

PERTRONIC INDUSTRIES LTD

FIREBITS

June 2006

F100 Panels In NZ's Largest Retail Complex



The first stage of the Sylvania Park retail complex, in the Auckland suburb of Mt. Wellington, opened recently with a huge blaze of media publicity about the traffic congestion created on opening day. Police were forced to close the adjacent southern motorway until the backlog of bargain hunters vehicles was cleared.

When completed, Sylvania Park will be the largest retail complex in the country. All the main retailers will be represented, with their super-sized barns joined together by enclosed malls providing space for specialty retail outlets, including new retailers from Australia establishing their initial presence in New Zealand. As is the trend with all retail malls now, a cinema complex will also form part of the finished project.

The size of the development dictates that multiple fire alarm systems will progressively be installed. In this first stage to open, The Warehouse *extra* is protected by two Pertronic F100 analogue addressable panels networked together, while the Foodtown supermarket nearby is protected by another Pertronic F100 panel.

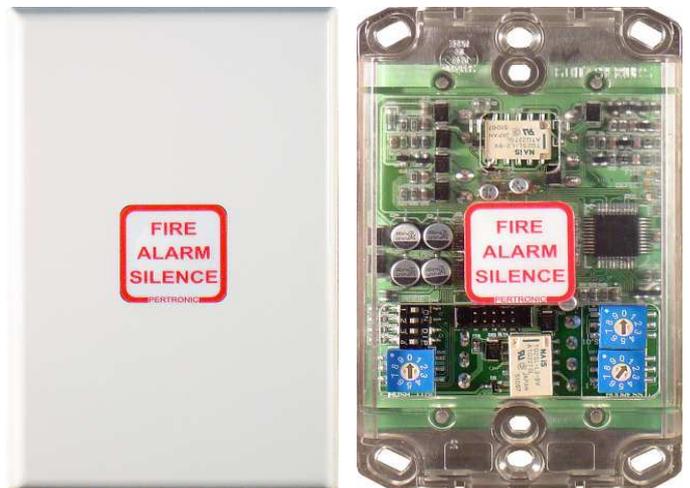


Apartment Module Update

The introduction of the new Pertronic Apartment Module has been extremely well received. Featured in our March FIREBITS newsletter, the module is specifically designed for use in Type 5 apartment installations, but can also be used in hotels, motels, youth hostels, rest homes - in fact, any installation using smoke detectors for local alarm only. The module incorporates an input circuit to support conventional smoke and/or heat detectors, a relay output to switch on the local alarm or global evacuation tones into that apartment, and an isolator to provide short circuit protection to the fire alarm panel's data loop. A key feature of the Apartment Module is the hush facility, which will silence the local alarm only, and not interfere with a global evacuation.

There are two versions of the Apartment Module available - one with an onboard hush facility and one without, although both modules support remote hush switches. A number of contractors have expressed a preference to install the Apartment Module without the hush facility, positioning it in the common passageway above the door to the apartment, with a remote hush switch mounted inside. All Apartment Modules can then be fully serviced from the common areas, without any need to enter the apartments - a major time saver for service companies and reduced inconvenience to tenants.

The hush period for muting the local alarm can be set in increments of 30 seconds up to a maximum of five minutes, not the ten minute period advised in the March newsletter. Importantly, Apartment Modules can only be used on Pertronic analogue addressable fire alarm panels, and will not work with conventional systems. Pertronic F100 analogue addressable panels with firmware versions 4.54.xxx or higher will support the modules, and F100 utilities programming software v3.18.01 must be used - this can be downloaded from the Pertronic web site. Software versions for F120 analogue addressable panels will be communicated separately to contractors once design and verification testing is completed.

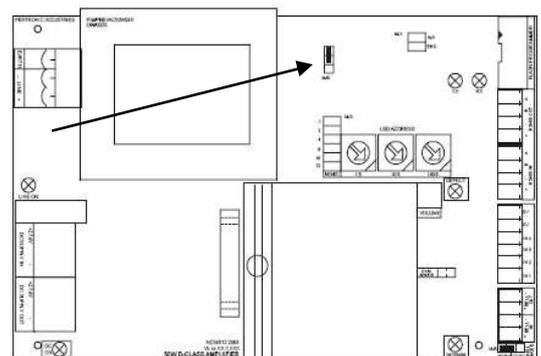


Product Returns - A Special Plea

Contractors and servicing companies who send circuit boards back to our Lower Hutt factory for testing and repair are asked to please ensure these boards are adequately packaged for the journey by post or courier. In many cases, if the board was not damaged before returning to us, it most certainly is damaged by the time it reaches us - and we are unable to credit components receiving transit damage.

A special request - most of the boards are originally supplied in antistatic bags which are in turn protected by bubble wrap bags. Please try to retain some of these antistatic and bubble wrap bags and use them when returning boards to the factory.

A number of 50watt-24 volt amplifiers have also been returned to the factory marked as faulty. The only fault was the link required at point MJ6 on the amplifier board had been removed. MJ6 (highlighted, right) is identified by three vertical pins to the right of the transformer. The link must be left in (as supplied) across the top two pins at this point, otherwise the amplifier will not work. The only time this link is removed is when a microphone preamp card is fitted to the amplifier. The preamp card fits over these three pins as part of its interface onto the amplifier circuit board



NZS4512 And Special Detection Areas

A key change to NZS4512:2003 was the way in which conventional detection circuits operate. Previously, an open or short circuit would put that circuit (or zone) into alarm. Under the new Standard, this is not permitted. The simple switch-type heat detectors and manual call points have been replaced with electronic equivalents, which have a printed circuit board (pcb) and LED. When these devices enter an alarm state, the LED latches on and the pcb reduces the voltage on the circuit to a level the panel recognises as an alarm condition. The panel then generates the appropriate alarm and evacuation responses.

However, these electronic (indicating) heat detectors and call points should not be used in areas subjected to extreme heat or cold, as the electronic circuitry may fail as a result of being cooked or frozen. One option is to place a switch-type device in the relevant detection area and remote it to its electronic equivalent outside the hot or cold environment. The switch device then operates the electronic device, which drops the voltage on the circuit of the 2003 compliant fire control panel, and an alarm is generated.

Unfortunately, this option can not be used for detection purposes in “intrinsically safe” areas where explosive gases may be present. And electronic devices can definitely not be used. Detectors and call points installed in these areas must provide a switch-type input to the intrinsically safe barrier, which is installed across the detection circuit outside the danger area (refer to the Pertronic web site for information on intrinsically safe barriers - located in the NZ section under conventional systems/accessories).

To handle these special applications another option is available, as an alternate (or engineered) solution. Pertronic F16E panels can now have a masterboard or extender board supplied with modified software which allows the detection circuits to generate an alarm from an open or short circuit. That is, the circuits function to the 1997 Standard. F16E panels can now be supplied (and clearly labeled) with a masterboard and extender board/s operating to two different Standards. This option will also be useful for panel replacements in older installations where an upgrade to the latest Standard is not required.

Note that it is only the detection circuit function that differs on these F16E masterboards or extender boards. All other functions (eg operating the Silence Alarms key switch to silence the evac and to isolate the circuit in alarm) still conform to NZS4512:2003

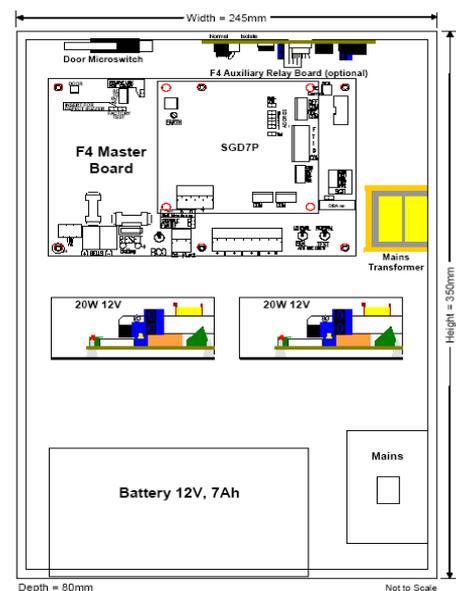
For analogue addressable systems, the same result can be achieved by using a loop responder board functioning to the 1997 Standard as the interface for these conventional switch-type devices.

Pertronic F4 Panel Upgrade

The Pertronic F4 conventional four zone panel undergoes some production changes during June, for both the front service and rear service options. The most obvious change is in the cabinet size - it increases to 350mm high by 245mm wide (previously 305mm x 215mm), although the cabinet depth of 80 mm remains the same. This increase in size provides space for two 20W amplifiers, when needed, with the panel's bell relay also upgraded from 2A to 5A.

The battery charger capacity is increased, from 245mA to 400mA to allow a fully loaded, non-brigade connected system (72 hour standby required) to run on a 7Ah battery, which can still be recharged within the required 24 hour period. A larger and more accessible mains switch is also included.

A schematic of the new cabinet layout is shown, right. Updated technical details are available from the Pertronic web site - go to www.pertronic.co.nz



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South Island Airport Facilities Upgraded

Major extensions are being carried out to Dunedin and Queenstown airport terminals, with their fire alarm systems getting an upgrade at the same time. A Pertronic F100 analogue addressable system has been installed into each terminal. The Dunedin system (below left) also includes a special evac control panel built by Pertronic Industries. This evac panel is effectively an EWS system, with voice over capability for each of the six zones, plus a key switch evacuation function for each separate zone. An extra requirement was the ability to broadcast a separate recorded message over externally mounted speakers, advising people that they could return to the building.



Bugs And Fire Alarm Panels

Occasionally we discover minor (software) bugs in our fire alarm panels - they sneak in sometimes when a new feature or enhancement is being added. We do carry out extensive verification testing to avoid these bugs, and - when discovered - move promptly to eradicate them.

However, there are some bugs that stay around fire alarm panels longer. These are the (dead) bugs that get trapped in the space between the fire alarm panel mimic and the window it is mounted behind. The buildup of dead bugs is extremely unsightly and in some cases they hide some of the LED's or engraved areas.

A simple means to eliminate real bugs from fire alarm panels - and the mimics - is to set the panel or mimic back from the window by around 10mm to let gravity prevent bug accumulation at that point. Or perhaps our engineers need to develop a special debugging unit? We welcome any suggestions.

NZ Standards Interpretation On Sector Areas

At the time of going to print, it is reported that a decision is imminent from the NZS4512 Fire Alarm Standards Interpretations Committee on the area that can be covered by one fire alarm panel. Clause 401.1 in NZS4512:2003 has limited the area to be covered by one fire alarm panel, in most installations, to 11,000m² with a provision for this area to be increased to 22,000m² subject to certain isolation criteria. It is understood the interpretation clarifies this isolation criteria. Formal interpretations on NZS4512 can be viewed at www.standards.co.nz - go to Catalogue by Industry sector / Fire Protection / Formal Interpretations, Alarms & Detection Group.

FPA Conference in September

This year's FPA Conference is scheduled for 21 & 22 September at Auckland's Ellerslie Convention Centre. We look forward to seeing you there and demonstrating our latest technical developments.

