

Salvico CS4000



When Safety Matters

Fire Detection Systems

Reliable and Customized Solutions

Salwico CS4000

Fire detection system solutions for demanding customers

Fully addressable
Built-in safety
Extended redundancy function

Efficient fire alarm systems are of vital importance for the protection of lives and assets at sea.

To meet these demands Consilium offers state of the art fire alarm systems, developed for the most demanding marine environments.

Consilium's CS4000 fire alarm system is a fully adaptive analogue addressable system. In an alarm situation it can easily identify the unit that has given the alarm and is therefore capable of giving correct information about the exact location of the fire at a very early stage.

The CS4000 offers extremely reliable fire detection with a high degree of protection against unwanted alarms. Every loop unit in the CS4000 has a built-in intelligence and can initiate a fire alarm all by itself. Another unique feature is the Salwico Memory Stick™ connection that gives the system operator a new tool to simplify configuration and upgrading.

The CS4000 system is designed and developed to meet with the demands of all major classification societies, the EN-54 rules and the new European standard MED. The system is very user-friendly with a self-instructing control panel, which with clear and easily understood instructions on the display, leads the operator through the various



functions. Consilium's more than 40 years of experience in the marine and fire alarm business has laid the foundation for the development of the CS4000 system.

Compatibility

Consilium's CS4000 is a fully addressable fire alarm system, which in its basic version comprises three detector loops with up to 254 units per loop and is prepared for extension into larger system. CS4000 can also be used as a conventional system with 16 fire sections in its basic version. It can also be used as a combined analogue/conventional system.

The CS4000 is, needless to say, compatible with all Consilium's previous addressable as well as conventional Salwico systems. The system can be used with analogue or conventional detectors or with a combination of both in the same system.

Standard features

In its standard version the CS4000 is among other features equipped with the following Inputs/Outputs:

- 4 programmable inputs, closing contacts
- 7 programmable relay outputs, 24VDC/1A
- 2 programmable relay outputs, 230 VAC/5A
- Printer output in the operating panel, RS232
- Printer/communication output in the central cabinet, RS232/RS485
- Door holder (magnet) output, 24VDC/400 mA
- External buzzer output in the operating panel
- External buzzer output in the central cabinet
- GA morse input

Control panel

Great efforts have been put into making the system user-friendly with a self-instructing control panel for monitoring and controlling of all functions of the CS4000. All functions are available via the different menus of the control panel.

The operator is guided through the functions by clear and easily understood instructions on the large graphical LCD display, which has been made unambiguous with white text on blue background for high contrast and readability. The fully redundant two-way communication set-up facilitates remote installation from the central unit (up to a distance of 100 m).

To save time for the operators the panel has been equipped with three custom keys, which can be pre-programmed for customer specific user applications, such as activation of general alarm, disconnection of detectors etc.

Fire alarm

When a sensor has informed the system that its analogue value has exceeded its pre-programmed alarm limit, the system starts evaluating the potential fire situation. Using advanced algorithms, the sensor data is evaluated to distinguish between a real fire scenario and other non-fire events. This ensures the best possible fire alarm response in all situations.

Pre-alarm

The CS4000 is equipped with a pre-alarm function, which gives an early alarm if a slow rise of smoke concentration occurs without exceeding the alarm threshold, e.g. at a smouldering fire.

Reporting

All errors in the system, such as power failure, loop break, missing detector etc, are at once registered in the central unit.

Unique tool for configuration

In order to further facilitate configuration and upgrading, the central is equipped with a USB-port or Salwico Memory Stick™ together with an Excel based configuration tool. With these tools the customer has the possibility to make a complete configuration or adjustments of the system.

Detector loops

CS4000 is an analogue addressable system when equipped with loop drive PCBs and a conventional system when interface PCBs for conventional fire sections are used. A combination of both is a great advantage when retrofitting or upgrading older systems.

The loop cabling can be built as a double fed loop, a radial star net or a combination of both. This means that the old cabling can be kept as it is, when a conventional system is upgraded to a CS4000 system.

Since the signal transmission is independent of the cable resistance, the system may contain very long detector loops with no demand for screened cable. Up to 2000 m un-screened two-core cable can be used.

To optimise the security of the system, multiple safeties are built into the signal transmission. The aim is to filter out all noise and other types of interferences. The signal transmission is therefore made via frequency shift and has a database with complete data protocols.

Intelligent sensors

Each detector adjusts its fire alarm/pre-alarm limit in line with changes in the environment within a specified time interval. This adaptation of the detectors is ensuring swift response to alarm situations combined with a very high immunity to un-wanted alarms.

Changes of the alarm limits are made automatically, but can also be made manually. The system also continuously monitors and compensates for the degree of pollution of the smoke detectors, thus prolonging their effective life span.



Loop units

CS4000 comprises a full choice of analogue addressable detectors (smoke, heat, flame, combined smoke/heat, IS) for each alarm cause and for different environments, such as damp spaces or areas with risk of explosion. All smoke detectors can be adjusted into three different alarm levels (low, normal, high).

Manual call points, timers, external indication etc can be directly connected to the detector loop. To increase safety it is also possible to connect local buzzers directly on the detector loop (no extra power needed), e.g. in crew/passenger cabins onboard a ship.

Disconnections

At routine maintenance work that generates smoke, e.g. welding or when loading/unloading vehicles, the smoke detectors can be temporally disconnected by means of timers, custom keys or operating the keyboard, without affecting other functions of the system.

In case of dual function detectors it is possible to disconnect only the smoke or heat detection part. In this way supervision/safety will be maintained.

External controls and additional functions

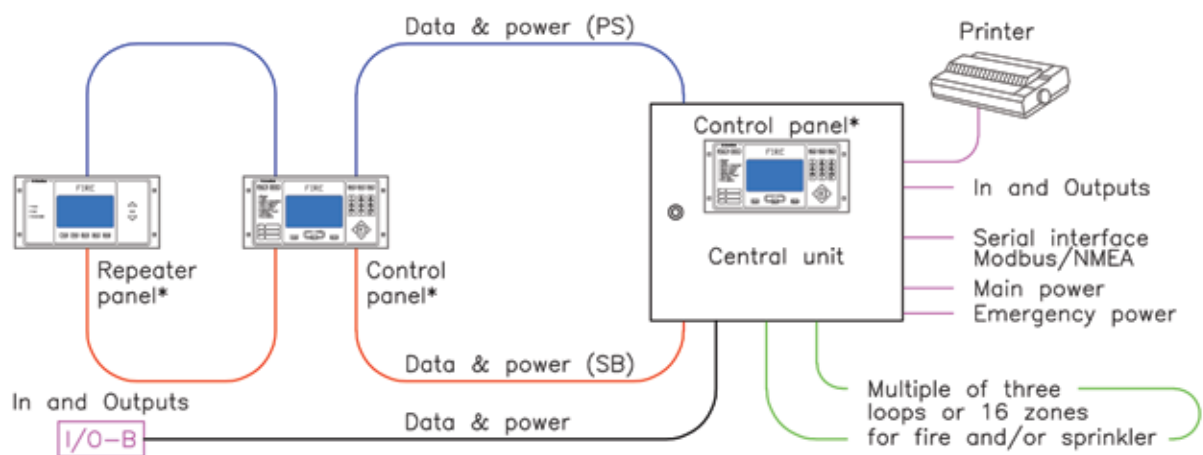
CS4000 is a flexible system that, thanks to its powerful bus oriented control system, can be built out with different external controls and additional functions. A number of different control modules have been developed to control and supervise status-changes of external units on the loop.

CS4000 has among others controls for:

- Fire doors, dampers and smoke hatches
- Telephone/Paging systems
- PLC systems
- Ventilation and fans
- VDR

The door-closing module automatically closes the adequate fire doors in case of fire. For maximum safety the module is also activated by a fault indication, short circuit and similar. Should there be a blocked fire door or a power loss, the module informs the system.

Block diagram



* The panels can be mounted in the central unit or as a separate unit. They can have control or repeater functions.

FAULT **DISC.**

- Power
- Test
- Alarm Transfer
- Alarm Device
- Alarm Delay
- Zone/Unit
- System Fault
- Warning
- Fire-Alarm

F1 **F2** **F3**

FIRE

Salwico CS4000 25-08-2004 11:45
MS Friendship
SG-6789
www.consilium.se
Press MENU to operate.

Reset



Mute

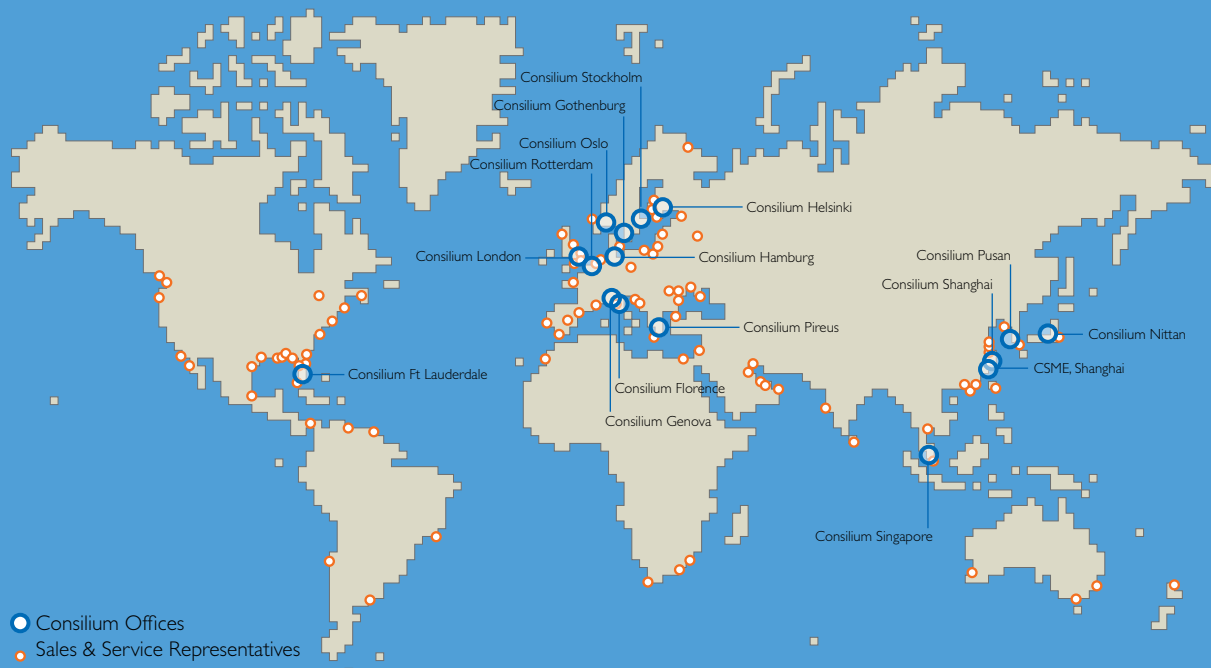
Menu **Home** **Disc.**

1 .,_	2 ABC	3 DEF
4 GHI	5 JKL	6 MNO
7 PQRS	8 TUV	9 WXYZ
←	0	OK

OK

Navigation arrows: Up, Down, Left, Right

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