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Part No. 90187 (07/07)

STATIC SYSTEMS GROUP

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welcome to our world

fire alarm systems - series 600

Best Solution

As an established provider of fire alarm systems we understand the requirement for accurate and fast fire detection, good alarm reporting, ease of installation, commissioning and on-going servicing - all of which can only be achieved by providing the right system for the job.

Introduced specifically for the protection of small to medium sized buildings, such as community hospitals, care homes, detention centres and court houses, Series 600 fire alarm systems offer the best in product research, system design and equipment manufacture.

System Confidence

Systems are individually designed by Static Systems' LPS 1014 accredited fire alarm projects team; bringing together all elements of fire detection, annunciation and control to ensure efficient operation with minimum false alarms.

Choice of Control Equipment

Series 600 analogue addressable fire alarm control and indicating panels are BSI approved and fully comply with EN54: Parts 2 & 4. Systems can be specified with 1, 2 or 4 detection loops with the ability to accommodate up to 96 zones. Each loop is capable of supporting up to 126 analogue addressable devices including detectors, sounders and outstations to allow for the connection of conventionally wired devices and automatic door closers, damper control units, etc.

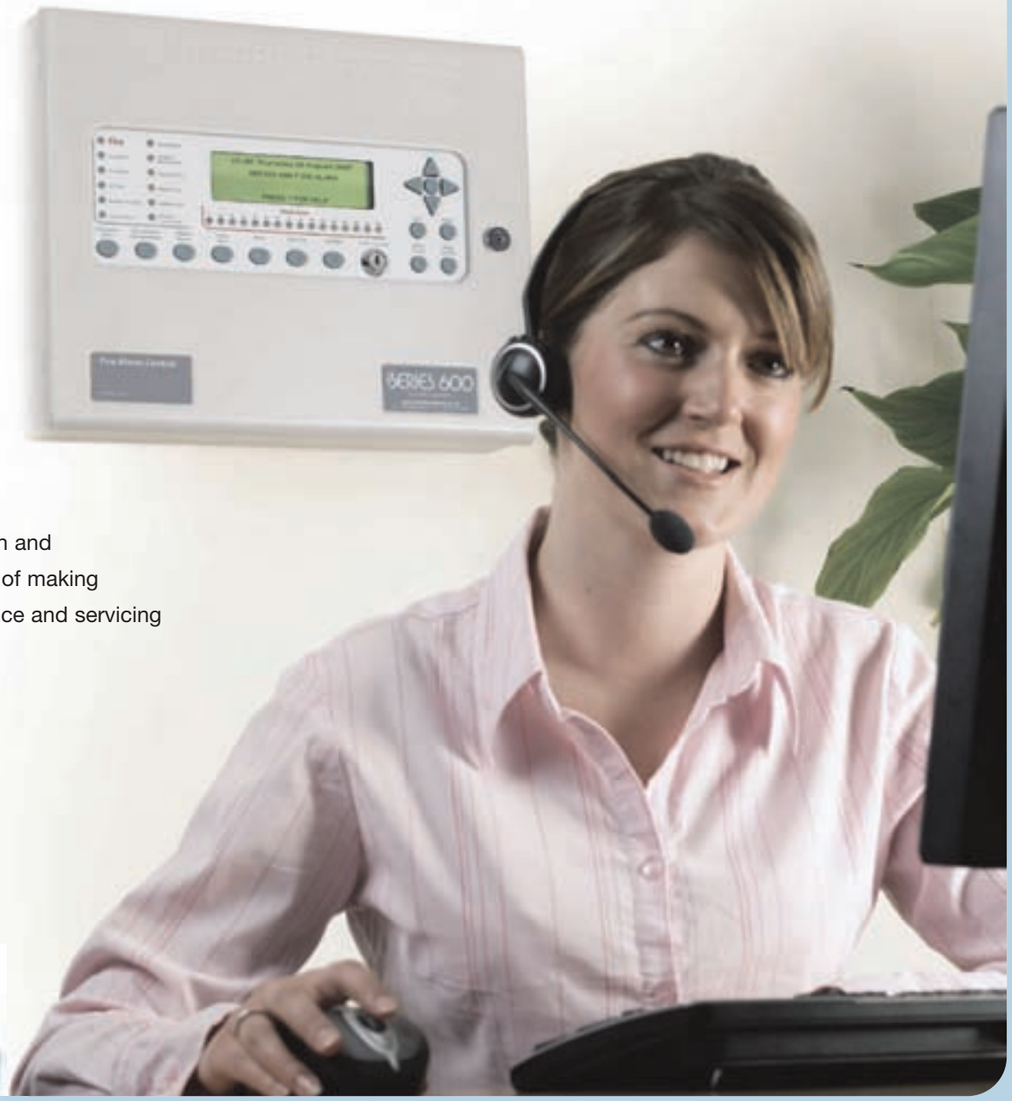
Sophisticated Detection

Discovery® protocol developed by Apollo Fire Detectors Limited has been adopted as the preferred option with all Series 600 control panels. Chosen for their sophistication and reliability in operation, each detection device in the Discovery range automatically compensates for contamination and has the ability to be remotely adjusted from the control panel for five different operating modes (levels of sensitivity) according to each particular environment.

A coded plastic card plugged into the detector base provides for simple, user-friendly and accurate identification of device location. All electronic components are fitted into the head with the location information being held in the base. This method of addressing simplifies and speeds up installation and commissioning, with the possibility of making addressing errors during maintenance and servicing being eliminated.

...working in partnership with:

apollo
WORLD CLASS FIRE SOLUTIONS



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Series 600 control panels include as standard a number of operational functions to assist with initial installation and the smooth day-to-day running of the system.

Auto-learn function interrogates the newly installed loops and automatically identifies all devices. From this point the system is fully operational as a single zone, one-out, all-out system.

Programmable function buttons simplify system disablements and allow for site specific functions.

Separate operating modes for day and night operation.

One-touch testing enables system interrogation to take place without raising a fire alarm condition.

Event logging provides historical data on the last 1,000 events. Comprising: fire, fault and engineering activities, Logs can be viewed from the control panel or printed.

System functions are supported by 'help' pages and are access controlled to prevent unauthorised use.

SERIES 600
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Series 600 Single Loop Control Panel

The Series 600 Single Loop Control Panel is a versatile, analogue addressable unit suitable for the protection of small to medium sized buildings. Offering 2 programmable direct wired sounder circuits and capable of hosting up to 126 loop powered devices, the Series 600 unit uses leading edge microprocessor based electronics to provide a flexible control system with proven reliability and integrity.

With its large text display and ergonomically designed buttons and panel layout, the Series 600 Control Panel with 16 LED zone indicators, is simple and straightforward to understand for installers, commissioning engineers and end users alike.

Functions:

- Reset, Evacuate, Silence Alarm, Silence Buzzer, Lamp Test, Resound
- Programmable function button
- Contamination status
- Display suppressed fire events
- Display all other suppressed events
- Disablements
- View devices
- Test zones
- Set system time

Technical Specification:

Construction	1.2mm sheet steel
Enclosure Finish	Lid & Box - BS 00 A 05 (grey textured) Controls Plate - RAL 7047 (light grey)
Mains Voltage Supply	230V AC 50 or 60 Hz
Operating Temperature	-5 to +35°C
Sounder Output Rating	2 no. Fused at 500mA each
Loop Operating Voltage	Modulated 24 - 32 V
Panel Quiescent Current	1 Loop panel in mains fail = 130mA (excluding detection devices)
Approx. Weight	8kg (excluding batteries)
Ingress Protection	IP30
Standby Period	24 hours from 7Ah batteries

Part No: 60001
Single Loop Control Panel

Surface - 385mm(w) x 310mm(h) x 90mm(d)
Flush - 415mm(w) x 315mm(h) x 86mm(d)

- Ergonomically designed buttons
- High brightness LED indicators
- Large, easy-to-read, anti-vandal LCD display (240 x 64 pixels)
- Control enable keyswitch for extra security
- In-built ‘help’ and ‘alarm information’ screens
- Real time clock

Series 600 Multi-loop Control Panels

Designed for the protection of medium sized installations, Series 600 Multi-loop Control Panels are available with either 2 or 4 analogue addressable detection loops, and a choice of either 16, 48 or 96 LED zone indicators.

Each control panel supports 4 direct wired sounder circuits and can be programmed to operate auxillary outputs as well as receive signals from other alarm equipment. A graphical display provides information in plain text format, with additional user information available through the ‘help’ button.

Series 600 panels use advanced microprocessor technology to provide a control system of extremely high integrity and they are also designed for easy expansion - providing a future proof solution for any installation.

Technical Specification:

Construction	1.2mm sheet steel
Enclosure Finish	Lid & Box - BS 00 A 05 (grey textured) Controls Plate - RAL 7047 (light grey)
Mains Voltage Supply	230V AC 50 or 60 Hz
Operating Temperature	-5 to +35ºC
Sounder Output Rating	2 no. Fused at 1Amp each
Loop Operating Voltage	Modulated 24 - 32 V
Panel Quiescent Current	4 Loop panel in mains fail = 360mA (excluding detection devices)
Approx. Weight	12kg
Ingress Protection	IP30
Standby Period	24 hours from 12Ah batteries

- **Ergonomically designed buttons**
- **High brightness LED indicators**
- **Large, easy-to-read, anti-vandal LCD display (240 x 64 pixels)**
- **Control enable keyswitch for extra security**
- **In-built ‘help’ and ‘alarm information’ screens**
- **Real time clock**

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Functions:

- **Reset, Evacuate, Silence Alarm, Silence Buzzer, Lamp Test, Resound.**
- **2 programmable function buttons**
- **Contamination status**
- **Display suppressed fire events**
- **Display all other suppressed events**
- **Disablements**
- **View devices**
- **Test zones**
- **Set system time**

Part No: 60002
2 Loop, 16 Zone Control Panel
Part No: 60003
2 Loop, 48 Zone Control Panel
Part No: 60004
2 Loop, 96 Zone Control Panel
Part No: 60005
4 Loop, 16 Zone Control Panel
Part No: 60006
4 Loop, 48 Zone Control Panel
Part No: 60007
4 Loop, 96 Zone Control Panel

Surface - 500mm(w) x 355mm(h) x 117mm(d)
Flush - 506mm(w) x 360mm(h) x 130mm(d)

Series 600 Full Function Repeater Panel

Styled similarly to Series 600 Fire Alarm Control Panels, the Full Function Repeater Panel provides a simple and convenient method of extending the controls and indications of the Control Panel to other locations.

The graphics liquid crystal display and high brightness LED indicators duplicate the indications on the Fire Alarm Control Panel at up to 15 additional locations via a simple, two-wire serial data connection.

The Series 600 Full Function Repeater Panel is available in either a 24V DC powered option (which can be powered via an additional 2 cores from the Series 600 Control panel/local 24V DC supply) or a 230V AC powered option with local battery back-up.

Technical Specification:

Construction	1.2mm sheet steel
Enclosure Finish	Lid & Box - BS 00 A 05 (grey textured) Controls Plate - RAL 7047 (light grey)
Mains Voltage Supply	230V AC 50 or 60 Hz
Operating Temperature	-5 to +40ºC
Panel Quiescent Current	Mains fail = 30mA
Approx. Weight	5kg
Ingress Protection	IP30
Standby Period	24 hours from 1.9Ah batteries

Functions:

- Reset, Evacuate, Silence Alarm, Silence Buzzer, Lamp Test, Resound.
- Contamination status
- Display suppressed fire events
- Display all other suppressed events
- Disablements
- View devices
- Test zones
- Set system time

Part No: 60008
Full Function Repeater Panel (24V DC)

Part No: 60009
Full Function Repeater Panel (230V AC)

Surface - 330mm(w) x 255mm(h) x 90mm(d)
Flush - 330mm(w) x 255mm(h) x 90mm(d)

Series 600 Analogue Addressable Fire Alarm Control Panel

RS232 for connection of event printer

Monitored two-wire serial connection

Series 600 Full Function Repeater Panel

Sounder Circuit 4

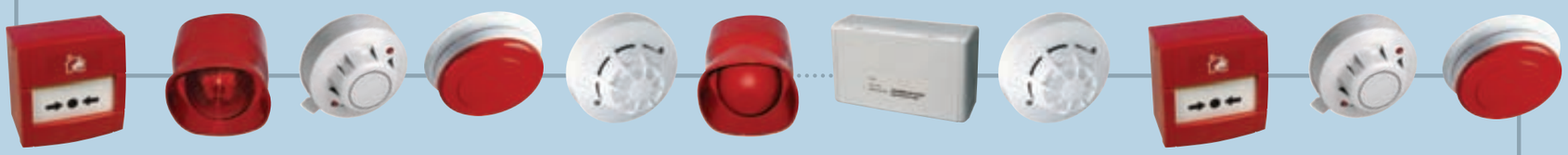
Sounder Circuit 3

Sounder Circuit 2

Sounder Circuit 1

Loop 2 Loop 3 Loop 4

Loop 1



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Series 600 Control Panels are available in various configurations to meet the specific requirements of the individual site.

- Single Loop Control Panels are supplied with 16 LED zone indicators and 2 direct wired sounder circuits.
- Multi-loop Control Panels are supplied with 2 or 4 detection loops, 4 direct wired sounder circuits and a choice of 16, 48 or 96 zone indicators.
- Each analogue addressable loop is capable of hosting up to 126 Apollo Discovery devices.
- Up to 15 Full Function Repeater Panels can be connected to each Fire Control Panel.

Cable Specification:

Size: Up to 2.5mm² solid or stranded cable

Type: Firetuff, FP200 or approved equivalent

Series 600 panels comply with BSEN 54-2 & BSEN 54-4 and are BSI approved.

System Design Guide

The preservation of life and the protection of property are important issues and consequently much consideration should be given to the design of a fire alarm system.

The following pages are intended as a guide and give basic recommendations only. BS 5839: Part 1: 2002 should be read in full, and the local fire officer consulted throughout. Depending on the buildings use other standards (eg. BS 6266, HTM 05-03 Part B) may also apply.

The first steps in designing a fire alarm system are to decide:

- Based on a risk assessment, what the objectives of installing a fire alarm system are;
- Which areas of the building are to be covered and where the escape routes are;
- Action to be taken in the event of a fire situation;
- Method of calling the fire brigade and likely attendance time;
- Whether other occupants of a multi-occupancy building will be affected;
- If there is a necessity for phased installation which would require a flexible fire alarm system capable of easily accommodating the changes;
- Implications for people with disabilities or special needs.

Answers to the above will indicate the level of cover required, ie: L1, L2, L3, L4 & L5, P1, P2, M, and enable a choice between analogue addressable or direct wired fire alarm system to be made.

Zoning of the Building

Based generally on the following criteria, the premises should be divided into areas, or zones, to enable speedy and accurate location of the fire source in the event of a fire alarm.

- The floor area covered by one zone should not exceed 2000m^2
- A zone can only cover more than one floor if the total floor area is 300m^2 or less. If the total floor area is greater than 300m^2, each floor should be a separate zone.
- The search distance of a zone should not exceed 60m.
- Where stairwells extend beyond one floor, but are in one fire compartment the stairwell should be a separate zone.

Communication with the Fire Service

BS 5839: Part 1: 2002 Clause 15.2 calls for companies to make adequate provision for summoning the fire service when a fire alarm operates.

An effective way of doing this is via an automatic communication link with an Alarm Receiving Centre.

Types of System

L1: Systems intended primarily for life safety and covering the entire building.

L2: Systems intended primarily for life safety and covering only defined parts of the building, including those areas defined in L3.

L3: Systems intended to give a warning of fire at an early enough stage to enable all occupants, other than possibly those in the room of the fire origin, to escape safely before the escape routes are impassable.

L4: Systems intended to enhance the safety of occupants by providing warning of smoke within escape routes, for example corridors and stairways.

L5: Systems intended to protect a specific fire safety objective (other than L1, L2, L3 or L4 systems).

P1: Systems intended primarily for the protection of property and covering the entire building.

P2: Systems intended primarily for the protection of property and covering only part of the building.

M: Systems having no means of automatic fire detection and relying on operation of a manual call point.

SERIES 600

Initiation Devices

Manual Call Points

It is recommended that manual call points are mounted 1.4 metres above floor level, in well lit and conspicuous positions, free from obstruction, on exit routes, floor landings of staircases and at all exits from the building. Call points should be located so that personnel need not travel more than 45 metres to raise an alarm. Certain activities in the building or types of occupants, eg. the elderly, may require a greater provision of manual call points than normal. (See BS 5839: Part 1: 2002 Section 2 Clause 20).

Optical Smoke Detectors

The Optical smoke detector is a point-type device that operates on the well established light-scatter principle. Optical smoke detectors have always been recognised as good sensors for general use and where a fire would cause large particles of visible smoke, for example within a room containing PVC soft furnishings and other synthetic materials. They are regarded as particularly suitable for smouldering fires and escape routes.

The optical sensor is not recommended for use in areas of high air velocity or in kitchens, boiler rooms or other areas that may produce excessive fumes or condensation.

Multisensor Smoke Detectors

Combining both optical smoke detection and heat detection, Multisensor smoke detectors are recognised as good sensors for general use but are additionally more sensitive to fast burning, flaming fires – including liquid fires – than optical detectors.

They can be readily used instead of optical smoke detectors but should be used as the detector of choice for areas where the fire risk is likely to include heat at an early stage in the development of the fire.

If there is any doubt as to whether an optical smoke detector or a multisensor detector should be used it is wise to fit a multisensor.

Heat Detectors

Heat detectors are used in applications where smoke detectors are unsuitable and would cause frequent false alarms. This will be the case where normal industrial processes produce substances which could be mistaken for smoke by a smoke detector, eg, flour mills, textile mills or loading bays with diesel-engined vehicles.

Smoke detectors should be used in preference to heat detectors wherever possible since smoke detection provides earlier warning of fire than heat detection.

Ionisation Smoke Detectors

Ionisation detectors have been used for many years as an extremely reliable method of detecting smoke. They have traditionally been recommended for use where the fire risk is likely to include very small-particle smoke.

However, over recent years they have generally become less popular as they are more sensitive than optical detectors and if not used correctly could cause false alarms. And although ionisation detectors are entirely safe to use, they do incorporate a tiny radioactive foil making them subject to strict regulations concerning transport, storage and disposal.

CO Fire Detectors

CO fire detectors are electronic detectors used to indicate the outbreak of fire by sensing the level of carbon monoxide in the air. They do not detect smoke or any other combustion products and will therefore give a poor response to many types of fire, especially life-threatening flaming fires.

Deep-seated, smouldering fires produce carbon monoxide, which can be detected some distance from the seat of the fire. For this type of fire a CO fire detector will probably operate before a smoke detector. Smoke detectors, however, will almost always give a better response to a fire that has produced a rising plume of smoke.

These detectors are less effective detecting rapid flaming fires, are immune to steam and have a high resistance to contamination in dirty, dusty conditions. (See BS 5839: Part 1: 2002 Section 2 Clause 11).

Siting and Spacing of Sensors

Sensor Type	Maximum Coverage Area	Maximum Radius Coverage (In general)
	m^2	m
Heat Sensor	50	5.3
Smoke Sensor	100	7.5
Multi-sensor	100	7.5
CO Sensor	100	7.5

- These figures are maximum figures and assume a flat ceiling. They should be treated as a guide only.
- Point-type detectors should be sited on the ceiling such that the sensitive element of the device is positioned within 25mm - 600mm for smoke detectors, and 25mm - 150mm for heat detectors.
- Where multi-sensors are set in 'heat only' mode, spacing should be as for heat devices.
- Point-type detectors should not be positioned within one metre of the inlet of a forced ventilation system.

Alarm Sounders

Sounders should be chosen and positioned taking into account the following criteria:

- The alarm sound level should generally be at least 65dB(A), or 5dB(A) above any background noise likely to persist for more than 30 seconds, if the background noise is above 60dB(A). The alarm sound should be the same in all parts of the building, but distinct from the background noise, and from any other sounder likely to be heard in the building;
- The tone of the sounders' power should lie in the range of 500Hz and 1000Hz, unless this range would be masked by the background noise;
- The sound level at the head of the bed should be at least 75 dB(A) with all doors closed if it is intended to awaken sleeping persons.

Where the use of sounders is not appropriate, ie. in areas of high ambient noise or where bells may cause panic it is also advisable to incorporate visual indicators such as beacons. (See BS 5839: Part 1: 2002 Section 2 Clause 17).

Control Equipment

Control equipment, complying with EN54: Parts 2 & 4, should be sited in a low fire risk area which is well lit and is easily accessible to both staff and the fire brigade. It may be necessary to install repeat annunciator panels.

Series 600 Compatible Devices

Discovery Detection Devices:

81203	Mounting Base
81245	Detector Mounting Base (ceiling tile fixing)
81226	Ionisation Smoke Detector (head only)
81227	Optical Smoke Detector (head only)
81228	Heat Detector (head only)
81229	Multi-sensor Detector (head only)
-	Carbon Monoxide Detector (head only)
81254	Isolator (with Base)
81208	Isolator Base
81207	Isolator (head only)
81230	Manual Call Point
81210	Manual Call Point (weatherproof)
81253	Manual Call Point (re-settable)
81258	Beam Detector (5 – 50 metre range)
81259	Beam Detector (50 – 100 metre range)
81211	Remote Indicator

Loop Powered Sounders & Beacons:

81203	Mounting Base
81246	Sounder Mounting Base (ceiling tile fixing)
81250	Combined Sounder & Beacon (with Base)
81241	Sounder – 100dBA (wall fixing)
81242	Sounder – 100dBA (wall fixing, weatherproof)
81249	Combined Mounting Base & Sounder - 55-75dBA, 75-91dBA (for use with detector)
81251	Combined Sounder & Beacon (wall fixing)
81252	Combined Sounder & Beacon (wall fixing, weatherproof)
81255	Combined Beacon & Base (for use with detector)
81243	Beacon (requires base Pt No. 81203)
81247	White Cap (for use with Pt Nos. 81249, 81250, 81255)
81248	Red Cap (for use with Pt Nos. 81249, 81250, 81255)

Conventionally Wired Sounders & Beacons:

42026	Motorised Alarm Bell
42010	Motorised Alarm Bell (weatherproof)
42047	Sonos Electronic Sounder (with shallow base)
42048	Sonos LED Beacon (with shallow base)
42049	Combined Electronic Sounder & Beacon (with shallow base)
18615	Flashing Xenon Beacon (with base)

Door Release Units:

83000	Door Release Unit – 24V dc
83003	Door Release Unit – 230V ac
83004	Floor Mounting Bracket (for use with Pt. No. 83000 & 83003)
83013	Door Release Power Supply Unit (2 Amp)
83007	Door Hold-open/Closer Unit

Loop Powered Outstations: Self-contained Units

81213	Input/Output Outstation (volt-free contact rated 30Vdc 1A resistive, monitored/non-monitored)
81238	Input/Output Outstation (Mains) (rated 230V 5A resistive, monitored/non-monitored)
81217	Input Outstation (volt-free contact rated 30Vdc 1A resistive, monitored)
81216	Output Outstation (volt-free contact rated 30Vdc 1A resistive, non-monitored)
81219	Sounder Outstation (volt-free contact rated 30Vdc 1A resistive, monitored)

DIN Rail Mounting Outstation Modules

39196	DIN Rail Outstation Enclosure (accommodates up to 10 Modules)
81240	DIN Rail Input/Output Outstation Module (volt-free contact rated 30Vdc 1A resistive, monitored/non-monitored)
81234	DIN Rail Input Outstation Module (volt-free contact rated 30Vdc 1A resistive, monitored)
81235	DIN Rail Output Outstation Module (volt-free contact rated 30Vdc 1A resistive, non-monitored)
81237	DIN Rail Sounder Outstation Module (volt-free contact rated 30Vdc 1A resistive, monitored)
81236	DIN Rail Dual Isolator Module
81244	DIN Rail Zone Outstation Module (volt-free contact rated 30Vdc 1A resistive, monitored)

Refer to Catalogue Part No. 90039 for further information.