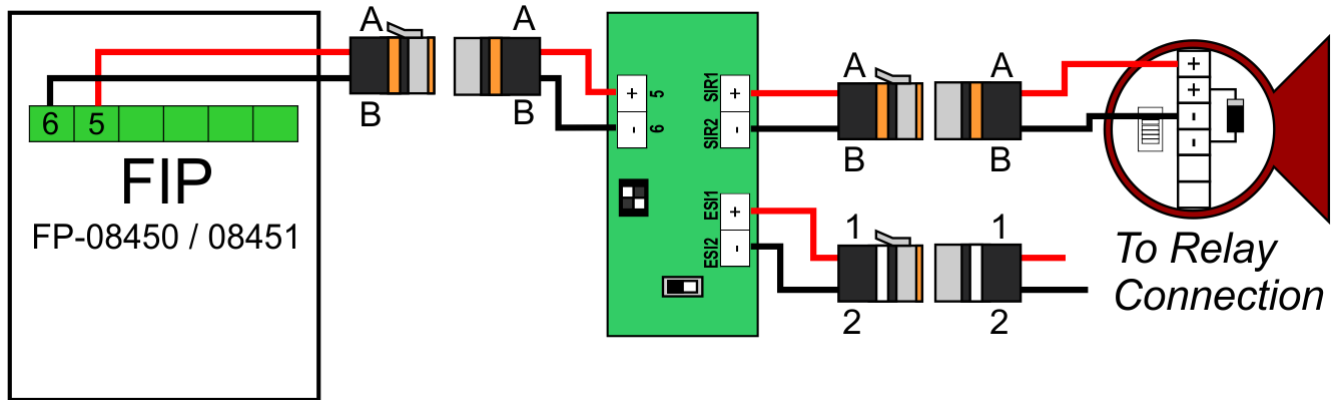


3. If not using a siren/strobe, the end-of-line diode should be terminated into the supplied 3 pin deutsch plug (note polarisation) and then connected to the "Siren" output on the module (marked orange). The end-of-line plug should then be covered in heatshrink, and the heatshrink crimped, to avoid ingress of water into the circuit.



4. The shutdown relay can now be connected. The shutdown relay connection is not polarised and should be terminated using the supplied 2 pin deutsch plug. Note: the relay will not operate if the siren/strobe or end-of-line plug is not in place.
5. The settings of the Siren & Shutdown Module can now be programmed to suit vehicle or site specific requirements. (See 6. Programming)

5 Wiring Diagram



6 Programming

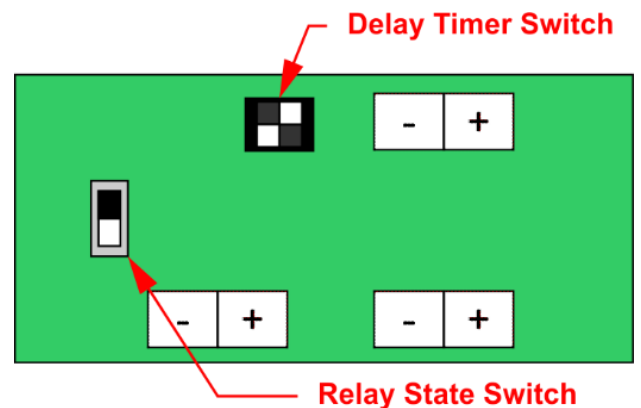
6.1 Programming Module Version 1 - 2.1

The Delay Timer Switch allows for the activation of the relay to be delayed for a period of up to 15 seconds after the fire control panel has entered an alarm state.

The Relay State Switch allows for the relay to be set to either normally open (closing on activation or normally closed (opening on activation).

There are no limitations to the individual programming of a module, when multiple modules are connected together.

Note: The Siren/Strobe or end-of-line diode must be connected for the relay to operate.



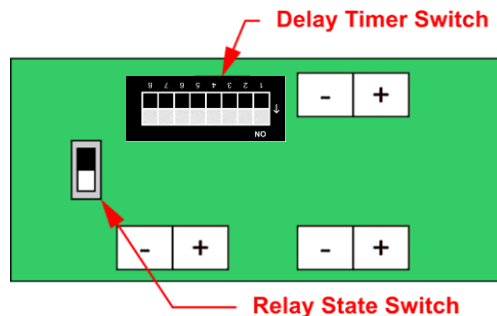
Delay Timer Switch		Mode	Relay State Switch		Mode
	Switch 1 – ON Switch 2 – ON	DELAY Set to 1 second		Switch - ON	Relay set to NORMALLY OPEN
	Switch 1 – OFF Switch 2 – ON	DELAY Set to 5 seconds		Switch - OFF	Relay set to NORMALLY CLOSED
	Switch 1 – ON Switch 2 – OFF	DELAY Set to 10 seconds			
	Switch 1 – OFF Switch 2 – OFF	DELAY Set to 15 seconds			

Note: The settings of the Siren & Shutdown module should be recorded in the service logbook and marked in the space provided on the front of the module.

6.2 Programming Shutdown Delay - Module Version 3

The Delay Timer Switch allows for the activation of the relay to be delayed for a period of up to 255 seconds after the fire control panel has entered an alarm state. There are no limitations to the individual programming of a module, when multiple modules are connected together.

Each switch on the Delay Timer has a separate delay value (in seconds) as follows:



Delay Timer Switch								
Switch Number	1	2	3	4	5	6	7	8
Delay Value	1 sec	2 sec	4 sec	8 sec	16 sec	32 sec	64 sec	128 sec

The delay time is programmed by setting the required switches to the "OFF" position. When multiple switches are used, the delay values are added together, allowing for any delay time between 1 to 255 seconds to be programmed.



Example of common delay times can be programmed as follows:

Delay Time	Switch Positions	Delay Time	Switch Positions
2 seconds		60 seconds	
15 seconds		90 seconds	
20 seconds		120 seconds	
30 seconds		240 seconds	

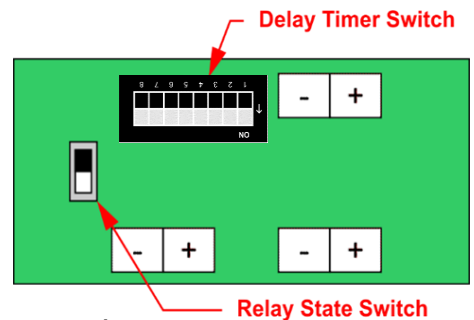
Note: The settings of the module should be recorded in the service logbook and marked in the space provided on the front of the module.



6.3 Programming Relay State - Module Version 3

The Relay State Switch allows for the relay to be set to either normally open (closing on activation or normally closed (opening on activation).

There are no limitations to the individual programming of a module, when multiple modules are connected together.

To program the relay state set the switch as follows, with reference to the markings on the control panel:



Relay State Switch	Mode	Relay State Switch	Mode
	Switch - ON		Switch - OFF
	NORMALLY OPEN		NORMALLY CLOSED

7 Commissioning

Commissioning should be performed when the siren and shutdown relays 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 Universal Test Lamp.
3. Perform an activation test, by pressing and holding the buttons on the fire control panel or through the detection circuits.
4. Ensure that any sirens or strobes connected to the system are operational.
5. Test the shutdown relay by testing the state of the contacts or attempting to turn on the related equipment.
6. Disconnect the FirePro FP-08800 Universal Test Lamp and reconnect all installed FirePro aerosol generators.

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.

Operation of any installed sirens/strobes and connected relays should be tested as outlined in (7) Commissioning.

9 Operation

The Siren & Shutdown Module operates when the fire control panel in is an alarm condition or the fire system has been manually activated. When activated, the siren will operate immediately, and initiate the programmed time delay for the relay. When the time delay is completed, the relay will operate and shutdown any connected equipment.

Note: The siren and relay will remain active until the panel is isolated and reset.

10 Troubleshooting

Problem	Possible Cause	Solution
Siren/strobe not operating	Reversed or poor connection to module or to siren/strobe	Check connection and polarity of any extension cables. Ensure power is reaching siren by measuring voltage when in normal and alarm condition.
Relay not operating	Reversed or poor connection to module or to siren/strobe OR Reversed or poor connection to End-of-line diode	Check connection and polarity of any extension cables and End-of-line diode.
Equipment not operating	Incorrect setting for relay OR System has activated	Check if equipment requires N/O or N/C Check condition of fire system
Fault displayed on fire control panel (3 Beeps)	Reversed or poor connection to End-of-line diode OR Number of installed modules exceeds limit OR Inadequate power supply	Check connection and polarity of any extension cables and End-of-line diode.

For additional assistance contact your supplier.

11 Specifications

	FP-08870
Dimensions	140L x 65W x 30D
Enclosure material	Die Cast Aluminium
Operating voltage	12-30VDC
Output - Siren	Siren max 0.5A at 12 or 24VDC
Output - Relay	Relay max 30vDC 2A
Discharge end-of- line	Siren Only 1N4004 diode
Fault-sensing	Siren Only - wiring open-circuit
Operating Temp.	40 to 85 degrees Celsius
Ingress Protection	IP65
Max no. of Siren/Strobes	4 (Flashni Xenon Sounder Beacon)
Max no. of Modules	5