
# FP1600 Fire Alarm System

*The FP1600 is a microprocessor based fire alarm system that is simple to operate and easy to maintain. It is self contained, with integral power supply and battery storage within a compact and unobtrusive cabinet. It provides reliable and economical monitoring for 16 fire detection zones (expandable to 96), which may include smoke detectors, heat detectors, manual call points and other compatible devices. FP1600's flexibility and versatile input/ output programming allow it to perform a wide range of fire alarm monitoring, control and signalling applications.*

## Features & Benefits

- Compact and attractive
- Low power consumption
- Internal battery and charger
- Wide detector compatibility
- Pushbutton circuit isolation
- Field programmable
- Ten different programmable detection circuit types
- "Residential" circuits to provide local, non-latching smoke warning and full manual call point alarm
- Sprinkler flow switch circuits with programmable delay
- Sprinkler evacuation inputs
- "Groups" for logical AND programming function
- AVF Gating option on smoke detector circuits reduces false alarms
- Alerting device outputs supervised with up to 3 branches
- Alarms displayed on engravable index(es)
- Built-in sounder to draw attention to local non-normal states
- Up to 8 serial remote displays
- Automated self-test
- History log tracks alarms and transient fault conditions
- Diagnostic display promotes prompt and efficient servicing
- Complies with fire alarm standard NZS 4512:2003
- Meets New Zealand Fire Service requirements for connection to remote receiving stations
- Front and rear service options
- Up to 22 programmable ancillary outputs per 16 zones for control of building services

## Reliable Operation

Reliability is a major feature of FP1600's design. All detector and alerting device circuits, earth faults, the battery connections and the power supply are fully supervised. Detection circuits and the battery supply are automatically tested daily. A supervisory 'watchdog' monitors for correct operation of system software.

## Simple to Use

Alarms are clearly annunciated on the outside of the control panel by an indexed array of LEDs, one for each alarm zone. A mimic diagram may be added if required. Remote displays can be readily connected by 4-wire cable. Keyswitches on the outside of the cabinet allow operation of the control panel by the fire brigade or owner. The Silence Alarms switch is for the Fire Brigade to use after evacuation and building search procedures. The Evacuation switch activates fire alarm system sounders for evacuation drills. The Services Restore switch allows building services that have been shut down by a fire alarm to be restarted.

## Specifications

**Mechanical**

| | |
|---|---|
| Dimensions (mm) | 510 x 485 x 110 (HWD) per 16 zones |
| Cabinet Material | 1.2 mm mild steel |
| Cabinet Finish | Baked epoxy powdercoat Cream wrinkle BFF998CW |
| Mounting Styles | Rear Service (window mount)<br>Front Service (wall mount) |
| Service Clearance | |
| - Sides | no clearance required |
| - Front | 10 mm from window (rear service). 1 m from service door |
| Shipping Weight | 10 kg (without battery) |
| Display Index | Opaque acrylic panel, internal mount |

**Environmental**

| | |
|---|---|
| Operating Temperature | 0°C to 45°C |
| Storage Temperature | -20°C to 70°C (without battery) |
| Relative Humidity | 0% to 95%, non-condensing |

**Electrical**

| | |
|---|---|
| Mains Input | 230 Vac ±10%, 50 Hz, 48W |
| Internal Battery Space | One or two 12V 6.5 Ah sealed lead-acid (not supplied) |
| Internal Charger | 13.65 V (nominal), 2A regulated, temperature compensated. Battery connection supervised |
| External Supply | 12V (optional for systems with larger power requirements) |

**Inputs**

| | |
|---|---|
| Detector Circuits | 96 detector circuits max. (in multiples of 16)<br>All circuits compatible with "legacy" clean contact, 20 volt indicating heat detectors, smoke detectors, manual call points & flowswitches. Resistor end of line supervision on all circuits |
| Other Inputs | External Defect, Local mode Defect Buzzer Cancel, Evacuation Relay Drive, Lamp Test, External Reset |

**Outputs**

| | |
|---|---|
| Evacuation | Supervised, up to 3 branches; 12 volts, 3.5 Amps. Can be configured for uncommitted changeover relay contacts; 30 volts, 5 Amps |
| Brigade Connection | Optional plug-on SGD or Relay Interface |
| Remote Display | Serial output up to 8 remote displays (3 or 4 wires), ("LCD A" protocol used) |
| Mimic Drive | Outputs to drive mimic lamps available for each zone via optional FRC and display/ termination board |
| Ancillary Outputs | Ancillary relay and 2 relay drivers fitted as standard, 19 additional ancillary relay driver outputs available via optional termination board<br>Changeover relay contacts: 30 volts, 2 Amps<br>Relay driver outputs: 30V, 200mA transistor pulldown to 1.5V |
| Ancillary Power Supply | 12V (nominal) fused at 3A |

**Part Numbers**

Refer to LT0200 for detailed ordering instructions

| | |
|---|---|
| FP0547 | FP1600 Fire Panel, Rear Service |
| FP0548 | FP1600 Fire Panel, Front Service |
| PA0861 | General Purpose Brigade Relay Interface |
| PA0862 | General Purpose SGD (with switches) |

## Easy to Test and Service

FP1600 is specifically designed for ease of test and service. The Self-Test function simplifies regular testing and ensures that it is carried out correctly and thoroughly. The Evacuation switch activates fire alarm system sounders for evacuation drills. The internal diagnostic display enables abnormal conditions to be quickly identified. Full system testing is simplified by the use of the built-in, non-latching test mode, enabling one person to perform in-situ tests of detectors. The removable index panel can be readily updated as building changes take place. Ancillary outputs can be automatically isolated when the control panel door is opened (a programmable option) to guard against accidental shutdown of building services. Pushbutton circuit isolation allows zones to be disabled for service. An indication prevents zones being inadvertently left permanently isolated. A history log stores the last 15 events to assist with servicing and fault tracing.

## Programmable

FP1600 is easily programmed in the field using a PC or the four, built-in, pushbutton programming switches and 7-segment displays. A downloadable software tool is available for PC programming. Site specific configuration parameters are stored in non-volatile memory which remains protected even if the system's power supply is removed.

## Versatile Input Monitoring

The flexibility of FP1600 is enhanced by the design and programmable operation of the detection circuit inputs. All zone inputs operate at 20 volts and so may be used with a wide range of heat, smoke and other special purpose fire detectors.

## Approvals

The Vigilant FP1600 complies with NZS 4512:2003 "Fire Detection and Alarm Systems in Buildings"
FPANZ listing number VF/103