Protec
Fire and Security Group

Algo-tec™ 6500
EN54 - 2 & 4

Protec
Tel: 01282 717171

Product Catalogue
Issue 4

A PROUD BRITISH MANUFACTURER

Celebrating 50 Years of Business

1968 - 2018

Contents

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

- 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

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.

A British Manufacturer

A British Manufacturer

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

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 dispatch ensuring prompt delivery to customers

Trusted all over the world......

Media City, BBC Headquarters
Location: Manchester, England

- 64 Networked Fire Control Panels
- 9200 Fire Alarm Devices
- 60 Aspirating Detection Systems
- 137 loops
- 4 Graphics Packages

Manchester United Football Club
Location: Manchester, England

- 26 Fire Control Panels
- 3700 Fire Alarm Devices
- 4 Aspirating Detection Systems
- 1 Graphic Package

London Olympics 2012
Location: London, England

- 22 Fire Control Panels
- 300 Fire Alarm Devices
- 12 Aspirating Detection Systems
- 98 Loops
- 4 Graphics Packages
- Networked Fire Telephone System
- IP Addressed Fibre Optic PAVA System
- Gas Suppression Systems
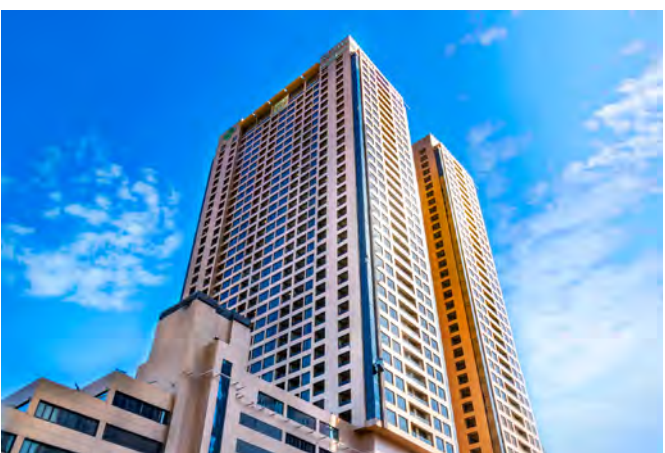
Dalma & Yassat Towers
Location: Dubai, United Arab Emirates

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

Hotel Groups
Location: Nationwide, England

- IHG Hotels - In excess of 200 in the UK
- Premier Inns - Over 800 in the UK
- Hilton Hotels - 25 in the UK
- We have contracts to supply, install test and commission many hotel groups with 24hr callout service
- Utilising the Protec Algo-Tec devices to significantly reduce unwanted alarms due to bathroom steam and aerosols

Cardinal Place Office and Shopping Complex
Location: London, England

- 42 Fire Control Panels
- 3500 Fire Alarm Devices
- 10 Aspirating Detection Systems
- 55 Loops
- 2 Graphics Packages
- 40 Integrated PAVA Rack Systems

Manchester Airport
Location: Manchester, England

- 215 Networked Fire Control Panels
- 16,500 Fire Alarm Devices
- 80+ Cirrus Pro Aspirating Systems
- 3 Colour Graphics Packages
- Interfacing with PA/VA, HVAC, Heat Sensing Cable, Smoke Dampers and Security Systems

Mazaya Towers Office Complex
Location: Dubai, United Arab Emirates

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

Protec

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.

Overview

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™ 6000 *PLUS* 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.

For Technical Data - See Table 1, Page 52

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

- **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™ 6000*PLUS* Protocol**

- **Approved to the latest EN 54-2 & 4**

- **Open Protocol**

Dimensions (mm)

228   111

345

Typcial 6100 Schematic

Plant shutdown interface 6000/MICCO

Heavy duty plant shutdown signal (Rated at 240V 5A)

6300 Loop LCD

Sprinkler delay interface 6000/MICCO

Plant shutdown output (Rated at 240V 5A)

EOL   EOL   **LOOP 1**   EOL   EOL

Alarm circuit

Zone circuit

Alarm circuit

Zone circuit

6000/LPZA Loop powered zone alarm interface

6000/APZA Zone alarm interface

Single 2 wire loop cable

24V supply (4C)

BC1/3.3   Power supply unit

230V

} 2 monitored alarm outputs

Monitored fire station output

1 Auxiliary fire C/O contact

1 Auxiliary fault C/O contact

24V Aux. output

Bomb alert/class change input

Remote alarm input

Mains ac supply

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-CPR-575026
EN54-2 & 4

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Features & Benefits

- **Next Generation Technology -** High specification, feature rich, economical, interactive digital addressable fire detection and alarm system for medium and large sized buildings and sites.

- **Easy to Install -** An extensive range comprising Loop Powered Alarm Sounders, Loop Powered Talking Sounders, Visual Alarm Devices, Interfaces, Manual Call Points and Multi Criteria 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 loops), accommodating up to 200 devices per Loop, 800 maximum per panel, 51,200 addressable devices network wide.

- **Design Flexibility -** Scalable, the 6500 system offers tailor made engineered solutions for all applications, from single panel systems (6500E) to large multi panel networks.

System Features

The Protec Algo-Tec™ 6500 is a high specification, feature rich, economical, interactive digital addressable fire detection and alarm system ideally suited for small, medium and large sized buildings and sites. The control panel is designed and manufactured by Protec and complies to the latest EN54-2 & EN54-4. The control panel is available for surface or recess mounting with an aesthetically pleasing moulded polycarbonate hinged door finished in storm grey.

Scalable in every aspect, the 6500 system offers tailor made engineered solutions for all applications, from single panel systems to large multi panel networks. Modular design backed by powerful cause and effect programming enables 6500 systems to be configured exactly to the needs of any commercial or industrial site.

Secure Network - The innovative redundant peer to peer network is a high speed data transfer, fail safe, fault tolerant communication channel allowing up to 160 Algo-Tec™ 6500 Fire alarm panels to operate as though they are a single distributed fire system and complies with BS5839-1.

No single network fault can disable the system and in the event of multiple faults, each panel will function independently. The network can be wired using copper or fibre optic connections.

Loops - Each 6500 control panel is equipped with 1, 2 or 4 high capacity Algo-Tec™ 6000*PLUS* digital addressable data loops, with up to 200 addresses per loop, totalling 800 addressable devices per panel, 128,000 addressable devices network wide and compliant with EN54 pt2 clause 13.7.

Interactive - The Algo-Tec™ 6000*PLUS* protocol 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 adjust 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.

6500 Network options:

Secure Local Network - The Algo-Tec™ 6500 control panels can be interconnected in a loop configuration alongside other Algo-Tec™ 6500 control panels to create a Secure Local Network up to a certain number of panels:

- 6 Panel Secure Local Network - up to 6 panels (NET6), giving an address capacity of 4,800 devices
- 64 Panel Secure Local Network - up to 64 panels (NET64), giving a total address capacity of 51,200 devices.
- 160 Panel Secure Local Network - up to 160 panels (NET160), giving a total address capacity of 128,000 devices.

640 Loops, 128,000 Addressable Devices Network Wide - An extensive range comprising Loop Powered Alarm Sounders, Loop Powered Talking Sounders, Visual Alarm Devices, Interfaces, Manual Call Points and Multi Criteria 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 per panel). With up to 200 devices per Loop, and 4 loops and 800 addressable devices per panel, the overall capacity of the system is 640 loops and 128,000 addressable devices network wide.

- **Enhanced Performance -** The Protec Algo-Tec™ 6000*PLUS* sensors learn from their environment, applying interactive decision making algorithms to provide stability, threshold compensation and optimised performance.

- **Secure Local Network -** Up to 6 (NET6) or 64 (NET64) Algo-Tec™ 6500 control panels, repeaters and illuminated zonal mimics can be interconnected in a loop configuration to create a secure local network. NET6 - Local NET6 network card allows up to 6 panels to be networked. NET64 - Local NET64 network card allows up to 64 panels to be networked.

- **Easy to Address -** 'FAST' addressing (Firmware Addressed Secure Technology) ELIMINATES troublesome and time consuming setting of address cards and DIL switches.

- **On Site Flexibility -** Configuration of all system functions is fully site programmable.

- **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.

- **Simple to Operate -** Accessing information is easy using the large colour versatile touch screen interface.

- **Reduced Maintenance Costs -** Early indication and reporting of sensors approaching contamination level reduce false alarms and enable dirty sensors to be cleaned or replaced.

- **RS232 & Ethernet Ports -** Typically used to connect to a colour graphics system, pager system or BMS interface.

- **Approved to the latest EN 54-2 & 4 supporting up to 800 devices** (in compliance with Clause 13-7 of EN54 pt2).

Typical 6500 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
- Local Control Module
- Zone Alarm Interface
- Monitored Input CC Output Interface
- Electronic Sounder
- Wall Mounted VAD
- Wall Mounted Sounder VAD
- 6000 Loop Repeater

Plant shutdown interface 6000/MICCO
Heavy duty plant shutdown signal (Rated at 240V 5A)
6000 Loop repeater
Sprinkler delay interface 6000/MICCO
Plant shutdown output (Rated at 240V 5A)

LOOP 1
EOL EOL
Alarm circuit
Zone circuit
6000/LPZA Loop powered zone alarm interface

LOOP 2
EOL EOL
Alarm circuit
Zone circuit
6000/LCM Local Control Module

1, 2 or 4 addressable loops
Single 2 wire loop cable

1 x Fire routing equipment
2 x Auxiliary fire relay
1 x Auxiliary fault relay
Ethernet port, USB & RS232 port: Hercules colour graphics, pager or BMS interface

3 Programmable monitored alarm outputs
1 x 24V Auxiliary output
6 Programmable keyswitch inputs for bomb alert/class change etc
Locally or externally powered using EN54 Part 4 Power Supplies

6500 Secure Local Network
NET 6 - (max 6 panels), NET 64 - (max 64 panels), NET 160 - (max 160 panels)

2 core screened secure network (RS485) Enhanced fire rated cable or fibre

For Technical Data - See Table 1, Page 52, 53

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0086-CPR-575026
EN54-2 & 4

System Overview

Controls and Display (LCD) - All the functions of the Control Panel are accessed via a full colour 7″ touch screen graphical display. Under normal quiescent conditions the display shows the current date, time and a programmable logo. In an alarm or fault condition the graphical touch screen will display the following:

- Device Address
- Loop number
- Zone number
- 60 characters of user definable device location text
- 40 characters of device alarm text
- 20 characters of panel text
- 20 characters of device loop text

All text is fully programmable on site.

The touch screen provides a simple select and touch programming aid for engineer configuration and end user operation. The panel is also equipped with 40 or 100 separate zonal fire LED's (expandable to 10,000) and 18 system LED's for mandatory requirements and information purposes. An optional integral low noise thermal printer is also available.

Device Location Text - Windows based text software is available to download from our website to enable the location text to be prepared in advance and then handed to the 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.

Power Supply - The range of 6500 control panels can be supplied with an integral 3A dc switch mode charger and 2 x 12V 12Ah sealed lead acid batteries. The system is also suitable for use with Protec 9300EN and 9800EN range remote power supplies with an extensive range of battery and charger sizes.

Printer - The optional 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 5000 fire events and 5000 non fire events from the event log, the system device configuration and programming matrix, devices nearing their contamination limit and the current status of all devices.

On Site Programming - The Protec Algo-Tec™ 6500 system is on site programmable. All of the commissioning configuration data can be entered and/or backed up using the Protec 6500/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.

Logic Programming - The Protec 6500 software enables engineers to program the panel using standard cause and effect programming and/or logic programming. The logic programming uses standard, 'AND', 'OR' etc type logic gates. The software is very easy to use and has some powerful features, including;

- Up to 8 input groups per device
- 4,000 input groups per system
- 255 output groups per panels
- Staged input groups and timers
- T1/T2 delays
- All panels can be programmed from one location
- Inbuilt loop loading calculators

See screen shot below of typical logic programming example.

Typical Logic Programming
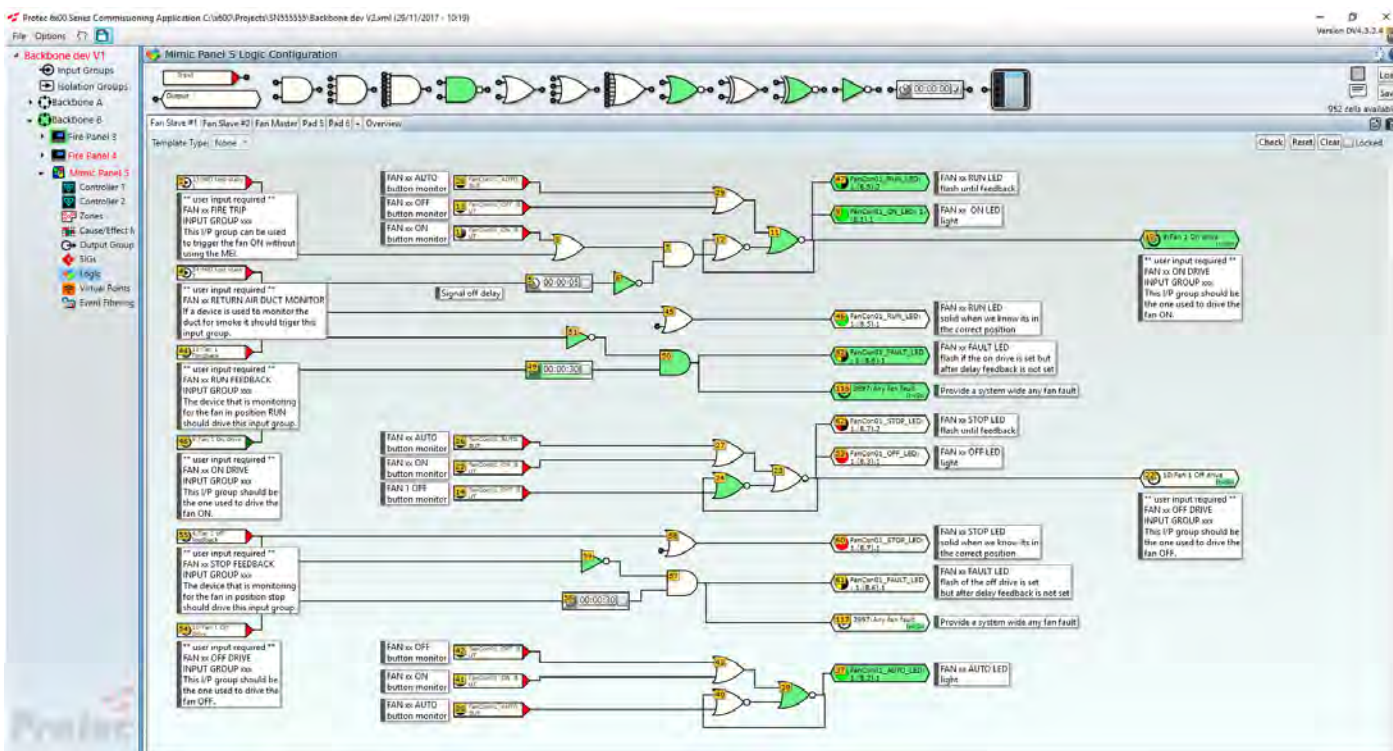
Features & Benefits

• **Up to 8 loops per panel (1,600 addresses)**

• **200 devices per loop**

• **1A loop load**

• **Housed in Protec bespoke 19" Enclosure**

• **Designed to work seamlessly with the Modular Expansion Interface (MEIs)**

• **Built in 8A charger**

• **Available with Fan Control and Zone Expansion Units**
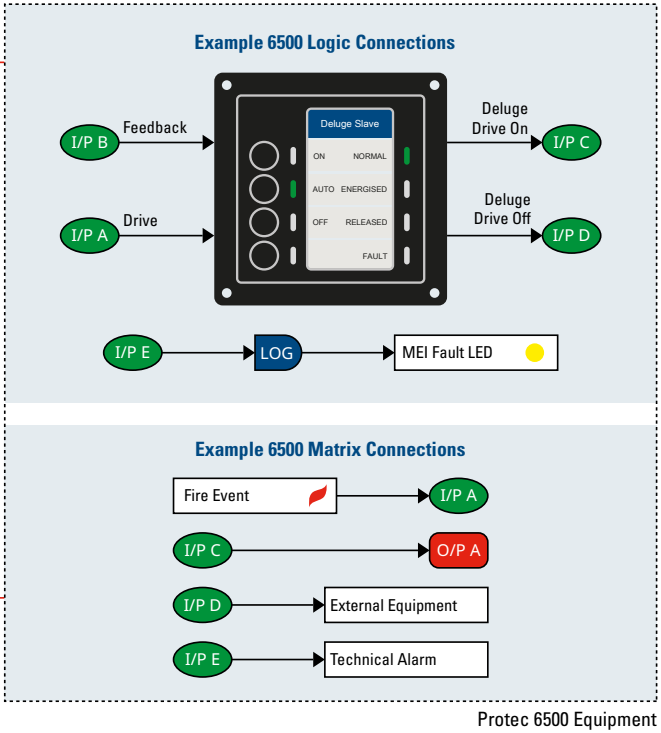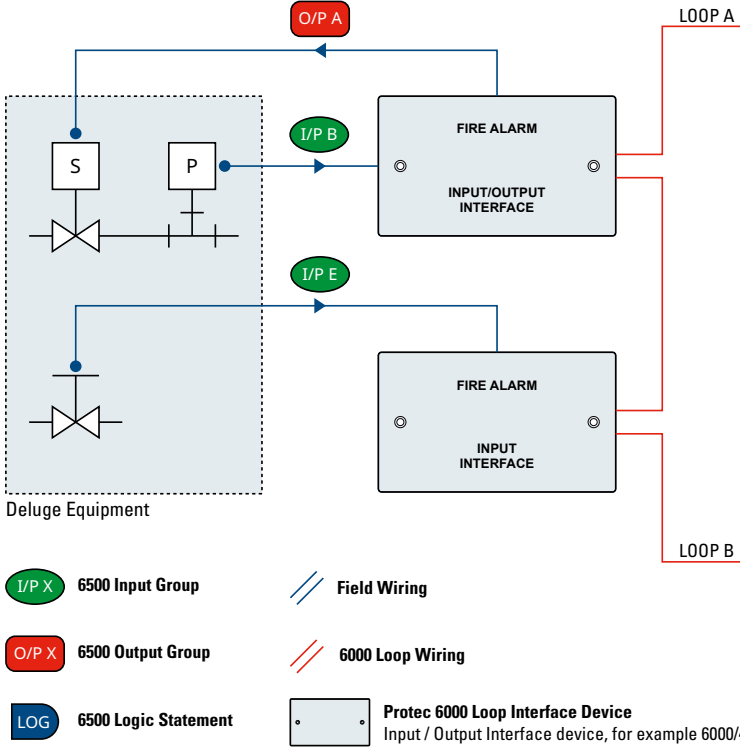
System Overview

The Protec Algo-Tec™ 6500 6 and 8 loop panels have been developed for our export markets, with increasing demands to wire more loops back to one panel.

The panel has all the functionality, features and benefits of the standard 6500 panel and can be networked and configured to operate alongside other Algo-Tec™ 6500 control panels on the same Secure Local Network. The panel takes up two network node slots.

6500 Modular Expansion Interface (MEI)

Multiple modular interfaces can be added to the 19" rack mounted version of the 6500 panels. The MEI consists of 4 programmable push buttons and 8 programmable LED indicators and a drop in 'customisable' label. All controls and indicators are fully programmable, integrating fully with this site wide network of panels and devices.

Typical Application

LOOP A

Example 6500 Logic Connections

I/P B — Feedback → Deluge Slave → Deluge Drive On → I/P C

I/P A — Drive → Deluge Drive Off → I/P D

Deluge Slave: ON — NORMAL / AUTO — ENERGISED / OFF — RELEASED / FAULT

I/P E → LOG → MEI Fault LED

O/P A

I/P B

FIRE ALARM
INPUT/OUTPUT INTERFACE

S   P

I/P E

FIRE ALARM
INPUT INTERFACE

Deluge Equipment

LOOP B

Example 6500 Matrix Connections

Fire Event → I/P A

I/P C → O/P A

I/P D → External Equipment

I/P E → Technical Alarm

Protec 6500 Equipment

I/P X	6500 Input Group	⁄⁄	Field Wiring
O/P X	6500 Output Group	⁄⁄	6000 Loop Wiring
LOG	6500 Logic Statement	▫	Protec 6000 Loop Interface Device — Input / Output Interface device, for example 6000/4IO

I/P A Initial drive signal to start the deluge release process. This input group can be driven by a fire event. The process can be delayed if required by using the 6500 "Investigation Time" feature.

I/P B Feedback from the deluge system flow pressure sensor. Used to monitor if the system is in the correct state. Failure to activate within the programmed time period will generate a fault.

I/P C Signal from the Deluge Slave to energise the deluge release valve through O/P A.

I/P D Optional signal from the Deluge Slave to interface to external / third party equipment. This input group is triggered when the deluge drive is off.

I/P E Optional feedback from the deluge manual isolation valve. When the valve is isolated a Technical Alarm, as programmed through the commissioning software, is generate and the Deluge Slave reports a fault condition.

O/P A Output from a 6000 Loop Output Interface used to drive the deluge solenoid valve.

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Additional Products

6000 Loop Repeater

The 6000/LOOP/REPEATER can be connected directly to the local Algo-Tec™ digital addressable data loop and takes up just one address. Events from the main panel are displayed on the repeater's large LCD display, providing system indication of any loop connected location on site. The low power consumption allows numerous repeat devices to be fitted, greatly increasing system visibility.

The power consumption of the repeater has been minimised through energy efficient design, preserving loop current and capacity. Quiescent 1.6mA, Alarm 12.7mA.

The repeater can be surface or flush mounted as standard, allowing gland or conduit entrance through the rear, top or bottom of the enclosure. The device only requires a loop connection to provide both power and data, no network cabling, or external power supply is required.

6000/LOOP/REPEATER

6500 Repeat Panel

The Protec 6500 repeat panel can be connected to the secure local network. The repeat panel has an identical display to the control panel including a full colour 7" touch screen graphical display, zonal fire LED's and system LED's for information purposes and mandatory functions.

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.

6500 Repeat Panel

6500 Illuminated Zonal Mimic

The Protec Network Mimic Panel provides a flexible platform for system indication and control solutions.

A Mimic Panel can be configured for zonal indication, plant shutdown, fan control, damper control or other custom solutions.

The Mimic Panel is connected to the 6500 fault tolerant, redundant peer to peer network as part of a single distributed fire system, representing a single node. Multiple Mimic Panels can be placed on the network. Custom panel graphics are produced using industry standard graphical design software. Coloured architectural drawings, plans and custom logos can be directly imported.

A single Mimic Panel can support up to 1,000 RGB LEDs, 500 key/push/rotary switches and 5 clean contact outputs. The intensity of the LED outputs can be controlled by an ambient light sensor and each indicator is fault monitored.

An in-built setup feature of the Standard 6500 Windows based Commissioning Software is used to configure the Mimic Panel (allocating the system input/outputs to an LED indicator).

The Software significantly reduces configuration time, increases information integrity and simplifies ongoing changes. The Commissioning Software provides a fully interactive graphical representation of Mimic Panel setup.

Zonal Mimic

6500 Illuminated Mimic Kit

We also offer Mimics in kit format, the circuit boards are mounted on a chassis plate so it can be housed in third party enclosures. The Mimic Kit comprises of: a Terminal board, Controller/Driver board, Modular Mimic drivers (64, 128, 192, 256, 320 LED's), LED light fibres cut to variable lengths (includes cutting tool) and a network card.

Mimic Kit

Features & Benefits

- **Simple and clear user interface**

- **Fully configurable**

- **Secure system**

- **Multiple users**

- **Event and alarm history**

- **Programmable to suit any application**

- **Displays the precise location of events**

- **Compatible with most Protec products**

Overview

The Protec Hercules PC software is a powerful alarm management tool and graphical user interface designed to work with Protec Intelligent Addressable Fire Systems, Cirrus-Pro Aspirating Fire Detectors or DigiLite® Emergency Lighting Test and Monitoring System.

The software provides a cost effective solution for all types of installation, and is suitable for use with single panel to multi-site applications.

Hercules 6 allows the users to manage their fire alarm, aspirating or emergency lighting system efficiently from one or more convenient locations. Each workstation provides full control of the system, whether connected to a single panel or multi-panel network. All current and historical event information is available with the click of a mouse. Users can monitor and interrogate their systems to ensure alarms are detected and dealt with quickly and efficiently.

The system is monitored such a way that if any connection failures between the alarm panel and the PC are detected both systems will show fault. Connections to CirrusPro and DigiLite Systems are purely Ethernet based and require local network access.

The Hercules 6 software not only delivers alarm information, it also records system events and faults, allowing the generation of detailed reports.
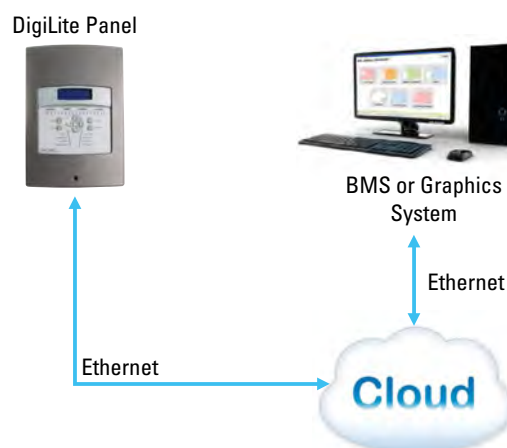
A series of graphics screens show the position of all addressable devices and provide a visual indication of their status. An easily used selection system permits rapid selection of a particular screen. To help locate particular devices large areas are broken down into a series of sub screens. The location of a device during an alarm, fault, disablement or test condition is further enhanced by flashing cross-hatched sections indicating the area containing the active device.

Typical Schematic
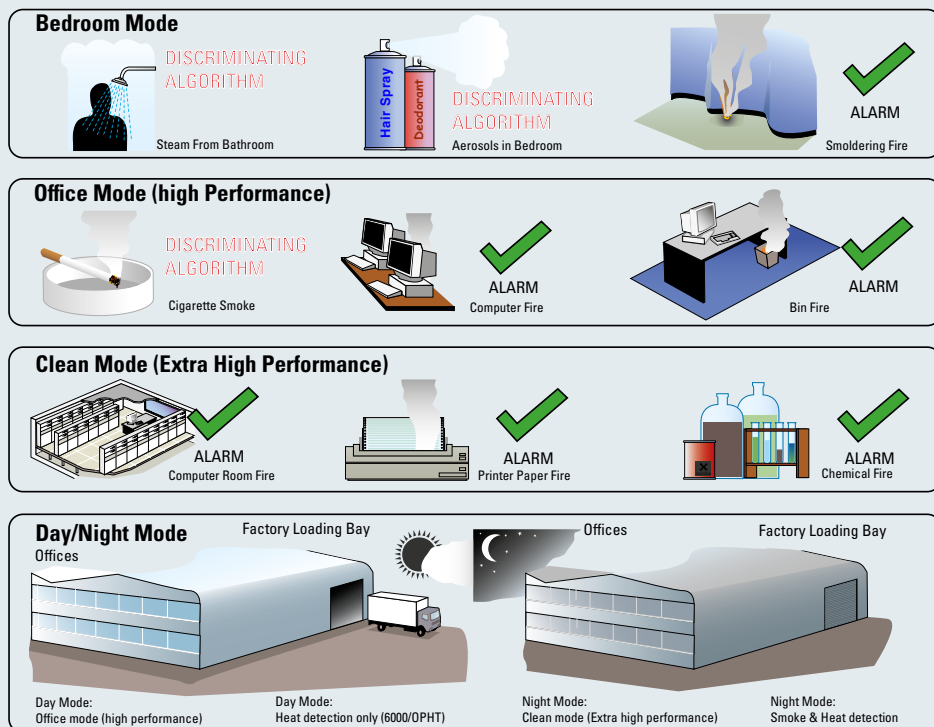
For Addressable Fire Systems

Fire Panel

BMS or Graphics System

RS232

Ethernet

Ethernet
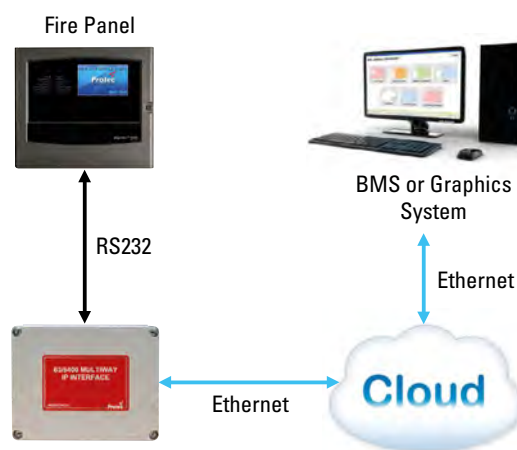
For Cirrus Pro and Emergency Lighting Systems

DigiLite Panel

BMS or Graphics System

Ethernet

Ethernet

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

Bedroom Mode

DISCRIMINATING ALGORITHM

Steam From Bathroom

Hair Spray Deodorant

DISCRIMINATING ALGORITHM

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

Offices   Factory Loading Bay   Offices   Factory Loading Bay

Day Mode:
Office mode (high performance)

Day Mode:
Heat detection only (6000/OPHT)

Night Mode:
Clean mode (Extra high performance)

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 6000*PLUS*/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**

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

The Protec Algo-Tec™ 6000*PLUS* 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™ 6000*PLUS*

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 6000*PLUS* 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.

4 | 1 | | 4 | 1

ON

OFF

Address 41

4 sec.
(End of sequence)

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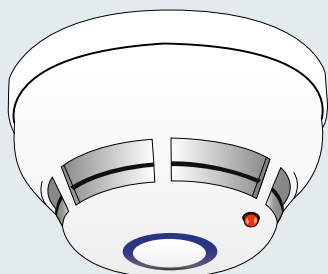
Algo-Tec™ sensors can be set into RVAV™ mode from the control panel. Each device displays their address number via the LED indicator. The address is shown by a flash sequence, examples of which are shown here.

1 | 0 | 2 | | 1 | 0 | 2

ON

OFF

Address 102

4 sec.
(End of sequence)

Sequence then repeats.
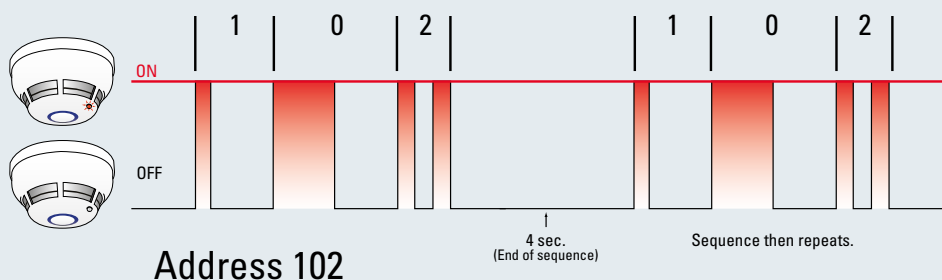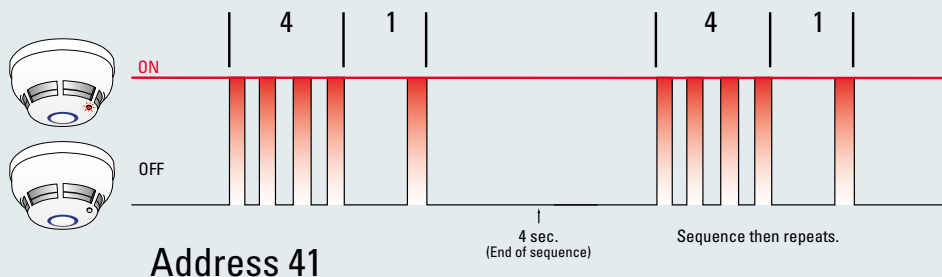
FAST™ Addressing

FAST™ (Firmware Addressed Secure Technology). Each Algo-Tec™ 6000*PLUS* 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.
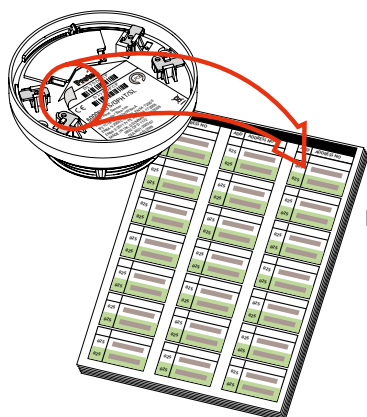
Peel off barcode address & place in loop commissioning manual

Features & Benefits

- Voice Enhanced 'Talking' Sounder with Selectable Messages
- High Intensity Visual Alarm Device
- 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™ 6000*PLUS* Protocol
- Devices Display Address Number
- FAST™ Addressing
- Reduced False Alarms

Overview

The Protec Algo-Tec™ 6000*PLUS* 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™ 6000*PLUS* 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™ 6000*PLUS* intelligent fire sensors utilise advanced discriminating algorithms for maximum reliability and immunity to false alarms. The Protec Algo-Tec™ 6000*PLUS* 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™ 6000*PLUS* 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 Sounder** - The Protec Algo-Tec™ 6000*PLUS* 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.

● **Sensor VAD** - Compliance with DDA legislation is assisted by the addition of the Protec visual alarm device (VAD) to the 6000*PLUS* sensor, to warn those with hearing impairments or in noisy environments. The VAD utilises a high intensity LED with lower power consumption and increased reliability when compared to alternative indicators.

The VAD is located in the centre of the sensor, so can be viewed from all angles. Suitable for ceiling mounting the VAD distributes light in a cylindrical pattern to achieve the required minimum illumination of 0.4lux over the entire coverage area in accordance with EN54-23.

The maximum mounting height is 3m with a coverage diameter of 7.5m.

For smaller areas the device can be programmed on-site for coverage diameter of 3m or 5m at reduced power.

Dimensions (mm)
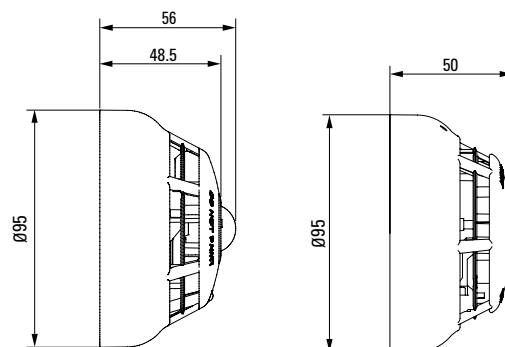
Typical Wiring using 6000*PLUS*/BASE
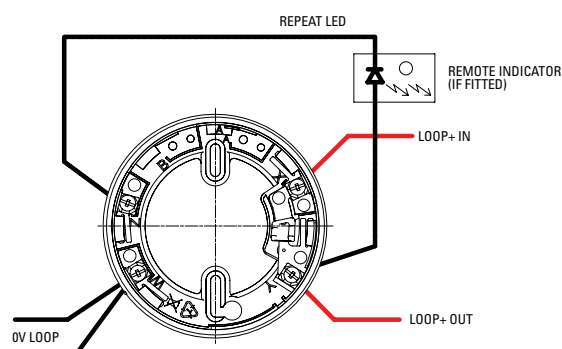
Sensor Variants

Code	Description	Colour Code	Standards
6000*PLUS*/HT	Heat Sensor	●	Part 5
6000*PLUS*/HT/S	Heat Sensor c/w Sounder	● ●	Part 3, 5, 17
6000*PLUS*/HT/SVAD	Heat Sensor c/w Sounder and VAD	● ● ●	Part 3, 5, 17, 23
6000*PLUS*/HT/TSVAD	Heat Sensor c/w Talking Sounder and VAD	● ● ●	Part 3, 5, 17, 23
6000*PLUS*/OP	Optical Smoke Sensor	●	Part 7
6000*PLUS*/OP/S	Optical Smoke Sensor c/w Sounder	● ●	Part 3, 7, 17
6000*PLUS*/OPHT	Optical Heat Sensor	●	Part 5, 7
6000*PLUS*/OPHT/I	Optical Heat Sensor with Isolator	●	Part 5, 7, 17
6000*PLUS*/OPHT/S	Optical Heat Sensor c/w Sounder	● ●	Part 3, 5, 7, 17
6000*PLUS*/OPHT/VAD	Optical Heat Sensor c/w VAD	● ●	Part 5, 7, 17, 23
6000*PLUS*/OPHT/SVAD	Optical Heat Sensor c/w Sounder and VAD	● ● ●	Part 3, 5, 7, 17, 23
6000*PLUS*/OPHT/TS	Optical Heat Sensor c/w Talking Sounder	● ●	Part 3, 5, 7, 17
6000*PLUS*/OPHT/TSVAD	Optical Heat Sensor c/w Talking Sounder and VAD	● ● ●	Part 3, 5, 7, 17, 23
6000*PLUS*/OPHTCO	Optical Heat CO Sensor	●	Part 5, 7, 17
6000*PLUS*/OPHTCO/S	Optical Heat CO Sensor c/w Sounder	● ●	Part 3, 5, 7, 17
6000*PLUS*/OPHTCO/VAD	Optical Heat CO Sensor c/w VAD	● ●	Part 5, 7, 17, 23
6000*PLUS*/OPHTCO/SVAD	Optical Heat CO Sensor c/w Sounder and VAD	● ● ●	Part 3, 5, 7, 17, 23
6000*PLUS*/OPHTCO/TSVAD	Optical Heat CO Sensor c/w Talking Sounder and VAD	● ● ●	Part 3, 5, 7, 17, 23

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

Base Options

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

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

For Technical Data on:
*6000PLUS/HT Variants - See Table 2, 3 and 4, Page 52, 54*
6000PLUS/OP Variants - See Table 2, 3 and 4, Page 52, 54
6000PLUS/OPHT Variants - See Table 2, 3 and 4, Page 52, 53, 54
6000PLUS/OPHTCO Variants - See Table 2, 3 and 4, Page 52, 53, 54

6000PLUS Sensor / VAD Recognition Chart

6000*PLUS*/HT
Heat Sensor

6000*PLUS*/HT/S
Heat Sensor c/w Sounder

6000*PLUS*/HT/SVAD
Heat Sensor c/w Sounder and VAD

6000*PLUS*/HT/TSVAD
Heat Sensor c/w Talking Sounder and VAD

6000*PLUS*/OP
Optical Smoke Sensor

6000*PLUS*/OP/S
Optical Smoke Sensor c/w Sounder

6000*PLUS*/OPHT & 6000*PLUS*/OPHT/I
Optical Heat Sensor & Optical Heat Sensor c/w Isolator

6000*PLUS*/OPHT/S
Optical Heat Sensor c/w Sounder

6000*PLUS*/OPHT/VAD
Optical Heat Sensor c/w VAD

6000*PLUS*/OPHT/SVAD
Optical Heat Sensor c/w Sounder and VAD

6000*PLUS*/OPHT/TS
Optical Heat Sensor c/w Talking Sounder

6000*PLUS*/OPHT/TSVAD
Optical Heat Sensor c/w Talking Sounder and VAD

6000*PLUS*/OPHTCO
Optical Heat CO Sensor

6000*PLUS*/OPHTCO/S
Optical Heat CO Sensor c/w Sounder

6000*PLUS*/OPHTCO/VAD
Optical Heat CO Sensor c/w VAD

6000*PLUS*/OPHTCO/SVAD
Optical Heat CO Sensor c/w Sounder and VAD

6000*PLUS*/OPHTCO/TSVAD
Optical Heat CO Sensor c/w Talking Sounder and VAD

The Protec range of Algo-Tec ™ 6000*PLUS* 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, 3 and 4, Page 52, 54
6000PLUS/OP Variants - See Table 2, 3 and 4, Page 52, 54
6000PLUS/OPHT Variants - See Table 2, 3 and 4, Page 52, 53, 54
6000PLUS/OPHTCO Variants - See Table 2, 3 and 4, Page 52, 53, 54

6000/SSR2

6000/LED

6000/SSR/LED

6000/VAD/W

6000/VAD/C

6000/SSR/VAD

6000/MCP

6000/MCP/WP

Overview

Protec have a complete range of sounder, talking sounders, beacons, sounder beacon and Visual Alarm devices (VADs). The range are all loop powered, high output low current devices and Include short circuit Isolators. The range Includes the following:

6000/SSR2

The 6000/SSR2 is an addressable loop powered, high output sounder utilising Piezo drivers' delivering high sound output 100dB(A) output with very low current consumption. The sounder volume can be programmed high (100dB), Medium (95dB) and low (75dB). The sounder Incorporates a short circuit Isolator and Is available in both red and white and has an IP rating of IP65. Approved to EN54 Part 3 and 17.

6000/LED

The 6000LED Is a loop powered, high Intensity LED beacon. The beacon Is a low current device, available in a choice of coloured lens and back boxes, the beacon Is IP65 making It suitable for both Internal and external use. The 6000LED has 18 high Intensity with a flash rate of 1Hz and Is complete with a short circuit Isolator.

6000/SSR/LED

The 6000SSR/LED Is a combined high output sounder and high Intensity LED beacon array. The unit Is loop powered and Is a low current device. With a typical sound output of 100dB (A) at 1m, the tone and volume 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 and Incorporates a loop short circuit Isolator to enhance the system Integrity. Available in a choice if lens and body colours, the combined unit Is IP65 making It suitable for Indoor or outdoor use.

For Technical Data - See Table 6, Page 55

6000/VAD/W & 6000/VAD/C

The Protec 6000/VAD/W Addressable wall mounted Visual Alarm Device (VAD) and 6000/VAD/C Addressable ceiling mounted visual alarm device are loop driven, addressable high Intensity VAD's designed to EN54 Pt23. The wall VAD Is categorised for Installation at a height of up to 2.4m and coverage of 7.5m x 7.5m, W-2.4-7.5, and the ceiling VAD at a height of 3m and coverage diameter of 7.5m C-3-7.5. For smaller areas these devices can be switched down from 7.5m to 5m or 3.5m thus reducing power consumption and maximising the number of devices on a loop. The low power modes are software programmable. Both units have unique lens that distributes the white light, for the wall VAD a cuboid shape and for the ceiling VAD a cylindrical shape to achieve the required Illumination of 0.4lux over the entire coverage are in accordance with EN54-Pt23.

6000/SSR/VAD

The Protec 6000/SSR/VAD Is a loop driven, addressable high Intensity Visual Alarm Device (VAD) with up to 7m x 7m room coverage and a high output electronic sounder with up to 100dB(A) at 1m. Combining the two functions in one concept in one compact high efficiency design Improves the aesthetic appearance and simplifies the Installation of the device. By utilising the Protec Algo-Tec 6000 protocol, the 6000/SSR/VAD offers best in class performance in terms of flexibility, power consumption, sound output and visual Indication. The device Is categorised for Installation at a height of 2.4m and coverage of 7m x 7m W-2.4-7 adjustable down to 5m and 3m for smaller room coverage. Similarly, the tone and volume options are selectable by the control panel. The product has a unique lens that distributes the white light in a cuboid shape to achieve the required Illumination of 0.4lux over the entire area in accordance with EN54 Part 23. The unit Is IP65 rating making It suitable mounting Internally or externally.

For Technical Data - See Table 5, Page 54

6000/MCP

Installation efficiency, flexibility and full compliance with the latest standards are at the heart of the 6000/MCP indoor call point. It provides a unique 'plug and play' concept designed specifically to reduce installation time. The 6000/MCP uses a re-settable break glass element and offer anti-tamper facility. The unit Is complete with a Integral short circuit Isolator, approved the EN54 Part 11 and 17.

6000/MCP/WP

This 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.

For Technical Data - See Table 7, Page 55

Independently tested
Intertek

Protec

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

6000/CCO

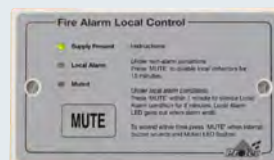**6000/MIP**

6000/16WAY

6000/MICCO

6000/LPZA & 6000/APZA

6000/LCM

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.

For Technical Data - See Table 10, Page 56, 57

KM589455

6000/FIREBEAM40
Optical Beam Smoke Detector

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

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.

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 8, Page 55
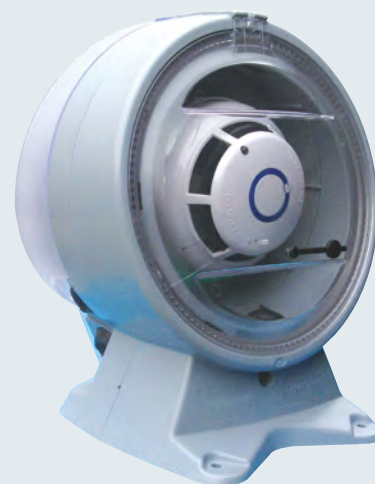
6000*PLUS*/UG4
Ventilation Duct Smoke Detector

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 6000*PLUS*/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 it's 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.

Dimensions (mm)

180(W) x 235(H) x 183(D)

For Technical Data - See Table 9, Page 55

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**

Overviews

Protec provide a complete range of fire detection and alarm system equipment to provide solutions for the vast majority of applications including protection within hazardous areas requiring Intrinsically Safe equipment.

As its name implies, Intrinsic Safety refers to equipment and wiring that is inherently safe, i.e., a system with energy levels so low they cannot cause an explosion.

This is typically achieved through the use of isolating barriers; either diode barriers or isolated barriers that limit energy to a hazardous (potentially flammable) area.

Hazardous areas are classified into zones based on an assessment of the frequency of the occurrence and duration of an explosive gas atmosphere, as follows:

Zone 0: An area in which explosive gas atmosphere is present continuously or for long periods.
Zone 1: An area in which explosive gas atmosphere is likely to occur in normal operation.
Zone 2: An area in which explosive gas atmosphere is not likely to occur in normal operation and, if it occurs, will only exist for a short time.

Barriers are a key component because they limit the energy to the hazardous area Zener barriers provide a simple method for implementing intrinsic safety but their primary drawback is they must be connected to a dedicated Intrinsically Safe earth or ground, which may introduce problems such as electrical noise on the control signal and they may introduce earth monitoring faults.

By contrast, isolated barriers provide electrical isolation for anything connected to them, so there is no need for a dedicated earth / ground.

To overcome these issues correctly the following solutions have been provided to ensure correct application.

Addressable Systems:
Depending on the application different barriers (Galvanic isolation or Zener) can be used on a Protec addressable system. For applications where only IS detectors /call points are required as shown in Fig1, then a galvanic isolation barrier driven from a Protec 6000/2LPZA can be used and no external power supply is required.
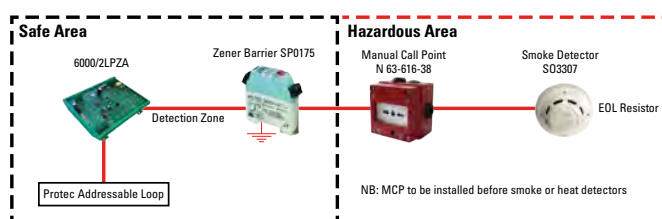
Figure 1 shows the application schematic of loop driven system interfacing to a range conventional IS devices with no sunder and no external power supply.

For applications where IS sounders are required, a Zener barrier must be used in order for the sounder circuit to be fully monitored for short and open circuit faults as shown in Fig 2.
The 6000/2APZA must be powered from a Protec EN54-4 compliant power supply.
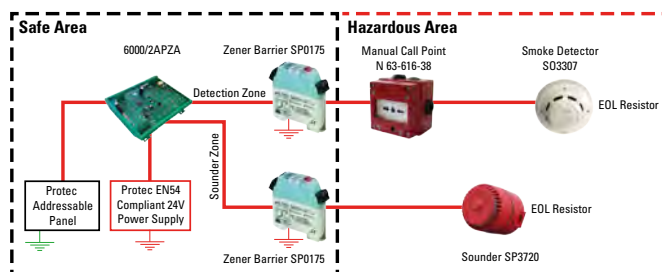
Figure 2: IS Devices driven from and 6000/2APZA and an external Power supply

Conventional Systems:
Fig 3 shows a typical schematic when IS devices are connected to a Protec 3500 Series conventional Fire alarm system.
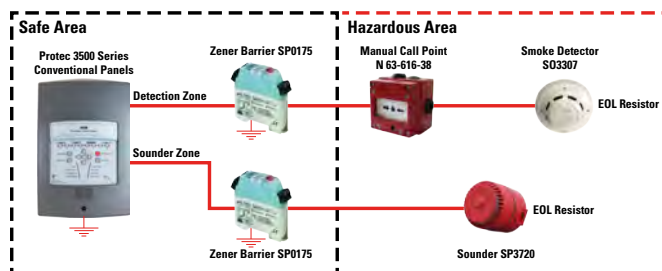
Figure 3: IS devices connected to Protec 3500 series Fire Panels

BACnet Interface

Features & Benefits

- Low cost solution, no need for expensive bespoke integration solution
- 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.

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.

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

- Quiet
- Fault
- Pre Alarm
- Alarm

Typical Configuration
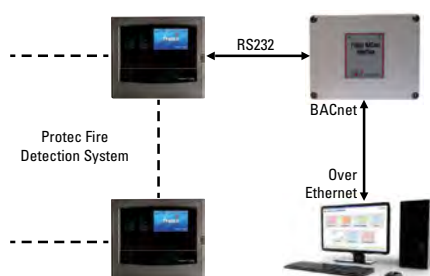
Dimensions (mm)

254(W) x 200(H) x 98(D)

Multiway IP Interface

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 interface provides a high performance, reliable 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 for reception by a suitable data logger or graphics application.

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

With a possible eight sockets the interface can connect to up to eight PCs anywhere on the network.

Typical Configuration
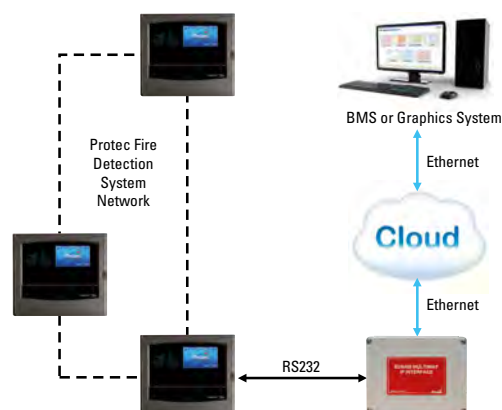
Dimensions (mm)

254(W) x 200(H) x 98(D)

Overview

Firstly, it's important to understand how a fire starts. Combustible material has a normal operating temperature (i.e. when it's not on fire), however when this material is subjected to ever increasing temperatures it can reach ignition point. Once ignition point is reached flames and heat are generated. Generally, before ignition point, the combustible material may well initially produce small amounts of visible smoke. These visible smoke particles can be detected early, with optical aspirating smoke detectors; as more smoke is produced, detection can be provided by regular point type smoke detectors and beam detectors. However, what is not always obvious, is that before smoke is produced the combustible material starts to thermally 'break down'. This is known as the Thermal Particulate Point. At this point billions of INVISIBLE carbon particles (Thermal/ Fire Particulates) are emitted.

Our primary detection technology uses the "cloud chamber" to detect these fire particles which are 0.0025 Microns in size. Although invisible to optical measuring technologies, these particles may often create an odour, hence the phrase "you can sometimes smell a fire, without seeing smoke".

Scaling of Visible and Invisible Particulate

μ = microns

– 150μ - a human hair

25μ - visible to human eye
10μ - heavy dust, lint, pollen
5-10μ - dust, plant spores, fungi, some smoke
1-5μ - bacteria, light dust, dander, some smoke
0.01-1μ - steam, vapours, some smoke
0.001-0.0025μ – viruses, some gases
combustion particles

Cloud Chamber Science

Within the humid environment of the cloud chamber, a significant change in chamber pressure creates a dramatic drop of the sample temperature, which by reaction forms a cloud. The cloud density is then measured optically and is directly proportional to the amount of initially invisible particles.
i.e. More invisible particles measured, more cloud density, more signal generated, more fire!
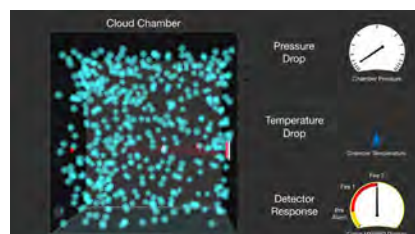
Aspirating FIRE Detection - the Cloud Chamber detector identifies invisible sub-micron particles generated during the combustion process when a material begins to over-heat. The cloud chamber measurement scale is in particles per cm³ (PPCC³).

Cirrus CCD
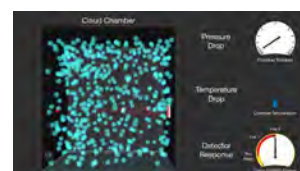
Cloud Chamber 'Fire' sensor

Cirrus CCD Display

Aspirating SMOKE Detection - Protec ProPointPlus aspirating smoke sensors utilise 'optical' LED Scatter Chamber Detectors (SCD's) within each of the four individual aspirator sampling ports. The SCD smoke sensor identifies smal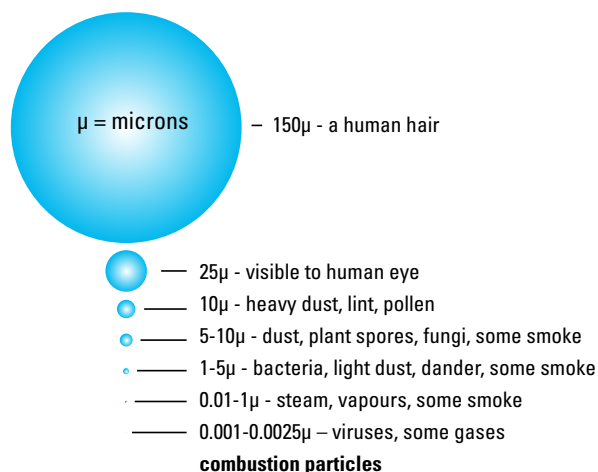l amounts of the visible smoke particles generated as material continues to over-heat. The smoke measurement scale is percentage obscuration per metre (%obs/m).

ProPoint PLUS

'Optical' SCD (Scatter Chamber Detector) 'Smoke' sensor

ProPointPlus Display

Aspirating FIRE & SMOKE Detection - Protec Cirrus HYBRID aspirating detectors contain two separate detection elements to detect two different phenomenon associated with fire (fire particles and smoke particles). The Cirrus HYBRID detector includes as its primary sensor, a 'Cloud Chamber' fire sensor which is supplemented by high sensitivity 'Optical' sensors.
Cirrus HYBRID detectors indicate these two separate detection element scales (PPCC³ & %Obs/m) individually, however as its primary display these two scales are combined and integrated on a bespoke scale refered to as a 'Combined Fire and Smoke' signal.

Cirrus HYBRID
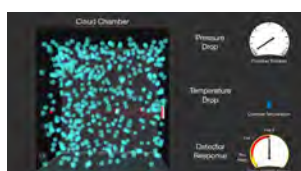
Cloud Chamber 'Fire' sensor

&

'Optical' SCD (Scatter Chamber Detector) 'Smoke' sensor

=

Cirrus HYBRID Display

Stage 1

The earliest stages of a fire (Incipient stage) is when a combustible material overheats. This produces a very high quantity of invisible 'fire' particles. These particles may have an odour but cannot be seen, only cloud chamber based detectors can detect this stage of a fire.

Stage 2

As the fire develops small amounts of visible smoke particles are generated. These particles can be detected by high sensitive 'optical' (LED or laser technology) aspirating 'smoke' detectors.

Stages 3, 4 and 5

Through further progression of the combustion process the 'fire condition' develops and allows other technologies to then identify the event.

Conventional point type smoke detectors and optical beam detectors respond to greater levels of visible smoke. Subject to the actual material that is burning these are often followed by flame detectors.

Conventional point type heat detectors respond to an ever increasing material temperature, as do sprinkler heads.

Cirrus CCD

LED / Laser Optical

ASD

Competitors Aspirating Smoke Detector

Cirrus HYBRID

ProPoint PLUS

Optical Detector

Optical Beam Detector

Flame Detector

Heat Detector

Sprinkler

NOTE: Protec Cirrus HYBRID aspirating detectors contain a cloud chamber as their primary 'fire' sensor and can provide the earliest warning of material overheat conditions, providing time to allow corrective action to take place to limit damage and loss. Uniquely, the Cirrus HYBRID detector also contains up to four separate optical 'smoke' sensors, thereby allowing meaningful alarm condition warnings to be provided as the event continues. This can be a major advantage on restricted access and unmanned sites. Alarm thresholds from Cirrus HYBRID detectors may be configured to allow condition warnings in each of the 5 fire stages shown above.

PROTEC ASPIRATING DETECTION SYSTEM SOLUTIONS

Overview

Aspirating detection is now a recognised solution for so many different fire detection applications. Protec Fire Detection have the most extensive range of aspirating detector technologies and options available on the global market. From low cost single pipe aspirating 'Smoke' detectors to multi-pipe, multi-technology aspirating 'Fire & Smoke' detectors.

CCD Aspirating <u>Fire</u> Detectors

Cirrus Pro Cloud Chamber 'Fire' detection

***ProPointPlus* Aspirating <u>Smoke</u> Detectors**

ProPointPlus Optical 'Smoke' and 'Smoke/CO' detection

***Cirrus HYBRID* Aspirating <u>Fire & Smoke</u> Detectors**

Cirrus HYBRID Cloud Chamber 'Fire' & 'Optical' smoke detection

Cirrus CCD is the latest enhancement of 'cloud chamber' based aspirating detectors and has been re-designed to complement the new style and housing of other recent Protec aspirating detectors. The new CCD will replace our previous Cirrus Pro range and enhance our aspirating detector range in the market going forward.

The cloud chamber detection principle ensures this aspirating Detector does not false alarm from dust and other pollutants, unlike standard 'optical' aspirating detectors. Sampling from environments with high airflow, high humidity levels and extreme temperatures also generally have little effect on the detector operation. Therefore Cirrus CCD Cloud Chamber detectors can be installed in many different and difficult applications.

ProPointPlus contains up to four separate detectors within a common aspirator enclosure. This provides four separately identifiable areas from a single aspirating unit. ProPointPlus utilises LED 'optics' for verification of smoke levels and can be configured without the need for a laptop connection. Detector set-up for Class A, Class B and Class C settings are achieved through very simple multi-function, multi-lingual menu functions.

Cirrus HYBRID detectors are the next generation of aspirating detectors and are unique within the aspirating world. By utilising the best forms of aspirating system technologies; Cloud Chamber Detection (CCD) and Early Warning Smoke Detection (EWSD) in one detector, we have created a single detector able to detect fire & smoke over the largest range of fire types. The result of this synergy of technologies is a device that can verify true alarm conditions and are resistant to unwanted or false alarms.

Cirrus CCD - Cloud Chamber Detector

Features & Benefits

- **The only 'Cloud Chamber' based Aspirating Fire Detector available**

- **Resistant to unwanted alarms from dust, humidity & temperature changes**

- **Programmable 'Pre-alarm' warning**

- **3 x Programmable 'Fire' alarm warnings (Fire 1, Fire 2 & Fire 3)**

- **Vast sensitivity range**

- **Airflow monitoring per pipe**

- **7" full colour multi-function touch screen LCD display**

- **Live camera stream from up to 6 IP colour cameras**

- **In-built IP interface**

Overview

The 'sensitivity range' is the key feature that makes the Cirrus CCD Series Fire Detector a most versatile fire detection device.

For over 30 years Cloud Chamber detectors have been known as the most sensitive fire detection device, able to detect at the true incipient stage of a developing fire.

The New Cirrus CCD Detectors have a vast sensitivity range capable of being even more sensitive than previous versions.

Cirrus CCD detectors can be installed in dusty, humid and high & low temperature applications. In these harsh environment applications design and installation consideration must be given to the complete installation to ensure the sampling pipes, sampling holes and detector remain operational.

Dimensions (mm)

250(W) x 349(H) x 137(D)

Note: Dimensions are detector size only.
Height excludes the pipes at the top of the detector.

For Technical Data - See Table 11, Page 56

Application Guide

High Sensitivity Applications include:-
Computer Rooms, Clean Rooms, Control Rooms, Data Centres, Valve Halls, Archive Storage, Anechoic Chambers, EDP areas, Flight Simulators.

General Sensitivity Applications include:-
Heritage Buildings, Museums, Hospitals, Cathedrals, Theatres, Art Galleries, Clean Warehouses, Atria, Indoor Stadiums.

Harsh Environment Applications include:- Cold Storage Facilities, Specialist Production Facilities, Food Industry Facilities, Paper Production Facilities, Transportation Terminals, Aircraft Hangers, Prisons, Warehouses, Simulators, Aircraft Hangers, Inaccessible Voids, Dirty Warehouses.

The Cirrus CCD is currently being tested to EN54 Part 20 and we are expecting approval very soon!

Cirrus Pro Locator - Portable Aspirating Detector

Overview

The Cirrus Pro Locator is the industries first handheld portable air sampling detector that can help guide you to an impending fire threat.

Cirrus Pro Locator is part of the Cirrus Pro Series range of aspirating fire detectors which utilise the unique cloud chamber detection principle.

Dimensions (mm)

350(W) x 120(H) x 260(D)

Features & Benefits

- 1 - 4 Individual detectors per aspirator (providing up to 4 separately identifiable areas)

- High performance optical 'Scatter Chamber Detectors' (SCD) and enhanced CO detection

- Multiple language, multi-function LCD display

- Simple install and commission process without the need for a laptop connection

- Simple Class A, Class B, Class C and Prison sensitivity configuration set up

- Inbuilt algorithm to avoid unwanted alarms

- Approved to EN54 Part 20

Overview

ProPointPlus Optical 'Smoke' and 'Smoke/CO' detection

Aspirating detection is now a recognised solution for many different fire detection applications. ProPointPlus provides up to four separate detectors within a common aspirator enclosure and therefore, provides four individually identifiable areas of detection per aspirator.

Each of the four plug-in 'Scatter Chamber Detectors' (SCD) modules can be either 'optical' only or for small single room applications combined 'optical/enhanced CO' detectors. Independent and integrated alarm decision making through the use of complex algorithms extend the range of particle detection, confirm genuine alarms and reduce unwanted alarms.

Installation, configuration and commissioning of the ProPointPlus detector is very simple and installer friendly. Configuration to either Class A, Class B or Class C sensitivity options is achieved through a multi-language and multi-function LCD display without the need for a laptop connection.

Detector set up allows the installer to configure the detector sensitivity to exactly the same equivalent as a known number of point type smoke detectors for each Class A, Class B and Class C system. This ensures the system specifier, designer, installer and commissioning engineer configure the ProPointPlus SCD's to the correct sensitivity for the particular application.

Aspirator fan speed and airflow configuration is a also a very simple process allowing ProPointPlus aspirating detectors to be installed in a variety of applications with short and relatively long pipe runs.

Application Guide

Class A - High Sensitivity Applications include:- Small Computer Rooms, Cleanrooms, Data Centres, Control Rooms, Archive Storage & EDP areas.

Class B - Enhanced Sensitivity Applications include:- Small Heritage Buildings, Museums, Theatres, Galleries, High Ceiling Areas, Small Clean Warehouses & Small Atria Areas

Class C - Normal Sensitivity and Harsh Environment Applications include:- Lift/Elevator Shafts, Small Cold Storage Facilities, Clean Warehouses, Atria, Inaccessible Voids & Up to 4 x separately identifiable Prison Cells per aspirator.

Dimensions (mm)

250(W) x 349(H) x 137(D)

Note: Dimensions are detector size only.
Height excludes the pipes at the top of the detector.

Cirrus HYBRID - Aspirating Fire & Smoke Detector

Features & Benefits

• The first and only 'Combined Fire & Smoke' Aspirating Detector

• Unique 'Cloud Chamber Detection' (CCD) - primary detection technology

• Optical 'Scatter Chamber Detectors' (SCD) - secondary detection technology

• The largest sensitivity range aspirating detector <u>Zero</u>% obs/m to 20% obs/m

• HYBRID 'Smart Signal' to verify alarms and discriminate false alarms

• 7" full colour multi-function touchscreen LCD display

• Live camera stream from up to 6 IP colour cameras

• Approved to EN54 Part 20

Overview

Combined Cloud Chamber 'Fire' and optical 'Smoke' detection

History tells us that in reality there are really only two types of aspirating detector technology. These technologies are 'Cloud Chamber' aspirating detection identifying optically invisible fire particulate, and laser or LED 'Optical' aspirating detection identifying small amounts of visible smoke.

Cirrus *HYBRID* is the only aspirating detector available to identify the optically invisible fire particulate by utilising the unique 'Cloud Chamber Detection' (CCD) technology, thereby providing the earliest warning of a potential fire threat.

Depending on the materials burning, particularly in the many modern applications for aspirating detection systems, some fires burn with only a small amount of visible smoke, whereas others burn with greater volumes of visible smoke.

Cirrus *HYBRID* is able to detect those fires with differing volumes of smoke. Early Warning Smoke Detection (EWSD) is provided using high performance optical 'Scatter Chamber Detectors' (SCD) that identify both small and larger smoke particles entering the detector.

By utilising the two most effective methods of aspirating system technologies (CCD and EWSD) in a single detector the Cirrus *HYBRID* detector provides a device able to detect fire and smoke over the largest range of fire types.

However, what makes this totally new and genuinely unique concept in aspirating fire and smoke detection technology so different is that these two technologies work both independently from each other, and through the use of complex algorithms also interact together, to provide true intelligent alarm decision making. The result of this synergy of technologies is a device that can verify true alarm conditions across the largest range of fire types. A further and equally as important result of this synergy of technologies, is the discrimination of unwanted or false alarms which have historically and still continue to plague so many optical only aspirating detectors.

Application Guide

Class A - High Sensitivity Applications include:- Computer rooms, Cleanrooms, Data Centres, Control Rooms, Valve Halls, Archive Storage, Anechoic Chambers & EDP areas.

Class B - Enhanced Sensitivity Applications include:- Heritage Buildings, Museums, Hospitals, Airports, Cathedrals, Theatres, Art Galleries, Clean Warehouses, Atria & Indoor Stadiums.

Class C - Normal Sensitivity and Harsh Environment Applications include:- Cold Storage Facilities, Specialist Production Facilities, Food Processing Areas, Paper Production Facilities, Transportation Terminals, Inaccessible Voids & General Warehousing.

Dimensions (mm)

250(W) x 349(H) x 137(D)

Note: Dimensions are detector size only.
Height excludes the pipes at the top of the detector.

For Technical Data - See Table 11, Page 56
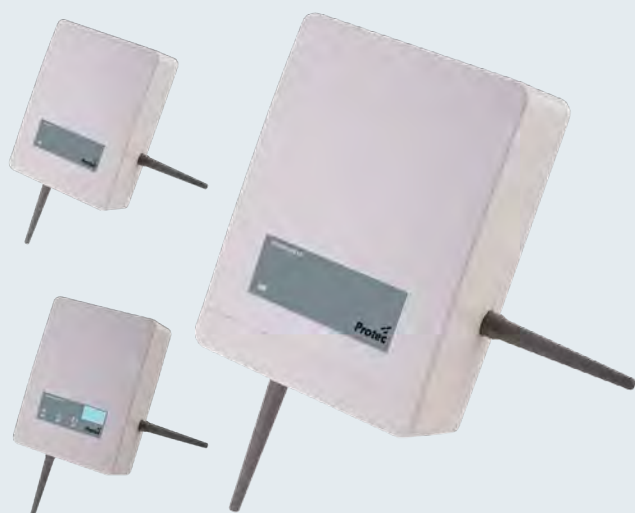
Features & Benefits

• **3rd party Approval to EN54-18 and EN54-25**

• **Bi-directional wireless communication**

• **IP protection for mounting in challenging environments**

• **Low current consumption**

• **Proven wireless technology**

Overview

WLS/EXP Wireless Expander Module

The WLS/EXP Expander Module is compatible with all Protec Wireless intelligent translators and the Protec Conventional Expander. The unit provides a convenient method to increase radio communication range beyond that possible from a single translator by relaying the radio communication to further expanders or directly to the wireless field devices.

This functionality makes it possible to build large fully wireless systems or add wireless devices into areas where cabling for translators is difficult or impossible. All expanders are fully monitored ensuring the highest levels of life safety and reliability are maintained.

3000/WLS/EXP - Wireless Conventional Expander Module

The 3000/WLS/EXP Conventional Expander Module has been designed to allow the integration of wireless detection and alarm type field devices into almost any type of system. Regardless of whether the system is intelligent or conventional the unit can be simply connected to a conventional zone, sounder circuit or both, directly or via loop modules. The wireless field devices connect to the system as non-addressable devices, however still utilise the same well-proven wireless technology as Protec intelligent wireless devices and are fully monitored for alarm and fault, ensuring the highest levels of life safety and reliability are maintained.

6000/WLS/HLI - Wireless Translator Module (Static)

The 6000/WLS/HLI Translator Module is one of the core components of the Protec intelligent hybrid fire detection and alarm system.

When connected on to a compatible loop, the unit is capable of linking up to 32 fully intelligent wireless field devices with the fire alarm system. The translator allows fully intelligent and seamless integration of the wireless devices alongside standard wired devices or can be used independently to form completely wireless systems.

Using well-proven wireless technology and a patented orthogonal antenna design ensures the highest levels of life safety and system reliability.

Dimensions (mm)
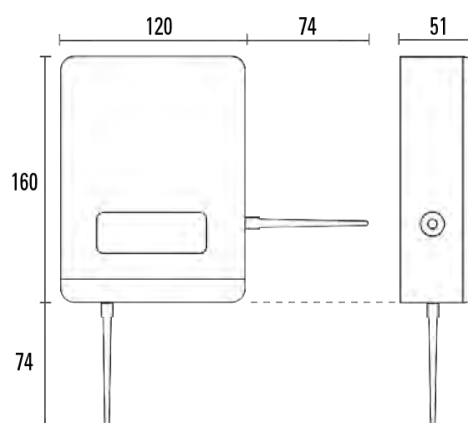
LPCB
928n

0051

Wireless Detectors

Features & Benefits

- Internal algorithm processing optimises performance
- 3rd party approved
- 5 year battery life
- Utilises standard low cost lithium battery technology
- Bi-directional wireless communications
- Compatible with all Protec translators and expanders
- Device identification tab

Overview

WLS/HT - Wireless Class P Heat Detector
The WLS/HT gives the best possible warning of a fire condition in locations where smoke detection technology is not suitable.

WLS/OP - Dual Optical Smoke Detector
The WLS/OP utilises dualpath optical smoke detection technologies and algorithms for improved performance, whilst maintaining the high levels of unwanted alarm rejection.

WLS/MS - Wireless Multi-Criteria Detector
The WLS/MS combines both dual-path smoke and heat detection technologies for improved performance, whilst maintaining the high levels of unwanted alarm rejection.

All detectors:
- are designed for open area protection
- have an in-built magnet test allows easy activation to verify correct functionality and response.
- utilise wellproven adaptive radio signal processing algorithms ensure the highest levels of life safety and system reliability are achieved.
- are a fully intelligent device and compatible with all Protec wireless Translator and Expander modules.

Dimensions (mm)

110(W) x 110(H) x 70(D)

Wireless Bases

Features & Benefits

- 3rd party approval to EN54-25 and EN54-03
- Bi-directional wireless communication
- Utilises dual low cost standard lithium batteries
- Choice of 32 recognised tones
- Compatible with all Protec translators and expanders
- Red and white cover options
- 3 year expected battery life

Overview

WLS/SB - Wireless Sounder Base
WLS/SBVID - Wireless Sounder Base / Visual Indicator

Both base units are aesthetically pleasing and cost effective alternatives to traditional wall mounted sounder units where visual impact is important. Utilising well proven adaptive radio signal processing algorithms ensure the highest levels of life safety and reliability.
The units have as standard 32 recognised sounder tones and 3 levels of volume adjustment, all of which can be easily configured on site. Each unit has an integral moulded base for mounting a Protec wireless detector or a sounder cover if a detector is not required.

Additional to the audible warning the WLS/SBVID unit is also fitted with a LED visual indicator for added warning capability.

Dimensions (mm)

WLS/SB	116(W) x 116(H) x 51(D)
WLS/SBVID	141(W) x 141(H) x 66(D)

LPCB 928j   LPCB 928m

LPCB 928q

Wireless Single Channel Modules

Wireless Wall Mounted Sounder / Sounder VAD

Features & Benefits

- 3rd party approval to EN54-18 and EN54-25
- Compatible with all Protec wireless translators and expanders
- 3 year expected battery life
- Self optimising wireless frequency and amplitude algorithms
- Fully intelligent
- Bi Directional wireless communication (WLS/MIP)
- Change over relay and 24V output functionality (WLS/BOP)

Overview

WLS/MIP - Wireless Single Channel Input Module

The Protec WLS/MIP Wireless Module has been designed to provide a convenient and cost effective solution for monitoring third party equipment. The unit has a single fully monitored input circuit which allows simple integration of third party equipment with the fire system. The unit is fully compatible with all Protec Translator and Expander modules and the well proven adaptive radio signal processing algorithms ensure the highest levels of life safety and system reliability.

WLS/BOP - Wireless Single Channel Battery Powered Output Module

The WLS/BOP Output Module has been designed to allow easy control of a variety of third party equipment including access control doors, ventilation plant and fire extinguishing systems.
The unit is powered entirely from its internal battery supply and is fitted as standard with both a set of change over relay contacts and a 24V dc output. The 24V output is capable of supplying power for operating low current third party equipment directly from the internal batteries.

Dimensions (mm)

95(W) x 135(H) x 55(D)

Features & Benefits

- 3rd party approval to EN54-3 (Type B) and (EN54-23 (VAD Only))
- Flexible modular design
- 32 Tone Settings
- Two stage alarm capability
- Weatherproof as standard
- Microphone self test facility
- Robust & high reliability

Overview

HFC-WSR-03 - Conventional Wall Sounder

The HFC-WSR-03 Conventional Wall Sounder forms the core of our modular alarm device range. The unit can either be used as a standalone conventional device or as an intelligent unit by the addition of a wired module (HFI-SIM-01) or wireless module (HFWSIM-01). All devices are weather proof, therefore this combined with the modular approach means the majority of applications can be achieved with very few stock components. The unit is equipped with 3 levels of volume adjustment and 32 recognised tones which can be set via the control equipment or locally at the sounder.

HFC-SBR-23-03 - Conventional Wall Sounder VAD

The HFC-SBR-23-03 Conventional Wall Sounder VAD forms the core of our EN54-23 modular visual alarm device (VAD) range.
The unit can either be used as a standalone conventional device or as an intelligent unit by the addition of a wired module (HFISIM-01) or wireless module (HFW-SIM-01). All devices are weather proof therefore this combined with the modular approach means the majority of applications can be achieved with very few stock components. The unit is equipped with 3 levels of volume adjustment, high output LED beacon and 32 recognised tones which can be set via the control equipment or locally at the sounder.

Dimensions (mm)

126(W) x 132(H) x 90(D)

LPCB
928r

LPCB
928r

HFW-SIM-01
Wireless Sounder Interface Module

Features & Benefits

- 3rd party approval to EN54-18 & EN54-25
- 3 year expected battery life
- Bi directional wireless communication
- Fits Protec modular wall sounders and sounder beacons
- Microphone self test facility
- Utilises standard low cost lithium battery technology
- Self optimising wireless communication

Overview

The HFW SIM-01 Wireless Sounder Interface Module is designed for use with the Protec range of modular wall sounders and sounder beacons. When either the conventional sounder or sounder beacon are fitted with this module they become fully compatible with all Protec wireless translators and expander modules. When configured onto a compatible translator, the wireless sounder or sounder beacon are fully addressable and benefit from an extensive range of intelligent control, test and monitoring functionality. The well proven adaptive radio signal processing algorithms ensure the highest levels of life safety and reliability.

Dimensions (mm)

82(W) x 75(H) x 35(D)

WLS/MCP
Wireless Manual Call Point

Features & Benefits

- Bi-directional wireless communication
- 3rd party approval to EN54-11 & EN54-25
- Resettable element
- Self optimising wireless frequency and amplitude algorithms
- Utilises standard low cost lithium battery technology
- 5 year expected battery life
- High reliability

Overview

The WLS/MCP Manual Call Point (MCP) is a fully intelligent device which is compatible with all Protec Translator and Expander Modules. The unit has a resettable plastic element, which displays a drop down warning flag when operated.

A key is supplied with the MCP for reset and case opening. The unit can be fitted with an optional transparent cover for protection against accidental operation or with a weatherproof enclosure for use outdoors or in hostile environments.

Dimensions (mm)

86(W) x 86(H) x 49(D)

0051

928p

Features & Benefits

• Integrated Assist Call and acknowledge meeting BS8300

• 1.5A EN54-4:A2 PSU

• Full Duplex operation

• Lockable handset cover

• Expandable from 2 to 8 lines

• Inbuilt networking

• Fully Compliant to BS5839-9: 2011

Overview

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters during emergencies in high rise buildings or large sites where radio communication cannot be guaranteed to work due to interference from the fire corona.

The EVX-228 Master station can accept up to eight lines of outstation, (type A fixed phones, type B refuge hands free points, emergency assist call point or jack points in Far East and Middle East applications) as required.

Lines auto identify by flashing Red for EVCS calls, Blue for assist calls or flashing Green for Connected calls as detailed in BS5839-9:2011 Assist Calls can be acknowledged by pressing the zone key (as required by BS8300) and will return to alarm if not reset within two minutes.

The EVX-228 has inbuilt networking allowing it to form one of the 64 panels on an EVX network installation, or allowing a repeater using another EVX-228, where buildings have two points of control.

Starting at two lines the EVX-228 is ideal for small buildings which are required to have an EVCS, but which have a limited number of outstations.

Dimensions (mm)

Surface   350(W) x 300(H) x 95(D)
Bezel   400(W) x 350(H) x 1(D)
Cutout   355(W) x 305(H) x 85(D)

For Technical Data - See Table 12, Page 57

Typical Configuration

Accesible Toilet
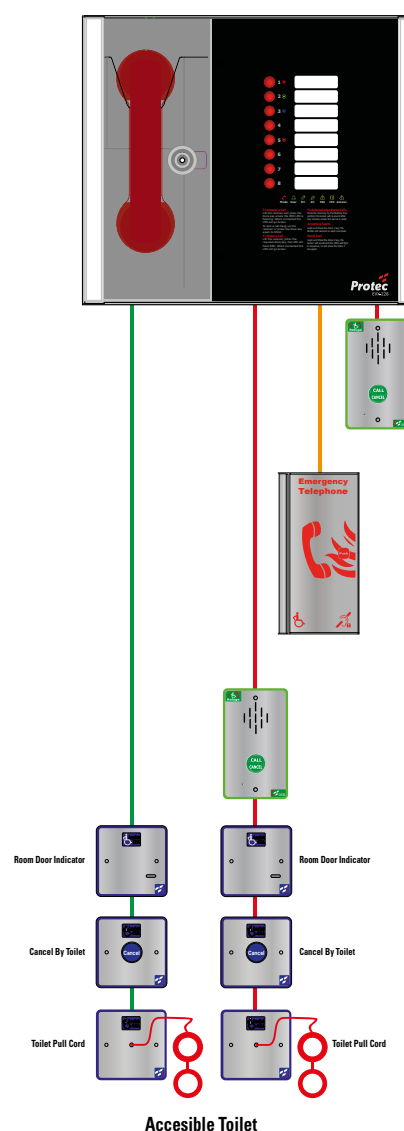
Cable Key

──── 1 off 2 Core 1.5mm CSA Standard Rated Fire Cable

──── 1 off 2 Core 1.5mm CSA Enhanced Rated Fire Cable

──── 1 off 2 Core 1mm CSA PVC Minimum

Features & Benefits

• **4.3" Full Colour Touch-screen**

• **Integrated Assist Call with acknowledge meeting BS8300**

• **1.5A EN54-4:A2 PSU**

• **Full Duplex operation**

• **Lockable handset cover**

• **Expandable from 2 to 512 lines**

• **Inbuilt networking**

• **Fully Compliant to BS5839-9**

Overview

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters during emergencies in high rise buildings or large sites where radio communication cannot be guaranteed to work due to interference from the fire corona.

The EVX-TMS Master station can accept up to eight lines of outstation, (Type A fixed phones, Type B refuge hands free points, emergency assist alarm point or jack points in Far East and Middle East applications) as required.

The touch-screen layout has four buttons allowing quick access to the main functions, and permanently displaying the number of current calls, alarms and faults.

Emergency Assist Alarm calls can be acknowledged by pressing the Icon on screen (as required by BS8300) and will return to alarm if not reset within two minutes.

The EVX-TMS has inbuilt networking allowing it to form one of the 64 panels on an EVX network installation allowing a total of 512 outstations to be accommodated. Each panel can be a master station or EVX-EX8 network expander.

Dimensions (mm)

Surface	350(W) x 300(H) x 95(D)
Bezel	400(W) x 350(H) x 1(D)
Cutout	355(W) x 305(H) x 85(D)

For Technical Data - See Table 12, Page 57

Typical Configuration
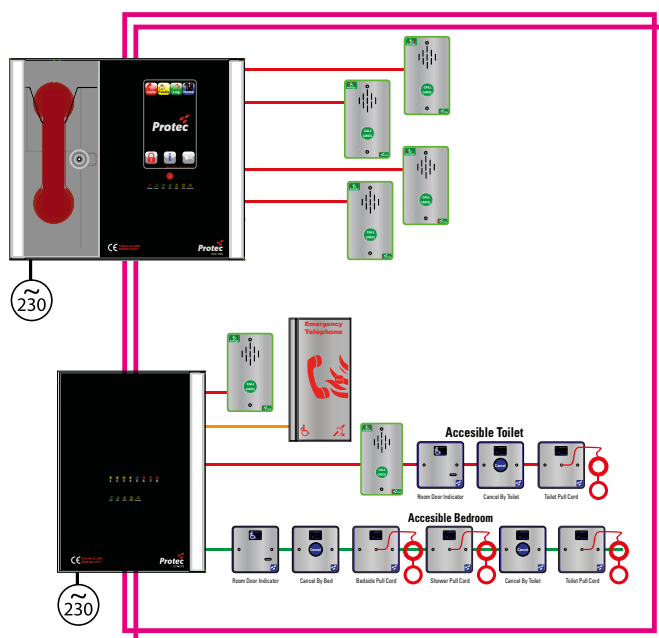
Cable Key

———	1 off 2 Core 1.5mm CSA Standard Rated Fire Cable
———	1 off 2 Core 1.5mm CSA Enhanced Rated Fire Cable
———	1 off 2 Core 1mm CSA Standard LSF or PVC Minimum
———	Network 2 off 2 core 1.5mm CSA Standard fire rated unless Type A or Type C outstations are used, then it must be enhanced

Features & Benefits

• **Integrated Assist Call with acknowledge meeting BS8300**

• **1.5A EN54-4:A2 PSU**

• **Full Duplex operation**

• **Wall mount enclosure**

• **Full Status indication**

• **Inbuilt networking**

• **Fully Compliant to BS5839-9:2011**

Overview

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters during emergencies in high rise buildings or large sites where radio communication cannot be guaranteed to work due to interference from the fire corona.

The EVX-EX8 system expander panel can accept up to eight lines of outstation, (Type A fixed phones, Type B refuge hands free points, emergency assist alarm point or jack points in Far East and Middle East applications) as required.

Lines auto identify by flashing Red for EVCS calls, Blue for assist calls or flashing Green for Connected calls as detailed in BS5839-9:2011.

The EVX-EX8 has inbuilt networking allowing it to form one of the 64 panels on a EVX network installation allowing a total of 512 outstations to be accommodated. Each panel on the EVX network can be a master station or EVX-EX8 system expander.

The display on the front of the EVX-EX8 gives the current call or fault status of each line of the local panel aiding fault finding.

Also available is an EVX-ACM master touchscreen station, housed in the same enclosure as the EVX-EX8. It is dedicated to accept and display emergency assist alarm calls only.
See page 40 for the Assist accessories (EVX-ACA).

Dimensions (mm)

220(W) x 300(H) x 95(D)

For Technical Data - See Table 12, Page 57
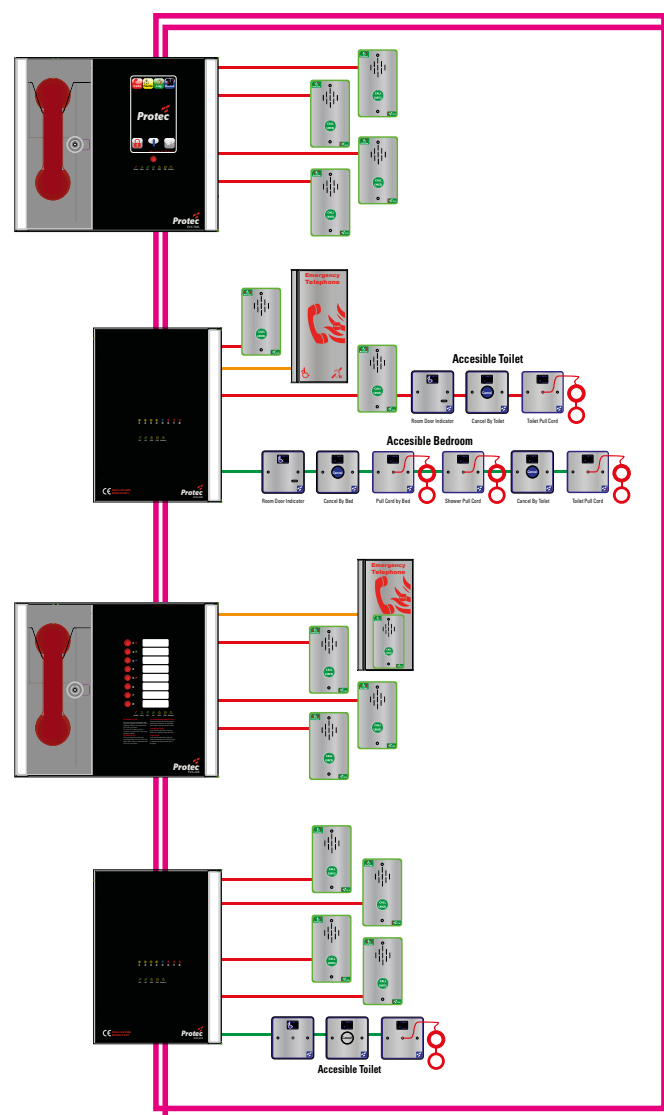
Typical Configuration

Cable Key

——— 1 off 2 Core 1.5mm CSA Standard Rated Fire Cable

——— 1 off 2 Core 1.5mm CSA Enhanced Rated Fire Cable

——— 1 off 2 Core 1mm CSA Standard PVC Minimum

——— Network 2 off 2 core 1.5mm CSA Standard fire rated unless Type A or type C outstations are used, then it must be enhanced

EVX-OSA
Emergency Telephone Type A Outstation

Features & Benefits

- Ruggedised Handset
- High Volume Ringer
- 20mm Cable Gland knock-out
- Telecoil for hearing impaired users
- Full Duplex Operation
- Magnetic Push Catch
- Flush bezel available
- Fully Compliant to BS5839-9:2011

Overview

The EVX-OSA is a Type A EVCS outstation compatible with the EVX standalone and network systems.

The outstation is supplied in a brushed stainless finish with a high contrast red screen print with a rugged red telephone handset behind the push door. A stainless steel bezel is available to allow the outstation to be flushed into a wall reducing the need to stock flush and surface variants.

The EVX-OSA is a Type A outstation as defined in BS5839-9:2011, and can be used as a fire telephone or a disabled refuge call point.

The EVX outstations are designed for use by multi-disability users, having high contrast signage in line with RNIB guidelines and an induction loop coil (to BSEN60118-4) in the handset.

Type A outstations are mainly for use by building management, fire wardens and fire fighters. They should be located as described in BS9999 and Building Regulations Approved Document B, these locations should have a low background noise otherwise you may have to consider acoustic hoods.

Dimensions (mm)

Surface   150(W) x 300(H) x 95(D)
Bezel   200(W) x 350(H) x 1(D)
Cutout   155(W) x 305(H) x 85(D)
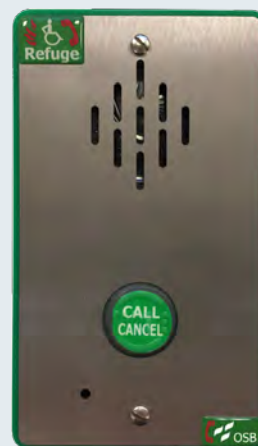
EVX-OSB
Disabled Refuge Type B Outstation

Features & Benefits

- Fits standard double Socket Back Box (86mm x 146mm).
- Hands free full duplex operation
- High volume ringer
- Green flashing Call Button for location
- Flush or surface mount
- Braille enhanced Call Button
- Fully Monitored to BS5839-9:2011

Overview

The EVX-OSB is a type B EVCS outstation compatible with the EVX standalone and network systems.

The outstation is supplied with a brushed stainless finish and a green flashing button to aid location. The ability to use a standard 'MK' double gang back box means only one type of panel is required for flush and surface installations reducing stocking requirements.

The EVX-OSB is a Type B outstation as defined in BS5839-9:2011, and is designed to be used by the public as a disabled refuge call point. Type B outstations should be placed in disabled refuge locations as described in Building Regulations Approved Document B and BS9999:2008.

Dimensions (mm)

86(W) x 146(H) x 22(D)

Protec

EVX-OSC
Combined Type A & B Outstation

Features & Benefits

- Ruggedised Handset
- High Volume Ringer
- Status LED
- 20mm Cable Gland knock-out
- Telecoil for hearing impaired users
- Full Duplex Operation
- Fully Compliant to BS5839-9:2011
- Magnetic Push Catch

Overview

The EVX-OSC is a combined Type A and Type B EVCS outstation compatible with the EVX standalone and network systems.

The outstation is supplied in a brushed stainless finish with a Type B refuge panel on the front with a high contrast red screen print with a rugged red telephone handset behind the push door.

A stainless steel bezel is available to allow the outstation to be flushed into a wall reducing the need to stock flush and surface variants.

Dimensions (mm)

Surface	150(W) x 300(H) x 95(D)
Bezel	200(W) x 350(H) x 1(D)
Cutout	155(W) x 305(H) x 85(D)
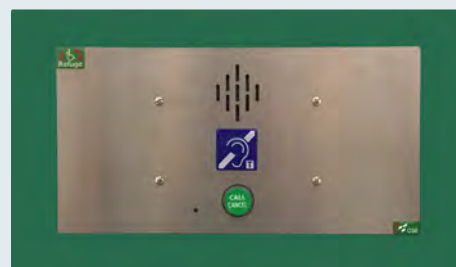
EVX-ILB
Type B Refuge Point with Integral Induction Loop

Features & Benefits

- Hands free full duplex operation
- Integral Induction Loop (AFILS)
- Red status LEDs in Call Button
- Green flashing Call Button for location
- Flush or surface mount
- Fully Monitored to BS5839-9:2011
- Braille enhanced Call Button
- Stainless Steel as standard

Overview

The EVX-ILB has been designed to meet the requirements for a type B outstation with an integral audio frequency induction loop (AFILS), the design has been optimised to produce the horizontal field as required by BS5839-9:2011, overcoming the limitations traditionally associated with a wall mounted induction loop.

To aid location the unit has a high contrast design incorporating a highly visible Braille enhanced call button which flashes green in normal conditions, it flashes red when ringing and is solid red when a call is connected.

The EVX-ILB is compatible with the full range of EVX master stations and system expander panels and is fully monitored and battery backed up.

The outstation is supplied in a with a brushed stainless and green perspex finish and available if flush or surface mount versions.

Dimensions (mm)

Surface	350(W) x 200(H) x 50(D)
Flush	346(W) x 196(H) x 7(D)
Cutout	135(W) x 135(H) x 42(D)

EVX-IPA
IP66 Weatherproof Type A Fire Telephone

Features & Benefits

- IP65 cased Type A Handset
- Surface mount
- Fully Monitored to BS5839-9:2011
- Red status LED
- Induction loop in Handset
- Beacon Available for Steward Telephone systems
- Twist lock or Keylock option

Overview

The EVX-IPA is a type A EVCS outstation for use in outdoor or exposed areas and is compatible with the EVX standalone and network EVCS systems.

The outstation is supplied within an compact IP65 enclosure which is externally signed as required by Building Regulations Approved Document B. The enclosure is opened by operation of a lever lock, exposing the handset, allowing a call to be made.

Dimensions (mm)

200(W) x 300H) x 130(D) (to handle front)

EVX-IPB
IP66 Weatherproof Type B Refuge Point

Features & Benefits

- IP65 cased Hands free full duplex operation
- Surface mount
- Fully Monitored to BS5839-9:2011
- Braille enhanced Call Button
- Standards compliant signage integrated in design
- Red status LED

Overview

The EVX-IPB is a type B EVCS outstation for use in outdoor or exposed areas and is compatible with the EVX standalone and network EVCS systems.

The outstation is supplied within an compact IP65 enclosure which is externally signed as required by Building Regulations Approved Document B.

The enclosure is opened by operation of a lever lock, exposing the handsfree unit and operating instructions.

Dimensions (mm)

200(W) x 200H) x 80(D) (130mm to handle front)

EVX-OSR & EVX-OSJ
Roaming Handset and Jack Plate

Features & Benefits

- Flexible Roaming Phone
- High Quality Telephone Jack
- Full Duplex Conversation
- Flexible 30cm Roaming Cable
- Telecoil for Hearing Impaired Users
- Low Noise, High Quality Telephone Jack
- Fully Monitored
- Stainless Steel Jack

Overview

The EVX Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839-Part 9:2003 Part 9 for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.

The EVX-OSR Roaming Phone is used along with the EVX-OSJ Style Jack Plate in the EVCS system, the entire system is fully monitored to comply to BS5839 part 9 standards.

A EVX EVCS comprises of three functional blocks, the master handset (EVX-TMS Or EVX-228) the eight line Expanders (EVX-EX8) and outstations, (type A, type B or Jack points), with the quantities of these basic units being adjusted to suit the application.

Dimensions (mm)

Jack Plate	86(W) x 86(H) x 25(D)
Roaming Handset	66(W) x 210(H) x 45(D)

EVX-ACA
Assist Call WC Alarm Kit

Features & Benefits

- Compact Design
- BS8300 "Acknowledge" Feature
- High volume sounder
- Blue "Halo"
- Flush or surface mounting
- Braille enhanced Cancel Button
- Stainless Steel as standard

Overview

The EVX-ACA provides a simple solution to integrating emergency assist alarm call systems within an EVCS, providing a single display point for all disabled calls within a building.

It can be used on a dedicated line, or may share a line with the EVX-OSB disabled refuge outstation (as long as fire rated cable is used), where operation of the refuge point overrides the assistance call (ideal where a disabled toilet is adjacent to a refuge lobby).

When a call is made the over-door and cancel units emit a two tone siren with the "Halo" flashing, when the call is acknowledged from the EVCS controller the "Halo" on these units lights steadily and the tone double beeps every 15 seconds to reassure the caller help is on the way.

As the EVX-ACA is connected to a EVX master station the plates and cables are fully end of line monitored and battery backed as standard.

The EVX-ACA plates are supplied with a brushed stainless finish and a Blue HALO to aid location.

Dimensions (mm)

Surface	86(W) x 86(H) x 22(D)

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.

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.

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.

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.

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.

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.

Features & Benefits

- **Available in 2, 4 and 8 Zone Models**

- **Attractive Surface or Recessed Mounting**

- **Comprehensive Range of Engineering Functions**

- **Zone Disablements**

- **Ability to Differentiate Between Manual Call Point or Automatic Detector Alarm**

- **Programmable Sounders for Automatic and/or Manual Activation 72 Hour Standby as Standard**

- **Third party Approved to Latest EN54 Parts 2 and 4. Meets the Requirements of BS5839 Part 1**

Overview

The Protec 3500 range of conventional control panels has been designed to provide a simple, user-friendly, highly cost effective option with inbuilt flexibility previously only found in more complex addressable systems.

With up to 8 detection zones the 3500 range of Fire Alarm control panels are ideal for small to medium sized buildings such as industrial units, retail units, shops and schools.

The panels can be either surface or recessed mounted, with the controls and indications protected from unauthorised access by entering a user access code. These panels have the ability to identify if a 'FIRE' signal has been generated manually by a person activating a Manual Call Point (MCP) or automatically from a detector.

This knowledge enables an appropriate cause and effect sequence to be implemented (time delays, for example) to allow for alarm verification for automatic detectors, but immediate alarms from MCPs. Cause and effect functions include coincidence detection, zone delays, pulsing sounders and fire relay. Interconnection with other systems is simplified as zones can be configured as 'non-latching', and there is a dedicated 'class change input' terminal. The 3500 range of control panels are third party approved to the latest European standard and meets all the requirements of BS5839 pt1.

The 3500RPT Repeat Indicator Panel has been designed to connect to the 3500 panel serial data output. The 3500RPT mimics all the main panel display functions but does not have any control functions. Up to five 3500RPT panels may be connected to a 3500 main panel.

Typical 3500 Schematic

Up to 8 Detection Zones   2 Sounder Circuits

External RS485

Auxiliary 24VDC O/P
Class Change Input
Key Switch Input
Fire C/O Contacts
Fault C/O Contacts

240V ac Mains Supply
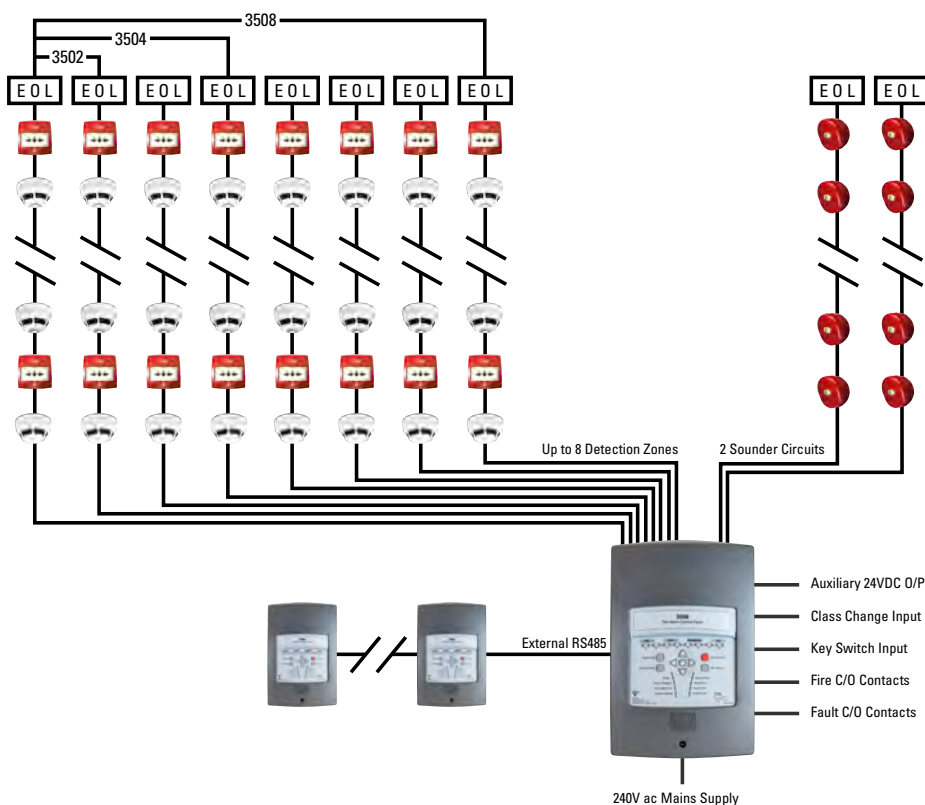
Dimensions (mm)

228 (W) x 345 (H) x 111 (D)

KEY

3000*PLUS*/HT

3000*PLUS*/OP

3000*PLUS*/OPHT

3000/MCP

3000/VAD/W

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

3000*PLUS*/OP

3000*PLUS*/OPHT

3000*PLUS*/TEMP

3000/MCP

3000/MCP/WP

3000/SSR2

3000/VAD/C

3000/SSR/VAD

Overview

The Protec 3000*PLUS* range has been developed to incorporate advanced fire sensing technology, certified to EN54-5 & 7 and compliments our new range of conventional devices.

3000*PLUS*/OP

This low profile conventional optical smoke detector provides efficient reliable detection utilising the light scatter sensing principle with rapid response to a fire signal.

The detector incorporates alarm verification functions, designed to give maximum sensitivity to smoke detection, with high resistance to false alarms due to high air velocity, insects, dust and R.F. interference.

3000*PLUS*/OPHT

This thermally enhanced detector provides efficient, reliable detection utilising combined light scatter and heat sensing principles, permitting the device to detect types traditionally more suited to ionisation detectors, providing the fastest response to a fire, whilst drastically reducing common false alarm problems to which optical only detectors may be susceptible.

3000*PLUS*/TEMP56

This fast response heat detector incorporates dual sensing elements which are tuned to provide sensitive rate of rise and 56°C fixed temperature response. Suitable for applications where smoke detection is unsuitable but require a high sensitivity heat detector.

3000*PLUS*/TEMP64

This multi-purpose heat detector is calibrated to a 64°C fixed temperature limit, to provide a stable response for the majority of applications especially where sudden temperature changes could occur such as laundries and ventilated areas.

3000/MCP

Installation efficiency, flexibility and full compliance with the latest standards are at the heart of the 3000/MCP indoor call point. It provides a unique 'plug and play' concept designed specifically to reduce installation time.

3000/MCP/WP

Thia 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.

3000/SSR2

This high output electronic sounder utilises a Piezo driver unit to enable high sound output and very low current consumption. With two base options and improved aesthetic appearance the 3000/SSR simplifies the installation of the device.

3000/VAD/C

The Protec 3000/VAD/C is a conventional ceiling mounted beacon is a high intensity beacon with up to 7.5m room coverage. The device is designed for installation at a height of up to 3m and adjustable from 7.5 to 3m room coverage to suit all applications.

3000/SSR/VAD

This is a 24Volt Visual Alarm Device (VAD) with up to 7m x 7m room coverage and a high output electronic sounder with up to 100dB(A) at 1m. Combining the two functions in one compact high efficiency design improves the aesthetic appearance and simplifies the installation of the device.

Independently tested
Intertek

Features & Benefits

- **Three detection zones as standard**

- **Configurable detection delays**

- **Configurable first stage sounder delays**

- **Zero time delay upon manual release option**

- **Countdown timer shows time remaining until release**

- **Supports upto seven, four wire status indicators**

- **Approved to EN12094-1, EN54-2 and EN54-4**

Overview

Designed and manufactured to the highest standards in a quality controlled environment and with European EN12094-1 approvals, the extinguishant releasing panel offers outstanding value and performance for all small and medium fixed firefighting installations.

With three detection zones as standard, extinguishant release can be configured to activate from any combination of detection zone inputs to allow (among other combinations) any two from three type activations such as would be required for detection in ceiling void, room and floor void applications.

The extensive configuration options of the panel allow the functionality of the system to be extensively modified while still complying with the requirements of the controlling standard for the equipment (EN12094-01)

The panel contains a large LED display to enable easy configuration and control which also displays the time remaining until extinguishant release for added user safety. The countdown timer is duplicated on up to seven remote status units to provide local indication of the extinguishant system status.

With all of the electronics mounted on a single, easily removable, steel plate panels are both robust and easy to install.

Dimensions (mm)

385(W) x 310(H) x 90D)

Programmable Functions

Access Level 2
- Test Zones 1 to 3
- Disable Zones 1 to 3
- Disable 1st Stage Alarms
- Disable Pre-activated 1st Stage Relay
- Disable Pre-activated 2nd Stage Relay
- Disable Extract Fan Output
- Disable Manual Release Input
- Disable Extinguishant Sub System
- Activate Extract Fan Output
- Activate Alarm Delays

Access Level 3
- Sounder Delay
- Coincidence Detection
- Disable Panel Features
- Zone Alarm Delays (Detectors)
- Zone Alarm Delay (Call Points)
- Configure Zone for I.S Barrier Use
- Zone Short Circuit Alarm
- Zone Non Latching
- Zone Inputs Delay
- Extinguishant Release Time Delay
- Extinguishant Release Duration Timer
- Extinguishant Reset Delay Timer

Features & Benefits

- **Detailed indication of the status of the control panel**

- **Monitored data connection**

- **Countdown timer shows time remaining until release**

- **Manual only and Automatic & Manual mode select keyswitch option**

- **Four wire connection (data and power)**

- **Protected dual action manual release switch option**

- **Remote Auto/Manual door interlock input (monitored)**

- **Remote Hold input (monitored)**

Overview

The Sigma Si range of status indicators provide detailed status information for Sigma XT/XT+ extinguishant release control equipment.

All models provide high brightness, LED indication of Manual Only, Automatic and Manual, Hold operated, Disabled, Imminent and Released conditions. Models are also available with zonal fire indicators and a common fault indicator.

For systems where local control of the Automatic/Manual mode and or a Manual extinguishant release control are required, units are available with these controls fitted.

All models have monitored inputs for the remote connection of Automatic/ Manual mode and Hold switches.

All units contain a large, LED display which shows a countdown of the time remaining until the extinguishant is released in seconds.

Certified compliant with BS EN12094-1 when used with Sigma XT control equipment.

Dimensions (mm)

Standard	186(W) x 132(H) x 50(D)
Weatherproof	256(W) x 170(H) x 60(D)

Model References

SIGMA SI/6/M
6 Lamp Status Indicator Complete with Mode Select, Surface Mounted

SIGMA SI/6/M/M
6 Lamp Status Indicator Complete with Mode Select & Manual Release, Surface Mounted

SIGMA SI/6/WP
6 Lamp Status Indicator Weatherproof

DigiLite® Emergency Lighting Panel

Features & Benefits

• **Up to 500 luminaires / interfaces can be accommodated**

• **28 test groups (first 16 groups feature LED indications)**

• **Individual test times programmable by group**

• **Attractive surface, or recessed mounting options**

• **Compatible with Hercules V6.013 and later (DL500 TCP)**

• **Built in web-server permits remote monitoring and system verification.**

• **Bespoke Windows™ Configuration Tool and Excel Text Editor**

• **Reduced time to comply with testing requirements of BS5266 Part 1, BS5266-8 and EN50172.**

Overview

The Protec DigiLite®DL500 Single Loop Addressable Emergency Lighting Test Panel has been designed to be the next generation design to the existing DL500 product. The new design offers enhanced features such as programmable test time per group, integrated web-server option and a bespoke Windows™ configuration tool.

The DL500 automatically tests luminaires to the guidelines in BS5266-8:2004 (BSEN 50172:2004) and BS62034 and logs any test failures for inspection at a later date.

The panel can accommodate up to 500 luminaires which can be grouped into one of 28 test groups.

The time a test starts in a day is fully programmable, as is the day of the month in which a particular group is tested.

20 characters of luminaire text and group text can be programmed as well as 40 characters of panel text.

Relevant loop addresses can be programmed to maintained or non maintained monitoring, and device based parametric programming has been included to allow full flexibility and future proofing.

The panel will be compatible with all existing DL500 loop devices, as well as new DigiLite® LED luminaire ranges.

Remote monitoring, via a standard web browser, is possible on the DL500 TCP variant (using the new DigiView® web-server). Salient luminaire parameters and status can be viewed and tests can be instigated.

To complement the DL500 a bespoke Windows™ based configuration tool has also been developed which permits rapid configuration of the system.

Typical DigiLite Schematic

Local Lighting Circuits

Sub Circuit Monitoring Interfaces

Local Fuse Board

230VAC Supply

Addressable Slave Luminaires

Static Inverter Output To Slave EL Luminaire

Protec Addressable Static Inverter Unit

1 Pair Twisted & Unscreened Cable

Up to 500 Addressable Interfaces per panel

Addressable EL Luminaires can be loop wired on a radial spur or a mixture of both (contact Protec for full details on loop wiring regimes)

230VAC Supply

230VAC Supply

Dimensions (mm)

228 (W) x 345 (H) x 111 (D)

KEY

Addressable Self Contained Emergency Luminaire

Addressable Slave Emergency Luminaire

Addressable Sub Circuit Monitored Interface

See page 47 to identify other luminaires on the schematic

Exitplus
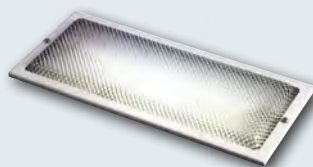
Marsden

Marsden Blade
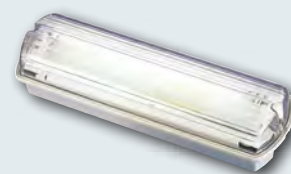
Darwen

Powerflood

Recessed Open Area

Recessed Escape Route

Surface Escape / Open Area

Overview

Protec have for many years' experience of designing and manufacturing emergency lighting solutions, from Self-contained luminaires, Central Battery units, Static Inverter units to bespoke LED luminaires, self-test luminaires and digital addressable testing and monitoring systems.

Exitplus

The Exitplus has been specifically designed to provide a clearly defined and unambiguous indication of the escape route from building during a mains failure in accordance with BS5266 Part 1-1:2011. The luminaire additionally provides excellent downlight to illuminate the exit door and escape route area around the luminaire.

Marsden

The Marsden combines the long life and low maintenance benefits of LED technology with energy efficient operation.

For best in class performance, the Marsden has a superior light distribution to maximise luminaire spacing and reduces installation cost by reducing the quantity of units required to achieve the latest European illumination requirements.

Marsden Blade

The Marsden blade is an obstructive recessed exit sign utilising the latest LED technology. It combines the long life and low maintenance benefits of LED technology with energy efficient operation.

The fitting is suitable for single and double sided use which makes suitable for use in a wide range of applications.

Darwen

The Darwen luminaire is suitable for practically any application and location. It is weather proof and robust with the added benefit of a clip fixing for ease of installation.

Powerflood

This Powerflood is suitable for a wide variety of installations, with a choice of top or side mounting of the lamp heads, with multi-directional swivel and tilt facility ensuring that exactly the right aiming angle is achieved. Twin LED's provide peace of mind, covering individual lamp failure in addition to mains and charging status.

Recessed / Surface & Open Area / Escape Route Luminaires

Protec have a new range of bespoke Surface and recessed LED emergency luminiares to provide solutions for Open anti panic areas and escape route areas. The luminaires utilise the latest LED and optic technology to provide unobtrusive, high quality, high performance products, designed for indoor use where aesthetics are of prime importance.

The best in class performance and innotive optics provides a uniform distribution in either escape routes or open area anti panic areas. This gives increased spacings and reduced installation costs by reducing the quantity of luminaires required to achieve the latest European illumination levels.

Key Features:

- Environmentally friendly
- Low power consumption, reducing cost of ownership
- Reduces maintenance costs (60,000 hour life LED's)
- Easy to install
- Best in class performance, wide spacing distribution (reduces installation cost)
- Available in maintained, non maintained, self contained and self test emergency luminaires
- Compatible with Protec DigiLite® DL500-2 automatic addressable testing system.
- IP44 ingress protection (below ceiling)
- Compact downlight fits into a 62mm cut-out
- Manufactured to the latest EN60598-2-22

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 are able to offer complete Gas Detection for all industry sectors, providing an extensive range of fixed and portable gas detection systems.

Applications:

- Refrigerant gas detection
- Marine Gas Detection
- Boiler House Gas Detection
- Brownfield & Landfill Gas Detection
- Water & Wastewater Treatment Gas Detection
- Food & Drinks Industry Gas Detection
- Automotive Industry Gas Detection

- Retail & Facilities Management Gas detection
- Swimming Pool Plant Room Gas Detection
- Laboratory & Medical Gas Detection
- Steel & Metal Processing Gas Detection
- Power Generation Gas Detection
- Chemical Industry Gas Detection
- Car Park Gas Detection

Available Sensor Types include:

- Infra-Red
- Pellistor
- Electrochemical
- Photo-Ionisation (PID)
- Semi Conductor

Flammable and Toxic Gas

Toxic and flammable gases present a serious risk to health and safety. When toxic gases are present the risks of poisoning or asphyxiation increase considerably and when flammable gases and vapours are exposed there is a serious danger of fire and explosions.

Gases detected include:

Flammable gas detection:
- Methane
- LPG
- Butane
- Propane
- Hexane
- Hydrogen
- VOCs

Toxic gas detection:
- Carbon Monoxide
- Hydrogen Sulphide
- Chlorine
- Sulphur Dioxide
- Ammonia
- Nitrogen Dioxide
- Hydrogen Chloride
- Nitric Oxide

Protec have over 40 years of experience in providing bespoke solutions to the fire alarm industry. We have many clients who request us to provide 'special' products, this can range from a simple keyswitch and label on a control panel, to special metalwork to house inbuilt mimic panel/graphics, damper control, integrated public address / voice evacuation and fire telephone solutions.

Our specials department have produced, and not limited to the following:

- Special metalwork
- Special paint finishes
- Keyswitches
- Weatherproof / Industrial enclosures
- Integrated Packages:
  - Public Address / Voice Alarm
  - Fire Telephone
  - Fireman's control units
  - Evacuation control
  - Smoke Damper / Fan Control Units
  - Mimic Panels, Graphics Package
  - Sprinkler Status Panel
  - Fully integrated Fire/PAVA/Graphic/Security
  - Termination units and special input/output interface enclosures
  - Purge units for aspirating

Protec

Overview

Table 1	6100
Rated Voltage	85-264Vac (50/60Hz)
Working Voltage	21.5 - 30Vdc
Temperature Range	-10° to +55° C
Humidity	5% to 95% RH (no condensation, or icing)
Standby Load (mains fail)	22mA
Alarm Load (mains fail)	56mA
Display Type	Backlit LCD 4 x 20 Characters
Number of Loops	1
Max Number of Addressable Devices Per Loop	192
Printer	n/a
Integral Charger / Remote Charger	Internal
Charger	1 Amp Switch mode charger, Temperature compensated
Maximum Battery size	2 x 12v 3.3Ah Valve regulated
Number of Zones	32 zones, 16 with LED
Number of Input Groups	32
Number of Output Groups	32
Auxiliary Fire Relay (Single pole change over contacts, rated 1A rated @ 24V resistive load)	1
Auxiliary Fault Relay (Single pole change over contacts, rated 1A rated @ 24V resistive load)	1
Fire Routing Equipment (monitored for open and short circuit wiring faults)	1
Fault Routing Equipment (monitored for open and short circuit wiring faults)	0
Programmable Alarm Outputs (monitored for open and short circuit wiring faults)	2
Auxiliary 24 Volts (maximum 150mA)	1
Clean contact outputs	0
Number of Keyswitch input(s)	0
Networkable	n/a
Nodes for Network	n/a
Communication Port(s)	USB
Dimensions (mm)	228(W) x 345 (H) x 111 (D)
Weight (Excluding batteries)	1.5kg
Device Zone Panel Text	1 line of 20 characters devices+zones text, 2 line of 20 Characters panel text
Approval (Standard)	EN54-2 & 4

Sensors

Table 2	6000*PLUS*/HT	6000*PLUS*/HT/S	6000*PLUS*/OP	6000*PLUS*/OP/S	6000*PLUS*/OPHT
Weight (Excluding Base)	90g	105g	90g	105g	90g
Loop Standby Load	0.2mA	0.4mA	0.2mA	0.4mA	0.2mA
Loop Alarm Load	0.2mA	5.4mA	0.2mA	5.4mA	0.2mA
Isolator	No	Yes	No	Yes	No
Beacon Flash Rate	N/A	N/A	N/A	N/A	N/A
Sounder Volume	N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) *(measured at one metre)*	N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) *(measured at one metre)*	N/A
Approval (Standard)	EN54-5	EN54-3, 5 & 17	EN54-7	EN54-3, 5 & 17	EN54-5

Standalone	Networked
6500E	**6500**
230Vac ± 10% - 15% (50/60Hz)	230Vac ± 10% - 15% (50/60Hz)
21.5 - 30Vdc	21.5 - 30Vdc
-10° to +55° C	-10° to +55° C
5% to 95% RH (no condensation, or icing)	5% to 95% RH (no condensation, or icing)
185mA (2 loop) 226mA (4 loop) [1]	215mA (2 loop) 256mA (4 loop) [1]
220mA (2 loop) 261mA (4 loop) [2]	250mA (2 loop) 291mA (4 loop) [2]
Full colour, 7" touch screen graphical display	Full colour, 7" touch screen graphical display
1, 2 or 4	1, 2 or 4
200	200
Optional	Optional
Both (Internal & External Charger)	Both (Internal & External Charger)
Internal Charger: 3 Amp	Internal Charger: 3 Amp
2 x 12v 12Ah Valve regulated	2 x 12v 12Ah Valve regulated
40	100 expandable to 10,000
4,000	4,000
255 per panel	255 per panel
2	2
1	1
1	1
None dedicated but a programmable alarm output may be configured for this function	
3	3
1	1
0	0
6 (3 terminal board & 3 display board)	6 (3 terminal board & 3 display board)
n/a	Yes
n/a	32 / 60
USB (for commissioning use only) / RS232	USB (for commissioning use only) / RS232
440(W) x 385(H) x 144(D)	440(W) x 385(H) x 144(D)
7Kg	7Kg
60 characters device location text, 20 characters device alarm text, 20 characters panel text, 20 characters device loop test	
EN54-2 & 4	EN54-2 & 4

6000PLUS/OPHT/I	**6000PLUS/OPHT/S**	**6000PLUS/OPHT/TS**	**6000PLUS/OPHTCO/S**	**6000PLUS/OPHTCO**
90g	105g	105g	105g	105g
0.2mA	0.4mA	0.4mA	0.45mA	0.45mA
0.2mA	5.4mA	8.4mA (10.4mA Bell Sound)	5.45mA	0.45mA
Yes	Yes	Yes	Yes	Yes
N/A	N/A	N/A	N/A	N/A
N/A	85dB(A) (High), 75dB(A) (Mid), 65dB(A) (Low) *(measured at one metre)*			N/A
EN54-5, 7 & 17	EN54-3, 5, 7 & 17	EN54-3, 5, 7 & 17	EN54-3, 5, 7 & 17	EN54-5, 7 & 17

Technical Data

Sensors continued......

Table 3	Common Specification across all sensor variants
Loop Voltage	18 - 28V
Loop Powered	Yes
IP Rating	IP41
Environment	-10°C to +50°C (95% RH non condensing)
Device Protocol	Algo-Tec™ 6000*PLUS*

Sensor VAD's

Table 4	HT/SVAD	HT/TSVAD	OPHT/VAD	OPHT/SVAD	OPHT/TSVAD	OPHTCO/VAD	OPHTCO/SVAD	OPHTCO/TSVAD
Environment	-10°C to +50°C (95% RH non condensing)							
IP Rating	IP41							
Weight (Excluding Base)	108.6g	109.46g	103.35g	109.52g	111.38g	105g	105g	105g
Loop Powered	Yes							
Loop Voltage	18 - 28V							
Loop Standby Load	0.55mA							
Peak Alarm Load	24mA	25mA	16.5mA	24mA	25mA	16.5mA	24mA	25mA
Mounting Height	3m							
Coverage	7.5m, 5m or 3m cylindrical diameter							
VAD Flash Rate	1Hz pr 0.5Hz white flash							
Isolator	Yes							
Device Protocol	Algo-Tec™ 6000*PLUS*							
Approval (Standard)	EN54-3, 5, 17 & 23		EN54-5, 7, 17 & 23	EN54-3, 5, 17 & 23		EN54-5, 7, 17 & 23	EN54-3, 5, 17 & 23	

Sounder VAD's

Table 5	6000/VAD/C	6000/VAD/W	6000/SSR/VAD
Environment	-10°C to 55°C, 95% R.H (non condensing or icing)		
IP Rating	EN54-23 Type B Outdoor + IP65		
Weight (excluding base)	122g	125g	315g
Loop Powered	Yes		
Voltage	18 - 28V		
Loop Standby Load	0.8mA		0.7mA
Loop Peak Alarm Load	14.5mA	19mA	24mA
Mounting Height (x)	3 metres	2.4 metres	
Coverage (y)	7.5m configurable to 5m or 3m		7m configurable to 3m
Coverage Volume Code	C-3-7.5	W-2.4-7.5	W-2.4-7 (117.6m³)
Flash Rate	1 or 0.5Hz white flash		0.5Hz white flash
Isolator	Yes		
Mounting	Ceiling	Wall	
Approval (Standard)	EN54-17 & 23	EN54-17 & 23	EN54-3, 17 & 23

Sounders / Beacons

Table 6	6000/SSR	6000/LED	6000/SSR/LED
Environment	-10ºC to 55ºC		
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
Approval (Standard)	EN54-3	n/a	n/a

Manual Call Points

Table 7	6000/MCP	6000/MCP/WP
Environment	-10ºC to 55ºC	
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
Approval (Standard)	EN54-11 & 17	n/a

Optical Beam Smoke Detector

Table 8	6000/FIREBEAM40
Environment	-10ºC to 55ºC
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 9	6000*PLUS*/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	6000*PLUS*/OP

Interfaces

Table 10	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/APZA	146(W) x 86(H) x 25.5(D)	120g	18 - 28V	0.6mA
6000/LPZA	146(W) x 86(H) x 25.5(D)	120g	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

Aspirating Fire Detectors

Table 11	Cirrus CCD	ProPointPlus	Cirrus HYBRID
Supply Voltage	20 - 29VDC		
Power Consumption	16.8 watts quiescent (24VDC 100% Fan Speed)	9.6 watts quiescent (24VDC 100% Fan Speed)	16.8 watts quiescent (24VDC 100% Fan Speed)
Current Consumption	500mA with blower @ 30% 700mA with blower @ 100%	300mA with blower @ 30% 400mA with blower @ 100%	500mA with blower @ 30% 700mA with blower @ 100%
Operating Conditions — Detector Ambient	0°C to 38°C (32°F to 100°F)		
Operating Conditions — Tested To	0°C to 55°C (32°F to 131°F)		
Operating Conditions — Sampled Air	-20°C to 60°C (-4°F to 140°F)		
Operating Conditions — Humidity	10 - 95%RH, non-condensing		
IP Rating	IP30		
Cable Access	10 x 20mm knock outs		
Cable Termination	Screw terminal blocks (0.2 - 2.5mm², 30 - 12AWG)		
Sampling Network	Four inlet ports with combined sampling pipe length up to 630m (2,066ft) subject to'ProFlow' sampling pipe calculation program. Maximum transport time = 120 seconds.	Four inlet ports with combined sampling pipe length up to 200m (750ft) subject to'ProFlow' sampling pipe calculation program. Maximum transport time = 120 seconds	Four inlet ports with combined sampling pipe length up to 630m (2,066ft) subject to'ProFlow' sampling pipe calculation program. Maximum transport time = 120 seconds
Pipe ID	19 to 25mm (preferred OD 25mm)		
Alarm Indications	Pre-alarm, Fire 1, Fire 2, Fire 3	Pre-alarm warning and Fire per pipe	Pre-alarm, Fire 1, Fire 2, Fire 3
Other Indications	Supply Healthy, General Fault		
Sensitivity Range	10,000 PCC to 10 million PCC	n/a	20,000 PCC to 7 million PCC 0 - 1000CFS (Combined Fire & Smoke scale)
Programmable Inputs	3 monitored inputs that may be configured for Isolate, Reset, Silence, Day/Night, Battery Fault and Mains Fault	3 monitored inputs that may be configured for Isolate, Reset, Disable, Fault, Gain Set, Battery Fault and Mains Fault	
Programmable Output Relays	5 Relays rated 1A @ 30VDC (Volt-free change over contacts)		
Camera Inputs	6 x Protec specified IP cameras	n/a	6 x Protec specified IP cameras
Event Log / Data Retention	24,000 events stored on FIFO basis (alarms, actions, faults and data points)(Approx 30 day historical graph data)		
Variable Sensitivity Settings	7 day programmable settings with 2 time zones per day. Day-time/Night-time mode setting		
EN54 Approved Sensitivity Setting	n/a	Class A - 3 holes per detector (per pipe) Class B - 5 holes per detector (per pipe) Class C - 8 holes per detector (per pipe)	Class A - 36 holes @ 200CFS Class B - 44 holes @ 400CFS Class C - 44 holes @ 600CFS
Airflow Monitoring	'High Airflow' and 'Low Airflow' fault monitoring		
Weight	3.5kg (7.7lbs)	3kg (6.6lbs)	3.5kg (7.7lbs)
Dimensions (mm)	380(H) x 250(W) x 137(D)		
Approval (Standard)	Pending	EN54-20	EN54-20

Alarm Current	DIN Rail	Loop Powered	Isolator	Approval (Standard)
18mA	Yes	Yes	Yes	EN54-17 & 18
0.6mA	Yes	No	Yes	EN54-17 & 18
15mA + SNDR Current	Yes	Yes	Yes	EN54-17 & 18
0.6mA	Yes	No	Yes	EN54-17 & 18
0.6mA	No	No	Yes	EN54-17 & 18
7.5mA + SNDR Current	No	Yes	Yes	EN54-17 & 18
4mA	Yes	Yes	Yes	EN54-17 & 18
19mA	Yes	Yes	Yes	EN54-17 & 18
2.2mA	No	Yes	Yes	EN54-17 & 18
67mA	No	Yes	Yes	EN54-17 & 18
7mA	No	No	Yes	EN54-17 & 18

EVX Panels

Table 12	EVX-228 / EVX-EX8 / EVX-TMS
AC Input	230VAC +/- 10% 50/60Hz
Internal Supply	5V, 16V, 27V DC
Supply	Monitored Open Short, Fuses, High Impendance
Protection	Deep Discharge, Short, Thermal
Battery Type	1 x 12V 7AH VRSLA
Mains fuse	240V 1A HRC
Battery fuse	750mA PTC
Charge current	400mA
Network Cables - Type	Enhanced
Network Cables - Core	2x2 core 1mm or 1.5mm
Network Cables - Distance	500m
Standard Compliance -EMC	EN55103-1, EN55103-2
Standard Compliance - LVD	EN60065
Product Family	BS5839-pt9, BS9999, BS8300

Global Fire Solutions

ISO 9001:2015 Quality Management — FM10567
ISO 14001:2015 Environmental Management — EMS 537834

Fire Industry Association

ISCE SUPPORTING MEMBER — Committed to Technical Excellence

CE · Intertek Independently tested · LPCB · Certified Product Australian Standard · CNBOP-PIB · FM APPROVED · c UL us · CCC

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Company Policy is one of continuous improvement, we reserve the right to change specification without prior notice

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