FIRELOGIC PLUS

General Specification

'Firelogic Plus' is an addressable intelligent control system with the ability to integrate fire safety systems into a single control unit. It provides the ultimate notification and operation of essential life safety systems in both normal and fire conditions.

Product Summary

The BS 5839/EN54 compliant control panel system was designed in response to client requirements for enhanced intelligent monitoring of all fire safety systems, that was true open protocol with components and programming supplied by established third party companies.

The system manages and monitors smoke detection, sounders, smoke ventilation systems, corridor air change systems, AOV (automatic opening vents,) door mag locks, emergency lift control, fireman's override switches, fire and smoke curtains, sprinkler systems, damper control, roof and stair vent control and access door control in a single, open protocol, life safety control system.

All the electronic components are tested and compliant to British Standard: BS 5839. By designing to this industry standard and ensuring all components are open protocol, it allows for 'off the shelf' availability from numerous sources, and ensures the client has a system that can be maintained and modified by any qualified fire alarm engineer and not the usual closed protocol smoke venting installation company which traditionally needed to be tied in for the life of the system.

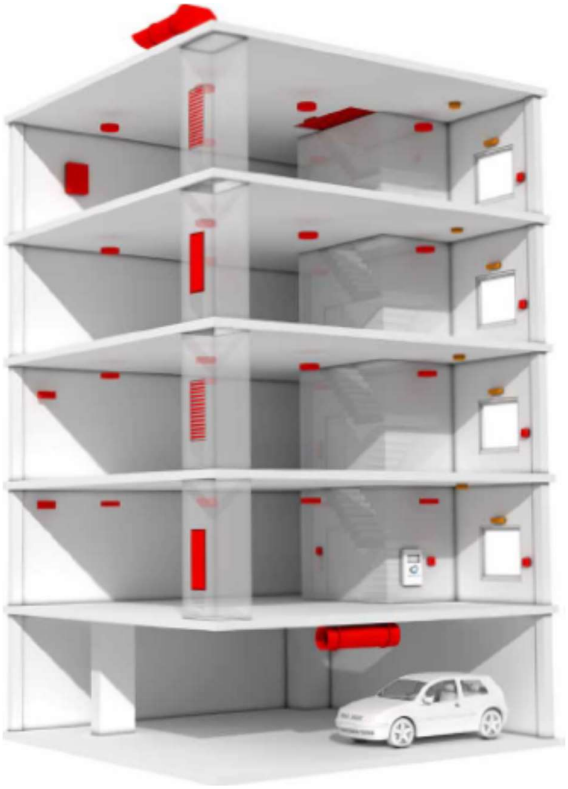
The single control panel can monitor all fire safety systems and produce status reports, commissioning logs & Service reports.

The BS 5839/ Smoke Management components are connected via a 2-core fire resistant cable which links all the devices. Additional components can be added in the future and the programming can be modified by any fire alarm commissioning engineer.

Features

- Designed to British Standard BS 5839-1:2008 Fire detection and fire alarm systems for buildings
- All components compliant with BS 5839/EN54
- Enables all fire safety and security systems to be integrated by a single control panel
- Intelligent system
- True open protocol
- Monitors and reports on all fire safety systems
- Facilitates the interface between other systems such as sprinkler monitoring and door entry systems
- Easy to install, program and operate
- One 2-core cable links all devices
- Detection system will only open floor of detection.

Building-Wide Fire Safety Management



The 'Firelogic Plus' panel is true open protocol, using Advanced world renowned MxPro 5 is their highest performance, analogue addressable fire panel and is approved to EN54 Parts 2, 4 and 13. It is also certified by FM approvals to EN54 Parts 2 and 4.

The system constantly monitors all system components and reports any faults. The panel incorporates an LCD display with menu driven messages.

TouchControl is Advanced's first fire touchscreen. We've taken a different approach to ensure our users get the performance they expect. TouchControl features active maps and zone plans that dynamically show zone status information and allow navigation.

The panels can be surface or recessed mounted.

Adspecials enclosures can be supplied which can incorporate site or customer specific requirements.

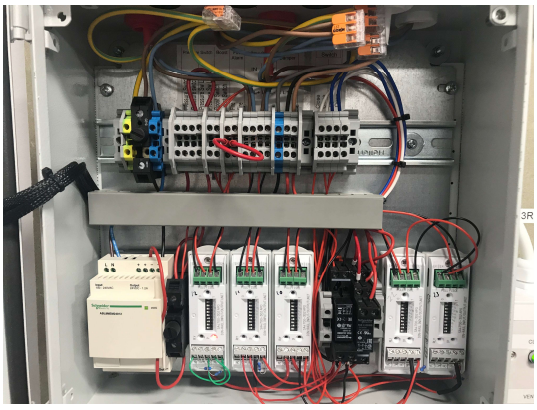
Fire Alarm devices are from Apollo Fire Detectors Ltd specialises in the design and manufacture of high-quality fire detection solutions for commercial and industrial applications. From their base in Havant, near Portsmouth on the UK's south coast, they have, for over 40 years, designed and built products that save lives and protect property from the risk of fire.

Specification

- 1, 2, 4 or 8 Loop formats
- Up to 254 devices per loop (protocol dependent)
- Built in oscilloscope, voltage and current meters
- 20 built-in, fully programmable LEDs
- Timed enablement of isolated zones, input and output devices
- 5A maximum available for loop current + sounder outputs + auxiliary supply
- Approved to EN54 Parts 2, 4 and 13
- Certified by FM Approvals to EN54 Parts 2 and 4
- Certified to EN54-2/EN54-4
- Supports intelligent/programmable remote terminals, BMS interface, IP Gateway and I/O Drivers
- True peer-to-peer networking
- Powerful, network wide cause and effects
- Sensitivity adjustment and drift compensation
- Panel can be networked
- Compatible with Touch and Standard repeaters
- Supports Apollo, Argus Vega and Hochiki protocols
- 5000 event log entries
- Dial up modem connection available
- Fully EN54-2 and EN54-4 Compliant front-loading printer option
- Comprehensive day/night mode facility
- Programmable one touch test mode
- Powerful and versatile cause and effect programming
- Service and Diagnostic Features, Last activation, Last Test, Last Disable, Last Enable & Service Reminders
- Programmable screen logo

Installation

The Firelogic Plus system connects to Interface I/O Boxes (FLCU) via a fire rated 2-core cable that runs around the building allowing the necessary communications. The Firelogic FLCU controllers incorporates all the power necessary requirements for dampers, actuators, smoke detectors, stair vents, etc. In the case of smoke extract fans or car park extract fans, an FLCU is located adjacent to the fan panel allowing the system to be operated and information from the fan panel such as duty fan running or standby fan to be repeated on the Fire Logic panel. The FLCU's are manufactured by MPK Controls Limited using components from Schneider Electric, the expertise is in the manufacturing using every day "off the shelf" products



MxPro 5

1-4 Loop Fire Alarm Control Panel

The MxPro 5 series is fully expandable from 1 to 4 loops and supplied with 4 onboard sounder circuits, 20 programmable zonal LEDs with slide-in labels, and 25 System LEDs for information purposes. There are also 4 programmable function buttons with LED indication for confirmation of operation.

The control panel consists of the latest dual flash-based microprocessor technology combined with a high resolution, high contrast, graphical LCD display and tactile keypad providing a simple select and click programming aid for engineer configuration and end-user operation.

Powerful cause-and-effect programming and enhanced trace diagnostics make the panel suitable for a wide range of site applications from small to large complex multi-area systems. Fully programmable onsite via the onboard alphanumeric keypad, or PC-NeT configuration software.

PC Software: An extensive suite of user-friendly Windows-based PC software programs has been developed to enhance your experience when using MxPro 5 series fire panels. The suite incorporates a number of different programmes to include a configuration, service, logo and virtual panel tool to allow the flexibility of the equipment to be fully explored.

Network: Simply adding a network card allows the panel to communicate with any other MxPro 5 / MxPro 4 fire panel, remote terminal, or network peripherals, such as ipGateway™ or BMS/graphical interface. The network operates as a true peer-to-peer system and can be configured in a fault-tolerant loop or radial format.

Approvals

EN 54-2:1997, EN 54-4:1997 & EN 54-13:2005

Certified by FM Approvals to EN54 Parts 2 and 4

- 20 programmable Zonal / 25 System LEDs.
- Apollo, Argus Vega, Hochiki & Nittan Evolution* protocol support.
- Advanced graphical LCD user interface and support for up to 200 fire zones by default allowing full EN54 compliance without additional hardware.
- Dedicated USB & RS232 serial port for direct PC or modem connection.
- Installer friendly Auto-learn, Loop Detection and Onboard Scope facility for ease of commissioning and faultfinding.
- The graphical display can be configured to operate with virtually any language or character set and allow the installer's logo to be applied using the Logo application software.
- Integral P-Bus for system expansion via available option cards.
- Ad-NeT peer-to-peer network with up to 2000 zones
- Approved to BS EN54 part 2, 4 and 13.

Specification

Base Technology	Dual flash-based processors with real-time clock, trace diagnostics, programmable languages and character sets
Display	White backlit 240 x 64 graphical LCD
LED Indicators	22 red (1 x Fire, 1 x More Alarms, 20 x Zonal Programmable), 1 green (Power), 13 amber and 12 bi-colour (Fault & System)
Controls	Alpha numeric keypad permitting Navigation, Reset, Mute, Silence, Resound, Evacuate, and 4 x Programmable Push Buttons
Protocols	Apollo (Xp95 / Discovery), Argus Vega, Hochiki ESP
Number of Fire Zones	2000 (200 per individual panel)
Number of Loops	Dedicated 1-4 loop control panel
Loop Current	500mA per loop
Devices per loop	Protocol dependent
On-Board Sounder Circuits	4 x 1 Amp programmable
On-Board Relays	2 x 1 Amp 30v AC/DC programmable (10mA, 5v min) - expandable to 4 using MXP-507
Programmable Input	1 x monitored programmable input on-board
Auxiliary Supply	1 x 24v 500mA
Programmable Key Switch Inputs	8-volt free inputs
Total Available Output Current	5A maximum available for loop current + sounder outputs + auxiliary supply
Charger Current	2A temperature compensated
Mains Supply	200 - 240v 47-63 Hz AC (+10%, -15% tolerance) 1.4A max
Serial ports	1 x on-board RS232 connection for PC, modem, IP or portable printer
USB Interface	1 x USB B type connection for PC communication
Event Log	5000 Event & Diagnostic + 500 Fire
Programming	On-board keypad or PC running Windows tools
Networking	Optional plug in network card (MXP-503 - standard, or MXP-509 - fault-tolerant)
Enclosure / Colour	Steel IP30 / RAL7035
Metalwork Options	Flushing bezel, battery box, utility enclosure, termination enclosure and rack mount

Dimensions and Capacity

	Dimensions	Cable Entry	Battery Capacity (internal)	
	H x W x D mm	(20mm knockouts)	Min	Max
Standard	475 x 450 x 120	19x top, 11x top rear, 2x bottom	24v 4Ah	24v, 18Ah
Deep	475 x 450 x 190	30x top, 11x top rear, 3x bottom	24v 4Ah	24v, 45Ah
Extended	750 x 450 x 190	30x top,6x top rear, 3x bottom plus 2x double rear	24v 4Ah	24v, 45Ah

Order Codes and Options

Enclosure/Protocol	Xp95/ Discovery /Hochiki ESP	Argus Vega	Nittan Evolution
Standard	MX-540#	MX-540#V	MX-540#N
Large-Deep	MX-540#D	MX-540#VD	MX-540#ND
Extended	MX-540#E	MX-540#VE	MX-540#NE
19" Rack Mount	MX-540#R	MX-540#VR	MX-540#NR

Replace # with the number of loops required (1-4)

TouchControl

Touchcontrol

TouchControl is a 10", high-resolution touch screen Remote Control Terminal with active maps and zone plans.

It is a fire panel and network node in its own right and works on Advanced's standard and fault tolerant networks. It is compatible with our MxPro and Axis EN fire panels.

Zone information is presented via both the unit's colour coded, easy-to-navigate interface and the active maps that are easily configured using the Dynamix Tools Map App. Using TouchControl's colour-coded, easy-to-navigate interface users can:

- Evacuate/Mute/Silence/Resound & Reset
- View fires/ faults/ disablements/ alarms/ inputs/ outputs/ supervisory and network via ‘instant filters’
- View/enable/disable zones View/enable/disable devices Enable/disable outputs by type
- Enable Walk Test mode Test display/zones/outputs/buzzer and LEDs
- Quickly access all zones in fire/fault/disablement/test via ‘instant filters’ and where allowed change status
- View 1,000 general and 500 Fire event log Set network time and date

Users can choose from five pre-set background images or upload their own. The relevant zone plan to the unit's position can be displayed and users can run presentations on the display, which defaults to normal operation in the event of a fire condition or if the screen is touched. TouchControl enhances public areas and provides new levels of control and oversight.

Features

- 2 Part enclosure for easy first fix and slide-in installation.
- 1280x800 (720p); high resolution screen, designed to work with fireman's glove
- 'At a glance' system status, immediately identify zones and devices in Fire, Test, Supervisory and Fault
- Interactive site maps and zone plans capability built-in
- Monitored external input for external PSU faults
- Two-core connection to the network (fault tolerant or standard)
- Low-profile bezel for flush fitting
- Select from a number of background images or add a customised image
- Low profile installation
- Dedicated status indicators for Fire, Fault, System Fault, Disabled, Test and Power
- Zone plan display, an essential part of BS5839-1
- Dual Power Supply inputs, independently monitored to allow redundant power feeds

Specification

Environment	Indoor, Dry
Supply Current	300mA
Supply Voltage	18-30V DC
FUSE - PCB	T250H1.6A
PSE - Fault Monitoring	EOL 3300Ω, ACT 680Ω
Relative Humidity	95%
Operating Temperature	-5 °C to +40 °C
Wire Guage (max.)	2.5mm ^{2}

Dimensions (mm)	H 191 x W 282 x D 80
Knockouts (20mm)	5 Top, 5 Rear
Models	TOUCH-10, TOUCH-10/FT

Order Codes & Options

TOUCH-10	TouchControl for Standard Network
TOUCH-10/FT	TouchControl for Fault Tolerant Network

More Information

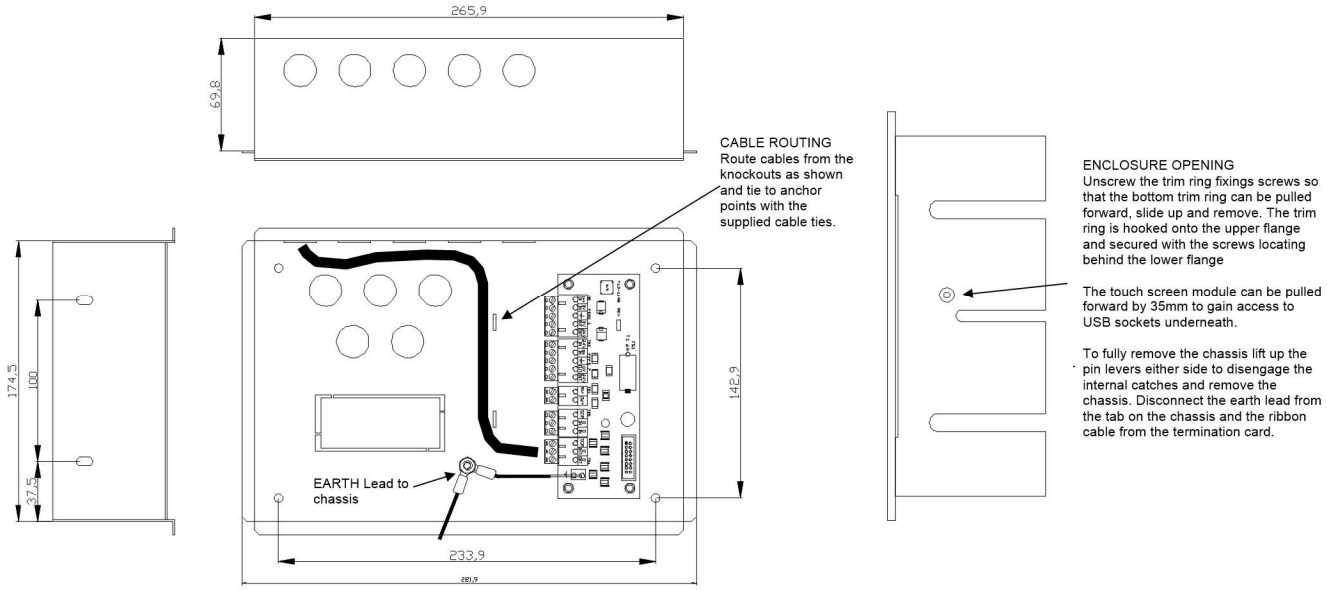
Enclosure Mounting

This unit is designed to be flush mounted into stud walling. Cut out the aperture in the wall to 3mm larger than the size of the back box. Nominal 272x180, (Min 270x178, Max 274x182)

Enclosure Fixing Points

- 4x fixing holes in rear of enclosure or
- 4x fixing slots in side walls

Side wall slots allow adjustment for uneven walls.

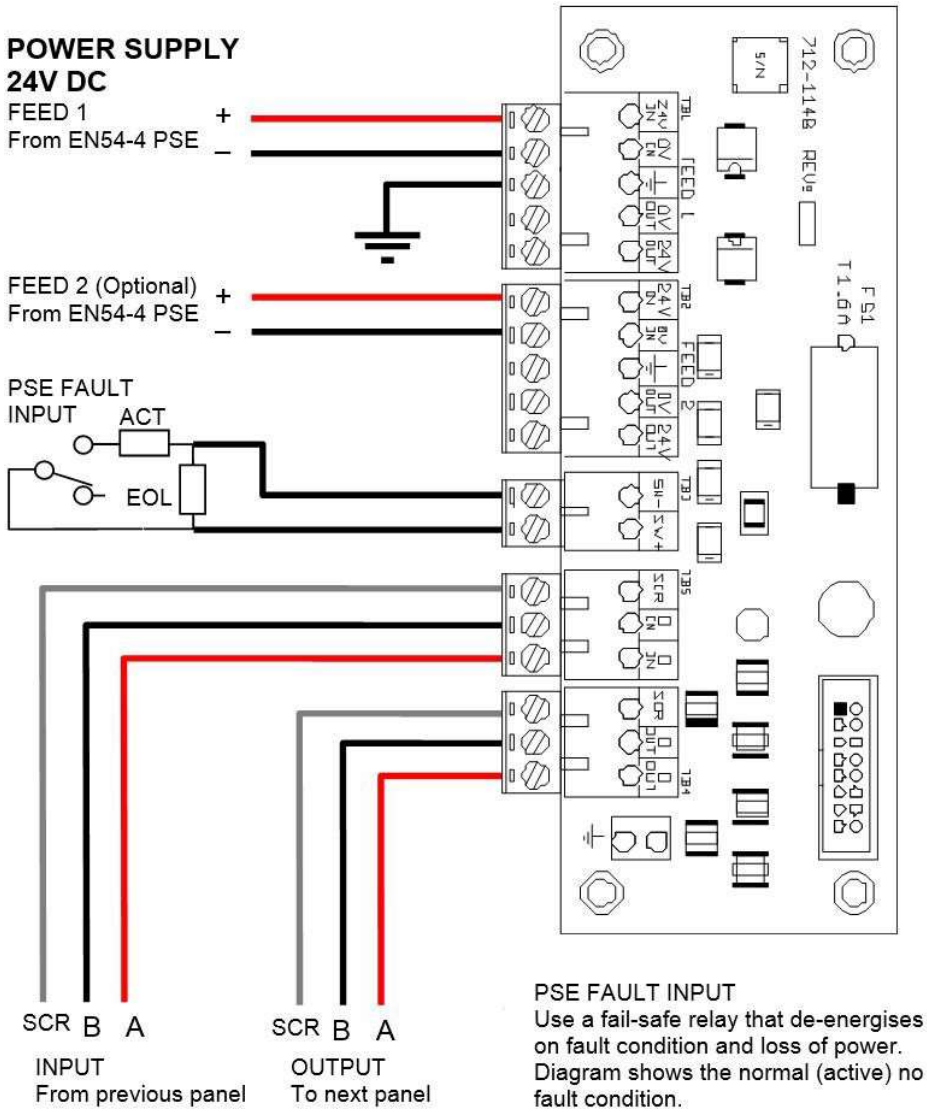


Enclosure Opening

Unscrew the trim ring fixings screws so that the bottom trim ring can be pulled forward, slide up and remove. The trim ring is hooked onto the upper flange and secured with the screws locating behind the lower flange

The touch screen module can be pulled forward by 35mm to gain access to USB sockets underneath.

To fully remove the chassis lift up the pin levers either side to disengage the internal catches and remove the chassis. Disconnect the earth lead from the tab on the chassis and the ribbon cable from the termination card.



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MxPro 5

LED Indication

The LED indicator cards are a range of panel mounted peripheral modules that can be added to the MxPro 5 series of control panels. The display cards are available in numerous configurations and provide an individual indication of the zone(s) in Fire by default but are also fully programmable.

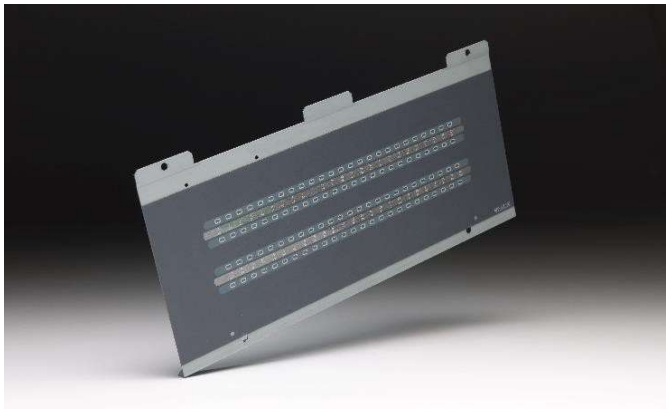
The units fully support dynamic zoning, on networked or larger stand-alone systems, and can be used to provide individual zonal LED indication at one location.

Applications

The zone/LED indicator card can be fitted to all MxPro 5 control panels to provide an indication of the zone(s) in fire in addition to the panel graphical display. The LED will illuminate when the corresponding zone enters a Fire condition.

This next generation in LED technology also allows the LED to be fully programmed. Each LED can now operate in accordance with the cause-and-effect strategy in which the LED can illuminate upon Fault, Isolation, Output Group plus many more.

LED cards can now be ordered with Red and Yellow LED arrangements or provided with bi-colour LEDs with slide-in labels to assist identifying the origin of the condition.



Features

- Programmable LEDs
- 3-year warranty as standard
- Factory fitted or retrofit
- Supports dynamic zoning
- Fully programmable
- Cost effective against ancillary hardware

Order Codes and Options

Mxp-513M-050RD:	Mx-5000 50 Zone Fire (Red) - Medium Enc.
Mxp-513M-050YL:	Mx-5000 50 Zone Fault (Yellow) - Medium Enc.
Mxp-513M-050RY:	Mx-5000 25 Zone Fire (Red)+ Fault (Yel) Medium Enclosure
Mxp-513L-050RD:	Mx-5000 50 Zone Fire (Red) - Large Enc.
Mxp-513L-050RY:	Mx-5000 25 Zone Fire (Red)+ Fault (Yel) Large Enclosure
Mxp-513L-100RD:	Mx-5000 100 Zone Fire (Red) - Large Enc.
Mxp-513L-050YL:	Mx-5000 50 Zone Fault (Yellow) - Large Enc.
Mxp-513L-100RY:	Mx-5000 50 Zone Fire (Red)+ Fault (Yel) Large Enclosure
Mxp-513L-100YL:	Mx-5000 100 Zone Fault (Yellow) - Large Enc.
Mxp-513L-050CRYG:	Mx-5000 50 Zone Column Format (30xRed/Yel - 20x Grn/Yel) Large Enclosure Only
Mxp-513L-050CRY:	Mx-5000 50 Zone Column Format (Red/Yellow) Large Enclosure Only
Mxp-513-050RD:	Mx-5000 50 Zone Fire (Red) - Extended Enc.
Mxp-513-050RY:	Mx-5000 25 Zone Fire (Red)+ Fault (Yel) Extended Enclosure
Mxp-513-100RD:	Mx-5000 100 Zone Fire (Red) - Extended Enc.
Mxp-513-050YL:	Mx-5000 50 Zone Fault (Yellow) - Extended Enc.
Mxp-513-100RY:	Mx-5000 50 Zone Fire (Red)+ Fault (Yel) Extended Enclosure
Mxp-513-100YL:	Mx-5000 100 Zone Fault (Yellow) - Extended Enc.
Mxp-513-200RY:	200 Zone - Extended Enclosure

Soteria®

Optical Smoke Detector

Product overview

Product Type	**Optical Smoke Detector**
Part No.	**SA5000-600 (non-isolated)**
	SA5100-600 (isolated)
Digital Communication Protocol	**XP95, Discovery & CoreProtocol® compatible**

Product information

The Soteria Optical Smoke Detector uses new optical sensing technology, PureLight™, to detect smoke particles entering the chamber. PureLight marks a new stage in the development of Apollo optical technology and aims to reduce the possibility of false alarms whilst increasing the reliability of detection of a real fire.

- **PureLight optical technology reduces false alarms and enhances smoke recognition**
- **Utilises digital CoreProtocol communications**
- **Compatible with XP95 and Discovery systems***
- **Mechanically compatible with existing bases**
- **Available with or without integrated switchable isolator**
- **Drift compensation**
- **Tri-coloured LED status indicator**
- **Polycarbonate housing for colour stability and strength**
- **Comprehensively tested to exceed EN 54-7 standard**
- **FasTest® for quicker testing of detectors**
- **XPERT 8 card addressing**
- **Locking mechanism (grub screw)**

Note: Not all features are available when Soteria devices are connected to an XP95 or Discovery fire control panel

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, 25°C and 50% RH unless otherwise stated.

Detection principle	Photo-electric light scattering	
Sensor configuration	Chamber with surface-mount infrared emitter and prism. Solid state integrated photo-diode and amplifier.	
Sampling frequency	Once per second	
Terminal functions (note: L1 & L2 are polarity sensitive)	+L2	Loop in & out positive
	–L1 in	Loop (isolated) negative
	–L1 out	Loop (isolated) negative
	+R	Remote indicator positive connection (internal connection to positive)
	–R	Remote indicator negative connection (4.7mA maximum)
Supply voltage (Vmin–Vmax)	17–35V DC	
Digital communication protocol	CoreProtocol, Discovery & XP95 compatible 5–13V peak to peak	
Quiescent current	Isolated detector: 350µA Non-Isolated detector: 300µA	
Power-up surge current	560µA	
Maximum power-up time	10s	
Alarm current, LED illuminated	3.5mA	
Isolated detector data only		
Maximum loop current ($I_C$max; L1 in/out)	1A	
Maximum series resistance ($Z_C$max; L1 in/out)	80mΩ	
Maximum switch current ($I_S$max; L1 in/out)	3A	
Maximum leakage current ($I_L$max; during isolation)	33mA (100ms pulse every 2s)	
Isolation voltage (V_{SO}min–V_{SO}max)	12.5–15V DC	
Reconnect voltage (V_{SC}min–V_{SC}max)	12.8–19.1V DC	

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Technical data

Continued

Clean-air analogue value	23 +4/–0	
Alarm level analogue value	55	
Status indicator	Alarm	Red
	Fault	Flashing Yellow
	Isolate	Yellow
	Poll	Green
Operating temperature	–40°C to 70°C	
Humidity	0% to 95% RH (no condensation or icing)	
Effect of atmospheric pressure	None	
Effect of wind speed	None, tested up to 10m/s	
Vibration, impact and shock	EN 54-7	
IP Rating	IP44	
Standards & approvals	*SA5000-600* EN 54-7, CPR & LPCB	*SA5100-600* EN 54-7, EN 54-17, CPR & LPCB
Dimensions	100mm diameter x 36mm height (48mm height with XPERT 8 Intelligent Mounting Base)	
Weight	83g	
Materials	Housing: White polycarbonate UL94-V0	
	Terminals: Tin plated stainless steel	

Electrical Considerations

The Soteria detector is designed to be connected to a two-wire loop circuit carrying both data and power. A version with a short-circuit isolator integrated into the detector head is also available.

Operating Principles

The low profile design of the Soteria Optical Smoke Detector is sleek and evolutionary, with a 360° LED indicator which illuminates red when in alarm, yellow to indicate a fault and green to indicate protocol activity.

At the heart of the Soteria detector is PureLight Sensing Technology which incorporates:

- Cone technology combined with a high-intensity infra-red LED to provide stability and accurate sensitivity to smoke
- A photo-diode and an amplifier integrated into an Application-Specific Integrated Circuit (ASIC)
- 'Serpentine' pathway designed to provide a barrier against dust and insect ingress
- A sophisticated dynamic algorithm, providing transient rejection and compensation for drift whilst maintaining accurate sensitivity

The sensitivity mode of operation of this processing is selected at the fire control panel (see Table 1).

Table 1 Soteria Optical Smoke Detector operating modes

Mode	Response Value		Minimum Time to Alarm
	%/m*	dB/m**	Seconds
1	1.4	0.10	5
2	1.4	0.10	30
3	2.1	0.14	5
4	2.1	0.14	30
5	2.4	0.16	5

* *Tested in grey smoke*
** *Tested in oil mist to EN 54-7 standard*

Application

Fire detectors should always be installed in accordance with all local and national laws and codes of practice.

Optical smoke detectors are recommended for general use, particularly where there is a risk of slow burning fires or where the development of smoke could become the major hazard.

Device Addressing

A universal XPERT 8 card is supplied with all XPERT 8 Intelligent Mounting Bases. Using a coding guide, pips on the card are removed to set the address of the detector. This simplifies and speeds up installation, commissioning and maintenance. The address location remains the same no matter how often detectors are replaced.

When Soteria devices are used with CoreProtocol, device auto-addressing can be enabled by fire control panels that have been designed to incorporate this feature.

Communication

Soteria uses the new digital CoreProtocol to allow more advanced control and configuration, whilst maintaining backwards compatibility with previous generations of Apollo products – XP95 and Discovery. Discovery and CoreProtocol make use of the Normal, Read and Write modes with additional non-volatile data fields made available to the fire control panel.

Backward Compatibility

Soteria detectors have been designed to operate on XP95 and Discovery loops. This allows for Soteria detectors and bases to operate on existing systems and for Soteria detectors to operate on XP95 and Discovery bases (XPERT 7 Intelligent Mounting Base).

It should be noted that not all features of Soteria will be available when used with XP95 or Discovery fire control panels. If Soteria detectors are used with XP95 fire control panels incorporating drift compensation algorithms, these must be disabled when communicating with Soteria devices.

When Soteria detectors are used with an XPERT 7 Intelligent Mounting Base on a CoreProtocol system, Soteria devices will have a +128 address offset due to only 7 address pips being available on the XPERT 7 card. For example, an XPERT 7 card set at 32 will address as 160 on CoreProtocol with Soteria detectors.

Maintenance & Service

Soteria detectors have been designed with a comprehensive set of features to support maintenance and service, from self test capabilities to drift compensation warnings on dirty detectors.

The new FasTest® mode facility on Soteria can be enabled within a fire control panel that incorporates this feature. This facilitates quicker testing of detectors with appropriate test equipment. FasTest disables the transient rejection algorithms to allow a faster detector response, whilst ensuring the detectors absolute sensitivity remains identical to mode 3. A visual pass/fail indication is provided by the detector and overall, FasTest reduces commissioning and maintenance time.

Maintenance has to be performed in accordance with all applicable standards. Clean the detector externally using a soft damp cloth. For full cleaning and recalibration detectors should be returned to Apollo Fire Detectors.

EMC Directive 2004/108/EC

The Soteria Optical Smoke Detector complies with the essential requirements of the EMC Directive 2004/108/EC, provided that it is used as described in this datasheet.

A copy of the Declaration of Conformity is available from Apollo on request.

Conformity of the Soteria Optical Smoke Detector with the EMC Directive does not confer compliance with the directive on any apparatus or systems connected to it.

Construction Products Regulation 305/2011

The Soteria Optical Smoke Detector complies with the essential requirements of the Construction Products Regulation 305/2011.

A copy of the Declaration of Performance is available from Apollo on request.

Figure 1 Soteria Optical Smoke Detector with XPERT 8 Intelligent Mounting Base dimensional drawing

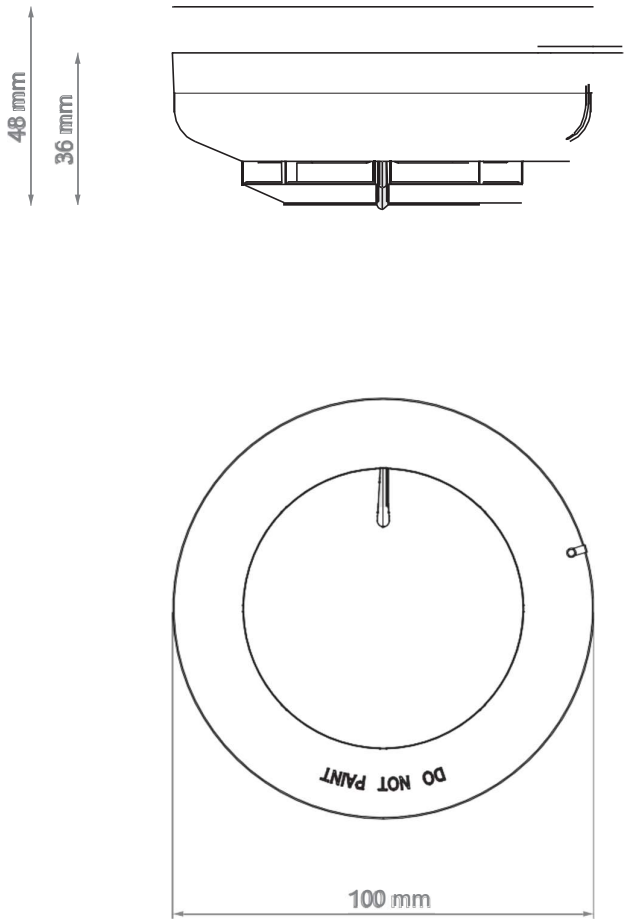

Figure 2 XPERT 8 Intelligent Mounting Base

Intelligent DIN-Rail Input/Output Unit

Product overview

Product Type	Input/Output Unit
Part No.	SA4700-302APO
Digital Communication Protocol	XP95® /Discovery® and CoreProtocol® compatible

Product information

The Intelligent DIN-Rail Input/Output Unit provides 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.

Refer to Table 1 for digital communications protocol compatibility and Table 2 for the Intelligent DIN-Rail Input/Output Unit operating modes.

- Improved design for ease of wiring meaning faster installation
- Contains controllable isolator *
- Address range 1 - 254 *
- Nine pre-configured modes, including compatibility mode from XP95/Discovery to CoreProtocol systems *
- Failsafe Mode (meets BS 7273-4 requirements)
- Configurable input styles *
- Earth fault monitoring *

** Note: CoreProtocol enabled systems feature only, please check with your system partner for availability.*

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, +25°C and 50% RH unless otherwise stated.

Supply voltage (Vmin–Vmax)	*17–35 V dc*
Protocol	*5–13 V peak to peak*
Power-up surge current	*900 µA*
Quiescent current	*500 µA*
Max current LEDs On	*3.5 mA*
Max current LEDs disabled	*500 µA*
Relay output contact rating	*1 A at 30 V dc or ac*
Isolator data	*Refer to the Short-Circuit Isolation datasheet PP2090*
Operating temperature	*– 40°C to + 70°C*
Humidity	*0% to 95% RH (no condensation or icing)*
Vibration, impact and shock	*EN 54-17 & EN 54-18*
Standards & approvals	*EN54-17, EN54-18, CPR, LPCB, VdS and BOSEC*
Dimensions	*33mm height x 102mm width x 33 mm depth*
Weight	*49 g*

Table 1: Digital communications protocol compatibility

Protocol	Device Behaviour
XP95† /Discovery†	XP95
CoreProtocol†	Soteria

† *Fire control panel dependant*

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Table 2: Intelligent DIN-Rail Input/Output Unit operating modes*	
Mode	Description
1	DIL Switch XP Mode
2	Alarm delays
3	Output and N/O input (can be equivalent for Output only)
4	Output and N/C input
5	Output with Feedback (N/C)
6	FailSafe Output with Feedback (N/C)
7	FailSafe Output without Feedback
8	Momentary Input Activation Sets Output Relay
9	Input Activation Sets Output

* *CoreProtocol enabled systems only*

Failsafe Mode

In Failsafe mode the Intelligent DIN-Rail Input/Output 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.

Mechanical Construction

The Intelligent DIN-Rail Input/Output Unit (see Figure 1) is designed to be mounted on a 35 mm width DIN-Rail inside an enclosure.

CAUTION
Unit Damage. This unit is not designed for outdoor use unless it is mounted in a suitable weatherproof enclosure.

EMC Directive 2014/30/EU

The Intelligent DIN-Rail Input/Output Unit complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this datasheet.

A copy of the Declaration of Conformity is available from Apollo on request.

Conformity of the Intelligent DIN-Rail Input/Output Unit with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Construction Products Regulation 305/2011/EU

The Intelligent DIN-Rail Input/Output Unit complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from Apollo on request.

Connectivity

Refer to Figures 2, 3 & 4 for unit connection information. Refer to Installation Guide 39215-160 for the installation instructions on this product. Table 3 details the status indications of this unit, from normal operation through to fault conditions.

Figure 1 Intelligent DIN-Rail Input/Output Unit dimensional drawing

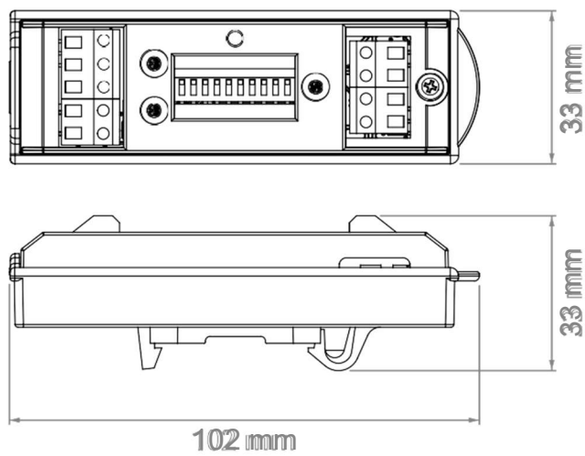


Table 3: Status Indications		
Legend	LED Status	Description
RLY	Continuous Red	Relay Active
RLY	Continuous Yellow	Relay Fault
Poll/ISO	Flashing Green	Polling LED
Poll/ISO	Continuous Yellow	Isolator LED
I/P	Continuous Yellow	Input Fault
I/P	Continuous Red	Input Active

Figure 2: Intelligent DIN-Rail Input/Output Unit standard resistive monitoring mode connectivity diagram

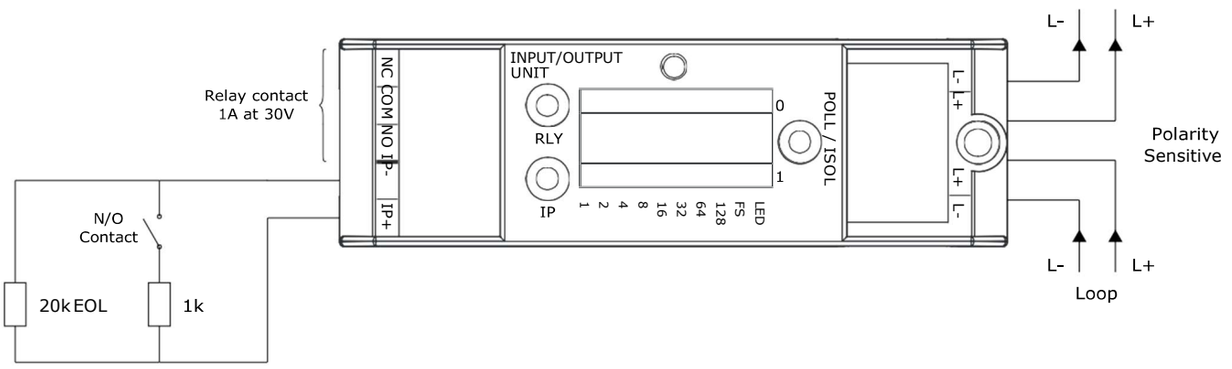


Figure 3: Intelligent DIN-Rail Input/Output Unit normally open monitoring mode connectivity diagram (compatible with CoreProtocol only)

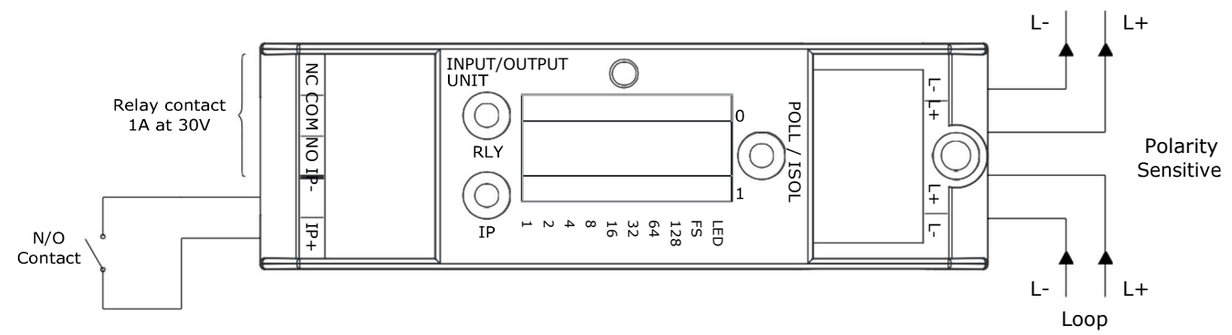
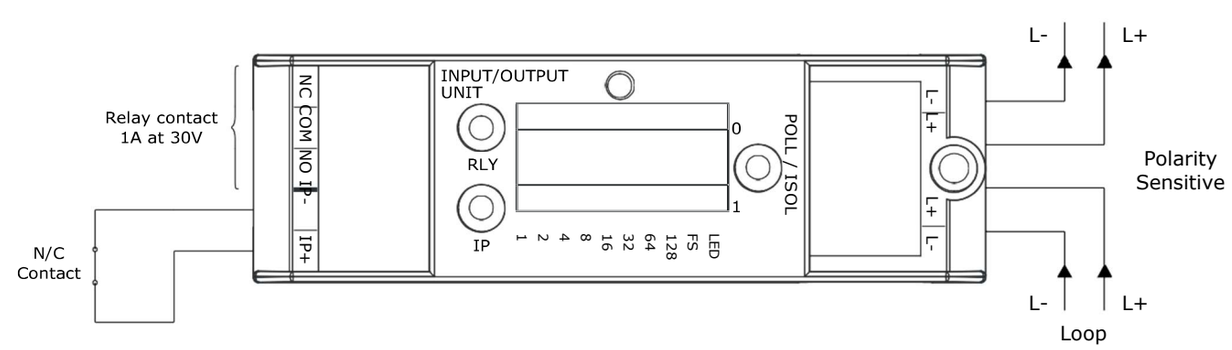


Figure 4: Intelligent DIN-Rail Input/Output Unit normally closed monitoring mode connectivity diagram (compatible with CoreProtocol only)



XP95

Input/Output Unit with Isolator

Product overview

Product	Input/Output Unit with Isolator
Part No.	55000-847SIL
Digital Communication	XP95 and Discovery compatible

Approvals

Note: SIL2 approval is only applicable if this device is used in a duplex configuration.

Product information

The Input/Output Unit with Isolator provides two voltage-free single pole, change-over relay outputs, a single monitored switch input and an unmonitored, polarised opto-coupled link.

The Input/Output Unit supervises one or more normally open switches connected to a single pair of cables.

The Input/Output Unit is fitted with a bi-directional short-circuit isolator and will be unaffected by loop short-circuits on either loop input or output.

Electrical description

The Input/Output Unit is loop-powered and operates at 17 - 28 V dc with protocol pulses of 5 - 9 V.

Protocol compatibility

The unit will only operate with control equipment using the Apollo XP95 or Discovery protocol.

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24 V, 23°C and 50% RH unless otherwise stated.

Minimum loop operating voltage in normal conditions	*17 V dc*
Maximum loop operating voltage	*28 V dc*
Digital communication	*XP95 and Discovery compatible*
Maximum current consumption at	*28 V dc, no protocol*
Switch-on surge, max 150 ms	*3.5 mA*
Quiescent, 20 k EOL fitted	*1.25 mA*
Switch input closed 'switch closed' LED on	*2.5 mA*
Switch input closed (LED disabled)	*1.5 mA*
Any other condition (max 2 LEDs on)	*3.5 mA*
Relay operated	*2 mA*
Switch input monitoring voltage	*9 - 11 V dc (open-circuit condition)*
Switch input conditions and status	*See Table 2*
Maximum cable resistance	*50*
Opto-coupled input	
Maximum voltage (polarity sensitive)	*35 V dc*
Impedance	*10 k*
Relay output	
Contact rating (inductive or resistive)	*1 A at 30 V ac or dc*
Wetting current	*10 µA at 10 mV dc*
On resistance	*0.2*
Maximum continuous current	*1 A*
Maximum switching current	*3 A*
Maximum load	*20 XP95/Discovery detectors*
Operating temperature (ambient)	*-20ºC to 70ºC*
Humidity (no condensation or icing)	*0 - 95% RH*
Shock, vibration and impact	*EN54-18*
IP rating	*designed to IP54*
Standards and approvals	*EN54-17, EN54-18 and IEC61508-1*
Dimensions	*150 mm x 90 mm x 48 mm*
Weight	*240g*
Materials	*Body - white polycarbonate*

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The Input/Output Unit is normally supplied with a back box for surface mounting. It is also available without the back box for flush mounting. Both versions are designed for indoor use only.

Four LEDs, two red and two yellow, are visible through the front cover of the enclosure.One red LED is illuminated to indicate that the relay is set. The second red LED is illuminated to indicate that the switch input is closed.

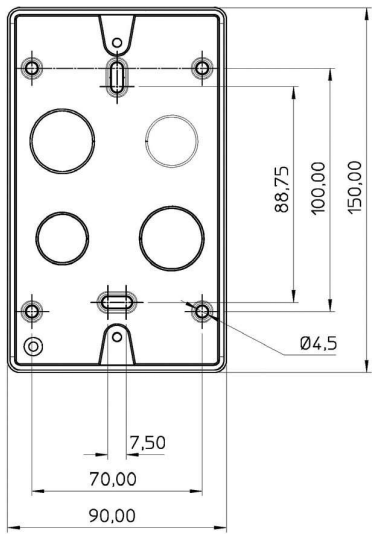
One yellow LED is illuminated whenever a fault condition (open or short-circuit) has been detected.

The other LED is illuminated whenever the built-in isolator has sensed a short-circuit loop fault.

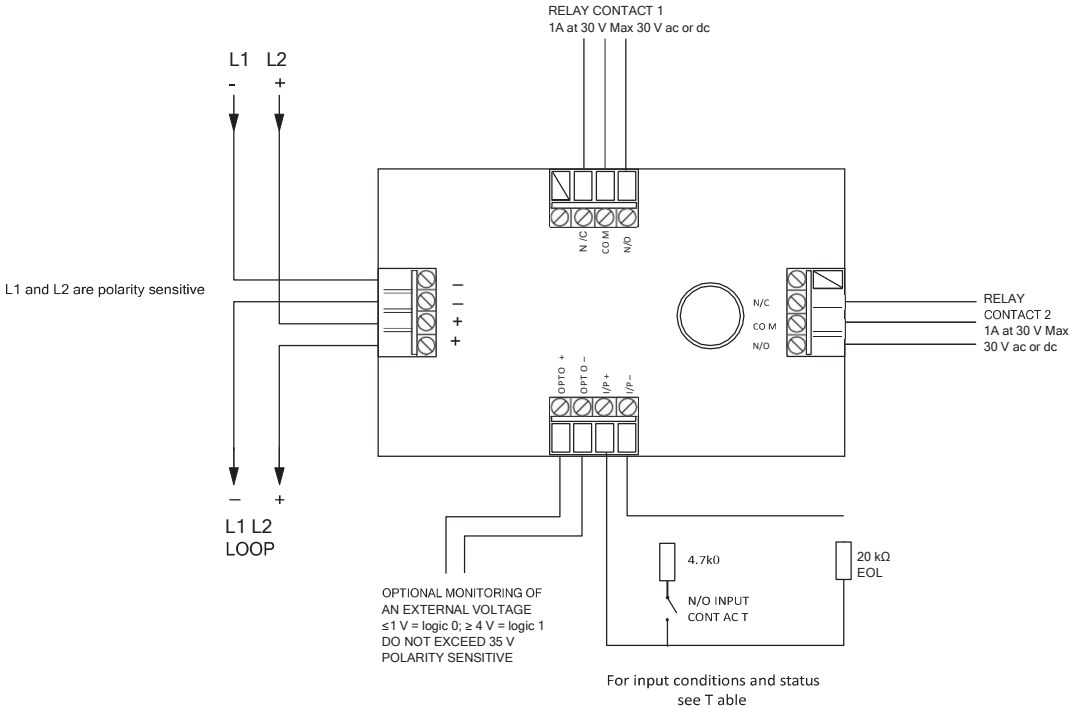
Input conditions and status

Resistance status across input	Status	Analogue value	2	1	0
< 100 Ω	Short-circuit fault	4	0	†	0
100 - 200 Ω	Indeterminate	4 or 16	0	†	0 or 1
200 - 11 KΩ 4.7 kΩ	Switch closed	16	0	†	1
11 - 15 kΩ	Indeterminate	16	0	†	0 or 1
15 - 25 kΩ 20 kΩ	Normal (switch open)	16	0	†	0
25 - 30 kΩ	Indeterminate	4 or 16	0	†	0

Input/Output Unit dimensional drawing



Input/Output Unit schematic diagram and wiring connections

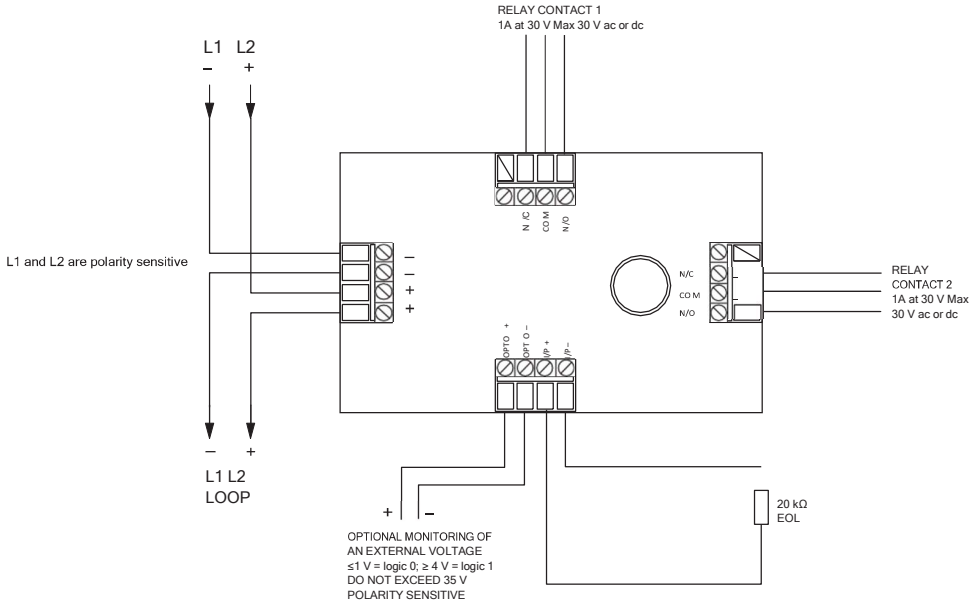


Use as an output only unit

The device can be used as an output only unit if configured as follows:

There must be no connection to the opto I/P terminals 7 and 8, and the 20 k Ω end-of-line supplies must be connected directly to the IP+/IP- terminals 5 and 6.

Schematic diagram and wiring connections for use as an output only device



EMC Directive 2014/30/EU

The Input/Output Unit with Isolator complies with the essential requirements of the EMC Directive 2014/30/EU, provided it is used as described in this data sheet and that it is not operated more than five times a minute or twice in any two seconds.

A copy of the Declaration of Conformity is available from the Apollo website: www.apollo-fire.co.uk

Conformity of the Input/Output Unit with Isolator with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Construction Products Regulation 305/2011/EU

The Input/Output Unit with Isolator complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from the Apollo website: www.apollo-fire.co.uk

Low Voltage Directive 2014/35/EU

To comply with the Low Voltage Directive 2014/35/EU no electrical supply greater than 50 V ac RMS or 75 V dc should be connected to any terminal of this Input/Output Unit.

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Intelligent
Marine Manual Call Point

Product Overview

Product	Manual Call Point
Part No.	SA5900-928MAR
Digital Communication	XP95®, Discovery® and CoreProtocol® compatible

Compliance

CE LPCB ABS

Product Information

The Intelligent Marine Manual Call Point (MCP) has been designed to operate on a loop of intelligent fire detection devices. An alarm is initiated by pressing the resettable element. The MCP signals to the fire Control panel using an interrupt feature within the Apollo Digital Communication Protocol (see Table 1). An alarm status is indicated through the rotation of the resettable element, displaying yellow and black indication bars and a solid red LED. The MCP can be easily reset from the front using the supplied reset key.

The Intelligent Marine MCP is intended for indoor marine and offshore applications and has a built in short-circuit isolator.

- 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
- Continuity link for cable insulation testing
- Suitable for semi flush or surface mounting

Technical Data

All data is supplied subject to change without notice. Specifications are typical at 24V, 25°C and 50% RH unless otherwise stated.

Supply voltage (Vmin–Vmax)	*17-35 V dc*
Digital Communications Protocol	*XP95, Discovery and CoreProtocol compatible 5-13 V Peak to Peak*
Current Consumption (max) at 24V dc	
Power Up Surge (1s typical)	*1 mA*
Quiescent	*100 µA*
Alarm/Operated current (LED On)	*4 mA*
Product operating temperature	*-40°C to +70°C*
Humidity	*0% to 95% RH*
IP rating	*IP44*
Vibration, impact and shock	*EN 54-11:2001, EN 54-17:2005 and IEC 60092-504:2016*
Approvals and standards	*EN 54-11:2001, EN 54-17:2005, CPR, LPCB, MED, ABS*
Dimensions	*90mm height x 90mm width x 63 mm depth*
Weight	*180 g*
Material	*Housing: Red self-coloured polycarbonate /ABS*

Operation

A solid red alarm LED is provided on the MCP. This LED is controlled independently of the call point, by the control panel. The LED will flash yellow if there is a fault and flash green when the device is polled. Refer to the table that follows for the analogue values of quiescent and alarm states.

Analogue values

Value	*Status*
16	*Quiescent*
64	*Alarm*
4	*General Fault*
1	*Switch Fault*

Once activated, the Intelligent Marine MCP can be reset by inserting the reset key into the front facing LED, turning clockwise until a positive click and reset occurs.

The Intelligent Marine MCP incorporates a short circuit isolator which will ensure its operation in the event of a short circuit fault on the loop. Isolator operation is indicated by a solid yellow LED. For further details of the isolator refer to data sheet PP2090, available at www.apollo-fire.co.uk

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This MCP helps reduce installation time as all the initial installation cabling is wired to a removable terminal block which fits neatly in the back of the MCP.

Electrical description

The Intelligent Marine MCP is loop powered and operates at 17-35 V dc for all variants.

Protocol compatibility

The Intelligent Marine MCP is intended for use with equipment using the Apollo XP95, Discovery and CoreProtocol protocols. The table that follows shows how the device will behave.

Digital communication protocol compatibility

Protocol	*Device behaviour*
XP95†	XP95
Discovery†	Discovery
CoreProtocol†	Soteria

†*Fire control panel dependant*

EMC Directive 2014/30/EU

The Intelligent Marine MCP complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this data sheet.

A copy of the Declaration of Conformity is available from Apollo on request.

Conformity of the Intelligent Marine MCP with the EMC Directive does not confer compliance with the directive on any apparatus or systems connected to it.

Construction Products Regulation 305/2011/EU

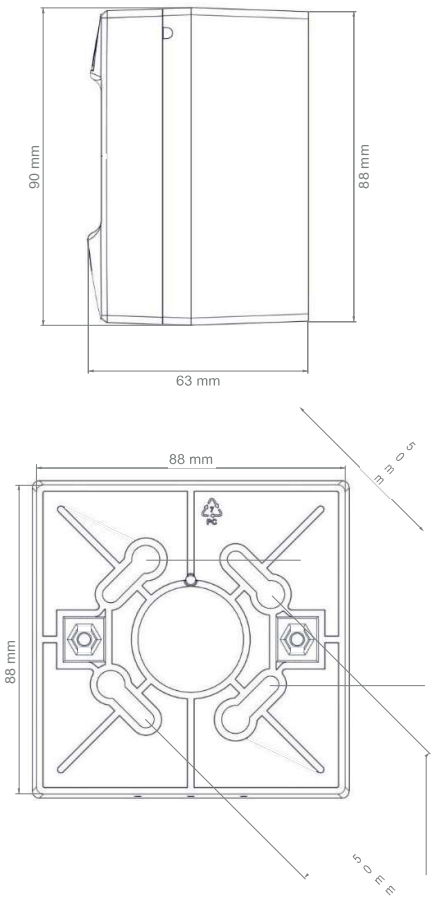
The Intelligent Marine MCP complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from www.apollo-fire.co.uk.

Marine Equipment Directive 2014/90/EU

The Intelligent Marine MCP complies with the essential requirements of the Marine Equipment Directive 2014/90/EU.

Intelligent Marine Manual Call Point dimensional drawing



Intelligent Marine MCP accessories

Product	Hinged cover
Part No.	44251-189
Product	MCP Reset Key (Pack of 10)
Part No.	44251-176

Loop-Powered Visual Indicator

55000-877

Product overview

Product	Loop-powered Visual indicator - Red
Part No.	55000-877
Product	Loop-powered Visual Indicator - Amber
Part No.	55000-879
Product	Loop-powered Visual Indicator - Clear lens/red flash
Part No.	55000-878
Digital Communication	XP95, Discovery and CoreProtocol® compatible

Product information

The Loop-Powered Visual Indicator is designed for indoor use and can be connected to detection systems using XP95 or Discovery detectors and control panels using the appropriate software.

The visual indicator is used as a supplement to sounders in situations where there is a risk that sounders will not be heard.

The visual indicator can also be used to give a 'staff alarm' where the use of sounders is undesirable. e.g. in TV or radio studios, cinemas, theatres, hospital operating theatres and high dependency units or care homes.

- High intensity LEDs
- Automatic LED check
- Wide angle of visibility
- Lockable - like a detector
- Synchronized flash

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, 25°C and 50% RH unless otherwise stated.

Supply voltage		*17-28 V dc*
Digital communication		*XP95, Discovery and CoreProtocol compatible*
Current Consumption at 24V DC		
Quiescent		*150 µA*
Beacon operated		*3 mA*
Switch-on surge		*1 mA for 100 ms*
Operating temperature		*-20°C to +60°C*
Humidity (no condensation)		*0-95% RH (no condensation or icing)*
Designed to IP Rating		*IP23D*
Dimensions		*115mm diameter x 38mm height*
Weight		*140 g*
Materials	*Body*	*White flame-retardant polycarbonate with nickel plated stainless steel contacts.*
	Diffuser	*Translucent polycarbonate*

Operation

Up to 20 visual indicators may be fitted between standard XP95 isolators (Part Nos. 55000-700/710/720) or isolating bases (Part Nos. 45681-284/321/384). The exact number that can be fitted in a loop can be calculated by downloading the loop calculator, available at www.apollo-fire.co.uk.

The loop powered visual indicators must be assigned an address by coding an XPERT card in the usual way.

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