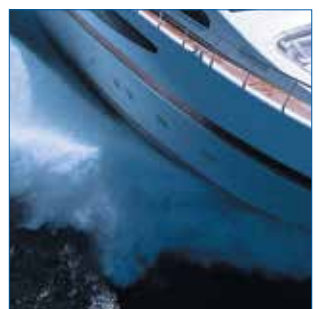
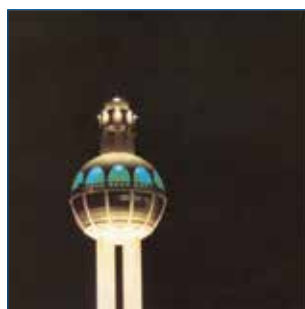
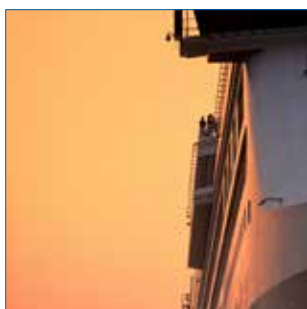


# Consilium Products

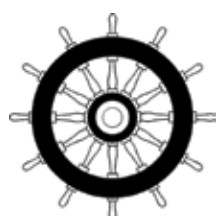


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**Marine approval**

Consiliums products and applications are approved by the major classification societies.



Consilium develops and markets products, services and systems for safety, navigation and automation applications. The guiding principle behind Consilium's products and systems is to help protect people, the environment and material values. With a stable base of proprietary products, complemented by high-quality external brands, and a global market organisation, Consilium ranks among the world's leading suppliers to the international shipping, transport and oil and gas industries.



## Why Consilium?

Consilium AB is one of the world-leading suppliers of products and systems for safety, navigation, environmental monitoring and automation solutions. We are established in all the world's important countries within shipbuilding, shipping and in the oil and gas industry. With our global sales and service organization we are able to be your sales and service support where ever you are.

Our mission is to protect human lives, assets and the environment and to make a difference when safety matters.

## Business development

Based on our market and technical knowledge, we invest in new areas and currently have a number of interesting business development projects in our portfolio. Many business projects have developed beyond expectations, which have resulted in new separate business areas and separate divisions or new products and solutions. This is the case with products and systems for military vessels, special radar system for detection of oil spills, port surveillance, ECDIS and integrated navigational systems.

## Marine & Safety

The business area Marine & Safety focus on the international shipping industry and offers products and systems for safety and navigation. The range of products includes fire and gas detection systems, integrated navigation systems, marine voyage data recorders, speed logs and radar systems. Consilium also offer systems for measuring the emissions of greenhouse gas from ships.

We hold a strong position by offering service and support all over the world which is an important criteria for shipping companies as well as shipyards when making investment decision.

Marine & Safety business area also offers safety solutions for land transportation and building safety and we have established ourselves as a leading supplier of fire detection solutions for trains.

## Fire safety & Automation

In the Fire safety & Automation business area, Consilium supplies automation products as well as fire and safety systems for oil and gas plants. The product range includes instrumentation, control systems, automated inventory management for tank farms and terminals, solutions for fire and gas detection, oil and gas pipeline leak detection, fire extinguishing systems, emergency shutdown systems and communication systems.

### After-Sales Support

At Consilium we offer an extensive after sales support program which includes everything from service and maintenance of all supplied systems to supply of spare parts and retrofitting of older installations.

We offer commissioning and world-wide after-sales support of all our products through our wide network of own offices and representatives. We offer our customers spare parts that are backward compatible with the majority of our delivered systems. We provide full 24/7 support and take care of the service of your systems by our highly skilled engineers.

Key facts/benefits:

- Modification and maintenance
- Telephone and e-mail support
- On site trouble shooting
- Calibration
- Annual Performance Test (APT) of systems
- World-wide network of own service stations
- Training of onshore and offshore staff

### Management System

We have established, documented, implemented and maintained a quality management system to continually improve the effectiveness. This provides a structured process for the achievement of product quality and customer satisfaction in accordance with the requirements of international standards.





# Salwico Fire Detection System



## Salwico Cargo Fire Detection Centrals



### Salwico Cargo, with integrated control panel

Salwico Cargo is a fully SOLAS compliant fire detection central. It is supplied both as analogue addressable or conventional version. Tested and certified by all the major classification societies, this system provides optimal fire detection for merchant vessels. Salwico Cargo cabinet is in some versions featured with general alarm system. The control panel is embedded into the main cabinet and it provides possibility to attach remote control and repeater panels to the main cabinet.

Addressable  
F400-101-X010YA  
F800-101-X010YA

Salwico Cargo, with integrated control panel  
2 -6 loops and 8-16 relays alt.  
8 - 32 Conventional Sections and 8-16 Relays

Conventional  
F400-101-XY100A  
F800-101-XY100A

400 = Wall mounted  
800 = Recess mounted  
Addressable:  
X = No of relay modules 1 or 2, Y = No of loop modules 2 - 6  
Conventional:  
X = No of relay modules 1 or 2, Y = No of I/O 70 module 1 - 4



### Salwico Cargo, including cabinet and external control panel

Salwico Cargo is a fully SOLAS compliant fire detection central. It is supplied both as analogue addressable or conventional version. Tested and certified by all the major classification societies, this system provides optimal fire detection for merchant vessels. Salwico Cargo cabinet is in some versions featured with general alarm system. The control panel is installed separately on any location and possibility to attach remote control and repeater panels to the main cabinet is provided.

Addressable  
F000-101-X010YA  
F010-101-X010YA

Salwico Cargo, including cabinet and external control panel  
2 -6 loops and 8-16 relays alt.  
8 - 32 Conventional Sections and 8-16 Relays

Conventional  
F000-101-XY100A

Addressable  
000 = 440x400x180 Cabinet / 010 = 440x570x180 Cabinet  
X = No of relay modules 1 or 2, Y = No of loop modules 2 - 6  
Conventional  
X = No of relay modules 1 or 2, Y = No of I/O 70 module 1 - 4

## Control/Repeater panels



5100195-20A

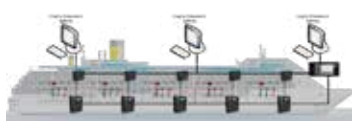
### Control/Repeater M 4,3 Cargo

The Control/Repeater Panel M 4.3 is a control panel with a 4.3" graphical colour display used to manage and supervise a system. It mounts on any flat surface independently from a fire alarm cabinet and is equipped with communication buses for connecting to the system. USB In front of the panel provides easy access to the system's data and diagnostic logs. It also provides the following features:

- A backlit 4.3" graphical colour display
- Alarm buzzer
- LED status indicators
- Backbone Bus Interface
- Ethernet connection
- RS-422/RS-485 serial interface
- RS-232/RS-485 serial interface
- Three USB interfaces
- Two configurable powered I/Os
- Two programmable relay outputs

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## Salwico Cruise Fire Detection Centrals



### Salwico Cruise, with integrated control panel

Salwico Cruise is a fully SOLAS compliant fire detection central. Tested and certified by all the major classification societies, this system provides optimal fire detection for large vessels. Fire Detection Centrals are fully customised using all benefits of flexible system design. Main features of such centrals are Modularity, Full Redundancy on multiple levels including CPU, Power and Communication, Hot-Swap on module level. All to insure maximum availability possible, allowing lowest lifetime cost. Salwico Cruise systems are fully Safe Return To Port compliant.



5100002-02A

### Control M X H

Control M X is used in three different ways:

- As a central controller (Master) in a Fire detection system.
- As a central backup controller (Slave) in a Fire detection system.
- As a provider of additional communication channels, additional external communication, or as an extension bus.

A Control M X provides the following features:

- Ethernet connection
- RS-422/RS-485 interface
- RS-232/RS-485 interface
- Two programmable relay outputs

For details on assembling a system and definitions of common system terms, refer to the Installation Manual.



5100026-01A

### Loop M X H

Loop M X enables the connection of one addressable detector loop. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.





5100056-01A

### Buscon M 10 H

BusCon M 10 has two major functions:

- Terminal board for functions in Control Panel M4.3 and Control/Repeater M4.3
- Terminal board for Backbone Bus External BBE (RS485 Repeater)

These functions can be used together or individually. The module BusCon M 10 has one connection for either RS232 or RS485 communication. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

Note! BusCon M 10 does not provide a galvanically isolated bus communication BBE. Operating voltage range 19-30VDC



5100054-01A

### Buscon M 20 H

The BusCon M 20 connects the Control Panel M 4.3 to the backbone bus and provides connection terminals for functions from Control Panel M 4.3. The module BusCon M 20 has two relay outputs and one channel for RS422 or RS485 communication. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.



5100071-01A

### Bus Isolator

Bus Isolator M divides the system backbone bus into segments. Its dual functionality isolates communications and basic backup signals between the stretched system parts and provides power to the control panel (e.g. Control Panel M 4.3). For details on assembling a system and definitions of common system terms, refer to the Installation Manual.



5100075-01A

### I/O M 70 H

I/O M 70 provides eight programmable I/O 70 channels, each individual channel can be configured as either:

- Programmable Inputs
- Programmable Outputs max 70mA for buzzers, relays etc
- Conventional detector zones

This module monitors conventional detectors, digital inputs, two-wired inductive sensors and controls low-power units, such as buzzers and relays. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.



## I/O M 700 H

I/O M 700 provides eight programmable I/O 700 channels, used for either:

- Programmable Inputs
- Outputs max\* 700 mA for magnets, power supply etc

Use the I/O M 700 as an input module, or use it to monitor, control, and/or supply units such as alarm devices, magnets. It can also provide constant power supply to other system modules such as Control and Repeter Panels etc. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

\* Used as an output module, I/O M 700 can provide max output 1400 mA, if two outputs are connected together.

5100077-01A

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## Relay M 8 H

Relay M 8 provides eight programmable relay contacts. Each of these relay contacts provide a potential free change-over contact. Use Relay M 8 to control units such as sirens, magnets, flashlight, alarms and ventilation fans. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

5100081-01A

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## Charger M H

Charger M provides power to the system through the Backbone Bus. It connects to either a change-over module or directly to a power supply, supervises change-over and connects the power supply units. By using dual Charger M modules, it is possible to replace one Charger M module without powering down the system. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

5100062-01A

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## Change Over M X H

The Change Over M X can switch automatically between two power sources, mains and emergency, with preference towards mains power if both sources are operational. The Change Over M X is used to connect to the PSU module in a system, and is also provided with one extra power supply outlet (which can be used for example to a printer). This is a separate module without any contact with the backbone bus. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

5100066-01A



### Change Over M EXT H

Change Over M Ext monitors mains and emergency power inputs and gives fault indication if either supply is lost. The power input status is indicated by the front panel LEDs. Change Over M Ext provides two separate controllable 230 VAC outputs, OUT 3 and 4, protected by separate front mounted fuses. There are also two separate programmable change over relays, OUT 5 and 6. OUT 3-6 are used to control units such as sirens, magnets, flashlights, alarms and ventilation fans. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

5100068-01A



### PSU M AC/DC 5A

PSU M AC/DC 5A powers the system. It is short-circuit proof and can be used in pairs to supply 5+5 A. For details on assembling a system and definitions of common system terms, refer to the Installation Manual.

5100087-01A



### PSU M DC/DC 5A

The Dimension CD-Series offer DIN-rail DC/DC converters in the 92-120W output power range in a very compact housing. These DC/DC converters are allowed to run with a battery or similar sources or can also be used to refresh and stabilize the 24Vdc on the end of long cable runs. The basic units include all the essential basic functions while the -S1 version is equipped with quick connect spring clamp terminals, a DC-OK-contact which monitors the output and an input-low-relay-contact. The -L1 version additionally fulfils the NEC Class 2 requirements. All devices except the CD5.241-L1 have a PowerBoost of 20% incorporated. This extra power can even be used continuously up to +45°C.

5100088-01A



### Control/Repeater M 4,3 Cruise

The Control/Repeater Panel M 4.3 is a control panel with a 4.3" graphical colour display used to manage and supervise a system. It mounts on any flat surface independently from a fire alarm cabinet and is equipped with communication buses for connecting to the system. USB In front of the panel provides easy access to the system's data and diagnostic logs. It also provides the following features:

- A backlit 4.3" graphical colour display
- LED status indicators
- Ethernet connection
- RS-232/RS-485 serial interface
- Two configurable powered I/Os
- Alarm buzzer
- Backbone Bus Interface
- RS-422/RS-485 serial interface
- Three USB interfaces
- Two programmable relay outputs

5101003-50A



5100096-20A

### Repeater M 4,3

The Control/Repeater Panel M 4.3 is a control panel with a 4.3" graphical colour display used to manage and supervise a system. It mounts on any flat surface independently from a fire alarm cabinet and is equipped with communication buses for connecting to the system. USB In front of the panel provides easy access to the system's data and diagnostic logs. It also provides the following features:

- A backlit 4.3" graphical colour display
- LED status indicators
- Ethernet connection
- RS-232/RS-485 serial interface
- Two configurable powered I/Os
- Alarm buzzer
- Backbone Bus Interface
- RS-422/RS-485 serial interface
- Three USB interfaces
- Two programmable relay outputs

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## Salwico Workboat Fire Detection Centrals



5102002-01A

### Salwico Workboat AI

Salwico Workboat AI is an analogue addressable fire detection system with 2 fire detector loops SOLAS compliant. Tested and certified by all major classification societies, this system provides an optimal fire detection solution for smaller vessels.

The system is managed and supervised through Control Panel M 4.3. The Control Panel M 4.3 is mounted on the front of the fire alarm cabinet.



5102002-02A

### Salwico Workboat AE

Salwico Workboat AE is an analogue addressable fire detection system with 2 fire detector loops SOLAS compliant. Tested and certified by all major classification societies, this system provides an optimal fire detection solution for smaller vessels.

The system is managed and supervised through Control Panel M 4.3. The Control Panel M 4.3 is mounted separately from the fire alarm cabinet.



5102013-01A

### Salwico Workboat CI

Salwico Workboat CI is a conventional fire detection system with 8 fire detector sections SOLAS compliant. Tested and certified by all major classification societies, this system provides an optimal fire detection solution for smaller vessels.

The system is managed and supervised through Control Panel M 4.3. The Control Panel M 4.3 is mounted on the front of the fire alarm cabinet.



5102013-02A

### Salwico Workboat CE

Salwico Workboat CE is a conventional fire detection system with 8 fire detector sections SOLAS compliant. Tested and certified by all major classification societies, this system provides an optimal fire detection solution for smaller vessels.

The system is managed and supervised through Control Panel M 4.3. The Control Panel M 4.3 is mounted separately from the fire alarm cabinet.

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## Accessories



5102021-20A

### PSU Kit Workboat 5A DC/DC

This PSU Kit provides ultimate isolation and voltage regulation of power supply to Salwico Workboat centrals when 24VDC power is used as the only supply of the central. Only one PSU kit is to be used per power supply channel, i.e. in case when both main and Emergency supply is 24VDC it will be necessary to install two PSU Kits.

Features

- 24VDC 5A adjustable
- Long lifetime insured
- Status supervision and indication
- Installations kit included

The PSU kit is suitable for all versions of Salwico Workboat fire alarm centrals.



5102024-00A

### Relay Kit Workboat

The relay kit is used to convert 24VDC powered outputs of I/O 700 Module into dry relay contact outputs. When so is needed this outputs can be used as control outputs controlling various external devices from Salwico Workboat fire detection central unit.

Features

- Breaking Capacity 250 VAC 6A
- 2 Pole
- LED Status indicator
- DIN-Rail mounted
- Installations cable kit included

## Central Unit Accessories

### Log Printer



7680

#### OKI ML280

The ML280 elite is a fast and robust log-printer. It can be connected to all Salwico fire and gas alarm systems that has a RS232 printer output. Paper can be fed from the bottom, from the behind or from the top. Single sheet paper or continuous paper can be used. The cable connections are on the back of the printer. The robust construction makes the ML280 elite suitable for harsh environments



5200087-00A

#### Mini printer

The mini printer is an embedded printer to the fire detection central and very silent through direct thermal printing method. The printer has an abundant figure/curves/characters print function and a copy function of LCD screen.

### Loop installation unit



047480

#### SE3000+ Loop test unit

SE3000+ is a small hand hold test device for Salwico Fire Alarm Systems. It can be used to execute two different tests, a loop test and a loop unit test. The loop test automatically boots the complete loop and searches all addresses on the loop. All the information found about the addresses is saved in a list, which can be printed out or scrolled through on the display. The loop unit test searches for the manually requested address and immediately displays all information found about the unit. More information about SE3000+ can be found in the manual SE3000+ User Guide (part no 046481) and in the Short Guide printed on the bottom of the device.

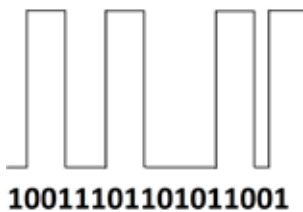
## Interfaces



5100433-02A

### ST Interface M

ST Interface M is used for interfacing "old Servoteknikk" loops into the new Salwico systems. Perfect solution for retrofitting elderly systems with newer central cabinet. This Module can be used in combination with virtually any Salwico addressable central. One such module is required per each addressable loop.



### Standard communication protocols

Standard communication protocols available for integrations with other systems

- NMEA 0183
- MODBUS RTU
- MODBUS TCP/IP
- ESPA 444

## Addressing Tool



5200123-00A

### EV-AD 2 addressing tool

The Evolution Address Programmer is used to set the address in Salwico Evolution fire alarm detectors in a marine environment (Hard Customer Code 2). The detector is attached to the programmer. The procedure to set or change the address takes only a few seconds. The EV-AD2 requires two 9V PP3 non-rechargeable alkaline batteries. The programmer indicates when the battery is low.

## Addressable Detectors



040020

### EV-P Analogue Addressable Optical Smoke Detector

Salwico EV-P 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. Salwico EV-P is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The detector can be placed in harsh environments if it is mounted on a splash proof base. The technical detector address is set with a special programming tool, valid addresses are 1-254. Salwico EV-P has a fine pitch net which improves the response to smoke and also reduces the amount of dust etc. entering the detector. Salwico EV-P is equipped with an output for remote indication.



040030

**EV-PH Analogue Addressable Optical Dual Smoke/Heat Detector for dry space IP22**

Salwico EV-PH is an analogue addressable combined optical smoke and heat detector. It is designed to give early warning for the presence of heat and smoke in the supervised area. Both heat and smoke alarm can be generated individually. At the same time Salwico EV-PH offers a high protection against unwanted alarms. Salwico EV-PH is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The detector can be placed in harsh environments if it is mounted on a splash proof base. The technical detector address is set with a special programming tool, valid addresses are 1-254. Salwico EV-PH has a fine pitch net which improves the response to smoke and also reduces the amount of dust etc. entering the detector. Salwico EV-PH is equipped with an output for remote indication.



40050

**EV-DPH-A2R**

Salwico EV-DPH-A2R is an analogue addressable smoke and heat detector with a dual wavelength optical chamber. Two light sources with different wavelengths are used, giving the detector a stable reaction to different kinds of smoke and making it insensitive to unwanted alarms caused by e.g. water steam. Salwico EV-DPH-A2R is equipped with Omniview™ 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The technical detector address is set with a special programming tool. Valid addresses are 1-254. Salwico EV-DPH-A2R is equipped with an output for remote indication.



040000

**EV-H/A1R 54°C Analogue Addressable Heat**

Salwico EV-H is an analogue addressable heat detector. Salwico EV-H is designed to give early warning for the presence of heat in the supervised area, and is available in two temperature classes: A1R (fixed 54°C + rate of rise 0.8°C/min) and CS (fixed 84°C), see separate part no. for 84°C. Salwico EV-H is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The detector can be placed in harsh environments if it is mounted on a splash proof base. The technical detector address is set with a special programming tool, valid addresses are 1-254. Salwico EV-H is equipped with an output for remote indication. For detailed information about appropriate systems for the detector, see separate document "Compatibility of Loop Units/System".



40001

**EV-H A1R 54°C IP67**

Salwico EV-H is an analogue addressable heat detector moulded together with base adapter SPB-ADAPT to fulfil IP67. Salwico EV-H is designed to give early warning for the presence of heat in the supervised area, and is available in two temperature classes: A1R (fixed 54°C + rate of rise 0.8°C/min) and CS (fixed 84°C), see separate part no. for 84°C. Salwico EV-H is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The detector can be placed in harsh environments if it is mounted on a splash proof base. The technical detector address is set with a special programming tool, valid addresses are 1-254. Salwico EV-H is equipped with an output for remote indication. For detailed information about appropriate systems for the detector, see separate document "Compatibility of Loop Units/System".





5100472-00A

### EV-H A1R 54°C IP67 SCI

Salwico EV-H is an analogue addressable heat detector molded together with base adapter SPB-ADAPT SCI to fulfill IP67 ingress protection class. Salwico EV-H is designed to give early warning for the presence of heat in the supervised area, and is available in two temperature classes: A1R (fixed 54°C + rate of rise function according to EN54-5) and CS (fixed 84°C), see separate part no. for 84°C. Salwico EV-H is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The technical detector address is set with a special programming tool. Valid addresses are 1-254. Salwico EV-H is equipped with an output for remote indication. SPB-ADAPT SCI is developed to provide Short Circuit Protection in the detector base. Short Circuit Isolator function is fully transparent and do not require any setting. Short Circuit Isolator protects the loop cable from short circuit by breaking positive side of loop cable.



040005

### EV-H/CS 84°C Analogue Addressable Heat

Salwico EV-H is an analogue addressable heat detector. Salwico EV-H is designed to give early warning for the presence of heat in the supervised area, and is available in two temperature classes: CS (fixed 84°C) and A1R (fixed 54°C + rate of rise 0.8°C/min), see separate part no. for 54°C. Salwico EV-H is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The detector can be placed in harsh environments if it is mounted on a splash proof base. The technical detector address is set with a special programming tool, valid addresses are 1-254. Salwico EV-H is equipped with an output for remote indication. For detailed information about appropriate systems for the detector, see separate document "Compatibility of Loop Units/System".



40006

### EV-H CS 84°C IP67

Salwico EV-H is an analogue addressable heat detector moulded together with base adapter SPB-ADAPT to fulfil IP67. Salwico EV-H is designed to give early warning for the presence of heat in the supervised area, and is available in two temperature classes: CS (fixed 84°C) and A1R (fixed 54°C + rate of rise 0.8°C/min), see separate part no. for 54°C. Salwico EV-H is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The detector can be placed in harsh environments if it is mounted on a splash proof base. The technical detector address is set with a special programming tool, valid addresses are 1-254. Salwico EV-H is equipped with an output for remote indication. For detailed information about appropriate systems for the detector, see separate document "Compatibility of Loop Units/System".



5100470-00A

### EV-H CS 84°C IP67 SCI

Salwico EV-H is an analogue addressable heat detector molded together with base adapter SPB-ADAPT SCI to fulfill IP67 ingress protection class. Salwico EV-H is designed to give early warning for the presence of heat in the supervised area, and is available in two temperature classes: CS (fixed 84°C+ rate of rise function according to EN54-5) and A1R (fixed 54°C), see separate part no. for 54°C. Salwico EV-H is equipped with OMNIVIEW 360° LED indicator giving a clear, full 360° visibility of the red alarm indication. The technical detector address is set with a special programming tool. Valid addresses are 1-254. Salwico EV-H is equipped with an output for remote indication. SPB-ADAPT SCI is developed to provide Short Circuit Protection in the detector base. Short Circuit Isolator function is fully transparent and do not require any setting. Short Circuit Isolator protects the loop cable from short circuit by breaking positive side of loop cable.



040200

**EV-PP/OA130**

The detector is an analogue addressable optical smoke and heat detector. The smoke and heat detector functions are independent and can be used in any required combination. The detector is designed to give early warning for the presence of heat and smoke in the supervised area. The detector offers a high protection against unwanted alarms. The low profile combined with the Omniview™ 360° alarm indication makes the detector suitable for sites with high architectural requirements. The address is set by an 8-way DIP-switch. The detector comes in different versions depending which detector it replaces.



5200236-00A

**AC-IR-3Fq Triple-IR Flame detector**

The AC-IR-3Fq is a triple frequency conventional infrared flame detector produced using the latest in manufacturing technology. The Detector is using infrared elements suitable for the 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 Fire evaluation process is done by triple Infrared (3Fq) sensor, protected by a sapphire glass filtering >6.0µm wavelength radiation. Sensor measures the hot carbon dioxide in a specific flame wavelength; the B and C sensors simultaneously measure the interference radiation in near wavelengths. This technique together with intelligent signal processing through microprocessor and custom algorithms, achieves excellent detection reliability while maintaining the highest immunity to interference radiation and sunlight.

**Accessories**



044577-2

**SUM-2, Local Buzzer for Addressable detectors**

The SUM-2 is a buzzer unit developed for the addressable detectors RDJ-2T, OA120, OA130, IA120, IA130, NS-AIS, NS-AOS, NS-AIHS, NS-AOHS, NS-AH/AIS, NS-AH/CS, NS-AUV, EV-H, EV-P, EV-PH and EV-DP. 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. For CS3000 two of these buzzers can be defined and controlled via external control. A maximum of three buzzers can be imultaneously activated on the same loop. For CS4000 and NSAC-1 a maximum of 50 buzzers can be activated simultaneously on the same loop.

**Short circuit isolator**



5200315-00A

**Salwico NMI SCI**

NMI SCI is a short circuit isolator for montage on 5mm DIN-rail. Developed to provide short circuit protection of loop cable and devices, specifically in cases when detectors detour from loop path. The unit is designed for use in dry and clean spaces. NMI SCI can only be used on addressable loops. Short Circuit Isolator function is fully transparent and does not require any settings. The short circuit isolator unit can be used for all Salwico fire alarm systems. Features and benefits

- Small size
- DIN-Rail montage (acc. to EN50022)
- Easy termination access
- Quick and safe Short Circuit Isolation

## Addressable manual call points



5200030-02B

### MCP-A SCI

MCP-A SCI is an addressable manual call point for indoor environment, designed for Salwico fire alarm systems. Pressing the glass causing it to crack activates the fire alarm. A protective plastic coating on the glass prevents operator injury. An LED on the front of the call point indicates the fire alarm. The LED remains lit until the fire alarm has been reset on the fire alarm panel. The call point can be tested with a special key, included in the delivery. The address of the call point is set with a DIP-switch. MCP-A SCI is developed to provide Short Circuit Protection. The Short Circuit Isolator function is fully transparent and do not require any setting. In order to achieve IP23 the MCP-A SCI shall be mounted on a smooth surface and the cable inlet/outlet shall be secured against leakage.



5200031-02B

### MCP-A WP SCI

MCP-A WP SCI is an addressable manual call point, designed for Salwico fire alarm systems. The selected material PC/ABS and the encapsulation, with ingress protection IP67, makes it very suitable for harsh environment. Pressing the glass causing it to crack activates the fire alarm. A protective plastic coating on the glass prevents operator injury. An LED on the front of the call point indicates the fire alarm. The LED remains lit until the fire alarm has been reset on the fire alarm panel. The call point can also be tested with a special key, included in the delivery. The address of the call point is set with a DIP-switch. MCP-A WP SCI is developed to provide Short Circuit Protection. The Short Circuit Isolator function is fully transparent and do not require any setting.

## Addressable I/O Units



5200268-00A

### IC44 WP

IO-unit with 4 inputs and 4 outputs in IP67 housing. Can control and supervise single and double doors. Inputs support PNP and NPN sensors. Outputs of relay type



5200269-00A

### IC44 WPL

IO-unit with 4 inputs and 4 outputs in large IP67 housing. Can control and supervise single and double doors. Inputs support PNP and NPN sensors. Outputs of relay type



## IC10

IO-unit in IP22 housing. Can be used as interface for conventional alarming devices, control or indication.

5200272-00A

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## IC10WP

IO-unit in IP66 housing. Can be used as interface for conventional alarming device, control or indication

5200273-00A

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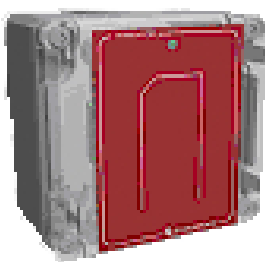


## TC10

Programmable timer unit used for the control or disablement of other devices.

5200276-00A

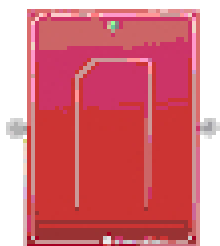
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## FP10WP

Fire patrol unit in IP67 housing.

5200277-00A

**FP10**

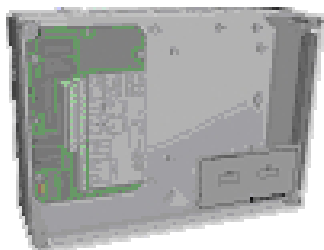
Fire patrol unit in IP22 housing.

5200283-00A

**IC21 WP**

The IC21 WP is an addressable unit used for control and indication of fire doors, fire dampers etc. in a fire alarm system. This unit has been designed for use in damp spaces. IC21 WP can control and supervise both single and double doors. The unit includes two inputs, one programmable output and one secondary output controlled by an external switch. The loop address of the IC21 WP is set by a DIP-switch.

5200270-00A

**IC21 WPL**

The IC21 WPL (equipped with an extra large enclosure) is an addressable unit used for control and indication of fire doors, fire dampers etc. in a fire alarm system. This unit has been designed for use in damp spaces. IC21 WPL can control and supervise both single and double doors. The unit includes two inputs, one programmable output and one secondary output controlled by an external switch. The loop address of the IC21 WPL is set by a DIP-switch.

5200278-00A

## Conventional Detectors

**EC-H/A2S 58°C CONV HEAT DET, dry space IP22**

The EC-H/A2S conventional heat detector belongs to Salwico EC range of detectors. EC is a range of conventional detectors, which have been produced using the latest in manufacturing technology and supplied with an array of advanced features. The EC-H/A2S thermal detector uses a state of the art thermal element combined with an application specific integrated circuit (ASIC) to provide quick and accurate detection of fires. The detector incorporates a static element and is suitable where ambient conditions normally exhibit rapid changes in temperature e.g. galley. The EC-H/A2S detector also has an integral LED, which illuminates to provide a local alarm signal. An optional remote LED annunciator may be used to repeat any alarm signal.

5200172-00A



5200173-00A

## EC-H/BS 78°C CONV HEAT DET, dry space IP22

The EC-H/BS conventional heat detector belongs to Salwico EC range of detectors. EC is a range of conventional detectors, which have been produced using the latest in manufacturing technology and supplied with an array of advanced features. The EC-H/BS thermal detector uses a state of the art thermal element combined with an application specific integrated circuit (ASIC) to provide quick and accurate detection of fires. The detector incorporates a static element and is suitable where ambient conditions normally exhibit rapid changes in temperature e.g. galley. The EC-H/BS detector also has an integral LED, which illuminates to provide a local alarm signal. An optional remote LED annunciator may be used to repeat any alarm signal.



5200174-00A

## EC-H/A1R 58°C ROR CON HEAT DET, dry space IP22

The EC-H/A1R conventional heat detector belongs to Salwico EC range of detectors. EC is a range of conventional detectors, which have been produced using the latest in manufacturing technology and supplied with an array of advanced features. The EC-H/A1R thermal detector uses a state of the art thermal element combined with an application specific integrated circuit (ASIC) to provide quick and accurate detection of fires. The detector incorporates both rate of rise and static elements and is suitable for all areas where the ambient conditions do not normally exhibit rapid changes in temperature. The EC-H/A1R detector also has an integral LED, which illuminates to provide a local alarm signal. An optional remote LED annunciator may be used to repeat any alarm signal.



5200175-00A

## EC-P CONV OPTICAL SMOKE DET, Dry Space IP22

The EC-P photoelectric smoke detector belongs to Salwico EC range of detectors. EC-P is a range of conventional detectors, which have been produced using the latest in manufacturing technology and supplied with an array of advanced features. The EC-P photoelectric smoke detector uses a state of the art optical chamber combined with an application specific integrated circuit (ASIC) to provide quick and accurate detection of fires. A combination of the unique chamber design and other technically advanced features will significantly extend the service intervals before cleaning of the detector becomes necessary.



5200176-00A

## EC-PH/A1R 58°C ROR OPT S/H DET, Dry Space IP22

The EC-PH/A1R multi-criteria detector belongs to EC range of detectors. Salwico EC is a range of conventional detectors, which have been produced using the latest in manufacturing technology and supplied with an array of advanced features. The EC-PH/A1R multi-criteria detector uses a state of the art optical chamber and a thermal element combined with a microprocessor, running sophisticated algorithms to provide quick and accurate detection of fires. The combination of photoelectric and thermal characteristics provides a faster response to 'real fire' situations, while at the same time reducing the risk of unwanted environmentally generated alarms.



038000

### HC100 A2 Conventional Heat Detector (57°DegC)

The HC100 A2 is a conventional heat detector for use with all Salwico Fire Alarm Systems. The detector is with its low profile and smooth design very suitable in locations with high architectural requirements such as offices, restaurants, hotel rooms and cabins. The heat sensing element is of thermistor type with a short response time to changes in the ambient temperature. Alarms are optically indicated until they are reset on the central. The detector is environmentally adapted in aspects of the selection of material and design. The detector is polarisation independent (unless the remote output is used) which simplifies the installation. The mesh is very easy to change and clean which simplifies maintenance.



38005

### HC100 A2 Conventional Heat Detector (57°DegC) IP67

The HC100 A2-IP67 is a conventional heat detector for use with all Salwico Fire Alarm Systems. It is delivered complete with adapter and base. In this version of HC100 the detector and adapter are moulded together and filled with a special moulding compound that gives it high resistance against dampness and vibrations. The detector cannot be separated from the adapter. The HC100 A2-IP67 is suitable for location in harsh environments. The heat sensing element is of thermistor type with a short response time to changes in the ambient temperature. Alarms are optically indicated until they are reset on the central. The detector is environmentally adapted in aspects of the selection of material and design. The detector is polarisation independent (unless the remote output is used) which simplifies the installation.



038020

### HC/100 D Conventional Heat detector head (100°DegC)

The HC100 D is a conventional heat detector for use with all Salwico Fire Alarm Systems. The detector is with its low profile and smooth design very suitable in locations with high architectural requirements such as offices, restaurants, hotel rooms and cabins. The heat sensing element is of thermistor type with a short response time to changes in the ambient temperature. Alarms are optically indicated until they are reset on the central. The detector is environmentally adapted in aspects of the selection of material and design. The detector is polarisation independent (unless the remote output is used) which simplifies the installation. The mesh is very easy to change and clean which simplifies maintenance.



037174

### SWM-1KL/140, Conventional Heat Detector (140°DegC)

The SWM-1KL 140 is a fixed temperature heat detector; designed for use in damp spaces. It contains a bimetallic thermostat, which closes its contacts at alarm temperature. The detector is also available in versions with lower alarm temperature (57, 80 and 100°C) and in an intrinsically safe version, SWM-1KL/IS, see separate datasheets.



5200236-00A

## AC-IR-3Fq Trippel-IR Flame detector

The AC-IR-3Fq is a triple frequency conventional infrared flame detector produced using the latest in manufacturing technology. The Detector is using infrared elements suitable for the 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 Fire evaluation process is done by triple Infrared (3Fq) sensor, protected by a sapphire glass filtering  $>6.0\mu\text{m}$  wavelength radiation. Sensor measures the hot carbon dioxide in a specific flame wavelength; the B and C sensors simultaneously measure the interference radiation in near wavelengths. This technique together with intelligent signal processing through microprocessor and custom algorithms, achieves excellent detection reliability while maintaining the highest immunity to interference radiation and sunlight.

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## Manual Call Points



5200010-01A

## MCP-C (GB) Conventional Manual Call Point for wet space IP24

The MCP-C is a manual call point for indoor environment and is designed for the Salwico conventional fire alarm systems. Pressing the glass causing it to crack activates the fire alarm. A protective plastic coating on the glass prevents operator injury. The call point can be tested with a special key included in the delivery.



5200014-01A

## MCP-CWP (GB) Conventional Manual Call Point for wet space IP67

The MCP-CWP is a manual call point for outdoor environment and is designed for the Salwico conventional fire alarm systems. The selected material PC/ABS and the encapsulation, with ingress protection IP67, makes it very suitable for harsh environment. Pressing the glass causing it to crack activates the fire alarm. A protective plastic coating on the glass prevents operator injury. The call point can be tested with a special key included in the delivery.

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## Equipment For Hazardous Areas, Zone 0-1



N1770

## NS-ISOLATOR Intrinsically Safe Isolator for Conventional IS Loop Units with NS-AIN1 Address Unit IP55, Max 10 loop units/isol.

NS-ISOLATOR is a Pepperl-Fuchs Type KFD0-CS-Ex1.51P isolator, which is part of the Salwico conventional intrinsically safe fire detection system. The NS-ISOLATOR barrier is located in a non-hazardous area (safe area) and forming the interface to IS detectors and other IS line units. The NS-ISOLATOR does not need a separate power supply. It is powered directly from the fire alarm panel via the loop/section cables, which means that no extra cables are needed. The NS-ISOLATOR does not need an earth connection, and thus routine inspection of earth cable and connections is eliminated. The box has knock-out holes on the sides for the three included cable glands. The glands must be mounted on the short sides of the box as shown in this data sheet





N1790

### ISOLATOR-A Intrinsically Safe Isolator with enclosure for Addressable IS Loop Units IP55, Max 20 loop units/isol.

ISOLATOR-A is an IS isolator intended for use together with Salwico intrinsically safe addressable detectors and manual call points. It contains an IS-isolator and a LISA-2 connection board. ISOLATOR-A is located in a non-hazardous area (safe area) and forming the interface to IS detectors and other IS line units. To each addressable detector loop a maximum of five ISOLATOR-A units can be connected, each of them accommodating up to 20 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. The cable glands shall be mounted acc. to the dimension drawing on page two. This will guarantee the minimum required distance (50mm) between the intrinsic safe and the non-intrinsic safe conductors.



N11250

### NS-AOHS-IS Analogue Addressable Intrinsically Safe Optical Smoke/Heat

NS-AOHS-IS is an intrinsically safe analogue addressable multi sensor detector for Salwico 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 via a red LED. The LED is 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. NS-AOHS-IS is connected to the detector loop via the ISOLATOR-A, part no. N1790. Up to 20 addressable IS units can be connected to one ISOLATOR-A. It is not possible to connect any remote LED indicator to NS-AOHS-IS.



N1144

### EVC-PY-IS Conventional intrinsically Safe Optical Smoke Detector

Salwico EVC-PY-IS is an intrinsically safe Evolution conventional optical smoke detector. The detector is equipped with an optical sensor with improved sensitivity to black smoke. The detector is designed for use in areas with high explosion risk. It is connected to the fire alarm system via an intrinsically safe interface. Salwico EVC-PY-IS must not be separated from the base when energized. To avoid the possible risk of electrostatic charge, the unit must not be cleaned with solvents or charged by rubbing.



038010

### HC100/IS Intrinsically Safe Conventional Heat (57°DegC) Detector

The HC100 A2 is an intrinsically safe conventional heat detector for use with all Salwico Fire Alarm Systems. The detector is designed for use in areas with high explosion risk. It is connected via an intrinsically safe interface. The heat sensing element is of thermistor type with a short response time to changes in the ambient temperature. Alarms are optically indicated until they are reset on the central.



**ACP-IS Intrinsicly Safe Addressable Manual Call Point**

**for wet space IP67**

ACP-IS is an intrinsically safe addressable manual call point for the fire alarm systems CS3000, CS4000 and NSAC-1. ACP-IS is connected to the detector loop via ISOLATOR-A. Up to 20 addressable IS units can be connected to an ISOLATOR-A. Pressing the glass causing it to crack activates the fire alarm. The call point can also be tested with a special key, included in the delivery. A red LED on the front of the call point indicates the fire alarm. The LED 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. Clean the manual call point by using a damp cloth.

60060-001010

**Equipment For Hazardous Areas, Zone 2**



**NS-AOHS-Exn Analogue Addressable Dual Optical Smoke and Heat Detector**

**for wet space IP55**

NS-AOHS-Exn is an analogue addressable multi sensor detector for Salwico fire alarm systems CS3000\*, CS4000 and NSAC-1. 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 via a red LED. The LED is lit until the alarm has been reset on the control panel. The detector is polarity independent. The address is set with a DIP switch, which is mounted on the backside of the detector. NS-AOHS-Exn must not be separated from the base when energized.

N11255



**NS-ACPWP-Exn Addressable Manual Call Point for wet space IP67**

ACPWP-Exn is a Manual call point for the addressable fire alarm systems CS4000, NSAC-1 and CS3000 with SPK2000. The selected material PC/ABS and the encapsulation, with ingress protection IP67, make it suitable for very harsh environment. Pressing the glass causing it to crack activates the fire alarm. The call point can also be tested with a special key, included in the delivery. A red LED on the front of the call point indicates the fire alarm. The LED 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. ACPWP-Exn is polarity independent which simplifies the installation. The apparatus must be located in an area with low risk of mechanical danger.

N11320



**NS-ACP-Exn Addressable Manual Call Point for wet space IP55**

The ACP-IP55-Exn is a manual call point for the addressable fire alarm system Salwico CS4000, CS3000\* and NSAC-1. The ingress protection IP55 makes this call point suitable for harsh environments. Pressing the glass causing it to crack activates the fire alarm. A protective plastic coating on the glass prevents operator injury. A red LED is lit on the call point when the control panel has received the alarm. It will be 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. The call point is polarity independent. The apparatus must be located in an area with low risk of mechanical danger.

N11321



N11890

### NS-SCI-Exn, IP55

The SCI-Exn is an analogue addressable short circuit isolator for the NSAC-1, CS3000 and CS4000 fire alarm system. The fire detection loops are divided into fire detection zones by short circuit isolators. If a short circuit occurs on a loop cable, the zone with the short circuit is disconnected from the rest of the loop by the SCI units mounted in the beginning and in the end of the zone. When a short circuit is detected, a yellow LED on the PCB is lit. The LED is lit until the fault has been remedied and reset at the control panel. The address is set with a DIP-switch. The SCI-Exn is polarity dependent.

## Base Plates



5200313-00A

### UB-6 SCI

UB-6 SCI is a low profile detector base for all type of analogue addressable detectors of EV-Series. The base plate is made for use in dry and clean spaces. The cable entry is from the center or from the side of the base. UB-6 SCI is developed to provide Short Circuit Protection in the detector base. Short Circuit Isolator function is fully transparent and do not require any setting. For more information about other available bases, see separate document "Base matrix". The detector base can be used for all Salwico fire alarm systems. Features and benefits

- Low profile
- Quick and safe Short Circuit Isolation



5200314-00A

### SPB-ADAPT SCI

SPB-ADAPT SCI is an adapter for the bases 2IP55 (part no. 046950) and NS-2IP55 (part no. 046900). SPB-ADAPT SCI is developed to provide Short Circuit Protection in the detector base. Short Circuit Isolator function is fully transparent and do not require any setting. Smoke, heat and flame detectors can be connected to this adapter. For more information about suitable bases, see separate document "Base matrix". The adapter can be used for all Salwico fire alarm systems. Features and benefits

- Waterproof installation for harsh environment
- Quick and safe Short Circuit Isolation
- Small Form Factor



N1422

### NS-ADAPT-IS, Adaptor for IP-55 base with N1140

The NS-ADAPT-IS is an IS (intrinsically safe) adapter for the base NS-2IP55 (part no. 46900) or 2IP55 (part no. 46950). Only IS-detectors can be connected to this adapter. The adapter can be used for both addressable and conventional fire alarm systems. The NS-ADAPT-IS has an IS-label on the side. NB! The classification society might have additional installation requirements than what is mentioned in this data sheet.



N1430

## NS-ADAPT-IS2, Adaptor for IP-55 base with N11250

The ADAPTER AOHS-IS is an adapter for IP55 detector bases. Only detector AOHS-IS can be connected to this adapter. The adapter can be used for Salwico addressable fire alarm systems CS3000, CS4000 and NSAC-1. The ADAPTER AOHS-IS has an IS-label on the side. NB! The classification society might have additional installation requirements than what is mentioned in this data sheet.



046950

## NS-2IP55, Base plate with cable glands, IP-55

The 2IP55 is a base for all Salwico IP55 detector adapters. Together with the adapters it is possible to install smoke, heat and flame detectors in harsh environment with an ingress protection up to IP55. It can be used for both addressable and conventional fire alarm systems.



5200098-00A

## EV-SPB-BI Base Adapter with Short Circuit Isolator

Salwico EV-SPB-BI is an Evolution addressable short circuit isolator in an adapter for watertight bases. It is to be used as an interface for conventional and analogue addressable fire detectors. EV-SPB-BI is a watertight variant of base EV-BI. With a conventional detector fitted on the base adapter, the address of the isolator will be displayed by the system upon fire alarm. Removal of the detector will also be detected and reported as a fault. The technical address is set with a special programming tool. Valid addresses are 1-254.



5200235-00A

## AC-IR-3Fq Conventional Base for AC-IR-3Fq detector

AC-IR-3Fq Conventional Base is suitable for installation of AC-IR-3Fq Detector in a harsh environment. The base plate provides ingress protection up to IP67, when lock screws are used. This base provides a termination possibility, for detector set in conventional mode.

Features

- IP65/IP67 Ingress protection
- Low current draw
- Suitable for installation in harsh environment
- Remote LED Option



5200237-00A

### AC-IR-3Fq Addressable Base for AC-IR-3Fq detector

AC-IR-3Fq Addressable Base is suitable for installation of AC-IR-3Fq Detector in a harsh environment. The base plate provides ingress protection up to IP67, when lock screws are used. The base provides a termination possibility, for detector set in Addressable mode. The address is set by an 8-way DIP-switch.

#### Features

- IP65/IP67 Ingress protection
- Low current draw
- Suitable for installation in harsh environment



5200177-00A

### EC-BASE Detector base for dry spaces IP22

The EC-Base is a low profile base plate for smoke and heat detectors from Salwico EC range of detectors. It is equipped with an integrated 470 Ohm serial resistor for installation of EC-type detectors. This detector base is made for use in dry and clean spaces.

#### Features:

- Low profile design
- Compatible with all detectors from EC- range
- Tamper resistant feature
- Detector removal detection
- Remote LED Option



5200178-00A

### EC-ADAPT Detector adapt for wet spaces

The EC-Adapt is a connection adapter with an integrated 470 Ohm serial resistor for installation of EC-type detectors on the IP55 base NS-2IP55 (part no. 46900) or 2IP55 (part no. 46950). This adapter is used for connection of EC-type detectors to the conventional fire alarm system, in an IP55 environment.

## Test equipment



N1738

### Smoke detector tester

Insert the canister into the smoke dispenser. Lock into place using the screw mechanism. Place the cup over the detector and discharge spray (not more than 1 second) with a slight upward movement. Repeat this action without removing the cup every 10 seconds for max 1 minute, until the detector is in alarm.



N1743

Cordless Heat detector tester kit (recommend)

The Salwico SOLO 461 is a cordless heat detector tester for the Salwico heat detectors. The tester suits point type, rate of rise, fixed temperature and combination detectors up to 90°C. Under the control of a microprocessor, blown air is heated by the element just before exiting the duct. This minimises the possibility of heat damage the plastic of the detector. The tester is activated when an infra-red beam is broken by the detector. For battery charging instruction and general information, see the manual delivered in the box.



001150

UV Test lamp EEx ia II CT4

The W8066 Ultraviolet (UV) test lamp is a portable, battery operated source of UV radiation that is used for periodic testing of ultraviolet flame detectors. The intrinsically safe device simulates a fire by producing a beam of UV radiation with the same wavelength as the response range of the UV detectors, enabling the operator to verify proper system operation without the need for an open flame. The physical characteristics of the W8066 are comparable to a common flashlight, making it easier to handle and operate than other test lamps. The test lamp typically actuates a UV detector at a distance of approximately 10 meters.



001155

UV Test lamp Portable

Salwico UV test lamp is used to perform function test on Salwico UV flame detectors. Salwico UV test lamp is delivered complete with rechargeable batteries and a battery charger.



001156

IR Test lamp Incl.rod

The Salwico IR test lamp is used to perform function test on Salwico IR flame detector. The extension rods packed in a nylon case makes it possible to easily test the detector in all environments.



5200112-00A

### Testifire 1001-101 Multi Detector Tester for both Smoke/Heat

Testifire is a multi-stimulus detector tester, suitable for testing of optical/photoelectric and ionisation smoke detectors and thermal detectors (fixed temperature or rate-of-rise). The detectors can be either conventional or analogue addressable. Testifire is also a functional tester that enables testing of multi-detectors or multi-criteria detectors from a single test unit. Testifire creates stimuli that the detectors are designed to detect.

### Test equipmane accessories



5200114-00A

### Testifire Smoke Capsule 6pcs

Testifire generates its non-toxic smoke stimulus from a specially formulated, fluid supplied in a replaceable non-pressurised capsule. The number of tests from a capsule is dictated by the response time of the detectors under test and can range between 500 and 1,000 tests. Although there is much more to the comparison than material cost, typically this equates to between two and five times that produced by an aerosol.



N1740, N1741  
N1744, 009151

### Pole Solo 1,2 mtrs / Pole Solo100 1-6 mtrs stronger than 9151

Pole adapter / Pole 1.4 - 4.0 mtrs

The core element of the Solo range is the telescopic and extension access poles which are extremely lightweight and quickly extend to provide access to detectors up to 9 metres.

- Light - easy to use at height, on-site, day after day
- Non-whip
- Certified non-conductive - protecting both the engineer and overhead live equipment from inadvertent shorts
- Available in one, two or four telescopic sections
- Lifetime warranty



009153

### Test gas bottle, aerosol, 150 ml, for Solo 330

The professional's choice - the Solo A3 is a clean synthetic aerosol that delivers particles replicating those found in real smoke to detector. Provided in a 250ml canister it is designed for use with the Solo 330 and Solo 332 dispenser.

- UL & ULC listed
- Detector manufacturer endorsed
- Non-flammable
- Oil-free formulation
- No lasting residue
- Fast activation and clearing time

General Alarm Devices



N1307

**NS-GA2 General Alarm Push Button Auto/Manual for dry space IP22**

The general alarm push button NS-GA2 is designed for use in dry spaces. The NS-GA2 can be wall- or recessed mounted. It is delivered c/w box for wall mounting. A plastic lid protects it from unintentional activation. NS-GA2 has dual functions:

- Auto: Activates the pre-programmed general alarm pattern. The button will stay active until it is pressed again.
- Manual: Activates the audible alarm as long as it is pressed (momentary activation).



N1308

**NS-GA2/IP55 General Alarm Push Button Auto/Manual for wet space IP55**

The general alarm push button NS-GA2/IP55 is designed for use in harsh environments. The NS-GA2/IP55 is wall mounted and a plastic lid protects it from unintentional activation.

NS-GA2/IP55 has dual functions:

- Auto: Activates the pre-programmed general alarm pattern. The button will stay active until it is pressed again.
- Manual: Activates the audible alarm as long as it is pressed (momentary activation).

NS-GA2/IP55 is delivered c/w two cable glands.

Bells



006143  
006144

**MBA6, alarm bell**

Salwico MBA-6 alarm bell is intended for use with all Salwico fire alarm systems. The Salwico MBA-6 has a very high volume output matched with extremely low power consumption. The specially designed weatherproof bell has an aluminium back box with a built-in 230Vac to 24 Vdc weatherproof mains pack (BBX-4) that allows the bell to be powered directly from a mains supply.

The back box is given either single or double treaded for maximum flexibility in installation.

6", red, 230VAC  
8", red, 230VAC



006135

**BBX, conn. box, for 6131-34, IP65**

The fire alarm bells are suitable for both indoor and outdoor uses since the bells have aluminium/plastic housings. The operating part of BE12–BE13 is a micro-motor and of BE14–BE17 a two coil vibrator. All versions have low starting currents and very low power consumption. If used in harsh environment the waterproof connection box BE10, IP65, shall be used.





5100462-00A

**Bell EI. 6" 24VDC IP33 RED (MED)**

A unique, patented alarm bell designed for use in fire, security and other signalling systems. The combination of a miniature solenoid with an integrated control circuit allows excellent sound coverage, minimum current consumption and increased reliability. The improved aesthetics make the bell suitable for all applications including the most prestigious locations.



5100463-00A

**Bell EI. 6" 230VAC IP33 RED**

A unique, patented alarm bell designed for use in fire, security and other signalling systems. The combination of a miniature solenoid with an integrated control circuit allows excellent sound coverage, minimum current consumption and increased reliability. The improved aesthetics make the bell suitable for all applications including the most prestigious locations.

**Sounders**5100441-00A  
5100444-00A  
5100445-00A**Siren 24VDC**

This sounder can be connected to all Salwico fire alarm systems. It has a range of 32 tones which is set by a DIP switch. It is also equipped with a volume control. The sounder is pre-set to tone no. 14 (970 Hz, 101 dBA at 1 m). A second tone is available, which can be switched in by the connection of a third core to the siren. The volume control switch will provide two settings, either full output or an attenuation of 10dB. Features: • 102 dB(A) sound output • 32 tones (user selectable) • Volume control • Two stage alarm • Automatic synchronisation • Lockable base • Suitable for outdoor use

IP65 White MED  
IP65 Red MED  
IP66 Red MED

N1525

**NS-ES, electronic siren, 24VDC, IP66, red.**

The NS-ES/IP66 is a low profile Benshee MT siren for fire and security alarm installations in harsh environments. The siren is delivered with two cable glands for cable diameters ranging from Ø8 to Ø13 mm. The base has two knockout holes for the cable glands. A sound selector for 32 user selectable tones and a volume control is fitted inside the sounder. Recommended tone: No. 7, continuous at 950 Hz, 103 dBA, 12 mA.



006255

### DB3V02BR, alarm Siren/bell, Ex-proof, 24 VDC

DB3V is a lightweight, flameproof sounder intended for use in potentially explosive atmospheres. DB3 has been designed with high ingress protection to withstand harsh environmental conditions. The flame paths, flare and body are manufactured completely from UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion free product. DB3V has a pre-programmed bell-tone and integral volume control. DB3V is delivered without cable glands. DB3 fulfils the following requirements:

- Eexde IIC T5
  - ATEX, Ex II 2GD
  - BASEEFA certified
- DB3V is also available in GOST "R" & "K", Chinese (CQST), Australian (SAA) and UL models.



006305  
006306

### MKTV-75/800 typhoon

The pneumatic alarm typhoons in the KTV and MKTV series are a maintenance free, light, rigid and powerful signalling apparatus for different applications on board ships. The typhoons can be delivered as a complete unit or the horn and the solenoid valve as separate units (see separate datasheet). For distinct signals, the piping length between the valve and the horn should not exceed 6m. The horn is delivered with wall bracket and filter. For explosive, corrosive or very hot areas the solenoid valves shall be mounted separately outside the exposed area. The solenoid valve is delivered with filter and fittings for copper piping with Ø 10 mm OD. The solenoid valve should not be placed outdoor without protective cover.

24 VDC, 800Hz  
230 VAC, 800Hz



006312

### MKT-75/800 Typhoon without mag.valv. 800Hz

A penetrating sound means a sound capable of reaching a listener on a distant vessel under normal noise conditions. From this respect, it is not only the sound pressure level that is the important factor; but the content of appropriate frequency components in the signal. This simple fact tells us that apart from the formal demand on the whistle - having a sufficiently strong component within one 1/3 octave band (IMO regulations) - there are other important factors too. The MKT-75/800 Typhoon have an efficient sound spectrum fulfilling the highest demands - on vessels as well as in a great many civil defence and disaster alarm stations on land.



005303

### Multitone sound disc, mounted below UB-6

Salwico 4800 fire alarm annunciator is specially made to fit between the UB-1 or B-2 fire detector base and the ceiling. The annunciator is 24 Vdc powered from the central or from a local control unit like CM22 or CM44. Salwico 4800 provides acoustical alarms either in case dedicated annunciators are to be fitted for the fire alarm system, or when it is required to have a local annunciator which completes the existing PA/ GA alarm system. Salwico 4800 contains an electronic sound generator which allows choosing between 2 different tones, which complies with the various standards in use worldwide. By feeding the Salwico 4800 through a third wire, it is possible to activate an alternative sound to the one programmed, in way to get two different alarm tones, depending on the case. Volume adjustment is possible by an internal control, in order to set the desired sound pressure.

## Lights



006502

**830, flash light, red, 230VAC, IP65**

Salwico 830 is a flash light suitable for installation in harsh environments. Salwico 830 is easy to install and has a long life time. Wall brackets and other colours on the lens and are available upon request.



006545

**SUE-9412A-1, flash light, red, 230VAC, Eexd IIBT4**

The SUE9412A-1 is a series of EX classified flash lights designed for use in very harsh environments, for example pump rooms on vessels.



5100443-00A

**SOLEX flashlight 24VDC red MED**

This flashlight can be connected to all Salwico fire alarm systems. It is an electronic flashlight with low power consumption, small dimensions and easy to install. Solex flashlights are cost effective compliment to audible alarms for use in areas of high ambient noise. Features:

- Wide operating voltage, 9-60VDC
- Constant performance over voltage range
- Automatic synchronisation
- Lockable base
- Tamper switch option
- Suitable for outdoor use

006512  
5200073-00A**828, flash light**

Salwico 828 is a modern designed flashlight suitable for installation in harsh environments. Salwico 828 is easy to install and has a long lifetime. Tools are required to dis-mount the lens, which prevents sabotage. For installation on walls, use the separate wall bracket part number 6514.

Red, 24VDC, IP65  
Green, 24VDC, IP65

## Combined Sounders and Lights



5200117-00A

### Horn w. Red Rot. Light 230V Exd IIC T6

Heavy Duty Product of High Durability

- Signal sound built-in product of direct mounting type with bulb revolving warning light and horn integrated.
- Employing aluminum housing with high durability and high anti-corrosion.
- Possible to select sound tone and control volume by using built-in sound tone switch and volume controller.
- RPM : 120~140RPM(Controllable)
- Volume : MAX.118dB/m
- Protection Class : IP56



N1546

### FLASHNI, Sounder & beacon, 32 tones, IP65

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



5100442-00A

### Siren beacon 24VDC IP65 red MED

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. The ingress protection IP65 makes it suitable for installation in harsh environment. The sounder can be set to 32 different tones. The tones are set with a DIP switch inside the unit. It is also equipped with a volume control.

Features:

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

## Door Control Accessories



007112

### GP721T+722, Door Holder Magnet, 200 kP, 24V DC, with push button

The magnetic door holder consists of two parts, a door holder magnet, which is mounted on the wall, and an armature, which is mounted on the door. The door will be held open as long as the current to the magnet is on. By breaking the current the magnet will release its grip and a normal door closer closes the door.



N1781

### NS-DRP, Door Release, wall mounted WT, IP-55

This door release switch is made for harsh environments that require ingress protection up to IP55. The switch is not spring loaded. Therefore it will stay in closed position until it is manually set to open position.



N1779

### NS-DRW, Fire Door Release Button, wall mounting

This door release switch is made for wall mounting in dry areas where recessed mounting is not possible. The switch is not spring loaded. Therefore it will stay in closed position until it is manually set to open position.



N1780

### NS-DRC, Door Release Button, recessed

This door release switch is made for recessed wall mounting in dry areas. It can be mounted in a recessed mounting box with a diameter ranging from 58 - 68 mm. The switch is not spring loaded. Therefore it will stay in closed position until it is manually set to open position.

## Ventilation duct adapter



5200228-00A

### Calectro UG-3-NS-AOS (for EV-P), vent. duct adapter excl. tube and head

UG-3 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 it is delivered without:

- Venturi pipe
- Detector

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.



5200239-00A

## Calectro UG-3-O (for DOS3), vent. duct adapter excl. tube and head

UG-3 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 it is delivered without:

- Venturi pipe
- Detector

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.



5200225-00A  
5200226-00A  
5200227-00A

## Calectro Pipe

Part no: 5200225-00A Calectro VR-0.6M Pipe, for ducts <600 mm

Part no: 5200226-00A Calectro VR-1.5M Pipe, for ducts <1500 mm

Part no: 5200227-00A Calectro VR-2.8M Pipe, for ducts <2800 mm



5200229-00A

## Calectro UG-MB Mounting Bracket

Mounting bracket for Uniguard Superflow, UG-3/4 models

- Easily adapted by hand
- Quick assembly

## SIL 2 certified modules



5210001-00A

**CS-SAFETY M H**

The CS-Safety M module is an interface module and data collector for all CS-Loop M modules in a Fire Detection System designed to comply with the standards for the industrial-, maritime-, offshore- and rolling stock markets up to Safety Integrity Level 2 (SIL-2). CS-Safety M supports both single and redundant setup. (CS-Safety M does not support a redundant train solution since it's not allowed to extend the CAN-bus outside of the cabinet.)



5210003-00A

**CS-LOOP M H**

The CS-Loop M H module is intended to be used as a part of a fire detection system and is suitable for use in SIL 1 and SIL 2 environments. This loop-line controller module offers one loop-line interface that is capable of handling 150 addressable loop units. It is designed to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2).



5210020-00A

**CS-PYH**

The CS-PYH is an addressable combined optical smoke and heat detector suitable for use in SIL 1 and SIL 2 environments. It is designed to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2). The detector has an output for remote indication in form of a remote LED or a local sounder.



5210030-00A

**CS-MCP**

The CS-MCP is an addressable manual call-point designed for installation in-doors. A fire alarm is activated by breaking the glass that has a protective plastic coating to preventing operator injury. A LED on the front of the call-point indicates activation of the fire alarm and the LED remains lit until the fire alarm has been reset on the fire alarm panel of the Fire Detection System (FDS). The CS-MCP is designed to comply with the standards for the industrial-, maritime-, offshore- and rolling stock markets up to Safety Integrity Level 2 (SIL-2).



## CS-MCP WP

The CS-MCP WP is an addressable manual call-point. The selected material and the encapsulation, with ingress protection IP67, makes it suitable for harsh environment. A fire alarm is activated by breaking the glass that has a protective plastic coating to preventing operator injury. A LED on the front of the call-point indicates activation of the fire alarm and the LED remains lit until the fire alarm has been reset on the fire alarm panel of the Fire Detection System (FDS). The CS-MCP WP is designed to comply with the standards for the industrial-, maritime-, offshore- and rolling stock markets up to Safety Integrity Level 2 (SIL-2).

5210031-00A



## CS-MCP HD

The CS-MCP HD is an addressable manual call-point. The heavy duty encapsulation, with high level of corrosion resistance, makes it capable of withstanding harsh environment for long time periods. A fire alarm is activated by breaking the glass that has a protective plastic coating to preventing operator injury. A LED on the front of the call-point indicates activation of the fire alarm and the LED remains lit until the fire alarm has been reset on the fire alarm panel of the Fire Detection System (FDS). The CS-MCP HD is designed to comply with the standards for the industrial-, maritime-, offshore- and rolling stock markets up to Safety Integrity Level 2 (SIL-2).

5210032-00A  
5210062-00A  
5210063-00A  
5210064-00A  
5210065-00A

CS-MCP HD RED  
CS-MCP HD BLUE  
CS-MCP HD GREEN  
CS-MCP HD YELLOW  
CS-MCP HD YELLOW/BLACK



## CS-Adapt

Detector base adapter CS-ADAPT is designed to protect the loop-line connection of the detector from water ingress according to IP55. The CS-ADAPT is an adapter for 2IP55 detector bases.

5210040-00A



## CS-IC10 WP

The CS-IC10 WP is an input unit for various integration of safety inputs. It has been designed for use in harsh environments and to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2). The CS-IC10 WP has one input that can be connected to external equipment with a dry relay contact. The CS-IC10 WP 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.

5210060-00A





5210061-00A

### CS-IC22 WP

The CS-IC22 WP is an input and output unit for various integration of safety inputs/ outputs. It has been designed for use in harsh environments and to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2). The CS-IC22 WP has two inputs that can be connected to external equipment with a dry relay contact. The CS-IC22 WP supervises the cable to the external equipment for cable break and short circuit, and the inputs can be configured as active high or active low.



5210066-00A

### CS-IC10 SS WP

The CS-IC10 SS WP is an input unit for various integration of safety inputs. It has been designed for use in harsh and corrosive environments and to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2). The CS-IC10 SS WP has one input that can be connected to external equipment with a dry relay contact. The CS-IC10 SS WP 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.



5210067-00A

### CS-IC22 SS WP

The CS-IC22 SS WP is an input and output unit for various integration of safety inputs/ outputs. It has been designed for use in harsh and corrosive environments and to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2). The CS-IC22 SS WP has two inputs that can be connected to external equipment with a dry relay contact. The CS-IC22 WP supervises the cable to the external equipment for cable break and short circuit, and the inputs can be configured as active high or active low.



5210070-00A

### CS-CABINET S 300X380X155

CS-CABINET S is designed to contain the modules of a SIL-classed fire detection system in one single cabinet together with a display & control panel, suitable for offshore and marine installations.



## CS-CABINET L 700X500X250

CS-CABINET L is designed to contain the modules of a SIL-classed fire detection system in one single cabinet together with a display & control panel, suitable for offshore and marine installations.

5210072-00A



## CS-Isolator

The CS-Isolator is an intrinsically safe isolator intended for use together with intrinsically safe addressable loop units. It has been designed to comply with the standards for the industrial, maritime, offshore and rolling stock markets 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.

5210050-00A



## CS-PSH Ex

The CS-PH Ex is an intrinsically safe addressable combined optical smoke and heat detector suitable for use in SIL 1 and SIL 2 environments. It is designed to comply with the standards for the industrial, maritime, offshore and rolling stock markets up to Safety Integrity Level 2 (SIL 2). The detector is equipped with two LED indicators giving clear visibility of the red local alarm indication.

5210021-00A



## CS-MCP WP Ex

The CS-MCP WP Ex is an intrinsically safe addressable manual call point. The selected material and the encapsulation, with ingress protection IP67, makes it very suitable for harsh environment. A fire alarm is activated by breaking the glass that has a protective plastic coating to prevent operator injury. A LED on the front of the call point indicates activation of the fire alarm and the LED 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, offshore and rolling stock

5210034-00A



5210080-00A

### CS-IC10 WP Ex

The CS-IC10 WP Ex is an intrinsically safe input unit for various integration of safety inputs. It has been designed for use in harsh environments and to comply with the standards for the industrial, maritime, offshore 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.



5210041-00A

### CS-Adapt Ex

Detector base adapter CS-ADAPT Ex is designed to protect the loop-line connection of the detector from water ingress according to IP55 in Ex environment. The CS-ADAPT Ex is an adapter for 2IP55 detector bases.



5210033-00A  
 5210081-00A  
 5210082-00A  
 5210083-00A  
 5210084-00A

### CS-MCP HD Ex

CS-MCP HD Ex is an intrinsically safe addressable manual call point. The heavy duty encapsulation, with high level of corrosion resistance, makes it capable of withstanding harsh environment for long time periods. A fire alarm is activated by breaking the glass that 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, offshore and rolling stock

CS-MCP HD Ex RED  
 CS-MCP HD Ex BLUE  
 CS-MCP HD Ex GREEN  
 CS-MCP HD Ex YELLOW  
 CS-MCP HD Ex YELLOW/BLACK



# Salwico Gas Detection System



## Standard Centrals



### Salwico GS5000

This Gas detection system is a state-of-the-art addressable detection system designed to meet marine, industrial and transport requirements. Special care is given to ergonomics and user-friendliness with its logical and intuitive operator panel. These standard centrals are designed for small stationary gas detection installations for the monitoring of explosive and/or toxic gases. Salwico Gas Detection System is SOLAS compliant and certified by all major classification societies for marine applications.

GDS I-1A	These standard systems are available in the following different variations
GDS I-2A	1 x Control panel, Internal
GDS I-3A	1 x Isolated serial interface RS485 (NMEA 0183, MODBUS RTU)
GDS I-1A1R	5-15 x Relay outputs (one for fault and one for gas A1, 3-13pcs programmable relays)
GDS I-2A1R	4-12 x 4-20mA inputs for connection of gas detectors
GDS I-3A1R	0-1 x Serial interface RS485/RS422
GDS I-1A1C	0-1 x Serial interface RS232
GDS I-2A1C	1 x 2,5A or 4,2A Power supply, 100-240VAC
GDS I-3A1C	
GDS I-1A1C1R	For detailed information see datasheet.
GDS I-2A1C1R	
GDS I-3A1C1R	

### Note: Custom made centrals is available on request

The Salwico Gas Detection System can also accommodate larger gas detection installations on request such as LNG vessel, FPSO:s, Drill ships etc. These systems will be tailor made for its application.

## Individual modules for custom made centrals



### Control M Gas Internal

The Control M Gas is a control panel with a 4.3" graphical colour display used to manage and supervise a gas alarm system. Control M Gas Internal mounts in the gas alarm cabinet front. Control M Gas Internal is equipped with communication buses for connecting to the gas alarm system, but it has to be used in connection with module BusCon M Gas. Features:

- A backlit 4.3" graphical colour display
- Alarm buzzer
- LED status indicators
- Backbone Bus Interface
- MODBUS interface
- USB interface (for service & maintenance)
- One power output
- One alarm output
- One fault output
- Three programmable outputs

5110001-00A



5100002-01A

## Control M X

Control M X is used as a provider of additional communication channels, additional external communication, or as an extension bus.

A Control M X provides the following features:

- Ethernet connection
- RS-422/RS-485 interface
- RS-232/RS-485 interface
- Two programmable relay outputs



5103002-00A

## Buscon M Gas

The BusCon M Gas is a connection module for the Salwico Gas Detection System. This module provides electric isolation for the system and backbone extension for module Control M Gas, as well as monitors the supply voltage and the Xgas signal. The BusCon M Gas has a 20-pin flat cable connector with extended BBI interface for connection with a Control M Gas module.



5103003-00A

## Analogue M 4-20

The Analogue M 4-20 is a transmitter module for a gas alarm system. This module provides four transmitter interfaces (4-20 mA inputs):

- 2-wire
- 3-wire, current source
- 3-wire, current sink
- 4-wire

In order to avoid a massive start-up current in the system the Analogue M 4-20 module delays the voltage output (+, SG) in the transmitter interfaces upon start-up:

- Transmitter interface 1,  $0 \pm 10$  ms
- Transmitter interface 2,  $125 \pm 10$  ms
- Transmitter interface 3,  $250 \pm 10$  ms
- Transmitter interface 4,  $375 \pm 10$  ms



5103004-00A

## Power Boost M

The Power Boost M is designed to distribute power and supervise connections in a gas alarm system. This module can supply:

- Centralized power through a Power Boost Loop, which is secured against interruption and short circuit.
- Compensation for voltage drop in the cable for distributed modules in gas alarm systems
- Transfer of xGas status between the Power Boost modules on a Power Boost Loop and the system modules connected to the Power Boost module on the internal Backbone Bus (BBI)
- External Backbone Bus (BBE) PB-485 communication between system modules.
- Protection of the External Backbone Bus (BBE) PB-485 communication between modules against interruptions and short circuits.
- Supervise the 48 VDC and the PbxGas signals (on the Power Boost Loop).
- Transform External Backbone Bus (BBE) PB-485 to Internal Backbone Bus (BBI) RS-485.



5100420-00A

### Surge Prot M

Surge Prot has 3 major functions:

- Surge protected power inputs for the Backbone Bus Internal, BBI.
- Terminal board for Backbone Bus External, BBE (RS485 Repeater).
- Electronic short circuit protected outputs for Control or Repeater panels.

Note! This output is not supervised. These functions can be used together or individually. The module is designed to be used where there are no requirements for electrical isolation between devices. NOTE! The module has built-in terminators for BBI and BBE. See section RS485 Termination for more information.



5100071-01A

### Bus Isolator M

Bus Isolator M divides the system backbone bus into segments. Its dual functionality isolates communications and basic backup signals between the stretched system parts and provides power to the control panel (e.g. Control M Gas).



5100081-01A

### Relay M 8

Relay M 8 provides eight programmable relay contacts. Each of these relay contacts provide a potential free change-over contact. Use Relay M 8 to control units such as sirens, magnets, flashlight, alarms and ventilation fans.



5100087-01A

### PSU M AC/DC 5A

PSU M AC/DC 5A is a marine approved power supply that powers the system. It is short-circuiting proof and can be used in pairs to supply 5+5 A or 48VDC.

Control/Repeater Panels



5103001-00A

**Control M Gas External**

The Control M Gas is a control panel with a 4.3" graphical colour display used to manage and supervise a gas alarm system either as a external control or repeater panel. Control M Gas External can be mounted on any flat surface or flush mounted, independently from a gas alarm cabinet. Control M Gas External is equipped with communication buses for connecting to the system via BBE interface RS-485 or BBE interface PB-485. Features: • A backlit 4.3" graphical colour display • Alarm buzzer • LED status indicators • Backbone Bus Interface RS-485 • Backbone Bus Interface PB-485 (Power Boost loop) • USB interface (for service & maintenance) • Two configurable inputs • Three programmable outputs

Log Printer



5200306-00A

**Serial Printer Epson LX300+II**

Because of its compact dimensions, the Epson LX-300+II are the ideal 9-pin printer for applications where space is limited and also a low cost solution for measurement and control systems. With auto switching USB, serial and parallel interfaces the LX-300+II provide flexible standalone connectivity.

Power Boost Loop units & Gas Detectors



**Sensor Interface Cabinets**

The Sensor Interface Cabinet is an interface unit for 1 to 8pcs of gas detectors. It is intended for use with Salwico Gas Detection System and can interface with gas detectors with a 4-20mA transmitter interface. The Salwico SIC is connected to the power boost loop and will accommodate up to eight analogue inputs for gas detectors at the local area instead of the main central. The advantage with this is that the cables will be monitored for breaks and short circuits, it will also save lots of installation costs due to shorter cables. The unit continuously monitors the gas detector for gas alarms, faults and also checks the supply voltage of the detector interface.

The Sensor Interface Cabinets are available in the following variants.

- SIC-1A      Sensor Interface Cabinet with 4 analogue inputs for detectors
- SIC-2A      Sensor Interface Cabinet with 8 analogue inputs for detectors
- SIC-1A1R    Sensor Interface Cabinet with 4 analogue inputs for detectors and 8 programmable dry relay contacts
- SIC-1A1C    Sensor Interface Cabinet with 4 analogue inputs for detectors and 1 RS485 serial interface
- SIC-1C      Sensor Interface Cabinet with 1 RS485 serial interface
- SIC-1R      Sensor Interface Cabinet with 8 programmable dry relay contacts
- SIC-2R      Sensor Interface Cabinet with 16 programmable dry relay contacts

For detailed information see datasheet.



## Gas Detectors

**Salwico GD**

The Salwico GD range of gas detectors is used to monitor areas where flammable, oxygen deficiency and toxic gases may pose a hazard environment. The Salwico GD uses a number of sensor technologies including catalytic bead, electrochemical cell and Non-dispersed (NDIR). Salwico GD 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
- EX-d approved

5200260-01A	The Salwico GD range gas detectors are available in the following variants. Salwico GD CAT HC 0-100%LEL HYDROCARBON, CATALYTIC, ALUMINIUM ALLOY, M20 ENTRY
5200260-02A	Salwico GD NDIR CH <sub>4</sub> 0-100%LEL METHANE, NDIR, ALUMINIUM ALLOY; M20 ENTRY
5200260-03A	Salwico GD NDIR C <sub>3</sub> H <sub>8</sub> 0-100%LEL PROPANE, NDIR, ALUMINIUM ALLOY, M20 ENTRY
5200260-04A	Salwico GD NDIR CO <sub>2</sub> 0-2%VOL CARBON DIOXIDE, NDIR, ALUMINIUM ALLOY, M20 ENTRY
5200261-01A	Salwico GD EC O <sub>2</sub> 0-25%VOL OXYGEN, ELECTRO CHEMICAL, ALUMINIUM ALLOY, M20 ENTRY
5200262-01A	Salwico GD EC H <sub>2</sub> S 0-50 PPM HYDROGEN SULPHIDE, ELECTRO CHEMICAL, ALUMINIUM ALLOY
5200262-02A	Salwico GD EC CO 0-250 PPM CARBON MONOXIDE, ELECTRO CHEMICAL, ALUMINIUM ALLOY
5200262-03A	Salwico GD EC H <sub>2</sub> 0-1000 PPM HYDROGEN, ELECTRO CHEMICAL, ALUMINIUM ALLOY

**Salwico GD WH TRUE IR**

The Salwico GD TRUE IR gas detector is a point detector for gas concentration monitoring potentially hazardous environment. The Salwico GD TRUE IR is based on infrared absorption. Solid state design improves reliability, long-term stability and accuracy in continuous measurement of gas concentrations in ambient air. Compared with catalytic sensors the Salwico GD TRUE IR has the following advantages:

- Proven high reliability and long term stability results in low test frequency and no calibration cost.
- Automatic self-test
- Failure will not give gas alarm
- Presence of oxygen is not required during equipment life time
- Immunity to poisoning from H<sub>2</sub>S, silicone and other agents
- No saturation effects from high gas concentrations
- The gas flow rate has no influence on accuracy
- Several different mounting possibilities

Special junction boxes or duct mounting brackets are available upon request.

5200138-00A	The Salwico true IR hart gas detectors are available in the following variants. Salwico GD WH TRUE IR C <sub>3</sub> H <sub>8</sub>
5200138-01A	Salwico GD WH TRUE IR CH <sub>4</sub>

Gas Detectors suitable for harsh environments



Salwico GD in 316 stainless steel inclosure

The Salwico GD range of gas detectors is used to monitor areas where flammable, oxygen deficiency and toxic gases may pose a hazard environment. The Salwico GD uses a number of sensor technologies including catalytic bead, electrochemical cell and Non-dispersed (NDIR). Salwico GD 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
- EX-d approved

The Salwico GD range gas detectors are available in the following variants.

5201095-00A	Salwico GD CAT HC SS 0-100%LEL HYDROCARBON, CATALYTIC, 316 STAINLESS STEEL, M20 ENTRY
5201098-00A	Salwico GD NDIR CO2 SS 0-2%VOL CARBON DIOXIDE, NDIR, 316 STAINLESS STEEL, M20 ENTRY
5201099-00A	Salwico GD EC O2 SS 0-25%VOL OXYGEN, ELECTRO CHEMICAL, 316 STAINLESS STEEL, M20 ENTRY
5201100-00A	Salwico GD EC H2S SS 0-50 PPM HYDROGEN SULPHIDE, ELECTRO CHEMICAL, 316 STAINLESS STEEL, M20 ENTRY
5201101-00A	Salwico GD EC CO SS 0-250 PPM CARBON MONOXIDE, ELECTRO CHEMICAL, 316 STAINLESS STEEL, M20 ENTRY
5201102-00A	Salwico GD EC H2 SS 0-1000 PPM HYDROGEN, ELECTRO CHEMICAL, 316 STAINLESS STEEL, M20 ENTRY

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### Salwico GD SS HART

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

The Salwico GD range gas detectors are available in the following variants.

5201089-00A	Salwico GD CAT HC SS W HART 0-100%LEL HYDROCARBON, CATALYTIC, SS, M20 ENTRY, HART
5201090-00A	Salwico GD EC O2 SS W HART 0-25%VOLOXYGEN, ELECTRO CHEMICAL, SS, M20 ENTRY, HART
5201091-00A	Salwico SAL GD EC H2S SS W HART 0-50 PPM HYDROGEN SULPHIDE, EC, SS, M20 ENTRY, HART
5201092-00A	Salwico GD EC CO SS W HART 0-250 PPM CARBON MONOXIDE, EC, SS, M20 ENTRY, HART
5201093-00A	Salwico GD EC H2 SS W HART 0-1000 PPM HYDROGEN, EC, SS, M20 ENTRY, HART



### Salwico GD TRUE IR HART

The Salwico GD TRUE IR gas detector is a point detector for gas concentration monitoring potentially hazardous environment. The Salwico GD TRUE IR is based on infrared absorption. Solid state design improves reliability, long-term stability and accuracy in continuous measurement of gas concentrations in ambient air. Compared with catalytic sensors the Salwico GD TRUE IR has the following advantages:

- Proven high reliability and long term stability results in low test frequency and no calibration cost
- Automatic self test
- Failure will not give gas alarm
- Presence of oxygen is not required during equipment life time
- Immunity to poisoning from H<sub>2</sub>S, silicone and other agents
- No saturation effects from high gas concentrations
- The gas flow rate has no influence on accuracy
- Several different mounting possibilities

Special junction boxes or duct mounting brackets are available upon request.

The Salwico true IR hart gas detectors are available in the following variants.

5201087-00A	Salwico GD WH TRUE IR C3H8 W HART
5201088-00A	Salwico GD WH TRUE IR CH4 W HART

## Open path gas detectors



5201054-00A

### Salwico GD OPEN PATH HC, gas detector complete unit, range 4-20 m.

The Salwico GD Open Path gas detector is a point detector for gas concentration monitoring in potentially hazardous environments. The Salwico GD Open Path is based on infrared absorption. Solid state design improves reliability, long-term stability and accuracy in continuous measurement of gas concentrations in ambient air. Why open path gas detection? 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 - no possibility of blocked gas path to detector
- Detector location not as critical
- Indicates size of hazard

Moore types of gas detectors are available on request

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## Duct Mounting kits

### Duct mounting kit for Salwico GD 5200260-262, 100mm in diameter

5200260-01A	Circular type of Duct mounting kit for the following gas detectors: Salwico GD CAT HC, Catalytic gas detector, Hydro Carbon gases (HC), 0-100% LEL
5200260-02A	Salwico GD NDIR CH4, Non Dispersive gas detector, Methane gases (CH4), 0-100% LEL
5200260-03A	Salwico GD NDIR C3H8, Non Dispersive gas detector, Propane gases (C3H8), 0-100% LEL
5200260-04A	Salwico GD NDIR CO2, Non Dispersive gas detector, Carbon Dioxide gases (CO2), 0-2% VOL
5200261-01A	Salwico GD EC O2, Electrochemical gas detector, Oxygen (O2), 0-25% VOL
5200262-02A	Salwico GS EC CO, Electrochemical gas detector, Carbon Monoxide (CO) 0-250ppm
5200262-03A	Salwico GD EC H2, Electrochemical gas detector, Hydrogen (H2) 0-1000ppm

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### Duct Mounting kit for Salwico GD 5200138, Square type

Square type of Duct mounting kit for the following gas detectors:  
Salwico GD WH TRUE IR C3H8, True Infra-red gas detector, Propane 0-100% LEL  
Salwico GD WH TRUE IR CH4, True Infra-red gas detector, Methane 0-100% LEL

5200138-00A

5200260-02A

**Duct Mounting kit for Salwico GD 5200138, For JIS5K-200A**

Circular type of Duct mounting kit for JIS5K-220A ducts, supports the following gas detectors:

Salwico GD WH TRUE IR C3H8, True Infra-red gas detector; Propane 0-100% LEL

Salwico GD WH TRUE IR CH4, True Infra-red gas detector; Methane 0-100% LEL

5200138-00A

5200260-02A

**Accessories for Gas Detectors****Standard Junction box for Salwico GD WH TRUE IR (5200138-00A & 5200138-01A), Exd**

Standard junction box for the Salwico GD True IR type of detectors (5200138-00A & 5200138-01A)

5200139-00A

5200202-00A

5200203-00A

Salwico GD WH TRUE IR Junction box

Handheld Interrogator TRUE IR

Duct Mounting Kit TRUE IR

**DVC100 (i) Termination Junction box unit, Exd, with connection for Handheld interrogator**

Special junction box for very demanding application where easy maintenance is essential.

5200259-00A

**Alarm Devices**

N1535

**NS-ES, electronic siren, 24VDC, IP54, red.**

The NS-ES is a Roshni LP sounder that can be connected to all Salwico safety systems. It has a range of 32 tones which is set by a DIP switch. It is also equipped with a volume control. The NS-ES is pre-set to tone no. 14 (970 Hz, 105 dBA (+/- 2 dBA) at 1 m). A second tone is available, which can be switched in by the connection of a third core to the siren. Volume control switch The switch will provide two settings, either full output or an attenuation of 10dB.



N1525

**NS-ES, electronic siren, 24VDC, IP66, red.**

The NS-ES/IP66 is a low profile Banshee MT siren for all Salwico Safety systems for installation in harsh environments (IP66). The siren is delivered with cable glands for cable diameters ranging from 8 to 13mm. The base has two knockout holes for the cable glands. A sounder selector for user selectable tones and a volume control is fitted inside the sounder.



6255

**Siren, Ex-proof, EExd, 24 VDC**

DB3V is a lightweight, flameproof sounder intended for use in potentially explosive atmospheres. DB3 has been designed with high ingress protection to withstand harsh environmental conditions. The flame paths, flare and body are manufactured completely from UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion free product. DB3V has a pre-programmed bell-tone and integral volume control. DB3V is delivered without cable glands. DB3 fulfils the following requirements: • Eexde IIC T5 • ATEX, Ex II 2GD • BASEEFA certified. DB3V is also available in GOST "R" & "K", Chinese (CQST), Australian (SAA) and UL models.



6303  
6304  
6311

**Typhoons**

The pneumatic alarm typhoons in the KTV and MKTV series are a maintenance free, light, rigid and powerful signalling apparatus for different applications on-board ships. The typhoons can be delivered as a complete unit or the horn and the solenoid valve as separate units (see separate datasheet). For distinct signals, the piping length between the valve and the horn should not exceed 6m. The horn is delivered with wall bracket and filter. For explosive, corrosive or very hot areas the solenoid valves shall be mounted separately outside the exposed area. The solenoid valve is delivered with filter and fittings for copper piping with Ø 10 mm OD. The solenoid valve should not be placed outdoor without protective cover.

- KTV-75/400 typhoon 24 VDC, 400Hz
- KTV-75/400 typhoon 230 VAC, 400Hz
- MKT-75/400 Typhoon without mag.valv. 400Hz

**TV88 Magnet valve 220VAC**

Solenoid valve for 6311 MKT-75/400 Typhoon without mag.Valv. 400Hz

6318

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**Non return valve**

Solenoid valve for 6311 MKT-75/400 Typhoon without mag.Valv. 400Hz

6330

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**SUE-9412A-1, flash light, 230VAC, Eexd IIBT4**

The SUE9412A-1 is a series of EX classified flash lights designed for use in very harsh environments, for example pump rooms on vessels. SUE9412A-1 is available in the following models:

Art.no Power supply Colour on lens

6543	230VAC Blue
6545	230VAC Red
6547	230VAC Yellow
6548	115VAC Yellow
6549	Part no: 6549 230VAC Orange

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**Horn w. Red Rot. Light 230V Exd IIC T6**

Electric horn with red rotating light for harsh environments, Exd IIC T6

5200117-00A

## Portable Gas Detectors



### Portable Gas Detectors

The Dräger X-am 2500 is one of a new generation of gas detectors which have been specially designed for personal monitoring use. The 1- to 4-gas detector reliably measures combustible gases and vapours, as well as O<sub>2</sub>, CO and H<sub>2</sub>S. Its ergonomic design, mobile phone dimensions and low weight make it the perfect companion in your daily work. Reliable measurement technology, long sensor life and easy operation guarantee maximum safety at extremely low cost of ownership.

5100455-00A	X-AM2500-HC,LEL
5100452-00A	X-AM2500-HC,LEL-O <sub>2</sub>
5100453-00A	X-AM2500-HC,LEL-H <sub>2</sub> S
5100453-00A	X-AM2500-HC,LEL-O <sub>2</sub> -H <sub>2</sub> S
5100454-00A	X-AM2500-HC,LEL-O <sub>2</sub> -CO-H <sub>2</sub> S

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### X-AM2000/5000-External pump module for Portable Gas Detectors

Pump module X-AM2000/5000 portable gas detectors.

4584

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### X-AM2000/5000 Chargeable batteries

Chargeable batteries for portable gas detectors of the type A-AM2000/5000 series

4586





4594

**X-AM5000-HC VOL%**

X-am 7000 is the innovative solution for the simultaneous and continuous detection of up to five gases. A combination of more than 25 sensors allows flexible solutions to individual monitoring tasks. The Dräger X-am 7000 can be equipped with three electrochemical, and two catalytic bead, infrared or photoionization sensors. It is the ideal companion in a great number of applications where reliable monitoring of Oxygen, toxic and combustibles gases and vapors in the ambient air is necessary.



5200049-00A

**X-AM7000-HC Multigas Detector (HC, O2, H2S) w. Pump and IR sensor for inert area**

X-am 7000 is the innovative solution for the simultaneous and continuous detection of up to five gases. A combination of more than 25 sensors allows flexible solutions to individual monitoring tasks. The Dräger X-am 7000 can be equipped with three electrochemical, and two catalytic bead, infrared or photoionisation sensors. It is the ideal companion in a great number of applications where reliable monitoring of Oxygen, toxic and combustibles gases and vapours in the ambient air is necessary.

**Viton hose**

Viton hose (price per meter)

4220

**Calibration Parts****CALIBRATION KIT, REG+FH**

Calibration kit for all Salwico Gas Detectors. Parts included in the kit is:

1 x Regulator for the gas bottle

2m of tubing for connection between gas bottle and detector

1 x Flow house for ST-type detectors

5201013-00A

## Calibration Gas Bottles



### Sawico GDS Gas Bottles

Sawico GDS standard disposable calibration gas bottles. Should together with 5201013-00A when calibrating any of the Salwico Gas Detectors.

5201000-10A	The Salwico GDS gas bottles are available in the following variants. Propane Calibration Gas Bottle, C <sub>3</sub> H <sub>8</sub> 50%LEL (0,85%) 112 Litre at 70 Bar
5201010-10A	Propane/H <sub>2</sub> S Calibration Gas Bottle, C <sub>3</sub> H <sub>8</sub> 50%LEL (0,85%)+ H <sub>2</sub> S 20ppm+ Nitrogen
5201004-00A	CO Calibration Gas Bottle, CO+oxygen 200 ppm
5201003-00A	CO <sub>2</sub> Calibration Gas Bottle, CO <sub>2</sub> +oxygen 5000 ppm
5201001-10A	Methane Calibration Gas Bottle, CH <sub>4</sub> 50% LEL (2,2%) 112 Litre at 70 Bar
5201001-20A	Methane Calibration Gas Bottle, CH <sub>4</sub> 100% Vol 112 Litre at 70 Bar
5201005-00A	H <sub>2</sub> S Calibration Gas Bottle, H <sub>2</sub> S 20ppm 112 Litre at 70 Bar
5201006-00A	N <sub>2</sub> Calibration Gas Bottle, N <sub>2</sub> 100% Vol.

Moore calibration gas bottles with different mixtures are available on request

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## Salwico Gas Sampling System SW2020

### SW2020



Salwico SW2020 is the safe choice.

Consilium Marine has over the years gained great experience of gas detection in marine environments with thousands of systems installed in merchant and military vessels. The SW2020-type is a well-proven scanning sampling gas alarm system intended for detection of gas in ballast tanks and void spaces. It has become the natural choice for discerning ship owners, for retrofits as well as new buildings. The system combines extremely reliable gas detection yet with a fast response to alarm conditions.

Salwico SW2020 offers versatility

With its flexible design the SW2020 system offers a high level of freedom of choice with up to 4 different gas detectors of various types and a maximum of 64 sampling points, furthermore possible to add a continuous measuring CO<sub>2</sub>-detector for monitoring of the CO<sub>2</sub>-room. Due to the systems design it offers a cost-effective way of combining high-quality detectors and multiple sampling points in ballast tanks and void spaces. It is also possible to divide sampling points into groups for simplified activation of for instance stand-by mode for sampling points in ballast tanks when ballasting.

Salwico SW2020 provides safety

As part of the safety-thinking involved when designing the system it comes with internal leakage and shut-off control as a standard feature. The system offers the possibility of including a counter-pressure function to avoid clogging the pipes backed up by a purging function. It can also incorporate a water trap as an option if so needed to minimize the risk of condensation in the pipes. The hardware is developed with our well-proven fire alarms as a basis why we can guarantee a high level of system security and as a result an absolute minimum of maintenance requirements. The Salwico SW2020 system has undergone environmental and working tests according to various norms and has been approved by major classification societies and authorities worldwide. Due to the state-of-the-art technology it also offers the possibility of integration to Salwico SMS Management system, printers, VDR and other modern safety equipment.

Conclusion:

- Reliable
- 1 to 4 detectors
- Pump redundancy, equipped with two pumps
- Flexible
- 1 to 64 sampling points
- Fast total sampling time

Suitable locations:

- Water ballast tanks
- Isolation spaces on LNG vessels
- Non accessible areas



# Salwico Monitoring System



## Salwico Emission Monitoring System

### **M1040/SeaNox Analyser 220 VAC**

The Salwico NO<sub>x</sub> analyser is a well-proven chemiluminescent Compact NO<sub>x</sub> Analyser with an integrated dilution that fully complies to "Marpol Annex IV NO<sub>x</sub> Technical Code". The Salwico NO<sub>x</sub> analyser is specially designed for operation in continuous emissions monitoring application with clean gas system and process control of DeNO<sub>x</sub> system. The analyser is a complete, fully integrated monitoring system, configured and tested according to the requirements for each application.

Easy menu drive operation, easy service and maintenance as well as a variety of built-in self checks and alarm features assures for a secure and reliable analyser.

550011

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### **M1040/SeaNox Analyser 115 VAC**

The Salwico NO<sub>x</sub> analyser is a well-proven chemiluminescent Compact NO<sub>x</sub> Analyser with an integrated dilution that fully complies to "Marpol Annex IV NO<sub>x</sub> Technical Code". The Salwico NO<sub>x</sub> analyser is specially designed for operation in continuous emissions monitoring application with clean gas system and process control of DeNO<sub>x</sub> system. The analyser is a complete, fully integrated monitoring system, configured and tested according to the requirements for each application.

Easy menu drive operation, easy service and maintenance as well as a variety of built-in self checks and alarm features assures for a secure and reliable analyser.

550015

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### **M1050/SeaSox SO<sub>2</sub> Analyser 220 VAC**

The Salwico SO<sub>2</sub> Analyser is a well-proven UV fluorescent Compact SO<sub>2</sub> Analyser with an integrated dilution that fully complies to "Marpol Annex IV NO<sub>x</sub> Technical Code". The Salwico SO<sub>2</sub> Analyser is specially designed for operation in continuous emissions monitoring application and for process control of scrubbers or equivalent systems. The analyser is a complete, fully integrated monitoring system, configured and tested according to the requirements for each application.

Easy menu drive operation, easy service and maintenance as well as a variety of built-in self checks and alarm features assures for a secure and reliable analyser.

550040

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### **M1050/SeaSox SO<sub>2</sub> Analyser 115 VAC**

The Salwico SO<sub>2</sub> Analyser is a well-proven UV fluorescent Compact SO<sub>2</sub> Analyser with an integrated dilution that fully complies to "Marpol Annex IV NO<sub>x</sub> Technical Code". The Salwico SO<sub>2</sub> Analyser is specially designed for operation in continuous emissions monitoring application and for process control of scrubbers or equivalent systems. The analyser is a complete, fully integrated monitoring system, configured and tested according to the requirements for each application.

Easy menu drive operation, easy service and maintenance as well as a variety of built-in self checks and alarm features assures for a secure and reliable analyser.

550045

## **Guardian CO2 Analyser**

The Salwico CO2 analyser provide continuous monitoring and control of gas concentration levels. It feature comprehensive output, alarm and fault indications via the on-board microcontroller. Based on dual wavelength non-dispersive infra-red (NDIR) technology, high performance operation with low maintenance requirements. The operation of the CO2 analyser is described in terms of the outputs (display, LED indicators, analogue output, alarm and fault relays), inputs (gas sensor; flow sensor; fault detection system) and the controls (setpoint controls, setpoint buttons, test button and the options bitswitch).

550370

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## **OM10 Zirconia O2 sensor**

The Oxygen Probe Model OM10 is based on an in-situ-monitoring of the oxygen concentration in the flow gas without sampling. The OM10 probe is a simple and compact low price probe well suited for non demanding use with exhaust gas temperatures up to 600 °C. As well as under the condition that the flow gas is neither wet, nor contains too much tar, dust or airborne particles. The OM10 probe zirconium oxide sensor gives a precision of 0.1 % with 2 % oxygen concentration in the exhaust gas. The maintenance need is low due to the fact that the OM10 has no moving parts and that the zirconium oxide cell has a long lifetime and is easy to replace.

550030

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## **Stack unit (required if distance to probe is longer then 10m)**

Electrical connections are established with the help of an AMP-connector. If a V/I transmitter is desired, the AMP-connector is kept in a watertight and chock absorbing container. (For OM10 Zirconia sensor; 550030)

550160

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## **DL256 STD Logger 1 x DM016 & 2 x IM001**

The Salwico DL256 data logger system is designed for modern data acquisition applications. The system can handle both analogue and digital input and output signals as well as serial communication with monitors and sensors. The hardware is based on modules and is therefore easy to upgrade by adding modules.

550060

**IM001 for ambient humidity, ambient pressure, engine interface  
(rpm / kW and load) 4-20mA**

The IM 001 isolated analogue input module accepts analogue voltage or current input. The module can also drive passive sensors with no additional power supplies. The operation mode of the module can be Voltage, Current or Current Active mode.  
Voltage mode - In this operation mode the unit measure the voltage passively. Current mode - This operation mode measure current with an external power supply.  
Current Active mode - In this operation mode the measuring point do not have it's own power supply so therefore the active mode will supply the measuring point with the necessary power.

550080

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**TM001 for ambient temperature**

Isolated input module for a Pt100 type temperature sensor.

550070

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**Consilium probe switching unit (Measuring point 1-10)**

For systems with more than 1 monitoring point we provide a Multiswitching unit (MSU) The MSU consists of a PLC and temperature regulators and solenoids for sampling and purging. The MSU will monitor on each point for 10 minutes.

**Sample umbilical line per m**

Umbilical Sampling Line (USL) consists of 1 power cable, 1 signal cable and 5 PTFE tubings for sample, purge, dilution and 2 spares. The USL is prepared for connection at probe side from Consilium for easy connection.

550140

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**DP79100 dilution probe (one for each measuring point)**

550170

The Salwico DP7900 is a dilution probe to be used together with Salwico NO<sub>x</sub> and SO<sub>2</sub> compact gas analyser system. The DP7900 is with its uniformly heated dilution block - particularly well suited for use in connection with wet scrubbers and other applications where the stack gas is wet or has a temperature below acid and/or water dewpoint. Accuracy of measurement is superior compared to other systems due to the fact that no component of the sample will disappear as a result of condensation. The dilution probe is easy mounted for easy dismantling for filter checks and replacement. The Salwico DP7900 can be used in high temperature environments up to 1800°C.

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**Mounting flange for DP7900 probes (DIN100/ANSI 4" 150lb)**

550380

Mounting Flange for DP7900 DN50 PN10 Stainless Steel flange with a 25mm Swagelok connector to fit the guide tube.

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**Probeflange gasket**

550382

Probeflange gasket for 550380 DN50 PN10

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**HX110 Humidity and Temp sensor (ambient)**

550110

The HX110 is a sensor for recording the ambient air humidity and the ambient air temperature. The range is 0-100% humidity and -20 to +80°C temperature. Gives a 4-20mA signal.



**BM100 Pressure sensor (ambient)**

The BM 100 sensor is used for recording the ambient air pressure. The range is 0.7 - 1.1 bar and it gives a 4-20mA signal.

550120

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**ComVisioner Full Version (required for g/Kw-h)**

Presentation SW for the Salwico EMS. Ability to do custom made reports. Necessary to use to be able to calculate g/kWh.

550090

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**Spare part kit for SeaNox**

Packing for vacuum pump Filter Media for fan, SK3170 Discharge plate for Ozone generator O-ring for Ozone generator Zero Air Scrubber.

550200

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**Spare part kit for SeaSox**

Membrane set for Dual Chamber pump Filter media for Fan , SK3170 Zero Air Scrubber.

550220

**Pump dual chamber**

A dual chamber pump for Salwico EMS.

550260

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**Spare part kit for DP7900 probe**

Spare part kit for DP7900 probe

550180

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**Spare part kit for Salwico (SeaNox/SeaSox) 1 year**

Membrane set for Dual Chamber pump Filter media for Fan , SK3170 Zero Air Scrubber.

550230

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**Spare part kit for Guardian CO2**

Filter membrane.

550652

**Filterset for dilution probe**

Filter set for cartridge, a complete setup of filters, O-rings and brackets to replace filters in DP7900.

550647-00A

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**Salwico G1000 Smoke Density Monitoring System****Salwico G1000 Smoke Density Monitor 230VAC**

The G1000 is a particular robust system well suited to resist heat and vibrations in and around smoke stacks. The patented technology do not locate the light source inside the smoke stack, instead, the infrared LED is placed in the monitor cabinet and the light beam brought to the smoke stack via robust optic fibres. The lenses of the optic heads are kept clean with purge air. Quite evidently, this method reduces maintenance and need of spare parts to a bare minimum. This invention was the first to make use of this design, sincerely appreciated by our customers.

6731003-00A

**Salwico G1000 Smoke Density Monitor 110VAC**

The G1000 is a particular robust system well suited to resist heat and vibrations in and around smoke stacks. The patented technology do not locate the light source inside the smoke stack, instead, the infrared LED is placed in the monitor cabinet and the light beam brought to the smoke stack via robust optic fibres. The lenses of the optic heads are kept clean with purge air. Quite evidently, this method reduces maintenance and need of spare parts to a bare minimum. This invention was the first to make use of this design, sincerely appreciated by our customers.

6731004-00A

**Salwico G1000 Smoke Density Monitor 24VDC**

The G1000 is a particular robust system well suited to resist heat and vibrations in and around smoke stacks. The patented technology do not locate the light source inside the smoke stack, instead, the infrared LED is placed in the monitor cabinet and the light beam brought to the smoke stack via robust optic fibres. The lenses of the optic heads are kept clean with purge air. Quite evidently, this method reduces maintenance and need of spare parts to a bare minimum. This invention was the first to make use of this design, sincerely appreciated by our customers.

6731005-00A

**Optical Fibers 6.0m**

Fiber optic cable L=6.0 m – T<240°C

6731011-00A

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**Optical Fibers 7.5m**

Fiber optic cable L=7.5 m – T<240°C

6731014-00A

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**Air Supply Filter Reg. w coupling**

Air filter and regulator for instrument air.



6731021-00A

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**Flow meter Purge Air flow**

Flow meter Purge Air flow for regulation of purge air protection of lens.

6731022-00A



### Remote Digital Display 5714D SDM 4-20mA

Remote digital display.

6731023-00A



### Audit Pen 30%

Audit Pen 30% Opacity for calibration.

6700059-00A



### Welding & Adjust. Bracket

Welding & Adjustment Bracket (set of two brackets with screws).

6731019-00A

## Salwico G2000 Ambient Oil Mist Detection System

### Salwico G2000 Ambient Oil Mist Detector 230VAC

The G2000 Ambient Oil Mist Detector is developed for monitoring pump rooms, engine- and motor rooms and attached onto boilers or diesel engines. The perils of oil mist and the potential impacts thereof, is clearly stated by IMO and OCIMF's "Ship Inspection Report (SIRE) Programme". Thus, early alarms on the formation of oil mist are utterly important. A minor investment yields great benefits, not the least appreciated by vetting inspectors. The G2000 is ideal for applications where an instantaneous and accurate response to oil mist, but also smoke or steam, is required in unattended machinery spaces. The G2000 is a Line-Of-Sight opacity meter; aka; "Beam-" or "Open Path-" Detector. The Line-Of-Sight principle has the decisive advantage of covering a larger area than single-point extractive- sampling systems.

6732003-00A

**Salwico G2000 Ambient Oil Mist Detector 110VAC**

6732004-00A

The G2000 Ambient Oil Mist Detector is developed for monitoring pump rooms, engine- and motor rooms and attached onto boilers or diesel engines. The perils of oil mist and the potential impacts thereof, is clearly stated by IMO and OCIMF's "Ship Inspection Report (SIRE) Programme". Thus, early alarms on the formation of oil mist are utterly important. A minor investment yields great benefits, not the least appreciated by vetting inspectors. The G2000 is ideal for applications where an instantaneous and accurate response to oil mist, but also smoke or steam, is required in unattended machinery spaces. The G2000 is a Line-Of-Sight opacity meter; aka; "Beam-" or "Open Path-" Detector" The Line-Of-Sight principle has the decisive advantage of covering a larger area than single-point extractive- sampling systems.

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**Salwico G2000 Ambient Oil Mist Detector 24VDC**

6732005-00A

The G2000 Ambient Oil Mist Detector is developed for monitoring pump rooms, engine- and motor rooms and attached onto boilers or diesel engines. The perils of oil mist and the potential impacts thereof, is clearly stated by IMO and OCIMF's "Ship Inspection Report (SIRE) Programme". Thus, early alarms on the formation of oil mist are utterly important. A minor investment yields great benefits, not the least appreciated by vetting inspectors. The G2000 is ideal for applications where an instantaneous and accurate response to oil mist, but also smoke or steam, is required in unattended machinery spaces. The G2000 is a Line-Of-Sight opacity meter; aka; "Beam-" or "Open Path-" Detector" The Line-Of-Sight principle has the decisive advantage of covering a larger area than single-point extractive- sampling systems.

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**Manual G2000 AOMD**

Manual G2000 AOMD.

6701140-00A

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**Optical Fibers 2x6.0m**

Fiber optic cable L=6.0 m – T<240°C.

6732011-00A

**Optical Fibers 1x4.5m & 1x6.0m**

Fiber optic cable L=4.5 m – T<240°C Fiber optic cable L=6.0 m - T<240°C.

6732013-00A

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**Optical Fibers 2x7.5m**

Fiber optic cable L=7.5 m – T<240°C.

6732014-00A

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**Remote Digital Display 5714D AOMD 4-20mA**

Remote digital display.



6732023-00A

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**Alarm Annunciator G2000 24VDC 8 Channels**

The Alarm Monitor M4200 provides the possibility of monitoring 8 individual processes. All inputs will accept any combination of NO or NC contacts. It is possible to program each input, e.g. to activate the siren relay, the two alarm relays or the four open collector outputs. The delays for the inputs can be selected between 25 milliseconds and 60 seconds. When alarm input is activated, the LED goes flashing, alarm relay 1 and the siren relay goes ON. When reset button is activated, the LED goes steady and the siren goes OFF together with alarm 1. When alarm input is deactivated, LED goes OFF.

6732022-00A

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