F100A Fire Alarm Control Panel

PERTRONIC

Precise Fire Alarm Location	–	Simple, easily readable display
Power and Versatility	–	User-friendly operation
Flexible Configuration	–	Economical, intuitive installation

Overview

The F100A analogue addressable panel is a fire alarm control panel for installations that require flexible configuration and control functions.

The F100A complies with New Zealand Standard NZS 4512:2010 and with the requirements of the New Zealand Building Code.

Seismically Tested: Independent testing by an IANZ-accredited laboratory has verified that the Pertronic F100A meets the requirements of NZS 1170.5, the NZ standard for earthquake loading. The test used an earthquake simulation based on International Standard ICC-ES AC-156, *Acceptance Criteria for Seismic Certification by Shake-Table Testing of Non-structural Components.*
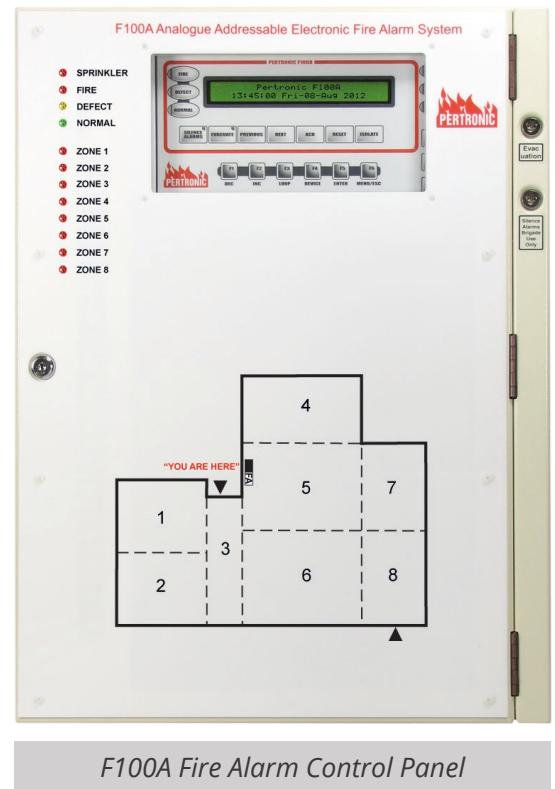
F100A Fire Alarm Control Panel

Features

> Precise Identification of Fire Location with user-definable English language text description

> Large 2 x 40 character back-lit LCD Display

> 24-character configurable text message per Address, Zone, Logic Block, Timer and Network input

> Automatic 'Pre-Alarm' warnings

> Automatic 24-Hour 'System Test' of all Detectors and Battery

> 2 to 4 Loops provides a maximum 396 detectors plus 396 modules or manual call points (MCPs)

> Supports 127 nodes on the Pertronic network

> Supports up to 64 outputs to the network and 64 inputs from the network

> Loop input devices include detectors, call-points, loop responders, loop relays, and modules

> Addressable loop relays can be configured as Sounder relays, Auxiliary relays or Door Holder relays, etc

> User Isolation of zones and individual detectors

> 2560 Event Historical Log

> Configuration data may be entered through the front panel controls or using PC Configuration Utility

> Optional seismic battery bracket SBB-17AH

> Independently tested and verified by an IANZ-accredited laboratory as compliant with NZS 1170.5, the NZ standard for earthquake loading

F100A Specifications

Power Supply	230 Vac, 50 Hz, 40 W
Battery Type	Internal SLA battery, 24 V capacity optional
Charger	Integral float charger

- Integral float charger
- Temperature compensated
- 27.4 Vdc, 1.5 A standard or 4 A optional

Standby Current

- 2-loop — 165 mA
- 4-loop — 210 mA

Zone Indication	Up to 128 physical zones
Protocol	Intelligent System Sensor protocol
Panel Configuration (via PC)	Serial RS-232 Port
Ancillary Equipment Config.	Serial RS-485 Port
Historic Event Log	2560 events
LCD Display	2 line x 40 character alphanumeric back-lit display

Mimic Connections

- Up to 32 devices
- LCD Mimics, LED mimics, amplifiers or network cards, may be connected to the RS485 port
- 16 full function, the remainder slaves

LCD Mimics

- Supports up to 8 remote monitored LCD mimics
- Either 'full' or 'mini' functionality

LED Mimics

- Supports up to 8 monitored LED mimics
- Each capable of driving 128 LEDs
- 'Silence Alarms' (BCO) and 'Evacuate' controls.

Pertronic Network

- Provides up to 64 network inputs
- Each network card is connected to an F100A or F120A panel via the serial RS-485 port

Fire Relay

- 1 changeover contact
- Contact rated at 24 Vdc, 2 A, normally de-energised

Defect Relay

- 1 changeover contact
- Contact rated at 24 Vdc, 2 A, normally energised

Sounder

- 2 circuits (BELL1 and BELL2)
- Fused at 5 A each monitored and configurable

General Purpose (GP)

- 2 sets of change-over contacts
- Contacts rated at 24 Vdc, 2 A, not monitored; configurable

Door Holder Relay

- 1 single changeover contact
- Contact rated at 24 Vdc, 5 A, not monitored; configurable

Door Holder 'Isolate' Switch

AUX 'Isolate' Switch isolates all AUX outputs

AUXM Relay

- 1 voltage-reversal output
- Rated at 24 Vdc, 100 mA, monitored, configurable

AUX Relay

- 1 change-over contact
- Rated at 24 Vdc, 2 A resistive, not monitored, configurable

Open Connector

- 8 programmable outputs: switched to 0 V
- Current (Peak) — 500 mA
- (Continuous) — 150 mA
- Voltage (Maximum) — 50 V

Analogue Addressable (AA) Loop Circuits

- Number of Loops — 2 to 4, in 2-loop increments
- Detectors — Up to 99 per loop
- Input/output modules, addressable sounder devices, or MCPs — Up to 99 per loop
- Maximum detectors and modules — 396
- Loop Resistance Maximum — 50 Ω
- Cable — 1 mm² to 2.5 mm², twisted-pair
- Length — Up to 1000 metres end to end

Operating Environment

- Temperature — -5 °C to +45 °C
- Humidity — Up to +40 °C, <95% RH, non-condensing
 +40 °C to +45 °C, ≤75% RH, non-condensing

F100A Cabinet Dimensions

	Height mm	Width mm	Depth mm	Weight kg
Size 1	600	450	130	15 (+Batt, PCBs)
Size 2	900	450	130	20 (+Batt, PCBs)

F100A Functions

> Earth monitoring

> Configurable 'Sprinkler' input: monitored, non-latching

> Sprinkler operated LED

> Brigade interface: 'Fire', 'Defect', 'Isolate', 'Test'. eg SGD

> Selectable Standard: NZS 4512:2010 or NZS 4512:1997

> Front panel 'Silence Alarms' and 'Evacuation' key-switches

> Walk Test

> Door microswitch, Door interlock and external defect loops

> System test automatic daily test of all detectors and battery or can be individually tested on demand, via the menu

> All devices, detectors, modules, zones, groups, logic gates and timers may be individually isolated

> Supports 'virtual' detector mode

> Supports control of fan relays

> Non-latching detectors latch if and when the 'Alarm' relay operates

> Day/Night Mode: supports variable sensitivity levels for variable occupation modes

> Detectors can be individually configured for: Bell 1, Bell 2, Brigade Calling, Latching, Auxiliary Relay, Door Holder Relay, Buzzer on Alarm, Alarm Verification Facility (AVF), Detector Sensitivity and Zone assignment

> Detectors and modules can be directly configured to any system output

> 64 groups, each with 32 outputs can be configured to any system output or other group

> 16 events can be configured to control any system output: eg. Common Fire, Defect, Pre-Alarm, etc.

> 32 Logic Block functions (OR, AND, ANY) can be configured to be activated by any input on the system and can be interconnected to perform complex logic functions. Any Logic Block can turn on any system output

> 16 independent Timers; each configurable for a period of 1 to 65,536 seconds (18+ hours)

> Each Timer has configurable panel attributes

> 4 Timer modes are available ('Normal', 'Cycle', 'Double-Knock' and 'ReTrigger')

> Each Timer can directly turn on one output on Timer 'Run' and one output on timer 'Time Out'

> Configurable 24-Hour Timers: 4 timers with independent start and end times include Week-Day and Week-End mode and 2 configurable outputs each

> On-site configurability from front panel menu controls or via the graphical configuration and monitoring PC software.

> Remote configuration and control via modem, internet connection or suitable mobile phone is available

> Status reporting for individual detectors and modules

> Virtual Panel display provides complete control and graphical representation of the panel's LCD, front panel switches and indications at a remote location

System Diagram
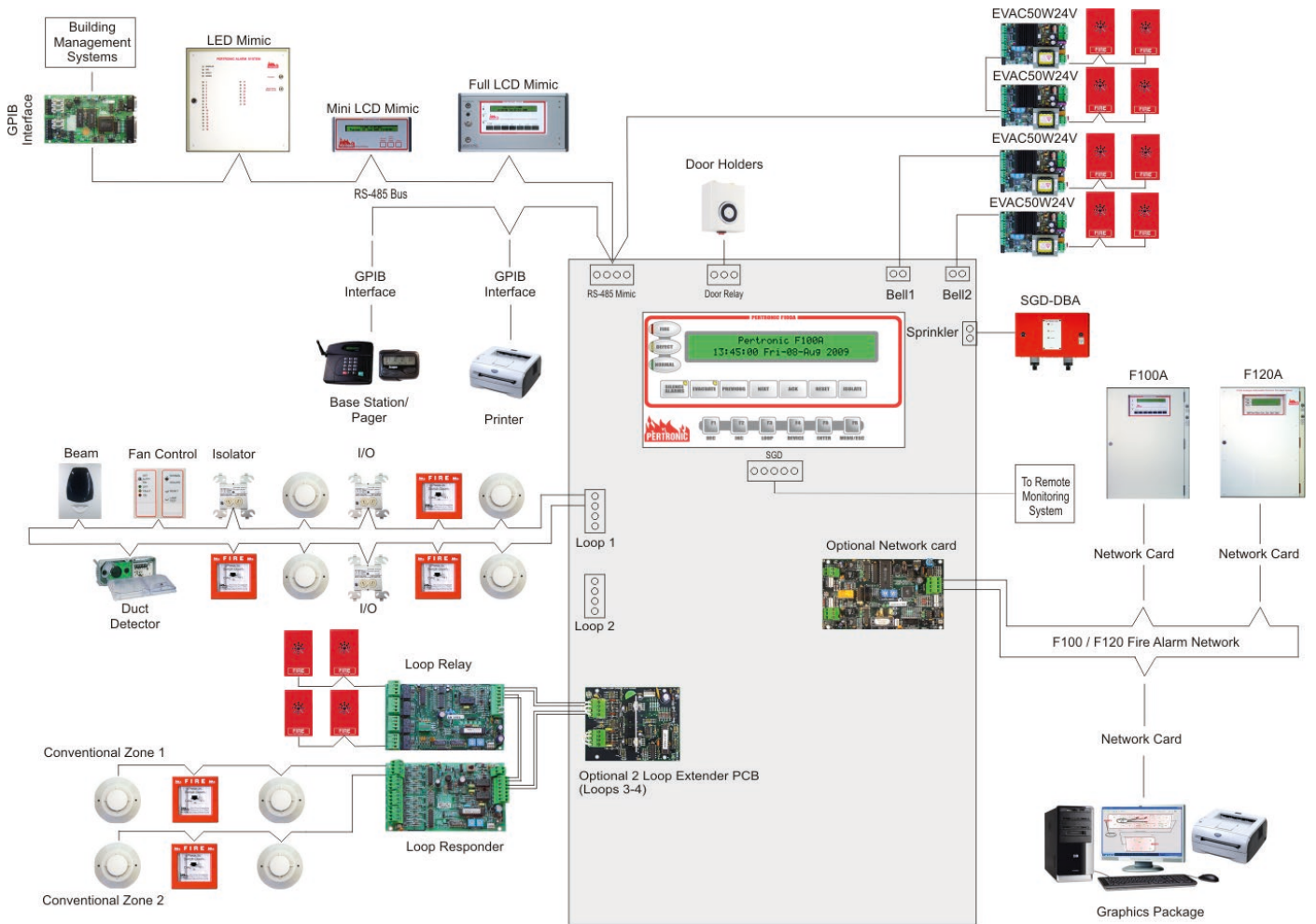
Ordering Information

Product Code	Description
F100AMF-3	F100A FS 2 Loop 410mm Panel 1.5A PSU
F100AMR-3	F100A RS 2 Loop 410mm Panel 1.5A PSU
F100AF-3	F100A FS 2 Loop 600mm Panel 1.5A PSU
F100AR-3	F100A RS 2 Loop 600mm Panel 1.5A PSU
F100ATF-3	F100A FS 2 Loop 900mm Panel 4A PSU
F100ATR-3	F100A RS 2 Loop 900mm Panel 4A PSU
F100ADF-3	F100A FS 2 Loop 900x800mm Double Cab 4A PSU
F100ADR-3	F100A RS 2 Loop 900x800mm Double Cab 4A PSU
F100ADC-3	F100A 2 Loop in 900x800 Double Cabinet WITHOUT indexes with LCD window 4A PSU
F100P2LB	F100A 2 Loop Extender Board