

PERTRONIC INDUSTRIES LTD

FIREBITS

FireNZ Edition – October 2015

Welcome to the Fire-NZ Conference edition of **FIREBITS**, Pertronic Industries' newsletter for the fire protection industry. Our company is proud to be a regular sponsor of this important annual event.



Pertronic F120A System In Fiji's Government Buildings

The return of democracy to Fiji has triggered an upturn in construction activity, particularly in the tourism, infrastructure and government sectors. One major project was the extensive refurbishment of the historic Government Buildings, including the Parliamentary Debating Chamber which had not been used for twenty-seven years. The complex also has Ministerial, Select Committee, and Hansard offices, together with the Parliamentary Library, Courts, and meeting rooms.

The project included a fire system upgrade based on a new Pertronic F120A analogue addressable fire control panel with four addressable loops. This is interfaced with a sixteen-zone emergency warning and intercommunication system (EWIS). System Sensor addressable strobe lights were used extensively throughout the complex and in meeting rooms on all three levels to provide visible warning of an incident requiring building evacuation.

The complex has also been fitted with new electrical and air conditioning systems, together with new audio-visual equipment for the debating chamber and new ICT equipment throughout.



Weatherproof Manual Call Points

Pertronic Industries' range of weatherproof manual call points (MCP) have been upgraded following an intensive programme of research and development.

The project's main goal was to provide superior protection against moisture. Pertronic engineers developed a multi-stage manufacturing process optimised for the Pertronic Manual Call Point, using advanced encapsulation materials.

All of the call point's internal electronics, including the push-button switch, are enclosed inside a solid waterproof capsule. The isolator bypass link in the addressable manual call point has been deleted to eliminate possible water ingress.

Circular Snap-Glaze windows have been replaced with standard rectangular windows identical to those on non-weatherproof MCPs to simplify field replacements.

Instead of screw terminals, the new MCPs have pre-stripped wire tails firmly embedded in the waterproof encapsulation. Pertronic Industries strongly recommends that each wire tail is crimp-spliced to the field wiring, and the crimp-splice covered with adhesive-lined heat-shrink tubing. This stops moisture getting into the splice, from where it could wick in toward the electronics.

Engineering tests at Pertronic's R & D laboratory confirm the new MCPs meet IP65 environmental protection, compared with IP54 for the old MCPs.

Pertronic Weatherproof MCPs come in three styles:

- Conventional Non-Indicating (CPP-TWP),
- Conventional Indicating (CPPIN-3TWP), and
- Intelligent Addressable (AAMCP-TWP).



Pertronic Weatherproof Conventional Manual Call Point.

New Dual-Vision Aspirating Detectors

The new FAAST XT and FAAST XS aspirating detectors expand the range of applications that are able to benefit from FAAST Advanced Dual-Vision sensing technology.



Designed for maximum sensitivity without compromising nuisance alarm immunity, the dual-vision aspirating smoke detectors from System Sensor USA feature a particle separator that removes large, non-fire particles, keeping the internal sensing chamber clean and extending the life of the replaceable filter. The software combines signals from two separate optical sensors (blue LED and infra-red laser) to reliably detect smoke as thin as 0.0015 % obscuration per metre.

This technology enables the top-of-the range FAAST XT to accurately detect incipient fire conditions as early as 60 minutes before a fire actually starts.

The new FAAST XS and XT detectors, and the mid-range FAAST XM, are ideal for Early Warning (EWF) and Very Early Warning Fire Detection (VEWFD) and provide stable detection in harsh or extreme environments.

	FAAST XS	FAAST XM	FAAST XT
Addressable	7200BPI	8251BPI	9251BPI
Conventional	7100X	8100	9400X
Coverage	600 m ²	1,000 m ²	2,650 m ² *
Pipe Inlets	One	One	Four
Fan Speeds	Three	One	Three

FAAST Dual-Vision product codes and descriptions.

* NZS4512 restricts the zone area to 2000m² or less, depending on site details.

FAAST Pipe and Fittings

A range of sampling pipe, pipe fittings, labels and accessories for FAAST aspirating smoke detectors is now available from Pertronic Industries.

The sampling pipe and fittings are made from white uPVC, with a service temperature range of -26 °C to +60 °C.



The nylon capillary tube has a service temperature range of -40 °C to +90 °C. Sampling pipe comes in packs of ten 4-metre lengths. Sampling point labels come in rolls of 100.



The FAAST accessory range also includes replacement filters for the FAAST aspirating smoke detectors, and a USB-Ethernet adapter for configuring FAAST XS, XM, and XT detectors.

Go to www.pertronic.co.nz for full details.

Gravity Keeps Wiring Dry

Sometimes we can't avoid putting wiring in places where it will be exposed to rain, sea spray, or condensation. Marine electricians use the power of gravity to keep electrical fittings dry. Water won't flow uphill. Wiring in exposed locations should enter housings from below. A U-shaped **drip loop** helps keep water out of the housing.

Water sometimes finds its way into conduit. Drain holes at low points give it a way out.



Water naturally drains off lowest part of conduit.

Revised F1 Panel with Fire and Defect Relays and 20 Volt Zone

As part of our on-going research and development programme our R&D department has given the Pertronic F1 single zone conventional fire alarm an internal make-over. The revamped panel now comes standard with **Fire** and **Defect** relays, allowing, for example, connection with a security system for remote monitoring.

The **Fire** relay can be isolated using an internal switch, to prevent accidental false alarms during maintenance. The door interlock system monitors the state of this switch and sounds a piezo buzzer if the cabinet door is closed with the **Fire** relay isolated. The **Fire** relay is normally de-energised with a closed contact. When a fire condition occurs, the relay energises and opens the contact. The **Defect** relay is normally energised with a closed contact. This relay drops out if the panel detects a defect or the power fails, as required by NZS4512. Note, however, that the F1 panel does not provide an SGD output.

Also new on the F1, a booster supply increases the zone voltage to 20 Volts, with datum levels identical to the F4 panel. The F1 panel is now able to support forty smoke detectors.

The revamped F1 fire alarm control panel is a drop-in replacement for older F1 panels on existing systems.



The new F1 fire alarm panel master PCB (version 5.x)

Fire Relay Isolate switch

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Pertronic FireMap® and Fire Alarm Protects Queensland's New Children's Hospital



The striking architecture of Brisbane's *Lady Cilento Children's Hospital* is the visible face of the new Queensland Children's Hospital complex, which also includes the adjoining *Centre For Children's Health Research*.

A Pertronic fire alarm system protects the entire facility. The system is based on a network of nine Pertronic F120A analogue addressable fire alarm control panels with more than 10,000 addressable devices, including over 400 fire fan and damper controls. The alarm system is interfaced to an EWIS system covering 580 zones.

A Pertronic FireMap® PC-based graphics system with three workstations provides management and staff in both buildings with immediate information about any fire alarm incident, including instant access to a floor-plan pin-pointing the exact location of any incident.

With input from the project's air handling consultant, Pertronic Industries' Queensland office and Lower Hutt factory worked closely to design, build, and install the Fire Fan Control Cabinets (pictured at right).

