



Export Product Catalogue



A PROUD BRITISH MANUFACTURER

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Protec Fire Detection plc

Protec Fire Detection Plc, is the UK's largest privately owned fire detection company and was formed from our shareholders partnership company 'Protec Fire Alarms' dating back to September 1968. With over six decades of experience in our industry, we have a reputation for providing innovative products and superior services that meet with our clients ever more demanding expectations.

We continually invest a very significant portion of our revenue into our Research and Design Centre, where we employ Physicists, Electronic Hardware and Software engineers. Our unique products are then produced in our own quality controlled manufacturing unit equipped with the latest automated processes.

Products & Services Offered

Products Offered

- Fire Detection
- Aspirating Fire Detection
- Emergency Lighting
- Public Address / Voice Evacuation
- Disabled Refuge & Fire Telephone
- Intruder Detection, CCTV & Access Control
- Fixed Fire Suppression & Portable Fire Extinguishers
- Sprinklers & Water Mist

Services Offered

We are able to offer Clients the choice of services to suit their needs:

- Planning and System Design
- Equipment Supply
- Installation & Project Management
- System Testing and Commissioning
- Regular Preventative Maintenance

Supply, Install, Commission & Project Management

Protec provides practical and highly effective solutions to meet specific client requirements and has the resources to plan and prepare concepts and detailed drawings for the most complex of integrated systems. This is supported by a national network of dedicated Sales Engineers, complimented by our internal Customer Service teams, responsible for the progressing of customer orders through to equipment supply, installation, commissioning and after-sales service.

Made in UK



A British Manufacturer

We are a very proud British manufacturer, all our products are designed and manufactured in the UK, we offer our partners free training and we have an extensive capability to support our products around the world.

Our products are designed to enable our partners the ability to edit programs, add and delete devices, commission, maintain and support our systems worldwide.

Protec Fire Detection (Export Division)

Welcome to Protec's Export Division, Providing to the Global Market

- 🚧 Fire Detection Systems, Addressable, Conventional and Air Sampling
- 🚧 Public Address and Voice Evacuation Systems
- 🚧 Fire Telephone Systems
- 🚧 Smoke Control
- 🚧 Gaseous Extinguishing Systems

Protec's extensive range of fire safety related systems are currently distributed to many countries around the world. A network of experienced system design, installation, commissioning and maintenance companies that can offer clients a superior service.

Protec's Fire Detection Systems can be found in prestigious projects around the world, including:

- 🚧 Airports
- 🚧 Hospitals
- 🚧 Hotels
- 🚧 Commercial Towers
- 🚧 Shopping Centres
- 🚧 Power Stations

Protec's Export Support Services

- 🚧 Comprehensive training
- 🚧 Design and commissioning advice to our distributors, ensuring compliance with our own rigorous installation standards
- 🚧 UK manufactured products designed to meet the demanding approval requirements of many countries
- 🚧 Efficient order processing and despatch ensuring prompt delivery to customers



.....Trusted all over the world



Dublin Airport New Terminal (T2)

Location: Dublin, Ireland

- £1.2M Supply and Commission only
- 54 Networked Fire Control Panels
- 9000 Fire Alarm Devices
- 120 Aspirating Detection Systems
- Graphics Package



Media City, BBC Headquarters

Location: Manchester, England

- £4.2M Contract To Protec
- 64 Networked Fire Control Panels
- 9200 Fire Alarm Devices
- 60 Aspirating Detection Systems
- 137 loops
- 4 Graphics Packages



London 2012 - Olympic Stadium

Location: London, England

- £3.5M Contract To Protec
- 18 Fire Control Panels
- 2500 Fire Alarm Devices
- 6 Aspirating Detection Systems
- 48 Loops
- 2 Graphics Packages
- Networked Fire Telephone System
- IP Addressed Fibre Optic PAVA System



London 2012 - Aquatics Centre

Location: London, England

- £1.5M Contract To Protec
- 4 Fire Control Panels
- 500 Fire Alarm Devices
- 6 Aspirating Detection Systems
- 48 Loops
- 2 Graphics Packages
- Networked Fire Telephone System
- Gas Suppression Systems



Dalma & Yassat Towers

Location: Dubai, United Arab Emirates

- £3.2M Supplied by Protec, commissioned locally by our export partners
- 6400 Fire Detection System
- 45 Networked Fire Control Panels
- 20,000 Addressable Devices
- 160 Loops
- Colour Graphics Package



Mazaya Towers Office Complex

Location: Dubai, United Arab Emirates

- £900K Supplied by Protec, commissioned locally by our export partners
- 6400 Fire Detection System
- 30 Networked Fire Control Panels
- 7,500 Addressable Devices
- 72 Loops
- Colour Graphics Package



Manchester United Football Club

Location: Manchester, England

- £2.5M Multiple Contracts to Protec
- 26 Fire Control Panels
- 3700 Fire Alarm Devices
- 4 Aspirating Detection Systems
- 1 Graphic Package



Cardinal Place Office and Shopping Complex

Location: London, England

- £2.4M Supply and Commission only
- 42 Fire Control Panels
- 3500 Fire Alarm Devices
- 10 Aspirating Detection Systems
- 55 Loops
- 2 Graphics Packages
- 40 Integrated PAVA Rack Systems



Features & Benefits

- **Cost Effective Single Loop Panel** - Interactive digital addressable fire detection and alarm system ideally suited for small and medium sized buildings.
- **High Capacity Loop - 192 Addresses** - Equipped with a high capacity Algo Tec™ digital addressable data loop, with up to 192 addresses.
- **Surface and Recessed Mounting** - The control panel is suitable for surface or recessed mounting with a moulded polycarbonate enclosure finished in storm grey.
- **Easy to Install** - An extensive range comprising Loop Powered Alarm Sounders, Beacons, Interfaces, Manual Call Points and Sensors can all be connected to the nearest control panel using a single 2-core cable for a high capacity Loop, accommodating up to 192 devices.

System Features

System Features

The Protec Algo-Tec™ 6100 is an interactive digital addressable fire detection and alarm system ideally suited for small and medium sized buildings such as shops, hotels and offices. The control panel is designed and manufactured by Protec to comply with EN 54-2 & 4. The control panel is suitable for surface or recessed mounting with a moulded polycarbonate enclosure finished in storm grey.

Loop

The 6100 control panel is equipped with a high capacity Algo-Tec™ digital addressable data loop, with up to 192 addresses. In addition to the Algo-Tec™ 6000PLUS sensors, interfaces and manual call points the loop can also support loop powered SOUNDERS, BEACONS and OPTICAL BEAM DETECTORS. Additionally a 6300 Loop Powered Repeat Display can be connected directly to this loop, resulting in reduced cabling requirements, simplified installation and associated cost savings.

Alarms

In addition to loop powered sounders and beacons, 2 fully monitored alarm outputs are provided at the panel for alternative wiring arrangements.

Auxiliary Contacts

One set of global fire, and one set of fault changeover contacts.

Controls and Display

All the functions of the modern styled Control Panel are accessed by entering the user access code. The controls are SILENCE, SOUND ALARMS, RESET and ACCEPT plus navigation push buttons to enable access to the user menu facilities. The control panel display consists of a 4x20 character liquid crystal display, twin common fire LED indicators, 16 separate zonal fire LED's, power on, pre-alarm, system fault, common fault, test and disablement LEDs.

Liquid Crystal Display

The 80 character liquid crystal display will under normal quiescent conditions display the current date and time with the option to also display a 40-character user's message such as site name.

In an alarm or fault condition the LCD will display the device, address and zone number and up to 20 characters of user definable location text, programmable on site using Protec 6100 windows based software.

Device Location Text

Windows based text software is supplied free of charge to our clients to enable you to enter the location text on to the disk supplied and hand to our commissioning engineer for loading into the panel during commissioning. This simple process allows you more flexibility enabling you to make any last minute changes and speed up the entire process.

Power Supply

The 6100 control panel is supplied with an integral 1A dc switch mode charger and accommodates two 12V 3.3 Ah sealed lead acid battery.

On Site Programming

The Protec Algo-Tec™ 6100 system is on site programmable. All of the commissioning configuration data can be entered and/or backed up using the Protec 6100 windows based programming software via a PC. This feature enables the system to be re-configured and checked prior to attending site simplifying commissioning works on site, enabling text amendments to be carried out whilst on site and providing an invaluable remote backup should the need arise.

6100 System Additional Products

6300 Loop LCD Display



The 6300/LOOP/LCD can be connected directly to the local Algo-Tec™ digital addressable data loop and takes up just one address. The fascia displays power, fire, fault, disablement and more alarms.

Fire and fault events are displayed on the 2 x 40 character LCD display and automatically scroll. A backlight ensures that the events can be read in all lighting situations. Fire events have highest priority and inhibit the display of fault events. A new event initiates the internal buzzer and a mute button allows the internal buzzer to be muted.

Dimensions (mm): 360(W) x 215(H) x 47(D)

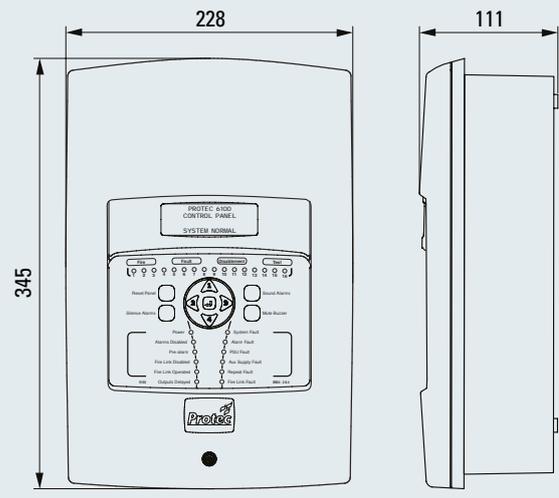
Loop Standby Load: 35mA

Loop Alarm Load: 40mA

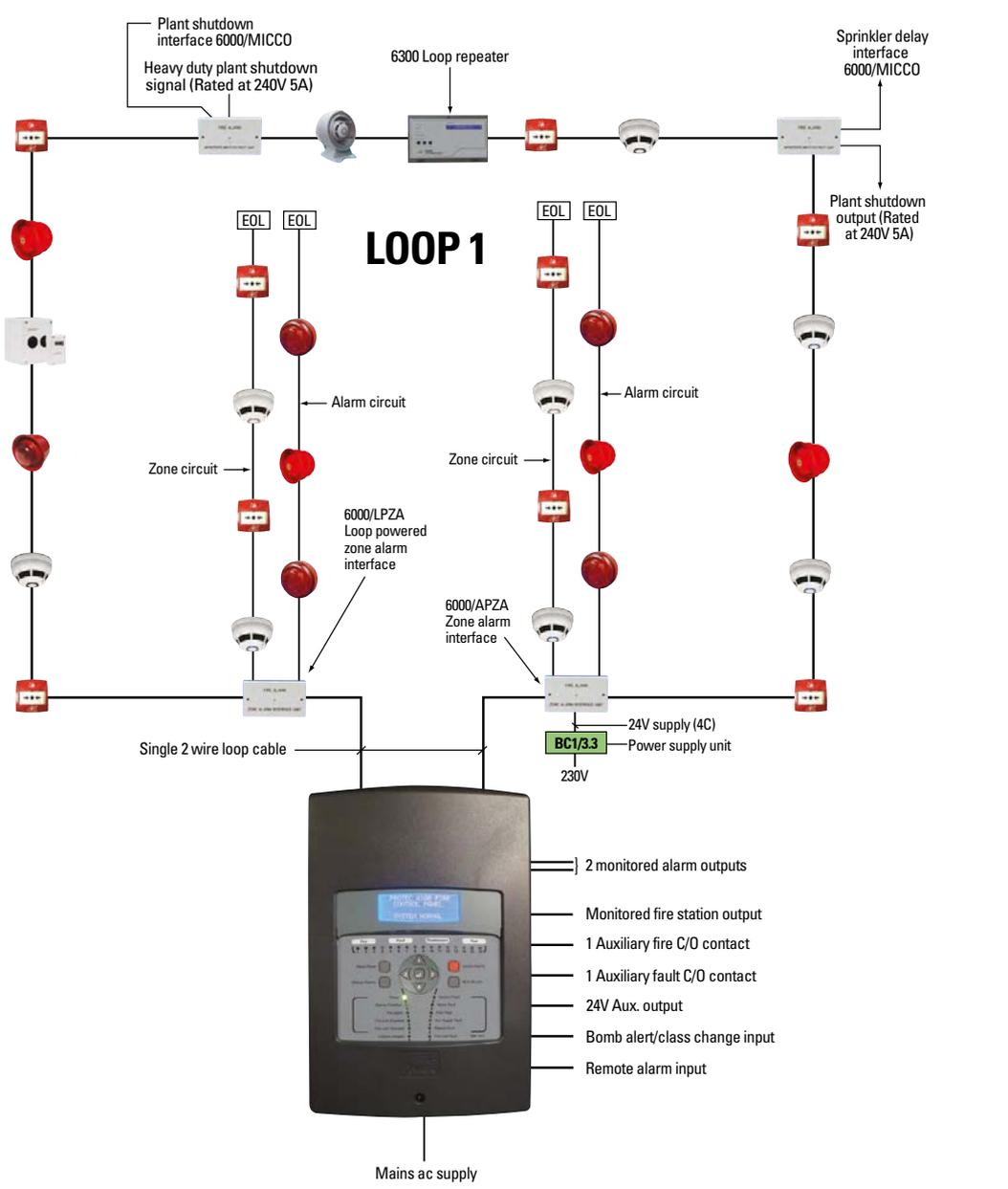
For Technical Data - See Table 1, Page 35

- **Reduced False Alarms** - The Protec Algo-Tec™ 6000 interactive fire sensors utilise advanced discriminating algorithms for maximum reliability and immunity to false alarms.
- **Enhanced Performance** - The Protec Algo-Tec™ 6000 sensors learn from their environment, applying interactive decision making algorithms to provide stability, threshold compensation and optimised performance.
- **On Site Flexibility** - Configuration of all system functions is fully site programmable.
- **Algo-Tec™ 6000PLUS Protocol**
- **Designed to EN 54-2 & 4**
- **Open Protocol**

Dimensions (mm)



Typical 6100 Schematic



KEY:

- Heat Sensor
- Optical Smoke and Heat Sensor
- Optical Smoke, Heat and CO Sensor
- Duct Probe Unit c/w Smoke Sensor
- Manual Call Point
- Beam Detector
- Loop Powered Zone Alarm Interface
- Zone Alarm Interface
- Monitored Input CC Output Interface
- Electronic Sounder
- Flashing Beacon
- Talking Sounder with LED Beacon
- 6300 Loop LCD Display



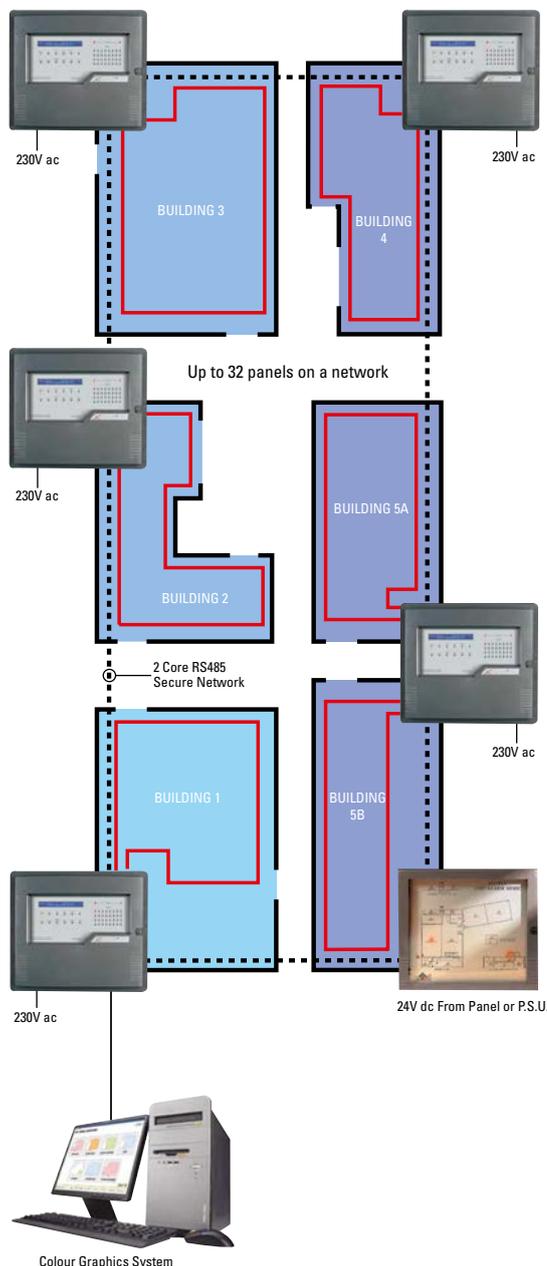
KM575025
0086-CPD-575026
BS EN54-2:1997
BS EN54-4:1998



Features & Benefits

- **Cost Effective** - High specification interactive digital addressable fire detection and alarm system, providing a cost effective solution for small, medium and large sized buildings and sites.
- **Design Flexibility** - Up to 32 control panels, repeats and illuminated zonal mimics can be networked enabling system design and expansion to be easily achieved to suit the site for economic wiring and operational convenience.
- **Secure Network** - Wired as a loop, the network's dual channel RS485 link ensures that no single fault will affect the system.
- **Easy to Install** - An extensive range comprising Loop Powered Alarm Sounders, Beacons, Interfaces, Manual Call Points and Sensors can all be connected to the nearest control panel using a single 2-core cable for each of the high capacity Loops (up to 4), accommodating up to 191 devices per Loop, 512 maximum per panel.

Typical 6300 Network System



System Features

The Protec Algo-Tec™ 6300 is an interactive digital addressable fire detection and alarm system ideally suited for small, medium & large sized buildings such as nursing homes, hotels and offices. The control panel is designed and manufactured by Protec to comply with EN 54-2 & 4. The control panel is available as surface or recessed mounted with a moulded polycarbonate hinged door finished in storm grey, or optionally with polished solid brass or brushed stainless steel finish for recess mounting only.

Secure Network

Up to 32 Algo-Tec™ 6300 control and repeat panels and illuminated zonal mimics can be interconnected using the optional add in 6300 network card. Wired as a loop the network's dual channel fault tolerant RS485 ensures that no single fault can disable the system. In the event of multiple faults, each panel will function independently. The network can be wired using copper or fibre optic cables.

Non Networked Stand Alone System

For small single panel systems, the serial communication link can be utilised to signal, up to 4 repeat panels using a 4 core screened cable. A network card is not required.

Loops

Each 6300 control panel is equipped with 1, 2 or 4 high capacity Algo-Tec™ digital addressable data loops, with up to 191 address capacity per loop. Total panel devices is restricted to 512 inputs to comply with EN54 part 2. In addition to sensors, interfaces and manual call points the loop can also support loop powered SOUNDERS, BEACONS and OPTICAL BEAM DETECTORS. Loop powered sounder bases adopt the sensor address to increase the capacity of the loops still further, resulting in reduced cabling requirements, simplified installation and associated cost savings.

Alarms

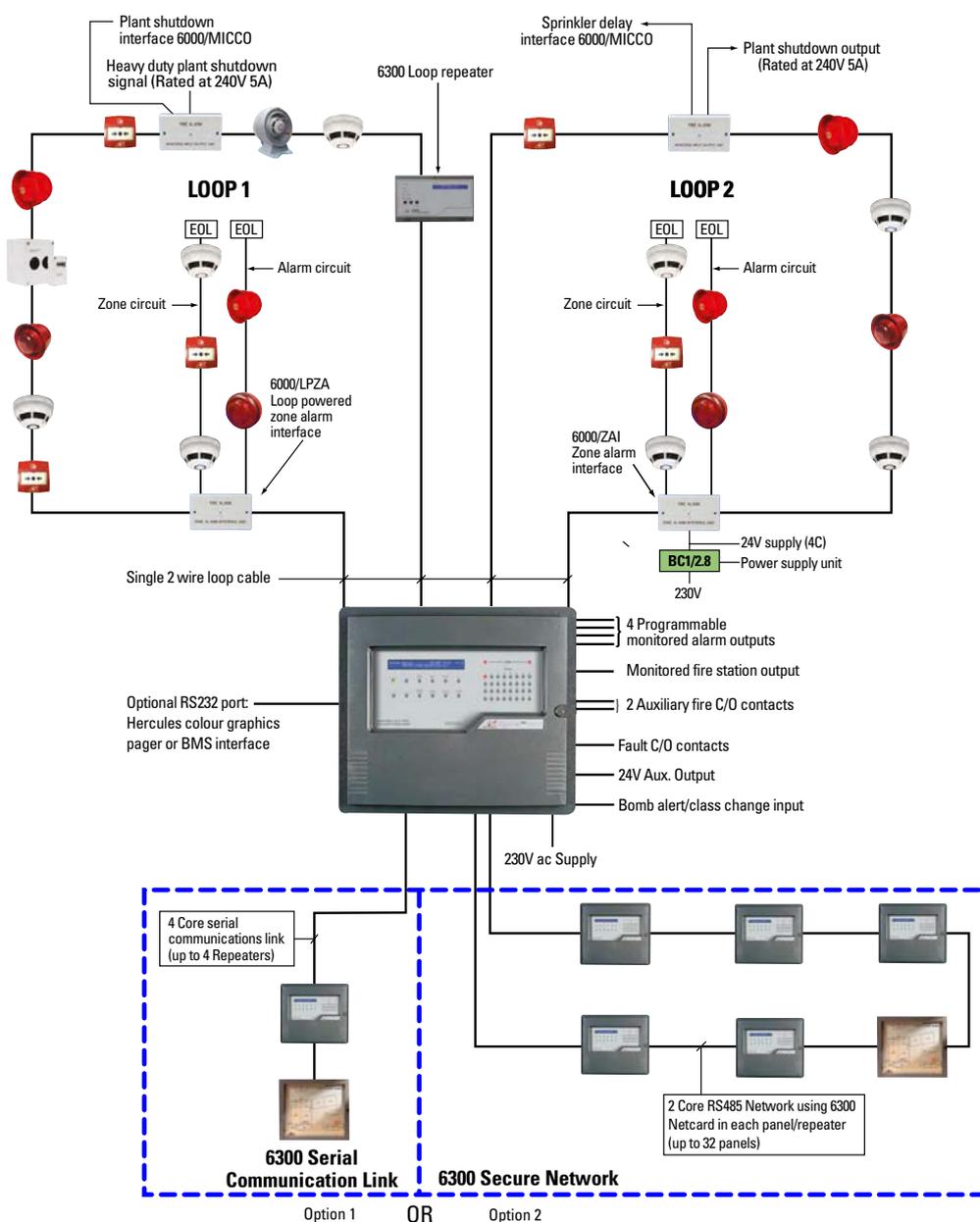
In addition to loop powered sounders and beacons, 4 programmable fully monitored alarm outputs are provided at the panel for alternative wiring arrangements.

Auxiliary Contacts

One set of double pole changeover contacts, which are programmable.

- **Reduced False Alarms** - The Protec Algo-Tec™ 6000 interactive fire sensors utilise advanced discriminating algorithms for maximum reliability and immunity to false alarms.
- **Enhanced Performance** - The Protec Algo-Tec™ 6000 sensors learn from their environment, applying interactive decision making algorithms to provide stability, threshold compensation and optimised performance.
- **Secure Detection Loops** - Many Protec Algo-Tec™ 6000 devices incorporate built-in short circuit isolator units. These can be located as required.
- **Easy to Address** - 'FAST' addressing (Firmware Addressed Secure Technology) ELIMINATES troublesome and time consuming setting of address cards and DIL switches.
- **Devices Display Address Number** - 'RVAV' Remote Visual Address Verification. Confirmation of the correct location of each device can be easily identified, using the devices in-built LED to indicate the device address number.
- **On Site Flexibility** - Configuration of all system functions is fully site programmable.
- **Reduced Maintenance Costs** - Early indication and reporting of sensors approaching contamination level reduce false alarms and enable dirty sensors to be cleaned or replaced.
- **Optional RS232 Port** - Typically used to connect to a colour graphics system, pager system or BMS interface. Allows PC connection for backup and programming.
- **Designed to EN 54-2 & 4**

Typical 6300 Schematic



KEY:

- Heat Sensor
- Optical Smoke and Heat Sensor
- Optical Smoke, Heat and CO Sensor
- Duct Probe Unit c/w Smoke Sensor
- Manual Call Point
- Beam Detector
- Loop Powered Zone Alarm Interface
- Zone Alarm Interface
- Monitored Input CC Output Interface
- Electronic Sounder
- Flashing Beacon
- Talking Sounder with LED Beacon
- 6300 Loop LCD Display
- 6300 Zonal Mimic
- 6300 Repeat Panel

NOTE: The Serial Communication Link cannot be used if the secure network (option 2) is chosen.



LPCB ref. no. 201ad



LPCB ref. no. 201ad

6300 System Additional Products

6300 Loop Powered LCD Repeat Display

The 6300/LOOP/LCD can be connected directly to the local Algo-Tec™ digital addressable data loop and takes up just one address. The fascia displays power, fire, fault, disablement and more alarms.

Fire and fault events are displayed on the 2x40 character LCD display and automatically scroll. A backlight ensures that the events can be read in all lighting situations. Fire events have highest priority and inhibit the display of fault events. A new event initiates the internal buzzer and a mute button allows the internal buzzer to be muted.

Loop standby/Alarm load 60mA.



6300 Loop LCD Display

6300 Illuminated Zonal Mimic

The Protec 6300 customised, illuminated zonal mimic can be connected to the 6300 control panel in the same way as the 6300 repeat panel. The illuminated mimic is housed in a matching enclosure to the control and repeat panels. The fascia is manufactured from Kemco finished in anodised aluminium effect and can be engraved to our clients scaled drawing typically detailing the building outline and zonal areas and has a viewing area of 360(W)mm x 340(H)mm. Up to 32 LED's can be placed on the fascia and will be illuminated by the appropriate zone activation. The illuminated mimic is available as surface or recessed mounted with a hinged door finished in storm grey, or optionally with a polished solid brass or brushed stainless steel finish recess mounting enclosure and an engraved Kemco fascia in anodised aluminium or brushed brass effect finish.



Zoned Mimic Panel

6300 Repeat Panel

The Protec 6300 repeat panel can be connected to the 6300 control panel's serial communications link connection, using a 4-core screened cable.

If the 6300 secure network is utilised then the repeat panel should be connected to the secure network by adding the integral 6300 network card. The repeat panel has an identical display to the control panel including 80 character LCD and 32 zone fire LED's. Full control of silence, accept, sound alarms and reset is included and can be disabled. The repeat panel is available as surface or recessed mounted with a moulded polycarbonate hinged door finished in storm grey, or optionally with polished solid brass or brushed stainless steel finish for recess mounting only.



Repeat Panel

6300 Hercules Colour Graphics System

The Protec Colour Graphics System is a Windows based PC package providing a graphical representation of large sites enabling the precise location of an incident to be readily identified enabling a prompt response. Using touch screen or mouse, the operator can track an incident and zoom from a site plan to intermediate plan listing floor levels, then zoom to a specific floor plan and if necessary then zoom to a specific detailed area within the floor plan showing the device in question. Colour prints of the maps can be printed automatically or on demand.



6300 Hercules Colour Graphics System

Controls and Display

All the functions of the Control Panel are accessed via a modern styled hinged lockable door, moulded from polycarbonate with a clear display viewing window. When opened the door reveals the panel controls and easy to follow operating instructions. These controls are SILENCE, SOUND ALARMS, RESET and ACCEPT plus a MENU push button to enable access to the user menu facilities. The control panel display consists of an 80 large character liquid crystal display, twin common fire LED indicators, 32 separate zonal fire LED's, power on, pre-alarm, system fault, common fault, test and disablement LED's. An optional integral low noise thermal printer is also available.

Liquid Crystal Display

The 80, large character liquid crystal display will under normal quiescent conditions display the current date and time with the option to also display a 40-character user's message such as site name. In an alarm or fault condition the LCD will display the device loop, address and zone number and up to 40 characters of user definable location text, programmable on site using Protec 6300/WINTEXT windows based software.

Device Location Text

Windows based text software is supplied free of charge to our clients to enable you to enter the location text on to the disk supplied and hand to our commissioning engineer for loading into the panel during commissioning. This simple process allows you more flexibility enabling you to make any last minute changes & speed up the entire process.

Printer

The integral printer is a 40-character low noise thermal printer. In operation the printer will provide on demand real time data of fire and fault conditions including time and date of events along with the device number and location text. By accessing the appropriate function from the user menu facility a variety of reports can be printed including the previous 100 incidents from the event log, the system devices configuration and programming matrix, devices which are becoming due for cleaning and the current status of all devices.

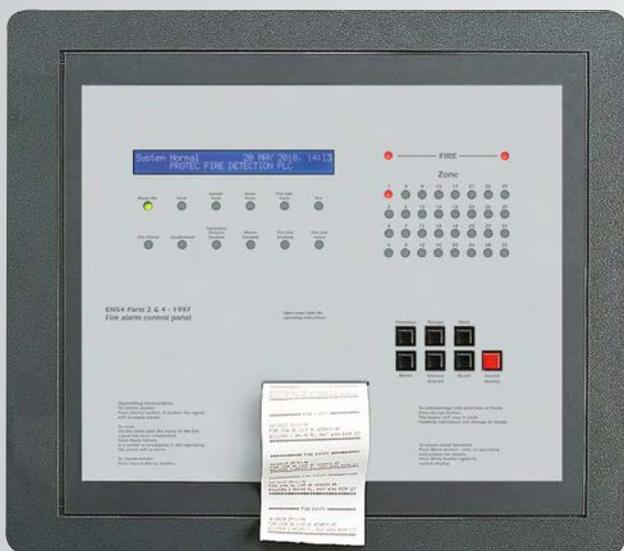
Power Supply

The 6301, 6302 and 6304 control panels can be supplied with an integral 3A dc switch mode charger and a 24V 10Ah sealed lead acid battery. The system is also available, suitable for use with Protec 9000/BC range remote power supplies with an extensive range of battery and charger sizes.

On Site Programming

The Protec Algo-Tec™ 6300 system is on site programmable. All of the commissioning configuration data can be entered and/or backed up using the Protec 6300/WINPROG windows based programming software via a PC. This feature enables the system to be re-configured and checked prior to attending site simplifying commissioning works on site, enabling text amendments to be carried out whilst on site and providing an invaluable remote backup should the need arise. The system configuration data can also be printed using the control panels optional in-built thermal printer.

For Technical Data - See Table 1, Page 35

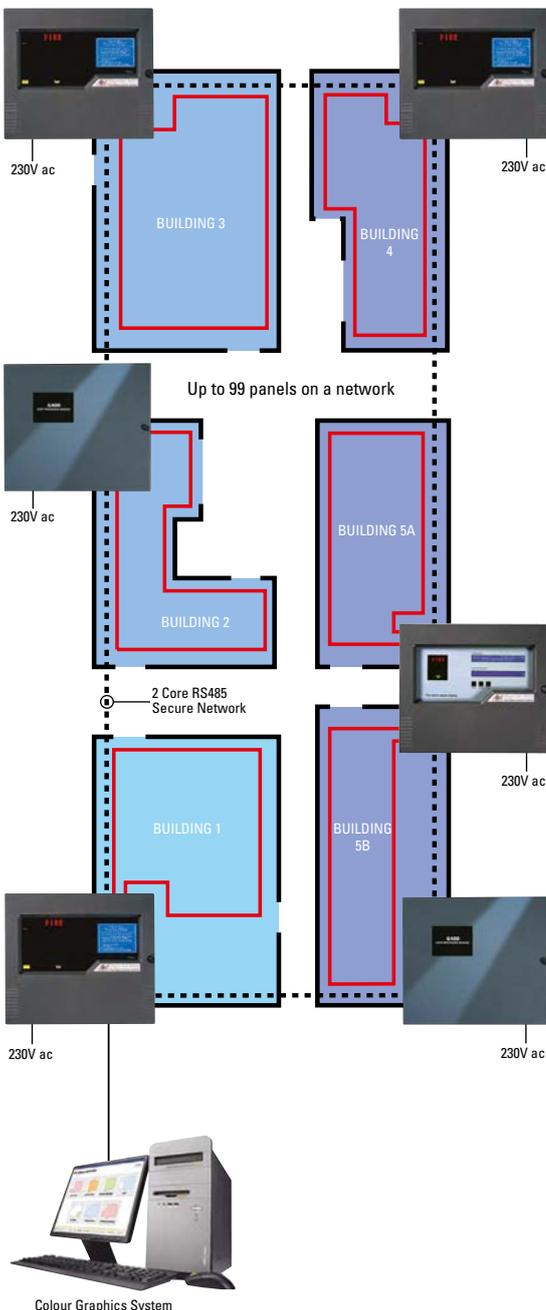




Features & Benefits

- **Cost Effective** - Distributed network of Display and Control Nodes (DCN's) and Loop Processing Nodes (LPN's) providing a cost effective solution for medium and large sized buildings and sites.
- **Secure Network** - Wired as a loop, the network's dual channel RS485 link ensures that no single fault will affect the system.
- **Easy To Install** - Alarm Sounders, Beacons, Interfaces, Manual Call Points and Sensors can all be loop powered.
- **Reduced False Alarms** - The Protec Algo-Tec™ 6000 interactive fire sensors utilise advanced discriminating algorithms for maximum reliability and immunity to false alarms.
- **Enhanced Performance** - The Protec Algo-Tec™ 6000 sensors learn from their environment, applying interactive decision making algorithms to provide stability, threshold compensation and optimised performance.

Typical 6400 Network System



System Features

The Protec Algo-Tec™ 6400 is a fully distributed, networked interactive digital addressable fire detection and alarm system, ideally suited for medium and large sized buildings such as hotels, offices, universities, hospitals and complex industrial and commercial sites.

Designed and manufactured by Protec, to comply with EN 54-2 & 4, the system architecture has been developed to provide a seamless network of Display and Control Nodes (6400/DCN's) and Loop Processing Nodes (6400/LPN's). The nodes can be located to suit the site structure and for convenience of wiring, enabling the loop and sounder circuit cabling to be wired locally to the nearest 6400/LPN and displayed at any 6400/DCN around the network. This eliminates the problem of routing all the system wiring to one central location, usually in the reception of a building or a security lodge with restricted space or access. The integrity of the system is also increased as the network is secure and an isolated incident cannot render the entire system inoperative.

Secure Network- A 'secure network' interconnects all 6400 node options. The network is seamless with all system status and activities communicated around the network and accessible from any 6400/DCN location. The system 'cause and effect' programming is stored within each 6400/DCN and 6400/LPN node for added security. Wired as a loop the network's dual channel fault tolerant RS485 ensures that no single fault can disable the system. In the unlikely event of multiple faults, each node will continue to function independently. Up to 99 nodes can be connected to the network. As all 6400/DCN's display and control the entire system network there is no need for a 'master' panel as they all perform this function. This further enhances the integrity of the system. The network can be wired using copper or fibre optic cables.

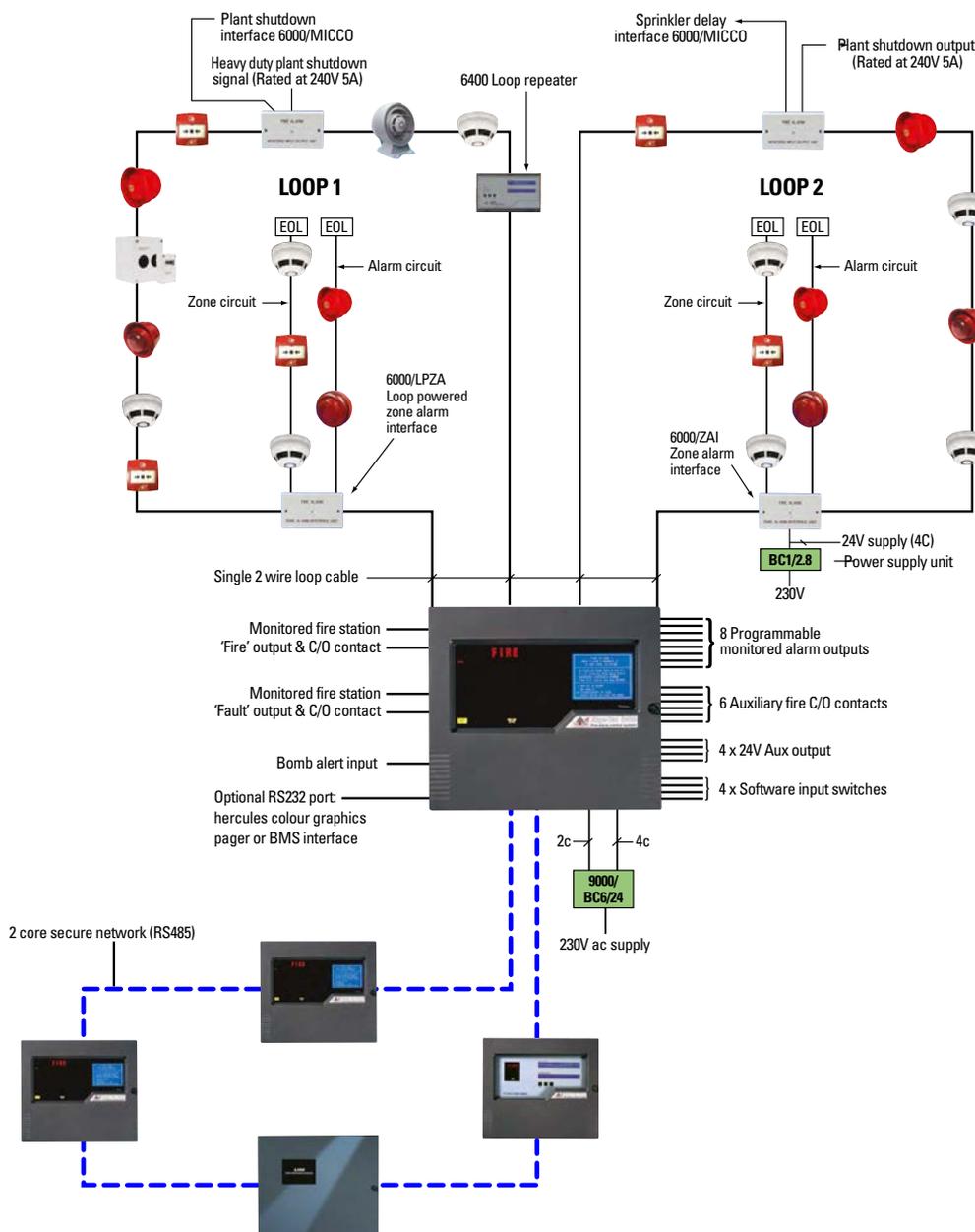
Loops - The distributed nature of the 6400 system enables expansion by adding 6400/LPN Loop Processing Nodes to the system network. 6400/LPN's can be 2 or 4 loops. Each loop can accommodate up to 127 Protec Algo-Tec™ 6000 interactive addressable devices, totalling 508 addressable devices per 6400/LPN and a total network capacity of over 50,000 addressable devices. In addition to sensors, interfaces and manual call points, the loop can also support loop powered SOUNDERS, BEACONS and OPTICAL BEAM DETECTORS. Loop powered sounder bases adopt the sensor address to increase the capacity of the loops still further.

Node Options:

- 6400/DCN - Display and Control Node
- 6400/LPN - Loop Processing Node
- 6400/DCN/LPN - Combined DCN and LPN (2 nodes)
- 6400/RDN - Repeat Display Node
- 6400/RDN/LPN - Combined RDN and LPN (2 Nodes)
- 6400/MIMIC - Illuminated Mimic Node

- **Secure Detection Loops** - Many Protec Algo-Tec™ 6000 devices incorporate built-in short circuit isolator units. These can be located as required.
- **Easy to Address** - FAST™ (Firmware Addressed Secure Technology) ELIMINATES troublesome and time consuming setting of address cards and DIL switches.
- **Devices Display Address Number** - 'RVAV' Remote Visual Address Verification. Confirmation of the correct location of each device can be easily identified, using the devices in-built LED to indicate the device address number.
- **Accurate Location of Fire Incidents** - 16 characters of loop location text plus 60 characters of device location text ensure pinpoint accuracy of the location of an incident. A further 60 characters of alarm message text provide additional details of possible hazards and /or means of access.
- **Full Site Control** - All system controls and menus can be accessed from any Display and Control Node (DCN) location, including device isolation.
- **On Site Flexibility** - Configuration of all system functions is fully site programmable.
- **Reduced Maintenance Costs** - Early indication and reporting of sensors approaching contamination level, reduce false alarms and enable dirty sensors to be cleaned.
- **True System Management** - As each device incorporates a unique FAST™ serial number encoded during manufacture, TRUE SYSTEM MANAGEMENT is achievable, providing precise DEVICE history in addition to LOCATION history for a specific site system and total traceability of all devices manufactured from our commissioning files for quality management, using optional PC package.
- **Designed to EN 54-2 & 4**

Typical 6400 Schematic



KEY:

- Heat Sensor
- Optical Smoke and Heat Sensor
- Optical Smoke, Heat and CO Sensor
- Duct Probe Unit c/w Smoke Sensor
- Manual Call Point
- Beam Detector
- Loop Powered Zone Alarm Interface
- Zone Alarm Interface
- Monitored Input CC Output Interface
- Electronic Sounder
- Flashing Beacon
- Talking Sounder with LED Beacon
- 6400 Loop LCD Display
- 6400/DCN
- 6400/LPN
- 6400/RDN



LPCB ref. no. 201ad



LPCB ref. no. 201ad

6400 System Additional Products

6400/LPN - The 6400/LPN nodes process the loop data from the field devices, communicate with other network nodes, and implement the cause and effects program for local and network fire signals. Sounder circuits and auxiliary change-over contacts are also controlled from the 6400/LPN.

6400/DCN/LPN - The 6400/DCN and 6400/LPN are combined within a common enclosure. The appearance is the same as the 6400/DCN and uses the 6400/LPN back box to accommodate the cabling.

6400/MIMIC - The Protec 6400 customised illuminated mimic can be connected to the network in the same way as other nodes. The LED indicators can be activated by the appropriate zone or specific device activation as defined and the mimic is available in a range of styles and finishes to suit the application. The 6400/MIMIC is a node on the network.

9000/BC8/24 - The 9000/BC8/24 power supply is housed in a similar enclosure to the 6400/LPN and is finished in storm grey. The unit incorporates an 8 amp charger and 24Ah sealed lead acid cells. The charger provides a dual path 24V dc output for parallel supplies to the 6400/LPN or 6400/DCN nodes. A short circuit fault on one path is isolated and the load is provided via the second supply path. Power on and charger fault indications are displayed on the power supply "secret until lit" display and are also relayed to the 6400 network via the node being powered. A range of Protec 9000/BC power supplies are available with an extensive range of battery and charger sizes.

6400/RDN - The 6400/RDN node has all the functions detailed for the 6400/LCD and additionally has 'silence' & 'reset' push buttons to silence and reset active system fire events. All controls are housed behind a hinged lockable door, moulded from polycarbonate finished in storm grey. The 6400/RDN has an optional printer to print current fire events, fault events or disablements. The 6400/RDN is a node on the network. The 6400/RDN can also be combined with a 6400/LPN in a common enclosure.

6400 Loop Powered LCD Repeat Display - The 6400/LOOP/LCD can be connected directly to the local Algo-Tec™ digital addressable data loop and takes up just one address. The facia displays power, fire, fault, disablement and more alarms.

Fire and fault events are displayed on the 4 x 40 character LCD display and automatically scroll. A backlight ensures that the events can be read in all lighting situations. Fire events have highest priority and inhibit the display of fault events. A new event initiates the internal buzzer and a mute button allows the internal buzzer to be muted. Loop standby/Alarm load 75mA.

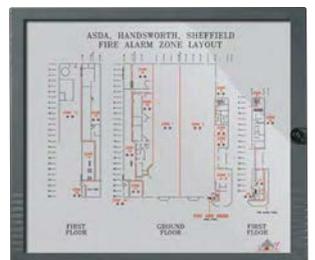
Protec Colour Graphics System - The Protec Colour Graphics System is a Windows based PC package providing a graphical representation of large sites enabling the precise location of an incident to be readily identified enabling a prompt response. Using a touch screen or mouse, the operator can track an incident and zoom from a site plan to intermediate plan listing floor levels, then zoom to a specific floor plan and if necessary then zoom to a specific detailed area within the floor plan showing the device in question. Colour prints of the maps can also be printed automatically or on demand.



6400/LPN



9000/BC8/24



6400/MIMIC



6400 Hercules Colour Graphics System

System Overview

6400/DCN Overview

Display and controls of the Algo-Tec™ 6400 system are via 6400/DCN's. All the functions of the 6400/DCN are accessed via a modern styled hinged lockable door, moulded from polycarbonate, finished in storm grey with a clear display viewing window, optional polished solid brass or brushed stainless steel finishes for recess mounting only. When opened, the door allows access to the system controls. These controls are SOUND ALARMS, SILENCE, ACCEPT and RESET push buttons plus a qwerty membrane keypad and arrow keys to enable access to the user menu facilities.

The display consists of a quarter VGA graphics LCD with backlight, common 'FIRE' indicator, 100 separate zonal fire LED's, power on, pre-alarm, supply fault, alarms silenced, system fault, print, alarms on, outputs disabled, fire link disabled, test, fault, alarm fault, fire link active, fire link fault, fire link delay, output delay & a 'print on demand' 40 column low noise thermal printer.

Two full duplex RS232 ports that are site configurable for baud rate/handshaking are available for site programming and interfacing to BMS, Colour Graphics or Pager systems.

Liquid Crystal Display

The 6400/DCN incorporates a quarter VGA backlit graphics LCD. In normal conditions the date and time is displayed and 'system status: normal'. During a fire event the LCD will display the following:-

- Zone Number in Fire
- Loop Location Text (16 Characters)
- The Device Number in Alarm
- Date and Time of Incident
- Device Location Text (60 Characters)
- Device Alarm Message Text (60 characters)
- Number of devices in alarm

The LCD also displays all faults, disablements, pre-alarms, user menus, past events and analogue values graphically in a bar graph.

Zones

The 6400/DCN has 100 separate secret until lit zonal fire LED indicators. Each addressable device can be allocated to any one of the 100 zones. Expansion panels are available to expand the zonal capacity to a maximum of 800 zones.

Printer

The integral printer is a 40 column low noise thermal printer. In operation the printer will print all system activities on demand detailing the date and time of event; the loop location text, and address number; 60 character device location text; and in alarm conditions, the alarm message text. By accessing the appropriate function from the user menu facility, reports can be printed detailing current faults, current disablements, past events, analogue values, loop devices, fire events or all events from the internal 2000 event historical log.

User Menu

The user menu functions available include:- set time and date, display events, printer menu, disablement menu, test options, text editor menu, clear system fault and access codes. 32 access codes can be configured by entering a 'master user' code. The access codes can be configured to restrict access to certain user menu functions.

The disablement menu enables the user to disable any loop driven device on the 6400 network. When disabled the device is prevented from producing a fire condition on the system. Devices can be isolated by address number, address location text or by zone.

Qwerty Keyboard

The text editor menu function within the 'user menu', enables the user to edit the 60 character 'device location text' and 60 character 'alarm text'. The text is entered using the in-built qwerty membrane keypad on the front of the 6400/DCN.

On Site Programming

Recognising the problems associated with commissioning and maintaining a complex site, the 6400 system is site programmed using dedicated PC based programs. The entire system configuration can be downloaded from any 6400/DCN via the integral RS232 port and distributed using the 6400 network. The programming method not only reduces on site commissioning, but also provides copies of site data as a backup, stored remotely. Hard copies of the programming data can be provided via the PC software.

For Technical Data - See Table 1, Page 36



Algo-Tec™ 6000PLUS Interactive Decision Making Algorithms - Typical Applications

Bedroom Mode

DISCRIMINATING ALGORITHM

Steam From Bathroom

DISCRIMINATING ALGORITHM

Hair Spray
Deodorant
Aerosols in Bedroom

ALARM

Smoldering Fire

Office Mode (high Performance)

DISCRIMINATING ALGORITHM

Cigarette Smoke

ALARM

Computer Fire

ALARM

Bin Fire

Clean Mode (Extra High Performance)

ALARM

Computer Room Fire

ALARM

Printer Paper Fire

ALARM

Chemical Fire

Day/Night Mode

Factory Loading Bay

Day Mode:
Office mode (high performance)

Offices

Day Mode:
Heat detection only (6000/OPHT)

Factory Loading Bay

Night Mode:
Clean mode (Extra high performance)

Offices

Night Mode:
Smoke & Heat detection

NOTE: The above examples give an indication of system reaction to intermittent contaminants and typical fire sources in a correctly designed BS5839 system. They by no means detail the full complexity of the systems decision making algorithms. Examples are for 6000PLUS/OPHT.

Features & Benefits

- Reduced False Alarms
- Enhanced Performance
- Easy to Address
- Easy to Install
- On Site Flexibility
- Devices Display Address Number
- Reduced Maintenance Costs
- Digital Signalling
- Wide Range of Sensors and Interfaces

Overview

The Protec Algo-Tec™ 6000PLUS Interactive Digital Addressable System unwrapped:

The Protec Algo-Tec™ 6000PLUS protocol developed by Protec's in-house Research and Development team is utilised by the Protec Algo-Tec™ 6100, 6300 and 6400 interactive digital addressable fire control systems. Immunity to false alarms, more responsive fire detection, and ease of use have all been improved to develop one of the most reliable systems available.

Protec Algo-Tec™ 6000PLUS

The name Algo-Tec™ is a derivative of Protec algorithms. Algorithms are logical mathematical procedures for solving problems. Protec have developed fire detection algorithms coupled with fuzzy logic specifically designed to reduce unwanted fire alarms and to enhance the sensitivity of the system to true fire phenomenon.

The Algo-Tec™ algorithms are exclusively utilised by the Protec Algo-Tec™ 6100, 6300 and 6400 Interactive Digital Addressable Fire Control Systems.

Interactive

Algo-Tec™ evaluates the data of each fire sensor and is able to learn from the information received. This may simply be to recognise that a sensor is becoming contaminated or in a dirty environment and to automatically increase the alarm threshold to compensate for the background levels (Threshold Compensation).

More complex Algo-Tec™ functions include the ability to discriminate between certain fire and non-fire conditions, filtering out certain environmental stimuli, such as steam from a hotel bathroom, and increasing the sensitivity of a sensor when an increase in temperature is detected.

The net effect of the interaction between the sensors and the Algo-Tec™ decision making is enhanced performance, through immunity to false alarms and more responsive fire detection.

Digital Addressable

The data communication between the sensors and the control equipment is Digital. The Algo-Tec™ protocol utilised by the 6000PLUS system enables high levels of data to be transferred, providing far more detailed information than was previously achievable with analogue addressable systems. It should however be noted that many analogue addressable systems use digital communication but do not transfer the high levels of data associated with the Algo-Tec™ protocol.

Speed, stability, excellent EMC and security all serve to enhance the Algo-Tec™ Digital signalling. Why go analogue addressable? when you can now choose Algo-Tec™ Digital Addressable.

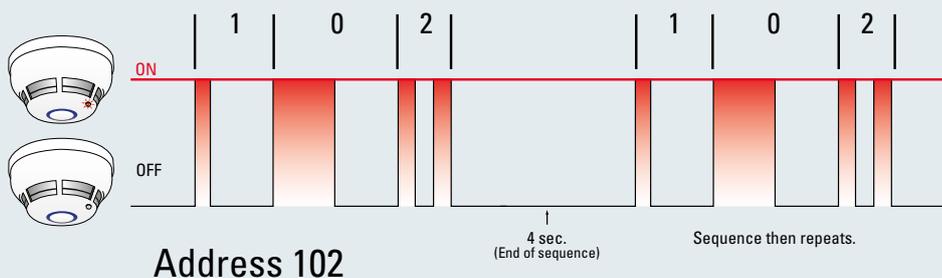
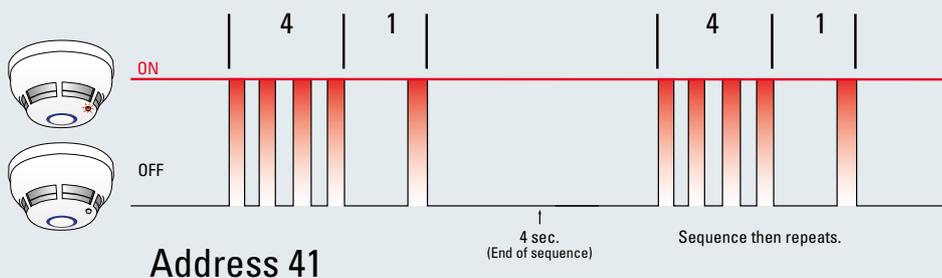
RVAV™

Remote Visual Address Verification

Easily identifies installed device address numbers.



Algo-Tec™ sensors can be set into RVAV™ mode from the control panel. Each device displays their address number via the LED indicator. The address is shown by a flash sequence, examples of which are shown here.



FAST™ Addressing & RVAV™

FAST™ Addressing

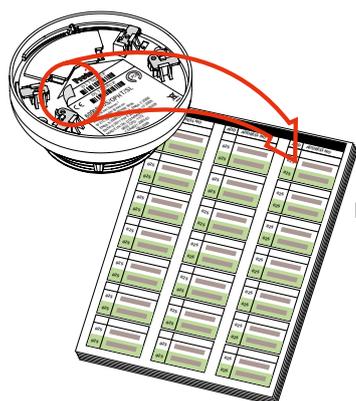
FAST™ (Firmware Addressed Secure Technology). Each Algo-Tec™ 6000PLUS device is manufactured with a unique serial number factory programmed (firmware embedded) and device label. The label includes the serial number on 3 bar-coded segments, 2 of which are removable by the installer (one is a spare).

The label is attached to an address location booklet, which is handed to the engineer prior to commissioning. During commissioning the engineer scans the address location booklet to download the loop, address and serial number details. The downloaded data is then checked and stored within the secure non-volatile memory of the control panel and the addressing is complete. FAST™ and easy eliminating troublesome and time consuming setting of address cards and DIL switches. FAST™ addressing is more secure than 'SOFT ADDRESSING' and easier to extend or amend, allowing greater flexibility and reduced costs.

RVAV™

RVAV™ (Remote Visual Address Verification). Once the system has been FAST™ addressed the correct location of each Algo-Tec™ device can be easily identified, using the devices in-built LED to indicate the device address number. The LED has a simple coded pulse making it quick and easy to count.

Because the control panel sends the RVAV™ signal to each device, the RVAV™ walk test is confirming that the devices are correctly addressed and correctly communicating. As-fitted Drawings and device labels can also be checked during RVAV™ walk test, without the disruption of activating devices commonly associated with other manufactures of system.



Peel off barcode address & place in loop commissioning manual



Features & Benefits

- Voice Enhanced 'Talking' Sounder with Selectable Messages
- High Intensity LED Beacon
- Electronic Sounder
- Multi Criteria High Performance Optical Smoke, Heat and CO Sensor
- Dual Technology High Performance Optical Smoke and Heat Sensor
- Optical Smoke Sensor
- Heat Sensor
- Protec Algo-Tec™ 6000PLUS Protocol
- Devices Display Address Number
- FAST™ Addressing
- Reduced False Alarms

Overview

The Protec Algo-Tec™ 6000PLUS sensor range has been developed to incorporate advanced fire sensing technology, electronic sounders, high intensity LED warning beacons and speech enhanced talking sounder capability, all integrated within the sensor head and powered from the loop.

● **Sensors** - The Protec Algo-Tec™ 6000PLUS interactive fire sensors form a range of elegantly designed, aesthetic, low profile detectors that blend unobtrusively into modern working environments. All sensors are interchangeable with a common mounting base. All sensors incorporate a discrete anti-tamper security screw and latching 'FIRE' LED indicator with the facility to activate a remote indicator unit.

The Protec Algo-Tec™ 6000PLUS intelligent fire sensors utilise advanced discriminating algorithms for maximum reliability and immunity to false alarms. The Protec Algo-Tec™ 6000PLUS sensors learn from their environment, applying interactive decision making algorithms to provide stability, threshold compensation and optimised performance.

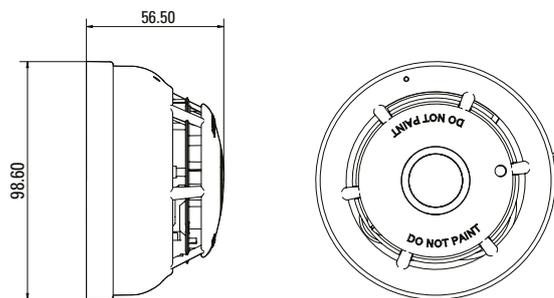
The sensor range includes heat, optical smoke, dual technology high performance optical smoke and heat, and multi criteria high performance dual optical smoke, heat and carbon monoxide multi-sensors.

● **Sensor Talking Sounder Beacon** - For the ultimate method of alerting building occupants of the incidence of an emergency, the Protec Algo-Tec™ 6000PLUS sensor can be equipped with an integrated voice enhanced sounder. The talking sounder is capable of delivering synchronised alert and evacuate messages around a building, removing any ambiguity, particularly for anyone unfamiliar with the building alert and evacuation strategy, enabling a more prompt and safe building evacuation. When combined with the LED beacons and multi-sensor fire detection technology, we are able to provide the ultimate and most innovative fire detection PLUS alarm system for buildings.

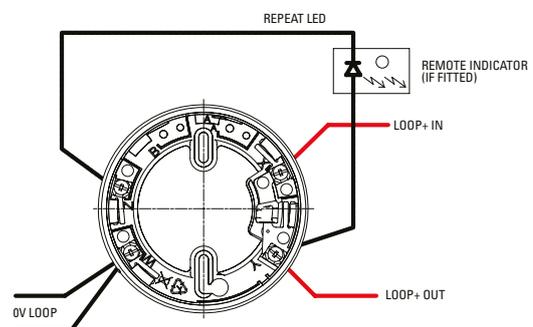
● **Sensor Beacon** - Compliance with DDA legislation can be assisted by the addition of the Protec high intensity LED beacon to the 6000PLUS sensor, to warn those with hearing impairments or in noisy environments. The beacon utilises a high intensity LED with lower power consumption and increased reliability when compared to alternative indicators. The beacon is located in the centre of the sensor so can be viewed from all angles.

● **Sensor Sounder** - The Protec Algo-Tec™ 6000PLUS sensors can also be equipped with an integrated loop powered electronic sounder with three programmable sounder tone options, constant, pulse or warble selectable by the control panel along with adjustable volume control. A loop short circuit isolator is also incorporated within the head. The sensor sounder tones are compatible with the full range of Protec 6000 electronic sounders.

Dimensions (mm)



Typical Wiring using 6000PLUS/BASE



BASE Options:

- 6000PLUS/BASE** - Low profile common mounting base
- 6000PLUS/FFBASE** - Fast fixing semi recessed base

Note - base options above are included in the product approval.

Sensor Variants

Code	Description	Colour Code	Standards
6000PLUS/HT	Heat Sensor	●	Part 5
6000PLUS/HT/S	Heat Sensor c/w Sounder	● ●	Part 3, 5, 17
6000PLUS/HT/SL	Heat Sensor c/w Sounder and LED Beacon	● ● ●	Part 3, 5, 17, 23 (draft)
6000PLUS/HT/TSL	Heat Sensor c/w Talking Sounder and LED Beacon	● ● ●	Part 3, 5, 17, 23 (draft)
6000PLUS/OP	Optical Smoke Sensor	●	Part 7
6000PLUS/OP/S	Optical Smoke Sensor c/w Sounder	● ●	Part 3, 7, 17
6000PLUS/OPHT	Optical Heat Sensor	●	Part 5, 7
6000PLUS/OPHT	Optical Heat Sensor with Isolator	●	Part 5, 7, 17
6000PLUS/OPHT/S	Optical Heat Sensor c/w Sounder	● ●	Part 3, 5, 7, 17
6000PLUS/OPHT/L	Optical Heat Sensor c/w LED Beacon	● ●	Part 5, 7, 17, 23 (draft)
6000PLUS/OPHT/SL	Optical Heat Sensor c/w Sounder and LED Beacon	● ● ●	Part 3, 5, 7, 17, 23 (draft)
6000PLUS/OPHT/TS	Optical Heat Sensor c/w Talking Sounder	● ●	Part 3, 5, 7, 17
6000PLUS/OPHT/TSL	Optical Heat Sensor c/w Talking Sounder and LED Beacon	● ● ●	Part 3, 5, 7, 17, 23 (draft)
6000PLUS/OPHTCO	Optical Heat CO Sensor	●	Part 5, 7, 17
6000PLUS/OPHTCO/S	Optical Heat CO Sensor c/w Sounder	● ●	Part 3, 5, 7, 17
6000PLUS/OPHTCO/L	Optical Heat CO Sensor c/w LED Beacon	● ●	Part 5, 7, 17, 23 (draft)
6000PLUS/OPHTCO/SL	Optical Heat CO Sensor c/w Sounder and LED Beacon	● ● ●	Part 3, 5, 7, 17, 23 (draft)
6000PLUS/OPHTCO/TSL	Optical Heat CO Sensor c/w Talking Sounder and LED Beacon	● ● ●	Part 3, 5, 7, 17, 23 (draft)

Talking Sounder Message Set

Message No	Description	Preamble Tone	Duration(s)	Message Text
1	Female evacuation V1	Warble	9.4	Attention please, attention please. Fire has been reported in the building, please leave the building immediately by the nearest exit
2	Female alert	Pulse	7.5	May I have your attention please, an incident has been reported in the building please listen for further instructions
3	Female test	Warble	7.5	Attention, attention. This is an emergency. Please leave the building by the nearest available exit
4	Female evacuation V2	Warble	3.5	This is a test message, no action is required
5	Male evacuation V2	Warble	8	Attention, attention. This is an emergency. Please leave the building by the nearest available exit
6	Male alert	Pulse	8.1	May I have your attention please, an incident has been reported in the building. Please listen for further instructions
7	Male test	Warble	4	This is a test message, no action is required
8	Bell (accessed via msg 14/15)	None	Until Stopped	None
9	No tone or message	None	0	Used by control panel to allow user to 'turn off' sounder part of a talking sounder beacon
10	Bespoke message	W,P or C	max 10 sec	Client defined (must be stated when ordering sounder) additional cost
11	Warble electronic tone	None	Until Stopped	None
12	Pulsed electronic tone	None	Until Stopped	None
13	Continuous electronic tone	None	Until Stopped	None
14	Pulsed bell	None	Until Stopped	None
15	Continuous bell	None	Until Stopped	None

For Technical Data on:

6000PLUS/HT Variants - See Table 2 and 3, Page 35

6000PLUS/OP Variants - See Table 2 and 4, Page 35, 36

6000PLUS/OPHT Variants - See Table 2 and 5, Page 35, 36

6000PLUS/OPHTCO Variants - See Table 2 and 6, Page 35, 37



6000PLUS Sensor Recognition Chart

-  **6000PLUS/HT**
Heat Sensor
-  **6000PLUS/HT/S**
Heat Sensor c/w Sounder
-  **6000PLUS/HT/SL**
Heat Sensor c/w Sounder and LED Beacon
-  **6000PLUS/HT/TSL**
Heat Sensor c/w Talking Sounder and LED Beacon
-  **6000PLUS/OP**
Optical Smoke Sensor
-  **6000PLUS/OP/S**
Optical Smoke Sensor c/w Sounder
-  **6000PLUS/OPHT**
Optical Heat Sensor
-  **6000PLUS/OPHT/S**
Optical Heat Sensor c/w Sounder
-  **6000PLUS/OPHT/L**
Optical Heat Sensor c/w LED Beacon
-  **6000PLUS/OPHT/SL**
Optical Heat Sensor c/w Sounder and LED Beacon
-  **6000PLUS/OPHT/TS**
Optical Heat Sensor c/w Talking Sounder
-  **6000PLUS/OPHT/TSL**
Optical Heat Sensor c/w Talking Sounder and LED Beacon

-  **6000PLUS/OPHTCO**
Optical Heat CO Sensor
-  **6000PLUS/OPHTCO/S**
Optical Heat CO Sensor c/w Sounder
-  **6000PLUS/OPHTCO/L**
Optical Heat CO Sensor c/w LED Beacon
-  **6000PLUS/OPHTCO/SL**
Optical Heat CO Sensor c/w Sounder and LED Beacon
-  **6000PLUS/OPHTCO/TSL**
Optical Heat CO Sensor c/w Talking Sounder and LED Beacon

The Protec range of Algo-Tec™ 6000PLUS detectors are identifiable by colour coded rings, the colour coding is:

- Red** – Temperature Sensor
- Grey** – Optical Detector
- Blue** – Optical / Heat
- Black** – Optical / Heat / CO

Additionally we have identification for sounders, talking sounders and LED indicators, as shown.

For Technical Data on:
 6000PLUS/HT Variants - See Table 2 and 3, Page 35
 6000PLUS/OP Variants - See Table 2 and 4, Page 35, 36
 6000PLUS/OPHT Variants - See Table 2 and 5, Page 35, 36
 6000PLUS/OPHTCO Variants - See Table 2 and 6, Page 35, 37





Features & Benefits

- Protec Algo-Tec™ 6000 Protocol
- Loop Powered
- High Output Electronic Sounder
- Low Current Consumption
- Integral Short Circuit Isolator
- Weatherproof to IP65
- Choice of Colours

Overview

The 6000/SSR addressable loop powered high output electronic sounder designed by Protec in house developers, utilises a Piezo driver unit to enable high sound output and very low current consumption. With two base options and improved aesthetic appearance the 6000/SSR simplifies the installation of the device.

The 6000/SSR is a low current loop powered addressable device utilising the Protec Algo-Tec 6000 protocol. With typical sound output of 100dB(A) at 1m the sounder has 3 different tones (warble, continuous and pulse) selectable at the control panel. Volume can be adjusted between 100, 95 and 75 dB(A), again at the control panel. The 6000/SSR incorporates a loop short circuit isolator to enhance the system integrity and is designed to comply to all relevant CE and LVD standards.

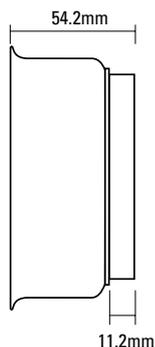
Available in either Red or White body colours, the 6000/SSR has an IP65 rating making the product suitable for mounting internally or externally. An optional deep base allows surface mounted cable to be terminated directly into the sounder.

The 6000/SSR is an ideal addition to any fire alarm system providing a clear audible indication of a fire alarm.

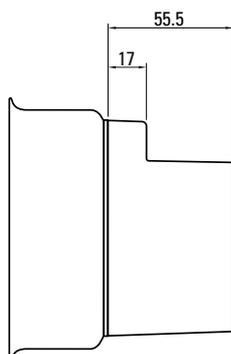
Technical Details

Dimensions (mm)

Standard Base

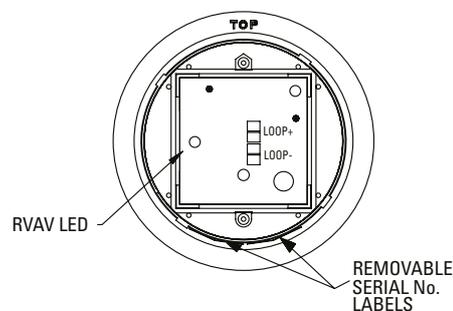


Deep Base



Loop Wiring

PCB Connection Details Rear View (Gland Box Removed)



Model References

Product Code	Colour Options
6000/SSR	Addressable Red Sounder & Base
6000/SSW	Addressable White Sounder & Base
NOTE: All the Model References above are loop powered addressable devices, supplied with a low profile base. An optional deep base (below) can be purchased separately to allow surface wiring to be terminated directly into the base.	
29-982-75	Red Deep Base
29-983-76	White Deep Base

No	Tone Options
1	Warble 990Hz 250ms 665Hz 250ms
2	Continuous Tone at 990Hz
3	Pulse Tone 990Hz 500ms Silence 500ms

For Technical Data - See Table 7, Page 37



LPCB ref. no. 201n



Features & Benefits

- Protec Algo-Tec™ 6000 Protocol
- Loop Powered
- High Intensity LEDs
- Extremely Long Service Life
- Integral Short Circuit Isolator
- Ultra Low Current Consumption
- Weatherproof to IP65
- Choice of Colours

Overview

The unique Protec 6000/LED utilises a high intensity flashing beacon array. This arrangement simplifies installation and considerably improves the aesthetic appearance compared to the more costly and cumbersome alternatives. The 6000/LED is the latest addition to the range of audio/visual devices offered by Protec.

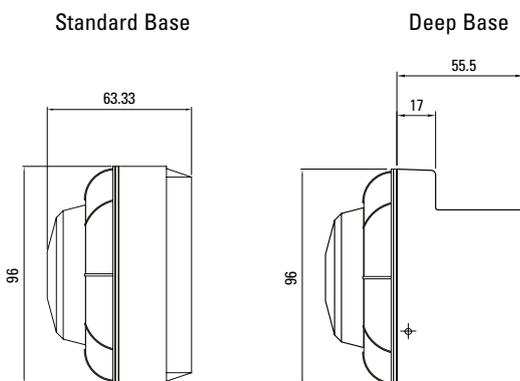
The 6000/LED has 18 high intensity LEDs, and due to the low current design, is addressable and loop powered, utilising the Protec Algo-Tec™ 6000 Protocol. The flash rate is 1Hz. The 6000/LED incorporates a loop short circuit isolator to enhance the system integrity.

The 6000/LED is available in a choice of lens and backbox colours and has an IP65 rating making the product suitable for mounting internally or externally.

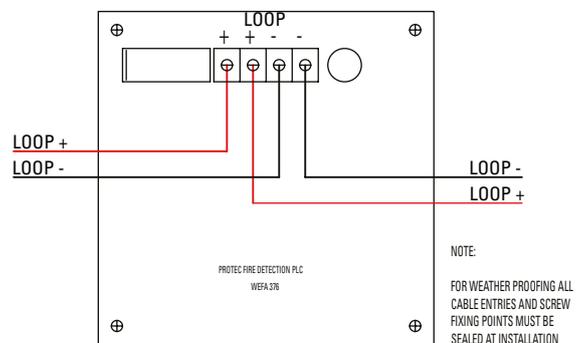
The 6000/LED/RED is an ideal addition to our fire alarm system providing a clear indication of a fire alarm, for users with hearing impairment.

Technical Details

Dimensions (mm)



Typical Wiring



Model References

Product Code	Colour Options
6000/LED/RED	Red Lens (Red Base)
6000/LED/CLEAR*	Clear Lens (White Base)
6000/LED/AMBER	Amber Lens (White Base)
6000/LED/BLUE	Blue Lens (White Base)
6000/LED/GREEN	Green Lens (White Base)
NOTE: All the Model References are loop powered addressable LED beacons, supplied with a low profile base. An optional deep base (below) can be purchased separately to allow surface wiring to be terminated directly into the base. *This unit will flash red.	
29-982-75	Red Deep Base
29-983-76	White Deep Base

For Technical Data - See Table 7, Page 37



Features & Benefits

- Protec Algo-Tec™ 6000 Protocol
- Loop Powered
- High Output Electronic Sounder
- High Intensity LED Beacon
- Low Current Consumption
- Integral Short Circuit Isolator
- Weatherproof to IP65
- Choice of Colours

Overview

The 6000/SSR/LED comprises a high output electronic sounder and high intensity flashing beacon array. Combining the two functions in one compact design, improves the aesthetic appearance and simplifies the installation of the device.

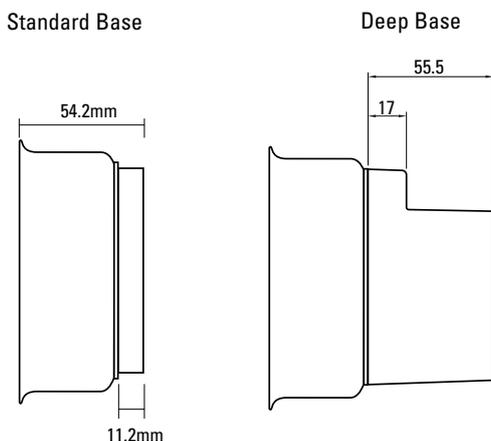
The 6000/SSR/LED is a low current loop powered addressable device utilising the Protec Algo-Tec™ 6000 protocol. With typical sound output of 100dB(A) at 1m, the tone and volume options are selectable by the control panel. The beacon has an array of high intensity LED's with a flash rate of 1Hz. The Sounder and beacon activate together. The 6000/SSR/LED incorporates a loop short circuit isolator to enhance the system integrity. Designed to comply to all relevant CE and LVD standards.

Available in a choice of lens and body colours, the 6000/SSR/LED has an IP65 rating making the product suitable for mounting internally or externally.

The 6000/SSR/LED/RED is an ideal addition to any fire alarm system providing a clear audible and visual indication of fire alarm, for users with hearing or visual impairment.

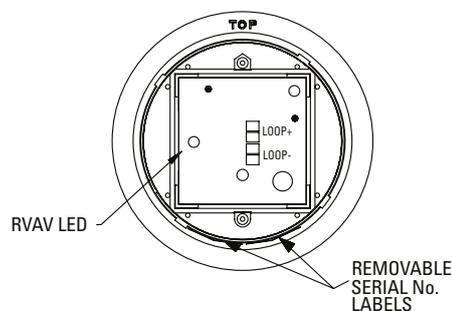
Technical Details

Dimensions (mm)



Loop Wiring

PCB Connection Details Rear View (Gland Box Removed)



Model References

Product Code	Colour Options
6000/SSR/RED	Red Lens (Red Body/Base)
6000/SSW/RED	Red Lens (White Body/Base)
6000/SSW/CLEAR*	Clear Lens (White Body/Base)
6000/SSW/AMBER	Amber Lens (White Body/Base)
6000/SSW/BLUE	Blue Lens (White Body/Base)
6000/SSW/GREEN	Green Lens (White Body/Base)
NOTE: All the Model References above are loop powered addressable devices, supplied with a low profile base. An optional deep base (below) can be purchased separately to allow surface wiring to be terminated directly into the base. *This unit will flash red.	
29-982-75	Red Deep Base
29-983-76	White Deep Base

No	Tone Options
1	Warble 990Hz 250ms 665Hz 250ms
2	Continuous Tone at 990Hz
3	Pulse Tone 990Hz 500ms Silence 500ms

For Technical Data - See Table 7, Page 37



Features & Benefits

- Unique Installation Concept
- Anti-Tamper Facility
- Enhanced Aesthetics
- Fully Approved to the Latest Standards
- Integral Short Circuit Isolator
- Re-settable Break Glass Element
- Backward Compatibility



LPCB ref. no. 201ae

Overview

Installation efficiency, flexibility and full compliance with the latest standards are at the heart of the 6000/MCP indoor and 6000/MCP/ WP outdoor call point.

The Manual Call Points (MCP's) utilise a special terminal block, where all initial installation cabling is terminated. This terminal block is then simply connected to the back of the MCP. Simple, but effective, with no re-termination required and no time wasted.

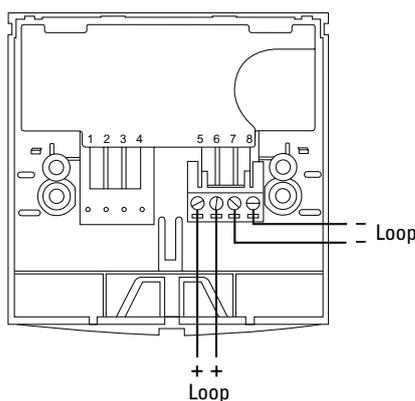
The indoor and outdoor MCP also helps to preserve the integrity of the overall system, as illegal removal of the product lid will result in the call point operating and the system going into alarm.

6000/MCP - Installation time and ultimately cost, are of paramount importance to any fire or security installer. The 6000/MCP range directly reflects this need by providing a simple connection concept designed specifically to reduce installation time.

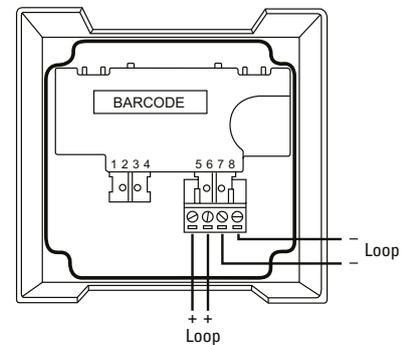
6000/MCP/WP - The 6000/MCP/WP is an IP67 sealed manual call point product. The enhanced environmental protection allows the unit to be installed in many external environments where water and dirt are likely to be present, making it a true waterproof and outdoor product.

Technical Details

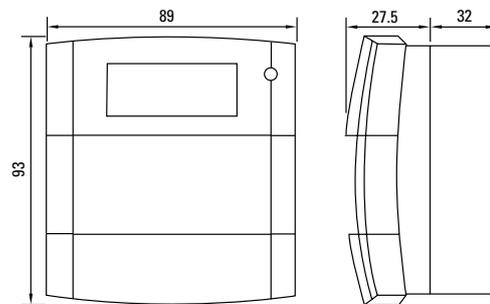
6000/MCP Typical Wiring



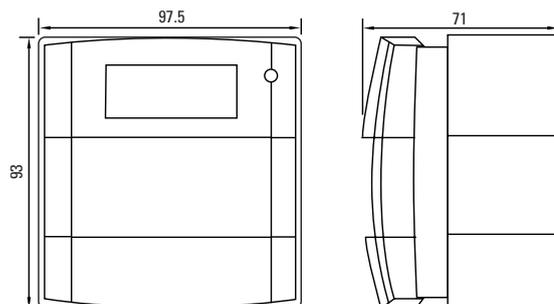
6000/MCP/WP Typical Wiring



6000/MCP Dimensions (mm)



6000/MCP/WP Dimensions (mm)



For Technical Data - See Table 8, Page 38



**6000/2IO, 6000/4IO,
6000/2LPZA, 6000/2APZA**



6000/CCO



6000/MIP



6000/16WAY



6000/MICCO



6000/LPZA & 6000/APZA



6000/LCM



Evacuation Panel

Overviews

6000/2IO

The Protec dual input/output interface is a loop powered input / output device providing 2 monitored inputs and two volt free changeover contacts. The contacts may be used to connect Protec addressable loops to ancillary equipment.

6000/4IO

The Protec 4 way input/output interface is a loop powered input / output device providing 2 local zones of conventional detection, 2 monitored inputs, 2 local monitored alarm outputs and two volt free changeover contacts. The contacts may be used to connect Protec addressable loops to ancillary equipment.

6000/2LPZA

The Protec dual zone alarm interface is a loop powered input / output device providing 2 local zones of conventional detection and 2 local monitored alarm outputs.

6000/2APZA

The Protec dual zone alarm interface is an auxiliary powered input / output device providing 2 local zones of conventional detection and 2 local monitored alarm outputs.

6000/LPZA

The Protec Zone Alarm Interface allows the Protec 6000 series addressable loop to interface to a zone of conventional detection and a conventional sounder circuit. The device is fully loop powered and drives the zone and alarm circuits without the requirement of a separate 24V supply.

6000/APZA

The Protec Zone Alarm Interface allows the Protec 6000 series addressable loop to interface to a zone of conventional detection and a conventional sounder circuit. The device requires an auxiliary 24V supply to power the zone and alarm circuits.

6000/CCO

The Protec Clean Contact Interface (CCO) is a loop powered output device providing a set of volt free changeover contacts that are controlled by the host control panel. The contacts may be used to interface Protec addressable loops to any form of ancillary equipment.

6000/MIP

The Protec Monitored Input Interface (MIP) is a loop powered input device which reports back the state of a monitored input to the fire alarm control panel.

6000/MICCO

The Protec Monitored Output Clean Contact Interface (MICCO) is a loop powered input / output device providing a monitored input and a set of volt free changeover contacts. The contacts may be used to connect Protec addressable loops to ancillary equipment.

6000/LCM

The Protec 6000 Local Control Module has been designed to allow easy integration of Protec Addressable Fire Detection systems into Houses of Multiple Occupancy and offers novel features to reduce false and nuisance alarms. The interface drives a zone of conventional devices and provides a supply to a local alarm circuit.

6000/16WAY

The Protec 16 way interface is a 24V auxiliary powered device which interfaces up to 16 zones of conventional detection and 16 monitored alarm outputs to a Protec series 6000 addressable loop.

Evacuation Panel

The Protec Evacuation panel is a 24V auxiliary product which provides a local panel of 16 evacuation zones. The device can be triggered by momentarily pressing the relevant zone activation button, which activates the host control panel depending upon the cause and effect programming.

For Technical Data - See Table 11, Page 37, 38



Features & Benefits

- Low cost solution, no need for expensive bespoke integration solution
- Costs less to Install
- Easy to Integrate with other systems
- Provides list of points to the BMS system Integrator
- Easier to Program
- Meets Interfacing requirements for large integrated projects

Overview

Integrating Protec Intelligent addressable fire alarm systems with building management systems can result in many economic and operation benefits. Such integration requires communication standards and careful design practices like BACnet.

BACnet is an ANSI/ASHRAE standard that specifies a common communication protocol. This allows building systems to communicate with each other using a common language.

The BACnet interface supplied by Protec connects to the RS232 Graphics port on a Protec Fire Alarm Control Panel to get data from the fire alarm system. This data is adapted to the BACnet standard and is available from the interface as BACnet over Ethernet.

The graphics protocol from the fire alarm system provides change of state information for every device on the fire alarm network.

The BACnet interface has objects that are programmed for each required device to report the state of that device as a property of the object.

Objects (fire detection devices) take one of 4 mutually exclusive states:

- Quiet
- Fault
- Pre Alarm
- Alarm

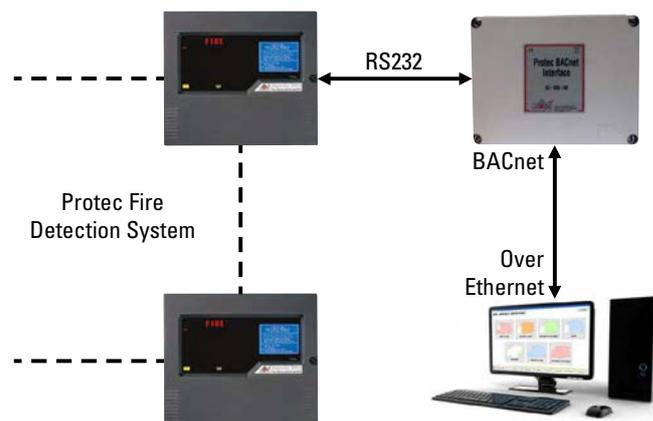
The object can also be Blocked (disabled) at the panel, but when unblocked (normalised) revert to the current state.

The interface allows the BMS to subscribe to COV (change of value) for the objects; this will then send a COV message for any change of state.

The subscription is for a timed period that is set up with the subscribe request.

Technical Details

Typical Configuration





Features & Benefits

- Low cost solution, no need for expensive bespoke integration solution
- Uses existing infrastructure
- Easy to Integrate with other systems
- Seamless connection to the Protec Hercules Graphics System
- Will work on local or wide area connections (Internet)
- Easy to Program and configure
- Meets Interfacing requirements for large integrated projects
- Static Addressing

Overview

The Protec IP Serial Tunnel interface provides a high performance, reliable and secure network infrastructure device for accessing Protec Intelligent Addressable Fire Alarm Systems over Ethernet.

The RS232 data from the fire alarm system is converted to Ethernet packets and sent via a local or wide area network to a similar unit that converts the packets back to standard RS232 data messages.

This makes the whole system completely transparent to the fire alarm system and the receiving equipment.

It offers the ideal solution of integrating Protec Intelligent Addressable Fire Alarm Systems with building management systems which can result in many economic and operational benefits.

It allows access from the Internet over standard ADSL, or other, always on connection, making remote monitoring a cost effective solution.

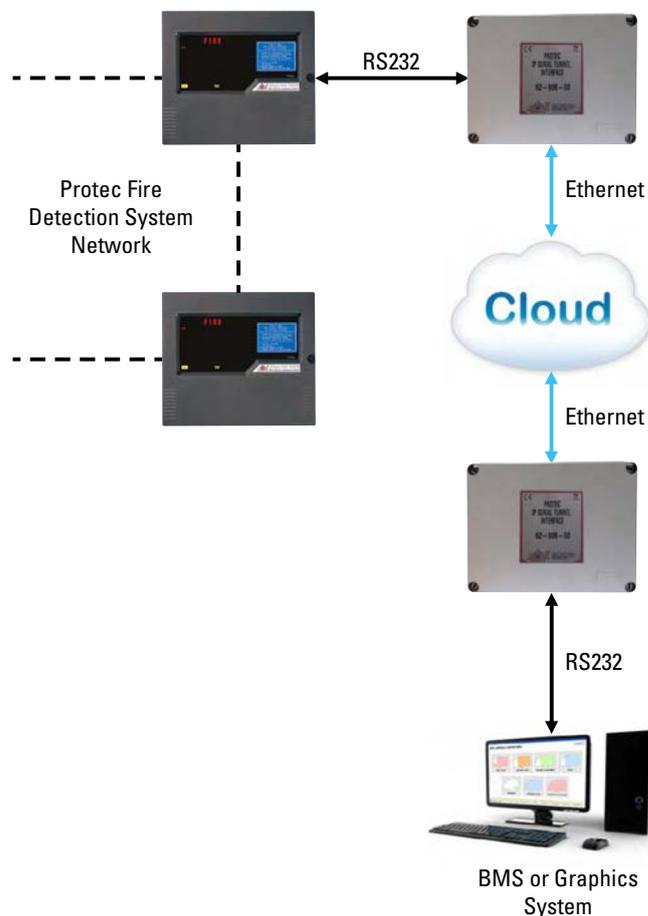
Network settings are manually set up at each unit with static IP addresses to ensure always on connection.

The connection is permanently monitored by the fire alarm system utilising handshaking protocols.

For further detail, please refer to the Protec IP Serial Tunnel Interface manual.

Technical Details

Typical Configuration





Features & Benefits

- Infra-Red Transmitter and Receiver
- Technician Friendly
- Simple Menu System
- Protec Algo-Tec™ 6000 Protocol
- Low Power Usage
- FAST™ Addressing
- Cost Effective

Overview

6000/FIREBEAM40 Optical Beam Smoke Detector - The Protec Algo-Tec™ 6000/FIREBEAM40 Addressable Loop Powered Reflective Optical Beam Smoke Detector includes a motorised head unit containing an infra-red transmitter and receiver, a ground level controller and prism reflector. Making use of the prism reflector the returned infrared beam is analysed for smoke contamination and registers a fire condition at a pre determined level.

At ground level the controller unit is used to make operational adjustments. The standard unit covers a range of 5 to 40 metres. To increase the beam range additional reflectors are added. We have 2 kits available; FIREBEAM40/80KIT for a range of 40 to 80 metres, and FIREBEAM80/100KIT for a range of 80 to 100 metres.

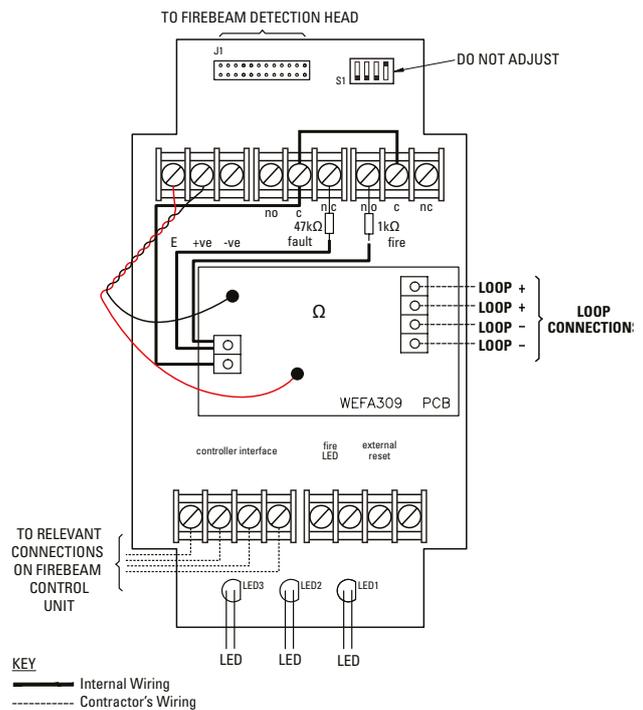
The Protec Algo-Tec™ 6000/FIREBEAM40 is a loop powered, interactive digital addressable device and is compatible with the Protec Algo-Tec™ 6000 range.

The 6000/FIREBEAM40 head incorporates microprocessor controlled motors that intelligently align the head at all times. When first commissioned the head accurately aligns itself, and in operation the head will re-align should there be building movement, a problem with new build settlement and environmental change. The units unique ability to self align means that high level re-adjustment because of this, is no longer required, saving time, disruption and cost. The motorised head means greater reliability that will reduce troublesome false alarms.

Maintenance is also simplified as the low level controller has a simple menu system viewed through an LCD screen. All adjustments can be made at ground level including a test procedure and full diagnostics.

Technical Details

Wiring Diagram



Dimensions (mm)

Beam Head	155(W) x 180(H) x 137(D)
Controller	120(W) x 185(H) x 62(D)

For Technical Data - See Table 9, Page 38



Features & Benefits

- 6000PLUS/UG4DP for use with Protec Algo-Tec™ 6000 Interactive Digital Addressable Fire Detection Systems
- One-Pipe Air Sampling System
- Patented Venturi Pipe and Duct Housing Test Hole on Cover
- Simple Installation
- Sensitive Flow Indicator
- Filter for Dusty Environments
- Foolproof Installation of Venturi Pipe

Overview

The duct smoke detector provides early detection of smoke and products of combustion present in air moving through an HVAC duct. The assembly requires 6000/OP or 6000PLUS/OP digital addressable head.

The unit has been specially constructed to allow optimum airflow through the smoke detector's chamber.

A revolutionary 'one pipe system', the Venturi Principle, is achieved by the use of a single pipe with two built-in channels which directs the airflow smoothly through the detector's chamber and returns the air back into the duct. An airflow indicator confirms airflow through the unit itself when the airflow is above 0.75 m/sec.

The 'one pipe system' and in-built connection block for termination of cables makes the unit far easier to install than its competitors. The duct probe is supplied with full fixing instructions and a mounting template.

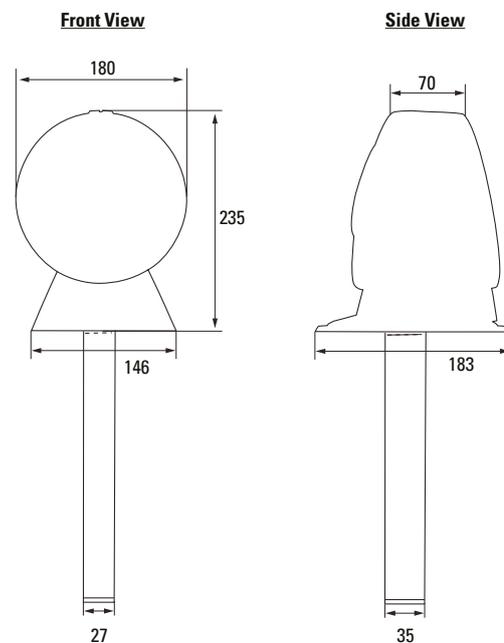
The air sampling tube is provided in three standard lengths to suit the HVAC duct.

Model Reference

Product Code	Options
6000PLUS/UG4DP6	Duct assembly c/w 600mm sampling tube for 150 mm to 800 mm duct diameter
6000PLUS/UG4DP15	Duct assembly c/w 1500mm sampling tube for 600mm to 1300mm duct diameter
6000PLUS/UG4DP28	Duct assembly c/w 2800mm sampling tube for 1300mm to 2600mm duct diameter

Technical Details

Dimensions (mm)



Optional Mounting Bracket



For mounting of duct smoke detector, on circular or insulated flat ducts.

Stock code: UG4DP/MB

For Technical Data - See Table 10, Page 38



THE WORLDS MOST VERSATILE FIRE DETECTION DEVICE

Definition of a Cirrus Pro Aspirating Detection System

Cirrus Pro Series aspirating fire detectors provide an 'active' detection system that sample air from a given area or fire zone to detect the presence of combustion particles.

Combustion particles are transported to the detector via an integral aspirator that continuously draws air from a network of supervised sampling pipes each containing small holes more commonly known as sampling points.

Having identified an increase in airborne combustion particle levels this information is presented as a number of staged alarms via the detector display and outputs.

Cirrus Pro – 'Cloud Chamber' Aspirating Fire Detector

Unlike almost every other commercially available aspirating detection system the Cirrus Pro Series aspirating fire detectors are not 'Optical' detectors requiring small amounts of visible smoke to be produced in order to give an alarm condition.

The Cirrus Pro Series aspirating fire detectors instead utilise the 'Wilson Cloud Chamber' as its primary source of detection. This unique Cloud Chamber technology enables the Cirrus Pro detectors to be the earliest and one of the most versatile fire detection technologies currently available. In addition the 'Cloud Chamber' technology ensures that Cirrus Pro detectors provide the least possible potential for 'false alarms' from dust, steam, condensation, humidity, high airflow and temperature changes that have plagued other aspirating detection systems over many years.

Cloud Chamber Detector - Operation Principle

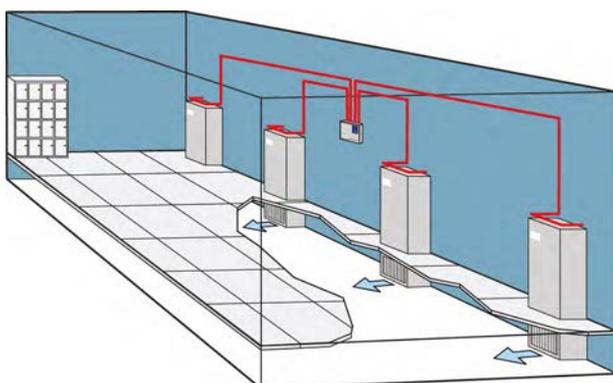
It is known that particles smaller than the wavelength of visible light occur spontaneously as a material is overheated, and in numbers far above those present in a normal ambient environment. Cirrus Pro Detectors utilise the 'Wilson Cloud Chamber' principle to detect the sub micron particles that are generated at the incipient and all other stages of fire.

A sample of air from the protected space is delivered to the detector via a centrifugal blower, a portion of which is diverted into a humidifier. At approximately 100% relative humidity, the sample is directed to the Cloud Chamber where, because of cooling due to rapid vacuum expansion, water condenses onto all the airborne particles within the sample.

Consequently, the thermally generated particles cause many droplets to form into the cloud, which are then detected by the measuring system of the Cloud Chamber. The density of the cloud formed is directly proportional to the number of particles present.

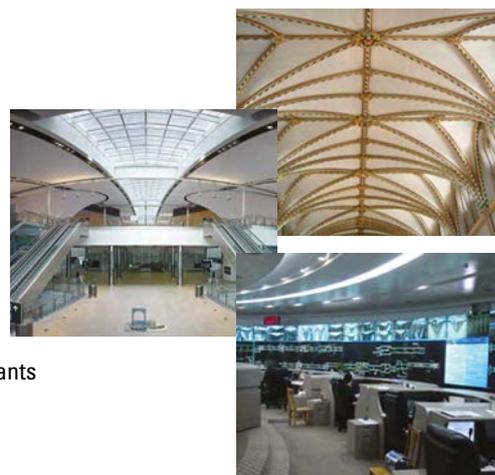
The result is a continuous signal that corresponds to the particle concentration. This signal is used to provide a staged alarm sequence with four alarm levels.

Typical Aspirating System Installation



Typical Cirrus Pro Applications

- Data Centres
- Control Rooms
- Metro Stations
- Cabinet Detection
- Airport Terminals
- Cable Rooms
- Cold Storage
- Historic Buildings
- Food Production
- Paper Processing
- Waste Treatment Plants
- Dusty Production
- Mining
- Tunnels





From formation back in 1968, Protec have been keenly involved in the development of Audio systems. Our expertise in life safety systems led to the establishment of a dedicated audio team to provide fully compliant Voice Alarm systems and design support to the Fire Alarm industry.

The business foundation is built upon technically qualified and experienced personnel, who are committed to ensure that Protec provide the most cost effective and technically compliant communications system to meet with our clients' needs.

What we provide...

Voice Alarms



Emergency and Voice evacuation systems designed and assembled to meet with your specification and obligations, under the current life safety standards.

Paging & Music Systems



Provision of background music players with a prioritised microphone input, to enable paging announcements to be made over a defined loudspeaker zone.

Professional Sound Systems



Protec provide 'state of the art' networked audio solutions for Stadia and large audience occupancy acoustic spaces, using DSP controlled loudspeaker arrays and comprehensive monitoring and fault reporting systems.

Hearing Impaired Systems



Induction loop and Infra Red Systems are used by the hearing impaired to provide sound reinforcement via the users earpiece. The systems may be used in a wide variety of applications.

Fire Telephone Communication



Provision of fixed fire telephones to enable effective communications across large de-centralised sites, which enables the emergency services to complete the safe evacuation of persons from a building.

Disabled Refuge Communication



To meet with the requirements of the equality act, we are able to provide complete monitored refuge communication systems to meet with the current life safety standards. These systems provide communications from a safe refuge to the emergency control station in the event of a building related emergency.



The selection of appropriate fire protection measures requires an experienced approach. Protec design systems taking into account specific risk, client and insurers' needs. The range of possible solutions to any given risk includes the choice of chemical or inert extinguishing agent, pressure relief, extraction, extinguishing release control and early warning detection systems. The design must be verified through approved calculations based on type testing in accordance with the international standards and the requirements of LPC, FM or UL.

Protec can provide solutions to these requirements. The services provided are based on a technical, cost effective and impartial approach and include:

- ❖ Design, Supply, Installation, Commissioning & Maintenance of Fixed Extinguishing Equipment
- ❖ Specialist Extinguishing Systems
- ❖ Chemical & Inert Extinguishing Agents
- ❖ Carbon Dioxide Fire Extinguishing Systems
- ❖ Water Mist Fire Suppression Systems
- ❖ Dry Chemical and Particulate Aerosol
- ❖ Wet Chemical Fire Suppression Systems
- ❖ Foam Suppression Systems
- ❖ Incipient Fire and High Sensitivity Smoke Detection Systems
- ❖ Halon Removal and Disposal
- ❖ Room Integrity Testing, Pressure Relief & Extraction
- ❖ Refilling Carbon Dioxide, Chemical & Inert Gases
- ❖ Service & Maintenance of mechanical systems, including stretch testing and optional discharge testing

Protec are LPS1204 approved for the Installation, Commissioning and Servicing of Fixed Gaseous Suppression Systems, including HFC227ea, IG-541, IG55 & Co2, our Certificate No is: CFSI-015



Protec have been a leading designer and manufacturer of emergency lighting for over 35 years.

Our experience includes:

- Self Contained
- Maintained
- Non - Maintained
- Sustained

Central Battery System

- Maintained and Non Maintained Systems
- 24v, 50v and 100v AC/DC Systems
- Various Battery Configurations
- Sub Circuit Monitoring

Self-Test Systems

Digi Lite Centralized Testing System

Full Range of Luminaires

- Exits
- Internal Surface Mounted
- Internal Recessed Luminaires
- External IP65 Bulkheads
- Powerfloods

Full Range of LED Luminaires

- Exits
- Internal Surface Mounted
- Internal Recessed Luminaires
- External IP65 Bulkheads
- Powerfloods



A PROUD BRITISH MANUFACTURER

Panels

Table 1	6100	6300
Rated Voltage	85-264Vac (50/60Hz)	230Vac ± 10%
Working Voltage	21.5 - 30Vdc	21.5 - 30Vdc
Temperature Range	0-40°C	0-40°C
Humidity	85% non condensing	85% non condensing
Standby Load (mains fail)	22mA	90mA (1 loop) 115mA (2 loop) 170mA (4 loop)
Alarm Load (mains fail)	56mA	210mA (1 loop) 260mA (2 loop) 345mA (4 loop)
Display Type	Backlit LCD 4 x 20 Characters	Backlit LCD 2 x 40 Characters
Number of Loops	1	1, 2 and 4
Integral Charger	1 Amp Switch mode, Temperature compensated	3A dc Switch mode
Maximum Battery size	2 x 12v 3.3Ah Valve regulated	10Ah 24V sealed lead acid
Number of Zones	31 zones, 16 with LED	32
Number of Input Groups	32	96
Number of Output Groups	32	96
Fault Output	SPCO (1 A rated@24Vdc)	Single pole changeover contacts (1A rated @ 24V)
Panel Alarm Load	600mA loop, 100mA per conventional output	Maximum 3A with integral power supply unit.
Programmable Alarm Outputs	2 x monitored sounder circuits, 1 x SPCO non monitored fire contact	4 Monitored - Internal sounder circuits (1A rated @ 24V). 1 Set of non-monitored double-pole changeover contacts (1A rated @ 24V). Up to 191 alarm outputs per loop with the use of additional loop O/P devices.
Networkable	N/A	Yes
Nodes for Network	N/A	32
Dimensions (mm)	228(W) x 345 (H) x 111 (D)	440(W) x 385(H) x 144(D).
Weight (Excluding Batteries)	Approx 1.5kg	Approx 10kg
Device Zone Panel Text	2 lines of 20 characters	40 characters device text

Sensors

Table 2	Common Specification across all sensor variants
Loop Voltage	18 - 28V
Loop Powered	Yes
IP Rating	IP41
Environmental	-10°C to +50°C (95% RH non condensing)
Standards	CE Marked
Device Protocol	Algo-Tec™ 6000PLUS

Table 3	6000PLUS/HT	6000PLUS/HT/S	6000PLUS/HT/SL	6000PLUS/HT/TSL
Weight (Excluding Base)	90g	105g	105g	105g
Loop Standby Load	0.2mA	0.4mA	0.4mA	0.4mA
Loop Alarm Load	0.2mA	5.4mA	10.4mA	13.4mA (15.4mA Bell Sound)
Isolator	No	Yes	Yes	Yes
Sounder Volume	N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) <i>(measured at one metre)</i>		
Approvals	LPCB Ref No: 201w/01 EC No: 0832-CPD-1169 Standard: EN 54-5	LPCB Ref No: 201aa/01 EC No: 0832-CPD-1182 Standard: EN 54-3, 5 & 17	LPCB Ref No: 201aa/02 EC No: 0832-CPD-1183 Standard: EN 54-3, 5 & 17	LPCB Ref No: 201aa/03 EC No: 0832-CPD-1184 Standard: EN 54-3, 5 & 17

6400		
6400/DCN/2LPN	DCN	LPN
N/A	N/A	N/A
21.5 - 30Vdc		
0-40°C		
85% non condensing		
380mA (2 loop) 440mA (4 loop).	210mA	250mA (2 loop) 310mA (4 loop).
770mA (2 loop) 830mA (4 loop).	390mA	480mA (2 loop) 540mA (4 loop).
Quarter VGA backlit graphics LCD	Quarter VGA backlit graphics LCD	No Display
2 or 4	N/A	2 or 4
8A Switchmode, temperature compensated (via remote charger)		
2 x 12V 40Ahr (via remote charger)		
100 Zone Fire indicators, plus common 'FIRE' indicator. Expandable to 800.	100 Zone Fire indicators, plus common 'FIRE' indicator. Expandable to 800.	N/A
999	N/A	999
255	N/A	255
Monitored fault output (24V (20mA rated)) & Single pole changeover contacts (1A rated at 24V)		Monitored fault output (24V (20mA rated)) & Single pole changeover contacts (1A rated at 24V)
Total panel load 6A	N/A	Total panel load 6A
8 monitored 24V dc sounder circuits 1A rated. 47K EOL. 6 non monitored - clean changeover contacts (1A rated @24V). Expansion modules available to increase alarm output capability. Up to 127 programmable alarm outputs per loop using loop output devices. Total node load 6A.	N/A	8 monitored 24V dc sounder circuits 1A rated. 47K EOL. 6 non monitored - clean changeover contacts (1A rated @24V). Expansion modules available to increase alarm output capability. Up to 127 programmable alarm outputs per loop using loop output devices. Total node load 6A.
Yes	Yes	Yes
2	1	1
440(W) x 385(H) x 144(D).	440(W) x 385(H) x 104(D).	440(W) x 385(H) x 144(D).
Approx 10kg	Approx 10kg	Approx 10kg
60 characters device location text, 60 characters device alarm text		

Table 4	6000PLUS/OP	6000PLUS/OP/S
Weight (Excluding Base)	90g	105g
Loop Standby Load	0.2mA	0.4mA
Loop Alarm Load	0.2mA	5.4mA
Isolator	No	Yes
Sounder Volume	N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) <i>(measured at one metre)</i>
Approvals	LPCB Ref No: 201v/01, EC No: 0832-CPD-1168, Standard: EN 54-7	LPCB Ref No: 201aa/01, EC No: 0832-CPD-1182, Standard: EN 54-3, 5 & 17

Table 5	6000PLUS/OPHT	6000PLUS/OPHT/L	6000PLUS/OPHT/S	6000PLUS/OPHT/SL	6000PLUS/OPHT/TS	6000PLUS/OPHT/TSL
Weight (Excluding Base)	90g	105g	105g	105g	105g	105g
Loop Standby Load	0.2mA	0.4mA	0.4mA	0.4mA	0.4mA	0.4mA
Loop Alarm Load	0.2mA	5.4mA	5.4mA	10.4mA	8.4mA (10.4mA Bell Sound)	13.4mA (15.4mA Bell Sound)
Isolator	No	Yes	Yes	Yes	Yes	Yes
Beacon Flash Rate	N/A	1Hz	N/A	1Hz	N/A	1Hz
Sounder Volume	N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) <i>(measured at one metre)</i>				
Approvals	LPCB No: 201w/01 EC: 0832-CPD-1169 Standard: EN 54-5	Standard: EN 54-5, 7 & 17	LPCB No: 201x/01 EC: 0832-CPD-1170 Standard: EN 54-3, 5, 7 & 17	LPCB No: 201x/03 EC: 0832-CPD-1172 Standard: EN 54-3, 5, 7 & 17	LPCB No: 201x/04 EC: 0832-CPD-1173 Standard: EN 54-3, 5, 7 & 17	LPCB No: 201x/06 EC: 0832-CPD-1175 Standard: EN 54-3, 5, 7 & 17

Sensors

Table 6	6000PLUS/OPHTCO	6000PLUS/OPHTCO/L	6000PLUS/OPHTCO/S	6000PLUS/OPHTCO/SL	6000PLUS/OPHTCO/TSL
Weight (Excluding Base)	105g	105g	105g	105g	105g
Loop Standby Load	0.45mA	0.45mA	0.45mA	0.45mA	0.45mA
Loop Alarm Load	0.45mA	5.45mA	5.45mA	10.45mA	13.45mA (15.45mA Bell Sound)
Isolator	Yes	Yes	Yes	Yes	Yes
Beacon Flash Rate	N/A	1Hz	N/A	1Hz	1Hz
Sounder Volume	N/A	N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) <i>(measured at one metre)</i>		
Approvals	LPCB No: 201y/01 EC: 0832-CPD-1176 Standard: EN 54-5, 7 & 17	Standard: EN 54-5, 7 & 17	LPCB No: 201z/01 EC: 0832-CPD-1177 Standard: EN 54-3, 5, 7 & 17	LPCB No: 201z/03 EC: 0832-CPD-1179 Standard: EN 54-3, 5, 7 & 17	LPCB No: 201z/04 EC: 0832-CPD-1180 Standard: EN 54-3, 5, 7 & 17

Sounders / Beacons

Table 7	6000/SSR	6000/LED	6000/SSR/LED
Environment	-10°C to 55°C		
Humidity	0 to 85% RH non condensing		
IP Rating	IP65		
Loop Powered	Yes		
Loop Standby Load	700µA	500µA	700µA
Loop Alarm Load	5mA	5.5mA	10mA
Number of Addresses	1		
Loop Isolator	Yes		
Output Details	Piezo sounder. Sounder tone and volume selectable at the control panel	Array of 18 Red high intensity LED's Flash Rate 1Hz	Piezo sounder and array of 18 Red high intensity LED's. Flash rate 1Hz
Weight	244g	99g	273g
Construction	ABS Base & Body	ABS Base/Polycarbonate LENS	ABS Base & Body/Polycarbonate lens
Applicable Standards	Designed to EN54 Part 3 & 17 Compliant to CE and LVD standards	Designed to EN54 Part 17 Compliant to CE and LVD standards	Designed to EN54 Part 3 & 17 Compliant to CE and LVD standards
Approvals	LPCB to EN54 Part 3 : 2001 Cert No 201n	n/a	n/a
Device Protocol	Algo-Tec™ 6000		

Interfaces

Table 11	Dimensions (mm)	Weight	Voltage	Quiescent Current
6000/2IO	146.5(W) x 39(H) x 118(D)	213g	18 - 28V	1.6mA
6000/4IO	146.5(W) x 40(H) x 118(D)	237g	18 - 28V	0.6mA
6000/2LPZA	146.5(W) x 42(H) x 118(D)	204g	18 - 28V	1.6mA
6000/2APZA	146.5(W) x 40(H) x 118(D)	217g	18 - 28V	0.6mA
6000/ZAI AUX	146(W) x 25.5(H) x 86(D)	116g	18 - 28V	0.6mA
6000/ZAI LOOP	146(W) x 24.5(H) x 86(D)	106g	18 - 28V	3.8mA
6000/MIP	45.5(W) x 41(H) x 82(D)	41g	18 - 28V	0.65mA
6000/CCO	45.5(W) x 41(H) x 82(D)	45g	18 - 28V	0.6mA
6000/MICCO	147.3(W) x 86.7(H) x 10(D)	109g	18 - 28V	0.55mA
6000/LCM	146.6(W) x 86.4(H) x 15.2(D)	110g	18 - 28V	3.7mA
16 Way	222(W) x 18.5(H) x 108(D)	144g	18 - 28V	7mA
Evacuation Panel	362.5(W) x 47.5(H) x 21.5(D)	2kg	18 - 28V	6.5mA

Manual Call Points

Table 8	6000/MCP	6000/MCP/WP
Environment	-10°C to 55°C	
Humidity	0 to 95% RH non condensing	
IP Rating	IP24D	IP67
Operating Voltage	16 - 30V dc	
Loop Powered	Yes	
Loop Standby Load	450µA	
Loop Alarm Load	0.85mA	
LED Illuminated	4.5mA	
Weight	Flush - 93g, Surface - 144g	296g
Device Protocol	Algo-Tec™ 6000	
Product Approvals	LPCB No: 201ae/01, EC: 0832-CPD-1049, Standard: EN 54-11 & 17, CE Marked	n/a

Optical Beam Smoke Detector

Table 9	6000/FIREBEAM40
Environment	-10°C to 55°C
Humidity	10 to 95% RH non condensing
IP Rating	IP65
Loop Voltage	18 - 28V
Loop Standby Load	3.65mA
Loop Alarm Load	7mA
Isolator	Yes
Time to Fault	Adjustable between 2s to 60s
Time to Fire	Adjustable between 2s to 30s
Sensitivity	Fully adjustable between 25% to 50%
Weight	Approx: Head 1Kg / Controller 0.5Kg
Construction	Housing: white high heat abs UL94 HB
Device Protocol	Algo-Tec™ 6000

Ventilation Duct Smoke Detector

Table 10	6000PLUS/UG4
Air Velocity	0.5m/s to 20m/s
Sampling Pipe	Aluminium
Operating Temperature	-10°C to +50°C
Humidity	95% non condensing
Weight	0.8Kg (approx)
Detector Heads	6000PLUS/OP

Alarm Current	DIN Rail	Loop Powered	Approvals
18mA	Yes	Yes	n/a
0.6mA	Yes	No	n/a
15mA + SNDR Current	Yes	Yes	n/a
0.6mA	Yes	No	n/a
0.6mA	No	No	n/a
7.5mA + SNDR Current	No	Yes	n/a
4mA	Yes	Yes	LPCB no: 201t/03 EC: 0832-CPD-1164, Standard: EN54-17 & 18
19mA	Yes	Yes	LPCB no: 201t/01 EC: 0832-CPD-1162, Standard: EN54-17 & 18
2.2mA	No	Yes	LPCB no: 201t/02 EC: 0832-CPD-1163, Standard: EN54-17 & 18
67mA	No	Yes	n/a
7mA	No	No	n/a
6.5mA	No	No	n/a



ISO 9001
Cert No. 201 & 268



ISO 9001
Cert No. FM 10567



ISO 14001
Cert No. EMS 537834



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