

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

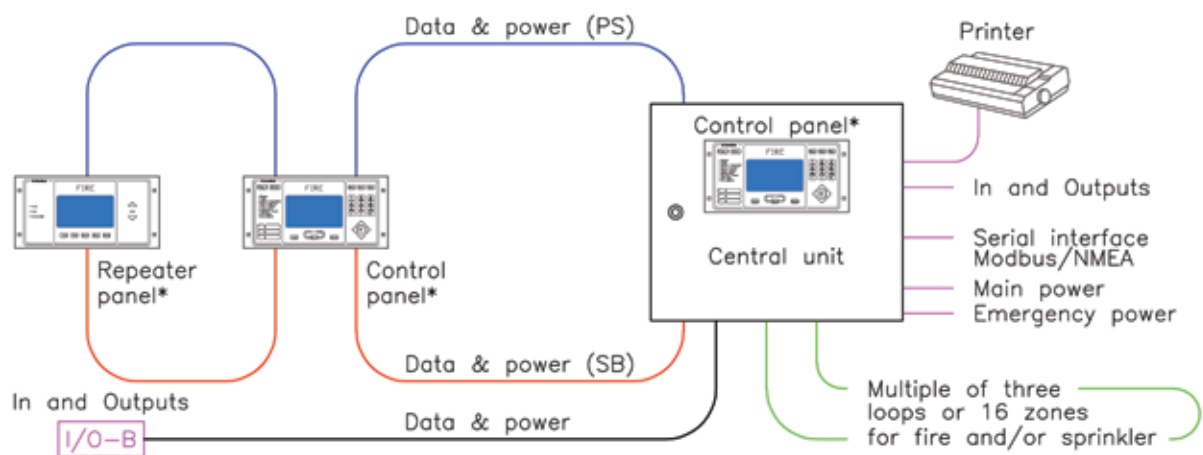
CS4000 is a flexible system that, thanks to its powerful bus oriented control system, can be built out with different external controls and additional functions. A number of different control modules have been developed to control and supervise status-changes of external units on the loop.

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.

Consilium

FAULT **DISC.**

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

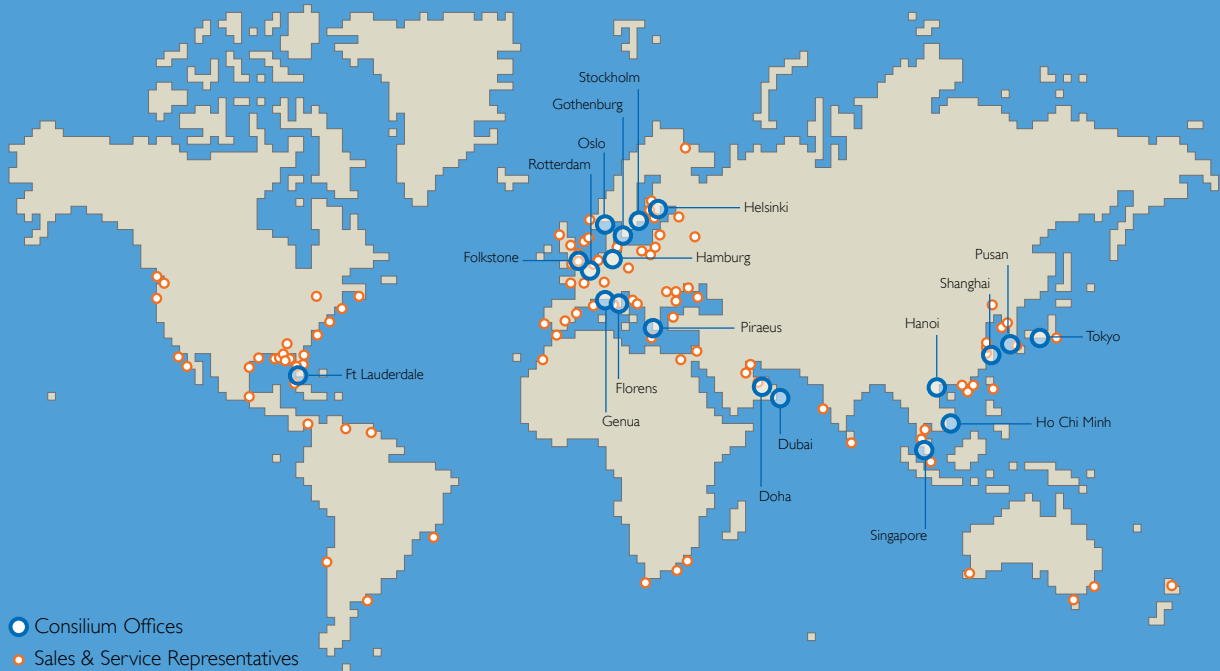
Menu **Home** **Disc.**

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

OK

CS4000 Central Panel

Global Service and Support



Consilium Marine Group

SWEDEN

Consilium Marine Group AB
 Västra Finnbodavägen 2-4
 PO.Box 5021
 SE-131 05 Nacka
 Phone: +46 08 563 05 300
 Fax: +46 08 563 05 399

Consilium Navigation AB

Västra Finnbodavägen 2-4
 PO.Box 5021
 SE-131 05 Nacka
 Phone: +46 08 563 05 100
 Fax: +46 08 563 05 199

Consilium Marine AB

Salsmästaregatan 21
 PO.Box 8763
 SE-402 76 Gothenburg
 Phone: +46 31 710 77 00
 Fax: +46 31 710 78 00

CHINA

Consilium Shanghai Co. Ltd.
 Room 108, Block 2 HangXing
 Business Building
 No 27, Lane 258 CaoXi Road
 Shanghai 200235
 Phone: +86 21 5152 22 60
 Fax: +86 21 5152 22 90

FINLAND

Consilium Marine OY
 Vapaalantie 2 B 18
 01650 Vantaa
 Phone: +358 405 25 28 25
 Fax: +358 425 25 28 25

GERMANY

Consilium GmbH
 Beltens Garten 2
 DE-20537 Hamburg
 Phone: +49 40 822 22 95-0
 Fax: +49 40 822 22 95 99

GREECE

Consilium Marine Hellas
 19, Zoodochou Pigiis str.
 GR-18538 Piraeus
 Phone: +30 210 428 7097/8
 Fax: +30 210 428 7165

ITALY

Consilium Selesmar Srl.
 Via Romita, 26
 Montagnana VP.
 IT-50020 Firenze
 Phone: +39 0571 68121
 Fax: +39 0571 670 798

Consilium Marine Italy Srl.

Via XII Ottobre, 2/52A
 IT-16121 Genova
 Phone: +39 010 860 60 31
 Fax: +39 010 860 62 90

JAPAN

Consilium Nittan Marine Ltd
 4 Fl, ART-1 Bldg, 21-7,1-chome,
 Hatagaya Shibuya-ku
 Tokyo 151-0072
 Phone: +81 03 5465 1881
 Fax: +81 03 5465 1887

NETHERLANDS

Consilium Marine Systems BV
 Achterwetering 13-15
 NL-2871 RK Schoonhoven
 Phone: +31 182 382 422
 Fax: +31 182 386 675

NORWAY

Consilium Norway AS
 Sinsenveien 53A, 6th floor
 NO-0585 Oslo
 Phone: +47 22 89 26 00
 Fax: +47 22 09 81 00

SINGAPORE

Consilium Marine Singapore Pte. Ltd.
 45 Jalan Pemimpin
 #11-04 Foo Wah Industrial
 Bldn.
 Singapore 577197
 Phone: +65 6251 6016
 Fax: +65 6251 6017

SOUTH KOREA

Consilium Marine Korea Ltd.
 Room 1136, Ocean Tower
 760-2
 Woo 1 Dong, Haeundae-gu
 Pusan
 Phone: +82 51 740 5869/71-3
 Fax: +82 51 740 5870

QATAR

Consilium Qatar LLC
 PO.Box 24156
 Al Hilal Road
 Villa No. 3
 Doha
 Phone: +974 466 53 32
 Fax: +974 466 54 62

UAE

Consilium Middle East (FZC)
 B3/22, SAIF Zone
 PO. Box 8018
 Sharjah
 Phone: +971 6 55 70 740
 Fax: +971 6 55 70 741

UK

Consilium Marine UK
 Unit 45, Folkestone Ent. C.
 Shearway Business Park
 Shearway Road
 Folkestone CT19 4RH
 Phone: +44 1268 41 77 45
 Fax: +44 1268 41 70 51

USA

Consilium Marine US
 4370 Oakes Road, suite 121
 Fort Lauderdale
 FL 33314
 Phone: +1 954 791 7550
 Fax: +1 954 791 7599

VIETNAM

Consilium Vietnam JSC
 LK1A C4 Thang Long Int. Village
 Dich Vong - Cau Giay
 Hanoi
 Phone: +84 4 793 13 41
 Fax: +84 4 793 13 42

Viendong Shipbuilding Industry

R4-52, Hung Phuoc 4
 Phu My Hung
 Tan Phong Ward, Dist 7
 Ho Chi Minh City
 Phone: +84 8 410 13 38
 Fax: +84 8 410 13 39



www.consilium.se

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When Safety Matters

Fire Detection Systems

Reliable and Customized Solutions