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## Standard Panel Operating Instructions

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### Panel Operation

Normal operation: The green LED is illuminated indicating System Healthy. All other LED's are off.

Fire Condition - triggered off by a smoke detector or a break glass operation and is indicated by two red LED's showing common fire and a single red LED showing zone in fire, accompanied by a constant tone from the panel and the operation of all sounder circuits.

Evacuate. Operation of the evacuate or remote evacuate produce the same result except that no zone LED's will illuminate.

Silence. To silence the alarms, press the silence button having first enabled the controls with the key switch. The sounder will cease to operate and the panel buzzer will pulse to indicate that silence has been pressed. Auxiliary relay (reset on reset) will be reset.

Reset/Lamp test. The reset button will perform a lamp test of all LED's which should all illuminate. It also reinitialises the circuit, resets the detectors, resets any fire condition that may be latched, resets buzzer if in operation, resets all auxiliary relays and resets sounders.

If a fire condition or fault persists after reset, the circuit will redisplay the condition. If a fire condition exists, the sounders will come on even if they were silenced previously.

When a fire condition is indicated, the source of the detection should be investigated before reset is pressed in order to locate the smoke detector triggering the system. (The smoke detector operating will have an LED illuminated on it.)

If there is a residue of smoke in the area, the smoke detectors may reactivate after reset. In this case try again later.

If a faulty smoke detector is suspected, locate the faulty unit and replace it. If no replacement is available, remove the faulty unit. The head removed LED and common fault LED's will illuminate on the panel and the buzzer will pulse until the detector is replaced.

Zone isolation With the key-switch set to enable controls, first press the reset button and hold down. Pressing the silence button will now isolate zone 1 indicated by the zone 1 fault LED. Each press of the silence button will put the next zone into isolation. When both buttons are released, the zone isolated will remain in that condition until reset is operated. An isolated zone will not respond to any smoke detectors or break-glasses on that zone. This facility can be used when maintenance work is being carried out.

### Option Switches

One man test To select, turn on SW1(1). In this mode the unit will reset every 10 seconds. This will enable the detectors to be tested without the need to return to the unit to reset the detectors. Whilst in this mode, the fault lamp will come on and the buzzer will pulse. The silence function will not operate.

Pre 1988 Mode To select, turn on SW1(2). In this mode the panel operates to pre 1988 specifications, i.e. a short circuit gives a fire condition. This mode can be used when a panel is used with old detectors or even a mixture of old and new detectors.

Pulsing sounder. To select, turn on SW1(3). In this mode, the sounder will pulse every 5 seconds instead of being continuous.

Sounder inhibit. To select, turn on SW1(4). In this mode the sounders and auxiliary relays are inhibited from

working. This mode can be used when checking out the system without the need for sounders to operate.

**Non-latch zone 1** To select, turn on SW1(5). In this mode zone 1 will not latch. This mode is used to operate the fire alarm panel from another panel, say in a landlord/tenant application. The landlord's panel can trigger a number of other panels to show fire, but they are reset when the landlord's panel is reset.

Remote evacuate input is a fully monitored input (short/open) with a 4k3 end of line resistor, which will operate the sounders for remote evacuate or class change applications. The input is operated by a 680 resistor across the line; the panel will reset when the resistor is removed.

Open circuit will cause the zone open/short fault LED to flash.

Short circuit will show the zone open/short fault LED on.

### Battery Charger and Monitoring.

The control panel contains a battery charger capable of charging two 12V batteries. The batteries are monitored automatically by a circuit that periodically switches from mains to battery operation for a brief period, and at the same time measures the battery voltage. A low voltage or disconnected battery will show as a common fault and the mains/battery LED will illuminate. Obviously, if the unit has been operated for a period of time with no mains, the battery fault condition may appear until the batteries are recharged.

On the 3 Amp version of the panel the battery is connected via a relay which is turned on by the battery start button on the main PCB. If the battery measures low or is not connected the relay will drop out after about 30 seconds.

A mains fault shows as the battery/mains LED flashing, a battery fault shows as the battery/mains LED on.

### Sounder Circuits.

The sounder outputs are marked + and - to show polarity when the sounders are in operation. A diode should be placed in series with each sounder to prevent operation under normal conditions. When the sounders are operated the polarity of the sounder outputs are reversed. The sounder lines are monitored for open and short circuit, and earth faults. The line is terminated by a 6K8 end of line resistor. A fault shows as the common fault LED, and the sounder fault - a continuous sounder fault LED indicates a short circuit. A flashing LED indicates an open circuit. Each sounder circuit is protected by a fuse rated at 500mA.

Fuse 1 for sounder 1 circuit.

Fuse 2 for sounder 2 circuit.

Fuse 3 for sounder 3 circuit.

Fuse 4 for sounder 4 circuit.

### Detector Circuits.

The detector circuits are polarised. When the circuit is to be used to detect head removal a schotky diode should be fitted into the base of each detector or a detector base with a schotky fitted should be used. An 4K3 resistor is used as the end of line terminator. After a head has been removed, the panel may take up to 30 seconds to register the fault.

The system will work without having diodes fitted except that the head removal indicator will not work, instead open circuit will be indicated. Under the British Standards 5839 part 1 1992 amendment, if the head removal circuit is not used then the break glasses should be wired first on the detector lines so that they still work when the heads are removed.

A short on the detector lines will show as a zone fault, and the zone open/short LED will be on. An open on the detector lines will show as a zone fault, and the zone open/short LED will be flashing.

### Auxiliary relays:-

- one relay that provides change over contacts that operate on alarm, and reset when the panel is reset.
- one relay that provides change over contacts that operate when the control panel goes into alarm, and reset when the panel is silenced or reset

- one relay that provides change over contacts in the event of a fault.

**Technical Specifications.**

All fire and fault outputs will sink 100mA.

Detector zones - 4K3 resistor end of line.  
 - 20 detectors per zone.  
 - any number of break-glasses .

Sounder - normally reverse polarity.  
 - in alarm 24V fused at 1A per sounder.

The total current available for all sounders is 1.25 amp, so higher rated fuses can be fitted provided the total current is not exceeded.

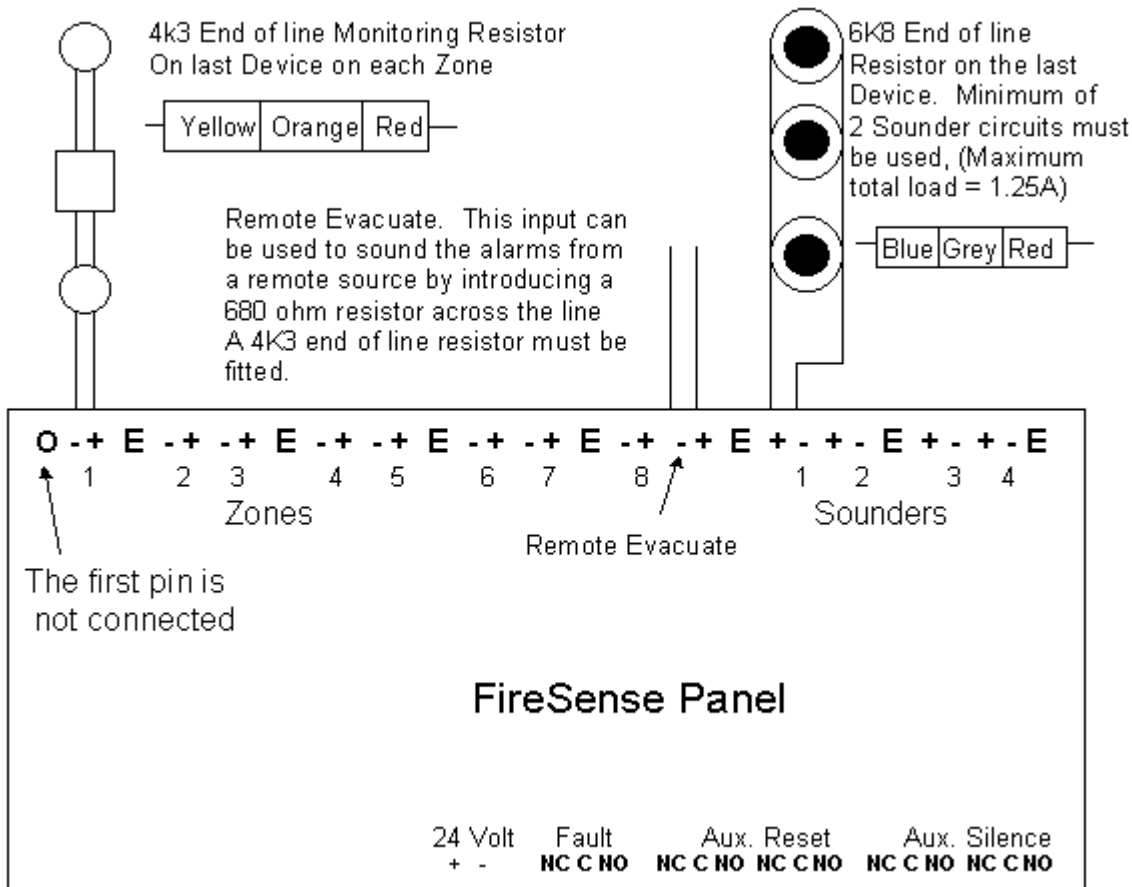
Battery Charger capable of charging 2 X 12V 6AH batteries.

Charging voltage 27.6 volts.

Control panel consumption 100ma.

Auxiliary Relay contact rated at 5 amp .

**Connection**



**Auxiliary Outputs**

1. 24V DC supply for beam detectors etc.
2. Common Fault O/P Volt free changeover
3. Common fire auxiliary relay (Reset). Double pole volt free changeover relay, (This relay reverts to its standby position after the panel is reset)
4. Common fire auxiliary relay (Silence). Double pole volt free changeover relay, (This relay reverts to its standby position after alarms are silenced, but before the panel is reset)