FirePro

Fire Extinguishing Aerosol Systems

Control Panel
Model 3.10.101K
12 -24vDC

Mobil Plant with up to 4 Generators

OPERATORS MANUAL

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GENERAL OPERATIONS

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

The FIP (fire indicator panel) incorporates-

- A supervised single Automatic Detection zone fire alarm control.
  - Smoke Detectors, Thermal detectors, IR Detectors or Linea Devices may be used.
- A supervised input for external Manual Actuation functions.
- A supervised Low Pressure input Note: - not used with Firepro Generators EOL Installed.
- Manual actuation is from Panel or Extended remote.
- The Alarm Manual Actuate function 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.
- When pressed then the manual release switch will immediately activate the Alarm and if installed, will initiate the shutdown facility. Function is via the "Voltage Free Contacts Provided", and then the Fire System will activate the Generators _approximately 4 seconds later.
- Incorporates programmable delay of up to 24 seconds on shutdown function.
- Event data recording that may be viewed and printed to a PDF file is available.
- **Battery Power Supply**

  The POWER supply to the FirePro alarm is designed to operate nominally on 12 to 24vDC supply. It also contains internal batteries to allow it to operate for up to 72 hours, independantly of the normal power supply. The supply tolerance for operation is 9 to 30vDC for operation. There is internal regulated charging to recharge the internal batteries that is effective between 12 to 30vDC.
- **Actuate Switch -**

  To Actuate the system flip open the Protective switch cover and push the spring loaded toggle switch.
- **Automatic Actuation**
  - A supervised input capable of either Smoke, IR , thermal spot or Linear Detector.
- **Test Mute –**
  - In normal condition, holding the button for 6 seconds will put the alarm through a test alarm function. The generators will not be activated during this test. This button also functions during an alarm to mute the sound in which case the mute light will illuminate. The alarm can be re-activated by pressing again".

- **FirePro Monitor Indicators -**
  - Green **Power ON** light iluminated – system okay and ready for activation.
  - Green **Power ON** light **Flashin**g – system operating on backup Battery.
  - **FIRE** Red light – Fire Alarm.
  - Discharge Light iluminated. FirePro system activated.
  - FAULT LIGHT Function.

The FirePro Alarm uses flashing "Fault" LED and sounder beep codes to identify the type of alarm fault. If more than one fault occurs, flashing indication and beeping will occur sequentially.

Alarm table fault codes

No	Fault Types	Beeps
1	Fire Sensor	1 Beep + 1 Flash
2	Remote Actuator	2 Beeps + 2 Flashes
3	Actuation Circuit	3 Beeps + 3 Flashes
5	Battery Backup	5 Beeps + 5 Flashes

Fault indication is not latching. This means that the fault indication will disappear when the fault is repaired without resetting the alarm. The Fault Beep sound can be muted by pressing the "Mute" button.

- **Automatic Shut Down -**

The panel incorporates normally open and normally open voltage free contacts rated at 3 amps. These can be utilised to notify emergency shutdown functions as required. The default factory setting is 6 seconds, however this can be programmed within a delay range of 0 – 24 seconds using the AlarmWare.

- **Commissioning –**

It is recommended that commissioning be carried out using the optional **Fire Pro Aerosol Commissioning Module** Part # **3.20.205.** This will allow the installer to function Test the complete system without fear of actuating the Generators.

It is important that the Installed system be tested both Automatically at each detector and Manually at both the Manual release on the panel and the optional remote manual release.

- **Risk Assessment**

The design of fire systems and ongoing maintenance in compliance to AS5062, requires that a "Risk Assessment" be undertaken in consultation with the Owner Operator of the plant. AS 5062 gives a guide as to how this should be undertaken. Should you require assistance please consult with your "FirePro" Distributor.

Electrical Installation Notes

1. All cabling in the FirePro Installation MUST be Installed using min 0.75mm shielded Fire Rated Cable
2. This INCLUDES the power supply cable to the FP Control Panel.
3. Power requirements range 12 – 24V DC.
4. **RF Environments** – Installation if RF affected environments requires special consideration for grounding of the FirePro circuits. FP system is designed to create its own grounding system.

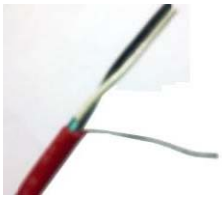
   NO Additional grounding of any of the components or devices is allowed.

   Components and devices may be mounted to the bulkhead or hull, but CARE must be taken to ensure that all cables to these components are isolated, and that RF shielding on cable is stripped back to ensure that there is not accidental grounding.

   If multiple grounding occurs earth loops may be created which will cause problems in the operation of the system.
5. Control panel mounting – Dashboard switch and indicator panel and the control box may be mounted directly to the hull or bulkheads.
6. All RF shielding from cables MUST be grounded in the terminal provided in the control box.
7. Typical Cable Strip.

Cable Stripped of Fire Rated Insulation and RF Shielding

Cable Stripped of Fire Rated Insulation SHOWING RF Shielding



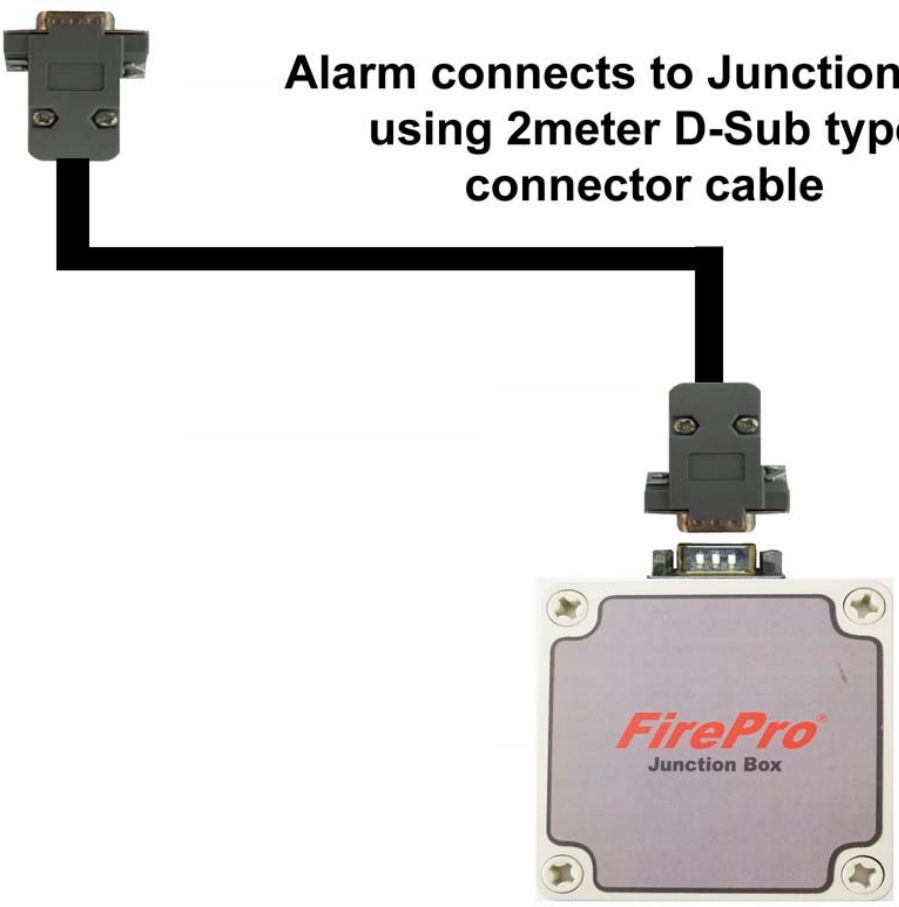
Cable Stripped of Fire Rated Insulation and RF Shielding SHOWING RF Grounding Cable

Typical Cable Crimps Supplied

To ensure that good connections are made throughout the installation, crimps have been supplied. These are supplied for the following connection types:

	**Blue In-Line Crimp**	Supplied – 4	**Used for the Earth Connection of the Shielding in the Control Panel**
	**Red Fork Crimp**	Supplied – 20	**Used for all connections in the Junction Box and Detectors**
	**Red In-line Crimp**	Supplied – 8	**Used for the FirePro Generator Connections**
	**Red Pin Crimp**	Supplied – 20	**Used for all connections in the Control Panel, except the Earth connection.**

Schematic Diagram - Model 3.10.101K

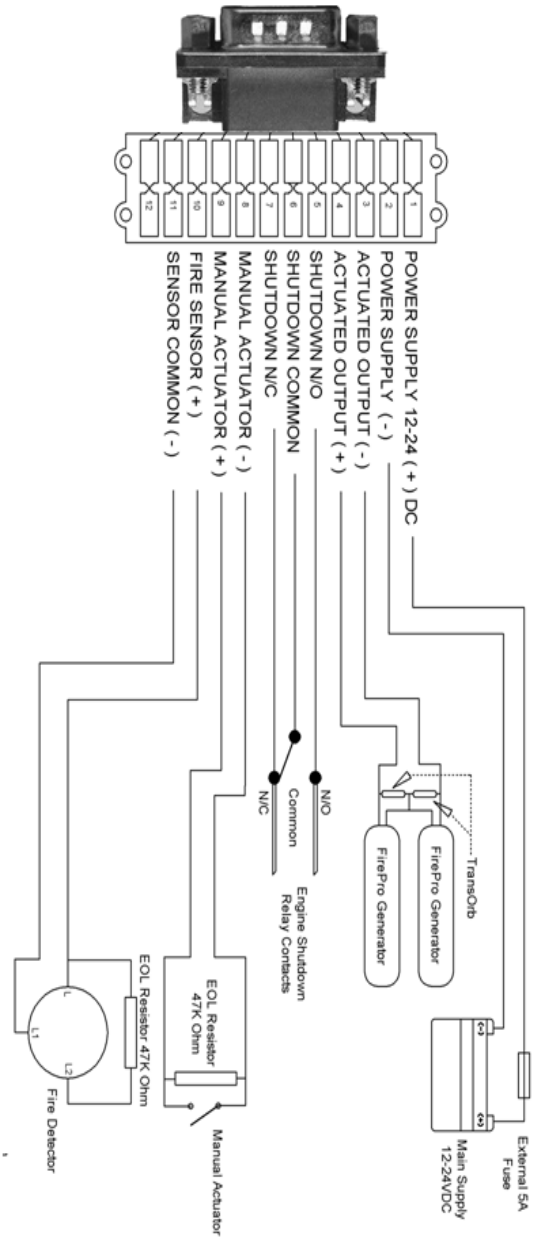


Alarm connects to Junction Box using 2meter D-Sub type connector cable

See junction box wiring diagram for connection of power and devices.

Electrical Diagram – Junction Box

- For more than 4 Generators, please consult your FirePro Distributor.
- To be ordered with Panel for Multiple Generators (5 +)



Step 1

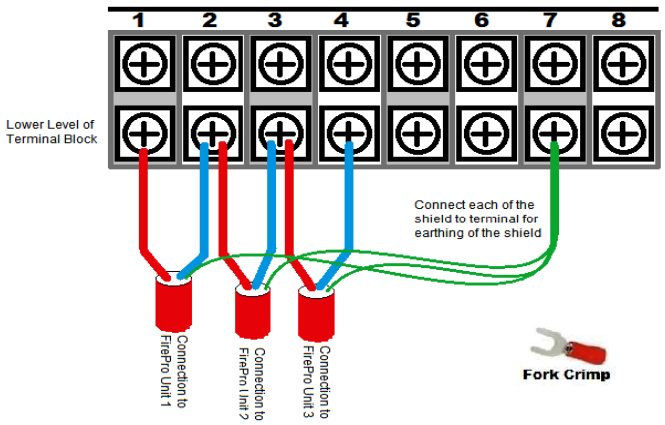
The Junction Box is used in ALL INSTALLATIONS. Using the Junction Box means that all testing is done here rather than a technician needing to open the Control panel – all testing is done here.

Locate the Junction box in a easily **accessible location**. This is where testing takes place.

Connect the Cables for the Individual FirePro Units. Note that these connections are in series and polarity is not relevant here.

Connect the shielding to a separate Terminal These are earthed in the control panel.

USE FORK CRIMPS for these connections

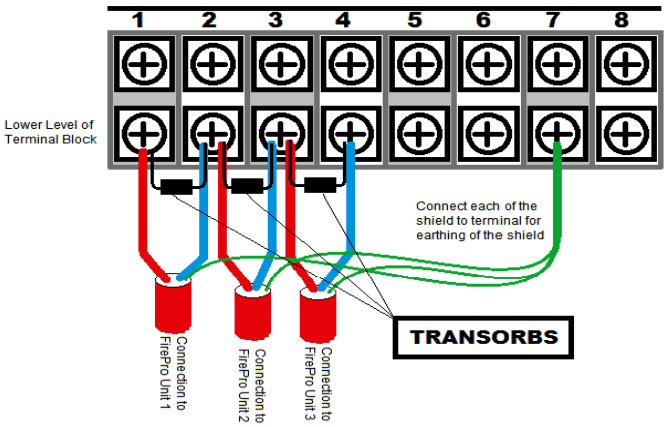


Step 2

Connect the Transorbs as shown.

The Transorbs guarantees that power will be delivered to the FirePro unit during activation.

Transorbs are ONLY used when there is more than one FirePro unit in the installation.

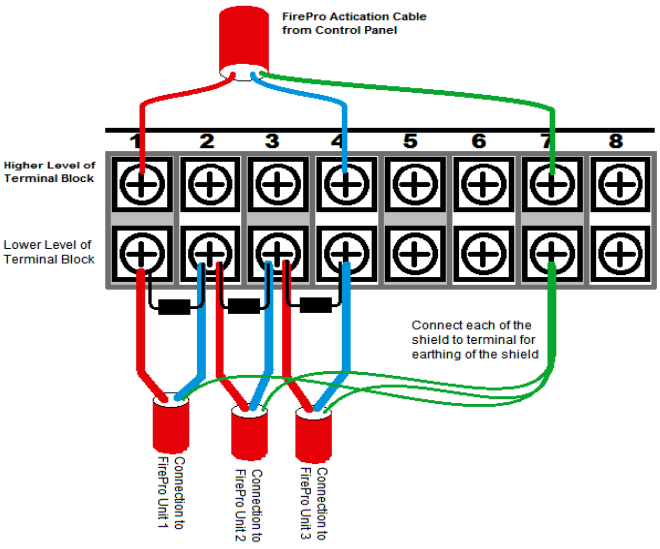


Step 3

Connect the FirePro Activation Cable from the Control Panel, as shown.

The shielding from the individual FirePro to the shielding from the panel. This is earthed in the control panel to ensure that any RF current picked by the cable network does not interfere with the operation of the system.

Use the UPPER level of the terminal strip as these connections will need to be disconnected during testing. All other connections should not be touched.



Resetting the FIP alarm after actuation

In compliance with AS5062, The FIP alarm will latch in the fire detected mode and the shutdown function will also remain latched. This may only be reset after the use of a tool. The face of the alarm is removed after unscrewing the four plastic Phillips style screws. Inside there is a white reset button. One press of this will reset the alarm.

Extension Leads (FP-9550) are available for lengths up to 10 metres and will be made to order. Connections between the extension lead and the control cable must be contained in a junction box that will be provided. (Part # do not Match, and a ref to the standard length supplied with Part # 3.10.101K)

Fire Pro Aerosol Alarm Panel Kit includes: -

- Fire Pro Aerosol Alarm Panel - 3.10.003
- Junction Box 12 Assembly

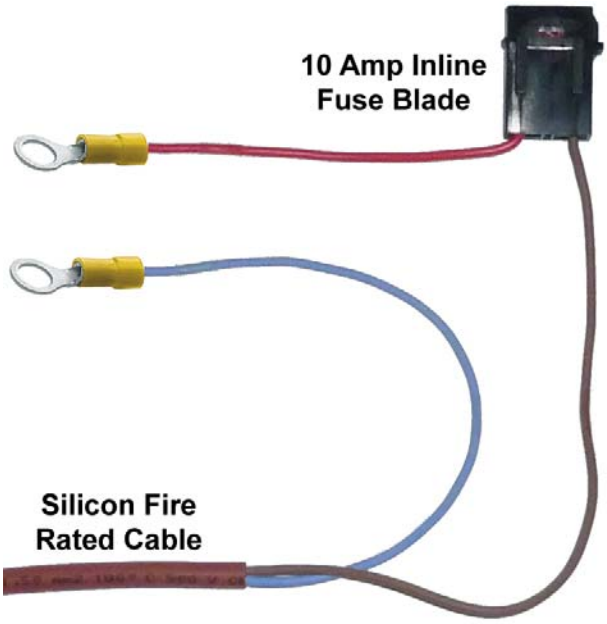
Part#

3.10.101K	**Fire Pro Aerosol Alarm Panel Kit**
3.20.005	**Junction Box 12 Terminal Strip**
3.20.001	**Empty Junction Box**
3.50.006	**12 Core Radio Frequency Shielded cable (MT)**
3.10.003	**Indicating Panel Install Software**
3.20.205	**Fire Pro Aerosol Commissioning Module**
3.10.003	**Fire Pro Aerosol Alarm Panel**
3.70.101	**72 Hr. Nickel Hydride rechargeable Batteries**
3.70.001	**Data Logging System Lithium Cell**
3.60.001	**Alarm mounting bracket**
On Application	**Junction Box for multiple Aerosol generators.**
On Application	**Extended 12 Core Cable (Nominate Length) up to 10 mts**

Optional Battery Connection Cable

Part#

3.50.011	**Battery connection cable 2 meters**
3.50.012	**Battery connection cable 3 meters**
3.50.013	**Battery connection cable 4 meters**
3.50.014	**Battery connection cable 5 meters**



Optional Stainless Steel Swivel Mount

Part#

3.60.001	**Bracket Stainless Steel Swivel.**

Specifications

- Operating Voltage: 12 -30 Volt DC
- Stand by Current: 10mA @24 Volt - 5mA on battery backup

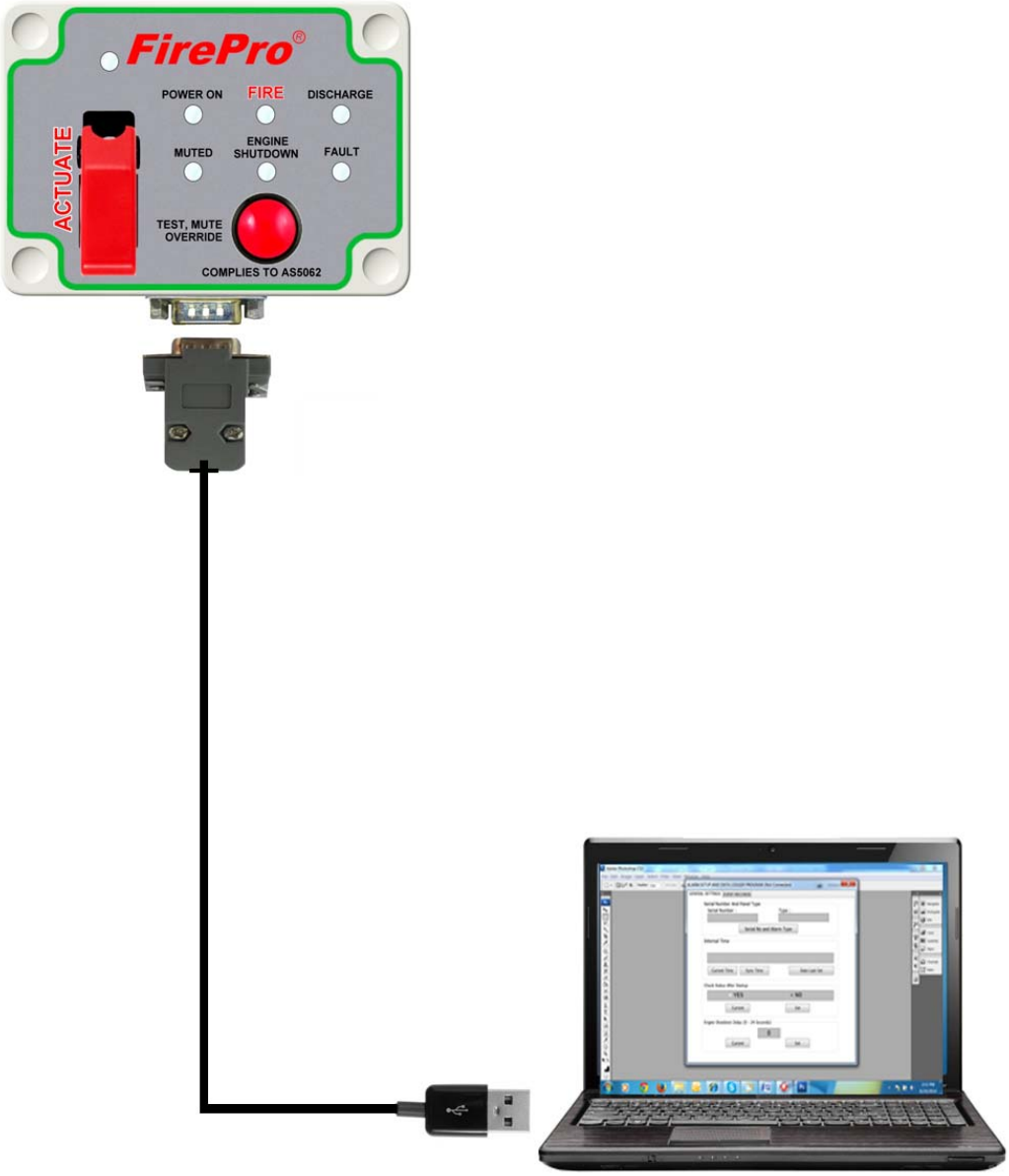
- Mechanical Specification
  Dimension Length: 112mm Width: 80mm Height: 45mm
  Bracket Dimension: Length: mm Width: mm Height: mm

- Alarm Sounder: 85 dB @ 1Meter.
- Fire Detection: Any fire detector with normally open contact use 47K EOL resistor.
- Low Pressure Detection: Any low pressure sensor with normally open contact use 47K EOL resistor.
- Actuation out: 12VDC with max 1 A Current
- Engine Shutdown Contact: Common, N/O and N/C with max 3 A current rating. Detector is for monitoring the risk locations. Maximum Number of Detectors is 2. In accordance with the manufacturer's instructions and a 47k end of line resistor fitted to the last detector in each circuit.
- The firing circuit can activate up to 4 FirePro extinguishers. To ensure correct operation they MUST be installed in series and a suitable Tranzorb fitted directly across each FirePro unit.
- When the FirePro circuit is intact the LED will be green. If the circuit is open or short to ground the LED will flash on and off until the problem is resolved.
- When a detector goes into alarm the Red LED will light. The red FIRE LED will light. The local sounder will commence beeping and the remote sounder will be powered.
- During either a fire or fault alarm, the single button on the FIP alarm face can be used to mute the alarm. The Mute LED will illuminate to confirm it is in muted mode.
- The Actuation missile switch may be pressed at any time. This will activate both the alarm functions and electrically actuate any FirePro aerosol units connected to the system.
- There may be a delay of up to 4 seconds during which time if the Discharge button is released the system will go back to normal. After holding for 4 seconds the FirePro aerosol units to commence discharge.

Optional FIB Firmware Version Notes Type 3.10.003

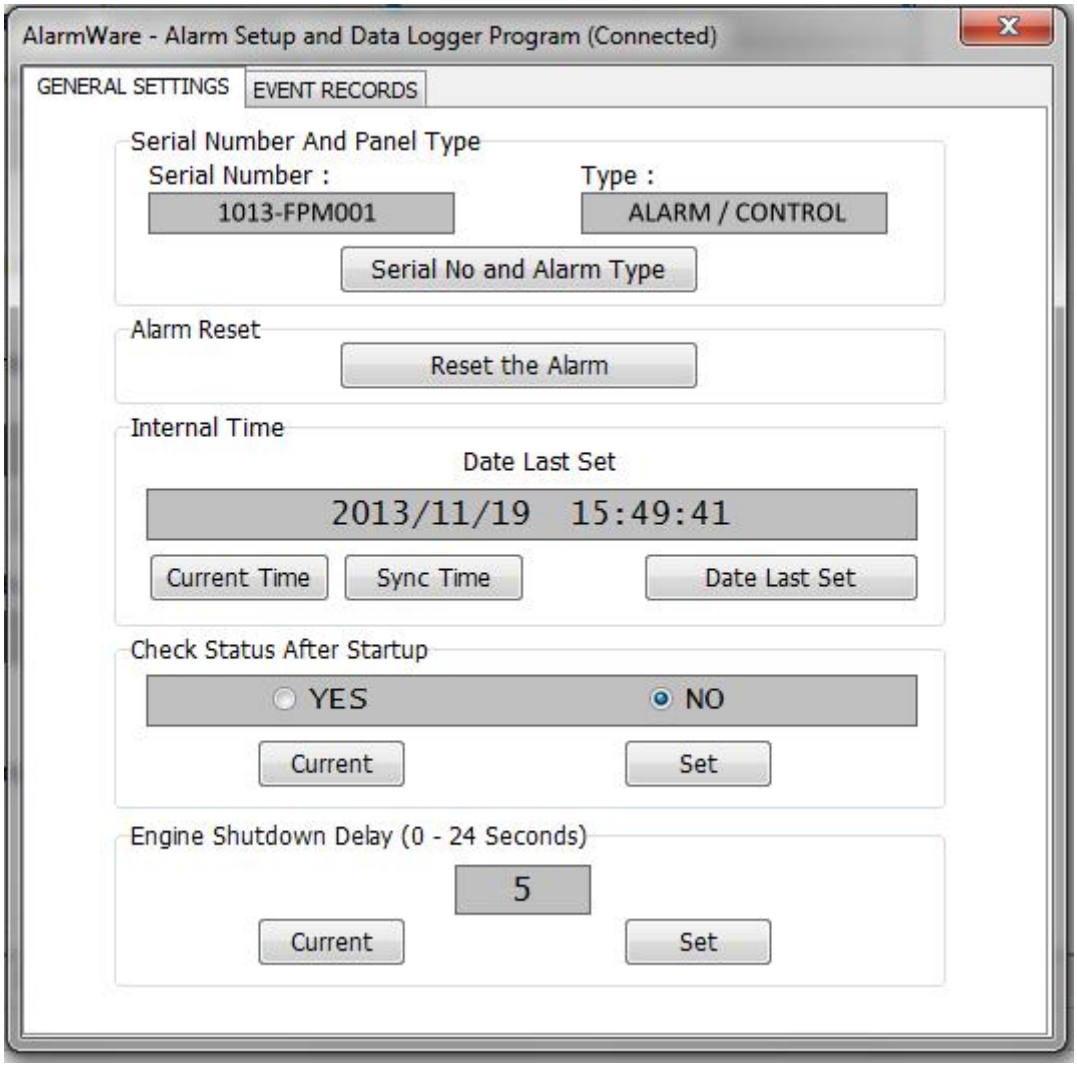
The FirePro alarm is manufactured with intelligent software built in. It is factory set with default operating parameters. This feature allows some operating parameters to be changed. It also incorporates an event logger that can be viewed and have data extracted to a PDF format report. Customers or servicing personnel may buy the Firmware kit which includes software and a special USB connection to allow programming on a standard Windows based laptop computers.

The diagram below shows the simple connection arrangement. The cable to the junction box is temporarily disconnected and the alarm firmware cable shown, is used to temporarily connect to the alarm panel during reprogramming or viewing and reporting data.



ALARM PROGRAMMING SOFTWARE & COMPUTER CONNECTION -PART 3.100.003

The Alarm software is used by a trained installation or maintenance technician and has 2 main functions: Firstly to manage the event records of the alarm. Secondly to set time and programmable shutdown delay. The Alarm software works on popular Windows™ environments from XP to version 7. Approximately 20MB of hard drive space is needed.



The features of the AlarmWare are:

- Setting up the alarm panel to record time and date event logging.
- Checking serial number and alarm type.
- Resetting the alarm.
- Checking the event record and printing if required.
- Setting optional start up test function on the alarm.

There alarm settings that may be programmed with AlarmWare are, Engine shutdown delay time, local alarm date and time and automatic self-test setting.

Installation

1. Run the installation program AW_Setup.exe.
2. Specify setup destination folder.
3. Wait until setup process is finished. Click “Finish” button to close installation program.
4. Plug the USB cable into a computer, Windows will install driver for USB cable automatically. Allow the installation process to finish.

Before Programming Process

1. Plug USB cable to computer.
2. Run the AlarmWare program from computer desktop and make sure “Connected” displays at the top of the screen. This indicates that the connecting cable is correctly installed.
3. Plug the USB cable to the alarm.
4. Perform checks by processes by pressing the “Serial No and alarm type” button. The software will respond by displaying the serial number and alarm type on the screen.

Button Function – GENERAL SETTINGS (see example above)

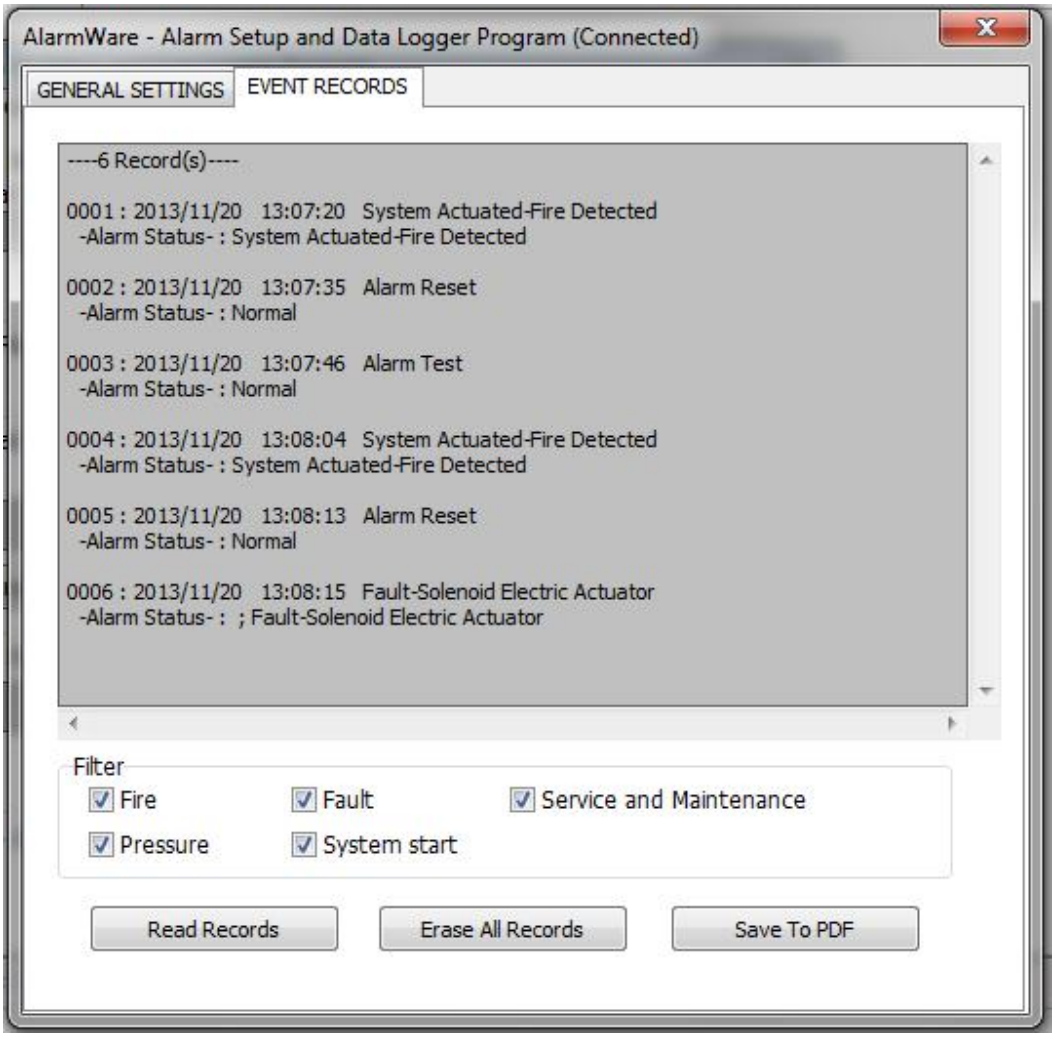
1. Serial No and alarm type : To display serial number and type of the Alarm
2. Current Time: To get alarm local date and time from the connected computer.
3. Sync Time: To synchronize alarm local date and time with connected computer.
4. Date Last Set: To display last alarm local date and time sync as per 3. Above. N.B if Syn Time is used, the previous sync details are erased.
5. Current (Check status after start up) : Displays current alarm automatic self-test (yes or no).
6. Set (Check status after start up): To re- set alarm automatic self-test (yes or no).
7. Current (Engine Shutdown Delay): display current engine shutdown delay time.
8. Set (Engine Shutdown Delay): To re-set engine shutdown delay time (0 to 24 seconds).
9. Read Record.

Button Function – EVENT RECORDS (See example below)

1. Click the filter boxes at bottom screen to define data required.
   Default setting- all buttons clicked.
2. Read Records: Will display all events according to the filter options selected
3. Erase all records: Will Erase ALL event records on alarm memory. WARNING. These records cannot be recovered. Consider printing current memory to PDF before erasing.
4. Save To PDF: Will create a PDF format file of the events currently on display after filtering.

EVENT LOGGER

Below is an example of the event logger and the data it can provide. Note “Connected” displays at top screen indicating a successful cable connection installation.



Commissioning and Maintenance

Manual Alarm Self-Test

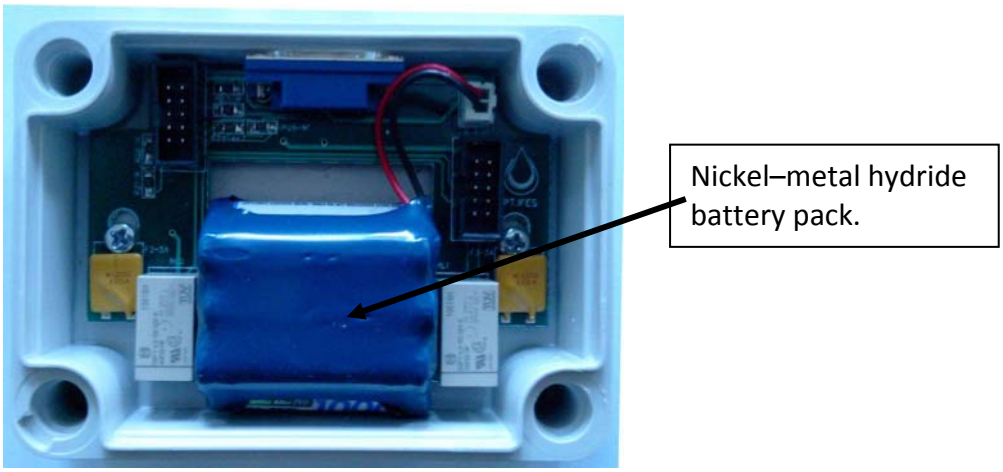
Manual Testing of the alarm should be carried out at all periodic inspections. This is done by pressing and holding the "Test" button for 6 seconds. The alarm will enter self-test mode. During the self-test cycle, all functions will operate normally on the basis that the system has detected fire or a manual actuation has occurred. During a test, the alarm will not send an actuation signal to discharge the FirePro system as the process is just an alarm test. The engine shutdown function will operate, however it will not latch such that the internal reset must be accessed by the use of a tool. A simple press of the test button will reset the alarm back to normal after a manual test.

Automatic Alarm Self-Test

This optional feature can be activated using the software. When a machine is turned on, the IFES alarm will perform self-test as part of a pre-start check. The engine should not be started until this is completed because the shutdown function will operate.

Internal Battery Pack

The Nickel–metal hydride battery pack shall be replaced annually during the annual periodic test and inspection. Simply unplug the old unit and replace and plug in the new unit. Dates of replacement must be recorded in service records. See diagram below.



Battery for circuit board event logger memory

The upper circuit board event logger memory battery shall be replaced annually during the annual periodic test and inspection. Simply unclip the old unit and replace with the new unit. Dates of replacement must be recorded in service records. See diagram below. WARNING Battery replacement will cause all current memory to be lost, and date and time functions will need to be reset using the alarmware. It is recommended that existing data be saved to a PDF file before changing this battery.