Firebits

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Pertronic F220 Protects Sydney Heritage Precinct

Top: The historic Argyle Stores building
Above: Pertronic F220 fire alarm control panel at Argyle and Cleland Bond Stores

A Pertronic F220 fire system protects Sydney's historic Argyle and Cleland Bond Stores precinct near the Sydney Harbour Bridge.

Now used for restaurants, bars, shops, and offices, the precinct includes several heritage-listed buildings, built between 1828 and 1914. The *Argyle Stores* has four "wings" ranging from two to four storeys, clustered around an open-air courtyard. Next-door on Playfair Street is the *Cleland Bond Store*, a four-storey timber-framed warehouse. The complex also includes several two-storey terrace houses on Playfair Street known as the *Playfair Street Terraces* and *Argyle Terrace*.

The complex's fire detection and alarm system was recently upgraded to a Pertronic F220 analogue addressable fire system, engineered by Wood & Grieve Engineers and installed by Beaver Williams Pty Ltd.

The new system was installed and activated in stages, with each stage typically covering a zone or wing. Usually, the work had to be done at night, and planned to ensure the fire system was fully operational

Continued on Page 2

Sydney's new M4 East motorway tunnel is protected by a network of 93 Pertronic F220 panels. Details on page 4

PERTRONIC
FIRE ALARM SYSTEMS

Argyle & Cleland

Continued from Page 1

by morning. Retail and office space is occupied during the day; Entertainment businesses operate into the small hours of the morning.

Fire system designers worked in consultation with heritage consultants on the detailed design of components such as reticulations, fixings, and locations for manual call points and other fire system devices. Each item had to be reviewed, approved, marked out on site, and witnessed by the heritage consultant.

The detection system is built around a mix of point heat and smoke detectors, together with sensors at key points on the sprinkler system. Some components of the existing fire system were integrated into the new system. In the event of an alarm, the Pertronic F220 fire indicator panel automatically calls the fire brigade and triggers an EWIS, which tells everyone to leave via the nearest exit. In addition, the F220 triggers automatic responses designed to assist evacuation. For example, in bar areas, the F220 turns off sound systems and stage lighting, and switches the main lighting to full brightness.

The Argyle and Cleland Bond Precinct includes some of Australia's most important heritage buildings. Wood & Grieve Fire Protection Section Manager, David Quigley, told Firebits, *It is our duty of care not just to protect the people who occupy the buildings, but also the structures themselves.*

It's a massive privilege, and something I'm very proud of, added Beaver Williams Project Manager, David Collins.

Pertronic Industries is very proud that our products have been used in this project. We congratulate everyone involved.

BANNER IMAGE: Historic terrace houses on Playfair Street, The Rocks, Sydney NSW are protected by a Pertronic F220 fire system

Clockwise from top left: A view along Playfair Street showing the Cleland Bond Store and Playfair Terraces, with Argyle Terrace at the far end. Point detector and sprinkler piping, mounted under a floor in the Cleland Bond building. Interior view of the Cleland Bond Store. Outdoor courtyard in the Argyle Stores (photo by Kgbo).

A New Cabinet for Mid-Sized F220s

Our new 22U rack cabinet provides an intermediate size between our popular 16U and 28U cabinets.

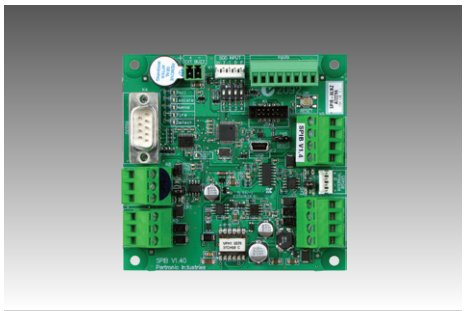
The dimensions were chosen to maximise the new cabinet's versatility. Pertronic engineers studied historical production and designed the new cabinet for as many popular configurations as practicable.

At 1065 mm high, the new cabinet is 265 mm taller than the 16U cabinet. The extra height provides room for 4 or 5 extra internal modules, compared with the 16U cabinet. The front panel has room for extra banks of fan controls or other control or display units.

For more information, please refer to the F220 page on our website https://pertronic.com.au/

BMS Connectivity for F220/Net2 Systems

Two Pertronic BMS interface units are now available for F220 fire detection and alarm systems. Both products provide bi-directional communication between a building management system (BMS) and the fire system.



Pertronic SPIB-MODBUS HLI BMS interface

Stand-alone F220 Fire Panels

The Pertronic SPIB-MODBUS HLI provides communication between a stand-alone F220 fire indicator panel and a BMS. With this product connected to the F220's RS-485 mimic bus, all the data accessible from the F220's keyboard & display is available to the BMS.

The Pertronic SPIB-MODBUS HLI also allows a BMS to control selected fire system functions, using the F220's loop emulation facility. Data from the BMS is converted into detector or module status data. The F220 reads and responds to data on the emulated loop, exactly as if it were a physical loop. The emulated loop devices are programmed using Pertronic FireUtils®.

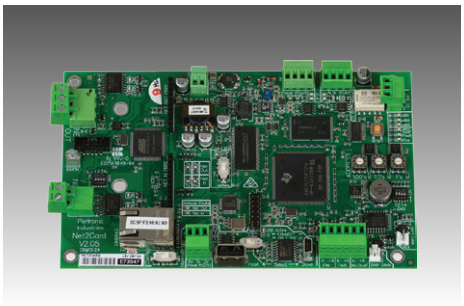
F220/Net2 Network Systems

A building management system can communicate directly with a Pertronic Net2 Network via a Pertronic NET2CARD configured as a Modbus interface. The NET2CARD provides up to 3,000 Boolean *Nodal Mapping Objects* (NMOs) which allow bi-directional data transfer between the BMS and the fire system network. NMOs can be mapped to any data object in the connected F220/Net2 network system. An F220/Net2 network can have multiple BMS interfaces. The BMS interfaces are programmed using Pertronic FireUtils®. Each BMS interface can be programmed independently.

Using BMS Interfaces

Pertronic BMS interface units allow a building management system to control or monitor practically any fire system function. The potential applications are limited only by the system designer's imagination.

Order Codes:
SPIB-MODBUS HLI, NET2CARD

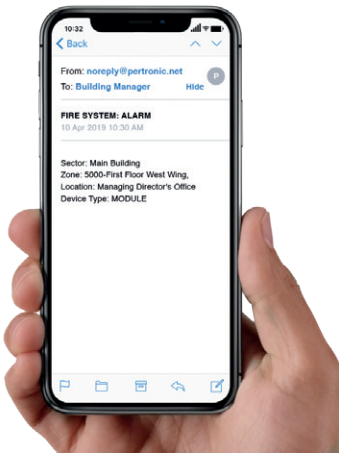


Pertronic NET2CARD BMS interface

FireMap Messaging Interface

Pertronic FireMap Messaging Interface enables Pertronic FireMap® systems to automatically send email, pager, or printed messages in response to pre-determined events.

The interface may be configured with multiple messages. Each message may include any mix of pre-defined text and FireMap database field values, such as device descriptors and event types.



A message may be initiated by a specific event, such as an alarm or fault, from any device, zone, or fire panel. Triggering events include inputs to analogue addressable devices such as loop responders, or Ethernet gateways (NET2GATE). The system can be configured to send multiple messages in response to a single initiating event.

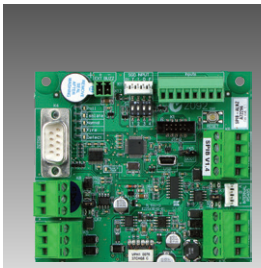
Order code: FIREMAP-PAGER

Fibre-Optic Linear Heat Detection for Pertronic F220/Net2 Systems

Pertronic Industries provides two solutions for integrating fibre-optic linear heat detection (LHD) into Pertronic fire systems via Modbus.

The Pertronic SPIB-LIOS connects a LIOS DE.TECT system with an F220 fire system. It is used in the M4 East fire system (page 4). The Pertronic SPIB-PWF8000 connects a Protectowire Fibre System 8000 with an F220 fire system.

Both interface units connect to the F220's RS-485 bus. They can be mounted inside the fire panel, or at a remote location. These interfaces utilise the Pertronic F220's loop emulation capability. Each zone on the LHD cable is mapped to a "heat detector" on an emulated analogue addressable loop. Each emulated detector can report *pre-alarm* & *fibre break* as well as *alarm* signals.



Pertronic LHD interfaces are based on our SPIB board (left), factory-configured for use with LIOS or Protectowire systems

Order codes: SPIB-LIOS, SPIB-PWF8000

A Pertronic F220/Net2 Fire System Protects Users of Sydney's Newly-Opened M4 East Motorway Tunnel

The 5.5 kilometre six-lane M4 East tunnel is the main feature of a 6.5 km extension to Sydney's Western Motorway.

The M4 East fire system is based on a Pertronic F220/Net2 network with ninety-three F220 fire panels. Duplicated Pertronic NET2CARD Modbus interfaces connect the fire system with the tunnel's plant monitoring and control system (see page 3). A Pertronic FireMap® graphic user interface is connected to the network via dual Pertronic interfaces.

Fire detection in the tunnel is based on six LIOS fibre-optic linear heat detection systems (three for each carriageway) connected to F220 fire panels via Pertronic SPIB-LIOS (Modbus) interfaces. The networked F220 panels also monitor heat and smoke detectors in cross passages, equipment areas, and buildings throughout the tunnel complex, together with hydrocarbon detectors in the drainage sumps, and aspirating smoke detectors in server rooms.

The tunnel has two parallel carriageways. Each carriageway is divided into deluge suppression zones, typically 30 metres per zone. The Pertronic network automatically controls deluge valves and evacuation warning devices, based on data from the linear heat detectors and pre-programmed cause and effect logic.

The Pertronic FireMap® graphic user interface provides touch-screen control and monitoring of the fire detection and suppression systems. This allows tunnel operators to over-ride the automatic suppression system when manual intervention is considered appropriate.

With more than 11,600 inter-panel mappings, programming the M4E fire system was a major undertaking. Pertronic FireUtils® simplified this challenging task. A complete configuration programme for the M4 East F220/Net2 system uploads through a single connection in less than six minutes.

Pertronic Industries congratulates WestConnex on the successful completion of the M4 East motorway.

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Opened on July 13, 2019, the 5.5-kilometre six-lane M4 East motorway tunnel between Homebush (above) and Haberfield is the main feature of a 6.5 km extension to the eastern end of the Sydney's M4 motorway. The tunnel and its occupants are protected by a network of 93 Pertronic F220 fire indicator panels.

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