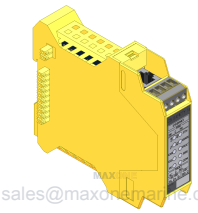
CS-Safety M H Fire/Fault/Disablement Safety Relay Module

Product reference	
Part No.	5210001-00A
Manufacturer	Consilium / Salwico
Model	CS-Safety M H



Product overview

The CS-Safety M H module is intended to be used as a part of a fire or gas detection system and is suitable for use in SIL 1 and SIL 2 environments. The CS-Safety M H is an interface module and data collector for all CS-Loop M H 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). The CS-Safety M H supports both single and redundant setups. Features: An xFire signal input. An SSP bus for communication with the CS-Loop M H and other CS-Safety M H modules. Two redundant 24 VDC power inputs. Three relay outputs reserved for signaling the fire, fault and disablement condition. An Ethernet interface for external protocols (SSPxt). The CS-Safety M H module consists of two products, the CS-Safety M and the CS-Housing H, which can be ordered separately as spare parts. For details on assembling a system and definitions of common system terms, please see the Installation & Commissioning manual. CS-Safety M indicators display fire, fault and disablement condition as well as communication and power status. Settings The module is identified by a physical address on the Backbone Bus. The address is set with an 8-pole DIP switch. Address switch The DIP switch value follows the binary system. The address no. can be set using DIP-switch poles 1 to 7. The address selected on the DIP-switch must correspond to the settings in the configuration program. NOTE! If all LED's are flashing the DIP switches are set to OFF or all are set to ON. Please set according to project documentation.

Technical specifications

Operating voltage range	19–30 VDC	PFD calculation basis	MTTR 8 h and proof test interval 1 year
Current consumption	70 mA	xFire input	An xFire signal input
Cable terminals	2.5 mm2	SSP bus	An SSP bus for communication with the CS-Loop M H and other CS-Safety M H modules
Operating temperature	-40 °C to +70 °C	Redundant power inputs	Two redundant 24 VDC power inputs
Storage temperature	-50 °C to +70 °C	Safety relay signals	Three relay outputs reserved for signaling the fire, fault and disablement condition
Relative humidity	≤ 95 % RH non-condensing	Ethernet SSPxt	An Ethernet interface for external protocols (SSPxt)
Addressing method	DIP switch	Address DIP configuration	8-pole DIP switch; binary value; poles 1 to 7 set the address
Ethernet port	10/100 Mbit Auto Negotiation	Safe Relay configurability	The Safe Relays are not configurable.
Relay output	30 VDC, max 1 A resistive load	Invalid DIP-switch condition	All LEDs flashing means all DIP switches are OFF or all are ON; set them according to project documentation.
Material	Nylon 6.6	Mounting	Horizontal 35 mm DIN rail
Weight (with housing)	≈140 g	Source datasheet	Data sheet no. 5210001-00A_CS-Safety M H_M_EN_2023_E
Colour	Yellow (RAL 1018)	Specification change notice	The specifications described herein are subject to change without notice.
Spare part (module)	CS-Safety M 5210000-00A	Overall width	29.2 mm
Spare part (housing)	5210069-00A	Body width	22.6 mm
CE conformity	EN 54-2	Height	93.1 mm
Current certificate validity	Not provided	Side length	107 mm
Safety integrity level	SIL 1 and SIL 2	Protrusion	4 mm
Safety architecture type	Type B	Internal communication	SSP Protocol; Backbone (BBI)
HFT	0	External communication	Ethernet SSPxt
SFF	97 %	Production mark	2531/yy; yy = year of production
PFD	1.83 × 10-4	System association	CFD5000

CS-Safety terminal numbers · Source page 2		
Source column 1	**Source column 2**	**Source column 3**
	Ethernet	Ethernet interface
21	NC	Common Fire Relay output
22	C	
23	NO	
24		
31	NC	Common Fault Relay output
32	C	
33	NO	
34		
41	SG	Not used
42	D+	
43	D-	
44	NO	Common Disablement Relay output
45	C	

Safe Relay configurations · Source page 2			
Output	**Condition**	**Active level**	**CS-Safety M**
Output	Fire	H	X
	Fault	L	X
	Disablement	H	X

Indicator and safety states (page 3) · Source page 3				
Front label	**Indicator**	**Colour / pattern**	**Module status**	**Failure classification**
	ETH Lnk (Ethernet link connected)	Green, steady	OK	N/A
		None	No communication	*
	ETH Act (Ethernet activity)	Green, steady	OK	N/A
		None	No communication	*
	RS-485 Tx	Green, steady	OK	N/A
		None	No communication	*
	RS-485 Rx	Green, steady	OK	N/A
		None	No communication	*
	SSP (Communication)	Green, steady	OK	N/A
		None	No communication	*
	FAULT	Yellow, steady	One or more faults are present	*
		Yellow, flashing	Module is booting or re-scanning	*
		None	There are no faults	N/A
	DIS (Disablement)	Green, steady	One or more disablements in the system	N/A
	FIRE	Red, steady	One or more alarms are present	Follow local procedures
		Red, flashing	Pre-alarm	Follow local procedures
		None	There are no alarms	N/A
	PS (Power Supply)	Green, steady	OK	N/A
		Yellow, steady	Power fault on one of the two power channels feeding the module. A single power fault does not prevent the safety module to communicate with the other modules.	Minor fault*
		Yellow, flashing: 0.5 sec On, 0.5 sec Off.	Boot loader mode. Only active during firmware download to the module.	*
		Yellow, flashing: 1 sec On, 0.5 sec Off.	Safe State Predefined state to avoid disturbing system integrity.	*

* Check fault alarm on the control panel and refer to fault code information in the CFD5000 Installation & Commissioning manual or the CFD5000 Service & Maintenance manual.

Indicator and safety states (page 4) · Source page 4				
Front label	**Indicator**	**Colour / pattern**	**Module status**	**Failure classification**
	COM (Backbone communication)	Green, steady	OK	N/A
		Green, flashing	Unconfigured. Could be a configuration error in the application program file. (Communication working)	Minor fault*
		Yellow, steady	System fault.	Major fault*
		Yellow, steady	Communication fault on the backbone interface.	Major fault*
		None	No communication	Major fault*
	PS + COM (both flashing)	PS Yellow, flashing	Transferring software. (Download or upload.)	*
		COM Green, flashing		

* Check fault alarm on the control panel and refer to fault code information in the CFD5000 Installation & Commissioning manual or the CFD5000 Service & Maintenance manual.



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Safety Control Module
CS-Safety M H

Part no. 5210001-00A

System: CFD5000

General description

The CS-Safety M H module is intended to be used as a part of a fire or gas detection system and is suitable for use in SIL 1 and SIL 2 environments.

The CS-Safety M H is an interface module and data collector for all CS-Loop M H 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).

The CS-Safety M H supports both single and redundant setups.

Features:

- An xFire signal input
- An SSP bus for communication with the CS-Loop M H and other CS-Safety M H modules
- Two redundant 24 VDC power inputs
- Three relay outputs reserved for signaling the fire, fault and disablement condition
- An Ethernet interface for external protocols (SSPxt)

For details on assembling a system and definitions of common system terms, please see the Installation & Commissioning manual.

The CS-Safety M H module consists of two products, the CS-Safety M and the CS-Housing H, which can be ordered separately as spare parts.

Data

Operating voltage range	19–30 VDC
Current consumption (at 24 V)	70 mA
Cable terminals	2.5 mm^2
Operating temperature	-40 °C to +70 °C
Storage temperature	-50 °C to +70 °C
Relative humidity	≤ 95 % RH non-condensing
Addressing method	DIP switch
Ethernet port	10/100 Mbit Auto Negotiation
Communication	Internal: SSP Protocol Backbone (BBI) External: Ethernet SSPxt
Relay output	30 VDC, max 1 A resistive load
Material	Nylon 6.6
Weight (with housing)	≈140 g
Colour	Yellow (RAL 1018)
Spare part no. CS-Safety M (without housing)	5210000-00A
Spare part no. for housing	5210069-00A
CE Conformity	EN 54-2
Certified according to	2531/yy yy = year of production

Functional Safety Data

Type	B
HFT	0
SFF	97 %
PFD_{avg}	1.83×10^{-4}

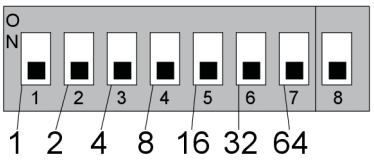
PFD_{avg} is calculated for MTTR 8 h and proof test interval 1 year.
Suitable for use in SIL 1 and SIL 2 environments.

Settings

The module is identified by a physical address on the Backbone Bus. The address is set with an 8-pole DIP switch.

Address switch

The DIP switch value follows the binary system. The address no. can be set using DIP-switch poles 1 to 7. The address selected on the DIP-switch must correspond to the settings in the configuration program.



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Configuration of Safe Relay

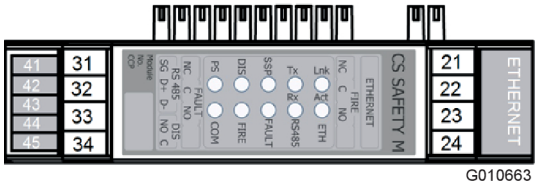
The CS-Safety M has three relay contact outputs, called Safe Relay.

The Safe Relays are not configurable.

Table 1. Safe Relay configurations

Safe Relay		Active High/Low	CS-Safety M
Output	Fire	H	X
	Fault	L	X
	Disablement	H	X

Connections



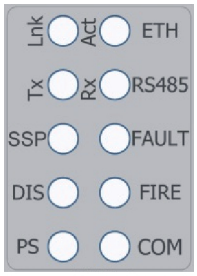
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Table 2. CS-Safety terminal numbers

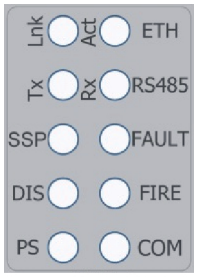
	Ethernet	Ethernet interface
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22	C	
23	NO	
24		
31	NC	Common Fault Relay output
32	C	
33	NO	
34		
41	SG	Not used
42	D+	
43	D-	
44	NO	Common Disablement Relay output
45	C	

Indicators

CS-Safety M indicators display fire, fault and disablement condition as well as communication and power status.

Front label	Indicator	Colour, pattern	Module status	Failure classification
 G010562	ETH Lnk (Ethernet link connected)	Green, steady	OK	N/A
		None	No communication	*
	ETH Act (Ethernet activity)	Green, steady	OK	N/A
		None	No communication	*
	RS-485 Tx	Green, steady	OK	N/A
		None	No communication	*
	RS-485 Rx	Green, steady	OK	N/A
		None	No communication	*
	SSP (Communication)	Green, steady	OK	N/A
		None	No communication	*
	FAULT	Yellow, steady	One or more faults are present	*
		Yellow, flashing	Module is booting or re-scanning	*
		None	There are no faults	N/A
	DIS (Disablement)	Green, steady	One or more disablements in the system	N/A
	FIRE	Red, steady	One or more alarms are present	Follow local procedures
		Red, flashing	Pre-alarm	Follow local procedures
		None	There are no alarms	N/A
	PS (Power Supply)	Green, steady	OK	N/A
		Yellow, steady	Power fault on one of the two power channels feeding the module. A single power fault does not prevent the safety module to communicate with the other modules.	Minor fault*
		Yellow, flashing: 0.5 sec On, 0.5 sec Off.	Boot loader mode. Only active during firmware download to the module.	*
		Yellow, flashing: 1 sec On, 0.5 sec Off.	Safe State Predefined state to avoid disturbing system integrity.	*

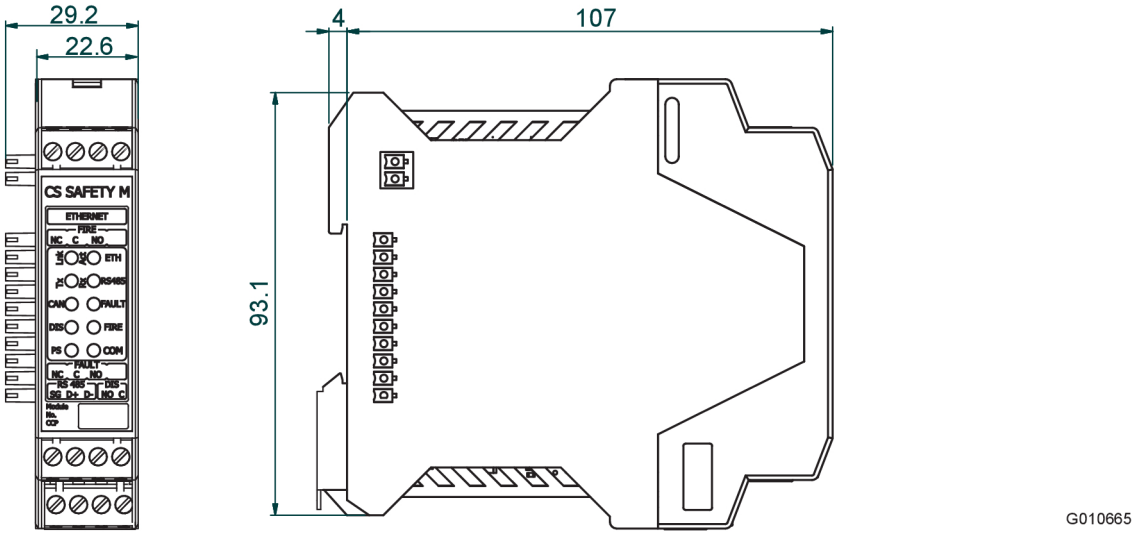
* Check fault alarm on the control panel and refer to fault code information in the CFD5000 Installation & Commissioning manual or the CFD5000 Service & Maintenance manual.

Front label	Indicator	Colour, pattern	Module status	Failure classification
 G010562	COM (Backbone communication)	Green, steady	OK	N/A
		Green, flashing	Unconfigured. Could be a configuration error in the application program file. (Communication working)	Minor fault*
		Yellow, steady	System fault.	Major fault*
		Yellow, steady	Communication fault on the backbone interface.	Major fault*
		None	No communication	Major fault*
	PS + COM (both flashing)	PS Yellow, flashing	Transferring software. (Download or upload.)	*
		COM Green, flashing		

* Check fault alarm on the control panel and refer to fault code information in the CFD5000 Installation & Commissioning manual or the CFD5000 Service & Maintenance manual.

NOTE!
If all LED's are flashing the DIP switches are set to OFF or all are set to ON.
Please set according to project documentation.

Dimensions (mm)



G010665

Mounting

Mount the module on a horizontal 35 mm DIN rail.