

# MINIMU Miniature End of Line Monitoring Unit

## USER INSTRUCTIONS

These instructions are for the MINIMU Miniature End of Line Monitoring Unit when used with the C-TEC range of Fire Alarm Control Panels. For use with other manufacturers panels, please consult your dealer.

The Fire Alarm system must be powered down during the installation and modification.

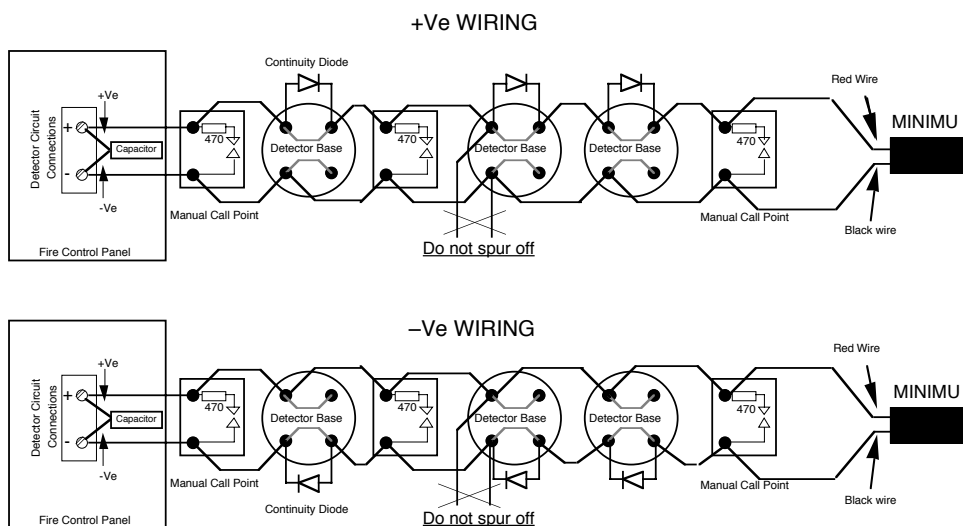
The following arrangements must be implemented for every detector circuit on the fire alarm system:

- The Detectors and Manual Call Points should be both positioned and have their cables run conventionally (see Typical System Diagrams below.)
- The MINIMU substitutes for a conventional End of Line Resistor, i.e. it is fitted as the last component at the end of the Detector circuit.

### TYPICAL SYSTEM DIAGRAMS

To complement the MINIMU, each detector base (with the exception of manual call points) must be fitted with a Schottky continuity diode (BYV10-60 or equivalent) in the positive or negative feed. Some Detector bases have this as a standard fitting. When the Detector is in place the diode must be shorted out.

Important note: The -Ve diode arrangement isn't suitable for three wire systems where the -Ve conductor is used for the sounder circuit and the detector circuit.



### CAPACITOR

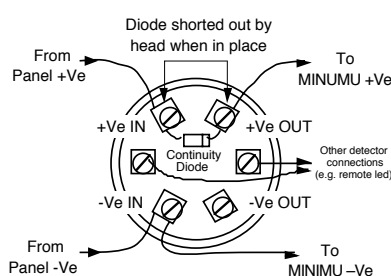
The Capacitor must be fitted to the connector block at the Control Panel end of the detector circuit. Great care must be taken to ensure the Capacitor is inserted correctly (refer to the Capacitors negative and positive markings).

### TYPICAL DETECTOR BASE WIRING

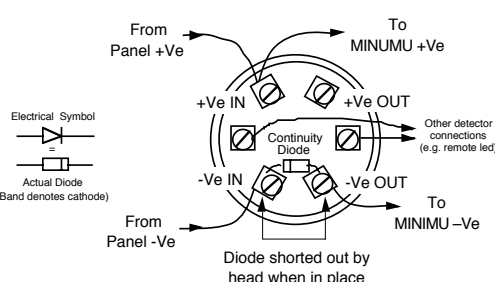
Consult the Detector manufacturers instructions for exact connections.

Schottky Diodes are not included and are available in packs of 10 as a separate item (Part No. BF379).

TYPICAL DETECTOR BASE IN +Ve WIRING



TYPICAL DETECTOR BASE IN -Ve WIRING



**See detector manufacturers instructions for more detail**

## **OPERATION**

- Removal of any head(s) causes a continuous open circuit fault at the control panel.
- When all heads are in circuit again the MINIMU returns to the normal state, automatically restoring the detector circuit monitoring current.
- If either an open or short circuit wiring fault occurs, the respective fault leds show at the control panel.
- In a fire condition on the detector circuit ,the panel will go into alarm as normal.
- When the Control Panel reset is activated the control panel may show a momentary open circuit fault.

## **MAXIMUM NUMBER OF DETECTOR HEADS**

Factors determining the number of heads that can be used on any MINIMU terminated detector circuit:

1/ The total quiescent current of the heads. For correct operation the total head quiescent current must be less than 1.3mA.

2/ The absolute maximum number of heads is 20 (Check compliance with factor 1 above ) If this number is exceeded, and all the detector heads are removed, an Alarm response at the Control Panel cannot be guaranteed from every Manual Call Point on the detector circuit.

## **MINIMU SYSTEM MALFUNCTIONS**

### **NORMAL CONDITION**

#### Panel in continuous fault

- 1/ Capacitor not fitted or failed.
- 2/ Head not shorting out base diode.
- 3/ Cable run high resistance (faulty or too long). Max 60Ω.
- 4/ Open or Short circuit wiring fault.
- 5/ MINIMU fitted wrong way round (Panel short circ. fault).
- 6/ Capacitor fitted wrong way round (Panel short circ. fault).
- 7/ Faulty MINIMU.

### **HEAD REMOVED CONDITION**

#### No panel fault

- 1/ Total quiescent current of heads too high.

#### Panel fault - no response from call points after removed detector

- 1/ Continuity diode in removed detector base missing or fitted the wrong way round.

#### Panel in fault - no response from furthest Call points

- 1/ Too many heads removed and/or incorrect continuity diodes fitted.

## **ELECTRONIC MONITOR UNIT SPECIFICATION**

Detector removal to fault time: 2 Seconds (Max).

Recover from fault time: 2.5 - 4.0 Seconds.

Reverse protection MINIMU and Panel Module : By Inverse Diode (250mA Max.)

PCB size : 50mm x 25mm x 11mm.

Max. Cable length : 300 metres (Resistance < 60Ω ).

Temp Range : 0° to +55°C.