



# F120A Fire Alarm Control Panel

*Power and flexibility combined with user-friendly operation  
Economical, intuitive installation and configuration  
Designed for medium to large projects, and projects that need complex or specialised functionality*

## Product Overview:

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The **Pertronic F120A** is a modular, expandable, intelligent fire alarm control panel, capable of monitoring more than five thousand addressable devices including up to 3,180 sensors and 1,980 input or output modules. Intuitive, versatile programmable features, and a large selection of options, ensure that the F120A is readily tailored to individual project requirements.

Fire system events such as alarm signals from heat or smoke sensors and manual call points are uniquely identified on the user-friendly display. Configurable text descriptions allow users to determine the precise location of any active device.

The Pertronic range of peripheral devices for the F120A include a full range of alerting products such as sounders, strobe lights, beacons, audio-visual signs, amplifiers, speakers, audible warning and evacuation systems, and internet and SMS (text-messaging) interfaces.

The F120A facilitates building response features such as air handling, lift (elevator) control, sprinkler monitoring, door control and extinguishing agent release.

A range of LCD and LED mimic panels provide optional remote display, control and monitoring capabilities. The F120A is fully compatible with Pertronic FireMap PC Graphics and the Pertronic Network.



**F120A Analogue Addressable  
Fire Alarm Control Panel**

## Standard Features:

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- » Standard F120A control panel with LCD display, fire-fighter, and engineer controls
- » Lockable front door
- » Two analogue addressable loop circuits. (Expandable up to twenty loops. Refer to pages 2 & 3 for details.)
- » Two monitored sounder (**External Bell, Warning**) circuits
- » Monitored **Ancillary Control Function (ACF)** output
- » **Fire, Fault, and Battery Fail** relay outputs
- » **Door Holder** relay output
- » Programmable (**General Purpose**) relay output
- » Isolate controls for: **Warning System, External Bell, ACF, Door Holder**
- » Daily automatic system integrity test
- » Serial port for PC programming and interrogation via the user-friendly Pertronic utility application
- » Serial communications bus (RS 485) for networking with other fire alarm control panels and for interfacing to LCD and LED mimic panels and ancillary peripheral units
- » Standard cabinets, with window and manual call point on front door: 16U, 28U Slim, 28U Deep, 40U Deep, Double 40U (Note: Call point optional on 40U cabinets)
- » Weatherproof cabinets (window optional): 16U, 28U
- » Document holder fitted as standard equipment on 16U cabinet. (Optional on other cabinets, except 16U weatherproof.)
- » Other cabinet sizes and styles available for special orders
- » Assembled according to customer order
- » Pertronic factory engineering drawings are supplied with every F120A fire alarm control panel
- » Fully compliant with Australian Standard 4428.1
- » Air handling controls (if fitted) comply with AS 1668

## Optional Components:

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Pertronic Industries supply an extensive range of options for the F120A Fire Alarm Control Panel. The number and type of internal options required for a specific project will affect the choice of cabinet size, power supply current rating, and battery capacity\*.

The following list summarises popular internal options. The tables on page 3 indicate the typical number of standard-size internal options that are able to be installed in each cabinet. (Standard-size options are marked “†” in the list below.)

- » **Two-Loop Driver (F120P2LMB-A)†**: Provides two analogue addressable loops.
- » **Addressable Loop Responder (AALRES-A)†**: Provides eight conventional detection zone circuits or switch input circuits and one form C relay contact.
- » **Addressable Loop Relay (AALREL)†**: Provides four programmable outputs: active loop or external powered and monitored or volt free relay contacts. Also one fault monitoring input.
- » **AA Isolator Board (8SAAIB)†**: Provides eight isolated analogue addressable loop spurs. Allows conventional fire alarm zones to be converted to analogue addressable spurs using the existing cable, when upgrading from a conventional to an intelligent fire alarm control panel.
- » **Hand-Held Microphone** and cradle, mounted on front panel.
- » **Evacuation Amplifiers**: Complete with evacuation tone generator and a single monitored 100 Volt Line output for speakers:
  - 20 Watt (EVAC20W24V-T3)†.
  - 50 Watt (EVAC50W24V-A)†.
- » **Evacuation Amplifiers\*\***: Require evacuation tone generator:
  - 120 Watt (EVAC120W24V).
  - 250 Watt (EVAC250W24V).
- » **Evacuation Generator (EVACGEN-EA)†**: Provides inputs for local and remote microphones, evacuation tones, standard or custom evacuation messages, and monitoring for audio amplifiers.
- » **Audio Distribution Module (ADM-4)†**: Provides multiple audio channels from a single 100 Volt Line. Continuously monitors all channels for line faults. A line fault on any channel does not prevent operation on other channels. Multiple ADM-4 units may be installed in an F120A.
- » **Warning System Control Switch (WARNSYSCON)**: Provides **Public Address (PA)**, **Manual Alert**, and **Manual Evacuation** functions, when used with an evacuation amplifier. Occupies one unit on the *Fan Control Plate* (see below).
- » **Building Occupant Warning System (BOWS)**: Audible alert warning for small to medium systems.
- » **Emergency Warning and Information System (EWIS)§**: Audible voice warning and emergency intercom system.
- » **Bell Monitor Board (ZMB24V)†**: Provides additional monitored output circuits for warning devices such as strobes, sounders (bells), and audio-visual signs.
- » **Fan Control Plate**: A 3U rack-mounted front plate that accepts any combination of control units and AFI displays. Each Fan Control Plate accepts 10 standard units or five AFI displays.
  - **AS1668 Fan Control Unit**: Occupies one space on the Fan Control Plate.
  - **AFI Display**: Alarm, fault, and isolate indicators for 8 zones. Occupies two spaces on the Fan Control Plate.
  - Contact Pertronic Industries for more information.
- » **Network Control Unit**: Fits in place of the F120A keyboard & screen, allowing control and interrogation of a Pertronic Network. Also available in a separate, standalone cabinet.
- » **Network Card (NETCARD)†**: Interfaces the fire alarm panel with a Pertronic Network.
- » **Ethernet Gateway (NET2GATE)†**: Interfaces the fire alarm panel with any Ethernet network including a virtual private network (VPN), or the Internet.
- » **General Purpose Interfaces†**: BACNet, Modbus, Nurse Call Pager, Printer.
- » **Fibre Optic Interface†**: RS-232, RS-485, or Ethernet.
- » **Brigade Transmitter Interface**: Some brigade transmitters may need additional relay outputs. The 8WCOMR provides a suitable interface.
- » **Ancillary Peripherals†**:
  - 48-way Open Collector Board (48WOC-IF).
  - 8 Way Relay Card (8RLYM).
  - 8 Way Common Relay Board (8WCOMR).
- » **Aux Panel Relay (RLY24V)†**: A single 2-pole 4 amp 24 Vdc form C contact.
- » **DC-DC Converter†**: Isolated supply to increase noise immunity of one pair of analogue addressable loops.
- » **24 Vdc Door Holder Power Supply†**: 2 amp, 5 amp, 10 amp

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\* The fire alarm panel's maximum total current consumption, including any auxiliary power outputs, must not exceed the power supply's maximum capacity. Most optional components draw their maximum current when the system is in **Alarm** mode. The Pertronic website ([www.pertronic.com.au](http://www.pertronic.com.au)) provides a calculator for computing supply current and battery capacity.

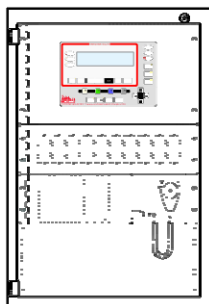
† Standard size internal options.

‡ Small internal options.

§ An F120A system with built-in EWIS may be assembled in a non-standard cabinet. Contact your nearest Pertronic Industries branch or representative office to confirm the cabinet dimensions.

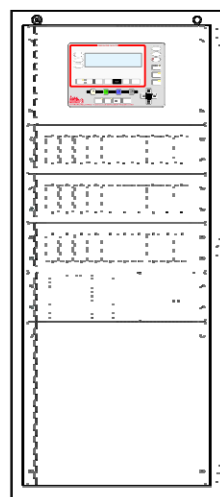
\*\* The 120 Watt and 250 Watt Amplifiers are larger than other internal options. Refer to the Pertronic website ([www.pertronic.com.au](http://www.pertronic.com.au)) for details.

## F120A in 16U Cabinet



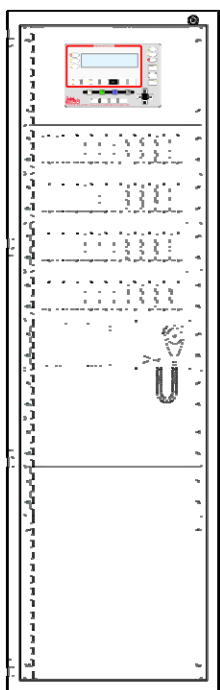
Product Code <sup>1</sup>	Description	Maximum Number of Loops <sup>2</sup>	Maximum Number of Std. Options <sup>3</sup>
F120A-A16U/4A	F120A Analogue Addressable 2 Loop Panel, 4 Amp PSU	10	4
F120A-A16UEA50/4A <sup>4</sup>	F120A 2 Loop with 50W Amplifier + Mic, 4 Amp PSU	2	0
F120A-A16UNCU/4A	F120A 2 Loop with Network Control Unit, 4 Amp PSU	6	2
F120A-A16U/12A	F120A 2 Loop, 12 Amp PSU	10	4
F120A-A16UEA50/12A	F120A 2 Loop with 50W Amplifier + Mic, 12 Amp PSU	8	3
F120A-A16UEA120/12A	F120A 2 Loop with 120W Amplifier + Mic, 12 Amp PSU	4	2
F120A-A16UNCU/12A	F120A 2 Loop with Network Control Unit, 12 Amp PSU	6	2

## F120A in 28U Slim and 28U Standard Cabinets



Product Code <sup>1</sup>	Description	Maximum Number of Loops <sup>2</sup>	Maximum Number of Std. Options <sup>3</sup>
F120A-A28US/4A	F120A Slim 2 Loop, 4 Amp PSU	10	15
F120A-A28USEA50/4A <sup>4</sup>	F120A Slim 2 Loop with 50W Amplifier + Mic, 4 Amp PSU	2	0
F120A-A28USNCU/4A	F120A Slim 2 Loop with Network Control Unit, 4 Amp PSU	10	13
F120A-A28US/12A <sup>5</sup>	F120A Slim 2 Loop, 12 Amp PSU	20	15
F120A-A28USEA50/12A <sup>5</sup>	F120A Slim 2 Loop with 50W Amplifier + Mic, 12 Amp PSU	20	14
F120A-A28USEA120/12A <sup>5</sup>	F120A Slim 2 Loop with 120W Amplifier + Mic, 12 Amp PSU	20	13
F120A-A28USNCU/12A <sup>5</sup>	F120A Slim 2 Loop w. Network Control Unit, 12 Amp PSU	20	13
F120A-A28U/4A	F120A 2 Loop, 4 Amp PSU	10	15
F120A-A28UEA50/4A <sup>4</sup>	F120A 2 Loop with 50W Amplifier, 4 Amp PSU	2	0
F120A-A28UNCU/4A	F120A 2 Loop with Network Control Unit, 4 Amp PSU	10	13
F120A-A28U/12A <sup>5</sup>	F120A 2 Loop, 12 Amp PSU	20	15
F120A-A28UEA50/12A <sup>5</sup>	F120A 2 Loop with 50W Amplifier + Mic, 12 Amp PSU	20	14
F120A-A28UEA120/12A <sup>5</sup>	F120A 2 Loop with 120W Amplifier + Mic, 12 Amp PSU	20	13
F120A-A28UNCU/12A <sup>5</sup>	F120A 2 Loop with Network Control Unit, 12 Amp PSU	20	13

## F120A in 40U Cabinet



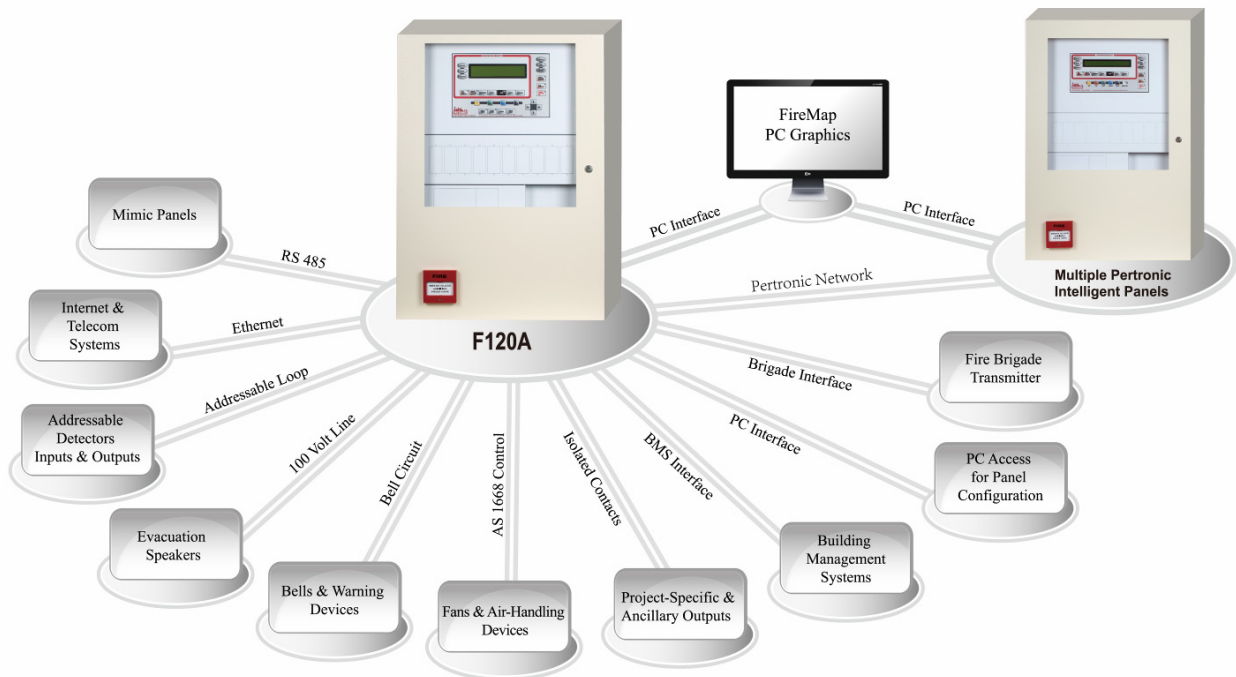
Product Code <sup>1</sup>	Description	Maximum Number of Loops <sup>2</sup>	Maximum Number of Std. Options <sup>3</sup>
F120A-A40U/4A	F120A 2 Loop, 4 Amp PSU	10	23
F120A-A40UEA50/4A <sup>4</sup>	F120A 2 Loop, 50W Amplifier + Mic, 4 Amp PSU	2	0
F120A-A40UNCU/4A	F120A 2 Loop with Network Control Unit, 4 Amp PSU	10	21
F120A-A40U/12A <sup>5</sup>	F120A 2 Loop, 12 Amp PSU	20	23
F120A-A40UEA50/12A <sup>5</sup>	F120A 2 Loop, 50W Amplifier + Mic, 12 Amp PSU	20	22
F120A-A40UEA120/12A <sup>5</sup>	F120A 2 Loop, 120W Amplifier + Mic, 12 Amp PSU	20	21
F120A-A40UNCU/12A <sup>5</sup>	F120A 2 Loop c/w Network Control Unit, 12 Amp PSU	20	21

## F120A Cabinet Dimensions

	Height	Width	Depth	Protrusion
<b>16U Cabinet</b>	800 mm	550 mm	185 mm	30 (MCP)
<b>28U Slim Cabinet</b>	1330 mm	575 mm	290 mm	30 (MCP)
<b>28U Deep Cabinet</b>	1330 mm	575 mm	385 mm	30 (MCP)
<b>40U Deep Cabinet</b>	1865 mm	575 mm	385 mm	0
<b>16U Weatherproof Cabinet, IP 55, with window</b>	800 mm	600 mm	260 mm	30 (Handle)
<b>16U Weatherproof Cabinet, IP 65 (no window)</b>	800 mm	600 mm	260 mm	30 (Handle)
<b>28U Weatherproof Cabinet, IP X5, with window</b>	1330 mm	600 mm	260 mm	30 (Handle)
<b>28U Weatherproof Cabinet, IP X5 (no window)</b>	1330 mm	600 mm	260 mm	30 (Handle)
<b>Cabinet Colour: RAL9001 (BS4800:10B15)</b>				
<b>Note:</b> The installation must provide adequate clearance for in-service requirements including room to swing the door open, and provision for access during maintenance. Actual dimensions may vary slightly.				

1. These product codes specify white front plates. To specify grey front plates, add a suffix "-G" to the product code. For example: F120A-A28U/12A-G.
2. Standard F120A fire alarm panels have one Two-Loop Driver, which provides two analogue addressable loops. Each additional Two-Loop Driver takes the place of one standard size internal option.
3. Maximum number of standard options: The number of additional standard size internal options that typically fit inside the cabinet, provided that the power supply is capable of supplying the system's maximum current consumption. Popular options are described on page 2 (standard-size options are marked †). This information is for guidance only. Contact your nearest Pertronic Industries branch or representative to confirm your requirements.
4. The power supplies in these F120A panels are fully loaded. Any additional equipment installed in these cabinets must have its own power supply.
5. These F120A panels can be fitted with additional power supply units if necessary to satisfy project requirements.

## System Architecture:



Conceptual diagram of a fire alarm system based on an F120A, showing the available input & output circuits and communication & networking options.

## Software Features:

- » User definable text descriptor per point and zone
- » User isolation of zones and individual sensors
- » Sensor **Pre-Alarm** and **Maintenance** warnings
- » Multiple configurable action levels per sensor (with appropriate sensor types)
- » Individual sensor dual sensitivity for configurable automatic **Day / Night** operation
- » **Alarm Verification** option to reduce nuisance alarms
- » Automatic history log of system events
- » **Auto-Learn** function for fast loop configuration
- » Configurable from front panel or PC
- » Control event grouping capability
- » Programmable timers and logic gates
- » Automatic clock adjustment for daylight saving
- » Automatic daily system test of charger, batteries and sensors
- » **Memory Lock** switch to write-protect configuration data
- » Fire alarm control panel door interlock switch

## Listings and Approvals:

- » ActivFire: afp-1663

## Specifications:

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|--|--|
| » Display                                | 4 line x 40 character backlit LCD  |
| » Addressable Loops                      | 2 to 20 loops (2-loop increments)  |
| » Intelligent Sensors                    | 159 per loop   |
| » Intelligent Modules                    | 99 input/output modules per loop   |
| » Zones                                  | 256  |
| » Groups                                 | 200  |
| » AS1668 Controls                        | 400 fan or air handling devices  |
| » History Log                            | 2000 time-stamped events   |
| » Relays                                 |  |
| o Fire, Fault, Batt. Fault, Gen. Purpose | 2 A @ 30 Vdc   |
| o Door Holder                            | 5 A @ 30 Vdc   |
| » Monitored Outputs                      |  |
| o Ancillary Control Function (ACF):      | 2 A @ 30 Vdc   |
| o Warning System, External Bell:         | 5 A @ 30 Vdc   |
| » Loop Length                            | With appropriate configuration the loop length can be up to 2,500 m. Loop configuration must be verified using the online loop calculator at <a href="http://www.pertronic.com.au/">http://www.pertronic.com.au/</a> |
| » Loop Resistance                        | Maximum 50 Ω   |
| » Loop Current                           | Maximum 350 mA   |
| » Serial Ports                           | RS-232; RS-485   |
| » Battery Capacity                       | 16U           33 Ah  |
| (maximum)                                | 28U Slim    40 Ah  |
|  | Other           To suit project  |

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