GO FURTHER
WITH CONFIDENCE

SPECIAL DETECTION OIL & GAS

Consilium

When Safety Matters

GO FURTHER WITH CONFIDENCE

Consilium is a global niche company that develops, manufactures & markets products and systems that are used to save lives, protect material values and the environment. Consilium's entire offering is based on delivering high-quality applications to customers who need to protect complex environments with high material values and large numbers of people.

In today's offshore industry, you have to be willing to go further than ever before to take on new challenges that demand creative solutions. And that takes confidence.
That is why we are with you every step of the way, from specification and design to installation and startup, all the way through your investment's operational life. Trust us to help you reduce costs, increase safety, and maximize uptime.

Our fire and gas detection systems give operators, shipyards, system designers and integrators around the world the confidence to go further every day. In fact, half the vessels put to sea are equipped with our systems. As your partner, we offer our long experience, in-depth knowledge and global support network to you, whenever and wherever you need it.

Our vision is for customers to make Consilium their first choice - *When Safety Matters.*

Go further with

Flexibility
Specification and design

Efficiency
Installation and startup

Productivity
Operations and maintenance

TOUGH ENVIRONMENT AND HIGH DEMANDS

Proven platform, new technology

With over 100 years of experience and over 35,000 successful installations around the world, we are the most trusted name in fire and gas safety at sea. But we do not just rest on our reputation. We develop and refine our technologies continuously to ensure you get non-stop, unparalleled performance.

- Open and flexible system
- Modular compatibility
- Most advanced technology available
- Combine our Oil & Gas and our Superior Oil & Gas (SIL 2) Solutions according to your application requirements.

SIL 2 CERTIFIED

Safety Integrity Level (SIL)

SIL is defined as a relative level of risk reduction provided by a safety function or to specify a target level of risk reduction. The technical progression in the Oil & Gas industry puts a higher demand on the safety function in case of fire.

SIL analyses are designed to verify that the measures and operational rules are sufficient for achieving a prescribed SIL, ensuring risk reduction. Consilium's products comply with the harmonized standards IEC 61508 and IEC 61511, referring to the Safety Integrity Level, and offer safety functions up to SIL 2.

Photo: Wintershall Norge AS

When Safety Matters

SIL 2
IEC 61508/EN 50126/28/29

⊕ MODULES OVERVIEW

Control modules

Control M 2.2

Control/Repeater Panel M 4.3

Control M X H

Repeater module

Repeater M 4.3

Interface modules

Loop MX

Bus Isolator M

Relay M 8

I/O M 70 and I/O M 700

Charger M

Surge Prot M

SIL modules

SIL 2

CS - Loop M

CS - Safety M

● CONTROL MODULES

The control unit is the main part of the system, containing all functionality for detection, alarm, controls and the main operator interface. The control unit communicates with interface modules on a redundant bus system. The system can be connected and controlled directly through high speed interfaces, such as Ethernet 10/100 or RS485. The control unit is not a requirement but simply an HMI for customers and service engineers, Consilium's systems are fully functional without HMI.

The following parameters can be downloaded, and configured:

- Number of detectors and other loop units
- Sensor sensitivity and alarm delay
- Number of operator interfaces and indication units
- Digital output/input functionality
- Multiple language control

- Explanatory text, which can be assigned to each detector. The text is displayed on the operator interface at alarm or fault. It is also possible to define texts for digital inputs and outputs

Control M 2.2

Control M is a control panel with a 2.2'' graphical colour display, used to manage and supervise a system.
- DIN-rail mounted control module, easily integrated with other modules
- Small design, perfect for installation in narrow spaces
- Offers the same functions as a full size control panel

Control/Repeater Panel M 4.3

- Large colour graphical display with full compliance with the European Fire Alarm Standard EN 54-2
- The central unit is delivered in a cabinet for both flush and surface mount installation
- Suitable when communication with main control and monitoring system is limited

Control M X H

Control M X provides the same functionality as both other control modules but without the graphical interface. It provides features such as Ethernet connection, RS-422/RS-485 interface, RS-232/RS-485 interface, two programmable relay outputs, USB host interface.

⊕ REPEATER MODULE

The repeater module is used when information from the control panel needs to be shared with other parts of the installation, such as staff room, engine room or other staff accessed areas.

Repeater M 4.3

The Repeater M 4.3 is a repeater panel with a 4.3'' graphical colour display, used to indicate system status. The unit is connected to the redundant backbone bus or Ethernet and can therefore be independently mounted remotely from the central unit. RM 4.3 can be used in a CM 2.2 or a CM 4.3 system solution.

Ex housing is available as an option.

⊕ CABINET

Consilium's systems are scalable and modular and can be delivered according to each customer's requirements. Below are examples of cabinets, yet Consilium's systems can be delivered on DIN-rail or integrated in an external enclosure, depending on application and requirements.

CS-CABINET S

CS-CABINET S is designed to contain the modules of a SIL-classed fire detection system in one single cabinet, together with a display and control panel, suitable for Oil & Gas and marine installations. The cabinet is supplied by two 28 VDC EN54-4 certified power lines. A total of six loop cards can be installed.

This small standard cabinet complies with environmental requirements, such as EMC, shock, vibration, and water ingression. It also complies with the EN 54 standard, MED directive and has an IPx2 water ingression classification.

CS-CABINET L

CS-CABINET L is designed to contain the modules of a SIL-classed fire detection system in one single cabinet, together with a display and control panel, suitable for Oil & Gas and marine installations. The cabinet is supplied by main and emergency power (110-230 VAC depending on the installation). A total of 16 loop cards can be installed.

This large standard cabinet complies with environmental requirements, such as EMC, shock, vibration, and water ingression. It also complies with the EN 54 standard, MED directive and has an IPx2 water ingression classification.

Floor standing cabinets are available upon request

⊕ OIL & GAS SAFETY SOLUTION

Each specific module is developed to support different functions in the system and is added on according to the customer's needs and requirements. It is a highly modular and flexible system where extra modules can be added later for future expansions, in order to be future proof.

Loop M X H

The Loop M X H module includes an addressable detector loop interface, handling up to 254 addressable detectors or other loop units. Module activity can easily be monitored on the fault and alarm indicators on the front panel as well as on the display of the control unit. Up to 64 Loop M X modules can be connected to one central.

The loop interfaces are using FSK modulation, which is extremely robust, making cable lengths up to 3000 meters possible, without any specific cable requirements. The cable with its detectors and other loop units are continuously monitored for possible faults and disturbances, providing the highest possible safety.

I/O M 70 H and I/O M 700 H

The I/O M 70 and I/O M 700 modules are two types of I/O modules with eight identical and individually programmable input/output channels.

I/O M 70 and I/O M 700 are used as digital input and output modules for monitoring and control of external devices, such as alarm devices, fire barriers, extinguishing and suppression systems, doors and custom made mimic repeater panels, HVAC etc.

Maximum output current per channel is 70 mA for the I/O M 70 and 700 mA for the I/O M 700. It is possible to bridge up to 2100 mA on the I/O M 700.

Relay M 8

The Relay M 8 module contains eight individually programmable relays. Each one of the relays provides a potential free change-over-contact capable of a 5A resistive load.

Relay M 8 is used for control units, such as sirens, doors, flash lights, alarms and HVAC or where general dry contacts are required.

Surge Prot M H

The Surge Prot M module unit is a terminal board with four major functions:
- Surge protection for power inputs
- Terminal board for CM 4.3
- Electronic short circuit protected for power outputs
- Provides power to the backbone bus

The module is designed to be used where there are no requirements for electrical isolation between devices.

⊕ OIL & GAS SAFETY SOLUTION

Charger M H

The Charger M module provides redundant power to the system through the redundant backbone bus and supervises the external power sources. There is a built-in intelligent battery charger for handling of backup battery power source of the system.

The Charger M is equipped with a supervised high current output with a maximum of 8 Ampere.

Bus Isolator M

The Bus Isolator M module divides the redundant system backbone bus into electrically isolated segments. Its dual functionality isolates communication and basic backup signals between the distributed system parts creating effective EMC isolation from the surrounding environment.

Bus Isolator M is mandatory when extracting the system backbone bus using separate power sources for the different segments, in order to prevent interference caused by ground currents or other equipment.

⊕ SUPERIOR OIL & GAS SAFETY SOLUTION

Consilium SIL fire detection system offers a platform with a safety function complying up to SIL 2/3 level. All loop units and detectors have built-in short circuit isolators and Built-In Self-Test (BIST) in the detectors to improve the reliability of the system, and supports both redundant and single loop setup. All loop units are addressable to give individual fire and fault localization on a detailed level for easy maintenance. The SIL fire detection system is possible to integrate with the standard system using other modules in the platform to create the optimal system.

CS-Loop M   SIL 2

The CS-Loop M module includes one addressable loop interface, handling up to 150 addressable detectors or other loop units. The loop interface uses FSK modulation, which is extremely robust, making cable lengths up to 105 Ω (i.e. 2000 m, 0.75 mm^2 cable), without any specific cable requirements.

CS-Loop M supports both redundant and single loop configuration for maximum safety.

CS-Safety M   SIL 2

The CS-Safety M module is an interface module and data collector for systems with more than one CS-Loop M, offering centralized outputs for fire, fault, and disablements.

The module offers a SIL 2 classed protocol that can be run on Ethernet. CS-Safety M supports both single and redundant setup.

⊕ ADDRESSABLE LOOP UNITS

Consilium's detectors and I/O units, from the well-established fire alarm product range for rail, marine and industrial applications in harsh environments, can be connected to the fire detection loop.
In addition to this, the communication interface of the loop units is based on Frequency Shift Keying (FSK) modulation, which has proven outstanding performance in harsh electrical environments.

EV-P

EV-P optical smoke detector is an analogue addressable smoke detector with an optical chamber. It is designed to give early warning for the presence of smoke in the supervised area.

At the same time the detector offers a high protection against unwanted alarms.

EV-DP

The unique Consilium dual smoke detector EV-DP is a detector with dual wavelength optical chamber.

Two light sources on different wavelengths are used, giving the detector a reliable reaction to different kinds of smoke, making it insensitive to unwanted alarms caused by for example water steam.

ASP-02

The aspiration detector is used to sample and analyze the presence of smoke by using a built-in fan that continuously gathers air samples into the detection chamber via the pipe network. ASP-02 uses one pipe per box to give a precise position of the alarm. The fan inside the aspiration box is continuously supervised in order to give fault indication in case of any disturbance caused in the aspiration box.

ASP-02 is suitable for use in areas with limited space or where the detector can be exposed to mechanical damage, tough environmental conditions or vandalism. The robust design, light weight and small size make it very attractive for Oil & Gas applications.

AC-IR-3Fq

This IR detector is a triple frequency infrared flame detector using the latest technology. The detector is made for detection of smokeless combustible liquid and gas fires, as well as smoke-forming open fire involving carbonaceous materials as contained in wood, plastics, gases, oil products etc.

The detector is using intelligent signal processing and custom algorithms, achieving excellent detection reliability while maintaining the highest immunity to interference radiation and sunlight.

IR detectors are suitable for harsh environments such as engine compartments or environments with high IP demands. The IR detector is used with an IP67 addressable base to connect it to the detector loop.

⊕ ADDRESSABLE LOOP UNITS

UB-6 SCI

UB-6 SCI is a low profile detector base for all types of analogue detectors in the EV series. The base plate is made for use in dry and clean spaces. Cable entry is from the center or from the side of the base.

UB-6 SCI provides Short Circuit Protection in the detector base. The short circuit isolator function is fully transparent and does not require any settings.

IC10 WP

The IC10 WP is an address unit for fire detector loops, designed for use in damp spaces. It allows connection of different types of devices with closing digital function to the fire alarm system.

IC10 WP includes one input.

MCP-A

MCP-A is an addressable manual call point available in different housings offering ingress protection for different environments. The unit provides the required system functionality for passenger/worker activated emergency alert. LED light on the front of the call point indicates the fire alarm being activated. The MCP-A provides optional built-in short-circuit isolation.

IC44 WP
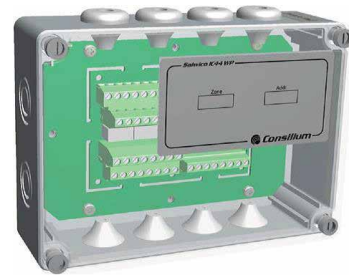
The addressable I/O control unit IC44 WP is designed to control and monitor external devices, such as fire doors, water mist, aerosols, HVAC etc. It is connected to a loop in the same way as other fire alarm loop units and can be used in damp spaces.

The IC44 WP includes four inputs and four relay outputs.

SIL ADDRESSABLE LOOP UNITS SIL 2

CS-IC22 WP SIL 2

The CS-IC22 WP is an input and output unit for various integration of safety I/O, designed for use in damp spaces. This unit allows the connection of different types of devices with dry contacts to the fire alarm system, for example high temperature heat detector such as LHD cable or sprinkler indication as well as controlled safety relays for external control.

The CS-IC22 WP is designed to control and monitor external devices, such as fire doors, fire dampers, sprinklers, hatches etc. The unit also gives support for fire, fault and disablements on individual level. Also available in stainless steel.

CS-IC10 WP SIL 2

The CS-IC10 WP is a unit for various integration of safety inputs, designed for use in damp spaces. The unit allows connection of different types of devices with dry contacts to the fire alarm system.

Also available in stainless steel.

CS-MCP SIL 2

The CS-MCP is a manual call point, available in different models to fit the specific environment. The unit provides the required system functionality for passenger/worker activated emergency alert. A LED light on the front of the call point indicates the fire alarm being activated.

CS-ASP SIL 2

The aspiration box is used to sample and analyze the presence of smoke by using a built-in fan that continuously gathers air samples into the detection chamber through the pipe network. CS-ASP uses one pipe per box to give a precise position of the alarm. The flow inside the aspiration box is continuously supervised in order to give fault indication in case of any disturbance caused in the aspiration flow.

CS-ASP is suitable for use in areas with limited space or where the detector can be exposed to mechanical damage, tough environmental conditions or vandalism. The robust design, light weight and small size make it attractive for Oil & Gas applications.

CS-PYH SIL 2

The combined multi-function smoke/heat detector CS-PYH is state of the art technology that offers a variety of functions to be optimized for the installed environment. Depending on application the detector can be configured to detect smoke, heat or combined smoke and heat. Furthermore it can be set to detect smoke at five different sensitivity levels.

One configurable input/output is provided for local indication and data input, for devices and systems such as suppression and extinguishing, as well as fire barriers and local.

EX UNITS HAZARDOUS AREA

Consilium fire detection products are offered for Hazardous area 0-2.

ISOLATOR-A

ISOLATOR-A is an IS isolator intended for use together with intrinsically safe addressable detectors and manual call points.

ISOLATOR-A is located in a non-hazardous area (safe area) and forming the interface to IS detectors and other IS line units.

ISOLATOR-A does not need a separate power supply or earth connection. It is powered directly from the fire alarm panel via the loop cable, which means that no extra cables are needed.

NS-AOHS-IS

NS-AOHS-IS is an analogue addressable multi sensor detector for fire alarm systems. It has two separate analogue sensor elements, one optical for smoke detection and one heat-sensing element for heat detection.

Alarm condition is indicated on the detector by a red LED light. The light remains lit until the alarm has been reset on the control panel. The address is set with a DIP switch, which is mounted on the backside of the detector.

ACP-IP55-Exn

The ACP-IP55-Exn is a manual call point for the addressable fire alarm system CFD500. The ingress protection IP55 makes this call point suitable for harsh environments.

The fire alarm is activated by breaking the glass, which has a protective plastic coating to prevent operator injury. A red LED light is lit on the call point when the control panel has received the alarm and it remains lit until the glass has been replaced and the alarm has been reset at the control panel. The address is set with a DIP-switch mounted inside the call point, which is polarity independent. The apparatus must be located in an area with low risk of mechanical danger.

ACP-IS

ACP-IS is an intrinsically safe addressable manual call point that can be connected to fire alarm systems. It is connected to the detector loop via an isolator that holds up to 20 addressable IS units.

The fire alarm is activated by breaking the glass, which has a protective plastic coating to prevent operator injury. The call point can also be tested with a special key that is included in the delivery. A red LED light on the front of the call point indicates the fire alarm and it remains lit until the glass has been replaced and the fire alarm has been reset on the control panel. The address of the call point is set with a DIP-switch.

EX UNITS HAZARDOUS AREA

CS-IC10 WP Ex

The CS-IC10 WP Ex is an intrinsically safe input unit for various integration of safety inputs. It is designed for use in harsh environments and to comply with the standards for the industrial, maritime, Oil & Gas, and Rolling Stock markets up to Safety Integrity Level 2 (SIL 2).

The CS-IC10 WP Ex has one input that can be connected to external equipment with a dry relay contact. The CS-IC10 WP Ex supervises the cable to the external equipment for cable break and short circuit, and the input can be configured as active high or active low.

CS-MCP WP Ex

The manual call point CS-MCP WP Ex is an intrinsically safe addressable manual call point. The selected material and the encapsulation, with ingress protection IP66/IP67, make it suitable for harsh environments. Fire alarm is activated by breaking the glass. The glass has a protective plastic coating that prevents operator injury.

A LED light on the front of the call point indicates activation of the fire alarm and the light remains lit until the broken glass has been replaced and the fire alarm has been reset on the control panel of the fire detection system. The CS-MCP WP Ex is designed to comply with the standards for the industrial, maritime, Oil & Gas, and Rolling Stock industries.

CS-MCP HD Ex

CS-MCP HD Ex is an intrinsically safe addressable manual call point (IP66/67). The heavy duty encapsulation, with high level of corrosion resistance, makes it capable of withstanding harsh environment for long time periods. The fire alarm is activated by breaking the glass, which has a protective plastic coating to prevent operator injury. The fire alarm can be reset on the control panel of the fire detection system after the broken glass has been replaced. CS-MCP HD Ex is designed to comply with the standards for the industrial, maritime, Oil & Gas, and Rolling Stock industries.

Available in colour options: red, blue, green, yellow, and yellow-black. Also available for non-hazardous areas.

CS-Isolator

The CS-Isolator is an intrinsically safe isolator intended for use together with intrinsically safe addressable loop units. It is designed to comply with the standards for the industrial, maritime, Oil & Gas, and Rolling Stock industries up to Safety Integrity Level 2 (SIL 2).

This unit is used to power feed the Ex loop line with reduced voltage and reduced available power and also allow IDAxt communication to/from the Ex loop units.

SIL 2

Universal detectors (EX/Non-Ex)

- ⊕ **Cost-efficient:** All-in-one detector with programmable functions and sensitivity levels
- ⊕ **Increased safety:** Built-in algorithm guarantees three-second response

Visual flame detectors

- ⊕ **Increased safety:** visual flame detection algorithm and live video possibilities
- ⊕ **Non-stop uptime:** unrivalled false alarm immunity

Input/output units

- ⊕ **Increased flexibility:** Enables a wide variety of integration of safety inputs/outputs
- ⊕ **Increased safety:** Built-In Self-Test (BIST) ensures long time between proof tests, built-in algorithm guarantees fast response
- ⊕ **Also available for hazardous areas**

Control Panel

⊕ **Efficient:** Unified fire and gas detection system user interface, fewer centrals take up less space can even be fitted into cabinet for existing safety system.

⊕ **Increased uptime:** fully redundant system (communication, power supply and CPU), hot swap capability, 1-minute start-up

Manual call points (Ex/Non-Ex/Heavy-duty)

⊕ **Increased safety:** Built for the harshest conditions, built-in algorithm guarantees fast response

⊕ **High reliability:** Built-In Self-Test (BIST) ensures long time between proof tests

Gas detectors

⊕ **Cost-efficient:** Common transmitter platform for flammable, toxic and oxygen

⊕ **Increased safety:** No undetected failures

⊕ **Time-saving:** Plug in sensor replacement

⊕ **Non-stop uptime:** Condensation-free optics immune to catalytic poisons

Intrinsically safe isolator

⊕ **Increased safety:** Unique solution capable of handling spurs and loops in EX-zones

⊕ **Cost-efficient:** Loops accommodate up to 60 units

⊕ EX UNITS HAZARDOUS AREA

CS-PH Ex

The combined multi-function smoke/heat detector CS-PH Ex is an intrinsically safe UNI-detector with state of the art technology that offers possibility to configure the detector according to the environment: smoke, heat or combined smoke and heat.

The detector is equipped with two LED indicators giving clear visibility of the red local alarm indication.

CS-Adapt Ex

Detector base adapter CS-ADAPT Ex is designed to protect the loop-line connection of the detector from water ingression, according to IP55 in Ex environment.

The CS-ADAPT Ex is an adapter for 2IP55 detector bases.

⊕ FLAME AND GAS

The range of gas detectors offered by Consilium serves as a base in the product offering to the Oil & Gas market. The detectors are available in various configurations, either with flow house, weather house, different materials etc. Consilium gas detectors are used to monitor areas where oxygen deficiency, flammable and toxic gases may pose a hazardous environment.

Three types of sensor technologies are used; catalytic, infrared and electrochemical. Depending on the customer's requirements, different detectors all the way up to SIL 3 are found in the standard offering.

CD-F-301   SIL 2

CD-F-301 Visual flame detector is the safest and most advanced flame detector on the market today, and its installation track record in the harshest of locations around the globe has proven the instrument to be extremely robust.

- Explosion proof visual flame detector
- Video storage on micro SD
- SIL 2 certified according to IEC61508

CD-F-300

CD-F-300 is an explosion proof visual flame detector. It processes live video images to detect the characteristic properties of flames, by means of its flame detection algorithms and on-board digital signal processing.

Salwico GD

The Salwico GD range of gas detectors is used to monitor areas where oxygen deficiency, flammable and toxic gases may pose a hazard environment. The detectors can be configured to use different kinds of sensor technologies including catalytic bead, electrochemical cell and Non-dispersed infra-red (NDIR) and has a long list of user friendly features:

- One hand operation for sensor replacement
- Clear multi-function backlit display
- Tri-colour backlight display for status indication
- 4-20 mA signal output
- 3 Switch relays
- Modbus (optional)

Salwico GD SS HART   SIL 2

The Salwico GD SS HART range of gas detectors is used to monitor areas where oxygen deficiency, flammable and toxic gases may pose a hazard environment. The stainless steel enclosure makes it suitable for harsh environments.

The GD SS HART uses a number of sensor technologies including catalytic bead and electrochemical cell and has a long list of user friendly features:
- One hand operation for sensor replacement
- Clear multi-function backlit display
- 4-20 mA signal output
- 3 Switch relays
- HART

FLAME AND GAS

Salwico GD Open Path HC

SIL 2

The Salwico GD Open Path gas detector is a point detector for gas concentration monitoring in potentially hazardous environments, based on infrared absorption. Solid state design improves reliability, long-term stability and accuracy in continuous measurement of gas concentrations in ambient air.

Open path detectors complement the use of individual point detectors and offer many significant benefits including:

- Wider area coverage - most likely to pick up any leak
- Very high speed of response
- No unrevealed failure modes
- Detector location not as critical
- Indicates size of hazard

Salwico GD10

SIL 2

The Salwico GD10 gas detector is a point detector for gas concentration monitoring in potentially hazardous environments. In this version GD10 is equipped with a weather house for mounting in potentially hazardous areas.

It is based on infrared absorption and solid state design improves reliability, long-term stability and accuracy in continuous measurement of gas concentrations in ambient air. It has the following advantages:

- Proven reliability and long term stability
- Early dirty optics warning
- Very short response time

⊕ OTHER

UG-3

UG-3 duct probe adapter has been developed to detect smoke in ventilation ducts and combines a smoke detector and an adapter system, where both tube and housing are specially designed for optimum airflow through the smoke detector.

The system meets all the requirements for safe fire detection with airflow speeds from 0.2 m/s to 20 m/s. Since the UG-3 is used with different types of fire alarm systems and installations.

The UG-3 is made for rectangular ducts. The optional UG-MB mounting bracket has to be used if the UG-3 should be mounted on insulated or circular ducts. A test hole on the UG-3 cover makes it easy to test the smoke detector, simply remove the plastic plug and spray test gas into the UG-3.

XB15

Consilium's certified beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use both offshore and onshore, where light weight combined with corrosion resistance is required.

The housings are manufactured completely from a UV stable, glass reinforced polyester. Stainless steel screws and mounting bracket are available ensuring a totally corrosion free product.

The model XB15 contains a supervisory diode and four wire lead connections for alarm applications.

DC / DC Converter

24V DC-Input, isolated 24Vdc output, efficiency up to 90.3%, width only 32 mm, 20% output power reserves, full power between -25°C and +60°C, soft-start function included, minimal inrush current surge, reverse input polarity protection.

Power supply

PSU M AC/DC 5A powers the system.

It is short-circuit proof and can be used in pairs to supply 5+5 A.

OTHER

SUM-2

The SUM-2 is a buzzer unit developed for the addressable detectors.There is no limitation to the number of detectors on a loop that can be equipped with a buzzer, each can have a SUM-2 buzzer attached to it.

DB3B Sounder

The DB3B is a high power explosion proof sounder, introduced as a replacement for the current DB3 with improved functionality and performance.

Certified for use in a wide range of temperatures from -55°C to +70°C the Ex enclosure is manufactured from GRP with a rugged thermoplastic flare, providing a corrosion free and aesthetically pleasing product.

Siren Beacon 24VDC

This unit is a compact combination of a high output sounder and beacon for spaces requiring both audible and visual indication of alarms. It can be connected to all Salwico fire alarm systems and the ingress protection IP65 makes it suitable for installation in harsh environment. The sounder can be set to 32 different tones and are set with a DIP switch inside the unit. It is equipped with a volume control.

- Up to 103dB(A) with built-in Xenon flash
- Automatic sounder synchronization
- Improved tone clarity, to reduce confusion

CD-FS-301

The CD-FS-301 Flame Simulator is designed to test the correct operation of the CD-F-series of Visual Flame detectors. The CD-FS-301 Flame Simulator produces a unique flame pattern that is recognized by the detector which in turn initiates a full alarm function test.

- Coverage: 1 degree beam divergence
- Range: 3-8 meters (10-26 feet)
- Weight: 2,5 kg (LM25) (5.5lbs)
- ATEX : II 2 G Ex d IIC T6 IP66 (FM09ATEX0034)

⊕ SIL 2

Combined SIL 2 and standard systems on redundant loops

Consilium offers tailor made solutions with SIL 2 and non-sil equipment in one single central, where each solution can be configured and optimized based on each customer's specific requirements and needs. This helps the customer save costs and avoid over-engineering.

All systems and detectors in our product range can be installed on redundant loops, to ensure a completely safe system. It is available also for Ex units and up to a total of 60 units can be installed on each loop. Redundant loops ensure a safe system that you can count on, even in the case of a panel failure or interruption on the loop.
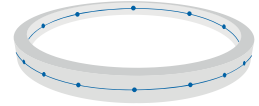
Programmable multi-criteria optical smoke and/or heat detectors.

CS-PYH and CS-PH Ex are both flexible and programmable smoke and/or heat detectors.

The detectors can be programmed with a wide range of different settings, 14 different smoke, heat, or smoke and heat options, all with five different sensitivity levels.

These two programmable detectors can be used throughout the entire installation, making installation faster and easier as well as keeping spare parts to an absolute minimum of only two different parts. This provides a cost-efficient solution.

Periodic Built-In Self-Test (BIST)

The Periodic Built-In Self-Test (Periodic BIST) is a central mechanism used to prolong proof test intervals. It is performed every five minutes to verify the system's safety function and examines the communication paths and end elements. All internal communication paths and testable parts of the loop units are included in the Periodic BIST mechanism, to verify the whole path from detection to reporting (fire) status.

The system creates and stores a log with the results of the Periodic BIST and the log file can be extracted from the system with a USB stick.
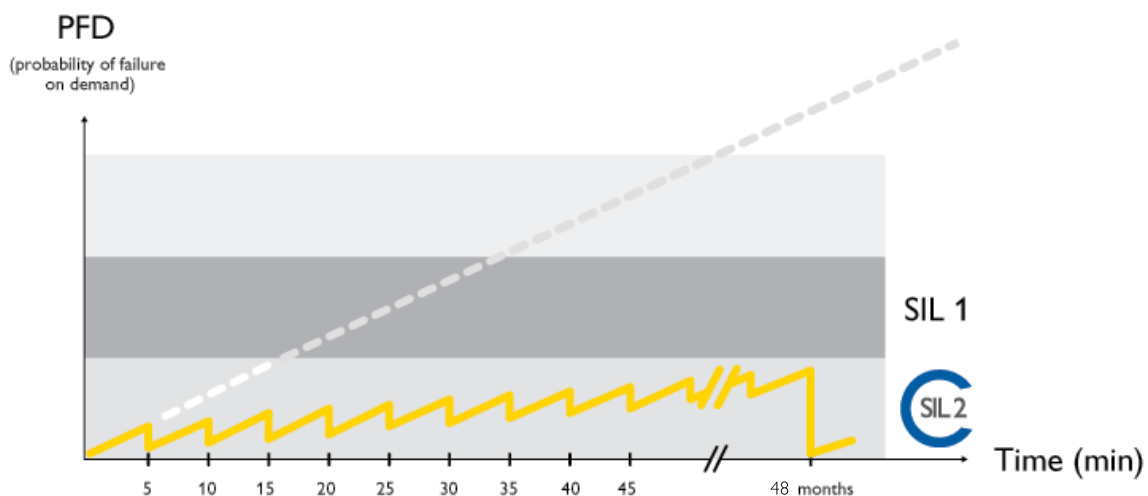
⊕ CONNECTIVITY

Below are some examples of present compatible solutions:

• Profisafe (IEC 61784-3-3 over a ProfiNet network)

• ProfiNet IO (CC-A)

• Modbus (RTU on RS485 or Modbus over TCP/IP on Ethernet networks)

⊕ FREE LOOP TOPOLOGY & SCALABLE SOLUTION

Consilium common platform (CCP) enables a completely customizable system with endless possibilities and setup options, to suit every customer's specific needs and requirements, all in one single system.

It is designed to be customizable, flexible and future-proof, by letting you configure the modules as your requirements and needs might change. Additional modules can be placed on the DIN-rail and it is easy to remove or switch modules to fit any of your changed specifications. It is also possible to combine SIL and standard equipment, installation and configuration is easily performed in the same central.

One system offers unlimited solutions.

⊕ HOT SWAP & REDUNDANCY

We are proud to offer a system that enables continuous uptime, from the day of installation until you shut down your operations.

Software updates to your free loop topology are simply done by USB or Ethernet interface.

In case of module modifications, our system supports hot swap, which gives you the possibility to add, remove or switch modules, all while the system is up and running.

⊕ APPLICATION EXAMPLES

Communication with the main control and monitoring system can be done over RS485, RS422, digital I/O or Ethernet in all examples. The setups below are just examples as the concept promotes customer specified system design. The modules can be used in several other ways to control and monitor other systems onboard.

The back bone bus is used for communication between modules and stretched central segments. It includes redundant RS485 channels, redundant 24 VDC power line and the X-Fire signal.

X-Fire is a signal in the back bone bus used for transmitting the central alarm status. The signal is only used when a module in a managed mode loses communication with its control unit. This signal is used to ensure that the fire detection system can deliver an alarm signal even if the system processor is down.

Example 1 - Redundant System

The example below is a redundant installation with one control panel segmented in multiple locations or multiple control panels connected together. This allows asset protection even if one panel fails.
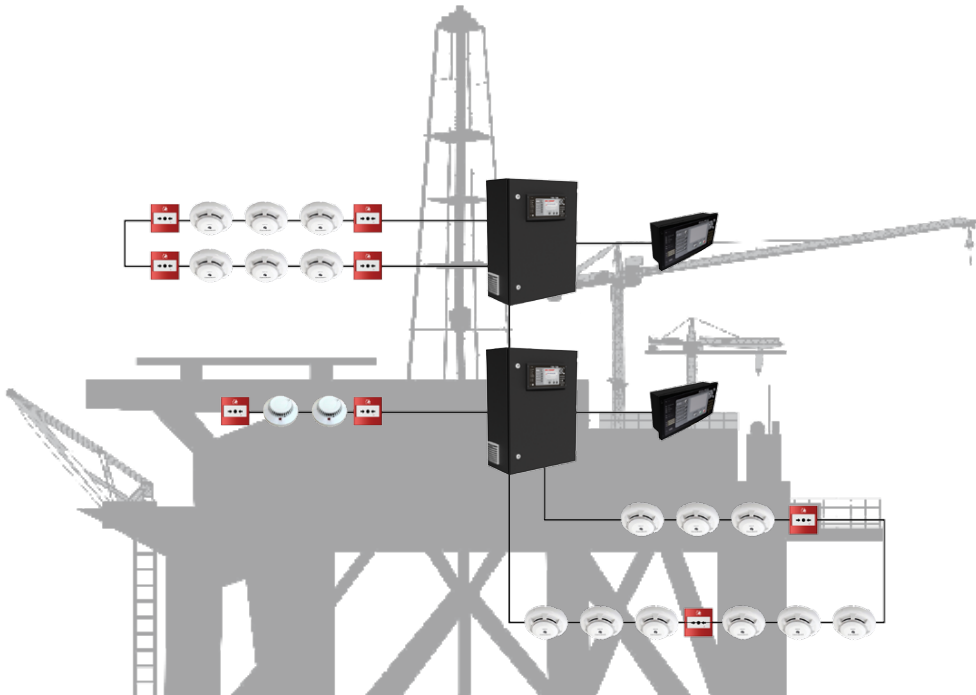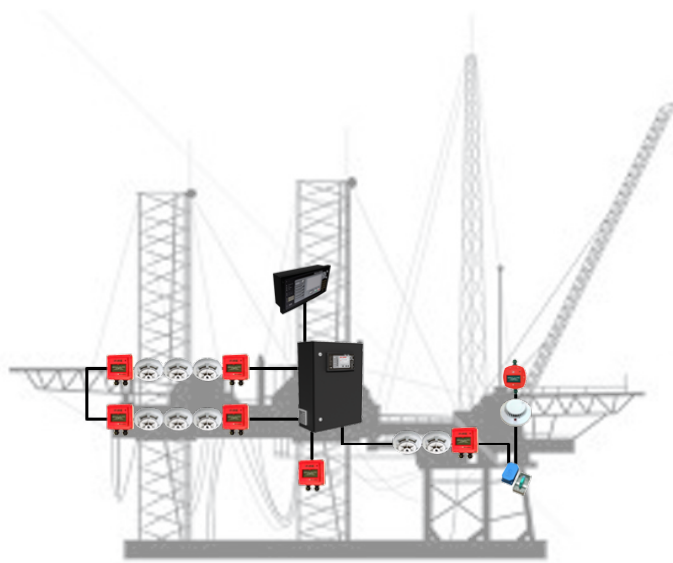

Repeat controller in Control room with redundant CPU. The main panel is located in accommodation space with IP22 devices on accommodation detector loop module.

- Redundant network possibilities between system
- Redundant repeat controllers in engine control room

Example 2 - Standard System

The example below shows a standard installation with one detector loop in the accommodation area and one in the machinery space on a typical jack-up drilling rig.
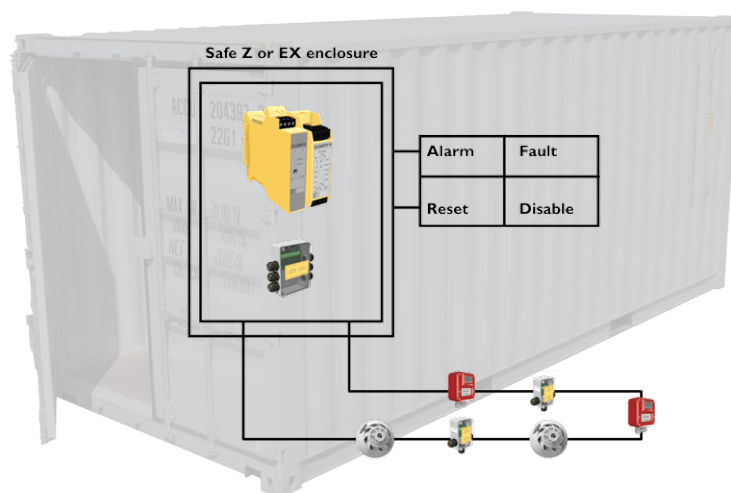

Redundant repeat controller in control room. The main panel is located in accommodation space with IP22 device on accommodation detector loop module.

- Machinery space fire devices IP55, IP67 on machinery space detector loop module
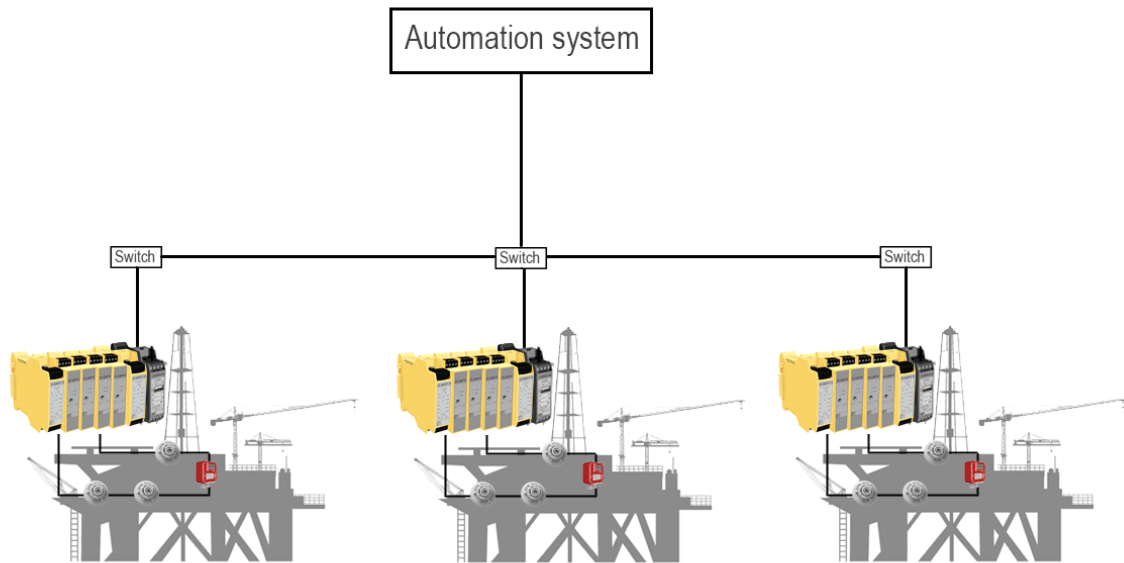- Drill floor, mud pit, mud pump room etc, zone 1 IS fire detection devices

Example 3 - Container

SIL 2

One of the smallest possible SIL2 system solutions on the market. Power supply from outside of container and output status signals and/or network communication through Ethernet.
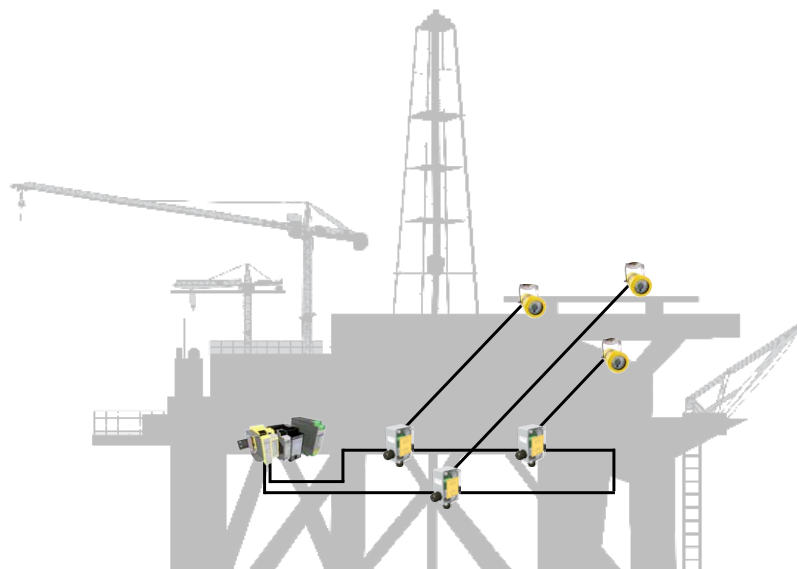
Example 4 - Multicentral system

SIL 2

Network connected multicentral system. Up to 16 SIL certified loops per central.

Up to 30 autonomous centrals in one multicentral system. An alarm on one platform will always be visible on all other centrals within the same multicentral system.

Example 5 - Helicopter Deck

To ensure complete coverage of the helideck, a minimum of three visual flame detectors are recommended to be installed facing inwards at 120 degrees to each other. This will ensure complete coverage of the helideck and comply with a 2003 detector voting structure.

Due to the false alarm sources associated with IR flame detection that are found in the helideck application, the preferred method of flame detection shall be visual.

Today's safest and most cost effective solution on the market with the possibility to combine SIL2 & non-SIL equipment within the same central sharing one HMI. The SIL segment is a complete stand-alone segment within the central with separated safety functions - i.e. separate communication & relay outputs.

Example 7 - Redundant EX Loop - available for all EX zones (0-2)
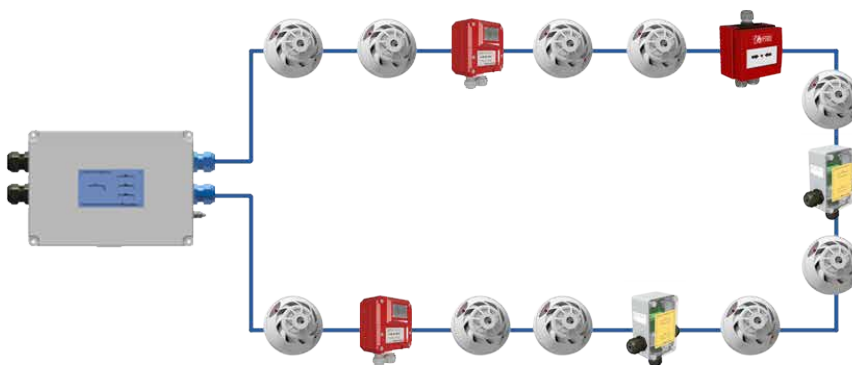
Unique redundant loop configuration for EX zones. Fault tolerant against cable break and short circuits.
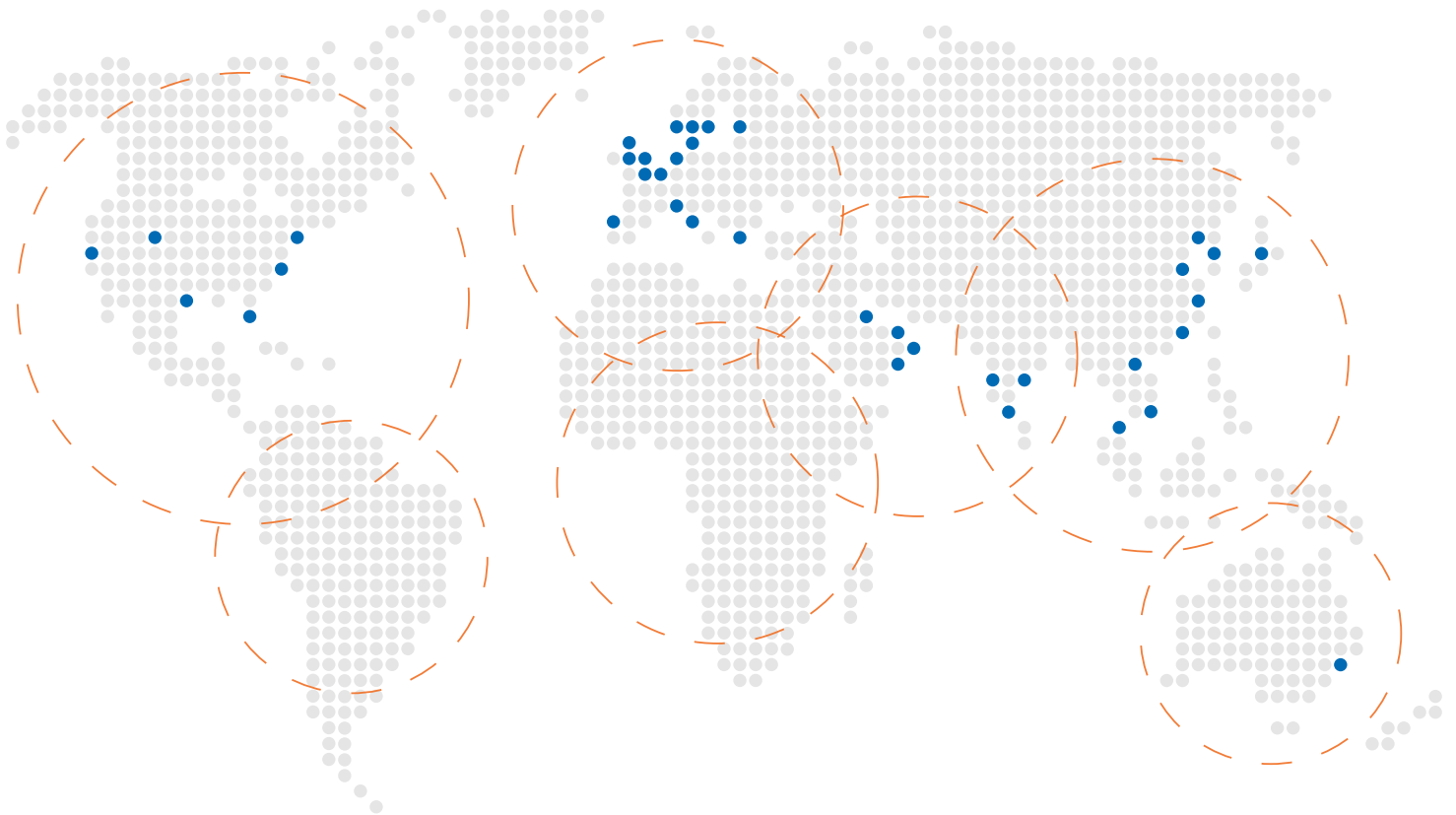
The redundant loop can be installed in zone 0-2, group IIC with up to 60 loop units. Cable lengths are dependent on EX group.

GO FURTHER
WITH CONSILIUM

Our fire detection and protection systems gives operators,
shipyards, system designers and integrators around the
world the confidence to go further every day. In fact, half
the vessels put to sea are equipped with our systems.

As your partner, we offer our long experience, in-depth
knowledge and global support network to you
– whenever and wherever you need it.

Consilium

When Safety Matters

B030.1701.1