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SIGNALINE

Linear detection solution   Product Brochure

SIGNALINE HEAT

SIGNALINE WATER

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Email: sales@lgmproducts.com   Web: www.lgmproducts.com   ISO 9001:2015 certified

Address: LGM Products Ltd, Unit 15 Riverside Industrial Park, Farnham, Surrey, GU9 7UG, United Kingdom.

About Us

Signaline is a comprehensive range of linear detection systems providing solutions for fire and water leak detection.

Our linear detectors are 100% manufactured in the UK and have a wide range of third party approvals from both international organisations and local bodies, testifying to the high quality of the products.

Our detectors are sold in 50m increments, sized to suit the needs of each individual customer.

Certification

LGM Products is proud to be a market leader in customer service. Our third party approved quality assurance systems gives our customers the confidence they need in a reliable and active supplier.

Check our website to download a copy of our ISO9001:2015 quality assurance certificate.

Signaline also carries VdS Approval for the Signaline HD SKM-03 and Signaline HD SKM-95 analogue linear heat detection.

Signaline FT cable is UL and FM approved.

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2

SIGNALINE HEAT

A versatile heat detection solution with large coverage and a small profile. Signaline HEAT carries international approvals and is ideal for various industrial and commercial buildings.

Signaline HD
WHAT IS HD?

Signaline HD is an analogue resettable linear heat detector that monitors significant increases in temperature.

An electronic controller connected to the cable monitors the condition of the cable to sense any change in temperature by continually measuring the electrical resistance between the metallic core and screen. If the change in temperature is sufficient the controller creates an alarm.

KEY POINTS

- EN54-5 approved
- Sold in 50m increments, up to 500m per reel
- Zero maintenance
- Weather-proof heat detector
- Fully resettable
- Addressable and conventional controllers available
- No setup or programming required
- Intrinsically safe when integrated with a barrier
- Up to 300m in a single zone

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4

Signaline HD
ANALOGUE HEAT DETECTION

Signaline HD

- PVC outer coat
- Reports fire upon a change in resistance
- Provides class C response (EN54 approved)
- Resettable once cool. No need to replace unless damaged
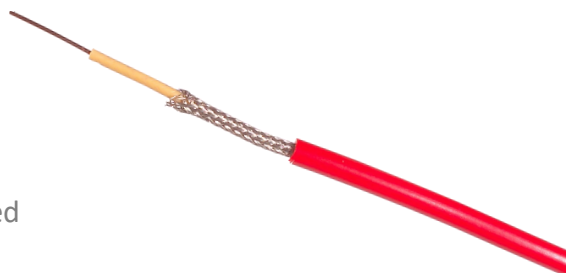
Signaline HD-R

- Signaline HD with protective nylon coating
- Resistant to oils, corrosive chemicals/gasses and high UV levels
- Provides class C response (EN54 approved)
- Resettable once cool. No need to replace unless damaged

Signaline HD-S

- Signaline HD with a braided stainless steel sleeve
- High mechanical protection
- Helps prevent expensive maintenance/repair costs
- Resettable once cool. No need to replace unless damaged

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5

Signaline HD
CONTROLLERS

All Signaline HD Linear Heat Detectors (Signaline HD) must be used with a controller.

Signaline HD Controllers provide early warning of an impending fire by detecting overheating in cable ducts, road tunnels, escalators, car parks, lift shafts, conveyer belts and similar difficult to monitor environments.

The system uses Signaline HD Linear Heat Detector and a Signaline HD Controller plus a Signaline End of Line Unit. Signaline HD Controllers are very simple and easy to use.

All Signaline controllers are delivered complete with End of Line.

HD-SKM-03

- Conventional controller
- The SKM measures the condition of the cable. (normal, open circuit, short circuit, fire)
- Equipped with volt free fire & fault relays that are connected to the fire control panel

HD-SKM-95

- Addressable loop-powered controller
- The SKM measures the condition of the cable. (normal, open circuit, short circuit, fire)

- IP65 rated
- EN54 part 5, class-C approved
- Monitors up to 300m of cable
- Economical and simple to operate

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6

Signaline HD
ACCESSORIES

EOL

- Standard End of Line device for use with Signaline HD.
- Included with purchase of Signaline controllers
- IP66 enclosure

UCB

- Can be used as an end of line enclosure, junction box or an inter-posing line unit
- Supplied with appropriately sized cable glands, terminal block and 470, 680 ohm resistors
- IP66 enclosure

K Clip

- Designed specifically for Signaline HD
- No wall plug or screw needed
- 6mm dia. knock-in spigot
- Cable stands off wall by 4.5mm
- More clips available on pages 12-13

Signaline FT
WHAT IS FT?

Signaline Fixed Temperature Linear Heat Detector (Signaline FT) detects a build up of heat anywhere along its length. When any point along the length of the cable reaches a predetermined temperature an alarm is initiated.

Signaline FT is available in four different temperature settings and two outer cover options making the Signaline FT suitable for use in a very wide range of applications.

KEY POINTS

- UL, cUL and FM Approved
- PVC or nylon outer coating as standard
- Four alarm temperatures to choose from
- Easy to install
- Large zone lengths
- Range includes optional alarm locator
- Maintenance free
- No false alarms
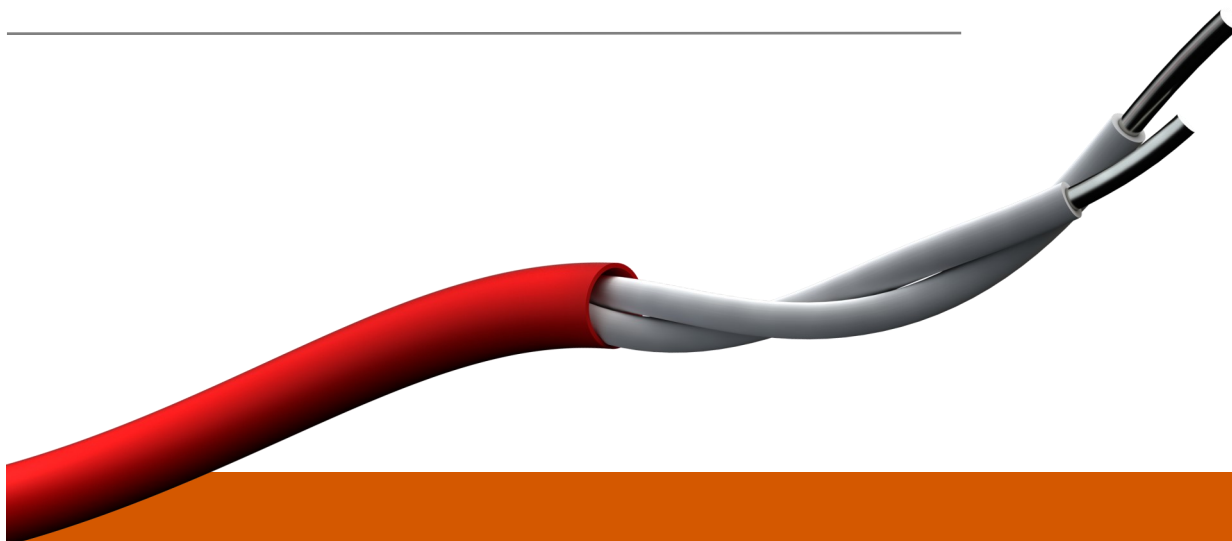
Signaline FT
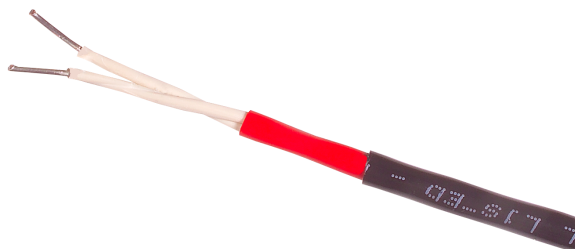**FIXED TEMPERATURE CABLE**

Signaline FT-68

- 68°c pre-set alarm temperature
- cUL, UL and FM approved
- PVC coat
- Simple installation & cost-effective
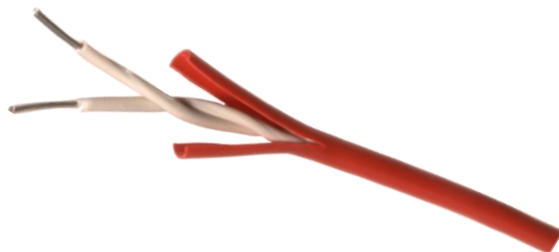
Signaline FT-68-R

- 68°c pre-set alarm temperature
- cUL and UL approved
- Resistant to oils, corrosive chemicals/gasses and high UV levels
- Nylon outer sheath

Signaline FT-88

- 88°c pre-set alarm temperature
- cUL, UL and FM approved
- PVC coat
- Simple installation & cost-effective

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9

Signaline FT
FIXED TEMPERATURE CABLE

Signaline FT-105

- 105°c pre-set alarm temperature
- cUL, UL and FM approved
- Resistant to oils, corrosive chemicals/gasses and high UV levels

Signaline FT-105-R

- 105°c pre-set alarm temperature
- cUL and UL approved
- Resistant to oils, corrosive chemicals/gasses and high UV levels
- Nylon outer sheath

Signaline FT-185-R

- 185°c pre-set alarm temperature
- cUL and UL approved
- Resistant to oils, corrosive chemicals/gasses and high UV levels
- Designed to withstand very high ambient temperatures

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10

Signaline FT
ACCESSORIES

APDL (alarm point distance locator)

The APDL is an Alarm Point Distance Locating device exclusively for use with Signaline linear heat detection cable.

It is designed to interface between a listed fire alarm releasing/control panel or addressable module and a single length of Signaline FT linear heat detection cable. The unit is operated using a single rocker switch. When this switch is compressed, the LCD display will show the exact point of activation along the installed length of Signaline cable

- IP65 rated
- FM certified
- Suitable for all FT cable
- Backlit LCD display
- Detects alarm point from 100 to 3000 meters

An important design feature of the APDL is the continued correct operation of the panel or module regardless of faults which may occur in the APDL such as loss of power to the unit. In the event of power loss, this unit will also remember all installation settings.

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11

Signaline Heat
ACCESSORIES

T Clip

- Polypropylene plastic moulding with slot for cable
- Can be combined with tie wrap to prevent cable being pulled from the clip
- Can be fixed to surface with screw or percussion pin
- Sold as clip only. Fixing screw and tie wrap not included

A Clip

- Nylon clip with M6 fixing holes
- Ideal where heat transfer from the fixing point to the cable must be minimized
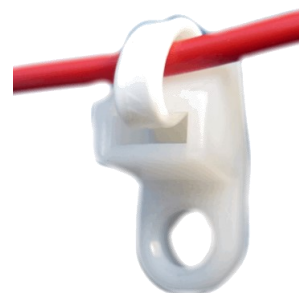
P Clip

- Made of stainless steel
- Highly resistant to oils and greases
- Wide temperature tolerance
- UV and ozone resistant cushion insulator

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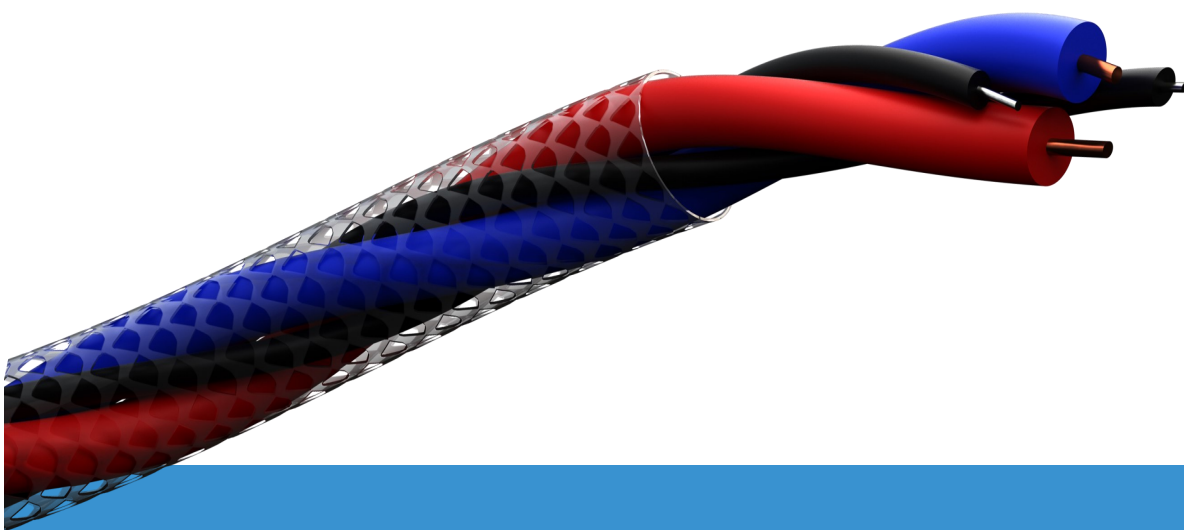
12

Signaline Heat
ACCESSORIES

Nylon P Clip

- Made of flame-retardant polypropylene

- Resistant to chemical corrosion and UV light

- Small profile

- Low heat transfer

Edge Clip

- Designed to attach to steelwork with 3-8mm thickness. Other thicknesses available if required

- Made of steel with a zinc finish

- Cable attaches to clip with the supplied neoprene sleeve and cable tie

J Clip

- Designed to attach to steelwork with 4-6.8mm thickness

- Made of steel with a zinc finish

- Cable attaches to clip with the supplied neoprene sleeve and cable tie
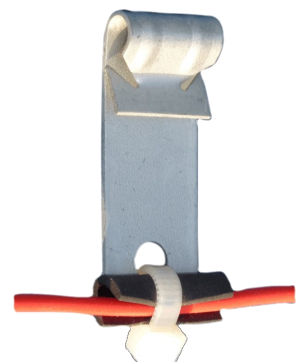
Signaline Heat
ACCESSORIES

Signaline Retractable Cable

- A multi-core extending cable

- Perfect for floating roof petro-chem storage tanks

- Designed to connect Signaline cable fitted to the circumference of a tank with an EOL device at the roof of the tank

- Oil, grease and chemical resistant

Auto Cable Collector

- Turnbuckle with 24m extending retractable cable

- Designed to connect Signaline cable fitted to the circumference of a tank with an EOL device at the roof of the tank

- Fitted Ex junction box

UCB

- Can be used as an end of line enclosure, junction box or an interposing line unit

- Supplied with appropriately sized cable glands, terminal block, 470 and 680 ohm resistors

- IP66 enclosure

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14

SIGNALINE WATER

Signaline WATER detection cable can be used to protect critical applications where equipment might be vulnerable to water ingress. Early detection of water can reduce or prevent costly downtime.

Signaline Water
WHAT IS WD?

Signaline WATER detection cable can be used to protect critical applications where equipment might be vulnerable to water ingress. It can be installed with up to 1km of cable per module.

The flexible but tough detection cable acts as a sensor along its entire length. Contact with water causes a short-circuit and sends the panel into alarm.

Applications include data centres, server rooms, document stores and machinery.

KEY POINTS

- 3.75, 7.5, 15, 30 and 100m lengths available
- Unique 4-core twisted cable (2x monitoring, 2x water sensitive)
- Protective nylon fishnet braid allows the sensing cable to remain protected while exposed to potential water
- The monitor can connect to a panel, BMS or other management system
- No programming required
- Plug and play setup
- Made in the UK

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16

Signaline Water
WATER SENSING CABLE

Signaline WD

- Water detection cable
- Unique 4-core twisted cable with a nylon fishnet braid
- Available in 3.75m, 7.5m, 15m, 30m & 100m lengths
- Pre-fitted connectors and hard wearing cable

Signaline WDM-KM

- Monitors water detection cable
- Allows for termination of power, alarm and fault connections
- Completely sealed. Protected from water damage

Signaline Water Detection Control Panel

- Provides a fully monitored detection solution
- 2 and 4 zone versions available
- One-man walk test mode
- 2x monitored sounder circuits

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17

Signaline Water
ACCESSORIES

WIB Interposing Box

- Interfaces the Signaline WDM-KM with a water control panel
- One WIB is required per zone
- Compatible with Apollo XP95 and Hochiki ESP systems
- IP66 rated enclosure

Water Lead-in Cable

- Allows for a panel to be placed away from the detection zone
- Fitted with connectors to allow for instant tool-free installation

Nylon P Clip

- Made of flame-retardant nylon 66
- Resistant to chemical corrosion and UV light
- Small profile
- Low heat transfer

Fire detection

Addressable and conventional fire detection systems for industrial and commercial use

We provide a variety of solutions for standard fire detection applications. Our product catalogue includes addressable and conventional smoke detectors, manual call points, fire control panels, beam smoke detectors and flame detectors.

Audio visual signalling

Sounders, beacons, sirens, bells and other signalling devices

LGM Products offer a wide selection of audio-visual warning devices including sirens, bells, airhorns, sounders, beacons and a comprehensive range of audio-visual combination units.

Marine and offshore

Offshore and marine-approved fire systems, audio and visual signalling

With over 25 years of experience serving the marine industry around the world LGM Products understands the demanding nature of the marine sector. Our specialist knowledge means we are well-placed to deliver the best safety and detection devices for marine and offshore environments.

Hazardous area

Explosion Proof and Intrinsically Safe products for ATEX, UL and IECEX-approved areas

Facility safety within hazardous areas is of the utmost importance and LGM Products is able to offer a variety of explosion proof and intrinsically safe (I.S.) products which will help keep workers and equipment safe from industrial fires and accidents.

Explore our extended range at www.lgmproducts.com

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What are heat sensing cables?

Signaline Heat sensing cables are specialist cables designed to sense heat or sudden increases in temperature anywhere along their entire length. They are designed to be used in commercial and industrial fire alarm systems where conventional heat detectors may be difficult to install, or may not be suitable.

Signaline heat sensing cable can often be cheaper to install than conventional point type heat detectors. There are two types of heat sensing cable: Analogue (Signaline HD) and Fixed Temperature (Signaline FT).

Where are heat sensing cables used?

There are many places where heat sensing cable can be used effectively. Here are some examples:

Power stations
- Coal conveyors
- Power cable tunnels
- Cable trays

Vehicles
- Engine bays of earth moving vehicles
- Heavy goods vehicles
- Military vehicles

Railways
- Engine locomotives
- Signal cable trays

Ships
- Car ferry vehicle decks
- Engine rooms

Petro-chem.
- Floating roof tanks

Airports & public transport terminals
- Escalators
- Moving walkways

Tunnels
- Road tunnels
- Access tunnels

Car parks
- Multi storey or basement car parks

Warehouses
- Storage racks
- Cold storage rooms

Office & shopping malls
- Escalators
- Basement car parks
- Plant rooms
- Stand-by gen-set rooms

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What is the difference between Signaline HD and Signaline FT heat sensing cables?

Signaline FT is a fixed temperature cable. A fixed temperature cable is a simple form of heat detection. When a specified temperature is reached the construction of the cable breaks down to form an electrical closed contact. In other words nothing happens until a section of cable reaches a certain temperature, then at that temperature the cable acts like a closing switch. Fixed temperature heat sensing cable cannot be re-used. Once it has gone into alarm it must be replaced.

Signaline HD is an analogue heat sensing cable. Whereas Signaline FT is an on/off alarm, analogue cables monitor the rise in temperature. Signaline HD senses significant increases in temperature. An electronic controller connected to the cable monitors the condition of the cable to sense any change in temperature. This is done by continually measuring the electrical resistance in the cable between the metallic core and outer braiding. If the change in temperature is sufficient the controller recognises the change in resistance and creates an alarm. The controller is easily adjusted for the length of cable being used. Most importantly analogue heat sensing cable will reset itself after an alarm when the cable has cooled down unless it has been permanently damaged or destroyed by the heat.

The difference in the make up of the two types of cable is shown in the diagrams below -

Signaline Fixed Temperature Heat Sensing Cable

Signaline HD Analogue heat sensing cable
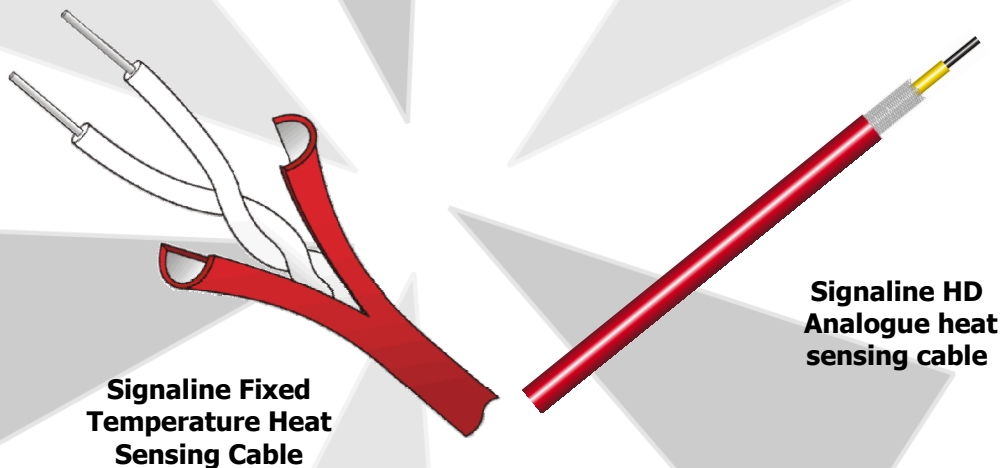
Both Fixed temperature and analogue heat sensing cables can be easily integrated into intelligent fire alarm systems. A dedicated Apollo XP95 loop powered controller is available for analogue cables.

Basic *DOs* and *DON'T*s

-**DO** use analogue cable when it is important to detect a fire as soon as possible.

-**DO** use analogue cable when a fire is unlikely to give off smoke in its early stages e.g. overheating cables.

-**DO** use fixed temperature cable when a simple temperature alarm is required.

-**DO** use fixed temperature cable in high temperature environments.

-**DO NOT** use analogue cable if the normal ambient temperature is likely to be above 45 °C e.g. in engine bays of vehicles.

-**DO NOT** use analogue cable if sudden changes of temperature can be expected under normal working conditions.

-**DO NOT** use fixed temperature heat sensing cable when sophisticated fire and fault monitoring is required.

-**DO NOT** use fixed temperature cable when it is likely to be regularly 'flexed' or subjected to frequent bending in the normal course of work. This is because digital cable is much stiffer and less flexible than analogue cable.

Signaline Fixed Temperature Heat Sensing Cable

Signaline Fixed Temperature Heat Sensing Cable (Signaline FT) detects a build up of heat anywhere along its length. When any point along the length of the cable reaches a predetermined temperature an alarm is initiated.

Signaline FT is available in four different temperature settings and two outer cover options making the Signaline FT suitable for use in a very wide range of applications.

Signaline FT Operation

Signaline FT is comprised of two steel conductors individually insulated with a heat sensitive polymer that are twisted together. At the rated temperature the heat sensitive polymer insulation breaks down permitting the steel conductors to move into contact with each other. This forms a closed switch contact that can be used to signal an alarm condition at the control panel.
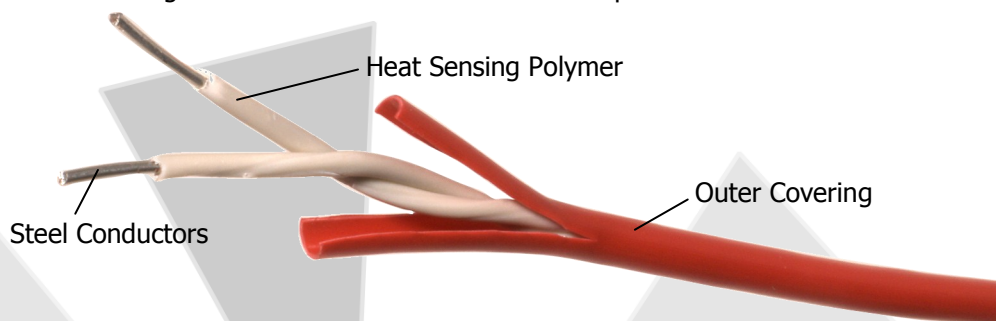
Signaline FT cable can be installed in hazardous areas when suitably protected by an intrinsically safe barrier.

Please refer to the Signaline application notes available at www.Lgmproducts.com

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Signaline Fixed Temperature Heat Sensing Cable

Part No	AlarmTemp °C/°F	Maximum Ambient °C/°F	Outer Sheath Material	Colour	Overall Diameter mm	Approval
FT-68	68/155	45/113	PVC	RED	3.5	FM/UL
FT-68-R	68/155	45/113	Chemical Resistant Nylon	BLACK	4.5	UL
FT-88	88/190	70/158	PVC	WHITE	3.5	FM/UL
FT-88-R	88/190	70/158	Chemical Resistant Nylon	BLACK	4.5	UL
FT-105	105/220	85/185	PVC	WHITE	3.5	FM/UL
FT-105-R	105/220	85/185	Chemical Resistant Nylon	BLACK	4.5	UL
FT-185-R	185/365	125/257	Chemical Resistant Nylon	RED	3.6	UL

Common Specification

Conductor Resistance   0.190Ω/m or 0.0579Ω/FT   @ 20°C

Max Voltage   42Vdc or 30Vac

Dielectric Withstand (UL)   500Vdc

Tensile Strength   1700 N/mm^2

Minimum Bend Radius   75mm

Weight   12Kg/500m

Accessories
A full range of cable fixings, Signaline Universal Connector Boxes, intrinsically safe barriers and zone monitor panels are available. (Please see our website for details)

Other Signaline Products
Signaline Alarm Point Distance Location Module identifies the point along the Signaline FT cable where the alarm occurred. The unit displays the distance from the module to the alarm point in both feet and metres.

Signaline HD Analogue Cable is fully resettable EN54 compliant VdS approved heat sensing cable. It is ideal for use in confined spaces where access is restricted such as escalators, cable tunnels and shafts. (Please see our website for details)

SIGNALINE HEAT

Alarm Point Distance Locator

The APDL is an Alarm Point Distance Locating device exclusively for use with Signaline Heat Sensing Cables. The APDL is designed to interface between a listed fire alarm releasing or control panel or addressable module and a single length of Signaline Heat Sensing Cable. An important design feature of the APDL is the continued correct operation of the fire alarm control/releasing panel or addressable module regardless of faults which may occur in the APDL such as loss of power to the unit. APDL complies with the relevant FM standard and is enclosed in an IP65 rated enclosure.

Features

- Alarm point distance locating device for use with Signaline Heat Sensing Cables:
  Signaline FT-68
  Signaline FT-68-R
  Signaline FT-88
  Signaline FT-88-R
  Signaline FT-105
  Signaline FT-105-R
  Signaline FT-185-R
- Alternating metres/feet display of alarm point
- Cable selection
- Leader cable calibration
- Detection of alarm point from 100m to 3000m (300ft to 10000ft)
- Installation settings saved in event of power loss
- IP65 rated enclosure for indoor/outdoor use with smooth sides or 4 sizes of M knock-outs
- (N.B. FM Approved for indoor use only).
- Simple installation and operation
- Backlit 16x2 character LCD display
- Continued correct operation of fire alarm control/releasing panel or addressable module regardless of faults which may occur in the unit such as loss of power.
- To maintain system certification any fire alarm control unit connected to the APDL is to be FM approved
- Any power supply used to deliver power to the APDL is to be ANSI/UL 1481 certified.

FM APPROVED

SIGNALINE HEAT

Alarm Point Distance Locator

Enclosure

Dimensions	W180mm x H130mm x D78mm
Rating	IP65
Finish	Polycarbonate with hinged removable cover and removable internal front plate. Light grey with smoked grey cover.
Approvals	FM Class 3210

Enclosure Knockout Sizes

Long Side	M25 (25mm) & M16 (16mm)
Short Side	M32 (32mm) & M20 (20mm)

Power Requirements

Operating voltage	9-28VDC
Normal Operation	<10mA (LCD back-light off)
Alarm Locating	<90mA (LCD back-Light on)

Power supply transient protection 1500W for 1ms

Operating Temperature 0-49°C (32°F-120°F)

Accuracy

15°C-25°C   <±5% of alarm point distance
(59°F-77°F)

0°C-49°C   <±6.5% of alarm point distance
(32°F-120°F)

Terminal Blocks

Spacing	0.375" (9.52mm)
Rating	25A at 300 vdc
Wire Size	12-22AWG

Signaline HD Analogue Heat Sensing Cable

Signaline HD is an analogue heat sensing cable that monitors significant increases in temperature. An electronic controller connected to the cable monitors the condition of the cable to sense any change in temperature by continually measuring the electrical resistance between the metallic core and screen. If the change in temperature is sufficient the controller creates an alarm. The controller is easily adjusted for the length of cable being used. Most importantly analogue heat sensing cable is resettable.

Signaline-HD

Signaline-HD-R

Signaline-HD-S

Signaline HD Cable Specification

Part Nos	Signaline HD	Signaline-HD-R	Signaline-HD-S
Outer cover	Red colour PVC	Red colour PVC + Chemical resistant Black nylon coating	Red colour PVC + Stainless steel braid
Minimum Bend Radius	5mm	18mm	20mm
Weight	1.6Kg /100 metres.	2.2Kg /100 metres.	3.0 Kg /100 metres.

Common Specification

Co axial Construction:	Inner Core	-	Copper coated steel
	Insulation	-	Heat sensitive polymer
	Braid	-	Tinned copper wire
	Standard Outer sheath	-	Red P.V.C.

Tensile Strength: Greater than 200N
Supports & Fixings: See Installation Guidelines for full details of available fixings
Conductor Resistance: 2 ohms Screen and core per 100 metres
Diameter: 2.8mm nominal.
Operating Temperature: -40°C to +70°C Ambient
Alarm Temperature range: Typical - 1 metre alarm range 70 to 125°C
- 10 metre alarm range 45 to 100°C
Controller: Refer to Signaline HD controller data sheet for details
Approvals: VdS approved Certificate Nos: G202077 & G203076

VdS

Signaline HD Heat Sensing Cable Controller

All Signaline HD Heat Sensing Cables (Signaline HD) must be used with a Signaline HD Heat Sensing Cable Controller (Signaline HD Controller). Signaline HD Controllers are very simple and easy to use and there are three models to choose from:

- Signaline SKM-03; EN54 compliant for use with conventional systems (VdS approved)
- Signaline SKM-03UK; generate alarm when 1m of cable reaches 60°C or 80°C
- Signaline SKM-95; EN54 compliant loop power controller for use with Apollo XP95 addressable systems (VdS approved)

Key Features

- Easy and economical to install
- Very simple to set up and operate
- Controller will monitor up to 300m of sensor cable (dependant on ambient temperature).
- The sensor cable is resistant to corrosion & moisture
- Signaline SKM-03 and Signaline SKM-95 are VdS approved
- Cable and controller is self resetting after alarm to facilitate live routine testing of the alarm system
- Will raise an alarm when 1m of Signaline HD reaches 60°C or 80°C (Signaline SKM-03UK only)

Signaline HD Controller

End of Line Unit

How Does It Work?

The Signaline HD Controller provides early warning of an impending fire by detecting overheating in cable ducts, road tunnels, escalators, car parks, lift shafts, conveyer belts and similar difficult to monitor environments. The system uses Signaline HD and a Signaline HD Controller plus a Signaline End of Line Unit. The Signaline HD is a specially constructed coaxial cable. When the cable is heated there is a corresponding change in the electrical characteristics of the cable. This change is monitored by the controller which when sufficient causes an alarm. The controller constantly monitors for open and short circuit faults in the cable. Signaline HD and Signaline HD Controllers are resettable and therefore may be physically heat tested any number of times, this is useful during routine fire alarm system testing. However, if it is destroyed by overheating or fire, the damaged section must be replaced.

Version 2.0

Signaline HD Heat Sensing Cable Controller

	Signaline SKM-03	Signaline SKM-03UK	Signaline SKM-95
Supply Voltage	24 Vdc	24 Vdc	Loop powered
Idle Current	28mA	28mA	<2mA
Alarm Current	58mA	58mA	3.2mA
Isolator Voltage	N/A	N/A	<14 V
Address Protocol	N/A	N/A	XP95 Series
Response	EN54 compliant	Alarm raised when 1m of cable is heated to 60°C	EN54 compliant
Fire Relay Contact	N/C-C-N/O Relay contact	N/C-C-N/O Relay contact	N/A
Fault Relay Contact	N/C-C-N/C Relay contact	N/C-C-N/C Relay contact	N/A
Dimensions (WxHxL)	110/110/65mm	110/110/65mm	110/110/65mm
Weight	270g	270g	270g
System Healthy LED Indicator	Green	Green	No indication
Fire LED Indicator	Red	Red	Red
Fault LED Indicator	No indication	No indication	Yellow
Colour of Housing	Grey, RAL 9002	Grey, RAL 9002	Grey, RAL 9002
IP Rating	IP65	IP65	IP65

Signaline HD Controller
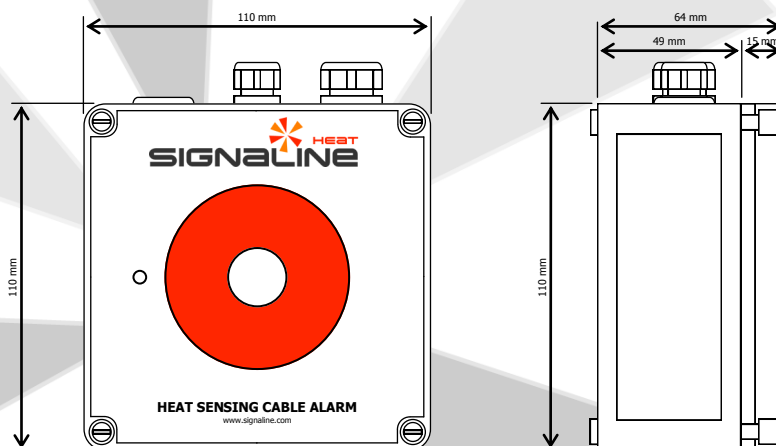
Signaline End of Line Unit
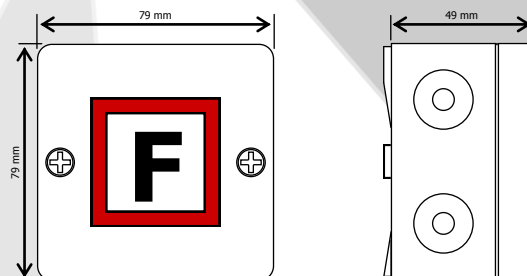
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Signaline WD Water Detection Cable

Signaline WD Water Detection Cable is a unique 4 core twisted cable that is tightly bound in a nylon fish net braid, enabling water to easily come in contact with the sensitive elements of the cable. Two of the cores provide low voltage and low current power to the circuit while the other 2 cores are sensitive to the presence of water.

Signaline WD Water Detection Cable is supplied in a selection of pre-terminated lengths that are plugged together to make up the required length of cable. An end of line plug is connected at the end of the Signaline WD Water Detection Cable to complete the sensor circuit.

Construction	4 core (2 x black water detection cores, 1 x blue and 1 x red circuit voltage and power)
Diameter	6mm nominal
Outer Sheath	Clear coloured nylon braid
Pre-terminated lengths	3.75m, 7.50m, 15.0m, 30.0m, 100.0m
Non-sensing leader cable length	10m

Red and Blue Cores
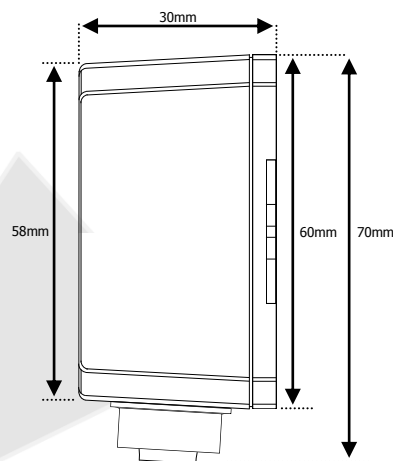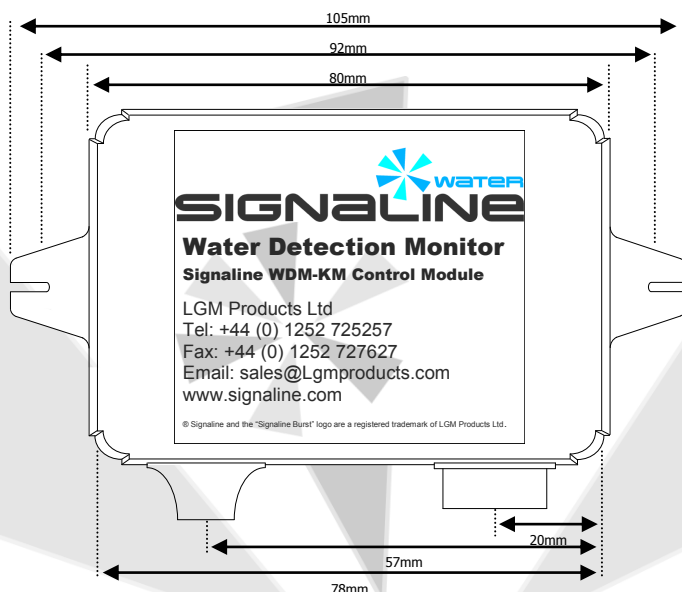(Line Monitoring)

Dual Black Inner Core
(Water Detection)

Nylon Braid
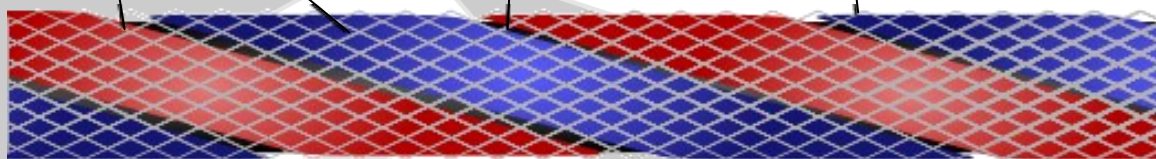
Signaline WDM-KM Control Module

The Signaline WDM-KM Control Module is a completely sealed compact device that monitors the Signaline WD Water Detection Cable. A six core flying data cable allows for the termination of power, alarm and fault connections. The Signaline WD Water Detection Cable simply plugs into a socket on the Signaline WDM-KM Control Module for a secure and reliable connection. The presence of water on the Signaline WD Water Detection Cable triggers the alarm relay. A break in the detection cores or power loss to the module will trigger the fault circuit. The simplicity and flexibility of the system allow the control module and sensor cable to be installed after all other building work has been completed.

Supply Voltage	12 to 30 Vdc
Operating Current	10mA (normal operation)
	27mA (alarm relay activated)
Alarm Output	Non-latching alarm normally open volt free contacts
	Contact rating 1A @ 30Vdc (resistive load), 0.3A @ 110Vdc (resistive load)
Fault Output	Normally closed onto isolated output (opening on power loss or open circuit of detection cable) 20mA @ 48Vdc (resistive load)
	Important Note - the fault output is not current limited. Exceeding the specified current limit on the fault output will damage the fault output circuit beyond repair
Operating Temperature	0 to 50ºC (32 to 120ºF)
Cable Length per Control Module	3.75m (12ft) to 1000m (3280Ft)
Sensitivity	A minimum amount of water must be in contact in a continuous length along the detection cable to trigger an alarm. For example a pool of water 5mm (0.2") deep x 50mm (2") wide x 200mm (8") long. Water must submerge the cable to a depth sufficient enough to come in contact with both black cores for an alarm to be triggered.
Reset	The control module will automatically reset when the cable is dry
Data Cable Connections	1m x 6 core data cable, core Size 22AWG (Ø0.65mm)
	Overall Diameter 5.3mm (0.208")
	Power, alarm volt free contact and fault monitoring

water
SIGNALINE

Signaline Water Detection Panel

CE

- Available as 2 or 4 zones
- 2 monitored sounder circuits
- Space for up to 3.2Ah batteries
- Up to 4000m of water detection cable monitored

Signaline Water Detection Panel

CONTROL PANEL SPECIFICATION

Detection zones	2 zone or 4 zones of water detection cable.
End of Line device	4k7 Ohm 5% 0.25w resistor
IP rating	IP30
Operating temperature (°c)	-5°c to +40°c
Operating humidity	<95%
Standby current	75mA (2 zone) 85mA (4 zone)
Alarm circuits	2 fully monitored, each fused @500mA
Alarm load	800ma shared between all sounder outputs.
Common alarm relay	Volt free no/c/nc contact rated 3 amp @30 Vdc
Common fault relay	Volt free no/c/nc contact rated 3 amp @30 Vdc
External inputs	Class change and Alert pulse sounders Non latching switched –ve inputs. Max input voltage 28Vdc
Outputs	Water alarm and fault common outputs Switched –ve voltage outputs for external relay control, max load 40mA
Mains supply & fuse	230vac +10 / -15% 50Hz protected by 2 Amp fuse
Battery charging voltage	27.3 Vdc @20°C
Auxiliary supply to field accessories	28Vdc fused @ 500mA
Max. battery size & space	2 x 3.2Ahr 12volt VRLA (Use Yuasa NP range batteries)
Terminal capacity	0.5mm^2 to 2.5mm^2
Cable entry	13 x 20mm top entry knockouts 7 x 20mm rear entry knockouts
Enclosure material and colour	Mild Steel, Epoxy powder coated silver grey Colour ref: Radon MW334E Interpon powder coat
Panel dimensions (mm W x H x D)	308 x 260 x 80

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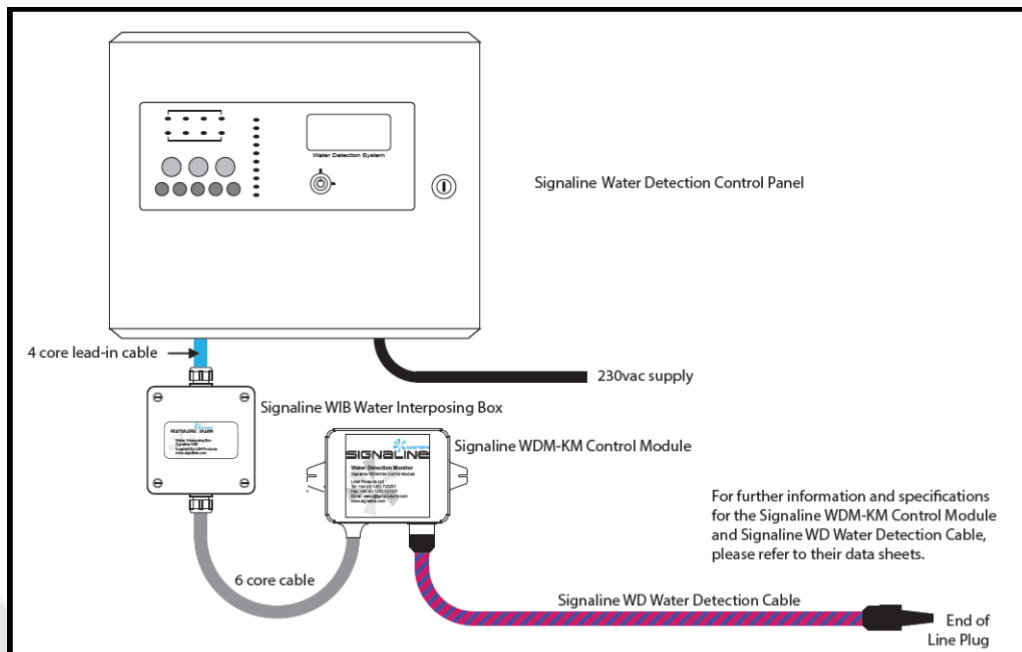**FARNHAM**
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Signaline Water Detection Panel

CONTROL PANEL SPECIFICATION continued

Front of panel indications	Zones in Water Alarm
	Zones in Fault, Disabled or In Test Mode
	Supply Healthy
	General Alarm
	General Fault
	General Disablement
	Test Mode
	Sounder Status
	Aux Output Status
	Power Supply Fault
	System Fault
	Access Level

External Controls at access Level 2:
(Access by key switch or code entry)

Colour coded buttons for controls and programming
Button functions: Resound alarms
    Silence alarms
    Reset
    Disable Mode
    Test Mode
    Mute Buzzer
    Test Lamps
    Enter

External Controls at access Level 3:
(Access by key switch or code entry)

Select sounder resound options for zones
View / edit dependency functions
Initialise factory settings
Set buzzer volume

![Signaline Water logo]

Signaline Water Detection Panel

Connection Schematic
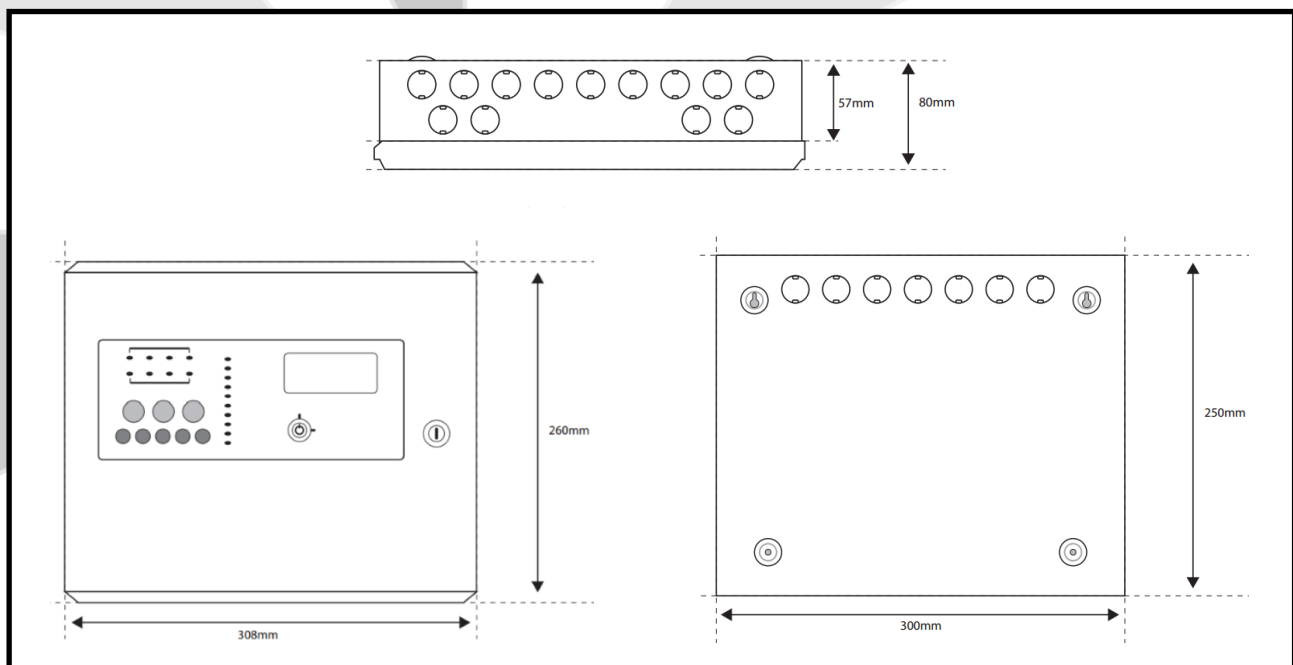
Signaline Water Detection Control Panel

4 core lead-in cable →

230vac supply

Signaline WIB Water Interposing Box

Signaline WDM-KM Control Module

For further information and specifications
for the Signaline WDM-KM Control Module
and Signaline WD Water Detection Cable,
please refer to their data sheets.

6 core cable

Signaline WD Water Detection Cable

End of
Line Plug

Dimensional Drawing

57mm   80mm

260mm

308mm

250mm

300mm

Version 2.0

Cable and Controller Data Sheet

The Signaline Cold liquid gas detection system is specifically designed to provide a highly sensitive and reliable solution for monitoring sudden leakage of liquefied (cryogenic) gas by monitoring the cable for a rapid drop in temperature anywhere along its length.

The control module and sensor cable can also be used to detect a rapid increase in temperature such as the ignition of a gas.

The system consists of sensor cable, controller and an end of line box. It is simple and straightforward to install and operate. It is particularly suited to areas where there are extreme ambient temperature conditions of 50°C or higher (sensor cable only).

On-site adjustment of the sensitivity may be carried out to suit the intended environment to reduce the risk of false alarms.

The Signaline Cold system is certified intrinsically safe for use above ground in Zones 0, 1 & 2 hazardous areas. Suitable IS safety barriers **must** be used when installing the system in such environments.

General System Specification

Controller capacity	One length of Signaline Cold cable per controller
Max cable length	150m (500ft) per controller
Min cable length	10m (33ft) per controller
Initial system calibration	Automatic calibration of cable length for highest sensitivity. No special tools or equipment required.
Continuous system calibration	Automatic adjustment for changes in ambient temperature not exceeding a rate of 0.8°C/min.
Max sensitivity	Alarm occurs in less than 1 minute when 2% of cable length is subject to a temperature drop of at least 40°C at a rate equal or greater than -20ºK/min.
System re-set	Interrupting the power supply for not less than 1 second.
Reusability	The sensor cable can be re-used following an alarm unless it is physically damaged.
Hazardous area use	The controller is certified for use in above ground zone 0, 1, & 2 hazardous areas. Suitable intrinsically safe barriers must be used to interface the controller with power supplies and other equipment located in designated safe areas outside the hazardous area. (See page 6 for a list of suitable barriers). Note that the I.S. Barriers **must** be located in the safe area.

COLD SIGNALINE

Control Module and Sensor Cable Specification

Control Module Specification	Part No: Signaline CDM
Dimensions	W130mm x L130mm x D75mm (W51/8" x L5 1/8" x D3")
IP rating	IP66
Enclosure material	Polycarbonate
Enclosure colour	Light grey
Supply voltage	20Vdc—28Vdc
Current consumption	Normal < 35mA Alarm < 50mA Fault < 40mA
Visual indicators	Power on/System Healthy: GREEN
	Alarm: RED
	Fault: ORANGE
	Setup/Calibration: FLASHING ORANGE
Outputs	Alarm: Normally open relay contact rated 2A@30Vdc Fault: Opto-isolated collector-emitter transistor output, normally closed opening on fault or power loss
Operating temperature	From -20°C to +50°C (-4°F to +122°F)
Terminal wiring capacity	1 x 2.5mm²
Cable entries	2 x M20 knockouts 1 x M25 / M32 knockouts 9 x M20 / M25 knockouts

Sensor Cable Specification	
Outer jacket options	High temperature PVC. Part no. Signaline CD Nylon, UV and chemical resistant. Part no Signaline CDR
Outer overall diameter	5.1mm +/- 0.1mm (0.2" +/- 0.007")
RFI shielding	Tinned copper braid shielding with greater than 70% cover
Inner cores	4 temperature sensitive cores individually coated with high temperature PVC. Red, Yellow, Blue & White enclosed in a foil shield.
Operating temperature range (steady constant ambient temperature)	From -100°C to +105°C (-148°F to +221°F)
Minimum bend radius	High temperature PVC 25mm (1 inch) Nylon 50mm (2 inches)
Electrical specification	Loop resistance (pair) - 23 to 32 ohms/metre Loop inductance (pair) - 60µH/metre Loop capacitance (pair) - 180pF/metre

SIGNALINE COLD

Hazardous Area certification

Hazardous Area Specification

Certification marking and classification	ATEX: Baseefa11ATEX0086X ⟨Ex⟩ II 1G Ex ia IIC T5 Ga (-20°C ≤ Ta ≤ +50°C) IECEx: BAS 11.0043X Ex ia IIC T5 Ga (-20°C ≤ Ta ≤ +50°C)
Standards used in assessment	IEC 60079-0: 2007 IEC 60079-0: 2004 IEC 60079-11: 2006
Controller terminal parameters	Power Supply: $U_i = 28V$ $I_i = 93mA$ $P_i = 0.65W$ $C_i = 0$ $L_i = 0$ Opto-coupler Interface $U_i = 28V$ $I_i = 47mA$ $P_i = 0.33W$ $C_i = 0$ $L_i = 0$ Relay Interface $U_i = 30V$ $I_i = 1A$ $P_i = 7.5W$ $C_i = 0$ $L_i = 0$ Sensor Wire Interface $U_o = 6.3V$ $I_o = 93mA$ $P_o = 0.65W$ $C_i = 8.7uF$ (including up to 150m of sensing cable) $L_o/R_o = 2.6uH/ohm$
Special conditions for safe use	All cable wiring brought into the unit must have a minimum radial insulation thickness of 0.5mm. This may be achieved with additional sleeving if required.
Recommended IS barriers **(Must be located in safe area)**	Power supply protection: MTL5521 or MTL7728 Alarm and Fault output protection: MTL5517

Hazardous Area Product Brochure

Hazardous area	Ⓔx

Audio visual signalling	

Fire detection	

Marine and offshore	

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About us

Formed in 1988, we are proud to be an independent service orientated company. LGM Products has an enduring commitment to customer service excellence and product quality together with high standards of safety and business ethics.

What we do

LGM Products is a truly international distributor with customers in well over 40 different countries across Europe, Middle East and the Asia – Pacific region. We distribute fire detection devices, controls, audible and visual warning alarm devices and associated equipment to just about every conceivable industry around the world. Our markets include marine engineering, fire alarm systems, power stations, oil and gas production plants.

Hazardous Area Range

Facility safety within hazardous areas is of the utmost importance and LGM Products is able to offer a variety of explosion proof and intrinsically safe (I.S.) products which will help keep workers and equipment safe from industrial fires and accidents.

Our comprehensive list of smoke detectors, flame detectors, explosion proof and intrinsically safe sounder beacons, linear heat detection systems, push button call points and plated assemblies means we will be able to meet the highest safety requirements for any hazardous area.

All the units listed in this section have at least one third party certification from a recognised international body as evidence of the quality of the products we can offer. These approvals include ATEX, IECEX, INmetro, GOST-R, SIL and UL among others.

Audio visual signalling **Fire detection** **Hazardous area**

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2

Addressable Fire Detection

apollo

XP95 IS Heat Detector

- IP53 or IP23D (BV)
- Rate of rise/static
- Intrinsically safe (suitable for zone 0)
- SIL version available
- ATEX and LPCB approved.
- GL, DNV and ABS approved

XP95 IS Optical Smoke Detector

- IP23D
- 'Light scatter' optical detection
- Intrinsically safe (suitable for zone 0)
- SIL version available
- ATEX and LPCB approved.
- GL, DNV and ABS approved

XP95 IS Addressable Mounting Base

- XPERT Addressing
- One way fit
- Locking feature
- Stainless steel contacts
- ATEX and LPCB approved.
- GL, DNV and ABS approved

Audio visual signalling   **Fire detection**   **Hazardous area**

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3

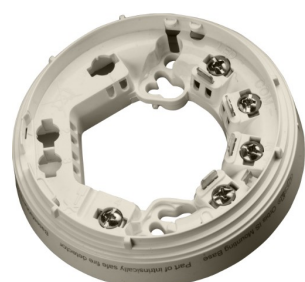## Conventional Fire Detection

apollo

Orbis IS Optical Smoke Detector

- IP23D
- 14-28Vdc
- White polycarbonate body

- Flashing LED available
- Suitable for use in zone 0
- ATEX, VDS and LPCB approved

Orbis IS Heat Detector

- IP23D
- 14 to 28Vdc
- White polycarbonate body

- Flashing LED available
- Suitable for use in zone 0
- ATEX, VDS and LPCB approved

Orbis IS Timesaver Base

- Single quadrant terminals
- LED alignment marks
- Optional detector lock

- Suitable for use in zone 0
- ATEX, VDS and LPCB approved

5

Conventional Fire Detection

HOCHIKI

DCD-1E-IS Intrinsically Safe Heat Detector

- IP63
- 60°c fixed temperature element
- Suitable for category 1

- ATEX Classification to II 1G EEx ia IIC T5 Tamb=55C
- ATEX, VDS and LPCB approved

SLR-E-IS Intrinsically Safe Photoelectric Smoke Detector

- IP42
- Up to 25m range
- Suitable for category 1

- ATEX Classification to II 1G EEx ia IIC T5 Tamb=55C
- ATEX, VDS and LPCB approved

YBN-R/4(IS) Intrinsically Safe Detector Base

- Accepts 1 to 2.5mm cables
- Electronics free
- Small 8mm profile

- Dedicated cable screen terminal
- ATEX, VDS and LPCB approved

Audio visual signalling   **Fire detection**   **Hazardous area**

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5

Intrinsically Safe Call Points

IS-MCP1A

An Intrinsically Safe version of the MCP1A indoor call point is available for installation in hazardous areas. These call points are manufactured to protect against other hazards, as defined in paragraph 1.2.7 of annex II of the ATEX Directive 94/9/EC. They are intended for use within Intrinsically Safe (I.S.) systems using suitable I.S. barriers.

- IP24D
- 30Vdc
- 500mA
- -10°c to +55°c
- 0.5mm² to 2.5mm² cable termination
- 93± 3% humidity (non-condensing)

The IS-MCP1A utilises a unique 'plug and play' concept designed specifically to reduce installation time. Included is a special terminal block, where all initial installation cabling is terminated. This terminal block is then simply connected to the back of the MCP. Through new standards and legislation, both break glass and resettable operating elements can now be used within a manual call point.

MCP Indoor Call Point products help preserve the integrity of the overall system as illegal removal of the product lid will result in the call point operating and the system going in to alarm. The MCP1A product version is supplied with both a resistor and normally open clean contact electrical options. These options are easily utilised by simply connecting the terminal block to the required connection in the back of the MCP1 product. A variety of resistor versions are available, with both 470W and 680W offered as standard. However, other resistor types can be provided upon request.

Audio visual signalling

Fire detection

Hazardous area

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6

Intrinsically Safe Call Points

IS-CP4A/IS-CP4B

The IS-CP4A and IS-CP4B push button, tool resettable and break glass manual call points are approved for Zones 0, 1, 2, 21 & 22 requiring intrinsically safe equipment for the control of fire and gas alarm systems.

Available with and without monitoring resistors, all versions are certified to ATEX and IECEx standards. The push button mechanism is protected by a spring loaded cover therefore the switch requires a two-action activation. The push button is user resettable via the use of the special key supplied with the unit. The IS-CP4 range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.

BREAK GLASS

PUSH BUTTON

TOOL RESET

Type	-IS-CP4A	TYPE A– No EOL device
	-IS-CP4B	TYPE B– Choice of EOL device
Variant	-BG	BREAK GLASS
	-PB	PUSH BUTTON
	-PT	TOOL RESET
Terminals	-ST	ST: Standard
	-DR	DR: DIN rail (only on IS-CP4B type)
Duty Labels	-NL	No duty label
	-DL	Duty label required – specify contents
Colour	-RD	Red enclosure colour
	-XX	Other enclosure colour – contact sales
Voltage	-48v/24v/12v/6v	System voltage (only required for BExCP3B type)
E.O.L Resistor	-ExxxR	Resistor value in Ohms e.g. E470R = 470 Ohm (only required for IS-CP4B type)

Audio visual signalling

Fire detection

Hazardous area

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7

Explosion Proof Call Points

BExCP4A/BExCP4B

The BExCP3A and BExCP3B break glass, push button and tool resettable manual call points are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with and without monitoring resistors, all versions are certified to ATEX and IECEx standards.

Push button mechanisms are protected by a spring loaded cover therefore the switch requires a two-action activation. (For the Tool Reset version the push button is user resettable via the use of the special key supplied with the unit.). The BEx range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.

BREAK GLASS

PUSH BUTTON

TOOL RESET

Type	-BExCP3A	TYPE A– No EOL device
	-BExCP3B	TYPE B– Choice of EOL device
Variant	-BG	BREAK GLASS
	-PB	PUSH BUTTON
	-PT	TOOL RESET
Terminals	-ST	ST: Standard
	-DR	DR: DIN rail (only on BExCP3B type)
Duty Labels	-NL	No duty label
	-DL	Duty label required – specify contents
Colour	-RD	Red enclosure colour
	-XX	Other enclosure colour – contact sales
Voltage	-48v/24v/12v/6v	System voltage (only required for BExCP3B type)
E.O.L Resistor	-ExxxR	Resistor value in Ohms e.g. E470R = 470 Ohm (only required for BExCP3B type)
Series Resistor	-SxxxR	Resistor value in Ohms e.g. E1K5R = 1.5K Ohm (only required for BExCP3B type)

8

Explosion Proof Call Points

GNEx6P6A/GNExCP6B

The GNExCP6A/GNExCP6B manual call points are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. All types are available with EOL or series resistors, diode or Zener diodes or an LED indicator and also with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.

Type	-GNExCP6A	TYPE A– No EOL device
	-GNExCP6B	TYPE B– Choice of EOL device
Variant	-BG	BREAK GLASS
	-PB	PUSH BUTTON
	-PT	TOOL RESET
Switch Type	-S/-D	SPCO/DPCO
Stopping Plug	-N/-B/-S/-P	Nylon/Brass/Stainless Steel/Nickel Plated
Terminals	-S	STANDARD 6 x 3mm^2
	-D	DIN RAIL 8 x 2.5mm^2
Duty Labels	-N	No duty label
	-P	Metalised polyester
	-S	Stainless Steel duty label
Colour	-XX	Red, Blue, Green, Yellow, Red/White, Yellow/Black, Black RED/WHITE
Voltage	-48v/24v/12v/6v	System voltage
E.O.L Module	-ExxxR	Resistor value in Ohms e.g. E470R = 470 Ohm
	-ED1	Diode IN4007 = ED1
	-ExxxZ	Zener Diode (e.g. E5V1Z = 5.1V)
Series Module	-SxxxR	Resistor Value In Ohms (e.g. S1K5R = 1.5K Ohm)
	-SD1	Diode IN4007 = SD1
	-SxxxZ	Zener Diode (e.g. S5V1Z = 5.1V)
	-LED	LED Indicator

BREAK GLASS

PUSH BUTTON

TOOL RESET

Audio visual signalling

Fire detection

Hazardous area

Explosion Proof Call Points

STExCP8

The STExCP8 manual call points are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. All types are available with standard DIN rail terminals or E2S termination board. All versions are certified to ATEX/IECEx standards and use corrosion-proof stainless steel enclosures.

Type	-STExCP8	EXD Call Point
Variant	-BG -PM -PT	BREAK GLASS MOMENTARY PUSH BUTTON PUSH BUTTON WITH TOOL RESET
Switch Type	-S/-D	SPCO/SPCT / DPCO/DPDT
Cable Entry	-A/-B/-C/-D/-E/-F/-G/-H	Various M20/M24/MTP adaptors available
Stopping Plug Material	-S/-B/-P	Steel/Brass/Nickel plated
Terminals	-D -P	DIN Rail 8x SAC2.5 DIN Rail 8x SAC2.5 with EOL/Series terminations
Lift Flap	-L	Lift flap only available for BG unit
Duty Label	-1/-2/-3/-4/-5/-6	Various duty labels available
Version	-A1	IECEX & ATEX & CUTR Ex EAC
EOL Module	-ExxxR -ED1 -ExxxZ	Resistor value in Ohms e.g. E470R = 470 Ohm Diode IN4007 = ED1 Zener Diode (e.g. E5V1Z = 5.1V)
Series Module	-SxxxR -SD1 -SxxxZ	Resistor Value In Ohms (e.g. S1K5R = 1.5K Ohm) Diode IN4007 = SD1 Zener Diode (e.g. S5V1Z = 5.1V)

BREAK GLASS

PUSH BUTTON

TOOL RESET

Flame Detection
FLAME DETECTORS

2000x

- Ultraviolet and Infrared
- Range : 100ft(30m(FM), 15m(KFI))
- 4-20mA

- Operating temp: -40°c to +75°c
- Stainless steel (316) enclosure
- FM, ATEX and IECEx approved

2000x-H (HYDROGEN)

- Ultraviolet and Infrared
- Range : 100ft(30m(FM), 15m(KFI))
- 15ft(4.5m) for Hydrogen (30" plume)
- 4-20mA

- Operating temp: -40°c to +75°c
- Stainless steel (316) enclosure
- EX and FM approved

3000x

- Triple Infrared
- 200ft(60m(FM), 50m(KFI)) for n-Heptane fire
- 4-20mA

- Operating temp: -40°c to +75°c
- 0 to 95% relative humidity
- FM, ATEX and IECEx approved

Audio visual signalling **Fire detection** **Hazardous area**

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11

Fire Detection
FLAME DETECTORS

IS FLAME DETECTOR

- Dual IR, Triple IR or UV/Dual IR
- 14-28Vdc
- Up to 55°c operating temp
- Optical self-test
- ATEX and LPCB approved

EXD FLAME DETECTOR

- Dual IR, Triple IR or UV/Dual IR
- IP66
- Up to 55°c operating temp
- Optical self-test
- Copper-free aluminium alloy enclosure
- LPCB, IECEx, ATEX and SIL 2 approved

AVAILABLE ACCESSORIES

Stainless Steel Weather Shield

Stainless Steel EXD Enclosure

Audio visual signalling **Fire detection** **Hazardous area**

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12

Fire Detection
HEAT PROBES

HDL HEAT PROBES

These flexible and highly effective systems give accurate data acquisition and warning of excessive high temperatures. HDL detectors can be either used for single or redundant heat detection using 2 equal switching temperatures. After cooling, these units automatically reset for convenience.
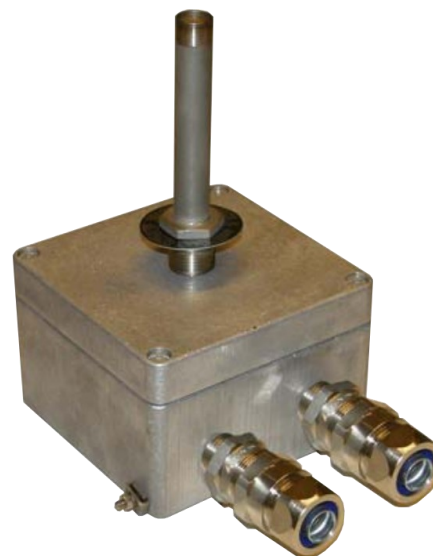
HDL-3

- Ex suitable up to 135°c
- Aluminium box
- Hermetically sealed switching contacts (IP67)
- Suitable for 1 or 2 cable glands

HDL-5

- Ex suitable up to 210°c
- HT-Silicone seals. Aluminium box
- Hermetically sealed switching contacts (IP67)
- Suitable for 1 or 2 cable or cable-hose glands

Audio visual signalling

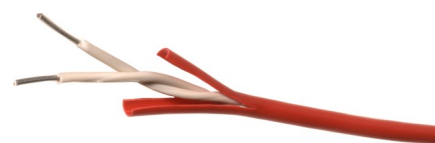**Fire detection**

Hazardous area

Signaline
FIXED-TEMPERATURE HEAT DETECTION CABLE

Signaline FT cables offer a very reliable and low cost solution to fire detection. Fixed Temperature cables are heat sensing cables which alarm at pre-set temperatures. The cable is constructed of two spring steel conductors twisted together and individually insulated with a heat sensitive polymer. When the polymer melts the steel conductors make contact and the system raises an alarm.

Signaline FT cable is sold in 50m increments up to 1000m per reel.

FT-68

- **Fixed alarm temperature (68°c/88°c/105°c)**

- **Steel core with polymer coating**

- **Red PVC outer sheath**

- **3.5mm diameter**

- **FM/UL approval**

- **Suitable for Conventional and Analogue Addressable systems**

FT-88

Making Signaline FT heat sensing cable safe for use in hazardous areas is straightforward and simple. Because Signaline FT cable does not store energy the cable is deemed to be simple apparatus under ATEX regulations. Therefore the cable does not need an ATEX certificate. However the circuit must be made intrinsically safe and this is easily achieved by placing a suitable intrinsically safe barrier in the circuit.

FT-105

Audio visual signalling

Fire detection

Hazardous area

Ex

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14

Signaline
FIXED-TEMPERATURE HEAT DETECTION CABLE

For most day to day applications Signaline FT will offer a perfect solution. However, in areas where oil and corrosive chemicals and gases are present or where the cable could be exposed to high levels of UV light you may require something with higher protection. Signaline FT-R provides a cost effective solution.

In certain applications, such as engine bays, very high ambient temperature can be expected. Signaline FT-185-R is designed for such applications. The cable alarm temperature is 185°C and will accommodate a continuous ambient of up to 120 °C. Signaline FT-185-R is also highly resistant to most gases, chemicals and UV rays.

FT-68-R

FT-105-R

- Fixed alarm temperature (68°c/105°c/185°c)
- Steel core with polymer coating
- Nylon outer sheath
- 4.5mm diameter (68-R, 105-R), 3.6mm (185-R)
- FM/UL approval
- Suitable for Conventional and Analogue Addressable systems

FT-185-R

Audio visual signalling

Fire detection

Hazardous area

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15

Signaline
ACCESSORIES

Ex UCB

The Signaline Ex Universal Connector Box can be used as an end of line enclosure, junction box or an interposing line unit. It is supplied with appropriately sized cable glands, terminal block and 470 & 680 ohm resistors. It is a quick and efficient method to interconnect, terminate and join lengths of any Signaline heat sensing cable.

RETRACTABLE CABLE

Signaline extendible cables are designed to withstand harsh environment, oil, grease and similar chemicals. Signaline Retractable cables are manufactured specifically for floating roof petro-chem storage tanks. The floating roof rises and falls as the tank fills and empties. To allow for this movement, a Retractable cable is used to connect the Linear heat detector cable fitted around the circumference of the floating roof with a junction box at the top of the tank. As the roof drops lower, the spring like cable extends and as the roof rises the cable retracts into a closed spring coil.
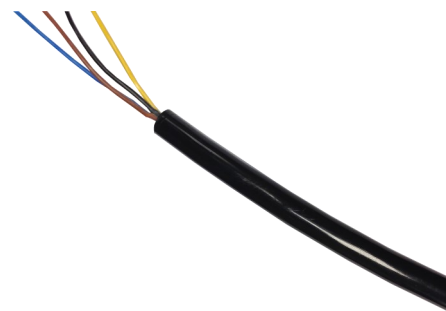
AUTO COLLECTOR FOR RETRACTABLE CABLE

The mechanical turnbuckle with extending cable is the ideal solution to connect Signaline Linear Heat detection cable from the top of a floating roof tank rim seal with the top of the tank. The cable retracts into the enclosure creating a neat and tidy solution. The product is approved for use in Zone 1, Zone 2 as well as Zone 21 and Zone 22.

Audio visual signalling | **Fire detection** | **Hazardous area**

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16

Signaline
ACCESSORIES - CLIPS

'P' Clip

Stainless steel clip with a UV and ozone-resistant cushion insulator. Also available in a high temperature rated version for use with Signaline FT-185-R.

Edge Clip

The knock on edge clip is designed for steel work of differing thickness. These fixings are available in mild steel with a zinc rich plated finish which has excellent resistance to corrosion and heat.

'J' Clip

The knock-on J clips are suitable for supporting any Signaline heat sensing cable from the outer edge of plain conventional cable trays and similar metal supports.
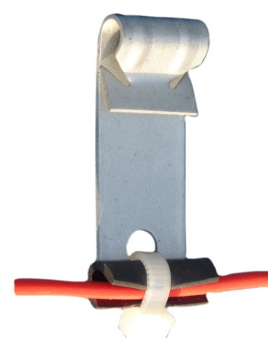
Audio visual signalling

Fire detection

Hazardous area

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17

Signaline
ACCESSORIES - GALVANIC ISOLATORS/ZENER BARRIERS

MTL 5561

The MTL5561 is a loop-powered 2–channel interface for use with conventional fire and smoke detectors located in hazardous areas. In operation, the triggering of a detector causes a corresponding change in the safe–area current. The unit features reverse input polarity protection, while 'no-fail' earth fault detection on either line can be provided by connecting an earth leakage detector to terminal 3 and/or 6.

MTL 5525

The MTL5525 enables an on/off device in a hazardous area to be controlled by a volt-free contact or logic signal in the safe area. It can drive loads such as solenoids, alarms, LEDs and other low power devices that are certified as intrinsically safe or are classified as non-energy storing simple apparatus.

MTL 7728+

Each channel contains two stages of pulse-tested Zener or forward connected diodes and an 'infallible' terminating resistor. In the event of an electrical fault in the safe area, the diodes limit the voltage that can reach the hazardous area and the resistor limits the current. A fuse protects the diodes, and the two stages of voltage limitation ensure continued safety if either stage should fail.

Audio visual signalling

Fire detection

Hazardous area

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18

19

Signaline
ACCESSORIES - GALVANIC ISOLATORS/ZENER BARRIERS

KFD0-CS-Ex2.51P

- 2-channel isolated barrier
- 24Vdc supply (loop powered)
- Current input/output 0mA … 40mA
- Accuracy 1%

- Reverse polarity protection
- Up to SIL2 according to IEC 61508
- Terminals 12-, 11+; 8-, 10-, 9+

KFD0-CS-Ex1.51P

- 1-channel isolated barrier
- 24Vdc supply (loop powered)
- Current input/output 0mA … 40mA
- Accuracy 1%

- Reverse polarity protection
- Up to SIL2 according to IEC 61508
- Terminals 12-, 11+

Z787

- 2-channel Zener barrier
- DC version, positive polarity
- Working voltage 26.5v at 10µA
- Series resistance 327Ω

- Fuse rating 50mA
- Diode return
- screw terminals , max. core cross-section 2 x 2.5 mm^2

Audio visual signalling

Fire detection

Hazardous area

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19

Audio/Visual Alarm Equipment
SOUNDER BEACONS

IS-mC1

- 100dB(A)
- 23Cd LED beacon
- 49 tone - 3 stage alarm
- Suitable for zone 0

- IP65
- 24Vdc
- Lens: Amber/Blue/Clear/Red/Green

D1xC2X10F

- 125dB(A), 260Cd (effective to I.E.S)
- 10 Joule xenon beacon
- 24 tone - 4 stage alarm
- Suitable for zone 1

- IP66
- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear/Magenta

D1xC1X05F

- 117dB(A), 143Cd (effective to I.E.S)
- 5 Joule xenon beacon
- 64 tone - 4 stage alarm
- Suitable for zone 1

- IP66
- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear/Magenta

Audio/Visual Alarm Equipment
SOUNDER BEACONS

BExCS110-05

- 110dB(A), 105Cd (effective to I.E.S.)
- 5 Joule xenon beacon
- 32 tones - 3 stages
- Suitable for zone 1/2

- IP66 & 67 (third party tested)
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Green/Red/ Yellow

BExCS110-05R

- 110dB(A), 105Cd (effective to I.E.S.)
- 5 Joule xenon beacon
- 32 tones - 3 stages
- Suitable for zone 1/2

- IP66 & 67 (third party tested)
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Green/Red/ Yellow

BExCS110-L2

- 117dB(A)
- 87Cd LED beacon (steady)
- 160Cd 1Hz flash
- 32 tones - 3 stages

- Suitable for zone 1,2,21 & 22
- IP66 & 67 (third party tested)
- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Green/Red/Yellow

Audio visual signalling   **Fire detection**   **Hazardous area**

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21

Audio/Visual Alarm Equipment
SOUNDER BEACONS

BExCS110-L1-R

- 110dB(A)
- 11Cd LED beacon (effective to I.E.S.)
- 32 tones - 3 stages
- Suitable for zone 1/2

- IP66 & 67 (third party tested)
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Green/Red/Yellow

STExC1X05F

- 117dB(A)
- 5 Joule xenon beacon
- 64 tone - 4 stage alarm
- Suitable for zone 1/2/21/22

- IP66
- 12Vdc/24Vdc/48Vdc/230Vac
- Lens: Amber/Blue/Red/Green/Yellow/ Magenta/Clear

YL6S

- 110dB(A)
- 5 Joule xenon beacon
- 32 tone - 3 stage alarm
- Suitable for zone 1/2/21/22

- IP66&67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Red/Green/Yellow/ Magenta/Clear/Opal

Audio visual signalling   **Fire detection**   **Hazardous area**   Ex

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22

Audio/Visual Alarm Equipment
STATUS INDICATORS

BEX PLATED ASSEMBLY

These following status indicators present a highly configurable signalling solution, providing effective warning in all conditions. The customer is able to pick and choose their preferred combination of visual and audible units to meet their requirements. Both styles are suitable for zone 1/2/21/22 and carry IECEx & ATEX approvals.

BEX PLATED ASSEMBLY

- **Up to 5 components on a stainless steel frame**
- **110dB(A)/117dB(A) sounders**
- **5/10/15/21J flashing xenon beacons**
- **Amber/Blue/Green/Yellow/Red lenses available**

MS STATUS INDICATOR

- **Up to 4 components on a stainless steel frame**
- **115dB(A) sounders**
- **15J flashing xenon or steady LED**
- **9 different beacon colours available**

Audio visual signalling   **Fire detection**   **Hazardous area**

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23

Audio/Visual Alarm Equipment
XENON BEACONS

BExBG05

- 5 Joule xenon beacon
- 105Cd (effective to I.E.S.)
- Suitable for zone 1/2/21/22

- IP66/67
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow

BExBG10

- 10 Joule xenon beacon
- 346Cd (effective to I.E.S.)
- Suitable for zone 1/2/21/22

- IP66/67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow

BExBG15

- 15 Joule xenon beacon
- 444Cd (effective to I.E.S.)
- Suitable for zone 1/2/21/22

- IP66/67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow

Audio visual signalling   **Fire detection**   **Hazardous area**

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24

Audio/Visual Alarm Equipment
XENON BEACONS

BExBG05-05

- 2x 5 Joule xenon beacon
- 1hz flash rate
- Suitable for zone 1/2/21/22

- IP65
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow

GNExB1X05

- 5 Joule xenon beacon
- 117.93Cd (effective to I.E.S.)
- 1Hz flash rate (60fpm)
  1.5Hz & double flash (90fpm) -DC only

- IP66
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow/Magenta

GNExB2X10

- 10 Joule xenon beacon
- 479.39Cd (effective to I.E.S.)
- 1Hz or 1.5Hz & double flash
- Suitable for zone 1/2/21/22

- IP66
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow/Magenta

Audio visual signalling **Fire detection** **Hazardous area**

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25

Audio/Visual Alarm Equipment
XENON BEACONS

GNExB2X15

- 15 Joule xenon beacon
- 666.92Cd (effective to I.E.S.)
- 1Hz or 1.5Hz & double flash
- Suitable for zone 1/2/21/22

- IP66
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow/Magenta

GNExB2X21

- 21 Joule xenon beacon
- 902.69Cd (effective to I.E.S.)
- 1Hz or 1.5Hz & double flash
- Suitable for zones 1/2/21/22

- IP66
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow/Magenta

V6

- 5/10/20 Joule xenon beacon
- 1Hz flash rate (60fpm)
- 30/96.02/301Cd (effective)
- Suitable for zones 1/2/21/22

- IP67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear

Audio visual signalling   **Fire detection**   **Hazardous area**   Ex

Audio/Visual Alarm Equipment
XENON BEACONS

STExB2X10

- 10 Joule xenon beacon
- 1Hz flash rate/1.5Hz & double
- 500Cd
- Suitable for zone 1/2/21/22

- IP66/67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear

STExB2X15

- 15 Joule xenon beacon
- 1hz flash rate/1.5Hz & double
- 750Cd
- Suitable for zones 1/2/21/22

- IP66/67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear

STExB2X21

- 21 Joule xenon beacon
- 1hz flash rate/1.5Hz & double
- 902.69Cd effective
- Suitable for zones 1/2/21/22

- IP66/67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear

Audio visual signalling

Fire detection

Hazardous area

Audio/Visual Alarm Equipment
XENON BEACONS

E2xB05

- 5 Joule xenon beacon
- 1Hz flash rate
- 101Cd (effective to I.E.S.)
- Suitable for zone 2/22

- IP67
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear

E2xB10

- 10 Joule xenon beacon
- 1Hz flash rate
- 255Cd (effective to I.E.S.)
- Suitable for zone 2/22

- IP67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Yellow/Red/Green/ Clear

FX15 (FLAMEPROOF)

- 5 Joule xenon beacon
- 1hz flash rate
- 49Cd (effective)
- Suitable for zones 1/2/21/22

- IP66/67
- 24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/ Yellow/Opal/Magenta

Audio visual signalling   **Fire detection**   **Hazardous area**

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28

Audio/Visual Alarm Equipment
LED BEACONS

IS-MB1

- 23Cd (6 LED) beacon
- Double flash at 2Hz and 1Hz
- Suitable for zone 0
- IP65
- 24Vdc
- Lens: Amber/Blue/Clear/Red/Green

BExBGL1

- 11Cd (32 high output LED) beacon
- Selectable flash rate
- Suitable for zone 1/2/21/22
- IP65
- 10-50Vdc/24Vac/115Vac/230Vac
- Lens: Amber/Blue/Green/Red/Yellow

GNExB2LD2

- 174Cd (4 high output LED) beacon
- 7 selectable flash modes
- Suitable for zone 1/2/21/22
- IP66
- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Green/Red/
  Magenta/Yellow/Clear

Audio visual signalling

Fire detection

Hazardous area

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29

Audio/Visual Alarm Equipment
SOUNDERS

D1xS1F

- Up to 117dB(A)
- 64 tones - 4 stages
- Suitable for zone 1/20

- IP66
- 24Vdc/115Vac/230Vac
- Marine-grade aluminium (LM6) body

BExS110

- 110dB(A)
- 32 tones - 3 stages
- Suitable for zone 1/2

- IP66/67
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Programmable version available

BExS120

- 120dB(A)
- 32 tones - 3 stages
- Suitable for zone 1/2

- IP66/67
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Programmable version available

Audio visual signalling   **Fire detection**   **Hazardous area**

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30

Audio/Visual Alarm Equipment
SOUNDERS

STExS1R

- Up to 115dB(A)
- 64 tones - 4 stages
- Suitable for zone 1/2/21/22
- IP66
- 24Vdc/115Vac/230Vac
- Stainless steel body

YO6

- 100dB(A)
- 32 tones - 3 stages
- IP66
- Suitable for zones 1/2/21/22
- 24Vdc/115Vac/230Vac
- Dual M20 ISO (ATEX) / M20 to 1/2inch NTP adaptors (UL)
- ATEX & UL versions available

YA6S

- 110dB(A)
- 32 tones - 3 stages
- IP66 & 67
- Suitable for zones 1/2/21/22
- Dual M20 ISO
- 24Vdc/48Vdc/115Vac/230Vac
- ATEX & UL versions available

Audio/Visual Alarm Equipment
SOUNDERS

GNExS1

- 110dB(A) nominal
- 45 tones - 4 stages
- IP66
- Suitable for zones 1/2

- Dual M20 ISO
- 12Vdc/24Vdc/48Vdc/115Vac/230Vac

GNExS2

- 117dB(A) nominal
- 45 tones - 4 stages
- IP66
- Suitable for zones 1/2

- Dual M20 ISO
- 24Vdc/48Vdc/115Vac/230Vac

E2xS112

- 116dB(A)
- 45 tones - 3 stages
- IP67
- Suitable for zones 2/22

- Dual M20 ISO
- 24Vdc/48Vdc/115Vac/230Vac
- ATEX & UL versions available

Audio visual signalling   **Fire detection**   **Hazardous area**

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32

Audio/Visual Alarm Equipment
SOUNDERS

E2xS121

- 121dB(A)
- 45 tones - 3 stages
- IP67
- Suiable for zone 2

- Dual M20 ISO
- 24Vdc/48Vdc/115Vac/230Vac
- ATEX & UL versions available

IS-mA1 (INTRINSICALLY SAFE)

- 100dB(A)
- 49 tones - 3 stages
- IP65
- Suitable for zone 0

- Dual M20 ISO
- 24Vdc
- 10dB(A) volume control

IS-A105N (INTRINSICALLY SAFE)

- 105dB(A)
- 49 tones - 3 stages
- IP66
- Suitable for zone 0

- 24Vdc
- Grey/Red/White

Audio visual signalling **Fire detection** **Hazardous area** Ex

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33

Audio/Visual Alarm Equipment
SOUNDERS

DGW21-Ex

With a GRP housing the dGW21 signalling bell is suitable for use in Zones 1 and 2 and 21 and 22. The GRP housing provides weather resistance to IP66 and can be wall or ceiling mounted using the supplied adjustable mounting bracket.

- IP66
- Up to 105dB(A)
- 24Vdc 230Vac
- 350mA @ 24v, 55mA @ 230Vac (50Hz)
- -20°c to +40°c
- 200mm gong

The signalling bell dGW21 was designed to warn, call and signal in group II explosive atmospheres and rough environmental conditions in hazardous areas. The signalling bell produces a sound volume of approx. 105dB(A) at 1 meter distance. The frequency of the sound of the bell is approx 1kHz, meaning the signal can be clearly heard against lower frequency background noise. The bell can also be activated with the presence of a telephone ringing signal in the dRGW 21 version.

The protection of this product is a mixture of Exd "flameproof" for the driver system and Exe "increased safety" for the termination chamber. The dRGW 21 offers initiation by a relay from a telephone ringing voltage. The flameproof chamber contains the electromagnetic driver system and the enclosure is made from GRP (glass-fibre reinforced polyester), guaranteeing protection against corrosion. As the dGW 21 is safety class II, so there is no equipotential bonding necessary.

Audio visual signalling

Fire detection

Hazardous area

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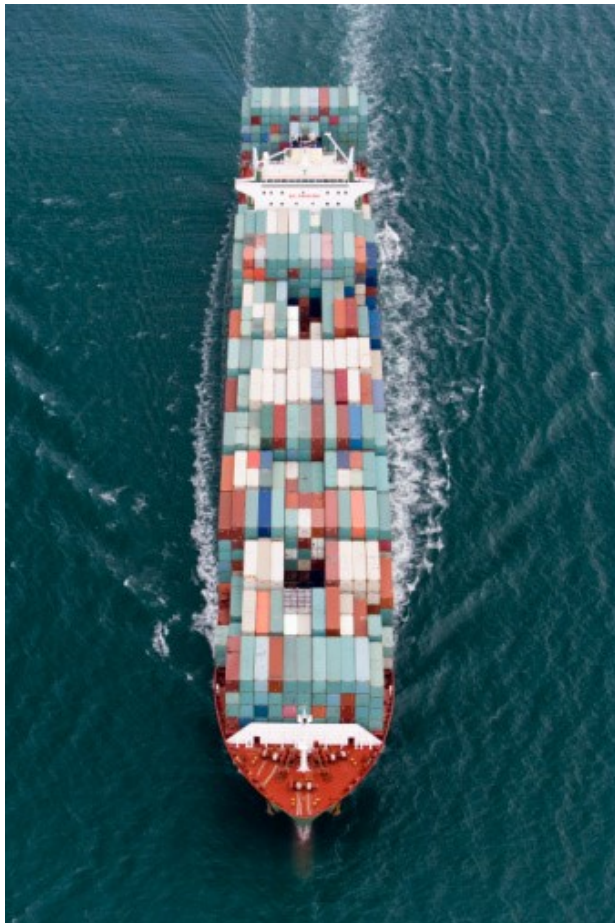Address: LGM Products Ltd, Unit 15 Riverside Industrial Park, Farnham, Surrey, GU9 7UG, United Kingdom.

34

Fire detection
Addressable and conventional fire detection systems for industrial and commercial use

Our product catalogue includes addressable and conventional smoke detectors, manual call points, fire control panels, Smoke Beam detectors and flame detectors. We provide a variety of solutions for standard fire detection applications, but we also specialise in fire detection for unique and challenging environments such as the oil and gas market, marine and offshore and heavy industry.

Audio visual signalling
Sounders, beacons, sirens, bells and other signalling devices

LGM Products offer a wide selection of audio-visual warning devices including sirens, bells, airhorns, sounders, beacons and a comprehensive range of audio-visual combination units.

Marine and offshore
Offshore and marine-approved fire systems, audio and visual signalling

With over 25 years of experience serving the marine industry around the world LGM Products understands the demanding nature of the marine sector. Our specialist knowledge means we are well-placed to deliver the best safety and detection devices for marine and offshore environments.

Signaline
Linear heat detection for conventional and addressable fire systems

Signaline linear detectors provide unique solutions for fire and water leak detection. All Signaline detectors have a number of third party approvals from both international organisations and local bodies.

Explore our extended range at www.Lgmproducts.com

Marine Fire Detection Product Brochure

Marine and offshore

Audio visual signalling
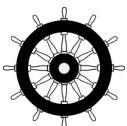
Fire detection

Hazardous area

About us

Formed in 1988, we are proud to be an independent service orientated company. LGM Products has an enduring commitment to customer service excellence and product quality combined with high standards of safety and business ethics.

What we do

LGM Products is a truly international distributor with customers in over 40 different countries across Europe, the Middle East and the Asia–Pacific region. We distribute fire detection devices and controls, audible/visual warning alarm devices and associated equipment to just about every conceivable industry around the world. Our markets include marine engineering, fire alarm systems, power stations and oil/gas production plants.

Marine Range

With over 25 years of experience serving the marine industry around the world LGM Products understands the demanding nature of the marine sector. Our specialist knowledge means we are well-placed to deliver the best safety and detection devices for marine and offshore environments.

In this brochure you will find beacons, smoke detectors, call points, fire control panels, sounders and a range of other products that are marine approved and suitable for a variety of onshore and offshore applications.

Audio visual signalling **Fire detection** **Hazardous area**

Addressable Fire Panels

Syncro ASM 1 and 2 Loop Addressable Marine Fire Control Panel

These addressable panels are available with Germanischer Lloyd, Det Norske Veritas, Korean Register, Nippon Kaiji Kyokai and China Classification type approval for a wide range of marine fire alarm system applications. This now includes Marine Equipment Directive Approval MED. The Syncro ASM is one of the first fire control panels in the world to meet this European recognized classification.

Compatible with the complete range of Apollo or Hochiki marine approved detection devices, Syncro ASM fire control panels can be networked to provide scalable fire alarm systems making it suitable for many types of vessel.

The large clear display, simple intuitive controls and compact, unobtrusive enclosure of Syncro ASM fire control panels have been popular with installers and users of land based fire systems for many years and are now set to become a favourite in the marine environment.

Feature rich with a 3 Amp power supply and highly configurable via the Windows® based Loop Explorer configuration utility, Syncro ASM fire control panels are suitable for a wide range of marine fire alarm system applications.

- 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

Audio visual signalling

Fire detection

Hazardous area

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3

Addressable Fire Detection

Discovery Marine Optical Smoke Detector

- IP44
- Unaffected by wind or atmospheric pressure
- Suitable for bedrooms, escape routes
- Approved by Lloyd's Register, GL, DNV, ABS, MCA, BV

Discovery Marine Multisensor Detector

- IP44
- Optical smoke and thermistor temperature sensors
- High immunity to false alarms
- Approved by Lloyd's Register, GL, DNV, ABS, MCA, BV

Discovery Marine Heat Detector

- IP54
- Rate-of-rise/static
- Ideal in dirty/smoky environments
- Approved by Lloyd's Register, GL, DNV, ABS, MCA, BV

Audio visual signalling | **Fire detection** | **Hazardous area**

Addressable Fire Detection

apollo

XP95 IS Heat Detector

- IP23D
- Rate of rise/static

- Intrinsically safe (suitable for zone 0)
- Approved by Lloyd's Register, GL, DNV, ABS, MCA, BV

XP95 IS Optical Smoke Detector

- IP23D
- 'Light scatter' optical detection

- Intrinsically safe (suitable for zone 0)
- Approved by Lloyd's Register, GL, DNV, ABS, MCA, BV

Discovery Marine Addressable Mounting Base

- XPERT Addressing
- One way fit
- Locking feature

- Stainless steel contacts
- Approved to MED by GL
- DNV & ABS approval

XP95 IS Addressable Mounting Base

- XPERT Addressing
- One way fit
- Locking feature

- Stainless steel contacts
- Approved to MED by GL
- DNV & ABS approval

Audio visual signalling	Fire detection	Hazardous area

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5

Addressable Manual Call Points

apollo

DISCOVERY MARINE ADDRESSABLE CALL POINT

The Discovery 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.

- IP24D
- 17-28Vdc
- -20°c to +60°c
- Two-wire supply
- Polycarbonate/ABS
- Flush or surface mounted

DISCOVERY MARINE WATERPROOF MANUAL CALL POINT

The Discovery 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 Discovery Marine range.

- IP67
- 17-28Vdc
- -20°c to +60°c
- Two-wire supply
- Polycarbonate/ABS
- Flush or surface mounted

Audio visual signalling	Fire detection	Hazardous area

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6

Conventional Fire Panels

ESENTO MARINE

These panels have been designed to minimise labour costs by providing ample space for tasks such as wiring and changing batteries. Simple colour coded buttons give the user confidence in correctly managing their fire alarm system and the one man walk tests will help reduce the cost of maintaining the system. A host of configuration & programming options are provided, including; programmable inputs & outputs, false alarm management, muster alarm and programmable output delays.

Esento Marine 2-4 Zone

- 2 or 4 zones
- Inputs for sounder ringing & pulsing
- Fire & fault relays
- 2 monitored sounder circuits
- Earth fault monitoring
- One man walk test
- Integral 1.25 Amp switch mode PSU
- Space for up to 3.2Ah batteries

- False alarm management mode
- Muster alarm
- 12 month warranty

Esento Marine 8-12 Zone

- 8 - 12 zones
- Integral 2.5 Amp switch mode PSU
- Space for up to 7Ah batteries
- Programmable inputs
- Programmable relays & outputs
- Up to 6 monitored sounder
- Modular expansion zone cards available

- 3 false alarm management modes
- Muster alarm
- Zonal programming
- Programmable output delays
- Supports up to 8 repeater panels
- 12 month warranty

Audio visual signalling	Fire detection	Hazardous area

Conventional Fire Repeater Panel

ESENTO MARINE

Esento Marine 12-Way Repeater Panel

The Esento Marine repeater panel has the same intuitive controls and indications as the main control panel but mounted in a smaller cabinet. The repeaters are fully functional with 'Silence', 'Resound' and 'Reset' controls, as well as 'Disable' and 'Test Mode' functions. It is also possible to disable the controls for each or all repeater panels to make them passive (indication only). Up to 8 repeater panels can be supported on a Esento 8-12 zone system.

- **12 zonal fire & fault indications**
- **Class change & pulsing inputs**
- **Programmable outputs**
- **Fully functional or passive**
- **Test mode & disablement functions**
- **Integral 1A switch mode PSU**

Repeater panels are designed to be wired in a fault tolerant (fail safe) loop configuration, from comms A to B and back to the main panel again. This enables repeater panels to still work if there is a break in the cables. If replacing an older system where the existing cabling cannot be configured in a loop as above, it is possible to re-programme the panel back to legacy RS485 circuit comms monitoring. This then allows any topology of comms cabling to be utilised.

The main circuit board has 2, switch –ve, inputs which can be used to sound or pulse the alarms. These inputs can also be re-programmed for use as PSU fault inputs. The internal comms PCB has 6, switch –ve, programmable outputs. Different key types are used for the door lock and the 'activate controls' key-switch. It is also possible to enable the controls via a 4 digit code entry if preferred. An eight button keypad is used to control the system and allow access to the function options (unless disabled).

Audio visual signalling	Fire detection	Hazardous area

Conventional Fire Detection

HOCHIKI

DCD-CE3M Combined Heat Detector (fixed temp & rate or rise 90°C)

- Wide voltage range (9.5 - 30Vdc)
- Rate of rise heat detector
- 90°C heat sensing element
- Remote indicator output
- Approved to MED by GL
- GL type & LPCB approval

DCD-AE3M Combined Heat Detector (fixed temp & rate or rise 60°C)

- Wide voltage range (9.5 - 30Vdc)
- Rate of rise heat detector
- 60°C heat sensing element
- Remote indicator output
- Approved to MED by GL
- GL type & LPCB approval

SLR-E3NM Marine Approved Photoelectric Smoke Detector

- Wide voltage range (9.5 - 30Vdc)
- Removable chamber
- Remote indicator output
- Approved to MED by GL
- GL type & LPCB approval

DRD-EM Marine IR Flame Detector

- Up to 25m range
- Single IR technology
- Fits standard MED base
- Remote indicator output
- Approved to MED by GL
- LPCB approval

Audio visual signalling	Fire detection	Hazardous area

Conventional Fire Detection

HOCHIKI

SLR-E-IS Intrinsically Safe Photoelectric Smoke Detector

- Up to 25m range
- Removable chamber
- Suitable for category 1

- ATEX Classification to II 1G EEx ia IIC T5 Tamb=55C
- GL type & LPCB approval

DCD-1E-IS Intrinsically Safe Heat Detector

- Rate of rise heat detector
- 60°c fixed temperature element
- Suitable for category 1

- ATEX Classification to II 1G EEx ia IIC T5 Tamb=55C
- GL type & LPCB approval

YBN-R/6-M Marine Approved Standard Base

- Accepts 2.5mm cables
- Electronics free
- Small 8mm profile

- Approved to MED by GL
- Integral remote indicator output

YBN-R/4(IS) Intrinsically Safe Detector Base

- Accepts 1 to 2.5mm cables
- Electronics free
- Small 8mm profile

- Approved to MED by GL
- Dedicated cable screen terminal

Audio visual signalling	Fire detection	Hazardous area

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10

Conventional Manual Call Points

Fulleon

CXL INDOOR CALL POINT

The CX Universal Call Point combines a number of features into one package, simplifying selection and reducing stock variants. Designed to provide the facilities most frequently used, the Universal Call Point is the easy answer for the majority of conventional installations.

- IP24D
- Up to 30Vdc
- -10°c to +55°c

- Two-wire supply
- ABS
- Flush or surface mounted

CXL WEATHER RESISTANT CALL POINT

The CXL Universal Call Point combines a number of features into one package, simplifying selection and reducing stock variants. The CXL comes as standard with a plastic and glass element, and its integral LED indicators provides increased flexibility for diverse applications.

- IP66
- Up to 30Vdc
- -25°c to +70°c

- Two-wire supply
- ABS
- Flush or surface mounted

Audio visual signalling

Fire detection

Hazardous area

Conventional Manual Call Points

KAC

MCP1A INDOOR CALL POINT

Installation time and ultimately cost, are of paramount importance to any fire or security installer. The MCP range directly reflects this need by providing a unique 'plug and play' concept designed specifically to reduce installation time.

- IP24D
- Up to 30Vdc
- -10°c to +55°c
- Two-wire supply
- ABS
- Flush or surface mounted

WCP1A WEATHER RESISTANT CALL POINT

The outdoor WCP is an IP67 sealed manual call point product. The enhanced environmental protection allows the unit to be installed in many external environments where water and dirt are likely to be present, making it a true waterproof and outdoor product.

- IP67
- Up to 30Vdc
- -25°c to +70°c
- Two-wire supply
- ABS
- Flush or surface mounted

Audio visual signalling **Fire detection** **Hazardous area**

Marine Detector Mounting

HOCHIKI

The approved design of the MBB-1 provides a splash-proof, secure fixing for both Apollo and Hochiki Marine Approved Detectors and their associated Bases. It can be installed on a variety of different fixing surfaces and because it has been manufactured to match the colour of Hochiki's range of products, it provides an aesthetically pleasing solution where surface fixed devices are required.

The housing supports four 20mm glanded entries, for zone or loop cabling access. It is also supplied with base fixing screws and two cable glands specifically designed to provide protection against water ingress.

The detector base fits directly onto the MBB-1 and sits within a slight recess. This provides an accurate fit and vital protection against dust and water ingress.

The MBB-1 is also the recommended choice of back box for Hochiki's Waterproof Heat Detectors, the Conventional DFG-60E and the Intelligent ACB-EW.

- **4 cable entry holes suitable for cable glands (2 glands supplied)**
- **Provides moisture and dust resistant fixing**
- **Ideal for bulk-head fixing**
- **Approved by LR and GL**
- **Non-marine use version available (SBB-1)**

Audio visual signalling	Fire detection	Hazardous area

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13

Audio/Visual Alarm Equipment
SOUNDER BEACONS

VTB

- 99dB(A)
- 1Hz LED
- 32 tone, 2-stage alarm

- IP21C(shallow)/IP33C(deep)
- 24Vdc
- Lens: Amber/Red

YL4

- 101dB(A)
- 3/10/15CD (LED)
- 32 tone, 2-stage alarm

- IP65
- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Green/Red/Opal

YL5

- 105dB(A)
- 2.5/5 Joule (xenon)
- 32 tone, 2-stage alarm

- IP65
- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Green/Red/Opal

PATROL

- 105/110/120dB(A)
- 5/10/15 Joules (xenon)
- 80 tone, 4-stage alarm

- IP66
- 24Vdc/115Vac/230Vac
- Lens: Red/Amber/Yellow

Audio visual signalling | **Fire detection** | **Hazardous area**

Audio/Visual Alarm Equipment
XENON/LED BEACONS

V4 Xenon Beacon

- 5 Joules
- 1Hz flash rate
- IP65

- 24Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Red/Green/Opal

MB005/MB010

- 5/10 Joules
- 1Hz flash rate
- IP67

- 12Vdc/24Vdc/28Vdc/115Vac/230Vac
- Lens: Amber/Blue/Clear/Green/ Yellow/Red

MBL1

- 11Cd
- 9 different flashing modes
- IP66 & 67 (third party tested)

- 12Vdc/24Vdc/48Vdc/115Vac/230Vac
- Lens: Amber/Blue/Green/ Yellow/Red

Audio visual signalling   **Fire detection**   **Hazardous area**

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15

16

Audio/Visual Alarm Equipment
SOUNDERS

VTG

- 102dB(A)
- 32 tones - 2 stages
- IP21C(shallow) or IP33C(deep)

- 24Vdc
- Red or White

YO4

- 100dB(A)
- 32 tones - 2 stages
- IP65

- 24Vdc/115Vac/230Vac
- Red

YO5

- 105dB(A)
- 32 tones - 2 stages
- IP65

- 24Vdc/115Vac/230Vac
- Red

Audio visual signalling   **Fire detection**   **Hazardous area**

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16

Audio/Visual Alarm Equipment
SOUNDERS

A105N

- 105-112dB(A)
- 32 tones - 3 stages
- IP66

- 24Vdc
- Red (RAL3000)
- 2 x M20 clearance

A112N

- 112-119dB(A)
- 45 tones - 3 stages
- IP66

- 24Vdc
- Red (RAL3000)
- 2 x M20 clearance

PATROL

- 110dB(A) or 120dB(A)
- 45 tones
- IP66

- 10-60Vdc/95-265Vac
- Red/Grey
- 5x M20 clearance

Audio visual signalling   **Fire detection**   **Hazardous area**

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17

Audio/Visual Alarm Equipment
SOUNDERS

MA112

- 112dB(A)
- 45 tones - 3 stages
- IP66 & 67 (third party tested)
- 24Vdc/48Vdc/24Vac/115Vac/230Vac
- Grey (RAL7038)

MA121

- 121dB(A)
- 45 tones - 3 stages
- IP66 & 67 (third party tested)
- 24Vdc/48Vdc/24Vac/115Vac/230Vac
- Grey (RAL7038)

BEXS110

- 110dB(A)
- 32 tones—3 stages
- IP66 & 67 (third party tested)
- 24Vdc
- Grey (RAL7038)
- Explosion Proof

Audio visual signalling   **Fire detection**   **Hazardous area**

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18

Audio/Visual Alarm Equipment
BELLS

FB ELECTRONIC BELL

- 95dB(A)
- IP21C (Standard base)   IP33C (WR base)
- 24Vdc
- Steel gong, electronic solenoid alarm

6" MOTORISED BELL

- 95dB(A)
- IP21C (Standard base)   IP33C (WR base)
- 24Vdc
- Steel gong, motorised rotary alarm

Audio visual signalling   **Fire detection**   **Hazardous area**

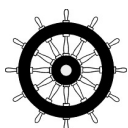Tel: +44(0)1252 725257   Fax: +44(0)1252 727627   ©2016/17 LGM Products Ltd.

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19

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