Commercial

Military

Passenger

Yachts

Marine
Classed FES Suppression & Detection Systems
2023/4

On Board, On Guard

FIREBOY

Fire Suppression . Fire Detection .

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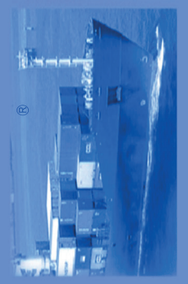

Fireboy

Fireboy-Xintex have been supplying the Marine Industry with Clean Agent Fire Suppression systems for more than 35 years, benefitting from many world class builders within our portfolio, this success is due an excellent design,engineering and customer service focus.

In recent years our move into Superyacht and Commercial Marine projects and the introduction of MED Approved Fire Suppression and Detection equipment has enabled the provision of a variety of reliable, trouble-free fire detection, fire suppression and gas detection systems for the marine & offshore industry.

Fireboy-Xintex systems are designed and supplied appropriate to the class of vessel/ project under the following guidelines, ISO 9094, RCD, CE, MCA and all IACS members regulations.

Specialising in total flooding clean agent extinguishing systems utilising either FK 5-1-12 fire protection fluid or HFC-227ea fire extinguishant, both of which are approved by all IACS members.

From your required design concepts Fireboy-Xintex can produce all the required documentation for Class Society Approval using the latest CAD software in both 2D and 3D.

Fireboy-Xintex were the first company to pioneer the Marine 'Electrical Release Panel' for clean agent systems fully conforming to Msc.Circ. 848/1267 and has proved very popular with Superyacht and ship builders alike. The Release panel is available for single or multiple cylinder systems.

For further information on the complete range of Fireboy-Xintex Clean agent Fire Suppression Systems please visit either of our website's depending on your location.

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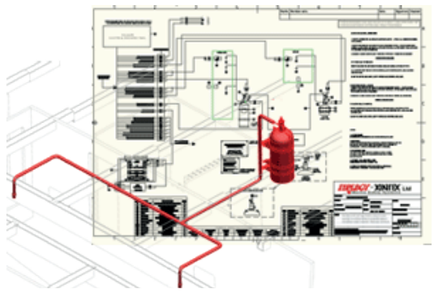

Pre-Engineered & Engineered Marine Systems

Contents

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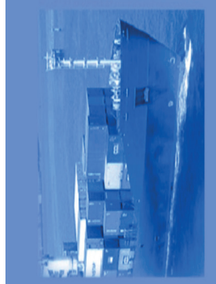

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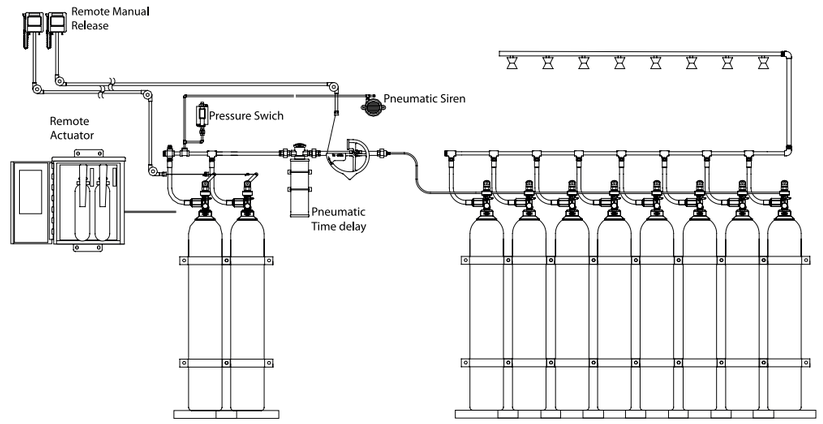
Why change from CO2 To *Clean Agent*

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.

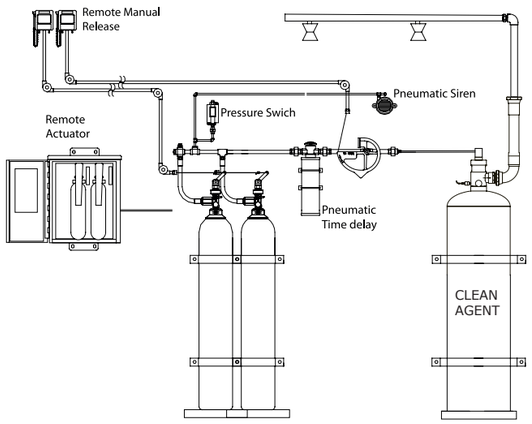
With so many levels of safety being required to be put in place, even on the smallest installation, CO_2 systems can add significant extra weight and cost to the overall build of any vessel. Imagine being able to replace most of that expensive, heavy pipe work with electrical cable & what you could do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



Typical 'Marine' CO_2 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

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-200q	319	368	1	0.4	0.7	600
Novecu 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



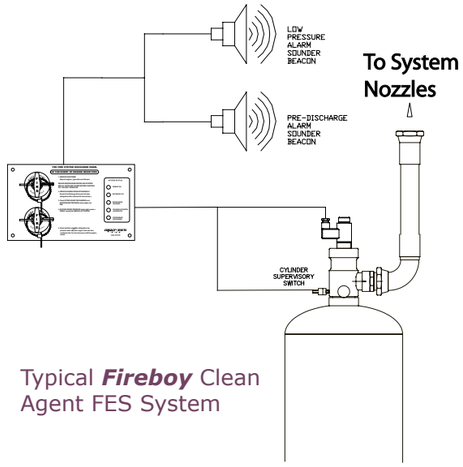
Typical 'Competitors' Clean Agent System

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.***



Typical ***Fireboy*** Clean Agent FES System

Benefits of the Fireboy 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 CO_2
- 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-200q

FM-200q was originally developed to replace ozone-depleting fire suppressants such as halon 1301. **FM-200q** 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-200q. It deploys quickly and cleanly without leaving any residue or causing collateral damage. FM-200q is the world's most trusted choice in waterless fire protection.

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

FK 5-1-12 Fire Protection Fluid

FK 5-1-12 fire protection fluid offers an environmentally sustainable alternative to fluorinated chemical suppression agents which does not compromise on performance or asset protection.

FK 5-1-12 fire protection fluid 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. FK 5-1-12 fire suppression fluid is both low in acute toxicity and is a highly efficient fire extinguishing agent. This means that FK 5-1-12fire protection 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, FK 5-1-12 fire protection fluid offers the widest margin of human safety over CO_2 and inert gas.

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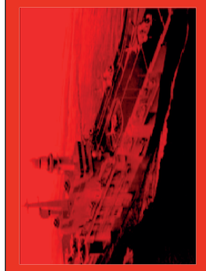

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Engine Room Suppression

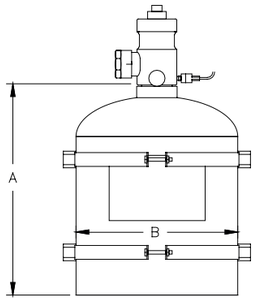
FIREBOY FES ENGINEERED SYSTEM

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$_q$) or FK 5-1-12 Fire suppression Fluid and super-pressurised to 360 psi. (25 bar) at 21^{0}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.

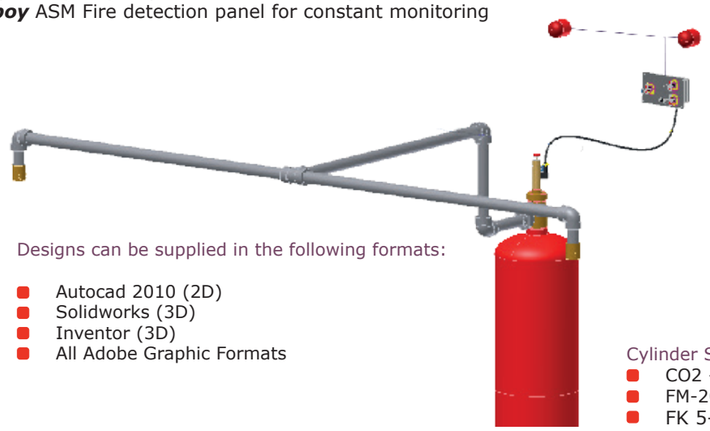
Complete systems are supplied as either MED / Type Approved or USCG Approved.



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*** 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-200u - 25 bar
- FK 5-1-12 - 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 'CPM 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.

Features

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

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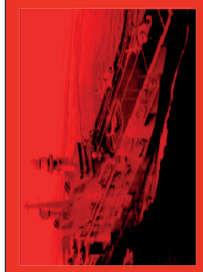

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PLEASURE CRAFT & SMALL COMMERCIAL

(for <24m vessels not requiring marine approvals)

Marine 2 Zone Conventional Detection Systems

Specifically designed to meet the requirements for small boat fire detection, this range is ideally suited for both new build and aftermarket retro-fit. Simply mounted through a 55mm hole and with a membrane front face giving excellent protection from the elements the units are powered between 9 - 30Vdc.

Coupled to 'Orbis' Marine Approved Detection devices from Apollo, users can be confident that this low cost option will give many years of trouble free protection.

Measuring just 93mm x 93mm x 25mm the detection panels can be mounted in the most convenient space available and with two different options available both are suitable for many Pleasure Craft (ISO 9094, RCD) and Small Commercial Vessels (MGN 280) under 24M.

A complete list of compatible detection devices can be found on pages 14/15

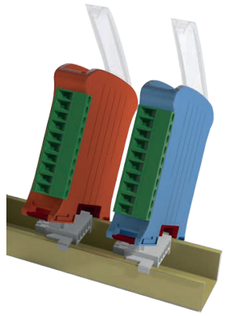
Specifications

Minimum (alarm current)	
10mA	
Operating voltage	9 - 30vdc
Maximum current per zone	320mA (including EOL)
Extinguisher Output	Unit Supply vdc @ 500mA
Charged Input	9 to 30vdc
Maximum sensors	8 per zone (5K6 EOL)

GENERAL ALARM TONE GENERATOR

As most low cost non-marine approved fire detection system do not include a function for producing a General Alarm warning, Fireboy-Xintex has produced an Add-On General Alarm Tone Generator, which can be wired to the outputs of our own FR-1000/2000 series of detection systems or any other system producing an output to sounders.

The General Alarm Tone, or to give it's correct title, SOLAS Tone 1a consists of 7 short blasts followed by one long blast, indicating when sounded that ALL personnel should proceed to their muster points.



Din Rail verticall mounted
79x101x22
Blend of PC/ABS self extinguishing material
Green or Black, but special colours are available on request.
24Vdc

Product Code

94213

Marine 4 - 12 Zone Conventional Detection System

(for <24m vessels not requiring marine approvals)

FBD-MZ

(multi-zone)

This stylish fire detection system will not look out of place on any of todays modern pleasure vessels, designed to give ultimate protection at an affordable cost, but with the styling that merits inclusion on todays modern helm, and the satisfaction of knowing the boat and it's occupants are protected.

The detection module will accomodate any conventional type detectors but has been tested throughout

Customisable Opening screen and Screen saver

The FBD-MZ Detection System allows the monitoring of 4-12 zones of smoke and heat detectors. Eight (8) detectors may be installed on each zone of the system. The system will monitor and report an alarm both visually and audibly.

The system also has 2 additional dry contact relay outputs that can be used for additional notification.

A complete list of compatible detection devices can be found on pages 14/15

System Specifications

Operating Voltage:	9-32V DC
Quiescent Current Draw:	200mA @ 12V DC, 100mA @ 24V DC, 240mA @ 32V DC
Alarm Current Draw:	220mA @ 12V DC, 115mA @ 24V DC, 260mA @ 32V DC
Operating/Storage Temperature:	22°F (-6°C) to 158°F (70°C)
Relay Output:	500mA

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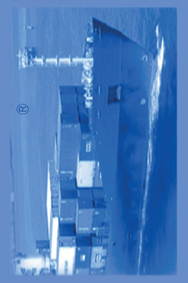


MARINE APPROVED

SYNCRO ASM

Marine & Offshore Two Loop Analogue Addressable Control Panel

Product Code
90900-B

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
WORLD CLASS FIRE SOLUTIONS
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 Fireboy 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, The Fireboy 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, Fireboy 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 Fireboy Syncro ASM control panel is simple and straightforward to understand for installers, commissioning engineers and end users alike.

Fireboy 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.

available option:

Flush Mount Bezel Kit available product code: **90948**

Technical

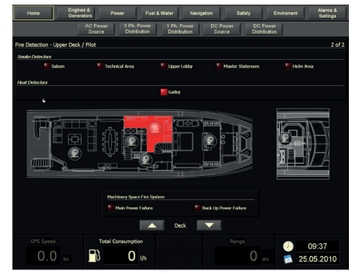
Construction	-	1.2mm sheet steel
Enclosure finish	-	BS 00 A 05 light grey textured
Mains voltage supply	-	230V AC 50 or 60 Hz.(110V special request)
Display	-	8 lines of 40 characters graphic LCD
Mains supply fuse	-	1.6A 250V
Power supply DC rating	-	24V 3 amps
Aux 24V supply		Fused at 500 milliamps
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	-	Product Code: 95016
Configuration	-	Via Loop Explorer PC utility

Add-on System Components

8 Way Relay Extender Board	90947
16 Ch Input/Output Board	90949
4 Zone Conventional Card	90950
6 Way Sounder Board	90951
VDR Interface Card	
Network Interface Card	90984
I/O Enclosure w/o Charger	90972
I/O Enclosure 750mA Charger	90952
I/O Enclosure 2.5A Charger	90953
I/O Enclosure 5.25A Charger	90954

System Integration

The system has two serial ports on the front panel board which are used for communication with external devices, such as a PC printer,modem or connection to an Alarm and Monitoring system.



MODBUS Interface
94xxxx Vizulinx

Vizulinx supports Modbus® over IP, with 1000 registers as default. Additional 1000 point registers are available by licence upgrades, up to a maximum of 10000 points.

ASM Repeater Panels

Product Code
90925-B Surface Mount
90931-B Flush Mount

Size (mm)
330 x 255 x 90 Surface Mount
310 x 240 x 40 Flush Mount

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

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

The Fireboy 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 Fireboy Syncro VIEW repeaters 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.

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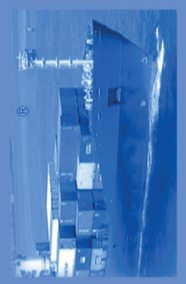


'Pacific' panels are fully approved to European standards EN54-2 & 4, Fire Detection and Alarm Systems– Control & Indicating Equipment & the Marine Equipment Directive.

1-4 Loop Analogue Addressable Fire Detection Panel

Fireboy's latest Detection offering is specifically aimed at the Marine and Offshore environment, this intelligent analogue addressable fire detection and alarm control panel is approved to EN 54 part 2 & 4, Lloyds Type Approval & MED compliant. Offered in two variants, the ***Pacific*** and the ***Pacific Plus.***

Modular in design, the Pacific and Pacific Plus provides flexibility and versatility that can be configured to operate with both intelligent analogue addressable and conventional devices in the one system.

Compatible with Apollo's marine range of Discovery and Orbis detectors and interfaces, the Pacific and Pacific Plus offer reliable fire detection that is suitable for all maritime and offshore appliccations both large and small.

Available form 1 - 4 Loops, the control panel can be net-worked for larger systems and provides users with powerful and veratile cause & effect programming ensuring the safety of personnel and asset protection at all times.

Pacific - All components are contained within one housing, particualry useful when space is not a real concern. Available in Off-White

Add-on System Components

8 Zone Conventional Card

32 Zone Alarm Mimic Board

8 Way relay Board

16 Ch Input Board

8 Way Sounder Board

High Level Interface Expander

HLI	RS232 or RS485
SmartView	RS232 or RS485
MODBUS	RS232 or RS485
VDR	RS232, RS485 or RS422

Network Interface Card

- 1-4 Loop, Expanable, Intelligent Fire Control System
  - Up to 4 x 500mA loops, 126 devices per loop
  - Networkable up to 99 nodes with 150 loops
  - Integral 5.6A Switch-mode PSU
  - 2 x 26Ah Standby batteries
  - Operating Temp -5C to +55C
  - IP30 Cabinet
- Powerful cause and effect programming

  Fully programmable Inputs, Outputs and Relay's
  - 4 fully programmable monitor outputs
  - 5 fully programmable relay outputs
  - 4 programmable monitored inputs
- Network Solutions for Larger Vessels
- IMO General (Muster) Alarm tone 1a
- Voyage Data Recorder Interface

'Ocean' panels are fully approved to European standards EN54-2 & 4, Fire Detection and Alarm Systems– Control & Indicating Equipment & the Marine Equipment Directive.

4 Zone Conventional Fire Detection Panel

Ocean 4 zone Conventional FACP with integral power supply & space for standby batteries.

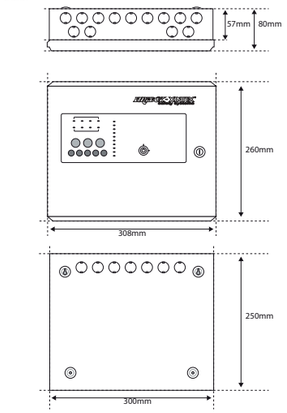
Ocean panels are fully approved to European standards EN54-2 & 4, Fire Detection and Alarm Systems
– Control & Indicating Equipment & the Marine Equipment Directive.

Two or four fire zone circuits are provided plus two monitored sounder circuits.

Fire & Fault VFCO relays, Fire & Fault switched negative outputs, class change and an alert input are also included.

The fire zone Fire & Fault switched negative outputs, class change and an alert input are also included.

CABINET



Technical

Construction	-	1.2mm sheet steel, IP30
Enclosure finish	-	Interpon Radon, Black, Epoxy Powder Coat
Mains voltage supply	-	230V AC 50Hz
Mains supply fuse	-	1.6A 250V
Power supply DC rating	-	28V 3A
Aux 24V supply	-	Fused at 500mA
Battery (24 hour standby)		3.2Ah 12V (2 per panel) (non-networked)
Teperature Range	-	-5C to +40C max RH 95%
Fault contact rating	-	30V DC 3 amp
Fire contact rating	-	30V DC 3A
Sounder output rating	-	Fused at 500mA each
Detection loop	-	400mA output
Detector protocol	-	Conventional

8 & 12 Zone Conventional Fire Detection Panel

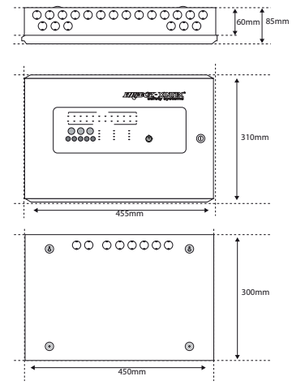
Ocean 8 or 12 zone Conventional FACP with integral power supply & space for standby batteries.

Simplicity is one of the most important aspects when considering the end user of a fire alarm panel. Thecolour coded buttons and the 3 step silence functionality gives non-technical users the confidence to correctly manage their fire alarm system.

As standard the panels provide two monitored sounder circuits, Fire & Fault VFCO relays, Fire &Fault switched negative outputs, class change and an alert inputare also included.

The fire zone Fire & Fault switched negative outputs, class change and an alert input are also included.

CABINET



Technical

Construction	-	1.2mm sheet steel, IP30
Enclosure finish	-	Interpon Radon, Black, Epoxy Powder Coat
Mains voltage supply	-	230V AC 50Hz max current 1.2A
Mains supply fuse	-	4A 250V
Power supply DC rating	-	28V 3A
Aux 24V supply	-	Fused at 500mA
Battery (24 hour standby)		9.0Ah 12V (2 per panel) (non-networked)
Teperature Range	-	-5C to +40C max RH 95%
Fault contact rating	-	30V DC 3A
Fire contact rating	-	30V DC 3A
Sounder output rating	-	Fused at 500mA each
Detection loop	-	400mA output
Detector protocol	-	Conventional

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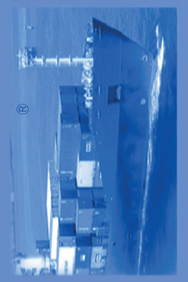

Conventional Marine Devices

refer to table for product codes

Heat Detector

The Orbis Marine Heat Detector uses a single thermistor to sense the air temperature around the detector. There are twelve heat detectors in the Orbis Marine range designed to suit a wide variety of operating conditions

- OMHD-01 HEAT A1R
- OMHD-02 HEAT A2S
- OMHD-03 HEAT BR
- OMHD-04 HEAT BS
- OMHD-05 HEAT CR
- OMHD-06 HEAT CS

with flashing LED

- OMHD-13 HEAT A1R
- OMHD-14 HEAT A2S
- OMHD-15 HEAT BR
- OMHD-16 HEAT BS
- OMHD-17 HEAT CR
- OMHD-18 HEAT CS

OMSD-01 Optical Smoke
OMSD-11 Optical Smoke with flashing LED

Smoke Detector

The Orbis Marine Optical Smoke Detector operates on the well established light scatter principle. However, the sensing technology is radically different in design from previous optical detectors and significantly reduces false alarms.

- Responds to stationary flames with no flicker
- Sensitive to UV radiation emitted by flames during combustion
- Compact flame detector which fits into Series 65 bases
- Zone-powered

refer to table for product codes

I.S Heat Detector

The Orbis IS Heat Detector monitors temperature by using a single thermistor network which provides a voltage output proportional to the external air temperature. The Orbis IS range incorporates seven heat detector classes to suit a wide range of operating conditions

- OMHDIS-01 I.S HEAT A1R
- OMHDIS-02 I.S HEAT A2S
- OMHDIS-03 I.S HEAT BR
- OMHDIS-04 I.S HEAT BS
- OMHDIS-05 I.S HEAT CR
- OMHDIS-06 I.S HEAT CS

with flashing LED

- OMHDIS-13 I.S HEAT A1R
- OMHDIS-14 I.S HEAT A2S
- OMHDIS-15 I.S HEAT BR
- OMHDIS-16 I.S HEAT BS
- OMHDIS-17 I.S HEAT CR
- OMHDIS-18 I.S HEAT CS

OMSDIS-01 - I.S Optical Smoke
OMSDIS-02 - I.S Optical Smoke with flashing LED

I.S Smoke Detector

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

OMSD-02 MultiSensor
OMSD-12 MultiSensor with flashing LED

Multisensor Detector

The Orbis Marine Multisensor Detector benefits from the same false alarm reduction technology as the optical detector. It is a thermally enhanced smoke detector and so will not give an alarm from heat alone

OMDB-01 - Timesaver Base
OMDB-04 - Relay Base
OMDBIS-01 - IS Base

TimeSaver Base

The Orbis Marine TimeSaver Base® is a completely new design that provides installers with an open working area with fixing holes shaped to allow a simple mounting procedure

Relay Base

The Orbis Marine Relay Base incorporates a single-pole voltage-free change over contact for switching ancillary equipment. When the detector changes to the alarm state, the relay is energised, causing the contact to change state. The contact will remain in this condition until the detector is reset

I.S Timesaver Base

The Orbis IS TimeSaver Base is a completely new design that provides installers with an open working area with fixing holes shaped to allow simple mounting

OMMDIS-01 - I.S MultiSensor
OMMDIS-02 - I.S Multisensor (flashing LED)

I.S MultiSensor Detector

The Orbis IS Multisensor Smoke Detector benefits from the same false alarm technology as the Optical Smoke Detector. It is a thermally enhanced smoke detector so will not give an alarm from heat alone

OMFD-01 - UV Flame Detector
OMFB-01 - FD Mounting Base

UV Flame Detector

The Series 65 Mounted UV Flame Detector is designed to protect enclosed indoor areas where open flaming 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

92021K - Manual Call Point
92022K - Manual Call Point IP65
92023K - Manual Call Point -IS

Manual Call Points

The Conventional Marine Manual Call Point has been designed to operate on conventional marine fire detection systems. It is compliant with EN54-11 and Marine Equipment Directive 96/98/EC and is available in both indoor and outdoor variants

- Plug and play terminal connections for fast wiring
- Resettable element
- Indoor and outdoor variants available

92020 - Galvanic Barrier

Galvanic Barrier

The Glavanic barrier is available in the XP95 IS range and the Orbis IS range. It can be installed in safe areas and ensures system integrity.

Conventional Sounders & Beacons

(No Marine Approvals, EN54-3)

92024 - Sounder - Shallow
92025 - Sounder - Deep

Sounder

Available with Shallow or Deep Base.

- 9-28V DC
- 102dB(A)
- IP54 (S)
- IP65 (D)
- 16mA
- 93mm dia x 63mm (S)
- 93mm dia x 93mm (D)

92026 - Sounder Beacon - Shallow
92027 - Sounder Beacon - Deep

Sounder / Beacon

Available with Shallow or Deep Base.

- 18-28V DC
- 101dB(A)
- IP54 (S)
- IP65 (D)
- 68mA
- 93mm dia x 92mm (S)
- 93mm dia x 121mm (D)

92032 - Beacon - Shallow
92038 - Beacon - Deep

Beacon

- 10-30V DC
- IPC 21 (S)
- IPC 33 (D) User selectable
- 3-5mA
- >0.5/1/3CD User selectable
- 93mm dia x 83mm

92035 - Sounder Beacon 110
92041 - Sounder Beacon 120

High Output Sounder / Beacon

- 18-30V DC
- 110dB(A)
- Sounder: 105mA (110)
  450mA (120)
- Beacon: 250mA / 3.6j (110/120)
- IP66
- 168mm x 212mm x 155mm

(Specification based on using product at 24Vdc)

92034 - Sounder 110
92040- Sounder 120

High Output Sounder

- 18-30V DC
- 110dB(A) / 105mA (110)
- 120dB(A) / 450mA (120)
- IP66
- 168mm x 168mm x 155mm

(Specification based on using product at 24Vdc)

92037 - Sounder Beacon - Midi

High Output Sounder / Beacon - Midi

- 9-60V DC
- 108dB(A)
- Sounder: 24mA
- Beacon: 200mA / 2.5j
- IP66
- 165mm x 173mm x 132mm

(Specification based on using product at 24Vdc)

92036 - Sounder - Midi

High Output Sounder - Midi

- 9-60V DC
- 108dB(A) / 24mA
- IP66
- 165mm x 136mm x 132mm

(Specification based on using product at 24Vdc)

VF4007-1M - Horn/Strobe
VF4028-10 - Horn/Strobe with Outdoor Enclosure

24V low Profile Evacuation Outdoor Horn/Strobe

Strobe Flash Rate	1 flash per second
Nominal Voltage Regulated	24 DC/FWR1
Operating Voltage Range 2	16 to 33 V (24 V nominal)
Max Candela	75cd
Max Strobe Current	180mA
Max volume	100dB(A)
Max Horn Current	56mA

The Outdoor Fireboy-Xintex VF Series offers dependable visible and/or audible alarms for all outdoor needs.- Included with the Fireboy-Xintex Series is the VF4008-10 outdoor enclosure. The enclosure is made of high quality Lexan material, providing protection from weather related conditions and allowing the necessary full candela output. This highly constructed enclosure meets various installation requirements including deterring moisture from entering the enclosures.

90932 - ATEX Sounder

ATEX area Sounder

The IS-mA1 is a compact, 100dB(A) alarm sounder. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications.

- Input overload and reverse current protection
- End of line resistor certified
- Auto synchronised sound output
- Available with custom tone configurations and frequencies

Marine Approved Sounder (99.9dBA) / Sounder-Beacon (98dBA / 5J)

94149 - Sounder,Red, Shallow base, IP21
94150 - Sounder,Red, Deep Base, IP65

Rated Voltage	21- 28 VDC
Max volume	99.9dB(A)
Max Horn Current	30.8mA
Protection	IP21 or IP65
Nominal Current	8.3-30.8mA
Approvals	ABS, MED

- Approved to Marine Equipment Directive 2014/90/EU (inc. IEC 60092-504, IEC 60533, EN 54-3)
- EMC testing to: IEC 60533 – Electrical and electronic installations in ships
- Environmental testing to: IEC 60092-504 - Installations in ships: Control and instrumentation

94151 - Sounder-Beacon,Red/Red, Shallow base, IP21
94152 - Sounder-Beacon,Red/Red, Deep Base, IP65

Rated Voltage	21-28 VDC
Max volume	98dB(A)
Protection	IP21 or IP66
Nominal Current	10.8 - 34.4 mA
Approvals	ABS, MED
Body Colours	Red (Std) or White
Lens Colours	Red (Std) Clear, Green Blue, Amber

Spatial sounders & Sounder/Beacons designed to operate with marine approved fire alarm control panels and are supplied, as standard, with 32 selectable tones, two of which are the "Marine General Alarm" and the International Marine Organisation (IMO) "Code 2 Continuous" signals. The devices also have a changeover facility, allowing the selection of "Alert" and "Evacuation" tones when installed using three-core cable. The VTG-32EM tones provide the most common sound patterns and frequencies, and are fully synchronised.

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Analogue Marine Devices

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

90902 - Standard
AP9S-IOS - Intrinsically Safe

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

90903 - Standard
AP9S-OP - Intrinsically Safe

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
- Unaffected by wind or atmospheric pressure
- Remote test feature

90904 - Standard
90912 - Intrinsically Safe

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 engine rooms & Galley's
- Unaffected by wind or atmospheric pressure
- Well suited for sensitive environments
- Remote test feature

90909 - MultiSensor

Intelligent 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.

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

90901 - Standard
90913 - Intrinsically Safe

Intelligent Heater Base

The Intelligent Heater Base is designed to be used in cold climates where environmental conditions could result in either icing or condensation affecting the operation of detectors. It is recommended that the heater base be used in conjunction with either a Waterproof Base Cover or Deckhead Mounting Box to minimise moisture ingress.

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

94041 - Intelligent Heater Base

Isolating Base

The Isolating base senses and detects short-circuit faults on loops & spurs.

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

94034 - Isolating Base

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.

- Individual control of the sounder and beacon
- Volume and tone settings can be selected from the control panel
- SOLAS Tone 1a can be selected and will sound when General Alarm is activated.
- Electronic bell tone

90908 - Sounder Beacon

Integrated Base Sounder

The Integrated Base Sounder comprises a base sounder with integral mounting base and is for use with Discovery range. It is designed for use in enclosed areas.

- Two tone ranges
- Synchronisation of 'alert' and 'evacuate' tones
- Individual and group addressing
- Unique acoustic self-test
- Integrated base
- Isolator option

90930 - Base sounder

Loop-Powered Beacon Base

The Beacon Base is a loop-powered beacon combined with a standard Intelligent Mounting Base. It is used to signal a fire alarm in enclosed areas. The beacon base can be used with either a detector fitted or with a cap as a stand-alone alarm device.

- Beacon flash rate of once per second
- Synchronisation of beacon flash
- Individual and group addressing
- Unique beacon self-test
- Loop powered
- Isolator option

92016 - Beacon Base

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.

- 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

90936 - Isolator

Isolator Base

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

- Only accepts Isolators 90936

90935 - Isolator Base

IR2 / IR3 Flame Detector

The Intelligent Base Mounted IR^3 Flame Detector is designed to protect areas where open flaming fires may be expected. The detector has two / 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 fits into Discovery bases Loop-powered
- False alarms due to factors such as flickering sunlight are avoided by a combination of filters and signal processing techniques.

90964 - UV Flame Detector
90965 - IR2 Flame Detector
90966 - IR3 Flame Detector

Deckhead Mounting Box

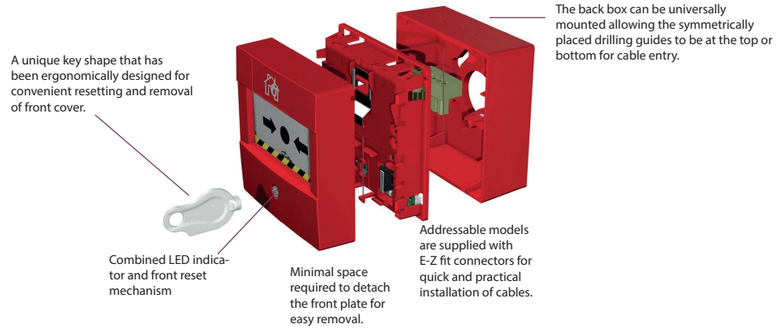
The Deckhead Mounting Box gives extra protection to devices to be fitted in areas where there is the possibility of moisture or condensation ingressing through the rear of the base. This new version is suitable for a wider range of detector bases as well as Apollo's AV bases.

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

90945 - Mounting Box
90946 - Accessory Kit

Please contact Fireboy-Xintex for Intrinsically safe Flame Detectors part numbers and pricing.

Analogue Marine Devices



These latest Manual Call Points have been designed and engineered to be easily installed and commissioned.

90962 - Standard MCP with isolator

94043 -Waterproof MCP
94037 -Waterproof MCP with isolator
90974 - Intrinsically Safe

Area Isolator Unit

Area Isolator units are used to isolate an area for a specific amount of time, selectable from 15 -75 minutes at 15 minute intervals. The AIU can be wired directly to an ASM panel input or connected to the Loop via a mini-switch monitor.

Specific area(s) isolation determined by 'Cause and Effect' programming of Syncro ASM FACP.

- Operating Voltage - 18 to 32Vdc
- Current Consumption - 25mA (with LED operating)
  Size - 97mm x 97mm x 58mm
- Momentary Pushbutton operation

94033 - Area Isolator

Door Hold/Release

Various Door Hold & Release options are available to suit different applications and will specified upon request.

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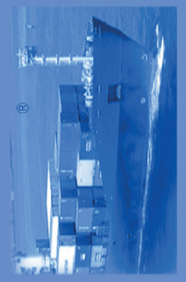

Loop Powered Sounders & Beacons

92000 - Sounder - Red
92001 - Sounder - White

Intelligent Open-Area Sounder

The Intelligent Open-Area Sounder has been designed for use in open areas and can be connected to any Discovery 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 90º
- Ceiling Mounted

92002 - Red
92003 - Clear

Intelligent Open-Area Beacon

The Intelligent Open-Area Beacon has been developed for use in situations where there is a risk that sounders will not be heard. It is weatherproof and can be used outside.

- Self-test fault monitoring
- Weatherproof IP65
- Group addressing
- Synchronisation of alarm
- Comes with Isolating Base as standard
- Loop powered

92004 - Red
92005 - Clear

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

92006 - Red
92007 - White

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

92008 - Red
92009 - White

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

92010 - Red
92011 - White

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

92012 - Red
92013 - White

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 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

92014 - Red
92015 - White

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 system. The sounder comprises a back box 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

90910 - Red
92017 - White
92018 - Amber

Loop-Powered Beacon

The Loop-Powered Beacon is a local-area beacon designed for indoor use. The beacon has been developed as a supplement to sounders for use in situations where there is a risk that sounders will not be heard.

- High intensity LEDs
- More reliable than xenon beacons
- Automatic LED check
- Lockable
- Wide angle of visibility
- Enables DDA compliance
- Synchronised flash

92019

Beacon Enclosure

The Beacon Enclosure is weatherproof and allows Apollo's loop-powered beacon to be used in high moisture environments such as swimming pools and food processing areas where wash-down occurs. The enclosure is supplied with a mounting bracket to accept a Discovery base.

- Protects against water ingress
- Allows beacon to be used outdoors
- Accepts MiniDisc Remote Indicator
- IP67

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DIN-Rail Components & Accessories

90968 - Sounder Controller

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 their status to the control panel.

- 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

90969 - Switch Monitor Plus

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.

- 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

90970 - Zone monitor

DIN-Rail Zone Monitor

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

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

Protocol Translator-Single
Product Code 90914

Protocol Translator-Dual
Product Code 90971

Galvanic Barrier
Product Code 90915

94077 - Input/Output Unit

DIN-Rail Input/Output Unit

The DIN-Rail Input Output Unit provides a volatge free, single pole, change-over relay output, a single monitored switch input and an unmonitored, non-poloarised opto-coupled input.

- It can report fault, switch open and switch closed levels
- Three visable LEDs
- Loop-powered
- Capable of switching up to 30V at 1A

90977 - Dual Isolator

DIN-Rail Dual Isolator

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

- Loop Powered
- Polarity Sensitive
- Up to 20 detectors between Isolators
- Allows fully isolated spurs

AP95-LSM - Switch Monitor

Mini Switch Monitor

The Mini Monitor Module is an interface within an entirely new housing. This allows the unit to be fitted onto a standard 35mm DIN-rail (using a twist-click motion) or 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 the ASM Panel.

90934 - Zener Barrier

Zener Barrier for ATEX area Sounder

- Removable terminals - for easy cabling - UNIQUE
- Bussed power - reduces cabling - UNIQUE
- Barrier protection module
- Proximity detector inputs - UNIQUE
- Dual channel modules
- Relay and solid state switch modules - UNIQUE

90978 - DIN-Rail Interface Enclosure (4 Units)
94078 - DIN-Rail Interface Enclosure (10 Units)

DIN-Rail Interface Enclosures

DIN-Rail Interface Enclosures are available in two sizes and can be used for housing Intrinsically Safe (IS) barriers or DIN-Rail mounted Interfaces.

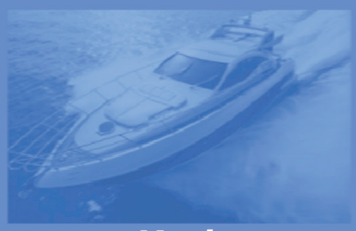
A multi-purpose label that features a section for use with IS systems is supplied. For non-IS systems, the part referring to IS can simply be removed.

- Allows multiple interfaces to be housed together.
- IP 67 rated

Commercial

Military

Passenger



Yachts

On Board, On Guard

FIREBOY

Fire Suppression . Fire Detection .

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