

1. Introduction

The Bell Monitor 1864-32 is a small module designed to provide open and short circuit fault (defect) supervision of an evacuation circuit of an automatic fire alarm system, as required by NZS 4512 and AS 1670.1. It can be used to supervise the evacuation circuit wiring of older fire alarm panels that do not have this capability built in. Also, because it contains its own evacuation circuit relay, it can be used to extend or increase the evacuation load capability of fire alarm panels that already have built in evacuation wiring supervision. It is available in two versions:

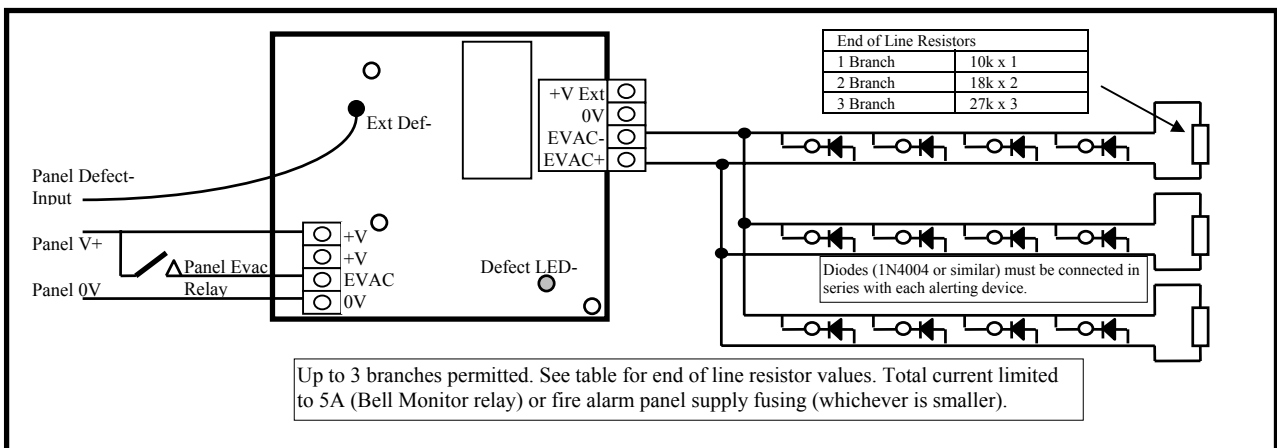
- PA0469 is for use with a fire alarm panel operating from a 12 volt power supply,
- PA0494 is for use with 24 volt panels.

As supplied, the module is configured to use the panel power supply for powering the alerting devices. Links on the module allow it to be field-configured to use a separate evacuation power supply. This supply does not need to operate at the same voltage as the panel. (e.g. panel can be 12 volts and evacuation supply 24 volts or vice versa.) An LED provides visual indication of a fault on the evacuation circuit wiring and the "Ext Def" connection is available for wiring the fault signal back into the fire alarm panel.

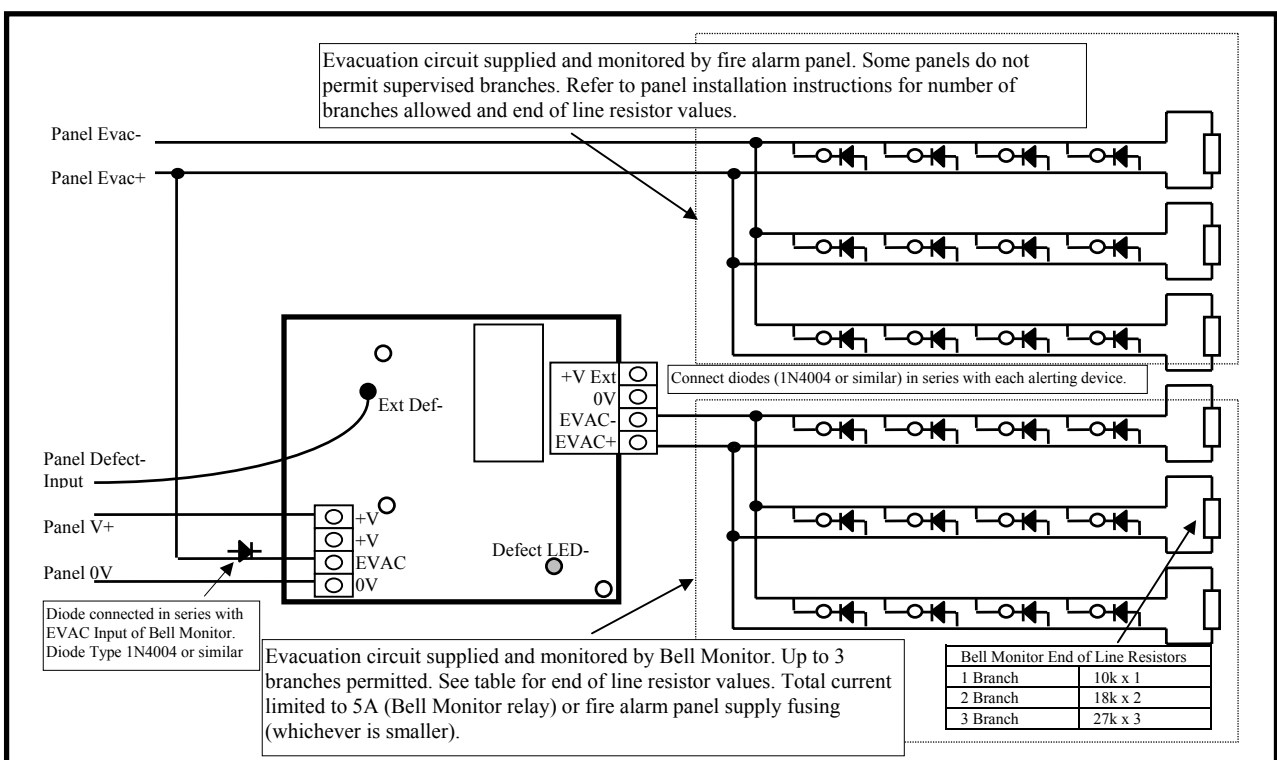
Three 4mm mounting holes on the module and three HW0208 self-adhesive standoffs can be used to mount the Bell Monitor within the fire alarm panel enclosure. Bell Monitor Modules should not be mounted external to the fire alarm panel.

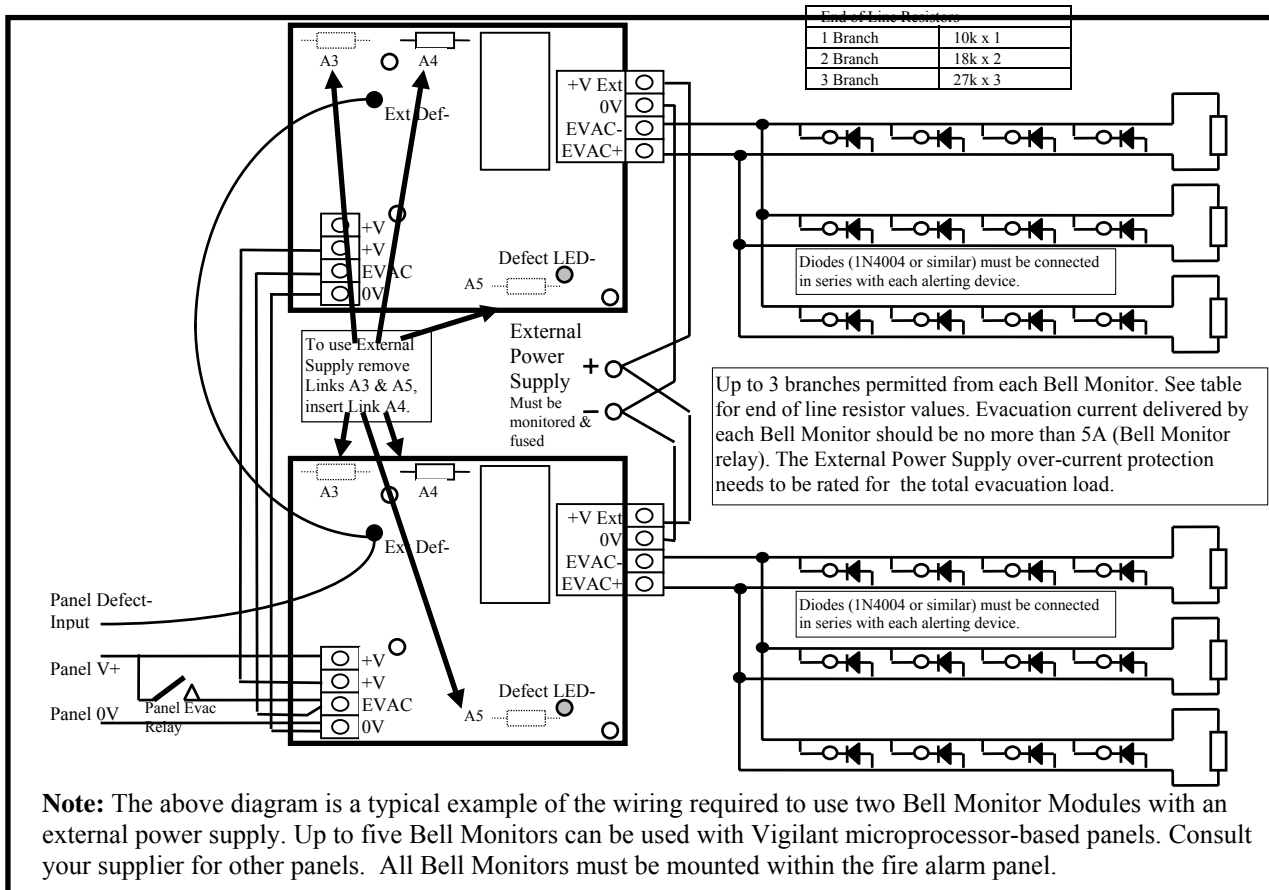
2. Connection to Fire Alarm Systems

(a) Panels Without Built-in Evacuation Circuit Supervision- e.g. VIC 2, FP4



(b) Extending Evacuation Circuits of Panels With Built-in Evacuation Circuit Supervision e.g. FP1600





(d) For connection to F08 refer to LT0082 Section 2.8 (Issue 3.02 onwards), and for F4000/MX4428 refer to LT0070 Section 2.6 (Issue 2.3 onwards).

3. Specifications

| | PA0469 | PA0494 (where different) |
|---|---|--------------------------|
| Operating Voltage (fire alarm panel voltage): | 12V±20% | 24V±20% |
| Operating Current (from fire alarm panel): | 3mA (5mA Def. LED on) | 4mA (8mA Def. LED on) |
| Evacuation circuit supervision current: | 0.65mA | 1.3mA |
| Evacuation circuit supervision voltage: | 6.5V across 10k EOL | 13V across 10k EOL |
| Current into Evac terminals from panel: | 45mA (Evac system on) | 22mA (Evac system on) |
| Evacuation system voltage (if separate from panel): | 30Vdc max. | |
| Evacuation system current: | 5Adc resistive max. | |
| PCB Dimensions (mm): | 62W x 62H x 29D. 3 x HW0208 adhesive standoffs provided for mounting. | |
| Termination for connection from panel: | PCB mounted screw terminals, 2.5mm ² max. | |
| Termination for evacuation system wiring: | De-mountable screw terminals, 4 x 1mm ² max. | |
| Evacuation circuit supervision: | 0 – 7k1 s/c; 8k5 – 10k5 Normal; > 12k8 o/c | |
| Evacuation circuit EOL: | Up to 3 branches, EOLR 1 x 10k, 2 x 18k, 3 x 27k (5%). | |
| Ext. Defect Output (Rev C): | Open drain, active low for EOL Defect or Bell Monitor power fail (i.e. requires a pull-up resistor) on 200mm flying lead. Active impedance to 0V ≤ 200Ω @ up to 1.5mA. Inactive (leakage) impedance ≥ 47kΩ @ +V supply (higher impedance for lower voltages) Must not be pulled up to greater than +V supply. | |
| Defect Indicator: | Amber LED on for EOL Defect, provided Evac is not on. Non-latching. | |
| FPIS Listing Number: | VF/606. | |
| LT0190 Issue 1.2 | 29 April 2004 | |