
Concept 2-4 Zone Operating Instructions

Normal operation.

The green power LED is on, all other LEDs are off. In the normal mode, the buttons are disabled to prevent operation by unauthorised people. To operate the buttons, the enable key has to be turned clockwise.

Fire Condition.

The red LEDs are on for zone 1 or zone 2 if a fire condition has occurred on these zones, together with the common fire LED. If the evacuate button has been pressed or the remote evacuate lines have been activated, only the common fire LEDs will be on. In the fire condition all fault signals are suppressed and the fire relay is operated.

Silencing the panel.

If the panel has been in the fire condition, operation of the silence button causes the sounders to stop sounding and the common fire LED to flash to indicate that the panel has been silenced, the internal buzzer will pulse. If the panel has been showing a fault with the buzzer pulsing, operation of the silence button causes the buzzer to silence.

Reset.

Operation of the reset button causes the panel to reset the relay and any fire indicators, (red LEDs), and the detectors. If a fire condition is still present on a call point or a detector, resetting the panel will cause the sounders to resound. The panel should not be reset until the reason for the fire condition has been established, i.e. a red LED on the detector operated, or a broken glass on the call point.

Zone faults.

Zones are monitored for open circuit, showing a flashing zone LED, and the LED of either zone 1 or zone 2. A short circuit is indicated by a constant zone LED together with the LED of zone 1 or zone 2. A blown detector fuse is shown by zone 1 or zone 2 flashing LED. This is only monitored every 25 seconds.

A blown detector fuse does not prevent the panel from showing a zone in fire, but does prevent operation of the 2-wire sounders.

Detector head removal. By using detector bases fitted with schotky diodes, the detectors can be monitored for removal. This will be shown as the detector LED on together with zone 1 or zone 2 LED for which the detector has been removed. This is only monitored every 25 seconds.

ARW

This indicator is illuminated when the panel is first turned on, and goes out when the panel is reset. This LED should not appear again while the panel is in operation, unless a malfunction has occurred. The indicator shows that the processor has automatically reset to the beginning of its program.

Power Faults.

A battery fault is indicated by the yellow power LED flashing. A mains or charger failure is shown by a constant yellow power LED.

Common Fault.

The common fault LED will come on for any fault or isolation, together with the common fault relay, and pulsing buzzer. The buzzer can be silenced by pressing silence.

Pre 1988 mode.

Link 1 can be used to set normal or pre-1988 mode. In the rightmost position the panel is in normal mode. In the leftmost position the panel is set to pre 1988, i.e. a short circuit on the zone causes the fire condition. In this mode, the zonal fuses are not monitored, the zonal sounders will not operate, and head removal is suppressed.

Repeater output.

The repeater connections are provided to operate a repeater panel. These are zone 1, zone 2, common fire, common fault and buzzer outputs, which are active 0 volt. Inputs are also provided for external reset, silence and evacuate controls 0 volt signal for operation.

Connector 6 on the left hand side of the board can be used to drive an external relay if a reset on silence relay is required.

Sounders.

The two sounder circuits are monitored for open circuit shown by a flashing sounder LED and short circuit shown by a constant sounder LED. The two sounder circuits reverse polarity in the alarm condition to operate polarised sounders or bells.

The panel will also support the operation of special Fulleon two wire sounders which can be fitted onto the detection zones, and are turned on in the alarm condition by pulses from the panel.

A blown sounder fuse on the normal sounder circuits will show as a sounder open circuit. A blown zonal sounder fuse will show as a flashing zone 1 or zone 2 LED.

Setting one man test, zone isolation or sounder isolation.

To set the panel for one man test, zone isolation or sounder isolation, the following procedure has to be carried out. First press the mode key, the one man test LED will flash. Pressing the set/rest key will cause the LED to remain on continuously showing the function has been selected. Pressing the set/rest key again will deselect the function, and the LED will flash. Pressing the mode key will move the flashing cursor to zone 1 and the set/reset key can again be used to select and deselect isolation. Pressing the mode key a third time will move the cursor to zone 2 which can again be selected or deselected. Pressing the mode key for the fourth time will move the cursor to sounder/isolate which can also be selected/deselected. A final press of the mode key causes the panel to reset and resume normal operation. If the panel is left in the setting mode, the panel automatically resets itself after 25 seconds of no key being pressed.

One Man Test.

Having been selected as previously described, the one man test and common fault LEDs will be on to warn the operator not to leave the panel in this mode. In the one man test mode the panel will ring the bells for a few seconds after a call point or detector has been operated, and will then reset automatically. The fire relay will not operate under these conditions.

Zone isolation.

Isolation of a zone as previously described will stop a zone from going into fire or showing a fault, to enable maintenance work to be carried out.

Sounder isolation.

Set as previously described, will stop the sounders from operating when in the alarm condition.

Technical specification.

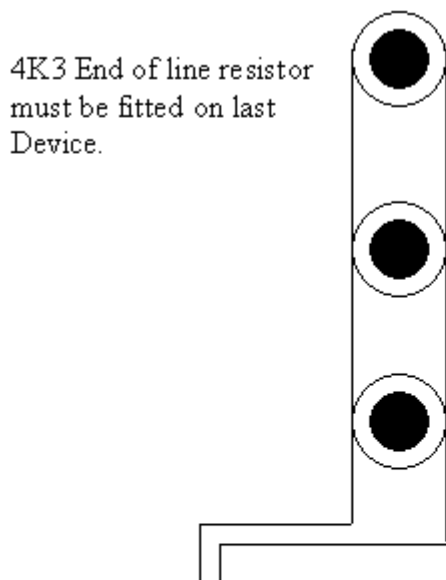
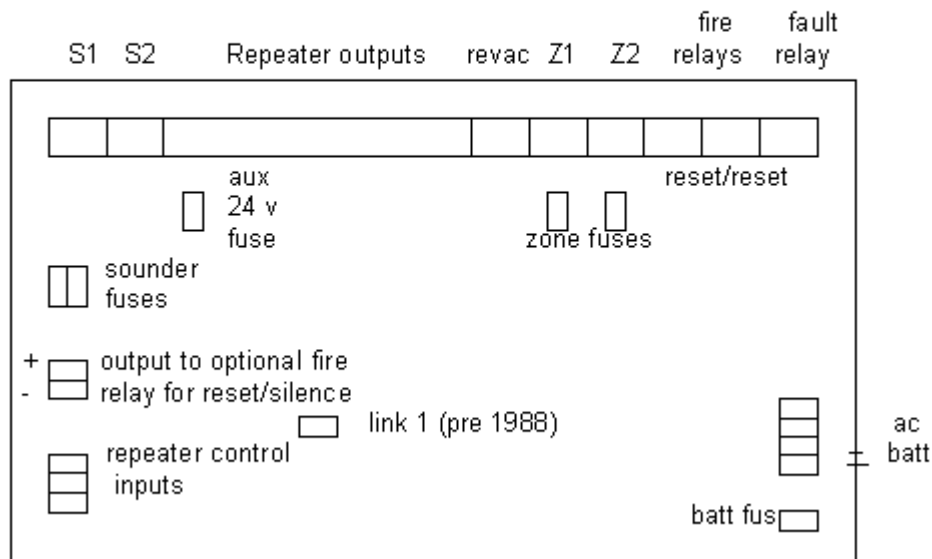
The panel is fitted with an integral 1 amp power supply set to 27.6v to charge two 1.2AH batteries. Two sounder circuits are fused at 1 amp.

The zonal sounders are fused at 1 amp.

The auxiliary fire and fault relays are rated at 2 amps.

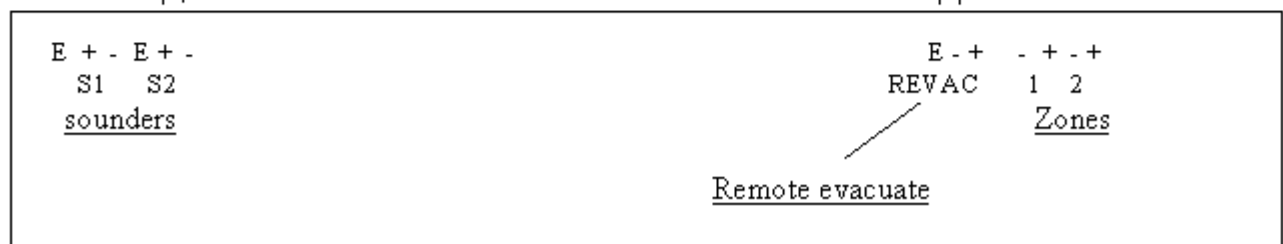
Box size: 200mm X 230mm X 75mm with 20mm knockouts to the top and to the rear.

LAYOUT

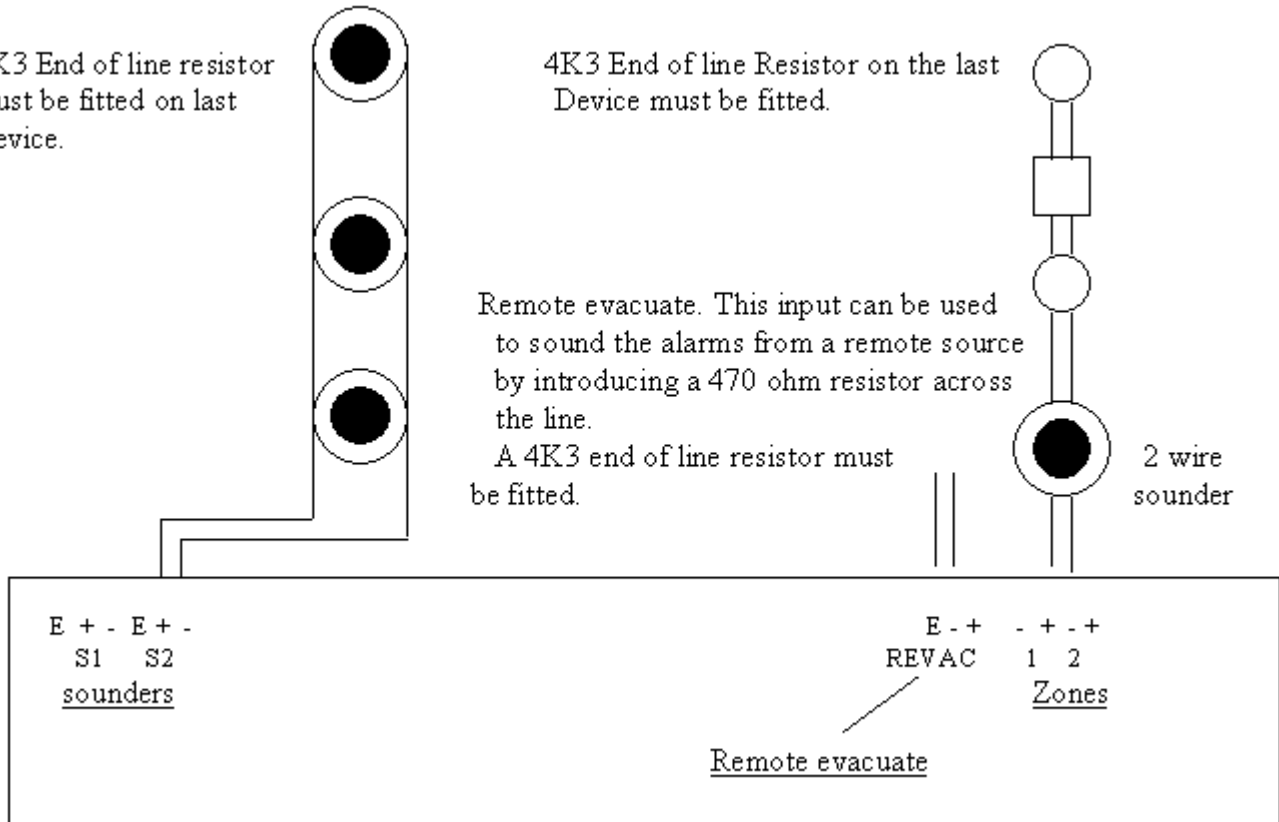


4K3 End of line Resistor on the last Device must be fitted.

Remote evacuate. This input can be used to sound the alarms from a remote source by introducing a 470 ohm resistor across the line. A 4K3 end of line resistor must be fitted.

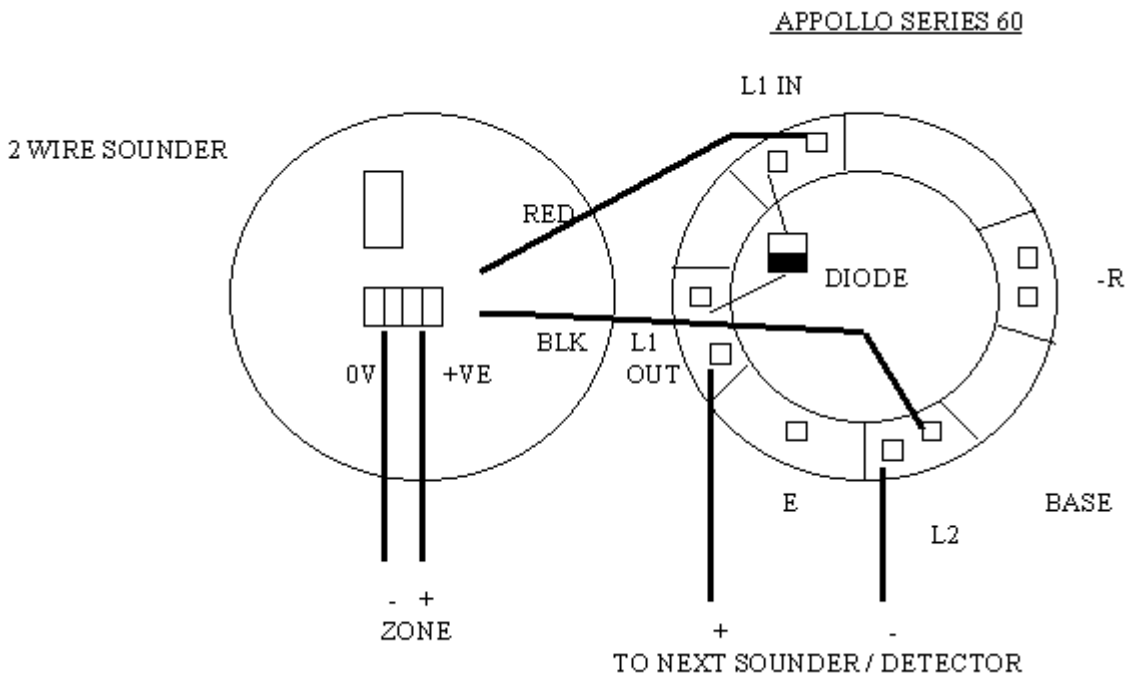


Conventional panel connections.

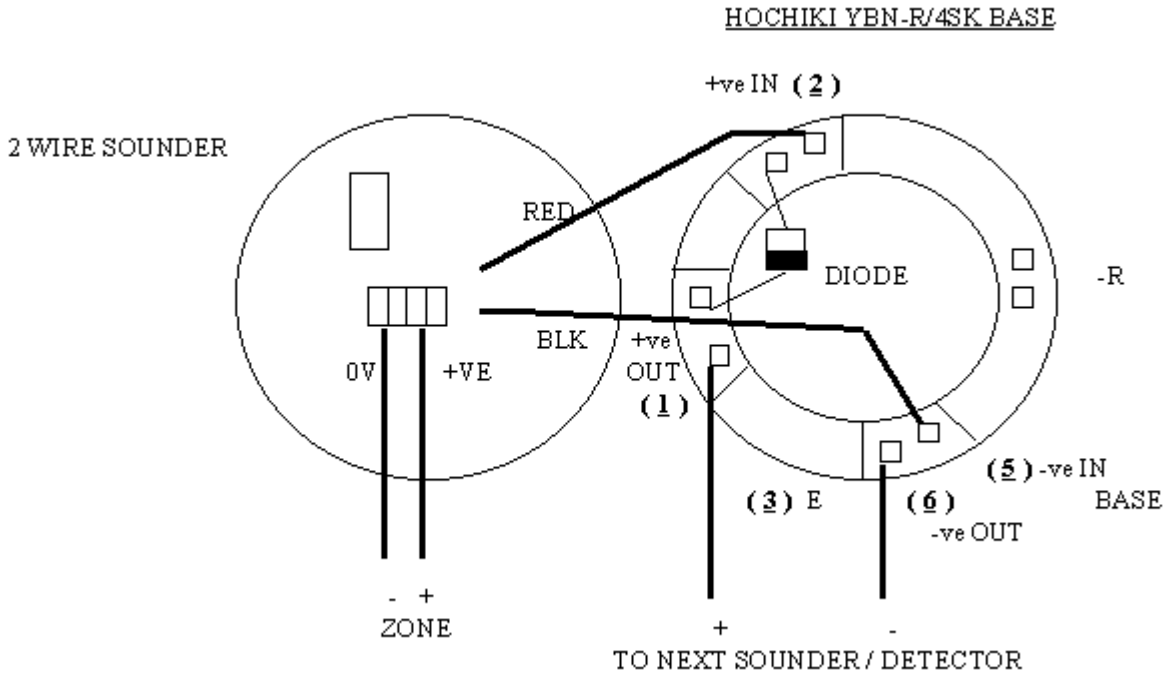


2 wire sounder panel connections

Wiring diagram for Fulleon 2 wire sounders



The detector base is screwed onto the sounder using the screws provided. Connect the wires on the sounder to l1 in and l2 on the detector base as shown on the wiring drg. Up to 15 two wire sounders can be wired to each zone. an end of line 4k3 resistor must be fitted on last sounder or detector.



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Installation and Commissioning

General

This section should be read fully before commencing wiring and installation of the fire panel. The FireSense range of fire panes has been designed to comply with BS 5839 : Part 4 : 1988. Fire detection installations should be designed in accordance with BS 5839 : Part 1 : 1988. The choice of cables used is dependant on the installation and should comply with BS 5839 : Part 1 : 1988. Cables should be installed in accordance with the current edition of the IEE Wiring regulations (Regulations for electrical installations, published by the Institute of electrical engineers) (BS 7671 : 1993).

Sounder Wiring

Mineral insulated copper cable or similar fire proof can mechanically resilient cable should be used for alarm sounder circuits, as indicated in BS 5839 : Part 1 : 1998. Section Two 17. A minimum of two sounder circuits should be used in each installation to comply with BS 5839 : Part 1 : 1988. Sounder output circuits should be wired as continuous pairs with no spurs or tees. An end of line device should be fitted to each sounder circuit as shown in Fig. 1.1. below.

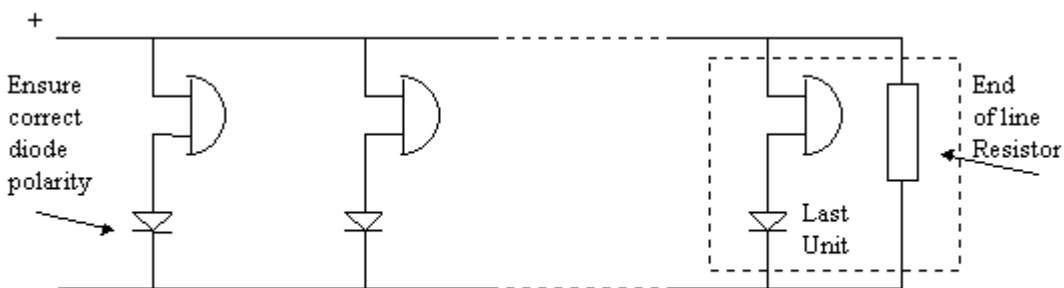


Fig. 1.1 Typical sounder circuit

Detector Wiring

The cable used is dependant on the installation, as indicated in BS 5839 : Part 1 : 1988 Section Two 17. An end of line device should be fitted to the end of each zone circuit.

Unused zones require an end of line device connecting across the zone input terminals to prevent an open circuit fault from being indicated on the control panel.

When the detector removed facility is required a diode should be fitted in each detector base as detailed on Fig. 2.2 taking care to observe the correct polarity.

Refer to individual manufacturers data for details on detector terminals and wiring, some manufacturers allow for an in line device to be fitted in the negative line.

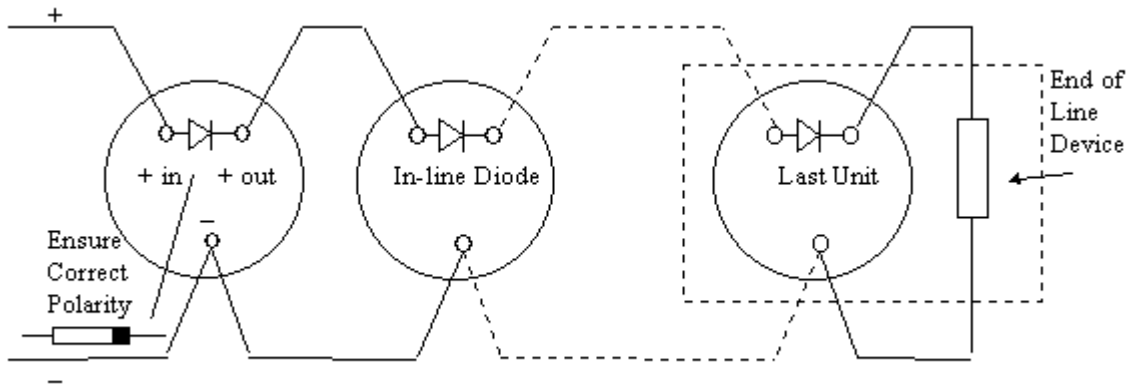


Fig. 1.2 Detector Wiring diagram

Call points

To comply with BS 5839 : Part 1 : 1988 Resistive call points should be used on the installation to differentiate between a fire condition (a resistor) and a short circuit. Old installations work on a short circuit as a fire condition. If a FireSense panel is to be used on an old installation e.g. short circuit call points either resistors are needed in line with the call points (470R or 680R) or alternatively, if it is not a requirement to bring the system up to date the panel can be switched to treat a short circuit as a fire condition. Failure to do this will cause the panel to go into short circuit instead of fire, on operation of the call point.

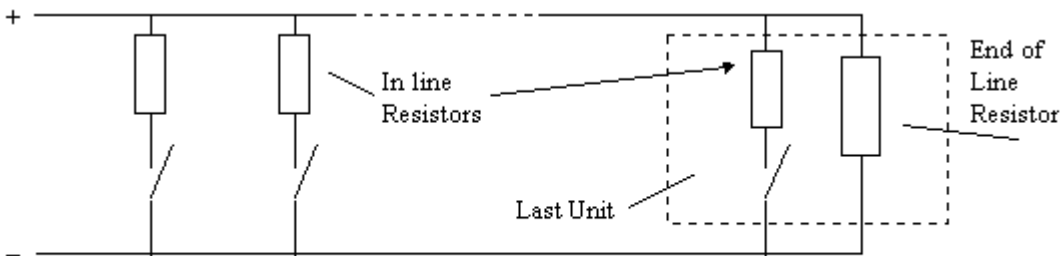
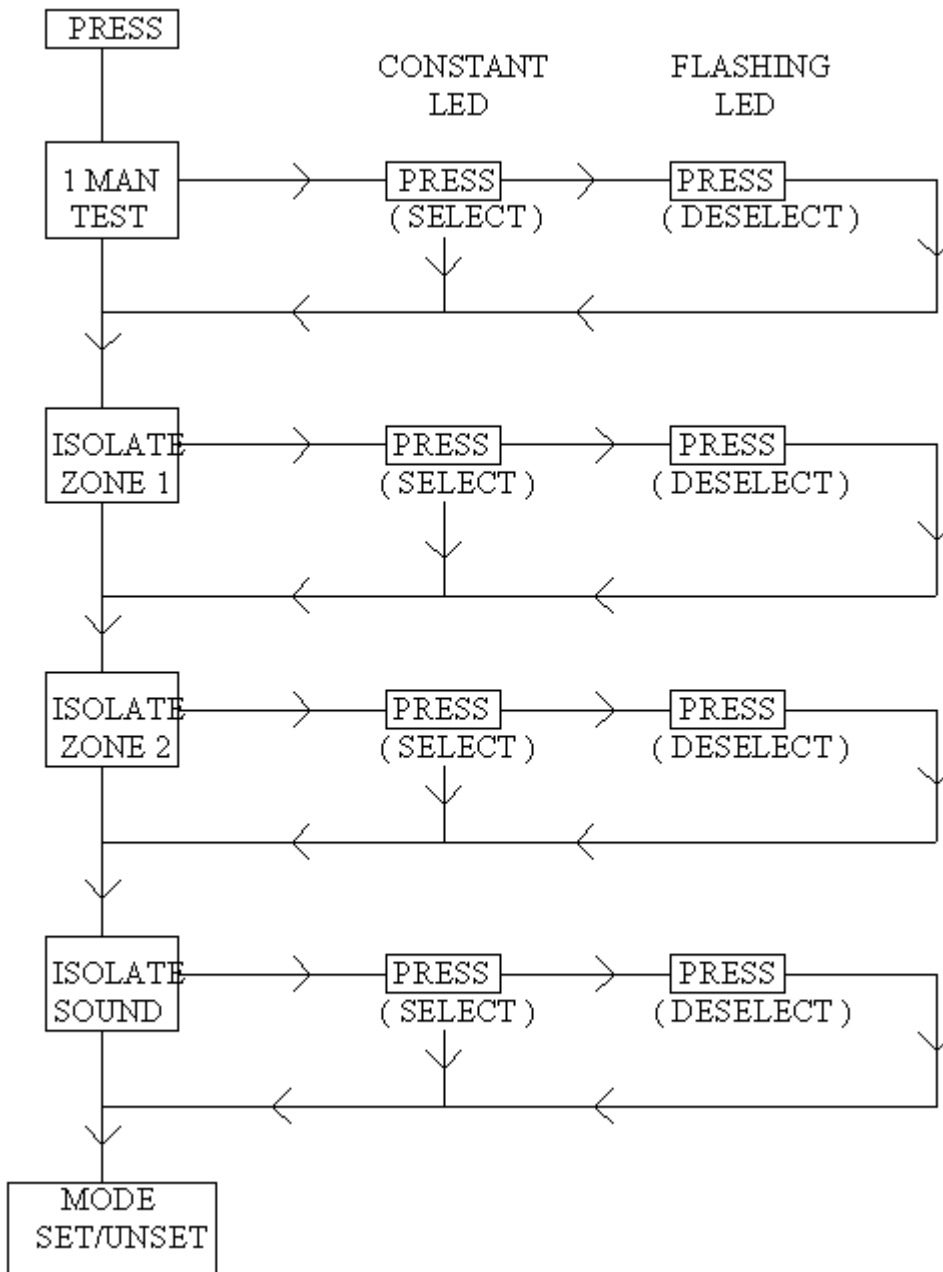


Fig. 1.3 Call point Wiring diagram with in line resistor

Call points normally come with integral resistors and so no extra resistors are required.



Setting one man test, zone isolation or sounder isolation.

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