ProPoint 1 and 2

Aspirating Smoke Detection Systems

INSTALLATION, COMMISSIONING AND MAINTENANCE MANUAL

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1.0 ProPoint System Overview

The main features of the ProPoint Aspirating Smoke Detector are:

- One and two detector, 3000 and 6000 protocol devices available.
- Two clean contact changeover programmable outputs per ProPoint.
- Single fault relay changeover contacts per ProPoint.
- Airflow monitoring per channel.
- Variable blower speed control.
- Integral LCD display for fault reporting and ease of setup.
- Built-in loop isolator removes need for external loop isolators.

Note: Due to a policy of continuous improvement Protec Fire Detection PLC reserve the right to alter the specification without prior notice.

2.0 Important Notes – PLEASE READ

- **THE PROPOINT AND ITS ASSOCIATED CONNECTIONS MUST BE INSTALLED, COMMISSIONED AND MAINTAINED BY A SUITABLY SKILLED AND COMPETENT PERSON.**
- **THIS EQUIPMENT MUST BE EARTHED.**
- **THIS EQUIPMENT IS NOT GUARANTEED UNLESS INSTALLED AND COMMISSIONED IN ACCORDANCE WITH CURRENT NATIONAL STANDARDS.**
- **CE THIS EQUIPMENT HAS BEEN DESIGNED AND MANUFACTURED TO CONFORM WITH THE REQUIREMENTS OF ALL APPLICABLE EU COUNCIL DIRECTIVES.**
- **THIS MANUAL MUST BE THOROUGHLY READ AND UNDERSTOOD BEFORE INSTALLATION AND COMMISSIONING OF THIS EQUIPMENT IS UNDERTAKEN.**

3.0 Installation

The ProPoint circuit boards are housed in a plastic enclosure.

The panel must be located internally in an area that is not subject to dampness, extremes of temperature or physical abuse. The environmental limits for the unit are given in section 6.0.

To install the unit, remove the front cover and then remove the inner mounting plate, carefully releasing the ribbon connector from the terminal board, which is mounted in the rear of the enclosure. **TAKE CARE WHEN REMOVING THE BOARD THAT THE SWITCHES ON THE RIGHT HAND SIDE OF THE BOARD ARE WITHDRAWN FROM THEIR CUTOUTS**. Mark the mounting positions and then carefully place the unit to one side whilst drilling the mounting holes. Then affix the unit to the mounting surface and connect the sampling pipework. Make suitable connections to the terminal board, as detailed in section 4.0. It is essential that the unit is made as airtight as possible to prevent loss of airflow across the detectors in the ProPoint. Any holes used for connections should be suitably plugged to prevent airflow through them.

Replace the inner plate, making sure that the ribbon connector is correctly engaged in the connector on the terminal board. **ENSURE THAT THE SWITCHES ON THE RIGHT HAND SIDE OF THE BOARD ARE CAREFULLY RELOCATED IN THEIR CORRECT CUTOUTS IN THE ENCLOSURE**. Finally, replace the front cover.

4.0 Connections

All electrical conections are made to the terminal board, located in the rear of the unit.
PLEASE NOTE THAT CABLES CARRYING 240V MUST NOT BE TAKEN INTO THE UNIT.

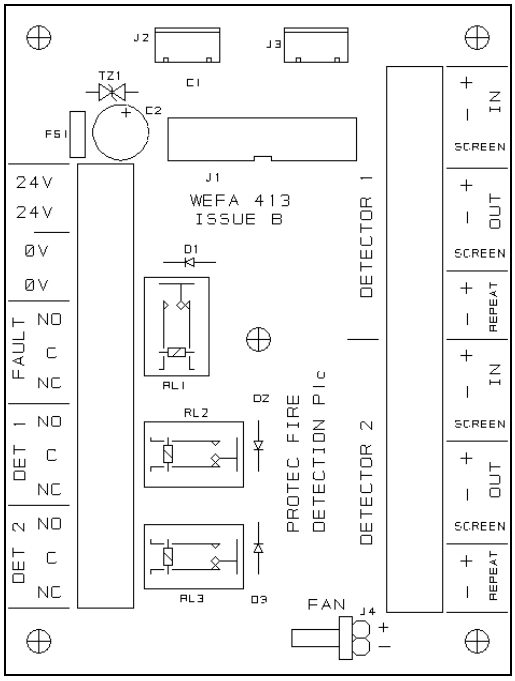


Fig 1 – ProPoint Terminal Board Connections

4.1 Loop Connections

The 6000 loop should be connected into the In and Out connections for Detector 1 on the terminal board. As with all 6000 devices, it is imperative to maintain screen continuity and this can be achieved by terminating the cable screens into the terminal board screen connections provided.

4.2 24V Connections

The ProPoint requires a separate battery backed 24V dc supply for normal operation. This should be terminated into the 24V connections on the terminal board. There is a facility to loop through the connections, but this should not be used to link more than 10 units.

4.3 Clean Contacts

The ProPoint has two programmable sets of changeover contacts for general use. These two outputs have two addresses on the 6000 loop and can be programmed in the same manner as other 6000 output devices. Connections are made to the terminal board for these outputs.

The ProPoint also has changeover fault contacts which will changeover when an airflow fault or 24V supply fault occurs.

4.4 Repeat Outputs

Connections on the terminal board are available for the repeat outputs from the two detectors in the ProPoint. As with standard repeat outputs, these will illuminate when the relevant detector has gone into alarm. It is suitable for driving a standard Protec 6000 repeat LED indicator.

5.0 Pipework

Please contact Protec regarding approved pipework configurations.

6.0 Commissioning

6.1 General

The 6000 ProPoint 1 is seen as a single address on a 6000 loop, whereas the 6000 Propoint 2 is seen as two addresses. This is in addition to any 6000 addresses used for the detectors in the ProPoint unit. Therefore a ProPoint 1 will, in total, occupy 2 addresses and a ProPoint 2 will occupy 4 addresses. If a separate power supply unit is required, this may necessitate a further address for fault monitoring of the power supply.

6.2 Programming

To setup the Propoint for use, it is necessary to set the blower speed, then to allow the airflow to stabilise for a few minutes, and then to accept the current airflow as the nominal value. A fault condition will then occur if the airflow differs by more than 50% of the accepted nominal value.

6.2.1 Accessing the Menu System

Press the Enter button and the ProPoint will prompt you for the security code.

To enter the code, use the Arrow button to scroll through the digits 0 to 9 and then press Enter to accept the digit and to move onto the next digit. After the fourth digit has been successfully entered, the main setup menu will be displayed.

You can now select from any of the displayed menu items bu pressing the Arrow button to move the cursor between selections, and the Enter button to enter that menu.

6.2.2 Setting the Blower Speed

From the main setup menu, select the blower menu. The display will show:

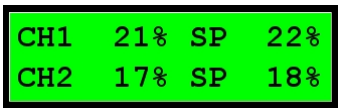
Use the Arrow key to select the required blower speed and then Enter to accept it. The blower speed can be varied from 60% to 100% in 5% increments. The default blower speed is 100%.

6.2.3 Accepting the Current Airflow

After the blower speed has been sent, allow the airflow to stabilise for ten minutes before accepting the current airflow. From the main setup menu, select the airflow menu.

To accept the airflow for channel one (the detector on the left of the Propoint unit), select the Set Ch1 option.

Pressing the Arrow button will exit the menu without setting the nominal airflow. To accept the current airflow for channel one, press the enter button. This will then take you to the display of the current airflows and the corresponding set points (accepted airflows) for each channel.



Press any key to return to the airflow menu. Now setup channel two airflow in a similar manner.

6.2.4 Setting the Airflow Fault Delay

The airflow fault is only accepted after a certain delay, which is selectable from the main airflow menu. From the main airflow menu select the Delay option. This will display the current delay before the aiflow fault occurs.

Pressing the Arrow button will cycle the delay time through 30, 60, 90 and 120 seconds. If the environment is very stable in terms of temperature, then it may be possible to set the delay to 30 sec before a fault is declared. However, if the temperature varies with time, then it may be necessary to increase the fault delay, as the airflow sensors will take time to stabilise if the air temperature changes.

6.2.5 Setting the Number of Detectors

To reduce the number of detectors in a ProPoint 2 from two to one, select Detectors from the main menu.

Then from the resulting menu, select Setup.

The Arrow button will then scroll between one and two detectors installed. Note that changing the number of detectors installed from one to two in a ProPoint 1 will initiate a fault warning, as the second detector will not function correctly.

6.2.6 System Testing

To confirm correct operation of the system, allow smoke to be sampled at the furthest point on each pipe, and ensure that the system reacts within the allowable response time. In general, this will be 120 seconds in the UK.

7.0 Maintenance

Due to the continuous airflow through the ProPoint detectors, they will accumulate dust at a greater rate than a standard detector. As such, they should be cleaned more often than detectors used in a normal still air environment. On an annual basis, the airflow sensors should be cleaned with a soft brush to prevent airflow faults from developing. At the same time, any loose dust should be removed from the unit.

To clean the detectors, remove the front cover and then remove the detectors, carefully identifying the position of each detector. Remove any loose dust and then disassemble the detectors and clean the inside with a suitable brush, paying particular care to the optical chamber. Re-assemble the detectors and replace in their correct positions. Replace the front cover and test the detectors as in section 6.2.6.

To clean the airflow sensors, carefully remove the pipework from the top of the ProPoint and then clean the airflow sensors with a soft, clean brush, being careful not to displace the sensors from their original position. After cleaning, replace the pipework and test that the unit still functions correctly as in section 6.2.6.

8.0 Propoint Technical Specification

Local Power Supply	20 to 28V DC
Power Supply Fuse	0.75A resettable
Local PSU Current Consumption	275mA maximum (blower set to 100%)
Loop Quiescent Power Consumption	6mA
Loop Alarm Power Consumption	6mA
Fault Contacts	Rated at 24V DC 1A maximum
Triggered Contacts	Rated at 24V DC 1A maximum
Temperature Range	0 to 40 ℃
Humidity Limit	85% Non-condensing