



# F16e

## 8-32 Zone Conventional Fire Alarm Panel (NZS 4512:2003)

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ISO 9001: 2000

International Standards  
Certifications  
QAC/R61/0051

### Product Overview:

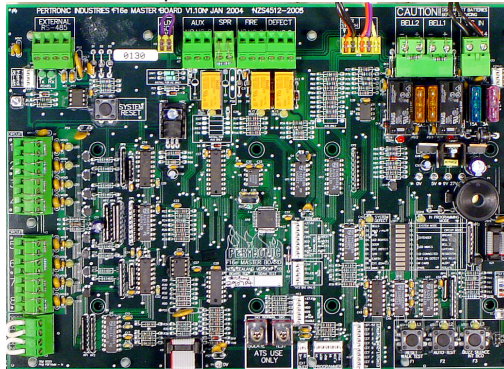
The **Pertronic F16e** is a conventional automatic Fire Alarm system designed for small to medium building applications.

The base system has 8 circuits – expandable to 32 circuits by adding extra 8-circuit Expander Modules.

**F16e** Panels are available to comply with the requirements of the New Zealand Building Code and with New Zealand Standards NZS4512:2003 and/or NZS4512:1997.

The **F16e** supports Pertronic indicating Manual Call-Points, indicating Heat Detectors and Smoke Detectors with 2003 firmware and both indicating and non-indicating Manual Call-Points and Heat Detectors and Smoke Detectors with 1997 firmware.

An **F16e** may be configured with separate 2003 and 1997 Master and Extender boards to provide circuits to both standards.



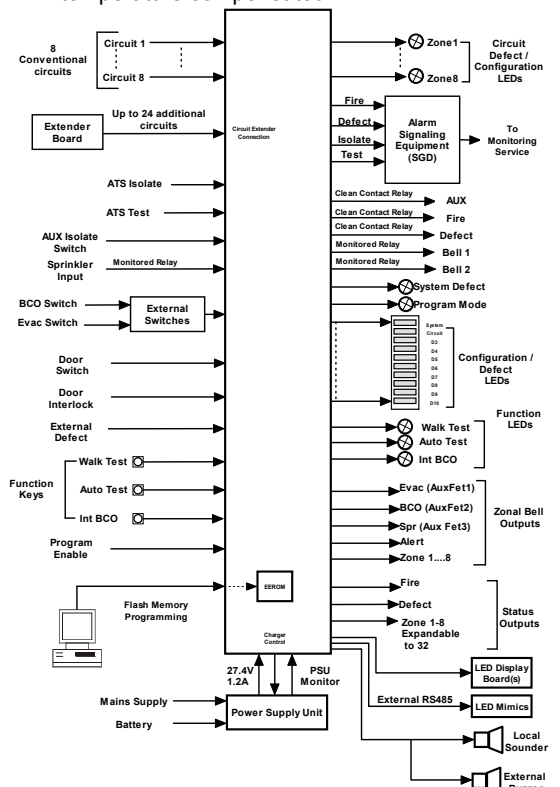
### Specifications:

	<b>Mini Panel</b>	<b>Large Panel</b>
➤ Cabinet: Dimensions	410 x 450 x 130	600 x 450 x 130      H x W x D (mm)
	Weight      4kg - excluding battery	6kg - excluding battery
	Material      1.2mm mild steel, powder coated beige	- other colours optional.
➤ Power Supply:	110-250Vac, 50/60Hz, 60VA.	
➤ DC Current Consumption: Mains OFF		
	Normal:      70mA	
	Alarm:      +35mA	
	+120mA	
➤ Battery Type: Sealed lead acid	24Vdc, 7 to 21Ah	
➤ Charger: Integral float charger	27.4Vdc, 1.2A	
➤ Power Supply Timer: Automatic 24-Hour load test with automatic 'Battery Absent' detection circuitry		
➤ 8 to 32 zones terminated with a 10kΩ End-of-Line (EOL) resistor.		
➤ Alarm triggered by smoke detector operation with 1-second alarm verification or instant operation for indicating heat detector or indicating manual call-point.		
➤ Up to 40 System Sensor photo-electronic smoke detectors or 40 System Sensor ionisation smoke detectors may be connected to each zone circuit in addition to an unlimited number of <b>Pertronic</b> indicating heat detectors and indicating manual call-points.		
➤ Two (2) Bell circuits, rated at 24Vdc, 5A, monitored with a 10kΩ, 1% EOL terminating resistor.		
➤ Recommended sander:		
	➤ EVAC50W24V or EVAC20W24V Amplifier and PSS1 or PSSB401 100V Line Speakers	
	➤ PS1 and PS2 Sounders	

### Important Note:

A hard short-circuit or open-circuit produce a 'Defect' signal on panels to NZS4512:2003, so Non-indicating Heat Detectors and Manual Call-Points will NOT produce a 'Fire' signal when triggered and MUST NOT be used with the NZS4512:2003 standard **F16e** panel. They may however be used on F16e panels with circuits to NZS4512:1997

- **F16e** panel only, 8 circuits
- add for each additional 8 circuit module
- 'Fire' relays on. 'Sounder' load to be added.
- internally mounted.
- temperature compensated



## Standard Features:

### Detector Circuit:

- 8 to 32 circuits in increments of 8 circuits
- Each circuit accepts up to 40 System Sensor Series 100 or Series 300 Smoke Detectors, and an unlimited number of Pertronic indicating Manual Call-Points and indicating Heat Detectors (NZS4512:2003) or an unlimited number of Pertronic indicating or non-indicating Manual Call-Points and Heat Detectors (NZS4512:1997)
- A separate 20V regulator is used to supply the detector circuits
- The circuits use a floating 'datum' to monitor the detectors – compensates for slow variations in environmental factors.
- All circuits must be terminated with 10kΩ, 1% EOL resistors
- Each circuit may be individually isolated
- Smoke detectors have 1-second alarm verification (AVF)
- Heat detectors and Manual Call-points give instantaneous (within 1 sec) response.
- Zone circuit self test on start-up and every 24 hours

### Inputs:

- 'Internal Bell Cut-Off' and 'Silence Alarms' or 'External Bell Cut-Off' (BCO) switches
- Trial Evacuation key-switch
- Monitored DBA/Sprinkler input
- Door Interlock input.
- External Defect input

### Outputs:

- One (1) 'Fire' relay with changeover contacts rated at 24Vdc, 2.0A, normally de-energised
- One (1) 'Defect' relay with changeover contacts rated at 24Vdc, 2.0A, normally energised
- Two (2) monitored Sounder relays, 'Bell1' and 'Bell2', with voltage-reversal changeover contacts rated at 24Vdc, 5A. Mappable
- One (1) non-monitored Auxiliary Form 'C' relay, 'AUX', with 'Isolate' control. The normally de-energised contacts are rated at 24Vdc, 1.25A. Mappable.
- Six (6) Auxiliary FET current-sink drivers: Fire, Evacuation, Sprinkler, Silence Alarms, Alert and Defect.
  - These outputs may be used to control Ancillary devices.
  - The Alert output may be configured to operate for each circuit individually.
- An open-collector output is available for each circuit/zone to drive auxiliary equipment: active when circuits are in 'Alarm'.
- External Buzzer extension
- LED Display:
  - Four (4) global LEDs (Fire, Defect, Sprinkler, Normal) plus up to 32 zone LEDs.
  - Residential mode smoke indicators may use up to 32 additional display LEDs

## Product Codes:

Description	2003 Code	1997 Code	Description	Code
F16e 450mm Mini Front Service 8cct	F16EMF	F16EMF-97	50W, 24V Amplifier	EVAC50W24V
F16e 450mm Mini Rear Service 8cct	F16EMR	F16EMR-97	20W, 24V Amplifier	EVAC20W24V
F16e 600mm Cabinet Front Service 8cct	F16ELF	F16ELF-97		
F16e 600mm Cabinet Rear Service 8cct	F16ELR	F16ELR-97		
F16e 900mm Cabinet Front Service 8cct	F16ETF	F16ETF-97	SGD Board, Version 7	SGD7
F16e 900mm Cabinet Rear Service 8cct	F16ETR	F16ETR-97	SGD8 : 2-Wire Multidrop	SGD8MD
F16e 8cct Extension Board	F16EX	F16EX-97	Pertronic Sounder Speaker 1W, 100V	PSS1
F16e Master Board	F16EZMB	F16EZMB-97	Pertronic Speaker and B401 Base	PSSB401

### Defect Display:

- Individual 'Defect' LEDs for each circuit.
- Separate Bell, Battery 'Defect' and decoded System 'Defect' LEDs, using a 10-way bar-graph LED display

### Configuration Keys:

- Three (3) buttons and 10-way bar-graph LED display for configuration set-up and circuit isolation
- Each circuit is configurable with six (6) options:
  - Brigade calling
  - Operation of Bell 1 and/or Bell 2 outputs
  - Zone: latching or non-latching
  - Residential / Apartment mode
  - Alert control output
  - Auxiliary Relay operation

### Other Functions:

- AUX Isolate switch or connector for remote isolation.
- External RS485 connection for up to three (3) remote LED Mimic Displays.
- Earth Leakage monitoring
- System test functions include:
  - 'Battery Absent' monitoring
  - 1 hour load test of the batteries every 24 hours
  - Testing of each circuit for correct operation on 'start-up' and once every 24 hours.
- Integrated piezo alarm with selectable 'Piezo on Defect' warning.
- Network capability. (Future option)

### Optional Features:

- Front or Rear Service cabinet

### SGD:

- Electrically isolated interface to an alarm transmitter (SGD) providing 'Fire', 'Defect', 'Isolate' and 'Test' signals
- Clean relay contacts provide 'Fire' and 'Defect' outputs.
- Brigade 'Isolate' and 'Test' switches.
- For non-brigade connected systems, 'Buzzer on Defect' can be selected.

### Hardware Configuration to NZS4512:2003 and/or 1997:

NZ Standard	Master	Extender	Comment
NZS4512:2003	4512:2003	4512:2003	Must use Indicating devices
NZS4512:1997	4512:1997	4512:1997	May use indicating or non-indicating devices
NZS4512:2003/1997	4512:2003	4512:1997	Allows a new panel to incorporate existing connections
NZS4512:1997/2003	4512:1997	4512:2003	Allows an existing panel to be upgraded later.

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