

CONTROL PANEL 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 240v \pm 6% 50Hz supply and is complete with battery charging circuit. Red indicator lights are energised in the Fire Condition. A Green indicator light illuminates to show that the panel has mains connected.

The unit will operate with any type of Normally Open fire sensor, switching a resistance of between 200 and 1000 ohms in alarm. Up to 20 sensors can be connected in parallel per zone to the two wire FULLY MONITORED fire sensor circuits, subject to a maximum quiescent current of 8mA per zone.

In the fire alarm condition, two sounder output circuits each of 24vDC at 1A output are provided for operating remote sounders (sufficient for 20 Photain 6" bells or 25 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 appropriate zone LED will illuminate, the common alarm LED will illuminate and the twin sounder circuits will activate.

If an alarm occurs, the panel cannot be reset until the alarm silence switch has been operated.

Operation of the alarm silence switch will silence the bell output leaving the zone indication illuminated.

Activation of another zone will cause the alarm sounders to re-activate.

In the event of a fault signal the common fault indicator will illuminate and the internal buzzer will sound. Should the fault be on a zone circuit, the appropriate zone indicator will illuminate. A power supply fault or sounder fault will illuminate the appropriate LED. The buzzer can be silenced by pressing the Alarm Silence push button.

CONTROL SWITCH – FRONT PANEL

A – Keyswitch to enable control functions

B – Switch labelled Alarm Silence to silence the alarm sounders and the internal buzzer.

C – Switch labelled Reset to reset the panel after the alarm sounders have been silenced.

D – Switch labelled Evacuate which will activate the alarm sounders.

E – Switch labelled Lamp Test to illuminate all indicators on the front panel.

ALARM OUTPUTS

2 – Common Sounder Circuits each monitored for short circuit and open circuit and each capable of a maximum load of 1A 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 alarm sounders.

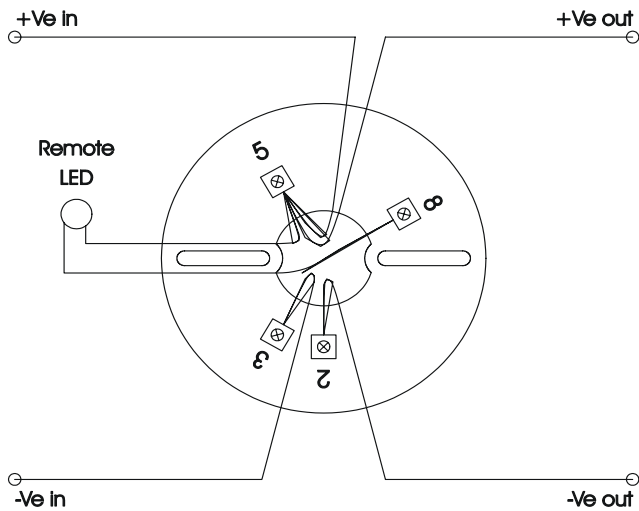
The power supply is rated to operate all the alarm sounders even with batteries disconnected and will re-charge the batteries to full capacity within 24 hours of the reconnection of the electricity supply.

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 in operation. The leads for the battery should be connected to the terminals on the batteries before connecting the mains supply. Correct polarity is essential.

DETECTORS All sensor loops are monitored for short circuit and therefore all detectors must have a minimum resistive alarm load of 200 ohms . Break Glass Call Points must be fitted internally with a 680ohm 1 watt resistor. Photain detector bases should be wired in accordance with base drawings on these instructions. These instructions refer to Photain System 2000 conventional detector range. For previous ranges, please contact technical support on 01903 711444 or Email: technical@photaincontrols.plc.uk

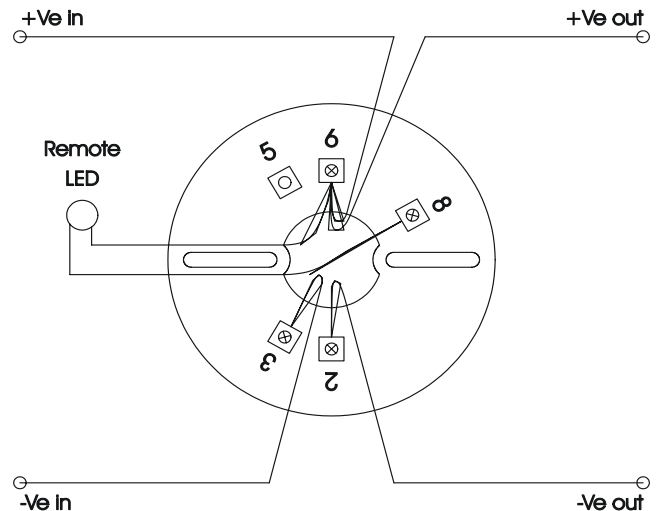
INSTALLATION & OPERATING INSTRUCTIONS

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

LOOP SENSOR This is a balancing 4K7 ohms resistor. It is fitted at the end of each sensor loop circuit. Breaking the loop circuit wiring activates a fault condition.

WIRING The wiring between the control unit and the sensors should be carried out in accordance with BS5839 Part1. The cable used for the sensors should not be less than 1mm cross-section area. The sensor must be wired in accordance with the wiring diagram supplied, care being taken to observe correct polarity with the ionisation and Optical Smoke Detectors and Heat Detectors.

The smoke detectors should be positioned on the ceiling not more than 10 metres above floor level at an easily accessible, well illuminated and conspicuous position free from obstruction.

The alarm sounders should be diode gated (all Photain bells and sirens are 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 sounders will ring immediately and will continue to sound until the unit is silenced. If the sensor is still in alarm after operating the alarm silence and the reset switches, the alarm will immediately resound. Failure of the mains supply and/or the 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 4k7 resistors.
2. Remove the wiring from the sounder terminals and terminate with 20k resistors.
3. Check the fuses (all 20mm) FS1 & FS2 – 1A, FS3 – 200mA and FS4 –3.15A. Replace if faulty.
4. Operate alarm silence and then the reset switch.
5. If the fire or fault condition persists then return the unit to the manufacturer 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

**INSTALLATION & OPERATING INSTRUCTIONS
PCS800/PCS800HR**

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.

TERMINATIONS

A separate three way fused terminal block (fused at 1 amp) is provided for connecting the mains supply.

Sounder Terminations – Two sets of common polarised sounder outputs each rated at 1A.

Remote Evacuation – Two 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 two terminals per zone for connection of sensor circuits (+ & -)

The zone pcb on the lid is fitted with eight header points. If the headers are 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.

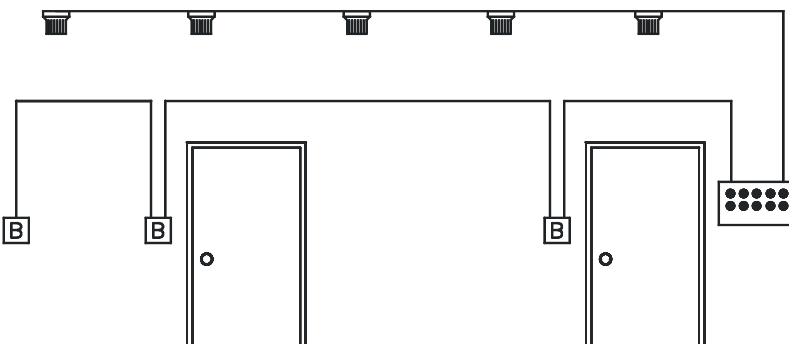
PANELS WITH SUFFIX – HR The panel is equipped with a head removal detection system (**only for use with compatible sensor devices**) and the following faults can occur from each zone.

- a). Short circuit fault
- b). Open circuit fault
- c). Head removed from zone fault.

BS5839: Part 1 : 1988 (6.6.2) – Amendment 6317 January 1991

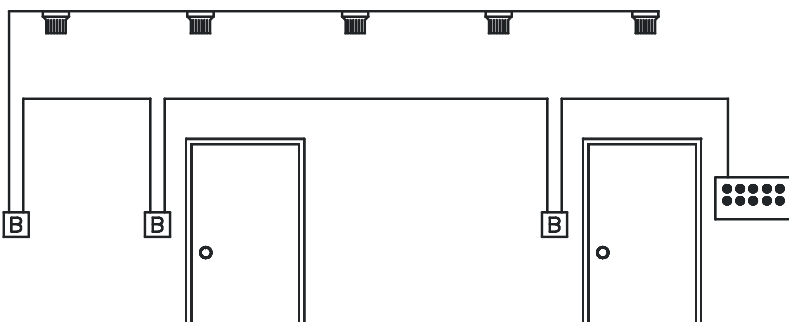
“Where detectors are designed to be removable from the circuit, removal of any Detector from the circuit should not affect the operation of any manual call point”

The following three types of wiring can be used to meet the Head Removal requirements of BS5839



TYPE 1

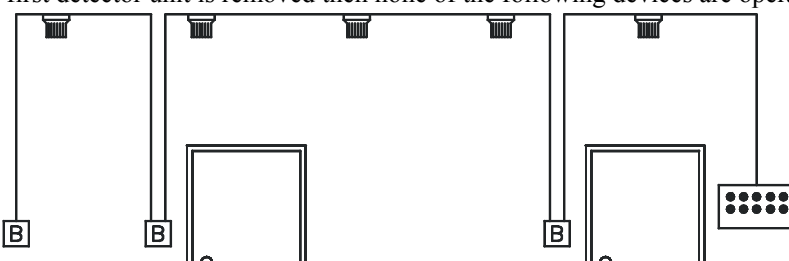
This shows all manual call points wired on one zone and all smoke and heat detectors wired onto a separate zone.



TYPE 2

With this design of wiring system all devices are wired onto the same zone but all manual call points must be wired in front of all automatic devices.

Wiring Types 1 & 2 will increase the amount of cable required, therefore raising the cost of the installation. In addition if the first detector unit is removed then none of the following devices are operative. This restriction does not apply to Type 3 below.



TYPE 3

Utilising the Photain head removal system, smoke, heat and manual call points can be wired in any order using a two core detector circuit.

Marking of Zone Location The panel is supplied with a permanent marker pen, which is only removable, by a trichloroethane solvent.

OPTIONAL RELAY – TYPE FARM This relay provides an output in the fire condition of two sets of changeover contacts rated at 250v AC 3A resistive load. It is connected to the three pin connector PL1 labelled Fire/Flt on the main pcb. The FARM board is supplied with an installation kit for fitting.

OPTIONAL FIRE/FAULT OUTPUT PCB – TYPE FIREFAULT This provided the following outputs:-

1. One set of volt free changeover contacts rated at 24v 1A resistive load switched on alarm condition.
 2. One set of volt free changeover contacts rated at 24v 1A resistive load switched off in fault condition.
 3. One 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 an installation kit.

If either a FARM or FIREFAULT is fitted then the link A/B on the control board becomes active.
 If fitted in Link A the Fire Relay operates on a fire condition only.
 If fitted in Link B the Fire Relay operates on both a fire condition and when the evacuate button is pressed.
 If not fitted, the Fire Relay will not energise in any condition.

OPTIONAL REPEATER OUTPUT PCB – TYPE PCS8RTERMPCB This pcb provides an output per zone together with a common fault output for connection to a remote repeater panel type – PCSR8Z.

OPTIONAL RELAY OUTPUT PCB – TYPE RP8 This pcb is fitted with 8 relays each rated at 250v 3A resistive load. The relays can be configured to give either a relay output per zone or alternatively for 8 common relays from any alarm by selectable link

OPTIONAL SOUNDER OUTPUT PCB – TYPE SP8PCB This pcb is fitted with 8 sounder circuits each rated at 500mA but unless a special power supply has been ordered, the maximum current available for sounders is a total of 500mA. The pcb is fitted with a three way header which can be used to select the required operating sequence.

- Sequence A – Zonal sounder operation i.e. zone two in alarm then sounder two operate.
- Sequence B – Common sounder operation i.e. all sounders switch on from any zone
- Sequence C – Sounder per zone, zone in alarm respective sounder continuous, all other sounders intermittent.

Input Supply 220v ±6%

To change to 220v Operation

1. Ensure the panel is totally isolated from the mains electricity supply and that the battery is disconnected.
2. Remove the sliding door cover over the brown and blue cable of the transformer to expose the soldered connections.
3. Remove the brown wire from its solder tag and re-solder to the spare solder tag.
4. Replace the sliding cover and connect the mains supply.
5. Use a voltmeter across the battery wires and check for 28v ± 0.1; adjust RV1 if required.
6. Connect battery taking care to observe correct polarity.

