

PERTRONIC INDUSTRIES LTD

FIREBITS

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Pertronic Panels Networked In Kenepuru Hospital



Kenepuru Hospital, in the Wellington suburb of Porirua, has undergone major extensions. The analogue addressable smoke and heat detectors in the new buildings (in the foreground of the picture) are connected to two Pertronic F120 fire alarm panels, networked together and interfaced to an EWIS system.

Eight Network Display Units (NDU's) are installed at nurse stations throughout the new complex. The NDU's are the same size as a full function F100 LCD mimic and are connected to the network by their own network card. They receive and display all information and events off all panels on the network, down to the specific address and location description of each device. NDU's can also be used (if necessary) to perform certain global functions on the fire alarm panel network, such as a global evacuation, a global silence alarms, or a global reset of the fire alarm panels and the devices they support.

A separate Network Control Unit (NCU) in the Kenepuru installation is located in the security office. The NCU is the size of a full function F120 LCD mimic and is also supported by its own network card. The NCU has the ability to become any panel on the network. This allows suitably trained personnel to remotely take control of a networked panel to carry out specific functions on that panel, such as isolating or resetting devices, checking on a device's status/condition, operating evac or silence alarms on the panel, or resetting it.



Detection In Cool Stores

The introduction of NZS4512:2003 has led to the earlier conventional switch-type heat detectors and manual call points being replaced with devices which now incorporate an electronic circuit board. Installation of the earlier switch-type devices in cool stores was generally problem-free as the components were relatively unaffected by the sub-zero temperatures. However, the introduction of electronic circuitry into conventional heat detectors and call points does create some limitations on their installation.

Conventional indicating manual call points have an operating temperature range of 0 - 50°C, in 10% to 93% relative humidity. If they are to be used in freezers or cool stores it is strongly recommended to install them inside a STI Call Point Stopper with a heated enclosure, product code STI-1200A-HTR-240. Information on this unit is available on the Pertronic web site, under "other accessories." (Note that a 230v power supply is required for the heater element)

For heat detection in freezers or cool stores, it is recommended that the System Sensor heat detector model 5351E is used. This detector has an operating temperature range of -30°C to +70°C, in 5% to 95% relative humidity (non-condensing). It is important to place these heat detectors as far as practical from doors or other areas where temperature and humidity changes may cause condensation to form.

Extreme cold (or hot) environments can be difficult areas for electronic componentry and the materials they are made from. Building owners should be made aware that the life expectancy of products installed in these locations may be shortened.

New Input/Output Modules From System Sensor Europe

Three new analogue addressable modules from System Sensor Europe are now available. Measuring 93mm x 93mm x 24mm, the modules have the added benefit of incorporating a short circuit isolator. So, when correctly positioned on the analogue addressable data loop, the modules provide a dual function - their selected input/output role, plus short circuit protection for that zone of devices on the data loop.

The **M201E** module is a single output module, with isolator, and can be used in a supervised mode to switch external power to field devices, or in unsupervised mode a set of changeover contacts are available. (Note that this module can not be used to switch 100v amplifier circuits)

The **M220E** module has two switch-type input circuits, with isolator, while the **M221E** module has two switch-type input circuits plus a single-pole volt-free changeover relay for external devices, also with isolator. (Note that these two modules are switch-type inputs only and can not support circuits of conventional smoke detectors, indicating heat detectors, or indicating manual call points)

Full details are available on the System Sensor Europe web site - a link to this site is available on the Pertronic web site.

Smoke Detectors - Dirt And Bugs - The Ongoing Story

Our Wellington office recently received a number of different detector returns, all labeled "faulty." When tested, the detectors were all found to be dirty, not faulty. The high level of contamination in the detection chambers was enough to raise the detectors' sensitivity level above the alarm threshold. The detectors were cleaned and returned - a service that is chargeable.

A feature of System Sensor conventional smoke detectors is they can be field tested with a MOD400R Smoke Detector Tester, and also cleaned on site, generally by using compressed air to blow out the chamber (there is no need to return them to the supplier for testing and cleaning). NZS4512 specifies that, as part of the Annual Survey, 20% of the (conventional) smoke detectors installed are to have their sensitivity level tested - and the only accurate way to do this with System Sensor detectors is to use a MOD400R Tester.

Many nuisance alarms from conventional smoke detectors are caused by dirt or bugs.

continued on page 3

Continued from page 2

The level of dirt in the detection chamber gradually increases the sensitivity of the device until the alarm level is reached, and a nuisance alarm occurs. The level of dirt or contamination in a detector's chamber is often readily visible. If not, a System Sensor MOD400R Tester will provide an immediate reading on the contamination level present, and a clean-out should return the device to a usable condition.

However, bugs can be a different story. They may not be present in the chamber when it is inspected, but their presence earlier may have been enough to trip an alarm. Some form of pest control may be needed - it may be as simple as spraying around the detector (while it is covered) with an aerosol spray, or it may be necessary to treat the ceiling void with one of the fumigation sprays available from most supermarkets.

New Order Codes For Conventional Panels With Amplifiers

Under the 2003 Standard, the majority of Pertronic F1 and F4 conventional panels are now being requested with amplifiers. In response to this demand, and to streamline our response to customers' orders, we are now carrying a number of these panels in stock with a 20 watt, 12 volt amplifier already fitted at the time of production. These panel/amplifier units can be ordered on the following stock codes—

F1-3EA	1 circuit panel with 20W Evac Amp NZS4512:2003
F4FS-3EA	4 circuit panel, Front Service, with 20W Evac Amp NZS4512:2003
F4RS-3EA	4 circuit panel, Rear Service, with 20W Evac Amp NZS4512:2003

Heat Detectors and Remote LED Indication

In Firebits May 2005 we highlighted the new Pertronic Remote LED Indicator, to be used under the 2003 Standard with concealed detectors when those devices form part of another zone. The Remote LED Indicator connects directly to the base of a System Sensor smoke or heat detector. However, when connecting to a Pertronic indicating heat detector, a version of this detector with a separate remote output (on the back of the detector's circuit board) must be used. Stock codes for these detectors are -

IHDBR	Indicating heat detector blue, with remote output
IHDYR	Indicating heat detector yellow, with remote output
IHDGR	Indicating heat detector green, with remote output

Different Loop Responders For Different NZ Standards

Pertronic loop responder boards connect to the data loop on F100 or F120 analogue addressable fire alarm panels. When installed as "smoke responders," they are able to support up to eight conventional detection circuits. These circuits can be individual heat detector, smoke detector, or manual call point circuits, or any mix of these three product types.

Care needs to be taken when selecting loop responder boards for connection to analogue addressable fire alarm panels installed to the 1997 or 2003 version of NZS4512. The responders with software designed for the 1997 Standard support the older style switch-type call points and heat detectors, meaning an open circuit will generate an alarm to the panel. Responders with software for the 2003 Standard will only generate a defect to the panel if an open or short circuit occurs.

And this is why care is needed. If a responder with 2003 version software is installed on a 1997 version panel with older style heat detectors or call points, operating one of these devices only produces a defect at the panel, and not an alarm. Equally, if a 1997 version responder is connected to a 2003 version panel, a short or open circuit (eg a cable break) will generate an alarm, which is in breach of the 2003 Standard.

The loop responder board hardware is the same for both versions - the difference is in the microprocessor's software, which is highlighted by the software version number on the microprocessor label, positioned immediately above the two blue rotary address switches on the responder board.

Software version numbers 2.xxx and 3.xxx are designed for NZS4512:1997, while version number 4.xxx and above are designed for NZS4512:2003.

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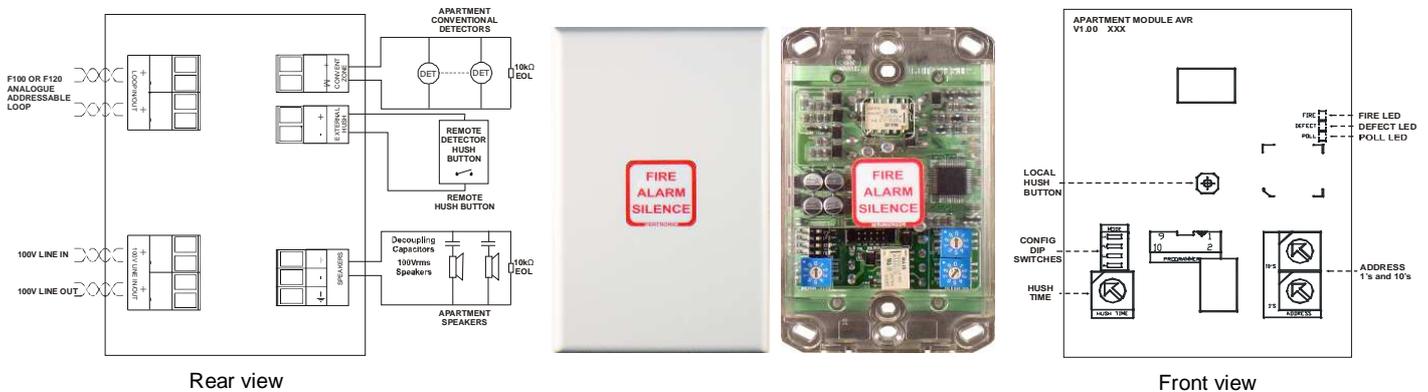
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New Apartment Modules For Type 5 Installations - With Hush Facility

Type 5 installations in apartments under NZS4512:2003 require smoke detectors which give a local alarm and do not call brigade, with heat detectors (and smoke detectors in common areas) generating a global evacuation and calling the Fire Service. The provision of a hush button in the apartment is also becoming a more common requirement, so that occupants can mute the local alarm if cooking smoke, or an event other than a real fire, has caused the smoke detector/s to operate. As the new Standard treats each apartment as a separate fire cell, a short-circuit isolator (on analogue addressable systems) is also required per apartment.

The new **Pertronic Apartment Module** reduces the complexity of a Type 5 installation by combining all of the components required into one compact product:

- A single zone (responder-type) input circuit supports up to 15 conventional heat and/or smoke detectors. The Apartment Module differentiates between a Pertronic indicating heat detector and a System Sensor smoke detector activating, so the different outputs for local or global alarm, brigade call, etc, can be programmed.
- An addressable monitored relay is included, capable of switching the 100v audio signal from the amplifier to generate a local alarm tone or global evacuation tone (with speech) in the apartment.
- A short-circuit isolator relay is built into the Apartment Module.
- There are two versions of the Apartment Module - one supports an inbuilt hush switch (as pictured below) while the other does not. However, both versions of the module support a remote hush switch.
- The hush switch can only silence a local alarm, not a global evacuation. The hush period is selectable with a rotary switch on each module, from 30 seconds to 10 minutes.



Mounted on a standard PDL Series 500 flush plate, the Apartment Module can be surface-mounted or flush-mounted in a standard flush box. A range of PDL switch covers can also be used to suit any décor (the “Fire Alarm Silence” label is part of the module and fits flush inside the switch plate). Depending on cabling requirements, the module with the hush switch option can be mounted in the apartment, or the module without the hush switch could, for example, be mounted above the door into the common passageway. If needed, a remote hush switch, or switches can be placed throughout the apartment as required. The module uses two “module” addresses on the data loop, one for the conventional input circuit, the other for the monitored relay. Once installed, these switches plus the hush period switch are accessible by removing the switch plate, eliminating the need to detach the Apartment Module from the wall or ceiling for servicing.

