



G010994

Manual Call Point IP23 **CS-MCP RAIL RED**

Part no. 5210074-00A

System: CFD5000

General description

The CS-MCP RAIL is an addressable manual call point designed for installation in-doors in railway applications. The cover is made of flame resistant plastic according to UL 94.

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 RAIL is designed to comply with the standards for the rolling stock markets up to Safety Integrity Level 2 (SIL 2).

Local intelligence via an integrated CPU

The integrated CPU makes it possible to make decisions locally, like evaluation of the alarm condition.

IDAxT protocol

The IDAxT protocol is an extension of Consilium's communication protocol (IDA) and meets the demands on data integrity, reliability and robustness required for use in SIL 1 and SIL 2 safety functions and safety systems.

Periodic BIST

The Periodic Built-In Self-Test is a central mechanism which the system uses to ensure long proof test intervals.

A lot of countermeasures (defences) have been implemented in order to address the fault modes (threats) in CFD5000. These countermeasures are

done in order to increase the confidence in the system.

The system has two types of Built-In Self-Tests (BIST). The first BIST is made continuously; for instance when reading A/D values from hardware. This typically involves evaluation of the read value to determine if the hardware is broken; i.e. gives measurements outside an acceptable interval.

The second BIST is the Periodic Built-In Self-Test (Periodic BIST) which is made once every five minutes in order to verify the safety function by testing communication paths and the end elements. All internal communication paths and all testable parts of the loop-units are included in the Periodic BIST mechanism, to verify the whole path from detection to reporting (fire) status.

The system creates and stores a log with the results of the Periodic BIST. This log is updated once every 24 hours and can be extracted from the system with a USB stick.

Short Circuit Isolator (SCI)

The built-in SCI isolates short circuits on the loop-line and also has a probe function for evaluating a short circuit. The SCI ensures that the fire detection system does not lose contact with the unit when there is one short circuit on the loop-line. The probe function makes it possible to reset the short circuit condition without restart of the loop-line.

Data

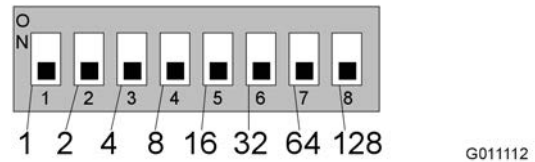
Sensor method	Glass break
Sensor element	Limit switch
Operating voltage	22–38 VDC
Operating current:	
- Normal condition	≈0.1 mA

- Alarm condition with LED activated	≈3 mA
Loop communication protocol	IDAxt
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
Ingress protection	IP23
Material	PC/ABS UL
Flame resyancy	According to UL 94 (standard for Safety of Flammability of Plastic Materials)
Weight	≈109 g
Colour	Red (RAL 3001)
Spare glass (glass)	Part no. 5200075-00A
Spare glass (flex element)	Part no. 5200076-00A
Loop cable requirement	See the Installation & Commissioning manual
CE Conformity	EN 54-11, EN 54-17

Open to Close, maximum load expressed in ohms on the non-energized side	≈1.2 kΩ
Close to Open voltage	14 ± 2 VDC

Address switch

The loop units are identified by a physical address. The address number is set on an 8 pole DIP switch located on the loop unit. (For settings use a pointed tool of suitable size.)

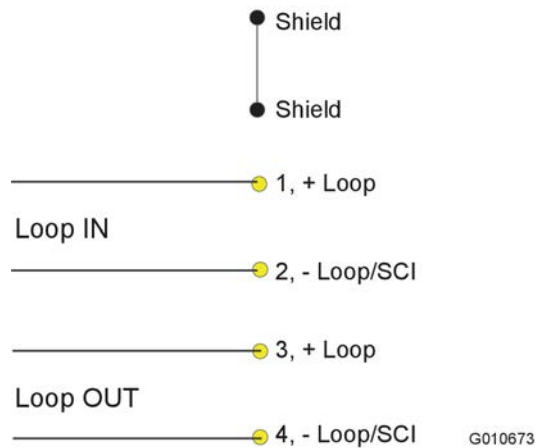


1 to 150 are valid addresses. The DIP switch value follows the binary system.

Installation

NOTE!
The call point should be mounted to a flat vertical surface.

Connection



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Functional Safety Data (preliminary)

Type	B
HFT	0
SFF	93.4 %
PFD	1.39 × 10 ⁻⁴

Suitable for use in SIL 1 and SIL 2 environments.

Certificates Pending

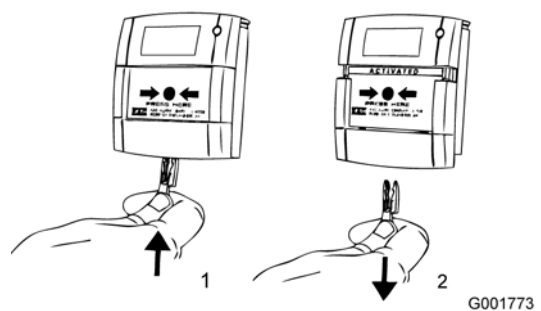
MED, CPR, DNV GL, LRS, ABS, BV
SIL 2 according to IEC 61508, EN 50126, EN 50128, EN 50129, EN 50155

Data for built-in Short Circuit Isolator (SCI)

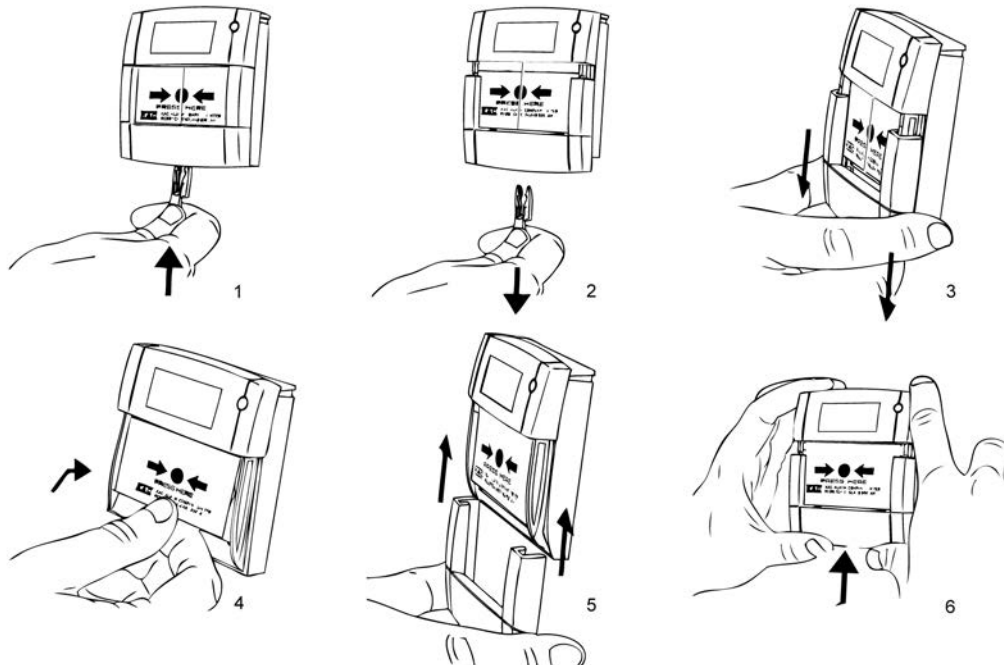
Ic max (Maximum Continuous current)	500 mA
Is max (Maximum Switching current)	800 mA
Current when short circuited (IL max)	< 1 mA
Open to Close voltage	22 ± 2 VDC

Testing & Maintenance

The call point can be tested with a special key, included in the delivery.



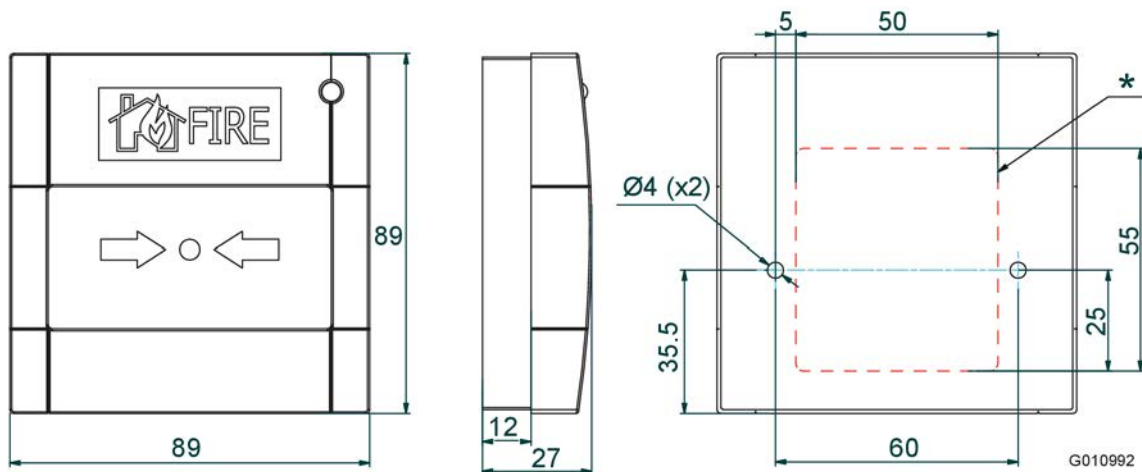
Replace glass



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If a resettable element is used, perform steps 1+2+6 above. Should the element be broken, all steps must be performed.

Dimensions (mm)



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* Maximum cut out on the mounting surface.