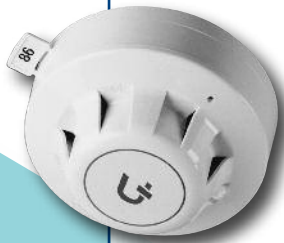


# Context Plus

## Addressable Fire Equipment Catalogue





## Fire Detection & Suppression Systems

The primary purpose of a fire detection and alarm system is to provide an early warning of a fire so that people can be evacuated and action taken to stop the fire as soon as possible – all to a predetermined plan.

### Context Plus Addressable Fire Alarm Equipment

Unlike conventional fire alarm systems, Context Plus addressable systems use 'intelligent' detectors, sounders and call points that communicate constantly with the control panel, reporting a vast amount of data almost 'invisibly'. This sophisticated communication system allows a degree of control and reporting unattainable with conventional systems. Very accurate control and monitoring of many parameters is easily achievable, without the need for expensive and complex wiring schemes.

One of the main advantages of an addressable system over a four wire conventional system is that a total of 126 addressable detection and output devices can be wired in a single loop configuration.

**Key features of the Context Plus range of addressable fire alarm equipment include:**

- A wide choice of fire panels including the XFP range of 1-2 loop panels and the ZFP range of 1-8 loop touchscreen-controlled panels
- A powerful panel networking facility
- Digital protocol for error-free transmission
- A choice of DIL switch or 'XPERT' card addressed smoke and heat detectors
- A wide range of sounders, beacons and sounder/beacons
- The ability to carry out many additional functions (switch monitoring, etc) via a comprehensive range of compatible interface units.

MADE IN ENGLAND

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For power supplies, fire cable, conventional fire panels, conventional fire detectors, wireless fire detectors and other ancillary devices refer to our separate **Conventional Fire Equipment Catalogue**

Fire alarm system design is beyond the scope of this document.

Contact the Fire Officer concerned with the property at an early stage in case he or she has any special requirements and always read the installation instructions provided with each Context Plus device.

We strongly recommend that a suitably qualified and competent person is consulted in connection with the design of the fire alarm system and that the system is commissioned and serviced in accordance with the laid down specification and national standards.

Errors and omissions excepted.

No responsibility can be accepted by the manufacturer or distributors of this range of equipment for any errors or omissions or for any misinterpretation of any information published in this brochure.

We reserve the right to alter product specifications at our discretion and without prior notice.

# XFP 1-2 LOOP NETWORKABLE ADDRESSABLE FIRE PANELS



Single Loop 16 Zone Fire Panel  
Part Number XFP501E/X/CON



One Loop 32 Zone Fire Panel  
Part Number XFP501/X/CON



Two Loop 32 Zone Fire Panel  
Part Number XFP502/X/CON

**Powerful**  
loop and battery  
calculation tool  
now available  
online

Certified to EN54 parts 2 & 4 by the LPCB, the XFP Range of addressable fire panels offers high performance at a competitive price. Available in two different versions (a cost-effective single loop 16 zone panel in a plastic enclosure and a robust 1 or 2 loop 32 zone metal panel), the range offers an array of user and installer-friendly features.

## Key Features

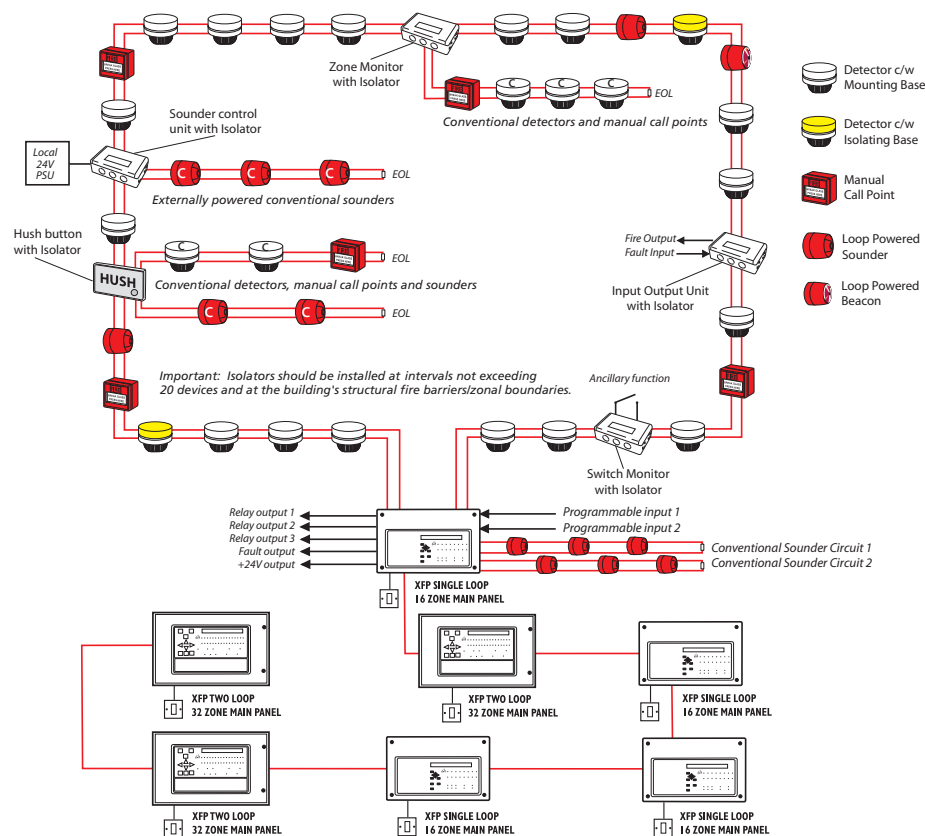
- ▶ Third-party certified to EN54 parts 2 and 4 by the LPCB.
- ▶ Full compatibility with the Context Plus range of fire detectors, call points, sounders, beacons and control modules.
- ▶ Three access levels - 1 (general), 2 (authorised user) and 3 (engineer)
- ▶ Combined keypad/keyswitch entry to access levels 2 and 3
- ▶ The ability to interconnect up to eight XFP main panels (any variant) plus an additional four XFP repeater panels per main onto a two wire RS485 network.
- ▶ Two independently programmable conventional sounder circuits.
- ▶ Two programmable inputs.
- ▶ A fault output relay and three programmable relay outputs with voltage free changeover contacts.
- ▶ Three zone dependency functions (A, B & C to EN54-2 Clause 7.12)
- ▶ A day/night (building occupied/unoccupied) function.
- ▶ An investigation delay period function.
- ▶ Individual sensitivity settings for each device.
- ▶ A phased evacuation and delays to outputs facility (to EN54-2 Clause 7.11)
- ▶ An alarm counter that records the number of times the panel has been in an alarm state (to EN54-2 Clause 7.13).
- ▶ Powerful short circuit protected loop drivers, capable of supporting up to 40 loop powered 10mA sounders per loop.
- ▶ An integral EN54 switch mode PSU rated @ 185-260V a.c. 50/60Hz (3A on 32 zone panel, 1.4A on 16 zone panel).
- ▶ Adjustable contamination levels.
- ▶ Earth fault monitoring.
- ▶ Push button access code or keyswitch entry to Access Levels 2 and 3 (depending on model purchased).
- ▶ An easy to read, 80 character back-lit display.
- ▶ 40 characters of custom text per device.
- ▶ 999 event monitoring.
- ▶ Comprehensive test facilities (to EN54-2 Clause 10) and a wide range of maintenance and commissioning functions including auto-learn loops, monitor a point, test outputs, one man walk test and loop continuity test).
- ▶ An intuitive Windows based upload-download PC program that allows the system to be programmed quickly and easily.

# XFP 1-2 LOOP NETWORKABLE ADDRESSABLE FIRE PANELS

## A TYPICAL XFP ADDRESSABLE LOOP / XFP NETWORKING DETAILS

Below is a diagram of a typical Context Plus analogue addressable loop fitted with a selection of detectors, loop powered sounders, modules and isolators, all connected to an XFP single loop 16 zone panel.

The diagram also illustrates how a series of XFP main panels can be networked using the range's powerful RS485 network.



### FEATURES OF THE XFP'S NETWORK PROTOCOL

The XFP's network protocol allows the interconnection of up to eight XFP main panels (any mix) over a two-wire RS485 network. Alternatively, the network can be used to connect up to eight XFP repeaters to one XFP main panel. It is not possible to mix XFP main panels and repeaters on the same network.

### Key features of the XFP's network protocol when used for interconnecting XFP main panels:

- ▶ Allows the interconnection of up to eight XFP main panels (any mix of single loop 16 zone XFPs and 1 and 2 loop 32 zone XFPs)
- ▶ Up to 1 km of cable may be fitted to an XFP main panel network.
- ▶ Each networked XFP main panel can be programmed to accept Fires, Faults and actions such as Silence Alarm Sounders and Panel Reset from other main panels. They will also Accept Disablement commands for zones, sounders and output sets from other main panels.
- ▶ All panels monitor all other panels for network wiring faults.
- ▶ Fires on remote panels are displayed on local panels including the point description of the alarm's origin.
- ▶ Faults on remote panels are displayed on local panels including the point description of detectors.
- ▶ The network supports the programming of data into remote panels from a PC at a local panel
- ▶ Time/date is common to all networked panels.
- ▶ All networked main panels require a network communication card

### Key features of the XFP's network protocol when used for connecting XFP repeaters

- ▶ Allows the connection of up to eight XFP repeaters to one non-networked main panel. The XFP main panel must have a network communication card fitted.
- ▶ Up to 500m of cable may be fitted to an XFP repeater network.
- ▶ Each XFP repeater offers all the functions and controls of an XFP main panel.

This diagram is provided for illustration purposes only and you should always refer to the relevant XFP panel/device instructions as appropriate before installation.

Note that the descriptions and availability of the devices shown may not be applicable to all manufacturer's protocols.

## XFP ORDER CODES

XFP501E/X/CON	XFP Networkable single loop 16 zone panel. Keypad/keyswitch entry, c/w 1.4A psu, plastic enclosure
XFP501/X/CON	XFP Networkable one loop 32 zone panel. Keypad/keyswitch entry, c/w 3A psu, metal enclosure
XFP502/X/CON	XFP Networkable two loop 32 zone panel. Keypad/keyswitch entry, c/w 3A psu, metal enclosure
XFP510-16/CON	XFP Networkable repeater panel, 16 zones. Keypad/keyswitch entry, c/w psu, plastic enclosure
XFP510-32/CON	XFP Networkable repeater panel, 32 zones. Keypad/keyswitch entry, c/w psu, metal enclosure
CFP761	XFP network communication card for XFP 16 zone main panels
AFP711	XFP network communication card for XFP 32 zone main panels
AFP385	Flush mount bezel for XFP 32 zone main & repeaters
XFP507	XFP Upload download software kit (all protocols). Windows compatible. Includes programming lead
AFP709	XFP off-board printer kit

Notes: One network communication card is required per networked main panel. Repeater panels are supplied with a network communication card already fitted. XFP 16 zone panels are designed so they can be surface or semi-flush mounted without the need for an additional bezel.

# XFP 1-2 LOOP NETWORKABLE ADDRESSABLE FIRE PANELS

## XFP Technical Specifications

### SINGLE LOOP 16 ZONE XFP PANELS

XFP501E/X/CON

### ONE OR TWO LOOP 32 ZONE XFP PANELS

XFP501/X/CON

XFP502/X/CON

#### Power Supply Specification

Mains supply	230V a.c. ± 10% 50/60Hz. Max current 350mA	230V a.± 10% 50/60Hz. Max current 680mA
Internal power supply	27V d.c Nominal	27V d.c Nominal
Total output current limited to	1.4A @ 230V a.c.	3A @ 230 V a.c.
Supply and battery charger monitored for failure	Yes	Yes
Batteries monitored for disconnection and failure	Yes	Yes
Batteries protected against deep discharge	Yes	Yes
Max. battery size and type	3.2 Ahr VRLA	7.0 Ahr VRLA
Specified batteries for LPCB approved systems	2 x Yuasa NP3.2-12	2 x Yuasa NP7-12
Quiescent current drain (1 loop unloaded)	< 50mA	< 80mA
Quiescent current drain (2 loop unloaded)	not applicable	<100mA
Earth fault monitoring	Yes (any conductor)	Yes (any conductor)
Temperature compensated charging	Yes	Yes

#### Loop Driver Specification

Number of loop drivers	1	1 (XFP501/X/CON) 2 (XFP502/X/CON)
Line monitored for open and short circuit faults	Yes	Yes
Onboard loop isolators with LED indication when active	Yes	Yes
Auto-polling from each loop end	Yes	Yes
Max. loop output current	500mA (Voltage: 25V min, 34V max)	500mA (Voltage: 25V min, 34V max)
Max. number of addressable devices per loop	126	126
Max. number of loop powered sounders per loop @ 10mA	40	40
Number of programmable sounder groups	16	16
Number of programmable output sets	16	16

#### Conventional Sounder Circuit Specification

Number of programmable circuits	2	2
End of line resistor value	6800 Ω 5% Tol. 0.25 W	6800 Ω 5% Tol. 0.25 W
Line monitored for open and short circuit faults	Yes	Yes
Outputs fused at	400mA	400mA
Max. number of sounders @ 20mA	40	80

#### Auxiliary Outputs

Type	Relay voltage free single pole changeover	
Max switching current	1A	
Max switching voltage	30 V d.c	
Relay 1	Programmed from cause and effect	
Relay 2	Programmed from cause and effect	
Relay 3	Programmed from cause and effect	
Fault	Active when no faults are present	
'24V' Aux Power Output	19.5V min, 28V max. Max current 100mA. Protected by resettable overload circuit	

#### Auxiliary Inputs

Input 1	Connect to 0V to trigger. Max input voltage 27V d.c. (non-latching). Programmable from cause and effect.
Input 2	Connect to 0V to trigger. Max input voltage 27V d.c. (non-latching). Programmable from cause and effect.

#### Fuses (to IEC - EN60127 Pt2)

Mains Fuse	1A HRC Ceramic 20mm	1A HRC Ceramic 20mm
Battery Fuse - limits the current drawn from the battery	1.6A F 20mm	3.15A F 20mm

#### Panel Indicators and Controls

Control buttons	Silence, Reset, Resound, Investigate; More Information; Menu	
Event scrolling and menu access buttons	Up (1); Down (2); Accept (3); Abort (4)	
Liquid Crystal Display	Two lines x 40 characters, backlit	
Number of Zonal LED indicators	16	32
Other LED indicators	General Fire, System Energised; Pre-Alarm; Remote Output Activated; Menus Accessed; Disablement; Test; Remote Output Disabled; Silenced; General Fault; System Fault;	

#### Physical Dimensions

Approx. dimensions of back box (W x H x D)	380 x 235 x 77mm (plastic). Includes 'lip'.	410 x 250 x 80mm (metal)
Approx. dimensions of lid (W x H x D)	380 x 235 x 16mm (plastic)	439 x 274 x 7mm (metal)
Approx. weight (without batteries)	1.9Kg	4.5kg

#### Cabling Requirements

Type of cable	Fire resistant screened cable, minimum size 1mm <sup>2</sup>	
Max. cable length per loop	1km	
Connector blocks	Plug-on type, largest acceptable conductor size 1.5mm <sup>2</sup>	
Max. allowable loop impedance (each conductor)	20 Ω	
Max. cable capacitance	.27µF	

#### Network Specification

Connection	Via CFP761 network driver card fitted at main panel	Via AFP711 network driver card fitted at main panel
Max. no. of main panels per network	8	8
Max. no of repeaters per non-networked main panel	8	8
Max. cable length per network	1km (main panel network); 500m (repeater network) 1km (main panel network); 500m (repeater network)	

#### PC/Printer Interface

PC connection	Via main panel RS232 molex connector (lead supplied in XFP507 upload/download software kit)	
Printer connection	Not applicable	Via main panel RS232 connector block.

#### Operating conditions

The components are selected to operate within their specification when the environmental conditions outside the enclosure comply with class 3k5 of IEC 721-3-3 : 1978. Temperature range:- 5 to +40°C. Maximum relative humidity: 95%

# ZFP 1-8 LOOP NETWORKABLE ADDRESSABLE FIRE PANELS

Context  
Plus



ZFP Standard Cabinet  
(PART NUMBERS ON PAGE 8)



ZFP Medium Cabinet  
(PART NUMBERS ON PAGE 8)



Compact Repeaters  
(PART NUMBERS ON PAGE 8)



PICTURE a fire panel that is touchscreen-controlled, a breeze to install, provides clear and constant feedback on all aspects of system activity and is fully compliant with all relevant standards. Picture the ZFP - a powerful, intuitive and feature-rich range of 1 to 8 loop addressable fire panels from Context Plus.

## Key Features

- ▶ Third-party certified to EN54 parts 2 and 4 by Intertek
- ▶ Communication protocol - Apollo XP95/Discovery
- ▶ Full compatibility with the Context Plus range of fire detectors, call points, sounders, beacons and control modules.
- ▶ Three cabinet sizes - standard (1, 2 or 4 loops), medium (2, 4, 6 or 8 loops) and large (2, 4, 6 or 8 loops)
- ▶ Full colour LCD touchscreen with an intuitive interface & digital QWERTY keyboard (touchscreen can be fully customised with a company logo)
- ▶ Secure fault tolerant network (needs separate network driver PCB)
- ▶ Up to 128 peer to peer node capacity (64 panels plus up to 64 Compact Controllers/Repeaters)
- ▶ Very flexible cause and effects
- ▶ Wide range of Switch & Indicator modules c/w slide-in labels for straightforward customisation. (Common word processor templates available online)
- ▶ Multiple "A-Bus" peripherals (I/O Units, Relays, Sounder Extender Cards, Conventional Zone Cards, etc)
- ▶ Programmable via galvanically isolated USB port
- ▶ Up to 200 separate zonal LEDs per panel (100 on standard sized cabinets)
- ▶ 10,000 programmable and indicatable detection zones
- ▶ Up to 38 characters of custom text per loop device
- ▶ Wide range of supported languages
- ▶ E-mailable firmware updates (no flash programmer required!)
- ▶ 20,000+ event memory (filterable by fire, fault and date)
- ▶ Automatic daylight saving (BST/GMT)
- ▶ 4 programmable operational modes
- ▶ Optional thermal printer with front-loading paper
- ▶ PC logging option for end-user
- ▶ 4 GB Micro SD memory simplifies off-site configuration
- ▶ Well-designed metal cabinets aid installation
- ▶ 20-way heavy duty brass earth bar(s) as standard
- ▶ 72-hour standby (plus 30 min alarm) in standard cabinets
- ▶ Powerful engineering and commissioning functions including 'SafeMode', 'DeviceManager' and more
- ▶ Powerful and intuitive PC programming tools
- ▶ Optional graphical interface solutions
- ▶ Up to 18Ah batteries in standard cabinets, 38Ah in larger cabinets.

**Powerful**  
loop and battery  
calculation tool  
now available  
online

# ZFP 1-8 LOOP NETWORKABLE ADDRESSABLE FIRE PANELS

## ZFP PART NUMBERS

### Standard

#### ZFP PANELS WITH 40 ZONAL LEDs



##### Z015040NS/X/CON

ZFP 1 loop Panel with 40 zonal LEDs (Z47), 5A PSU.

##### Z025040NS/X/CON

ZFP 2 loop Panel with 40 zonal LEDs (Z47), 5A PSU.

##### Z045040NS/X/CON

ZFP 4 loop Panel with 40 zonal LEDs (Z47), 5A PSU.

### Standard

#### ZFP PANELS WITH 40 ZONAL LEDs & ONBOARD PRINTER



##### Z025040PS/X/CON

ZFP 2 loop Panel with 40 zonal LEDs and on-board printer (Z49), 5A PSU.

##### Z045040PS/X/CON

ZFP 4 loop Panel with 40 zonal LEDs and on-board printer (Z49), 5A PSU.

### Compact

#### ZFP REPEATERS, EXPANSION PCBs & GRAPHIC INTERFACES



##### ZREP1S

ZFP Repeater/Compact Controller. Surface mount. Requires BF360-24 1A 24V boxed PSU.

##### ZHN

ZFP RS485 Network PCB (one req. per main ZFP panel)

##### Z02LOOP/X

2 loop Extender PCB. (Extends 2 loop ZFP to 4 loops)

### Medium

#### ZFP PANELS WITH 40 ZONAL LEDs



##### Z065040NM/X/CON

ZFP 6 loop Panel with 40 zonal LEDs (Z47), 5A PSU.

##### Z085040NM/X/CON

ZFP 8 loop Panel with 40 zonal LEDs (Z47), 5A PSU.

### Medium

#### ZFP PANELS WITH 40 ZONAL LEDs & ONBOARD PRINTER



##### Z065040PM/X/CON

ZFP 6 loop Panel with 40 zonal LEDs and on-board printer (Z49), 5A PSU.

##### Z085040PM/X/CON

ZFP 8 loop Panel with 40 zonal LEDs and on-board printer (Z49), 5A PSU.

### Miscellaneous

#### ZTOOLS ZFP programming tools (Windows)

Z11 4 Relay PCB (half size)

Z12 8 Relay PCB (full size)

Z13 8 Input output PCB (half size)

Z14 16 Input output PCB (full size)

Z15 4 x Conventional 1A 6K8 Sounder Circuit PCB (full size)

Z16 4 x Detection Zone & 2 x 1A 6K8 Sounder Circuit PCB (full size)



#### GRAPHICS PACKAGES

ZG1 ZFP Single Panel Graphics Interface Package

ZG2 ZFP 1 to 5 Panel Graphics Interface Package

ZG3 ZFP 1 to 5 Panel Graphics Interface Package

with TCP/IP remote access manager

ZG4 ZFP 1 to 99 Panel Graphics Interface Package

with TCP/IP remote access manager

*Contact us for a full list of graphic package features*

BEZELS, STAINLESS STEEL FRAMES & VISION WINDOWS - *Contact us for details.*



**POWER SUPPLY & CHARGER**

Mains Supply Operating Voltage	230Vac ±10% 50/60Hz 810mA max.
Rated current	810mA Max (Standard cabinet ZFPs); 1.35A Max (Medium & Large Cabinet ZFPs)
Internal power supply	5A (Standard cabinet ZFPs); 5A (Medium & Large Cabinet)
Max. continuous output current (incl. charging)	5A (Standard cabinet ZFPs); 5A (Medium & Large Cabinet)
Max. VRLA battery size and type	2 x 12V 18Ah (Standard cabinet ZFPs); 2 x 12V 38Ah (Medium & Large Cabinet)

**LOOP DRIVERS**

Number of loops	1, 2, 4, 6 or 8 dependent on model
Max. output current per loop	500mA (Voltage: 25V min; 34V max)
Communication Protocol	Context Plus XP95 (max. 127 addressable devices per loop)
Type of cable / Max. cable length per loop	Fire resistant screened, up to 2.5mm <sup>2</sup> / 1KM max length
Max. allowable loop impedance/capacitance	20 ohm (each conductor)
Max. cable capacitance	.27uF

**CONVENTIONAL SOUNDER CIRCUITS**

Number/type of conventional sounder circuits	2 x 1A outputs. Protected by resettable overload circuit 19.5V min; 28V max
Output voltage	19.5V minimum, 28V maximum
Type of cable / Max. cable length per loop	Fire resistant screened, up to 2.5mm <sup>2</sup> / 1KM max length

**AUXILIARY INPUTS (PROGRAMMABLE)**

Number of auxiliary inputs	2 (Connect to 0V to trigger, Max. input voltage 27Vdc non-latching). 6800 ohm, 5% Tol, 0.25W
EOL resistor value (supplied)	6800 ohm, 5% tolerance, 0.25W
Trigger resistor (supplied)	470R, 0.25W

**RELAY OUTPUTS (PROGRAMMABLE)**

Number of relay outputs	2 x programmable auxiliary relays; 1 x failsafe fault relay; 1 x 24Vdc aux. power output
Relay type & outputs	1A, 30Vdc (maximum). Voltage free, single pole changeover
Fault relay	Active when faults are present or on total power failure
24Vdc auxiliary power output	19.5V minimum, 28V maximum. Max current 100mA.

**INDICATORS AND CONTROLS**

Standard provision	All models include a Z41 Control module which comprises a full colour 4.3" touchscreen All mandatory EN54 indicators, 3 spare LEDs & a keyswitch allowing access to AL2
Zonal Indicators	Up to 200 programmable LEDs available via Switch & Indicator expansion modules
Switches & onboard printers	Multiple switch & printer configs available via Switch & Indicator expansion modules
Switch & Indicator module capacity	2 (standard cabinets); 4 (medium cabinets); 6 (large cabinets). 1 x Z41 req. per panel

**COMMUNICATION BUSES**

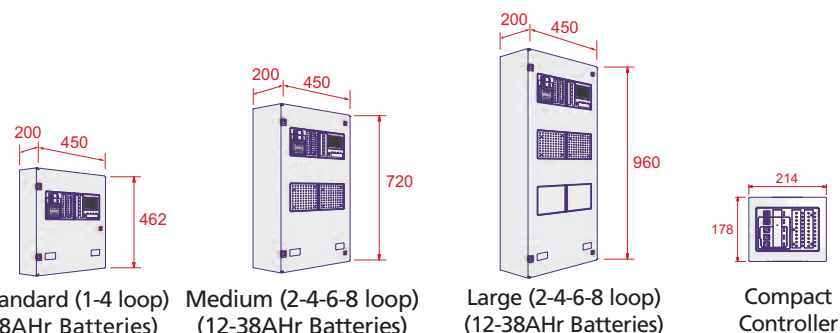
On-board Serial Printer (Optional)	1 x RS232 connector
Pager/DECT Interface	1 x RS232 connector
Networking	1 x RS485 connector (hi-integrity fault-tolerant)
Peripheral Bus (A-Bus)	1 x RS485 connector. Allows the connection of up to 15 A-Bus PCBs. Wiring requirements = 2 core plus screen plus 2 core for power.
PC Interface	Galvanically isolated USB connector (provided on the Z41 Control/Display module)

**NETWORKING**

Network type	RS485 (hi-integrity fault tolerant, ring wired). 1xZHN PCB required per networked panel
Maximum no. of network nodes	128 (up to 64 x 8 loop panels and 64 x compact controllers)
Type of cable / Max. cable length	Fire resistant screened, up to 2.5mm <sup>2</sup> ; 1KM between nodes; 128KM (max network length)
Network wiring	Fire resistant screened cable, up to 2.5mm <sup>2</sup>
Detail	Events (Fires, Faults, Disablements, Tests) & Actions (Silence/Resound Sounders, Reset) can be accepted over the network. Zones, Input & Output Groups, etc can be shared over the network

**MECHANICAL & ENVIRONMENTAL**

Finish & IP rating	Light grey texture (RAL7035) epoxy. Mild steel. Zintec 1.2mm
Operating temperature / humidity	-5°C to +40°C / 5% to 95 % R.H non condensing
Dimensions (lid & back box) H x W x D mm	



# Context Plus



## CONTEXT PLUS 'XPERT' CARD ADDRESSED DETECTORS & BASES

Our XPERT Card addressed detectors utilise a unique addressing method where the address is held in the base and not the detector head. This means the address remains the same regardless of how many times a detector is replaced and allows different types of detecting heads to be swapped without the need for reprogramming.

The XPERT card is a plastic, coded card containing seven 'pips'.

The address is set by removing the 'pips' with a screwdriver and inserting the card into the side of the base. When the detector head is rotated into the base, the remaining 'pips' on the card operate the address buttons on the base of the detector and the address is read by the detector electronics.



# IONISATION SMOKE DETECTOR

XPERT CARD ADDRESSED



Ionisation Smoke Detector  
Number 55000-500IMC

## DEVICE RESPONSE

**Type:** Flaming combustion  
**Response:** Very good

**Type:** Flaming with high heat output  
**Response:** Very good

**Type:** Smouldering/glowing combustion  
**Response:** Moderate/Good

**Type:** Overheating/thermal combustion  
**Response:** Poor

**Type:** Flaming - clean burning  
**Response:** Poor

## IONISATION SMOKE DETECTOR, XPERT STYLE, 55000-500IMC

The Context Plus XP95 ionisation smoke detector has a moulded self-extinguishing white polycarbonate case with wind resistant smoke inlets. Stainless steel wiper contacts connect the detector to the terminals in the mounting base. Inside the detector case is a printed circuit board that has the ionisation chamber mounted on one side and the address capture, signal processing and communications electronics on the other.

The ionisation chamber system is an inner reference chamber contained inside an outer smoke chamber. The outer smoke chamber has smoke inlet apertures that are fitted with an insect resistant mesh.

The radioactive source holder and the outer smoke chamber are the positive and negative electrodes respectively. An Americium 241 radioactive source mounted within the inner reference chamber irradiates the air in both chambers to produce positive and negative ions. On applying a voltage across these electrodes an electric field is formed. The ions are attracted to the electrode of the opposite sign, some ions collide and recombine, but the net result is that a small electric current flows between the electrodes. At the junction between the reference and smoke chambers is the sensing electrode that is used to convert variations in the chamber currents into a voltage. When smoke particles enter the ionisation chamber, ions become attached to them with the result that the current flowing through the chamber decreases. This effect is greater in the smoke chamber than in the reference chamber and the imbalance causes the sensing electrode to go more positive.

## Technical Data

Specifications are typical and given at 23°C & 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Detector Type:** Products of combustion (smoke)

**Detection Principle:** Ionisation Chamber

**Chamber Configuration:** Twin compensating chambers using one single sided ionising radiation source

**Radioactive Isotope:** Americium 241

**Activity:** 33.3k Becquerels, 0.9µ Curie

**Sampling Frequency:** Continuous

**Supply Wiring:** Two wire supply, polarity insensitive

### Terminal Functions:

- L1&L2 supply in and out connections (polarity insensitive)
- +R remote indicator positive connection (internal 2.2kΩ resistance to supply +ve)
- R remote indicator negative connection (internal 2.2kΩ resistance to supply - ve)

**Supply Voltage:** 17 to 28 Volts dc

**Modulation Voltage at Detector:** 5 to 9 Volts peak to peak.

**Quiescent Current:** 280µA average, 500µA peak

**Power-up Surge Current:** 1mA

**Duration of Power-up Surge Current:** 0.3 seconds

### Maximum Power-up Time:

4 seconds for communications (measured from application of power and protocol); 10 seconds to exceed 10 counts; 15 seconds for stable clean air value

**Storage Temp:** -30°C to +80°C

**Operating Temp:** -20°C to +70°C

**Clean Air Analogue Value:** 25±7 counts

**Alarm Level 55 Counts:** EN54 y value of 0.7

**Alarm Indicator:** Red light emitting diode (LED)

**Alarm LED Current:** 2mA

**Remote LED Current:** 4mA at 5V (measured across remote load)

**Type Code:** (210 43) 011 00

**Sensitivity:** Nominal threshold y value of 0.7 to EN54 Pt 7 2001; (BS 5445 Pt 7 2001)

**Guaranteed Temperature Range (no condensation or icing):** -20°C to +60°C

**Humidity (No condensation or icing):** 0% to 95% relative humidity

**Wind Speed:** 10m/s maximum

**Atmospheric Pressure:** Automatic compensation by dual chambers to maintain sensitivity up to a height of 2000m above sea level

**Vibration, Impact & Shock:** To EN54 Pt 7 1984 (BS5445 Pt 7 2001)

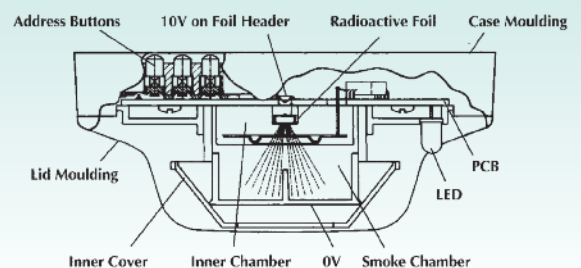
**IP Rating:** 23D

**Dimensions:** (diameter x height)  
Detector: 100mm x 42mm  
Detector in Base:  
100mm x 50mm

**Weights:** Detector: 105g; Detector in Base: 161g

**Materials:** Detector Housing: White polycarbonate V-0 rated to UL 94; Terminals: Stainless Steel

The Context Plus ionisation detector, like all ionisation detectors, has some sensitivity to air movement (wind). The extent to which the analogue value will change depends on the wind speed and on the orientation of the detector relative to the wind direction. Relatively small changes in wind direction can cause significant changes in analogue value.



Sectional view - Ionisation Smoke Detector

# OPTICAL SMOKE DETECTOR XPERT CARD ADDRESSED



Optical Smoke Detector  
Part Number 55000-600IMC

## OPTICAL SMOKE DETECTOR, XPERT STYLE, 55000-600IMC

The Context Plus XP95 optical detector uses the same outer case as the ionisation smoke detector and is distinguished by the indicator LED which is clear in standby and red in alarm. Within the case is a printed circuit board which, on one side, has the light proof labyrinth chamber with integral gauze surrounding the optical measuring system and, on the other, the address capture, signal processing and communications electronics.

An infrared light emitting diode within its collimator is arranged at an obtuse angle to the photo-diode. The photo-diode has an integral daylight-blocking filter.

The IR LED emits a burst of collimated light every second. In clear air the photo-diode receives no light directly from the IR LED because of the angular arrangement and the dual mask. When smoke enters the chamber it scatters photons from the emitter IR LED onto the photo-diode in an amount related to the smoke characteristics and density.

### DEVICE RESPONSE

**Type:** Overheating/thermal combustion  
**Response:** Very good

**Type:** Smouldering/glowing combustion  
**Response:** Good

**Type:** Flaming combustion  
**Response:** Good

**Type:** Flaming with high heat output  
**Response:** Good

**Type:** Flaming - clean burning  
**Response:** Very poor

### Technical Data

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Detector Type:** Products of combustion (smoke) detector

**Detection Principles:** Photo-electric detection of light scattered in a forward direction by smoke particles

**Chamber Configuration:** Horizontal optical bench housing an infrared emitter and sensor arranged radially to detect scattered light

**Sensor:** Silicon PIN photo-diode

**Emitter:** GaAs Infra-red light emitting diode

**Sampling Frequency:** 1 second

**Supply Wiring:** Two wire supply, polarity insensitive

**Terminal Functions:**

L1&L2 supply in and out connections (polarity insensitive)

+R remote indicator positive connection (internal 2.2kΩ resistance to supply +ve)

-R remote indicator negative connection (internal 2.2kΩ resistance to supply -ve)

**Supply Voltage:** 17 to 28 Volts dc

**Quiescent Current:** 340µA average, 600µA peak

**Power-up Surge Current:** 1mA

**Duration of Power-up Surge Current:** 0.3 seconds

**Maximum Power-up Time:** 4 seconds for communications (measured from application of power and protocol) 10 seconds to exceed 10 counts 35 seconds for stable clean air value

**Storage Temp:** -30°C to +80°C

**Operating Temp:** -20°C to +60°C

**Alarm Level Analogue Value:** 55

**Clean Air Analogue Value:** 25±7 counts

**Alarm Indicator:** Clear light emitting diode (LED) emitting red light

**Alarm LED Current:** 4mA

**Remote LED Current:** 4mA at 5V (measured across remote load)

**Type Code:** (210 43) 101 00

**Sensitivity:** Nominal threshold of 2.4% light grey smoke obscuration per metre

**Guaranteed Temperature Range (No condensation or icing):** -20°C to +60°C

**Humidity (No condensation or icing):** 0% to 95% relative humidity

**Wind Speed:** Unaffected by wind

**Atmospheric Pressure:** Unaffected

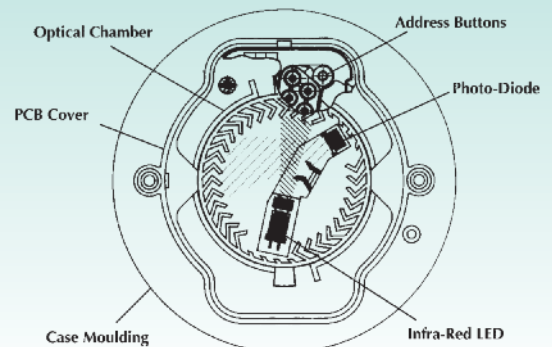
**Vibration, Impact & Shock:** To EN54 Pt 7 2001 (BS5445 Pt 7 2001)

**IP Rating:** 43

**Dimensions:** (diameter x height)  
Detector: 100mm x 42mm  
Detector in Base: 100mm x 50mm

**Weights:** Detector: 105g Detector in Base: 157g

**Materials:** Detector Housing: White polycarbonate V-0 rated to UL 94 Terminals: Stainless Steel



Top section view - Optical Smoke Detector



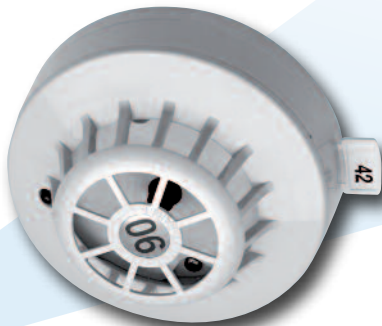
Standard Temperature Detector  
Part Number 55000-400IMC

### STANDARD TEMPERATURE DETECTOR, XPERT STYLE, 55000-400IMC HIGH TEMPERATURE DETECTOR, XPERT STYLE, 55000-401IMC

Context Plus XP95 temperature (heat) detectors have a common profile with ionisation and optical smoke detectors but have a low air flow resistance case made of self-extinguishing white polycarbonate. They monitor temperature by using a single thermistor network which provides a voltage output proportional to the external air temperature.

The response to temperature increases of the standard temperature detector (part no: 55000-400IMC) enables the detector to be utilised as an EN54 Grade 2 heat detector.

To provide a device for use in ambient temperatures of up to 55°C, a high temperature detector (part no: 55000-401IMC) is also available. This has similar characteristics to the standard temperature detector at 25°C but reaches a 55 count (alarm) at 90°C.



High Temperature Detector  
Part Number 55000-401IMC

### Technical Data

#### Standard temperature detector Detector Part No 55000-400 IMC

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Detector Type:** Fixed Temperature Heat Detector (software algorithm may be used for Grade 1 response)

**Detector Principle:** Linear approximation over temperature range 25°C to 90°C

**Sensor:** Single NTC Thermistor

**Sampling Frequency:** Continuous

**Supply Wiring:** Two wire supply, polarity insensitive

#### Terminal Functions:

- L1&L2 supply in and out connections (polarity insensitive)
- +R remote indicator positive connection (internal 2.2kΩ resistance to supply +ve)
- R remote indicator negative connection (internal 2.2kΩ resistance to supply -ve)

**Supply Voltage:** 17 to 28 Volts dc

**Modulation Voltage at Detector:** 5 to 9 Volts peak to peak

**Quiescent Current:** 250µA average, 500µA peak

**Power-up Surge Current:** 1mA

**Duration of Power-up Surge Current:** 0.3 seconds

**Maximum Power-up Time:** 4 secs

**Storage Temp:** -30°C to +80°C

**Operating Temp:** -20°C to +70°C

**Analogue Value at 25°C:** 25± 5 counts

**Alarm Level 55 Counts:** 55°C

**Alarm Indicator:** Red light emitting diode (LED)

**Alarm LED Current:** 2mA

**Remote LED Current:** 4mA at 5V (measured across remote load)

**Type Code:** (210 43) 110 00

**Sensitivity:** 25°C to 90°C: 1°C/Count. -20°C returns 8 counts

**Guaranteed Temp. Range (No condensation or icing):** -20°C to +70°C

**Humidity (No condensation):** 0% to 95% relative humidity

**Wind Speed:** Unaffected in fixed temperature use

**Atmospheric Pressure:** Unaffected

**Vibration, Impact & Shock:** To EN54 Pt 5 2001 (BS5445 Pt 5 2001)

**IP Rating:** 53

**Dimensions:** (diameter x height)  
Detector: 100mm x 42mm  
Detector in Base: 100mm x 50mm

**Weights:** Detector: 105g; Detector in Base: 157g

**Materials:** Detector Housing: White polycarbonate V-0 rated to UL 94; Terminals: Stainless Steel

#### High Temperature Detector Detector Part No: 55000-401 IMC

**Specifications are the same as those for the standard temperature detector described above, apart from the following points:**

**Detector Type:** Fixed Temperature  
**Detector Principles:** Linear approximation designed to give 25 counts at 25°C and 55 counts at 90°C

**Guaranteed Temp. Range (No condensation or icing):** -20°C to +120°C

**Sensitivity:** 25°C to 90°C: 2.17°C / Count -20°C returns 20 counts

### DEVICE RESPONSE

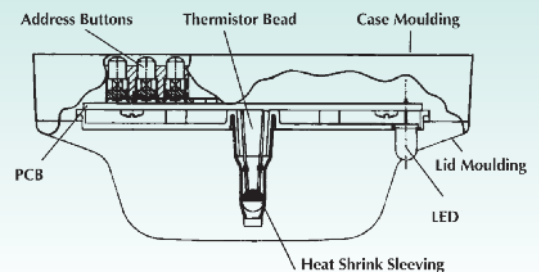
**Type:** Flaming with high heat output  
**Response:** Moderate/good

**Type:** Flaming - clean burning  
**Response:** Moderate/good

**Type:** Flaming combustion  
**Response:** Poor

**Type:** Overheating/thermal combustion  
**Response:** Very poor

**Type:** Smouldering/glowing combustion  
**Response:** Very poor



Sectional view - Temperature (Heat) Detector

# MULTISENSOR DETECTOR XPERT CARD ADDRESSED



Multisensor Detector  
Part Number 55000-8851MC

## DEVICE RESPONSE

**Type:** Overheating/thermal combustion

**Response:** Very good

**Type:** Flaming with high heat output

**Response:** Very good

**Type:** Smouldering/glowing combustion

**Response:** Good

**Type:** Flaming combustion

**Response:** Good

**Type:** Flaming - clean burning

**Response:** Moderate/good

## MULTISENSOR DETECTOR, XPERT STYLE, 55000-8851MC

The Context Plus XP95 multisensor detector contains an optical smoke sensor and a thermistor temperature sensor whose outputs are combined to give the final analogue value.

The multisensor construction is similar to that of the optical detector but uses a different lid and optical mouldings to accommodate the thermistor temperature sensor. The sectional view (below) shows the arrangement of the optical chamber and thermistor.

The signals from the optical smoke sensing element and the temperature sensor are independent, and represent the smoke level and the air temperature respectively in the vicinity of the detector. The detector's microcontroller processes the two signals. The temperature signal processing extracts only rate of rise information for combination with the optical signal. The detector will not respond to a slow temperature increase - even if the temperature reaches a high level. A large sudden change in temperature can, however, cause an alarm without the presence of smoke, if sustained for 20 seconds.

The processing algorithms in the multisensor incorporate drift compensation. The control panel must not have a drift compensation algorithm enabled.

The sensitivity of the detector is considered the optimum for most general applications since it offers good response to both smouldering and flaming fires.

Note: In situ testing of the multisensor should be carried out as for smoke detectors.

## Technical Data

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Detector type/principle:**

**Smoke:** Photoelectric detection of light scattered by smoke particles

**Heat:** Temperature sensitive resistance

**Type code:**

Bits: (2 1 0 4 3) 1 0 1 1 1

**Supply wiring:** Two-wire supply, polarity insensitive

**Terminal functions:** L1&L2 supply in and out connections (polarity insensitive)

+R remote indicator positive connection (internal 2.2kΩ resistance to positive remote indicator negative connection)

-R remote indicator negative connection (internal 2.2kΩ resistance to negative)

**Operating voltage:** 17-28V DC

**Communications protocol:** 5-9V peak to peak

**Quiescent current:** 500µA average 750µA peak

**Power-up surge current:** 1mA

**Maximum power-up time:** 10s

**Alarm LED current:** 3.5mA

**Remote LED current:** 4mA at 5V (measured across remote load)

**Clean air analogue value:** 23 +4/-0

**Alarm level analogue value:** 55

**Alarm indicator:** 2 colourless Light Emitting Diodes (LEDs); illuminated red in alarm, optional remote LED

**Temperature range:**

Max. continuous operating: +60°C

Min. continuous operating: 0°C

Min. operating (no condensation / icing): -20°C

**Storage:** -30°C to +80°C

**Humidity (No condensation):** 0 to 95% relative humidity

**Effect of temperature on optical detector:** Less than 15% change in sensitivity over rated range. Slow changes in ambient conditions will automatically be compensated and will not affect sensitivity

**Effect of atmospheric pressure on optical sensor:** None

**Effect of wind on optical sensor:** None

**Vibration, Impact and Shock:** To prEN54-7

**IP rating:** 43

**Dimensions:** 100mm diameter; 50mm height; 58mm (in base)

**Weight:** Detector: 105g; Detector in base: 160g

**Materials:** Housing: White polycarbonate V-0 rated to UL94; Terminals: Nickel plated s/steel

**Smoke element only:**

**Chamber configuration:**

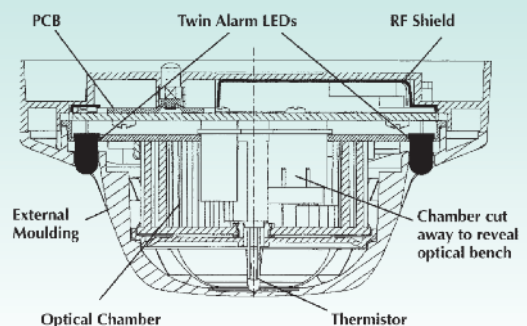
Horizontal optical bench housing infrared emitter and sensor, arranged radially to detect forward scattered light

**Sensor:** Silicon PIN photo-diode

**Emitter:** GaAlAs infra-red light emitting diode

**Sampling frequency:** 1 per sec

**WARNING:** If the control panel incorporates a drift compensation algorithm, this should be disabled when polling the Context Plus Multisensor detector.



Sectional view - Multisensor Detector



**Intelligent Mounting Base  
Part Number 45681-210IMC**

## INTELLIGENT MOUNTING BASE, XPERT STYLE, 45681-210IMC

Accepts all Context Plus Xpert card style smoke and heat detectors. It is a zero insertion force base with dual finger receptacles of stainless steel into which the detector terminals slide. Cable connections of up to 2.5mm diameter are made via captive cable clamps.

Includes four double terminals (L1 = - line IN and OUT; L2 = + line IN and OUT; +R = remote LED positive supply; -R = remote LED negative supply) and one isolated single terminal that can be used to provide continuity of an earth or shield.

XPert cards, are supplied with all bases. Consult the coding guide to determine which pips are to be removed. Pre-printed and pre-punched address cards that save time and increase accuracy during commissioning are available in sets (part number: 45682-127).

The base has a 'one way only' fit and detectors can be locked into the base by a grub screw with the aid of a 1.5mm hexagonal driver.



**Intelligent Mounting Base  
Part Number 45681-321IMC**

## ISOLATING BASE, XPERT STYLE, 45681-321IMC

The Context Plus XP95 isolating base senses and isolates short circuit faults on loops and spurs. The base is loop powered, polarity sensitive and accepts the XPert card to set the associated device address.

In short circuit conditions, the integral yellow LED is illuminated. The detector associated with the base remains active under short circuit conditions. Power and signals to the affected section are restored automatically when the fault is cleared. Under normal operating conditions, a low impedance is present between the - IN and - OUT terminals of the base, so that power and signals pass to the next base in the line.

If a short circuit or abnormally low impedance occurs, the fall in voltage is sensed and the base isolates the negative supply in the direction of the fault.

In applications where it is not necessary to use an isolating base for each detector, up to twenty devices (detectors and interfaces) may be installed between isolating bases, provided that their total switch-on surge current does not exceed 20mA.

### Technical Data

**Device Part No:** 45681-321IMC  
**Maximum Loop Operating Voltage:** 28V DC plus 9V protocol pulses  
**Minimum Normal Loop Operating Voltage:** 17V DC  
**Power-up time:** >10ms  
**Isolation Indicator:** Yellow LED, lit continually in isolation condition  
**Current Consumption at 18V:** 23µA  
**Current Consumption at 28V:** 43µA  
**Current Consumption at 18V & adjacent sector isolated:** 4mA

**Maximum Line Current**  
**Non-isolating continuous:** 1.0A;  
**Transition into isolation:** 3.0A  
**On Resistance:** <0.2Ω  
**Operating Temperature:** -20°C to +60°C  
**Storage Temperature:** -30°C to +80°C  
**Relative Humidity (no condensation/icing):** 0% to 95%  
**Dimensions:** 100mm (diam) x 24mm (H); **Weight:** 100g  
**Materials:** White polycarbonate moulding, nickel plated stainless steel.



**Remote LED Indicator  
Part Number BF318**

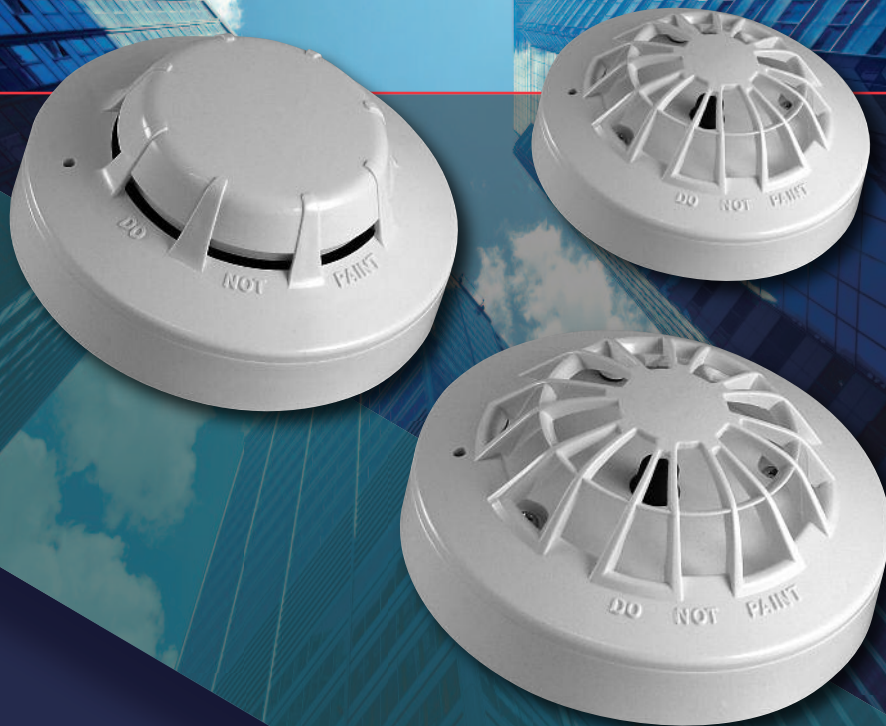
## REMOTE LED INDICATOR, BF318

The BF318 is a high quality LED indicator specifically designed for use in fire alarm systems. It incorporates a high-intensity wide-angle red LED which is clearly visible from the front of the plate when active. Its primary use is to indicate the activation of hidden or out-of-sight fire detectors. The front label includes a white 'write on' panel allowing installers to add their own personalised text such as equipment locations. The unit will fit on 16mm deep flush or surface mount back boxes. If connecting the BF318 to a smoke or heat detector, always refer to the detector manufacturers' instructions prior to installation to verify the connections. As the detector head's outputs will already be current limited, to ensure maximum brightness and visibility they should be connected directly to the Remote LED via its 'OV' and 'LED only' terminals.

### TECHNICAL SPECIFICATION

Current rating using 'OV' & 'LED only' terminals: This is dependent on the type/make of detector used. Current rating using 'OV' & '+30V Max' terminals: 10mA @ 30V d.c. (Max); 1.3mA @ 6V d.c. (Min).

# Context Plus



## CONTEXT PLUS DIL SWITCH ADDRESSED DETECTORS & BASES

Our DIL switch addressed range of optical and heat (temperature) detectors are manufactured in the UK and approved to the relevant standards by the LPCB. Their addresses are set using a DIL switch located on their underside using a small screwdriver or similar tool (see right).

The address should be written on the label for reference purposes and then sealed. The detectors use the same protocol as our ContextPlus XPERT card detectors (Apollo XP95 protocol, pulses 5-9V) and are fully compatible with our entire range of ContextPlus addressable control equipment.





**OPTICAL SMOKE DETECTOR** DIL SWITCH ADDRESSED

Optical Smoke Detector  
Part Number 55000-665IMC

**DEVICE RESPONSE**

**Type:** Overheating/thermal combustion  
**Response:** Very good

**Type:** Smouldering/glowing combustion  
**Response:** Good

**Type:** Flaming combustion  
**Response:** Good

**Type:** Flaming with high heat output  
**Response:** Good

**Type:** Flaming - clean burning  
**Response:** Very poor

**OPTICAL SMOKE DETECTOR, DIL STYLE, 55000-665IMC**

Our DIL Switch Addressed (DSA) Context Plus optical detector has a moulded self extinguishing white polycarbonate case designed to allow free entry of smoke while minimising the effects of dust contamination. Stainless steel wiper contacts connect the detector to the terminals in the mounting base. Within the case is a printed circuit board which on one side has the light proof labyrinth chamber with integral gauze surrounding the optical measuring system. The other side has the address capture, signal processing and communications electronics. An infra-red light emitting diode (IR LED) within the optical chamber is arranged at an obtuse angle to a photodiode. The photo-diode has an integral daylight-blocking filter. The IR LED emits a burst of collimated light every second. In clear air the photo-diode receives no light directly from the IR LED. When smoke enters the chamber it scatters light from the IR LED onto the photodiode in an amount related to the smoke characteristics and density. The photodiode signal is processed by the optical ASIC and passed to the A/D converter on the communications ASIC ready for transmission when the device is interrogated.

The address of the DSA Context Plus detectors is set using the DIL switch located on the underside of the device. All segments are set to 0 (ON) or 1 (OFF), using a small screwdriver or similar tool. The address should be written on the label and the rear of the detector sealed.

**Technical Data**

**Detector Part No** 55000-665IMC

**Base Part No:** 45681-200

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Address range:** 1 to 126

**Detector Type:** Products of combustion (smoke) detector

**Detection Principles:** Photo-electric detection of light scattered in a forward direction by smoke particles

**Chamber Configuration:** Horizontal optical bench housing an infrared emitter and sensor arranged radially to detect scattered light

**Sensor:** Silicon PIN photo-diode

**Emitter:** GaAlAs Infra-red light emitting diode

**Sampling Frequency:** 1 second

**Supply Wiring:** Two wire supply, polarity insensitive

**Terminal Functions:**

Supply positive and negative in and out connections (polarity sensitive). Remote indicator connection to LED driver base

**Supply Voltage:** 17 to 28 Volts dc

**Quiescent Current:** 340µA

**Duration of Power-up Surge Current:** 1 second

**Maximum Power-up Time:**

4 seconds for communications (measured from application of power and protocol) 10 seconds to exceed 10 counts 35 seconds for stable clean air value

**Storage Temp:** -30°C to +80°C

**Operating Temp:** -20°C to +60°C

**Alarm Level Analogue Value:** 55

**Clean Air Analogue Value:** 25±7 counts

**Alarm Indicator:** Red Light Emitting Diode (LED)

**Alarm LED Current:** 2mA

**Remote LED Current:** 4mA at 5V (measured across remote load)

**Type Code:** (210 43) 101 00

**Sensitivity:** Nominal threshold of 2.4% light grey smoke obscuration per metre

**Humidity (No condensation or icing):** 0% to 95% relative humidity

**Wind Speed:** Unaffected by wind

**Atmospheric Pressure:** unaffected

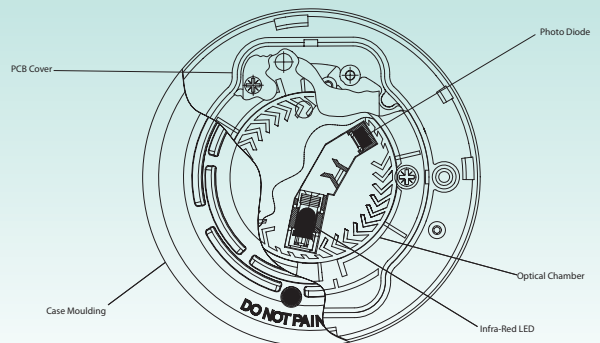
**Vibration, Impact & Shock:** To EN54-7:2001 CE marked.

**IP Rating:** 43

**Dimensions:** (diameter x height)  
Detector: 100mm x 39mm  
Detector in Base:  
100mm x 47mm

**Weights:** Detector: 100g  
Detector in Base: 157g

**Materials:** Detector Housing: White polycarbonate V-0 rated to UL 94  
Terminals: Stainless Steel



Top section view - Optical Smoke Detector

# TEMPERATURE DETECTOR DIL SWITCH ADDRESSED



Standard Temperature Detector  
Part Number 55000-465IMC



High Temperature Detector  
Part Number 55000-475IMC

## STANDARD TEMPERATURE DETECTOR, DIL STYLE, 55000-465IMC HIGH TEMPERATURE DETECTOR, DIL STYLE, 55000-475IMC

Our DIL Switch Addressed (DSA) Context Plus temperature detectors have a low air flow resistance case made of self-extinguishing white polycarbonate. The devices monitor temperature by using a single thermistor network which provides a voltage output proportional to the external air temperature.

The response to heat increases of the standard temperature detector enables the detector to be utilised as an EN54-5:2000 A2S heat detector, which is equivalent to an EN54-5:1984 Grade 2 detector. A high temperature detector, which has similar characteristics at 25°C but reaches a 55 count at 90°C, is available for use in normal ambient temperatures of up to 55°C. This detector meets the requirements for a CS detector in EN54-5:2000.

The address of DSA Context Plus temperature detectors is set using the DIL switch located on the underside of the device. All segments are set to 0 (ON) or 1 (OFF), using a small screwdriver or similar tool. The address should be written on the label and the rear of the detector sealed.

### DEVICE RESPONSE

**Type:** Flaming with high heat output  
**Response:** Moderate/good

**Type:** Flaming - clean burning  
**Response:** Moderate/good

**Type:** Flaming combustion  
**Response:** Poor

**Type:** Overheating/thermal combustion  
**Response:** Very poor

**Type:** Smouldering/glowing combustion  
**Response:** Very poor

### Technical Data

**Standard temperature detector**  
Detector Part No 55000-465IMC  
Base Part No 45681-200

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Address range:** 1 to 126

**Detector Type:** Fixed Temperature Heat

**Detector Principle:** Temperature sensitive resistance

**Sensor:** Single NTC Thermistor

**Sampling Frequency:** Continuous

**Supply Wiring:** Two wire supply, polarity insensitive

**Terminal Functions:**

Supply positive and negative in and out connections (polarity sensitive); remote indicator connection to LED driver base

**Supply Voltage:** 17 to 28 Volts dc

**Quiescent Current:** 300µA @ 24V

**Power-up Surge Current:** 1mA

**Duration of Power-up Surge Current:** 1 second

**Maximum Power-up Time:** 4 secs

**Storage Temp:** -30°C to +80°C

**Min Continuous Operating Temperature:** -0°C

**Application Temperature:** Class EN54-5:2001 A2S typical 25°C, max 50°C

**Static Response Temperature °C:** Min 54 Type 58 Max 62

**Alarm Level Analogue Value:** 55

**Alarm Indicator:** Red Light Emitting Diode (LED)

**Alarm LED Current:** 2mA

**Type Code:** (210 43) 110 00

**Sensitivity:** 25°C to 90°C: 1°C/Count ; -20°C returns 8 counts

**Humidity:** (No condensation or icing) 0% to 95% relative humidity

**Wind Speed:** Unaffected

**Atmospheric Pressure:** Unaffected

**Vibration, Impact & Shock:** To EN54-5:2000 marked.

**IP Rating:** 53

**Dimensions:** (diameter x height)  
Detector: 100mm x 39mm  
Detector in Base: 100mm x 47mm

**Weights:** Detector: 100g; Detector in Base: 157g

**Materials:** Detector Housing: White polycarbonate V-0 rated to UL 94; Terminals: Stainless Steel

**High Temperature Detector**  
Detector Part No: 55000-475IMC  
Base Part No 45681-200

*Specifications are the same as those for the standard temperature detector described above, apart from the following points:*

**Detector Principle:** Temperature sensitive resistance. Linear approximation designed to give 26 counts at 25°C and 55 counts at 90°C

**Type Code:** (210 43) 110 01

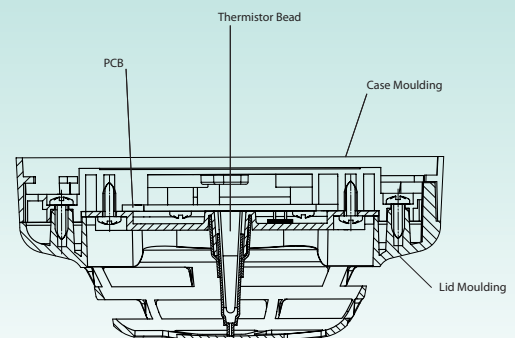
**Application Temperature:**

Class EN54-5:2001 CS typical 55°C, max 80°C

**Static Response Temperature °C:** Min 84 Type 90 Max 96

**Sensitivity:** 25°C to 90°C:

2-17°C/Count -20°C returns 20 counts



Sectional view - Temperature (Heat) Detector



Context Plus Common Base  
Part Number 45681-200IMC

## CONTEXT PLUS COMMON BASE, 45681-200IMC

Designed to accept DIL switch addressed Optical and Temperature detectors. Polarity must be observed as indicated. A self adhesive label is provided with each base to mark the detector address. This base will not support remote LED indication.



Context Plus Negative Switching Isolating Base  
Part Number 45681-505IMC

## CONTEXT PLUS NEGATIVE SWITCHING ISOLATING BASE, 45681-505IMC

Designed to sense and isolate short-circuits on Context Plus loops, the Context Plus Negative Switching Isolating base can be used in place of standard bases. Under normal operating conditions the isolating circuit provides a low resistance of 0.2 ohm in either direction. If the loop voltage falls to  $14 \pm 0.4V$  the isolator will switch from the closed state to the open state in order to isolate the loop 'in' and 'out' lines. The isolated section is tested every four seconds and is automatically re-connected when the load resistance is 175 or greater. Up to 20 detectors or the equivalent load may be connected between two isolating circuits. Interfaces and sounders are counted as one detector for every milliampere of switch-on surge current. All wiring terminals will accept solid or stranded cables up to  $2.5mm^2$ . A Yellow LED illuminates if a short-circuit is detected either side of the isolator. Complies with EN54-17 (2005). This base will not support remote LED indication

### Technical Data

#### Negative switching Isolator Base

Base Part No 45681-505IMC

Min. loop operating voltage in normal conditions: 17V dc

Maximum loop operating voltage: 28V dc

Minimum protocol pulse: 5V

Power-up time: <10ms

Operating current (quiescent): 23uA @ 18V; 35uA @ 24V; 43uA @ 28V

Operating current (isolated): 4mA @ 18V; 5.4mA @ 24V; 6.4mA @ 28V;

Maximum loop current: 1A continuous; 3A short-circuit switching

Maximum load: 20 XP95 detectors or equivalent

Maximum 'on' resistance: 0.2 Ohm

Isolation indication: yellow LED

Isolation voltage (isolator open):  $14 \pm 0.4V$

Reconnection voltage:  $15.8 \pm 0.4V$

Reconnection resistance: 75

Isolation time: 50 s

Operating humidity: 0-95%RH non-condensing

Operating temperature:  $-20$  to  $+60^\circ C$

Storage temperature:  $-30$  to  $+80^\circ C$

Design environment: indoor use only



Stand Alone Isolator  
Part Number 55000-720

## STAND ALONE ISOLATOR, 55000-720; ISOLATOR BASE, 45681-211

Designed to be placed at intervals on the loop to ensure that, in the case of a short-circuit, only the section between the isolators is affected. When the short-circuit is removed, the isolators automatically restore power and data to the isolated section. The equivalent of up to 20 smoke detectors may be installed between isolators. 20mA start up current.

### Technical Data

Device Part No: 55000-720

Min. loop operating voltage in normal conditions: 17V DC

Maximum loop operating voltage: 28V DC

Minimum protocol pulse: 5V

Power-up time: <10ms

Quiescent current: 18V = 23uA; 24V = 35uA; 28V = 43uA

Current in isolated state: 18V = 4.0mA; 24V = 5.4mA; 28V = 6.4mA

Max. loop current: 1A continuous; 3A short-circuit switching

Max. load : 20 Context Plus XP95 detectors or equivalent

Maximum 'on' resistance: 0.2Ω

Isolation indication: Yellow LED

Isolation voltage (isolator opens):  $14 \pm 0.4V$

Reconnection voltage:  $15.8 \pm 0.4V$

Reconnection resistance: 175Ω

Isolation time: 50μs

Operating humidity: 0-95%RH non-condensing

Operating temperature:  $-20$  to  $+60^\circ C$

Storage temperature:  $-30$  to  $+80^\circ C$

# MANUAL CALL POINTS



Intelligent Manual Call Point  
Part Number SA5900-908IMC

## INTELLIGENT MANUAL CALL POINT WITH ISOLATOR, SA5900-908IMC

The Context Plus XP95 Manual Call Point is intended for indoor applications and incorporates a short circuit isolator which will ensure its operation in the event of a short circuit fault on the loop.

An alarm is initiated by pressing its resettable element. The manual call point signals its status to the Context Plus fire alarm control panel using an interrupt feature within the system's digital protocol. An alarm status is indicated on the call point through the rotation of the resettable element, displaying yellow and black indication bars and a solid red LED. The manual call point can be easily reset from the front using the supplied reset key. The address of the call point is set by a DIL switch.

- Resettable operating element
- Easy access, front reset mechanism
- E-Z fit connector system for installation
- Ergonomic reset key
- EN 54-11 & EN 54-17 Certified
- 170° viewable LED
- Continuity link for cable insulation testing
- Suitable for semi flush or surface mounting



Waterproof Manual Call Point  
Part Number 58200-951IMC

## WATERPROOF MANUAL CALL POINT WITH ISOLATOR, 58200-951IMC

The Context Plus Waterproof Manual Call Point has an IP67 rating and is intended for outdoor applications or areas where water and dirt are a problem. It incorporates a short circuit isolator to ensure its operation in the event of a short circuit fault on the loop.

The Call Point is designed for surface mounting only and has an easily resettable element rather than a break glass.

We recommend cable entry is made from the bottom of the call point. It is important that correctly IP rated cable glands are used to ensure the IP rating of the device is not compromised. All cable glands and unused cable entry blanking plugs must be fully tightened and sealed to ensure the IP integrity is maintained. Use of PTFE or similar thread sealer is recommended.

### Technical Data

**Communication protocol:** Apollo XP95 pulse 5-9V

**Call Point Principle:** Resettable element. Single action.

**Alarm Indicator:** Red Light Emitting Diode (LED)

**Fault Indicator:** Amber/yellow Light Emitting Diode (LED)

**Type Code:**  
(2 1 0 4 3) 1 1 1 1 1

**Supply Wiring:** Two-wire supply, polarity insensitive

**Loop connections L1/L2:** Terminal block

**Operating Voltage:** 17V-35V dc

**Communication Protocol:** 5V-13V peak to peak

**Quiescent Current:** 100µA

**Power-up Surge Current:** 1mA

**Maximum Power-up Time:** 1 sec

**Alarm Current, LED illuminated:** 4mA

**Normal Analogue Value:** 16

**Alarm State Value:** 64

**Temperature Range:**

Max. continuous operating: +158°C

Min. continuous operating: 0°C

Min. operating (no condensation/icing): -40°C

Storage: -30°C to +80°C

**Humidity: (No condensation)**  
0 to 95% relative humidity

**Compliance standard:**  
EN54-11 and EN54-17. EMC directive 2004/108/EC

**IP Rating of indoor version:** IP44.

**IP Rating of weatherproof version:** IP67.

**Dimensions of indoor version:**  
89mm x 89mm x 63mm

**Dimensions of weatherproof version:** 114mm x 114mm x 74mm

**Materials:** Housing: Red Polycarbonate.

**Warranty:** 10 Years



Intelligent Dual IR2 Flame Detector  
Part Number 55000-280

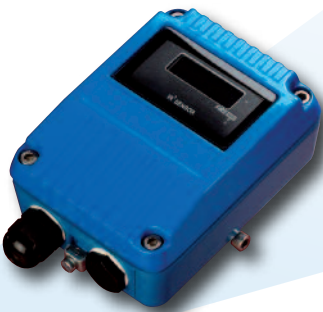


#### INTELLIGENT DUAL IR<sup>2</sup> FLAME DETECTOR, 55000-280

Designed for use in areas where flaming fires may be expected. The detector has two sensors which respond to different IR wavelengths to discriminate between flames and spurious sources of radiation. Applications include aircraft hangars, coal handling and paper manufacturing plants and woodworking environments.

- Sensitive to flickering IR radiation
- Detects through films of oil, dust, water and ice
- Responds to flickering flames, including those invisible to the naked eye
- Remote optical self-test function
- 90° field of view and up to 40m coverage
- Optional mounting bracket (two-axis adjustable) and weather shield also available

INTELLIGENT IR2 FLAME DETECTOR, 55000-280  
INTELLIGENT FLAMEPROOF IR2, 55000-295  
FLAME DETECTOR BRACKET, 29600-203  
FLAME DETECTOR WEATHER SHIELD, 29600-206



Intelligent Triple IR3 Flame Detector  
Part Number 55000-020



#### INTELLIGENT TRIPLE IR<sup>3</sup> FLAME DETECTOR, 55000-020

Designed to protect areas where open flaming fires may be expected. It is sensitive to low-frequency, flickering infra-red radiation emitted by flames during combustion.

- Sensitive to flickering IR radiation
- Detects through films of oil, dust, water and ice
- Responds to flickering flames, including those invisible to the naked eye
- False alarms due to lighting or flickering sunlight are minimised
- Optional mounting bracket (two-axis adjustable) and weather shield also available

INTELLIGENT IR3 FLAME DETECTOR, 55000-020  
INTELLIGENT FLAMEPROOF IR3 FLAME, 55000-021  
FLAME DETECTOR BRACKET, 29600-203  
FLAME DETECTOR WEATHER SHIELD, 29600-206



Intelligent Base Mounted  
UV Flame Detector

Part Number 55000-022  
Part Number 55000-023  
Part Number 55000-024



#### INTELLIGENT BASE MOUNTED UV FLAME DETECTOR, 55000-022

Designed to protect internal areas where open fires may be expected. The detector has a single UV sensor with a narrow spectral response in order to discriminate between flames and most spurious sources of radiation. Complies with EN54-10 (2002).

- Responds to stationary flames with no flicker
- Sensitive to UV radiation emitted by flames during combustion
- Compact flame detector which can fit into Context Plus XP95 bases

INTELLIGENT BASE MOUNTED UV FLAME DETECTOR, 55000-022  
BASE MOUNTED FLAME DETECTOR BRACKET, 29600-458

#### INTELLIGENT BASE MOUNTED UV IR<sup>2</sup> FLAME DETECTOR, 55000-023

Designed to protect areas where open flaming fires may be expected. The detector has a UV and dual IR sensors responding to different wavelengths in order to discriminate between flames and spurious sources of radiation. Complies with EN54-10 (2002).

- Responds to stationary flames with no flicker
- Sensitive to UV and low-frequency flickering IR radiation emitted by flames during combustion
- Compact flame detector which can fit into Context Plus XP95 bases
- False alarms due to electrical discharges from lightning or arc welding, etc., are minimised

INTELLIGENT BASE MOUNTED UV IR2 FLAME DETECTOR, 55000-023  
BASE MOUNTED FLAME DETECTOR BRACKET, 29600-458

#### INTELLIGENT BASE MOUNTED IR<sup>3</sup> FLAME DETECTOR, 55000-024

Designed to protect areas where open flaming fires may be expected. The detector has three IR sensors that respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. Complies with EN54-10 (2002).

- Responds to stationary flames with no flicker
- Sensitive to low-frequency flickering IR radiation emitted by flames during combustion.
- Compact flame detector which can fit into Context Plus XP95 bases
- Resistant to false alarms due to flickering sunlight by a combination signal processing techniques.

INTELLIGENT BASE MOUNTED IR3 FLAME DETECTOR, 55000-024  
BASE MOUNTED FLAME DETECTOR BRACKET, 29600-458

# SPECIALIST DETECTORS



**Intelligent Auto-Aligning Beam Detector**  
**Part Number SA7100-100**

## INTELLIGENT AUTO-ALIGNING BEAM DETECTOR, SA7100-100

The Intelligent Auto-Aligning Beam Detector combines a transmitter/receiver in the same detector head with an automatic alignment function for quick and simple installation. It auto-compensates for environmental effects on the beam signal through the combination of software (automatic gain control) and the motorised realignment of the beam. It is EN 54-12 & 17 certified

- Loop-powered with a bi directional short-circuit isolator
- Up to 100m range with automatic drift compensation and reset
- Ground level controller
- Automatic alignment compensation for building movement
- Allows for 2 detector heads per controller
- Draws 10mA or less in quiescent and 36mA in alignment mode
- Controller with Base = H230xW202 (1000g); Detector with Base = H131xW134 (537g)



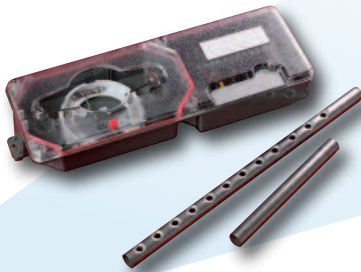
**Intelligent Reflective Beam Detector**  
**Part Number 55000-268**

## INTELLIGENT REFLECTIVE BEAM DETECTOR, 55000-268

The Intelligent Reflective Beam Detector differs from a traditional beam in that it is a single unit housing a transmitter, receiver and control electronics. It is available in two versions: a single reflector model for distances of 5-50m and a four-reflector unit for distances of 50-100m.

- Loop-powered with a short-circuit isolator
- Automatic drift compensation
- Automatic reset following alarm or fault condition
- Surface/flush back box also available for easy first fix

INTELLIGENT REFLECTIVE BEAM DETECTOR 5-50M, 55000-268  
INTELLIGENT REFLECTIVE BEAM DETECTOR 50-100M, 55000-273  
REFLECTIVE BEAM DETECTOR BACKBOX, 29600-241



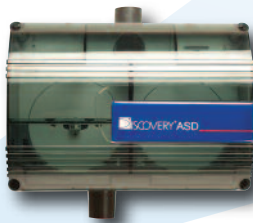
**Intelligent Duct Smoke Detector**  
**Part Number 53546-022**

## INTELLIGENT DUCT SMOKE DETECTOR, 53546-022

Provides early detection of smoke in the air moving through heating and ventilation (HVAC) ducts in commercial and industrial premises. Its purpose is to prevent the re-circulation of smoke from an area on fire to areas unaffected by the fire.

- Operates in air speeds of 0.5m/s to 20m/s
- Transparent cover to view detector head LED
- Integral smoke test port

INTELLIGENT DUCT SMOKE DETECTOR 53546-022  
300-750MM EXTENSION TUBE, 53541-170  
750-1500MM EXTENSION TUBE, 53541-171  
1500-3000MM EXTENSION TUBE, 53541-172



**Aspirating Smoke Detector**  
**Part Number 29650-081**

## ASPIRATING SMOKE DETECTOR (ASD), 29650-081

A point based professional air-sampling unit that combines standard field serviceable smoke detectors with a stand-alone air sampling solution. Approved to EN54-20, it comprises a single ContextPlus optical detector in a sampling box and is ideal for protecting environmentally demanding, difficult to access or architecturally restricted areas. The system draws air through perforated 25mm pipes. A powerful fan together with sophisticated air-flow monitoring and control circuitry ensures transport delays are minimised and air-flow kept within working limits. System status and flow control is continuously displayed with on-board fault relays allowing remote fault monitoring. The ASD can be installed up to 50m away from the sampling point.

ALSO AVAILABLE: DUAL ASPIRATING SMOKE DETECTOR, 29650-082

## CARBON MONOXIDE DETECTOR, 58000-300

Our CO detector is good for detecting deep-seated fires. Please note CO detectors do not detect smoke particles or heat and are not designed as replacements for smoke detectors.

- Enhanced detection capability with early response to hot fires
- Ideal for smoldering fires and less susceptible to false alarms caused by steam
- Five response modes



**Carbon Monoxide Detector**  
**Part Number 58000-300**

# SOUNDERS & BEACONS (VADS)



Base Sounder  
Part Number **CON431A/CX/W**  
(pictured with head & base)



## 96DB(A) BASE SOUNDER, CON431A/CX/W

- Third-party certified to EN54-3 (Sounder) & 17 (Isolator)
- Impressive 96dB(A) sound output @ 1m
- Onboard short-circuit loop isolator
- Group addressing facility allows multiple devices to operate simultaneously
- Ideal for mounting under ContextPlus detectors in corridors, stairwells & open spaces
- Suitable for use with DIL Switch & XPERT Card detectors
- Optional BF330CTLIDW cap available for stand-alone use
- 5mA alarm current @24VDC
- 550uA quiescent current
- 112mm diameter, 46mm deep (base only). IP21C (Type A) rated

*Optional Voice Sounder version also available - order code BF454A/CX/W*



Base Sounder & Beacon  
Part Number **CON456A/CX/W**  
(pictured with head & base)

## COMBINED 96DB(A) BASE SOUNDER & BEACON, CON456A/CX/W

- Third-party certified to EN54-3 (Sounder), 17 (Isolator) & 23 (VAD)
- Impressive 96dB(A) sound output @ 1m
- C-3-8 light distribution with twin LEDs for consistent coverage
- Onboard short-circuit loop isolator
- Group addressing facility allows multiple devices to operate simultaneously
- Ideal for mounting under ContextPlus detectors in corridors, stairwells & open spaces
- Suitable for use with DIL Switch & XPERTCard detectors
- Optional BF330CTLIDW cap available for stand-alone use
- 14mA alarm current @24VDC
- 550uA quiescent current
- 112mm diameter, 46mm deep (base only). IP21C (Type A) rated

*Optional Voice Sounder version also available - order code BF457A/CX/W*



Compact Wall/Ceiling Sounder  
Part Number **CON450/CX/SR**



Intertek

## COMPACT 91DB(A) WALL/CEILING SOUNDER, CON450A/CX/SR

- Third-party certified to EN54-3 (Sounder) & 17 (Isolator)
- Impressive 91dB(A) sound output @ 1m.
- Onboard short-circuit loop isolator
- Group addressing facility allows multiple devices to operate simultaneously
- 5mA alarm current @24V DC (sounder on max).
- 550uA quiescent current
- 102mm diameter, 63mm deep. IP21C (Type A) rated.



Compact Beacon  
Part Number **CON451A/CX/SR**  
Part Number **CON458A/CX/SR**



Intertek

## COMBINED 91DB(A) WALL/CEILING SOUNDER & BEACON, CON451A/CX/SR

- Third-party certified to EN54-3 (Sounder), 17 (Isolator) & 23 (VAD)
- Impressive 91dB(A) sound output @ 1m.
- C-3-8 light distribution (on ceiling)
- W-3-2.1 light distribution (on wall)
- Onboard short-circuit loop isolator.
- Group addressing facility allows multiple devices to operate simultaneously
- 14mA alarm current @24V DC (VAD lit, sounder on max).
- 550uA quiescent current
- 102mm diameter, 63mm deep. IP21C (Type A) rated.

## COMPACT BEACON ONLY, CON458A/CX/SR

- Third-party certified to 17 (Isolator) & 23 (VAD)
- C-3-8 light distribution (on ceiling)
- W-3-2.1 light distribution (on wall)
- 10mA alarm current @24VDC (VAD lit)
- 550uA quiescent current
- 102mm diameter, 63mm deep. IP21C (Type A) rated

# SOUNDERS & BEACONS (VADS)



Hi-Output Wall Beacon/Sounder  
Part Number CON433A/CX/DR

## Hi-Output Wall Beacon c/w 103dB(A) Sounder (deep base), CON433A/CX/DR

- Third-party certified to EN54-3 (Sounders), EN54-23 (VADs) and 17 (Isolators) by the LPCB.
- Provides 'W-2.4-8.2' light distribution when wall mounted (min 0.4 lux over a 2.4m x8.2m cuboid area).
- Impressive 103dB(A) sound output @ 1m.
- Onboard short-circuit loop isolator.
- 550µA quiescent current.
- 14mA alarm current @24V DC (VAD lit, sounder on max).
- Group addressing facility allows multiple devices to be operated simultaneously.
- 7 selectable volume levels and up to 15 selectable tone pairs.
- IP33C (Type B) rated.



Hi-Output Wall Sounder  
Part Number CON430A/CX/DR

## Hi-Output 103dB(A) Wall Sounder (deep base), CON430A/CX/DR

- Third-party certified to EN54-3 (Sounders) and 17 (Isolators) by the LPCB.
- Impressive 103dB(A) sound output @ 1m.
- Onboard short-circuit loop isolator.
- 550µA quiescent current.
- 5mA alarm current @24V DC (sounder on max).
- Group addressing facility allows multiple devices to be operated simultaneously.
- 7 selectable volume levels and up to 15 selectable tone pairs.
- IP33C (Type A) rated.



Hi-Output Wall Beacon/Sounder  
Part Number CON433A/CX/DR/65

## Hi-Output Wall Beacon c/w 103dB(A) Sounder, IP65, CON433A/CX/DR/65

- Powerful 103dB(A) sound output @ 1m
- W-2.4-8.2 light distribution
- Weather resistant to IP65
- Onboard short-circuit loop isolator.
- Group addressing facility allows multiple devices to operate simultaneously
- 14mA alarm current @24V DC
- 550uA quiescent current
- 114mm diameter, 132mm deep



Hi-Output Wall Sounder  
Part Number CON430A/CX/DR/65

## Hi-Output 103dB(A) Wall Sounder, IP65, CON430A/CX/DR/65

- 103dB(A) sound output @ 1m
- Weather resistant to IP65
- Onboard short-circuit loop isolator.
- Group addressing facility allows multiple devices to operate simultaneously
- 5mA alarm current @24VDC
- 7 selectable volume levels
- Up to 15 selectable tone pairs
- 550uA quiescent current
- 114mm diameter, 132mm deep



# SOUNDERS & BEACONS (VADS)



Intelligent Open Area Sounder  
Part Number 55000-001

## INTELLIGENT OPEN AREA SOUNDER, 55000-001

The Intelligent Open-Area Sounder is designed for use in open areas and includes the following features

- Loop-powered
- Self-test fault monitoring
- Choice of tones
- IP65 rated
- Group addressing and synchronisation of alarm
- Comes with an isolating base as standard
- Output is 100dB(A) at 90°
- Complies with EN54-3 (2001)



Intelligent Open Area Beacon  
Part Number 55000-009

## INTELLIGENT OPEN AREA BEACON, RED LENS 55000-009

The Intelligent Open-Area Beacon is designed for use in situations where there is a risk that sounders will not be heard. It is weatherproof, can be used outside and includes the following features. A version with a clear lens is also available (55000-010)

- Loop-powered
- Self-test fault monitoring
- IP65 rated
- Group addressing and synchronisation of alarm
- Comes with an isolating base as standard
- Complies with EN54-3 (2001)



Intelligent Open Area Sounder Beacon  
Part Number 55000-005

## INTELLIGENT OPEN AREA SOUNDER BEACON, RED LENS, 55000-005

The Intelligent Open-Area Sounder Beacon is designed for use in open areas and includes the following features. A version with a clear lens is also available (55000-006)

- Loop-powered
- Gives two functions at one point
- Self-test fault monitoring
- Choice of tones
- IP65 rated
- Group addressing and synchronisation of alarm
- Comes with an isolating base as standard
- Complies with EN54-3 (2001)

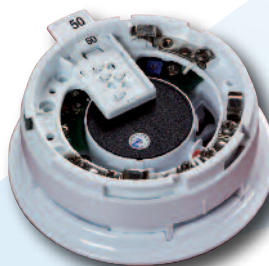


Integrated Base Sounder  
Part Number 45681-702IMC

## INTEGRATED BASE SOUNDER, 45681-702IMC

A multifunctional device that incorporates a sounder and a short-circuit isolator. It is suitable for use with our XPERT-card detectors only or as a stand-alone unit if using our 45681-292 cap.

- Loop-powered
- Two tone ranges
- Synchronisation of Alert and Evacuate tones
- Integrated base
- Individual and group addressing
- Unique acoustic self-test
- Complies with EN54-3 (2001)



Ancillary Base Sounder  
Part Number 45681-276

## ANCILLARY BASE SOUNDER, 45681-276

The Ancillary Base Sounder is a local-area sounder designed for indoor use. Suitable for use only with our XPERT-card addressed detectors.

- Guaranteed sound output of 85db(A) at 1 metre
- Current consumption only 3mA
- Loop powered
- Responds to signals from the associated detector - does not have an address of its own
- Adjustable volume control

# SWITCH MONITORS



**Intelligent Switch Monitor**  
Part Number SA4700-100IMC

## INTELLIGENT SWITCH MONITOR, WITH ISOLATOR SA4700-100IMC

Our Intelligent Switch Monitor is designed to monitor the state of one or more single pole, volt-free contacts connected on a single pair of cables to report the status. It has a selectable status reporting delay making it suitable for monitoring flow switches.

The Switch Monitor provides four input states to the control equipment: Normal, Fault, Pre-alarm & Alarm. The Switch Monitor is fitted with a bi-directional short-circuit isolator and will be unaffected by a single short-circuit on either loop input or output.

### ELECTRICAL & MECHANICAL CONSIDERATIONS

The Switch Monitor is loop powered and operates at 17–35V DC with protocol voltage pulses of 5–13V. It is designed to accept a maximum line resistance of 50Ω. The end-of-line resistor required is 20kΩ. The Switch Monitor can be surface mounted with the supplied back-box or flush mounted using a UK double gang, flush mounting back-box of minimum depth 30mm. Designed for indoor use only it has two LEDs:- (1) 'POLL/ISO' - flashes green when the device is polled; continuous yellow when the isolator is active; (2) 'IP' - continuous red when the input is active, continuous yellow when there is an input fault.

### Technical Data

**Minimum loop operating voltage in normal conditions:** 17V DC

**Maximum loop operating voltage:** 35V DC

**Maximum current consumption at 24V:**

Power surge up current: 900uA

Quiescent: 500uA

LEDs off: 500uA

LEDs on: 2mA Max

**Maximum continuous current:** 1A

**Maximum cable resistance:** 50Ω

**Operating temperature:** -40°C to +70°C

**Humidity (no condensation):** 0–95%RH

**Shock, vibration and impact:** to EN54-17  
to EN54-18

**IP rating:** 54

**Radiated and conducted RF emissions to:**  
BS EN50081-1 & 2

**Radiated and conducted RF immunity to:**  
BS EN50130-4

**Dimensions of switch Monitor (surface mount):**  
60x 150 x 90mm

**Weight:** 239g

**Warranty:** 10 Years

Compliant with EN54-17 and EN45-18



**Twin-Switch Monitor**  
Part Number SA6700-100IMC

## TWIN-SWITCH MONITOR WITH ISOLATOR SA6700-100IMC

The Intelligent Twin Switch Monitor provides the function of two Switch Monitor units within one enclosure. The two units are electrically independent of each other. There is a DIL switch on each unit to set the address. Both Switch Monitor units in the enclosure are designed to monitor the state of one or more single pole, volt-free contacts connected on a single pair of cables to report the status. It has a selectable status reporting delay making it suitable for monitoring flow switches.



**Mini-Switch Monitor with Isolator**  
Part Number 55000-760

## MINI-SWITCH MONITOR WITH ISOLATOR, 55000-760

Our new Context Plus Mini Switch Monitor is an interface within an entirely new housing which is ideal for use in areas where space is limited. Its compact design allows the unit to be fitted onto a standard 35mm DIN-Rail (using a twist-click motion) or to be mounted within an enclosure, for example a manual call point. It is designed to monitor the state of one or more single pole, volt-free contacts connected on a single pair of cables and to report the status to Context Plus compatible addressable control equipment. The unit includes three coloured status LEDs.

# INTELLIGENT INPUT/OUTPUT UNIT



Input/output unit with Isolator  
Part Number SA4700-102IMC

## INPUT/OUTPUT UNIT WITH ISOLATOR, SA4700-102IMC

The Context Plus XP95 Intelligent Input/Output Unit provides supervision of one or more normally open contacts connected to a single pair of cables and a set of changeover relay output contacts.

Compliant with EN54-17 & 18, it is set to return an analogue value of 4 in the event of an open or short-circuit fault and 16 during normal operation. The status of the inputs is reported by means of two input bits. The change-over contacts are operated by an output bit.

It is fitted with a bi-directional short-circuit isolator and will be unaffected by loop short-circuits on either loop input or output.



Twin Input/Output Unit  
Part Number SA4700-104IMC

## ELECTRICAL & MECHANICAL CONSIDERATIONS

The unit operates at 17-35V DC with protocol voltage pulses of 5-13V. No electrical supply greater than 50V AC rms or 75V DC should be connected to any terminal.

Designed for indoor use only, it can be surface mounted with the supplied back-box or flush mounted using a UK double gang, flush mounting back-box of minimum depth 30mm. It has three LEDs:- (1) 'RLY' - lit continuous red when the relay is active; continuous yellow when in fault; (2) 'POLL/ISO' - flashes green when the device is polled; continuous yellow when the isolator is active; (3) 'IP' - continuous red when the input is active, continuous yellow when there is an input fault.

In Failsafe mode the I/O Unit will activate the on-board relay output without being commanded by the control panel on loss of loop or protocol loss. Failsafe mode is selected via a DIL switch and indicated with an analogue value of 17.



Mains Switching Input/Output Unit  
Part Number SA4700-103IMC

## Technical Data

Minimum loop operating voltage in normal conditions: 17V DC

Maximum loop operating voltage: 35V DC

Max. current consumption at 24V DC no protocol

Power-up surge current: 900uA

Quiescent: 500uA

Max current LEDs On: 3.5mA

Max current LEDs disabled: 500uA

Switch input monitoring voltage (open-circuit condition): 9-11V DC

Maximum cable resistance: 50Ω

Opto-coupled input

Maximum voltage: 35V DC

Impedance: 10kΩ

Relay output contact rating at 30V AC or DC (inductive or resistive): 1A

Relay output wetting current at 10mV DC: 10μA

On resistance 0.2Ω

Maximum continuous current: 1A

Maximum switching current: 3A

Operating temperature: -40°C to +70°C

Humidity (no condensation) : 0-95% RH

IP rating: 54

Dimensions of Input/Output Unit (surface mount):

60 x 150 x 90mm; Weight: 244g

Warranty: 10 Years

## ALSO AVAILABLE:

### TWIN INPUT/OUTPUT UNIT WITH ISOLATOR, SA4700-104IMC

Provides the function of two Input Output Units within one enclosure. Both I/Os in the enclosure are electrically independent of each other and provide supervision of one or more normally open volt free contacts connected to a single pair of cables and a set of changeover relay output contacts.

### MAINS SWITCHING INPUT/OUTPUT UNIT WITH ISOLATOR, SA4700-103IMC

Provides a voltage-free, single pole change-over relay output and a monitored switch input. Capable of switching 250VAC at up to 5A.

### THREE CHANNEL INPUT/OUTPUT UNIT, 55000-588

Provides three voltage-free, single pole, change-over relay outputs and three monitored switch inputs. Supervises one or more normally-open switches on each of the three inputs. Capable of switching up to 30V @ 1A on each of the outputs.

### OUTPUT UNIT, 55000-849

Provides a voltage-free single pole, change-over relay output. It is a simplified version of the Input/Output unit without circuitry for monitoring inputs. Capable of switching up to 30V @ 1A.

# ZONE MONITOR



Zone Monitor  
Part Number 55000-845IMC

## NOTES ON USE

1. Zone voltage is regulated to  $19 \pm 1V$  for any loop voltage greater than 22V. If the loop voltage falls below 22V, the zone voltage is approximately 1.5V below the loop voltage. It is important to ensure that under worst-case conditions, the zone voltage is above the minimum operating voltage for the conventional detectors.
2. Alarm conditions are latched internally by the Zone Monitor. It is therefore necessary to reset the alarm even if non-latching conventional detectors are used.
3. Manual call points can be located at any point in the zone wiring if active end-of-line monitoring with diode detector bases is used. If a 5.1k $\Omega$  resistor is used for monitoring, manual call points must be connected between the Zone Monitor and the first detector.

## ZONE MONITOR WITH ISOLATOR, 55000-845IMC

The Context Plus XP95 Zone Monitor powers and controls a zone of up to 20 Series 65 conventional fire detectors from a loop of Context Plus addressable detectors and interfaces.

### FEATURES

The Zone Monitor is factory preset to return an analogue value of 16 when all detectors on the zone are in quiescent state and 64 when a detector changes to the alarm state. The Zone Monitor latches in the alarm state. A 5.1k $\Omega$  end-of-line resistor is fitted to detector cables for open- and short-circuit faults. Alternatively, an active end-of-line monitor may be used in conjunction with diode bases and a capacitor of up to 50 $\mu F$  fitted at the Zone Monitor wiring terminals. In either case an analogue value of 4 is transmitted during open- or short-circuit faults. The Zone Monitor is fitted with a bi-directional short circuit isolator and will be unaffected by loop short circuits on either the loop input or loop output.

### ELECTRICAL & MECHANICAL CONSIDERATIONS

The Zone Monitor is loop powered and operates at 17–28V DC with protocol pulses of 5–9V. It is supplied with a backbox for surface mounting, and is also available without the backbox for flush mounting. Both versions are for indoor use only. Two LEDs, one red and one yellow, are visible through the front of the enclosure. The red LED indicates that a fire condition has been detected on the zone wiring. The yellow LED is lit when the built-in isolator has sensed a short circuit loop fault.

## Technical Data

Context Plus line voltage: 17V-28V DC  
 Zone voltage (loop voltage  $\geq 22V$ ):  $19V \pm 1V$   
 Zone voltage (loop voltage  $< 22V$ ): Loop voltage -1.5V  
 Maximum current consumption at 24V (5.1K $\Omega$  EOL):  
 Switch-on surge, max 150ms: 3.5mA  
 Quiescent: 4mA + detector load  
 Alarm: 11mA (19mA when increased current enabled)  
 Short circuit: 11mA  
 End of line resistor value: 5.1K $\Omega \pm 5\%$  1/3W  
 Stabilisation time on power up: 4 seconds

Maximum capacitor on zone terminals: 5 $\mu F$   
 Operating temperature:  $-20^{\circ}C$  to  $+70^{\circ}C$   
 Humidity (no condensation): 0-95%RH  
 Shock, vibration and impact: to GEI 1-052  
 IP rating: 54  
 Radiated and conducted RF emissions to: BS EN50081-1 & 2  
 Radiated and conducted RF immunity to: BS EN50130-4  
 Dimensions of Zone Monitor (surface mount): 150 x 90 x 48mm  
 Weight: 230g

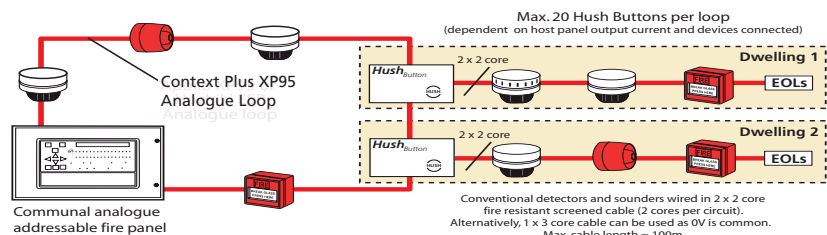
# HUSH BUTTON



Hush Button  
Part Number XFP508X

## HUSH BUTTON, XFP508X

Context Plus Hush Buttons can be looked on as miniature fully monitored single zone fire panels that sit on the ContextPlus loop. They are typically used in flats & apartments to provide fully monitored fire detection, alarm and silencing facilities inside each individual dwelling.



## Technical Data

Max. no of hush buttons per analogue loop: 20  
 Onboard loop isolator: Yes  
 Max. no. of conv. detectors per hush button: 10  
 Max. no. of manual call points per hush button: 10  
 Max. sounder circuit load per hush button: 30mA  
 Operating voltage: 17-40Vdc  
 Quiescent current: 5mA

Max. cable length of detector & sounder circuit: 100m  
 Line monitored for open and short circuit faults: Yes  
 User indicators: Supply present; local alarm and hushed LEDs; Buzzer sounds when hushed period due to expire  
 Engineer Indicators: Open/short circuit fault (also shown at host panel)  
 Dimensions (WxHxD) in mm: W144 x H84 x D37.

- Powered by the analogue loop
- Provides each dwelling with a two-minute silence facility and a 15-minute isolate facility.
- Reduces the likelihood of unnecessary building evacuations, system vandalism and the possibility of a true alarm signal being ignored
- Fully monitored for open and short circuit faults
- Logging facilities at the main communal panel give full traceability of any problems

# SOUNDER CONTROLLER



Sounder controller  
Part Number 55000-852IMC

## SOUNDER CONTROLLER WITH ISOLATOR, 55000-852IMC

The Context Plus XP95 Sounder Control Unit is used to control the operation of a zone of externally powered conventional sounders and VADs to report their status to a Context Plus fire alarm control panel.

### FEATURES

Allows sounders to be operated continuously or pulsed, 1 second on, 1 second off. Sounders may be operated individually or in groups and may be synchronised when in pulsed operation. An opto-coupled input is provided to monitor the state of the external PSU. In normal operation the Sounder Control Unit returns a pre-set analogue value of 16, but in the event of an open or short-circuit fault or of a fault in the external power supply, the unit returns a pre-set analogue value of 4. The Controller is fitted with a bi-directional short-circuit isolator and will be unaffected by loop short-circuits on either loop input or output. In addition to the monitoring of open and short circuit faults on the sounder wiring, the Controller has a facility to monitor the presence and polarity of the external PSU.

The Controller is line powered and operates at 17–28V DC. It requires a local power supply of 9–32V DC to power the external load, which may be up to 1.25A. A polarising diode is required with each alarm device, as sounders are operated by voltage reversal, provided by a double-pole change-over relay. The Controller is supplied with a backbox for surface mounting. Three LEDs, one red, two yellow, are visible through the front cover of the enclosure. A red LED pulses or is lit continuously to indicate the sounders are pulsed or switched on continuously. A yellow LED is lit whenever a fault has been detected. The other LED is illuminated whenever the built-in isolator has sensed a short-circuit loop fault.

### Technical Data

Minimum loop operating voltage in normal conditions : 17V DC

Maximum loop operating voltage: 28V DC

#### Sounder Control Data

Current consumption, loop, at 24V:

Switch-on surge, max 100ms: 2.6mA

Quiescent, 10kΩ EOL fitted : 1.95mA

Sounders operated: 1.7mA

Fault (yellow LED on): 3.6mA

Sounder line short circuit: 2.8mA

Current consumption, external supply:

Relay off: 1mA at 9V; 3mA at 32V

Sounders and red LED on: 44mA at 9V (+ sounder load); 47mA at 32V (+ sounder load)

Sounder output monitoring voltage (open-circuit condition): 9–11V DC

Maximum sounder circuit voltage: 32V DC

Maximum sounder circuit current (inductive or resistive): 1A at 30V DC

On resistance: 0.2Ω

Maximum continuous current: 1A

Maximum switching current: 3A

Operating temperature: –20°C to +70°C

Humidity (no condensation) : 0–95%RH

Shock, vibration and impact: to GEI 1–052

IP rating: 54

Radiated and conducted RF emissions to: BS EN 50081–1 & 2

Radiated and conducted RF immunity to: BS EN 50130–4

Dimensions of Sounder Control Unit (surface mount): 150 x 90 x 48mm

Weight: 240g

Warranty: 10 Years

## VOICE-TEL



Context Plus VOICE-TEL

### CONTEXT PLUS VOICE-TEL - COMING SOON

A combined voice evacuation and fire telephone system certified to UL1711 and UL864. Features include:-

- A simple to use touch screen interface.
- Up to four amplifier outputs at each cabinet.
- Up to four supervised alarm device outputs at each cabinet (NAC circuits).
- Up to eight Fire Telephone lines at each cabinet
- Integrated 10A EN54-4 power supply and charger.
- Two recorded messages simultaneously from a library of at least 64 messages.
- Hot swap amplifiers.
- Fire alarm sounder circuit inputs and a volt free reset input.
- Four voltage control inputs for connecting ambient noise sensors or volume controls.
- Connect background music and play in different zones at differing level.
- Ability to connect remote touch-screen microphones for PA or VA paging.

# VOICE SOUNDERS & BEACONS (VADS)



C-3-8 Addressable Base VAD  
Voice Sounder (pictured with a  
Context Plus detector/base)  
Part Number CON457A/CX/W

## C-3-8 Addressable Base VAD c/w Voice Sounder CON457A/CX/W

- Superb sound intelligibility.
- Includes three selectable voice message pairs.
- Provides 'C-3-8' light distribution
- Onboard short-circuit loop isolator.
- 550 $\mu$ A quiescent and 19.5mA alarm current @24V DC (VAD lit, voice sounder on max).
- 7 selectable volume levels.
- Suitable for use with a Context Plus detector and base..
- Optional BF330CTLIDW white or BF330CTLIDR red cap available for stand-alone use.
- IP21C rated.
- Optional custom messages in different languages - call for details



Addressable Base Voice Sounder  
(pictured with a Context Plus  
detector/base)  
Part Number CON454A/CX/W

## Addressable Base Voice Sounder CON454A/CX/W

- Superb sound intelligibility.
- Includes three selectable voice message pairs.
- Onboard short-circuit loop isolator.
- 550 $\mu$ A quiescent and 10mA alarm current @24V DC (voice sounder on max).
- Group addressing facility allows multiple devices to be operated simultaneously.
- 7 selectable volume levels.
- Suitable for use with a Context Plus detector and base..
- Optional BF330CTLIDW white or BF330CTLIDR red cap available for stand-alone use.
- IP21C rated
- Optional custom messages in different languages - call for details



Hi-Output Wall VAD with Voice  
Sounder  
Part Number CON447A/CX/DR

## Deep base Hi-Output W-2.4-8.2 Wall VAD c/w Voice Sounder CON447A/CX/DR

- Superb sound intelligibility.
- Includes three selectable voice message pairs.
- Provides 'W-2.4-8.2' light distribution
- Onboard short-circuit loop isolator.
- 550 $\mu$ A quiescent and 19.5mA alarm current @24V DC (VAD lit, voice sounder on max).
- 7 selectable volume levels and up to 15 selectable tone pairs.
- IP33C rated.
- Optional custom messages in different languages - call for details



Hi-Output Wall Voice Sounder  
Part Number CON446A/CX/DR

## Deep base Hi-Output Wall Voice Sounder CON446A/CX/DR

- Superb sound intelligibility.
- Includes three selectable voice message pairs.
- Onboard short-circuit loop isolator.
- 550 $\mu$ A quiescent and 10mA alarm current @24V DC (voice sounder on max).
- 7 selectable volume levels and up to 15 selectable tone pairs.
- IP33C rated.
- Optional custom messages in different languages - call for details

# SIGTEL FIRE TELEPHONE DISABLED REFUGE SYSTEM



SigTEL ECU-8 Master Controller  
Part Number ECU-8



Fire Telephone Outstation  
Part Number EVC301RPO



Disabled Refuge Outstation  
Part Number EVC302GS



Roaming Fire Telephone  
Handset & Plate  
Part Number EVC301/PH  
Part Number EVC301/JP

## SIGTEL FIRE TELEPHONE / DISABLED REFUGE SYSTEM

Our SigTEL emergency voice communication system is ideal for use in all fire telephone and disabled refuge applications.

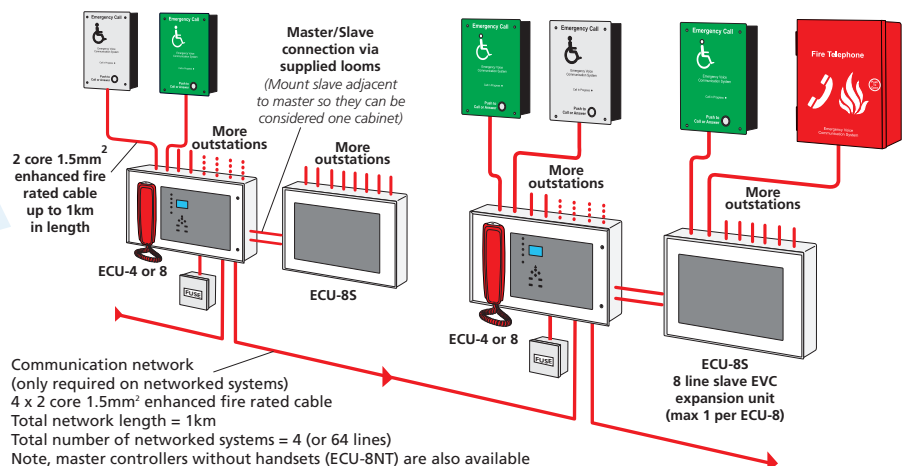
In fire telephone applications, it allows building management, the emergency services and fire marshals to communicate with each other before, during and after a fire. In disabled refuge applications, it allows people who cannot easily evacuate a building to communicate with a central control point during a fire emergency.

Incredibly easy to use and offering true duplex speech, SigTEL meets and exceeds the requirements of standards such as BS 5839 part 9 and is hugely cost-effective in comparison to other systems on the market.

### FEATURES

- Ideal for all disabled refuge, fire telephone and stadium marshalling applications
- Compact 4 or 8 line wall-mounting master controllers save valuable space in crowded control rooms
- 8 line expansion unit allows a 4 or 8 line master controller to be easily expanded to 12 or 16 lines
- Powerful networking facility allows up to four master controllers (plus any expansion units) to be interlinked allowing systems of up to 64 lines to be easily implemented
- Optional anti-tamper enclosures available for controllers located in areas accessible to the public
- 'Fire Telephone' (Type A) outstations available in locking or non-locking red steel cabinets
- 'Disabled Refuge' (Type B) outstations available in stainless steel or green steel (flush, surface or weatherproof options available)
- All outstations offer true duplex speech and can be mixed and matched to suit the application
- Unique 'auto-learn' facility allows fast system set up
- All extensions can be named with user-defined text of up to 15 characters
- Fully monitored hardware and software
- System operates at 24 VDC. In the event of mains failure, operation can be maintained for 24 hours (standby) and 3 hours (in use) using 2 x 12V 7 Ahr batteries
- Optional FiTT line tester allows cable faults to be checked prior to equipment connection
- Can be easily interfaced to disabled persons toilet alarm systems, audio-frequency hearing loop systems, strobes, beacons or CCTV activation relays
- Ideal for hotels, shopping malls, office blocks, transport terminals, banks, sports stadiums, entertainment complexes, etc.

### WIRING OVERVIEW



# Context Plus

## Other products in the Context Plus range



Conventional fire detection panels



Conventional smoke and heat detectors



HFC227ea  
Conventional fire suppression systems



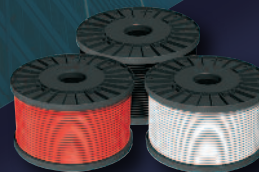
Conventional signalling devices



Conventional wireless fire alarm systems



Stand-alone mains & battery operated smoke, heat & CO alarms



Fire resistant cables



EN54 compliant power supplies

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MADE IN ENGLAND