CONTROL PCS100

The unit conforms to BS5839 and will provide effective warning of fire for all types and sizes of premises. The control unit is contained in a pressed steel housing. It contains the power supply suitable for an input from a 230± 6% 50 Hz supply and is complete with battery charging circuit. Red indicator lights are energised in the Fire condition. Green indicators illuminate to show that the panel has mains connected. The unit will operate with any type of Normally Open fire sensor, switching a resistance of 200 ohms to 1000 ohms in alarm and up to 20 sensors can be connected in parallel per zone to the two wire FULLY MONITORED fire sensor circuit, subject to a maximum quiescent sensor current of 8mA.
In the fire alarm condition, two sounder output circuits each of 24v DC at 250 mA output are provided for operating remote sounders (sufficient for 20 Photain 6" bells OR 25 Photain sirens). This output will continue until the unit is silenced by the control switches.
NOTE Sounder Circuits are reverse voltage monitored.

PANEL OPERATION

In the event of a fire signal the twin fire alarm LEDS will illuminate, and the twin sounder circuits will activate. If an alarm occurs, the panel cannot be reset until the keyswitch is turned to the silence alarm position.
Operation to the alarm silence position will silence the bell output leaving the fire indication illuminated.

CONTROL KEYSWITCH - FRONT PANEL

A - NORMAL - Standard equipment operating and the position where the key can be inserted/removed In the event of a fault signal the relevant fault indicators will illuminate and the internal buzzer will sound.
B - EVACUATE - In this position the alarm sounders will operate
C - SILENCE ALARM - The alarm sounders and internal buzzer will be silenced.
D - RESET/TEST LAMPS - All indicators will be illuminated and power removed from the sensor circuit to reset any automatic detectors

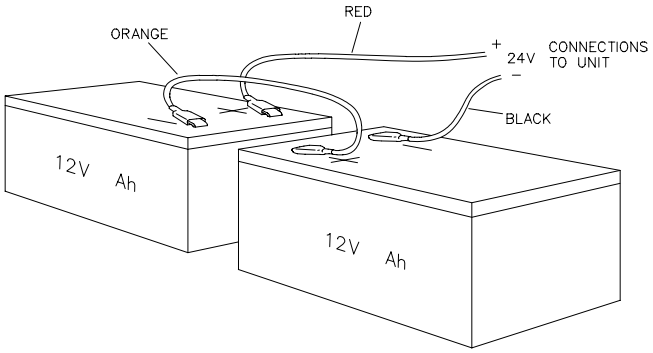
ALARM OUTPUTS

2 - Common Sounder Circuits each monitored for short circuit and open circuit, each capable of a maximum of 250mA 24v DC.

FAULT INDICATIONS The FAULT lights and buzzer will be energised if any of the following faults occur:
1. Failure or disconnection of the mains power supply.
2. Failure or disconnection of the battery charging circuit
3. Failure or disconnection of the standby power supply
4. Failure, disconnection or short circuit of the wiring to the fire sensors
5. Failure, disconnection or short circuit of the wiring to the alarm sounders

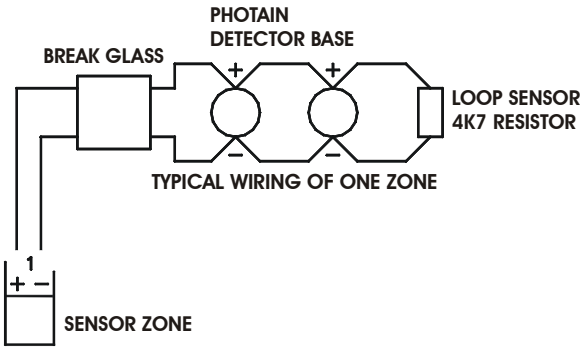
The power supply is rated to operate all the alarm sounders even with the batteries disconnected and will re-charge the batteries to full capacity within 24 hours of the reconnection of the electricity supply. When batteries are initially supplied, they are not fully charged. It is essential that the unit be connected to the mains supply for a period of 24 hours to ensure the batteries are fully charged before putting the system into operation. The leads for the batteries are disconnected during transit and should be connected to the terminals on the batteries before connecting the mains supply. Correct polarity is essential.

BATTERY CONNECTION



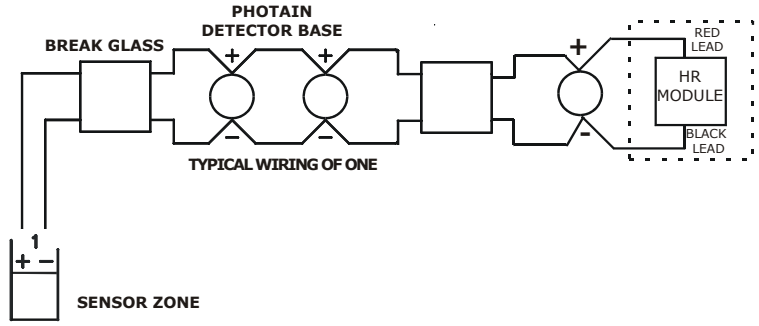
NON-HEAD REMOVAL SYSTEM

The wiring of this system should be in accordance with the appropriate base wiring diagram and a balancing loop sensor 4K7 resistor fitted.

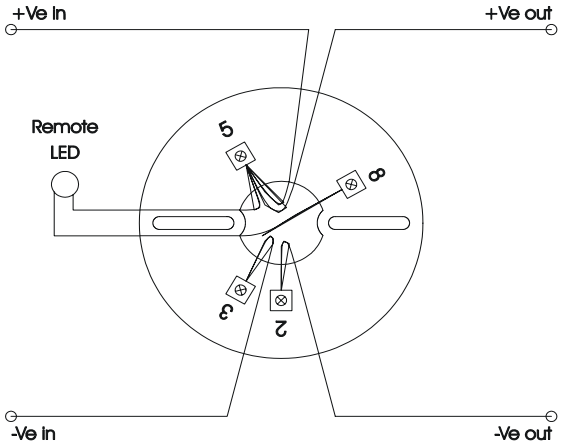


HEAD REMOVAL SYSTEM

The wiring of this system should be in accordance with the appropriate base wiring diagram and a head removal module fitted

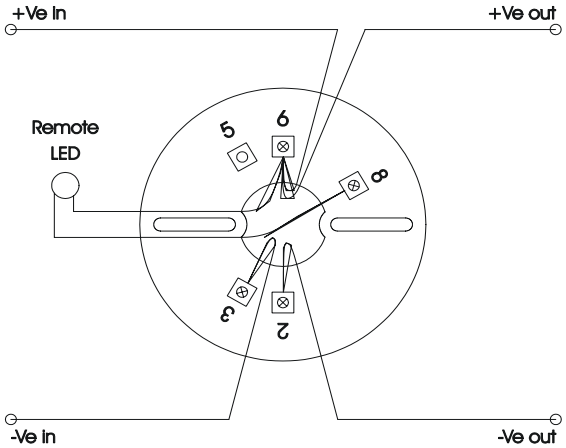


CONNECT BELOW IF PANEL DOES NOT HAVE A HEAD REMOVAL SYSTEM



FIRE SENSOR BASE - FSBP2000

DETECTOR BASE HEAD REMOVAL MONITORING



FIRE SENSOR BASE - FSBP2000DIO
The cable must not be meggared with the base fitted

WIRING
The wiring the control unit and the sensors should be carried out in accordance with BS5839 Part 1. The cable used for the sensors should not be less than 1 mm cross-section area. The sensors must be wired in accordance with the wiring diagram supplied, care being taken to observe correct polarity with the ionization and Optical Smoke Detectors and Heat Detectors.
The smoke detectors should be positioned on the ceiling not more than 10 meters above floor level in an easily accessible, well illuminated and conspicuous position free from obstruction.
The alarm sounders should be diode gated and of a type and number such that the alarm is distinct from the background noise in every part of the premises. The note of the alarm sounders should be quite distinct from any other sounders likely to be heard. It is essential that all sounders of the same kind on a particular installation should produce a similar sound.
Connection of the control panel to the mains supply should be via a switch-fuse reserved solely for the purpose, its cover painted red and labelled 'FIRE ALARM — DO NOT SWITCH OFF'. The supply must be assured at all times even if the supply is switched off due to the premises being unoccupied or for economy in the consumption of power.
All power supplied must be in accordance with current IEE regulations.

OPERATION
With the equipment fitted and wired as described in the instructions, connect the batteries and then the mains supply can be switched ON. In the event of a power supply failure the system will continue to operate using standby batteries and the system will automatically return to the mains supply when this is restored. When any of the sensors operate the alarm bells will ring immediately and will continue ringing until the unit is silenced. If the sensor is still in alarm after turning to the alarm silence and the re-set positions, the alarms will immediately sound again. Failure of the mains supply and/or battery charging circuit will result in the internal buzzer operating.

FAULT FINDING
If the panel indicates a permanent fire or fault condition the following should be carried out:

1. Remove the wiring from the sensor terminals and terminate with a 4K7 ohms resistor.
2. Remove the wiring from the sounder terminals and terminate with 20K ohms resistors.
3. Check the fuses (all 20mm) FS2-200ma, FS3 and FS4-250ma and FS1-1. 6A. Replace if faulty.
4. Turn the keyswitch to the alarm silence then re-set positions.
5. If the Fire or Fault condition persists then return the unit to the manufacturers for repair.
6. If the Fire or Fault condition has cleared then the problem is in the external wiring and/or sensors and these should be checked for short or open circuit condition.

NOTE Care must be taken to isolate the control unit from the mains supply when removing the lid of the control unit. It is recommended that the unit be tested with the resistors connected in the block before connecting the fire sensors and alarm sounders. The resistors should then be removed and the fire sensors and alarm sounders connected to the block with the resistors fitted at the end of the wiring circuit as applicable. Please fit one circuit at a time and test/check for correct operation. In head removal systems, the HR Module should be fitted in place of the resistor.

TERMINATIONS PCS100
A separate 3 way fused terminal block (fused at 1 A) is provided for connecting the mains supply. The termination PCB is complete with:

Sounder Terminations
2 sets common polarized sounder outputs each rated at 250mA.

Remote Evacuation
2 terminals for remote sounder activation. Shorting the terminals together will activate the sounders. The alarm silence switch will not silence the sounders. The common fire relay (IF FITTED) will not activate.

ZONE TERMINATIONS

These are 2 terminals for connection of sensor circuits (+ and **-).**
The main control PCB is fitted with a header link. If the header is fitted then a short circuit of the zone will cause an alarm condition instead of a fault condition. This feature is useful where the panel is to replace an installation using normally open Break Glass Units which go short circuit in alarm condition.

OPTIONAL RELAY - TYPE FARM

This provides an output in a fire condition of two sets of changeover contacts rated 250v AC 3A resistive load. It is connected to the 3 pin connector PL1 labelled Fire/FLT on the main PCB. The F.A.R.M. board is supplied with plastic spacers and a cable connector.

OPTIONAL FIRE/FAULT OUTPUT PCB - TYPE FIREFAULT

This provides the following outputs:

a) 1 set of volt free change over contacts rated at 24v 1 amp resistive load switched on in alarm condition.

b) 1 set of volt free change over contacts rated at 24v 1 amp resistive load switched off in fault condition.

c) 1 combined 2 way fire/fault output with end of line resistor 4K7 fitted and alarm series resistor of 680 ohms.

The PCB is supplied with plastic spacers and cable connectors. It is connected to PL1 on the main PCB