Fire Suppression & Detection

For *Classed Vessels*

FIRE SUPPRESSION

FIRE DETECTION

Marine & Offshore

FIREBOY - XINTEX
marine safety systems

Shipboard Fires Are Major Threats To Safety

Of all the perils at sea, one of the most dangerous is fire. Difficult to deal with and potentially deadly, fire leaves the crew and passengers caught between two unforgiving elements. There's no local fire department to call. It's up to the crew to control the fire. Fire-fighting at sea and on water is especially demanding. The complexity of design and component requirement of a traditional marine CO_2 system is there to achieve system safety, however, the results of an accidental discharge can be catastrophic.

With so many levels of safety being required to be put in place, even on the smallest installation, CO_2 systems can add significant extra weight and cost to the overall build of any vessel. Imagine being able to replace most of that expensive, heavy pipe work with electrical cable & what you could do with the extra space generated by not having all of those extra cylinders in storage!
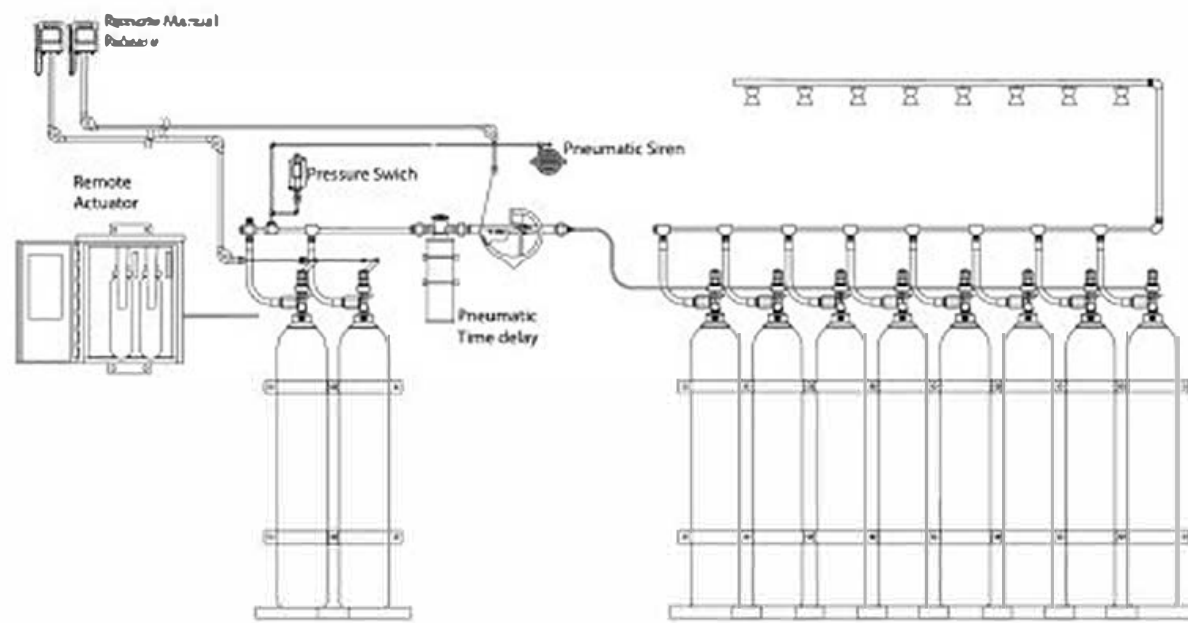
Typical 'Marine' CO₂ System

This table shows the typical usage of cylinders and chemical for a 500m3 system. Whilst there is comparable weight of the Chemical Agent between CO_2 and the Clean Agents, the number of cylinders required to store the chemical agent is reduced by a factor of 8:1 thereby giving a 40% reduction in system weight.

| Agent	Agent Weight	Cylinder Volume	Number of cylinders	Footprint	Cube	Total weight
	Kg	Liters	Each	m2	m3	Kg
Halon 1301	216	246	1	0.3	0.5	400
Carbon Dioxide	364	68	8	0.6	0.9	1000
FE-13	425	68	9	0.6	1.0	1200
FM-200₄	319	368	1	0.4	0.7	600
Novec™ 1230	373	368	1	0.4	0.7	600
Inergen	320	82	19	1.3	2.7	2000
Water Mist	9000			3.8	6.9	2900
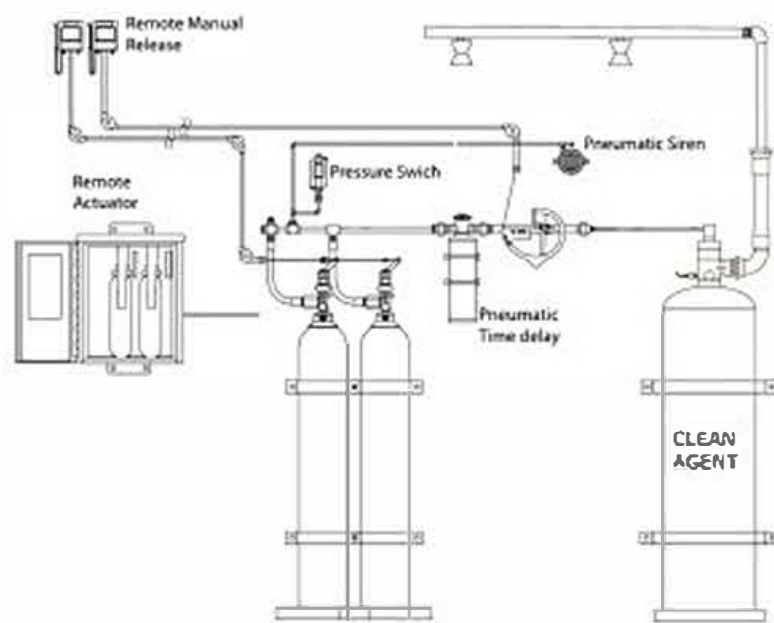
Typical 'Competitors' Clean Agent System

Safe For People, Equipment and Environment

Todays modern 'Clean Agents' are approved worldwide for use in 'Occupied' spaces, however even with these safe chemicals, similar design rules have to be maintained to comply with IMO SOLAS requirements. Just replacing the chemical agent will not only have a profound effect on safety, but will also increase the cost of the total system overall system.

Clean Agents Remove Heat Energy, Not Oxygen

Every second counts when a fire occurs on-board. Clean Agent systems reach extinguishing levels in less than 10 seconds. Since even a few seconds can mean the difference between survival and a life destroying catastrophic fire, changing to the *Fireboy* FES system could give you a crucial margin of safety. That's why you need a fast, people-safe and effective fire suppressant: Clean Agent Waterless Fire Protection from *Fireboy-Xintex*.

To System Nozzles
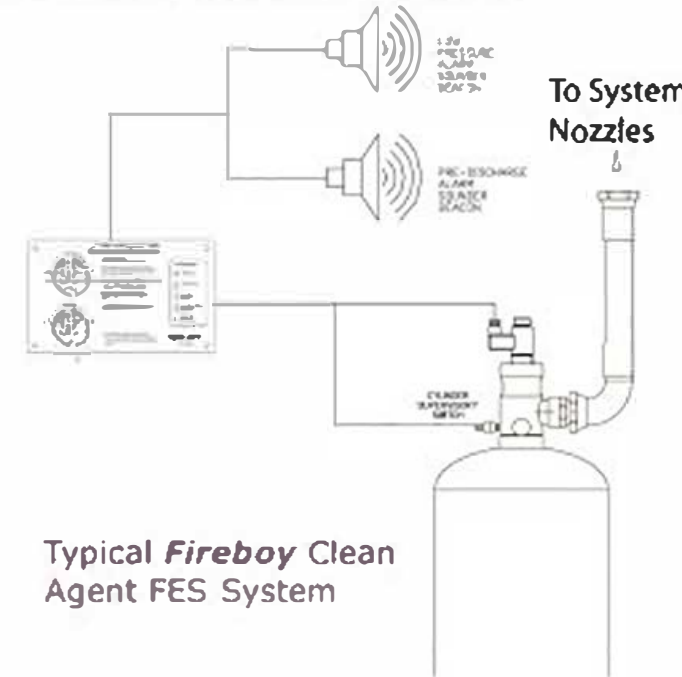
Typical *Fireboy* Clean Agent FES System

Benefits of the Fireboy-Xintex FES Engineered System

- Safe for personnel
- Reduced component count
- Reduced piping
- Reduced weight
- Reduced nozzle count
- Electrically activated with manual back-up
- Ease of installation
- Cost effective replacement for CO₂
- System monitor integration
- Multiple discharge panel facility
- Lower stored pressure

The '*Fireboy*' Electrically Released FES System provides the perfect choice for both new builds and refits and is currently the system of choice for many Commercial and Superyacht builders around the world. With the ability to eliminate a vast amount of industrial components the advantages in both weight and cost are evident.

Effective on Class A, Class B and Class C fires, Clean Agent gas extinguishes fires quickly through a combination of chemical and physical heat removal. It does not smother flames by removing oxygen. Clean Agents remove heat energy from fire, not oxygen from the environment. Heat is absorbed from the flame zone and interrupts the chemical chain reaction of the combustion process. When fires are stopped this fast it minimises the risk of explosion and extensive damage.

Clean Agents are approved by ALL Notified Bodies

HFC-227ea/ FM-200®

FM-200® was originally developed to replace ozone-depleting fire suppressants such as halon 1301. **FM-200**® does not deplete stratospheric ozone. It has been proven safe for people through extensive pharmacological testing rivalled by no other fire suppressant. Many fire suppressants cause collateral damage to the equipment and the assets they were supposed to protect. But not FM-200®. It deploys quickly and cleanly without leaving any residue or causing collateral damage. FM-200® is the world's most trusted choice in waterless fire protection.

Unlike carbon dioxide (CO_2) and HCFC 124, FM-200® is safe for people and can be used in occupied spaces on all types of vessels. FM-200® has been proven to be so safe that the chemical is approved as a propellant for pharmaceutical inhalers. Unlike many other fire suppressants, FM-200® does not breakdown or metabolize when inhaled, which allows quick removal through normal respiration once the individual is no longer exposed.

Novec™ 1230 Fire Protection Fluid

Novec™1230 is a clean agent fire suppression solution from 3M. Novec™1230 offers an environmentally sustainable alternative to fluorinated chemical suppression agents which does not compromise on performance or asset protection.

Novec™1230 offers rapid fire suppression whilst alleviating installation and safety concerns which could be present in alternative inert gas solutions. Fire suppression applications often include the presence of people, so life safety is a critical issue when selecting a fire suppression product. 3M Novec™1230 fire suppression fluid is both low in acute toxicity and is a highly efficient fire extinguishing agent. This means that Novec™1230 fluid is designed to put out fires long before it reaches a level of concentration that could adversely affect humans, allowing ample time to egress the protected space. In fact, even at relatively high extinguishing concentrations, Novec™1230 fluid offers the widest margin of human safety over CO₂ and inert gas.

FIREBOY-XINTEX FES ENGINEERED SYSTEM

Fireboy-Xintex Clean Agent cylinders consist of a cylinder fitted with a valve and internal syphon tube, factory filled with either HFC-227ea (FM-200®) or Novec™1230 Fire suppression Fluid and super-pressurised to 360 psi. (25 bar) at 21°C. Cylinders sharing the same manifold shall be equal in size and fill density. Cylinders are available in various sizes, as shown in the chart below.

A nameplate is adhered to the cylinder displaying the agent weight, tare weight, gross weight, fill density and charge date.

Cylinders are available in either TPED or DOT certified.

Complete systems are supplied as either MED / Type Approved or USCG Approved.
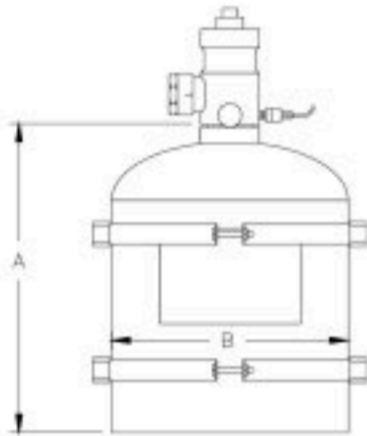
Part Number	Cylinder Capacity	Outlet Size	Dim A Nominal	Dim B (Diameter)	Tare-weight
	Kg	mm	mm	mm	Kg
FES-8L-227	4-8	25 BSP	304	254	14.8
FES-16L-227	8-16	25 BSP	502	254	18.4
FES-32L-227	16-32	25 BSP	833	254	26.1
FES-52L-227	26-52	50 BSP	596	406	49.1
FES-106L-227	53-106	50 BSP	1021	406	71.8
FES-147L-227	73.5-147	50 BSP	1354	406	89.9
FES-180L-227	90-180	50 BSP	1634	406	105.8
FES-343L-227	171.5-343	75 FLARE	1466	610	207

Complying fully with the FSS Code and IMO SOLAS including the latest amendment Msc.Circ 1267, **Fireboy-Xintex** has developed a range of electrical release panels that can be customised to suit virtually every application from single cylinder installations to multi-cylinder installations. The benefits of electrical discharge include utilising a reduced number of system components and reducing installation labour. For the very first time, this gives the ability to be cost competitive against multi-cylinder CO_2 system.

The Fireboy electrical discharge panel also offers the ability to communicate with a ships already installed monitoring system via Volt Free contact outputs for all alarm and monitoring states of the system giving ship-wide information. cylinder pressure status can also be fed directly to the **Fireboy** ASM Fire detection panel for constant monitoring

Designs can be supplied in the following formats:

- Autocad 2010 (2D)
- Solidworks (3D)
- Inventor (3D)
- All Adobe Graphic Formats

Cylinder Stored Pressure:
- CO2 - 140 bar
- FM-200™ - 25 bar
- Novec™1230 - 25 bar

All systems are designed iaw IMO SOLAS CH II-REG 7 MSC.CIRC 848 & 1267.

System components are in compliance with the Fire Protection requirements of Marine Equipment Directive (MED) 96/98/EC as modified by Directive 2002/75/EC.

Drawings and Designs to comply with:

MANUAL BACK-UP/SYSTEM OVERRIDE

Manual back-up is achieved in one of two ways. Firstly, if the cylinders are stored in a readily accessible space, a cylinder mounted 'Manual Strike Actuator' can be fitted on top of the Electrical Solenoid Actuator. Alternatively, the Manual Strike Actuator can be substituted for a 'Cable Release Actuator' which is also mounted directly on top of the Electrical Solenoid Actuator.
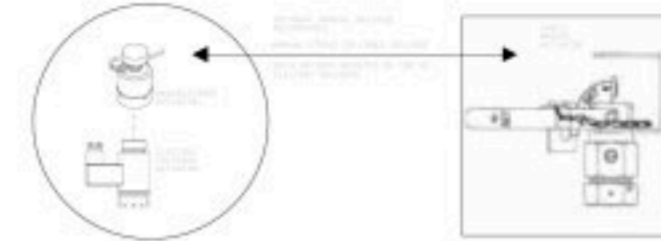
FES ELECTRICAL DISCHARGE PANELS

The FES-XXXPE range of discharge panels are designed to be flexible and are tailored to meet each individual applications design depending on the amount of spaces requiring protection. This flexibility also allows multiple FES-XXXPE discharge panels to be connected throughout the vessel.

Offering full operational and monitoring control of the entire fixed fire extinguishing system the **Fireboy-Xintex** range of FES Electrical Discharge Panels can be easily integrated with other on-board monitoring systems via the Volt Free outputs.

All control and alarm outputs are diode protected allowing multiple panels to be connected together even when protecting a single space, however, discharge panels are available for protecting multiple spaces individually each with their own timed discharge, monitoring and alarms.

IMO Msc.Circ 1267 Electrical Release Requirements

6.0 All systems should be designed to allow evacuation of the protected spaces prior to discharge. Means should also be provided for automatically giving audible and visual warning of the release of fire-extinguishing medium into any space in which personnel normally work or to which they have access. The alarm should operate for the period of time necessary to evacuate the space, but not less than 20s before the medium is released.

11.2 Electric power circuits connecting the containers should be monitored for fault conditions and loss of power. Visual and audible alarms should be provided to indicate this.

11.3 Pneumatic, electric or hydraulic power circuits connecting the containers should be duplicated and widely separated. The sources of pneumatic or hydraulic pressure should be monitored for loss of pressure. Visual and audible alarms should be provided to indicate this.

11.7 The containers should be monitored for decrease in pressure due to leakage and discharge. Visual and audible alarms in the protected area and on the navigation bridge or in the space where the fire control equipment is centralised should be provided to indicate this condition.

model shown: FES-001PE

Features

- Compact size 250mm x 150mm x 75mm
- Dual 24V input supply
- Dual 24V supply monitoring
- Cylinder low pressure alarm
- Pre-Discharge alarm
- Machinery shutdown control
- Activation line monitoring
- Cylinder discharge monitoring
- Volt free monitoring outputs
- Available in many configurations

SYNCRO ASM

Marine & Offshore Two Loop Analogue Addressable Control Panel

Features

- 16 zonal LED indicators
- 2 programmable sounder circuits
- 5 programmable inputs
- 3 programmable relays
- 3A power supply
- Large graphic display
- Real time clock
- Powerful, network wide cause and effects
- Sensitivity adjustment and drift compensation
- Apollo protocol
- Same look and feel as Syncro range
- Stores 1000 last events in event log
- Compact, stylish enclosure
- Installer friendly, removable equipment chassis
- Different language and character set variants available
- Fully EN54-2 and EN54-4 compliant

Designed for use with

apollo
Discovery Detection Devices

Config. Features

- Comprehensive day/night mode facility
- Programmable one touch test mode
- Powerful and versatile cause & effect programming
- Cause & effect wizard including:
  - Cause & effect action
  - Disablement configuration
  - Test mode configuration

Product Overview

- The Marine & Offshore Syncro ASM is a versatile range of open protocol fire alarm control panels compatible with existing Syncro fire alarm panel technology.

- Hosting up to 126 Apollo fire detection devices and modules per loop, Syncro ASM uses leading edge microprocessor based electronics to provide a flexible control system with high reliability and integrity.

- Suitable for all small to medium sized vessels, Syncro ASM control panels can be expanded and networked to become part of much larger systems if the need arises, therefore providing a future proof solution for any vessel.

- With its large graphical display and ergonomic button and indicator layout, the Syncro ASM control panel is simple and straightforward to understand for installers, commissioning engineers and end users alike.

Syncro ASM Panels

Protocol	Zones	Loops	Printer	Size (mm)
Apollo	16	2	No	385 x 310 x 90

Product Code	Language
90900-EN	English
90900-IT	Italian
90900-ES	Spanish

Other languages can be programmed upon completion of a simple conversion form.

Technical

Construction	- 1.2mm sheet steel
Enclosure finish	- BS 00 A 05 light grey textured
Mains voltage supply	- 230V AC 50 or 60 Hz.
Display	- 8 lines of 40 characters graphic LCD
Mains supply fuse	- 1.6A 250V
Power supply DC rating	- 24V 3 amps
Aux 24V supply	Fused at 500 milliamps
Battery (24 hour standby)	- 7Ah 12V (2 per panel) (non-networked)
Fault contact rating	- 30V DC 1 amp
Fire contact rating	- 30V DC 1 amp
Alarm contact rating	- 30V DC 1 amp
Sounder output rating	- Fused at 1 amp each
Detection loop	- 400 milliamp output
Detector protocol	- Apollo Discovery
Printer port	- Serial RS232
Serial expansion port	- Serial RS485 (Compatible with all Syncro I/O modules)
PC port	- Serial RS232
Network connection	- RS485 - Up to 64 panels via fully fault tolerant optional network card
Remote Silence input (SIL)	- Switched -ve
Remote fault input (FLT)	- Switched -ve
Remote reset input (RES)	- Switched -ve
Remote alert input (INT)	- Switched -ve
Remote evacuate input (CNT)	- Switched -ve
Download lead	- Standard S187, X187LS economy
Configuration	- Via Loop Explorer PC utility

ASM Repeater Panels

The Syncro VIEW fire alarm annunciator provides a simple and convenient method of extending the controls and indications of the Syncro fire alarm control panel to other locations.

The large, graphic liquid crystal display and high brightness LED indicators duplicate the indications on the Syncro ASM fire alarm control panel at up to 15 additional locations via a simple, two-wire serial data connection.

The Syncro VIEW is available in either a 24V DC powered option (which can be powered via an additional 2 cores from the Syncro control panel/local 24V DC supply) or a 230V powered option with local battery back up.

Up to 15 Syncro VIEW annunciators can be connected to each control panel on the Syncro network making VIEW ideal where multiple points of indication and/or controls are required such as crew's quarters and engineers cabins.

Product Code	Size (mm)
90925 (Std)	330 x 255 x 90
90931 (Flush mount)	310 x 240 x 40

MED Approved Analogue Addressable Devices

- Smoke
- Heat
- Heat/Smoke
- Manual Call Points
- Sounder Bases
- Sounder Beacon Bases
- Relay Bases
- Beacons
- Sounders
- Intrinsically safe Devices
- Line Monitors

16 Channel
Input/Output Board

Features

- 16 channels
- Each channel configurable as input or output
- Inputs opto-isolated
- Outputs open collector transistor
- Simple 2 wire connection to control panel
- Up to 32 boards supported per panel (512 Input/Output Channels)
- Inputs and outputs configurable as per field devices
- Full cause and effects on all inputs and outputs
- Multi drop RS485 communications
- Can be used with other Syncro I/O modules on the same panel
- Compatible with Syncro AS panels

Product Overview

- To add more I/O capability to the extensive options already offered by the Syncro control panel, up to thirty two, sixteen channel I/O boards may be connected.

- The 16 channel boards may be mixed on the RS485 bus with 8 way sounder boards, 6 way sounder boards or 4 way conventional detection zone boards to provide a very flexible system of I/O to satisfy any requirement.

- When using a simple two wire RS485 communications protocol, these boards may be mounted locally to the control panel or distributed on a bus up to 1200 metres long by using a suitable cable.

- The flexibility of these boards is further enhanced by the fact that each of the channels is configurable as either an input or and output.

- Each channel may also be configured to produce a variety of input actions or respond to a variety of output types.

- All channels can contribute to, or respond to, system wide cause and effects logic.

- Typical uses for I/O boards include geographical LED mimic displays and plant alarm inputs.

- Standard Syncro control panels contain fixings for one sounder, relay, conventional detection or I/O board, which can easily be connected using four small signal wires to the power and comms bus within the panel.

- Consideration must be taken as to the loading on the main panel.
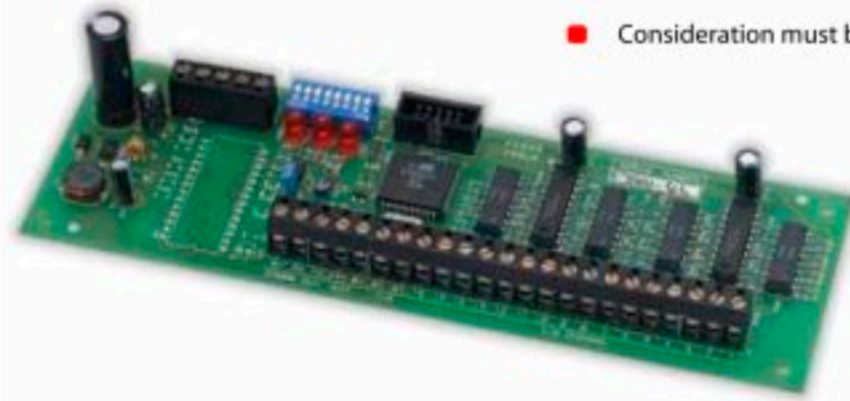
Technical

Product code	– K560
Supply voltage	– 21 - 30V DC
Quiescent current consumption	– 20mA
Current per input	– 3mA (maximum)
Current per output	– 100mA (maximum)
Communications	– RS485 two wire
Maximum distance from panel	– 1.2Km (using correct type of cable)
PCB size	– 190mm x 61mm
Cable capacity	– 2.5mm per terminal
Operating temperature	– -10°C to +50°C
Operating humidity	– To 95% (non condensing)

8 Way Relay
Extender Board

Product Overview

- To further enhance the versatility of the Syncro fire alarm system, additional relay output capability can be added using Syncro relay boards.

- These boards have 8 voltage free changeover relay contacts, each of which can be individually programmed.

- Up to 32 of these boards can be connected to the dedicated RS485 communications bus in the control panel giving the capability of up to 256 additional relay outputs.

- The relay boards may be mixed on the RS485 bus with 16 channel I/O boards, 6 way sounder boards or 4 way conventional detection zone boards to provide a very flexible system of I/O to satisfy any requirement.

- All outputs are configurable in the same way as devices connected to the loops and all may be acted upon by cause and effect logic.

- These boards are typically used in applications which require more than the four standard relay outputs such as signalling to other systems or plant control.

- Standard Syncro control panels contain fixings for one sounder, relay, conventional detection or I/O board, which can easily be connected using four small signal wires to the power and comms bus within the panel.
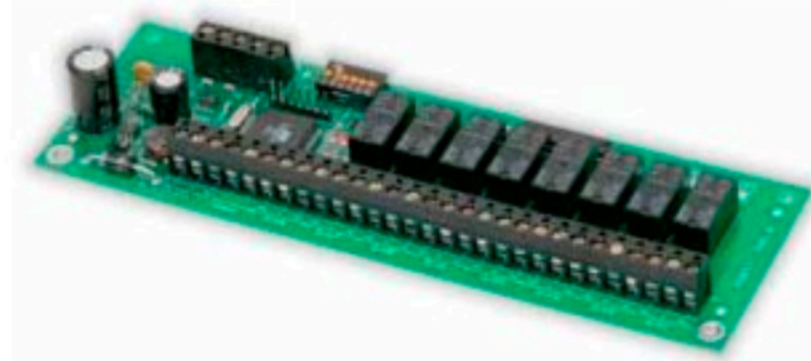
- Consideration must be taken as to the loading on the main panel.

Features

- 8 volt free changeover relay contacts (1Amp 30V DC)
- Relay operated indications
- Remote connection to panel via RS485 serial bus
- Common footprint to other Syncro I/O board types
- All outputs programmable for cause and effects
- Can be used with other Syncro I/O modules on the same panel
- Compatible with Syncro AS panels

Technical

Product code	– K547
Supply voltage range	– 21 to 30 volts DC
Quiescent current consumption	– 10mA
Operating current (all outputs on)	– 250mA
Output contact rating	– 30V DC 1 Amp
Communications	– RS485 two wire
Max. distance from panel	– 1.2Km (using RS485 data cable)
PCB size	– 190mm x 61mm
Fixing centres	– 51.5mm x 180mm
Cable capacity	– 2.5mm per terminal
Operating temperature	– -5°C to +50°C
Operating humidity	– To 95% (non condensing)
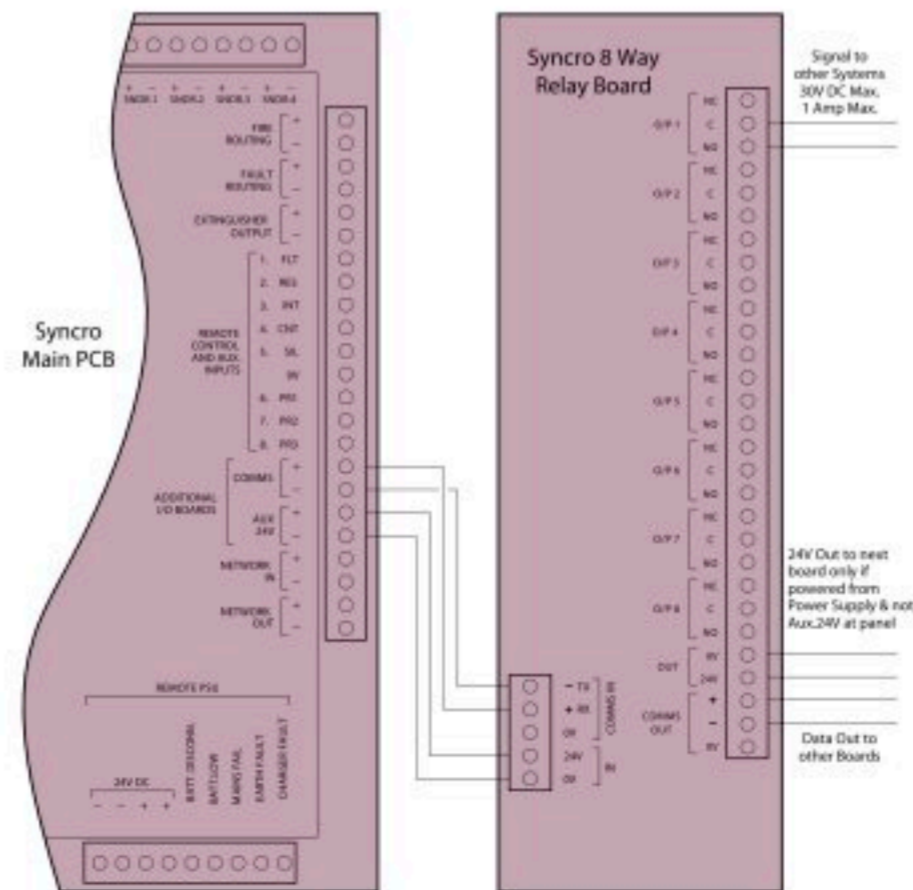
6 way Sounder Extender Board

Features

- 6 individually fused and monitored sounder outputs
- Fault and operated indications
- 2 opto-isolated general purpose inputs
- 2 volt free contact general purpose outputs
- Remote connection to panel via RS485 serial bus
- Common footprint to other Syncro I/O board types
- All outputs and inputs programmable for cause and effects
- Can be used with other Syncro I/O modules on the same panel
- Compatible with Syncro AS panels
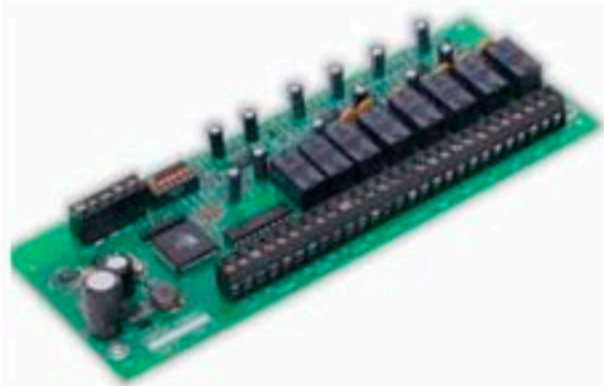
Product Overview

- To further enhance the versatility of the Syncro fire alarm system, additional sounder output capability can be added using Syncro sounder boards.

- These boards have 6 monitored sounder outputs, each of which can be individually programmed.

- In addition to the sounder outputs each board has two general purpose, opto-isolated inputs and two volt-free changeover contact outputs.

- Up to 32 of these boards can be connected to the dedicated RS485 communications bus in the control panel giving the capability of 192 additional sounder outputs with 64 general purpose inputs and 64 general purpose outputs.

- The sounder boards may be mixed on the RS485 bus with 16 channel I/O boards, 8 way relay boards or 4 way conventional detection zone boards to provide a very flexible system of I/O to satisfy any requirement.

- All inputs and outputs are configurable in the same way as devices connected to the loops and all may contribute to, or be acted upon by cause and effect logic.

- These boards are typically used in applications that require more than the four standard sounder outputs such as replacement of existing conventional systems.

- Standard Syncro control panels contain fixings for one sounder, relay, conventional detection or I/O board, which can easily be connected using four small signal wires to the power and comms bus within the panel.

- Consideration must be taken as to the loading on the main panel.

Technical

Product code	K546
Supply voltage range	21 to 30 volts DC
Quiescent current consumption	30mA
Full alarm current consumption	260mA
Sounder current monitoring resistor	10k
Current per input	3mA maximum
Current per sounder output	1 Amp maximum
Output contact rating	30V DC 1 Amp
Communications	RS485 two wire
Max. distance from panel	1.2Km (using RS485 data cable)
PCB size	190mm x 74mm
Fixing centres	51.5mm x 180mm
Cable capacity	2.5mm per terminal
Operating temperature	-5°C to +50°C
Operating humidity	To 95% (non condensing)

---
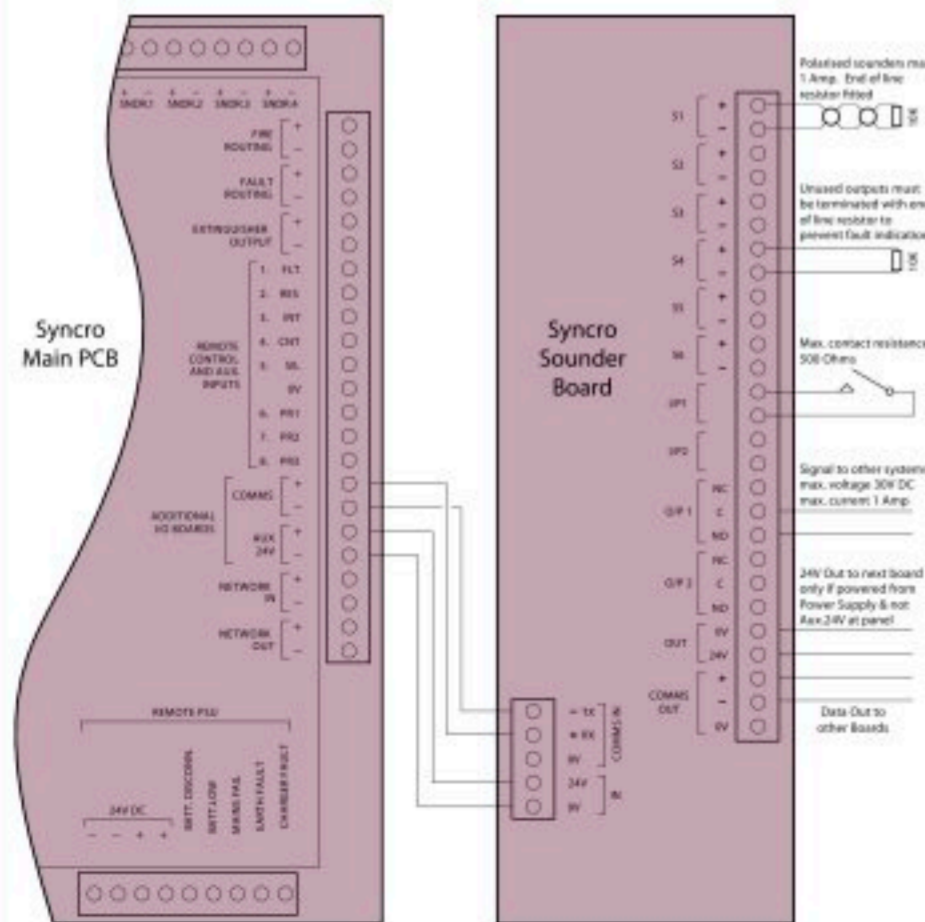
4 Way Conventional Detection Zone Module

Features

- 4 monitored detection zone inputs
- 2 monitored sounder outputs
- Volt free fire contact
- Volt free fault contact
- Local power supply fault input
- RS485 comms connection to Syncro Fire Alarm Panel
- Individual fault and operated indications for inputs and outputs
- Directly replaces a conventional control panel when integrating into an analogue addressable system
- Can be used with other Syncro I/O modules on the same panel
- Compatible with Syncro AS panels

Product Overview

- To further enhance the versatility of the Syncro fire alarm system, four conventional detection circuits can be connected with up to 30 detectors per circuit.

- Conventional control panels can be replaced with this simple module and existing conventional systems can be interfaced directly to modern analogue addressable control systems and networks.

- A fail safe mode ensures that the detection inputs will still operate the sounder outputs and fire contact if communication to the Syncro panel is lost.

- Up to 32 of these boards can be connected to the dedicated RS485 communications bus in the control panel giving the capability of up to 128 conventional zones with 64 sounder outputs.

- The detection zone boards may be mixed on the RS485 bus with 16 channel I/O Boards, 6 way sounder boards or 8 way relay boards to provide a very flexible system of I/O to satisfy any requirement.

- All inputs and outputs are configurable in the same way as devices connected to the loops and all may be acted upon by cause and effect logic.

- Standard Syncro control panels contain fixings for one (four way) Detection Zone board, Sounder board, Relay board or I/O board, all of which can easily be connected using four signal wires to the power and comms bus within the panel.

- Consideration must be taken as to the loading on the main panel.

Technical

|	
Product code	K545
Supply voltage range	21 to 30 volts DC
Quiescent current consumption	70mA
Operating current (all outputs on)	250mA
Output contact rating	30V DC 1 Amp
Detection zone monitoring resistor	6k8
Sounder circuit monitoring resistor	10k
Communications	RS485 two wire
Max. distance from panel	1.2Km (using RS485 data cable)
PCB size	190mm x 74mm
Fixing centres	51.5mm x 180mm
Cable capacity	2.5mm per terminal
Operating temperature	-5°C to +50°C
Operating humidity	To 95% (non condensing)
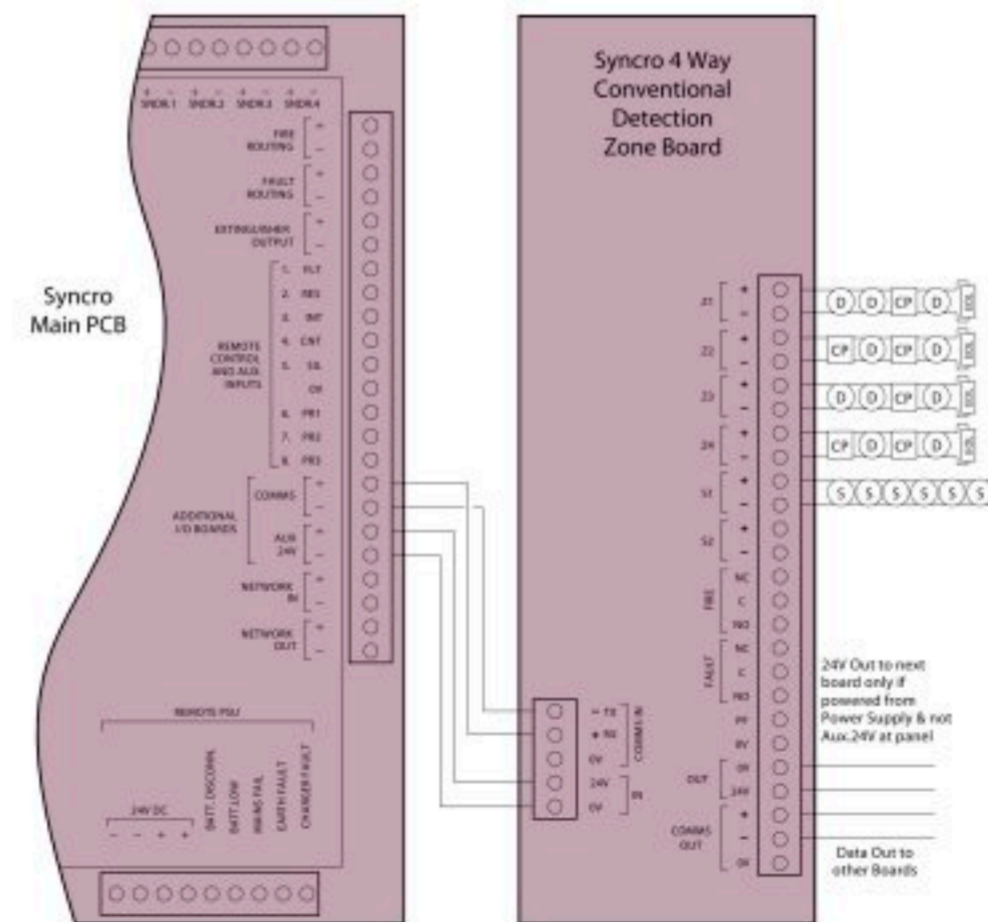
I/O Board Enclosure

Features

- Matching design & colour scheme for Kentec new style control panel range
- Easy to install
- Incorporates Kentec's "Quick Fit" lid & equipment chassis
- Front panel mounted status led indication
- Space for 3.2Ah batteries
- Choice of power supplies
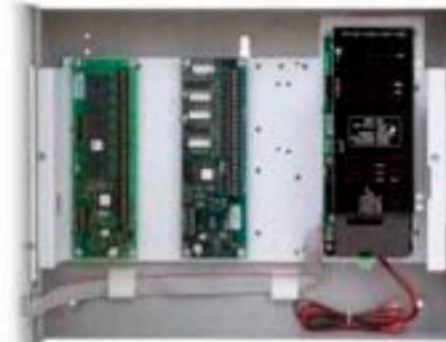
2x I/O boards with PSU
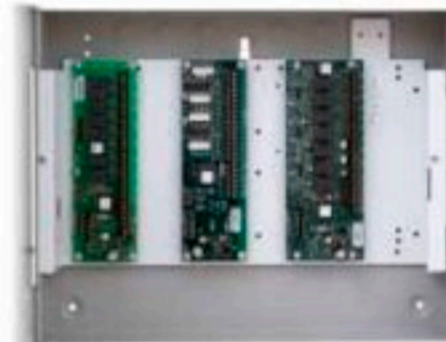
3x I/O boards without PSU

Product Overview

- A range of new enclosures designed to house Syncro I/O modules with or with a power supply. The Syncro I/O enclosure offers the installer the flexibility to create their own customised I/O panel. The standard Syncro I/O enclosure can hold up to 3 Syncro I/O modules or 2, if a power supply is incorporated.

Equipment

Product Code	Description
K16001M2	Syncro I/O enclosure without Charger
K16750M2	Syncro I/O enclosure c/w 750mA Charger
K16250M2	Syncro I/O enclosure c/w 2.5A Charger
K16400M2	Syncro I/O enclosure c/w 5.25A Charger
Plug-Ins	
K560	16 Channel Input/Output Board
K547	8 Way Relay Extender Board
K546	6 Way Sounder Extender Board
K545	4 Way Conventional Detection Zone Module
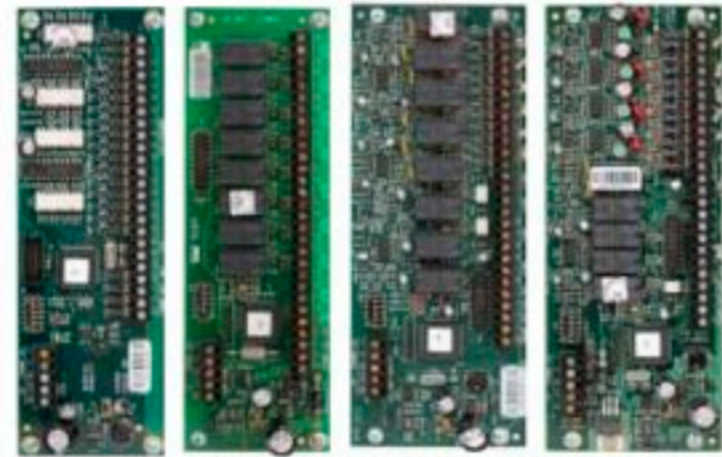
16 Channel Input/Output Board (K560)　8 Way Relay Extender Board (K547)　6 Way Sounder Extender Board (K546)　4 Way Conventional Detection Zone Module (K545)

Choose any combination of I/O boards

Analogue Marine Ionisation Smoke Detector

The Analogue Marine Ionisation Detector uses a low activity radioactive foil to detect fires by irradiating the air in the smoke chamber and causing a current flow. If smoke enters the chamber, the current flow is reduced leading to an alarm.

- Responds well to fast-burning, flaming fires
- Designed to operate in a variety of environments
- Remote test feature

Analogue Marine Heat Detector

The Analogue Marine Heat Detector, distinguishable by the low airflow resistant case, uses a single thermistor to sense the air temperature around the detector.

- Ideal in environments that are dirty or smoky under normal conditions
- Well suited for warehouses, loading bays and car parks
- Unaffected by wind or atmospheric pressure
- Remote test feature

Analogue Marine Multisensor Detector

The Analogue Marine Multisensor detector comprises optical smoke and thermistor temperature sensors whose outputs are combined to give the final analogue value. As a result, the multisensor is useful over a wide range of applications and is highly immune to false alarms.

- Ideal for a wide range of applications
- Well suited for environments such as hotel bedrooms
- Unaffected by wind or atmospheric pressure
- Well suited for sensitive environments
- Remote test feature

Analogue Marine Optical Smoke Detector

The Analogue Marine Optical Smoke Detector works using the light scatter principle and is ideal for applications where slow-burning or smouldering fires are likely.

- Responds well to slow-burning, smouldering fires
- Well suited for bedrooms and escape routes
- Unaffected by wind or atmospheric pressure
- Remote test feature

Analogue Marine Mounting Base

All detectors in the Analogue Marine range are for use with the Marine Mounting Base. The Mounting Base is a low insertion force base with stainless steel contacts for the detector terminals. XPERT cards are supplied with all bases.

- Marine Approved
- XPERT addressing
- One way fit
- Locking feature to prevent unauthorised removal

Analogue Marine Manual Call Point

The Analogue Marine Manual Call Point has been approved for use in indoor marine applications such as cruise liners. When operated, the manual call point interrupts the polling cycle for a fast response.

- Marine Approved
- Flashing LED option
- Plug and play terminal connections for fast wiring
- Allow wiring continuity testing before fitting
- Reports an alarm in under 0.2 seconds
- Resettable element

Analogue Marine Waterproof Manual Call Point

The Analogue Marine Waterproof Manual Call Point has been designed for use outdoors and in places where moisture can occur. It is compliant with EN54-11 and can be used with the Analogue Marine range.

- Marine Approved
- Plug and play terminal connections for fast wiring
- Allow wiring continuity testing before fitting
- Resettable element
- IP 67

Analogue Marine Isolator

The Analogue Marine Isolator is placed at intervals on the loop and ensures that, in the case of a short circuit, only the section between the isolators will be affected. When the short circuit is removed, the isolators automatically restore power in the isolated section.

- Marine Approved
- Detects wiring short circuits using patented technology
- Minimises disruption from short-circuits
- Automatic de-isolation on short-circuit removal
- The equivalent of up to 20 smoke detectors may be installed between isolators

Analogue Marine Isolator Base

The Analogue Marine Isolator Base is unique and designed to only accept the marine isolator.

- Marine Approved
- Only accepts Isolators

Marine Interfaces

Marine DIN-rail Dual Isolator

The Marine DIN-rail Dual Isolator provides two independent isolators which sense and isolate short circuits on Discovery and XP95 loops and spurs.

- Marine Approved
- Loop powered
- Polarity sensitive
- Up to 20 detectors can be installed between isolators
- Allows fully isolated spurs

Marine DIN-rail Sounder Controller (8 Amperes)

The Marine DIN-rail Sounder Controller (8 Amperes) is used to control the operation of a zone of externally powered sounders and report thier status to the control panel.

- Marine Approved
- Allows sounders to be operated continuously or be pulsed, 1 second on, 1 second off
- May be synchronised when in pulsed operation
- An opto-coupled input is provided to monitor the state of the external power supply
- Sounders can be operated individually or in groups

Marine DIN-rail Switch Monitor Plus

The Marine DIN-rail Switch Monior Plus 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 Apollo compatible analogue control equipment.

- Marine Approved
- Output for resetting a remote detector
- Four input states - 'normal', 'fault', 'pre-alarm' and 'alarm'
- Two visible LEDs
- Loop powered
- Selectable alarm delay for monitoring flow switches

Marine DIN-rail Zone Monitor

The Marine DIN-rail Zone Monitor with Isolator controls the operation of a zone of up to 20 Apollo Series 65 or Orbis fire detectors from a Discovery or XP95 loop.

- Marine Approved
- Loop powered
- Visible short circuit LED
- Built in Isolator

FIREBOY - XINTEX
marine safety systems

FIREBOY - XINTEX
marine safety systems

Marine Accessories

Universal Conduit Box

The Conduit Box is a versatile accessory for surface mounting Apollo bases. The box has knockouts to accept PG16 or M20 cable glands, conduit or mini trunking. Self tapping screws are included to fit the detector base to the Conduit Box.

- Marine Approved
- Easy to install
- Aesthetically pleasing

Backplate

The Backplate provides a high degree of protection against the ingress of water or dust into the back of the detector mounted directly onto a mounting box. When the backplate is used with an XP95 device, the number tab of the XPERT card must be snapped off and placed in one of the knockout slots provided in the back-plate.

- Marine Approved
- Protects against water ingress
- Improved performance
- Fits Discovery, XP95 & Orbis

Deckhead Mounting Box

The Deckhead Mounting Box gives extra protection to devices to be fitted in areas where there is the possibility of moisture or condensation ingressing through the rear of the base. This new version is suitable for a wider range of detector bases as well as Apollo's AV bases.

- Marine Approved
- Protects against water ingress
- Improved performance
- Available in Polycarbonate
- Polycarbonate Deckhead Mounting Box also fits Apollo Audio Visual bases

Intelligent Dual IR Flame Detector

The Intelligent Dual Infra-Red (IR²) Flame Detector is 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
- Compatible with Discovery and XP95 protocols
- Remote optical self-test function
- 90° field of view
- Up to 40m coverage

Intelligent Triple IR Flame Detector

The Intelligent Triple IR Flame Detector (IR³) is designed to protect areas where open flaming fires may be expected. It is sensitive to lowfrequency, flickering infra-red radiation emitted by flames during combustion.

- Loop-powered
- 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
- Compatible with Discovery and XP95 protocols

Flame Detector Bracket

The Flame Detector Bracket is an optional accessory for the Intelligent Flame Detectors. It is a stainless steel mounting bracket adjustable in two axis. Not suitable for Base Mounted Flame Detectors

- Allows flame detector to be moved to desired position

Flame Detector Weather Shield

The Flame Detector Weather Shield protects the device from inclement conditions.

- Protects against water ingress
- Protects sensor from direct sunlight

*Marine Approval Pending

Sounders and Base Sounders

Intelligent Base Mounted UV Flame Detector

The Intelligent Base Mounted UV Flame Detector is 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.

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

Intelligent Base Mounted UV IR² Flame Detector

The Intelligent Base Mounted UV IR² Flame Detector is 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.

- 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 Discovery or XP95 bases
- Loop-powered
- False alarms due to electrical discharges from lightning or arc welding and flickering sunlight are minimised

Intelligent Base Mounted IR³ Flame Detector

The Intelligent Base Mounted IR³ Flame Detector is 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.

- 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 Discovery or XP95 bases
- Loop-powered
- False alarms due to factors such as flickering sunlight are avoided by a combination of filters and signal processing techniques.

*Marine Approval Pending

Intelligent Open-Area Sounder

The Intelligent Open-Area Sounder has been designed for use in open areas and can be connected to any Discovery or XP95 system.

- Self-test fault monitoring
- Choice of tones
- Group addressing and synchronisation of alarm
- Weatherproof IP65
- Comes with Isolating Base as standard
- Loop powered
- Output is 100 dB(A) at 90°
- Ceiling Mounted

Intelligent 100dB(A) Open-Area Sounder

The 100dB(A) Loop-Powered Sounder is designed for use in open areas and can be connected to any Discovery or XP95 system.

- Output is 100dB(A) at 90°
- Current consumption of 5.0mA
- Can be synchronised
- Group address facility
- Loop powered
- Wall mounted

Intelligent Weatherproof 100dB(A) Open-Area Sounder

The 100dB(A) Weatherproof Sounder is designed for use in open areas and can be connected to any Discovery or XP95 system. The sounder comprises a backbox and sounder unit supplied together.

- IP 66 (immune to the affects of wind and precipitation)
- Output is 100dB(A) at 90°
- Current consumption of 5.0mA
- Can be synchronised
- Group address facility
- Loop powered
- Wall mounted
- Ceiling Mounted

XPander Sounder and Sounder Base

The XPander Sounder and Sounder Base is wireless and designed to be used with XPander detectors and manual call points only.

- Wall mounted
- Wireless
- Eliminates cable problems
- Output is between 92 and 106db(A) at 1m - dependent on tone setting

ore

Sounder Beacons and Sounder Beacon bases

Discovery Sounder Beacon Base

The Discovery Sounder Beacon Base makes full use of the Discovery protocol. For ease of commissioning a 'magnetic wand' can be used to test and adjust each sounder locally.

- Marine Approved
- It is possible to set individual control of the sounder and beacon
- Volume and tone settings can be selected from the control panel
- Tones can be used for other purposes in addition to warning of fire, ideal for schools
- Enables soft start option, ideal for hospitals and nursing homes
- Electronic bell tone

Intelligent Open-Area Sounder Beacon

The Intelligent Open-Area Sounder Beacon is designed for use in open areas and can be connected to an Apollo intelligent system.

- IP65 weatherproof
- Gives two functions at one point
- Self-test fault monitoring
- Choice of tones
- Group addressing and synchronisation of alarm
- Comes with Isolating Base as standard
- Loop powered

Discovery Open-Area Sounder Beacon

The Discovery Open-Area Sounder Beacon makes full use of the Discovery protocol and has been designed for use in indoor, open-areas and outdoors. When the fire system is being commissioned a Magnetic Wand can be used to adjust and test each sounder locally.

- 15 evacuation tones + 15 secondary or alert tones
- 7 volume levels
- Software-defined group addressing with up to 16 group addresses
- Alarm switching by individual device, by group or of all devices on loop
- Independent control of sounder and beacon
- Set-up and testing of devices at point of installation
- Isolator status information

Multi-Tone Open-Area Sounder Beacon

The Multi-Tone Open-Area Sounder Beacon is designed for use in indoor open areas and can be connected to any Discovery or XP95 system. The sounder beacon complements Apollo's intelligent and integrated base sounders as well as the loop powered 100dB(A) sounder.

- Powerful LED combined with 100dB(A) sound output
- Two volume settings
- Synchronisation of 'alert' and 'evacuate' tones
- Individual and group addressing
- Three tone choices
- Enables DDA compliance
- Isolator option

Weatherproof Multi-Tone Open Area Sounder Beacon

The Weatherproof Multi-Tone Open Area Sounder Beacon is designed for use in outdoor open areas and can be connected to any Discovery or XP95 system. The sounder beacon complements Apollo's intelligent and integrated base sounders as well as the loop powered 100dB(A) sounder.

- IP66 (immune to the affects of wind and precipitation)
- Powerful LEDs combined with 100dB(A) sound output
- Two volume settings
- Synchronisation of 'alert' and 'evacuate' tones
- Individual and group addressing
- Three tone choices
- Enables DDA compliance
- Isolator option

XPander Sounder Beacon and Sounder Base

The XPander Sounder Beacon and Sounder Base is wireless and designed to be used with XPander detectors and manual call points only.

- Wireless
- Eliminates cable problems
- Enables DDA compliance

FIREBOY - XINTEX marine safety systems

FIREBOY - XINTEX marine safety systems