



G010989

System: CFD5000

Manual Call Point IP66/67

CS-MCP WP Ex

Part no. 5210034-xxA

About the datasheet

This datasheet contains information about the following products:

Product name	Part no.
CS-MCP WP Ex	5210034-00A
CS-MCP WP Ex, UL listed	5210034-10A (Soon to be released)

General description

The CS-MCP WP Ex is an intrinsically safe addressable manual call point. The selected material and the encapsulation, with ingress protection IP66/67, 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 markets up to Safety Integrity Level 2 (SIL 2).

SIGNALING



Data

Sensor method	Glass break
Sensor element	Limit switch
Operating voltage	16–38 VDC
Operating current:	
- Normal condition	Appr. 0.1 mA
- Alarm condition with LED activated	Appr. 1.6 mA
Loop communication protocol	IDAxT
Cable dimension	M20 ø 6–12 mm Material: Black polyamide
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	IP66/67
Material	PC/ABS
Weight	250 g ± 5%
Colour	Red (RAL 3001)
Loop cable requirement	See the Installation & Commissioning manual

Certifications

Manual call point
IECEX IMQ 16.0012X
IMQ 16 ATEX 018 X



U: 28VDC, I: 93mA, P: 653mW
C: 532pF, L: negligible

Consilium
Consilium Marine & Safety AB
Salsmästaregatan 21
SE-422 46 Hisings Backa

CS-MCP WP Ex



Part.No.: 5210034-00A Rev.: RR

II 1G Ex ia IIC T5 Ga
-40°C ≤ Ta ≤ +70°C

Ser.No.:

WARNING -
POTENTIAL ELECTROSTATIC CHARGING
HAZARD - SEE INSTRUCTIONS.

Made in UK G021854

ATEX Ex ia	Certificate No: IMQ16ATEX020X Certified according to: IEC 60079-0, IEC 60079-11  II 1G
IECEX Ex ia	Certificate No: IECEX IMQ16.0013X Certified according to: IEC 60079-0, IEC 60079-11 Ex ia IIC T5 Ga -40 °C ≤ Ta ≤ +70 °C
MED	Certificate No: 2531-MED- CMC10098(Module B) 2531-MED- CMA10017(Module D) Certified according to: EN54-17, EN54-18, IEC60533, IEC60092-504  2531/yyyy yyyy = year of production
CPR	Certificate No: 2531-CPR-CSP10869 DOC No: DOC-001472 Certified according to: EN 54-17, EN 54-18
UL (Pending)	Listing No: E506803 UL listed to Class 1, Div 1, Groups A - D
SIL	Certificate No: TÜV NORD 44 788 13082116 SIL2 certified according to: IEC 61508

Ex parameters

Maximum voltage (U_i)	28 V
Maximum current (I_i)	93 mA
Internal capacitance (C_i)	532 pF
Internal inductance (L_i)	Negligible
Maximum power (P_i)	0.653 W

Functional Safety Data

Type	B
HFT	0
SFF	93 %
PFD_{avg}	2.77×10^{-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.	

Accessories

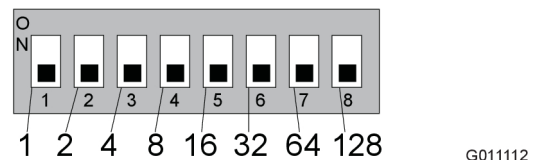
Spare glass (10pcs.)	Part no. 5200075-00A
Resettable element	Part no. 5200144-00A

Data for built-in Short Circuit Isolator (SCI)

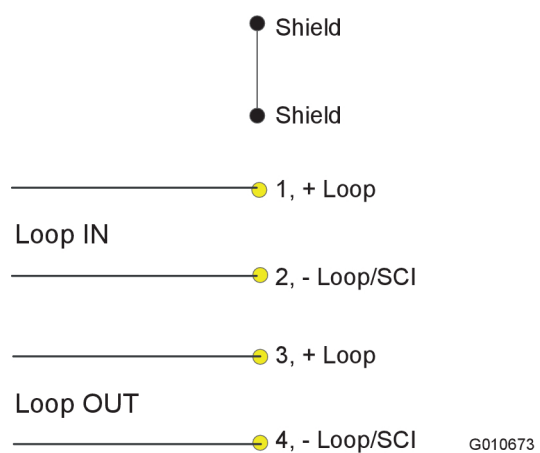
Ic max (Maximum Continuous current)	500 mA
Is max (Maximum Switching current)	800 mA
Current when short circuited (IL max)	< 1 mA
Open to Close voltage	16 ± 3 VDC
Open to Close, maximum load expressed in ohms on the non-energized side	≈2 kΩ
Close to Open voltage	12 ± 3 VDC

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.

Connection**NOTE!**

When used in a hazardous area the loop unit must be connected to a CS-Isolator. Refer to the 5210050-00A CS-Isolator data sheet for connection examples.

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.

Countermeasures (defences) have been implemented in order to address the fault modes (threats) in the fire detection system. 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. 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 a log with the results of the Periodic BIST. This log can be extracted from the system with a USB memory 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 loop units 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.

Cleaning



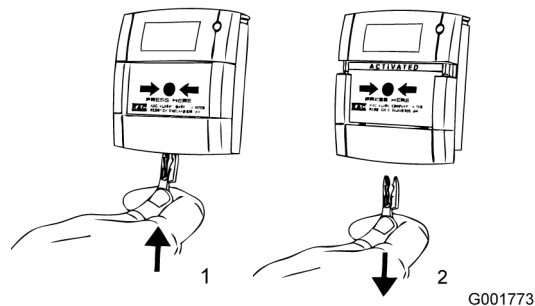
WARNING!

Potential electrostatic charging hazard

If the unit requires cleaning, only clean exterior with a damp cloth to avoid electrostatic charge build up.

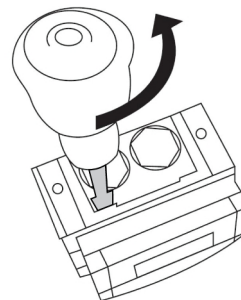
Testing & Maintenance

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



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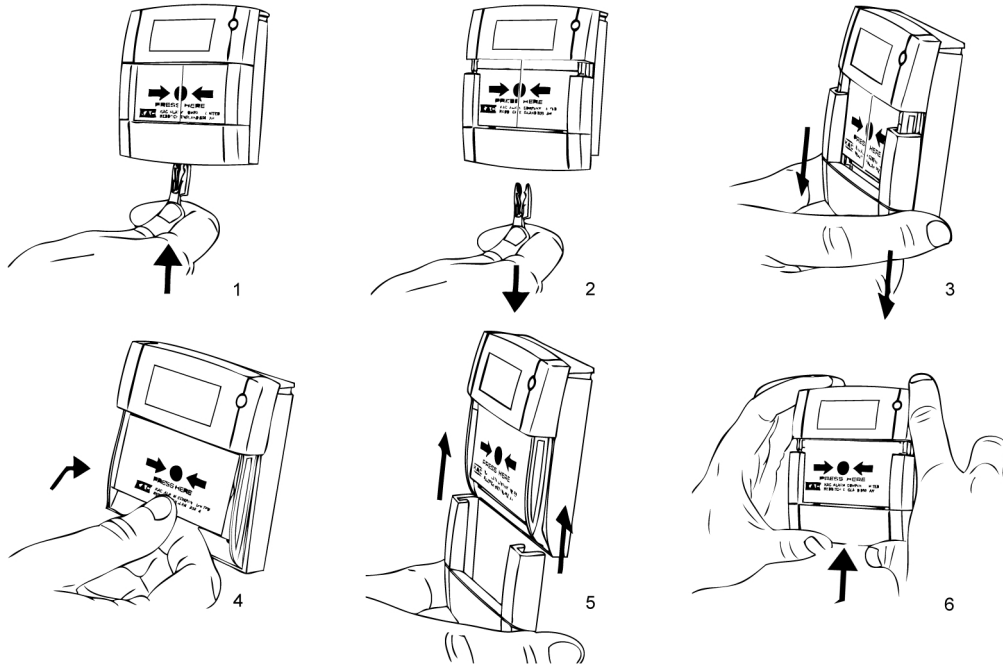
Cover removal



G003072

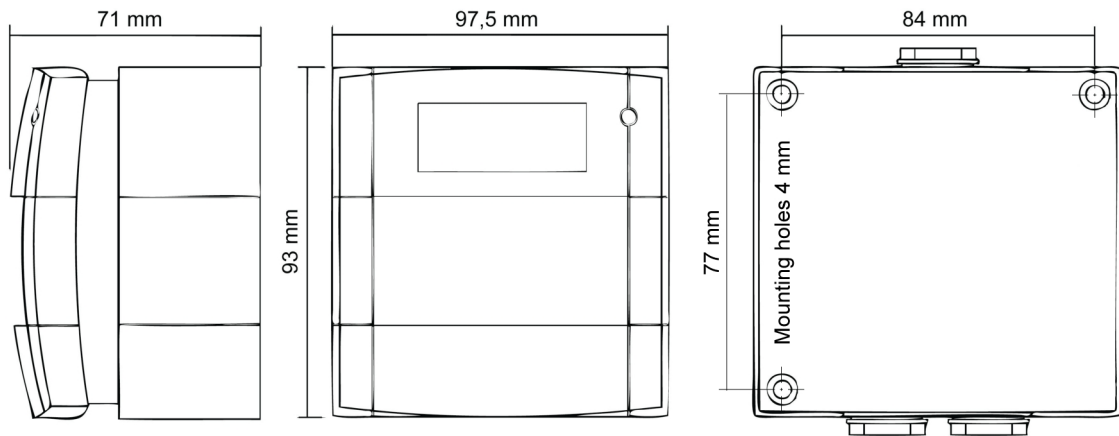
1. Remove the four cover fixing screws.
2. Place the edge of a large flat bladed screwdriver into the slot between the cover and back box, as shown in picture, and gently twist until the latches are disengaged.
3. Pull cover away from the back box.

Replace glass

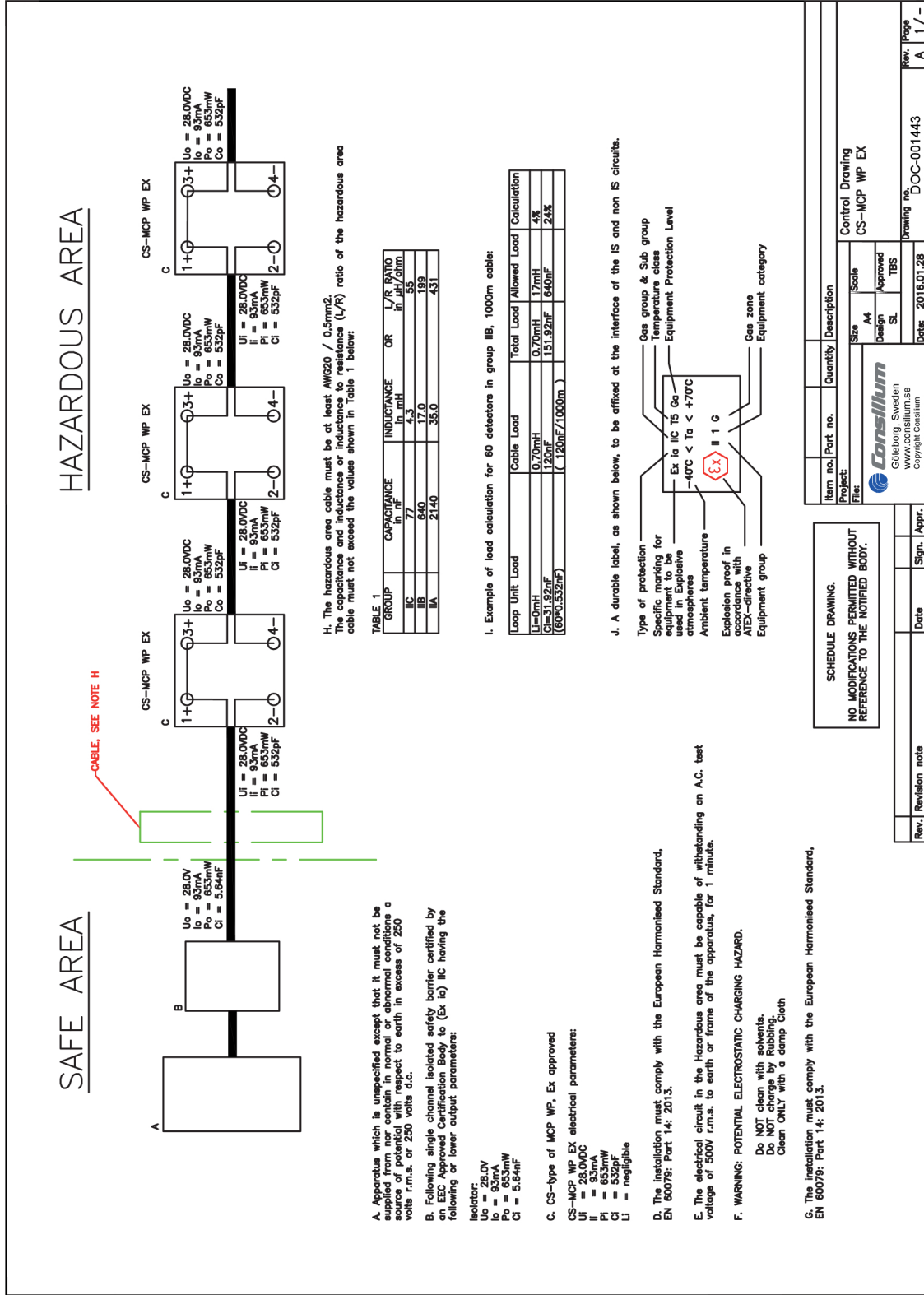


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Dimensions (mm)



G001782



HAZARDOUS AREA

SAFE AREA

-CABLE, SEE NOTE H

H. The hazardous area cable must be at least AWG20 / 0.5mm2. The capacitance and inductance or inductance to resistance (L/R) ratio of the hazardous area cable must not exceed the values shown in Table 1 below:

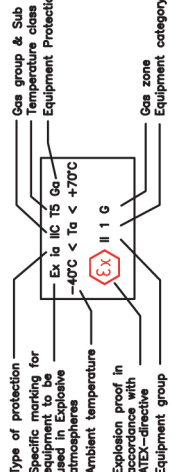
TABLE 1

GROUP	CHARACTERISTIC	INDUCTANCE	OR	L/R RATIO
	in nF	in mH		in $\mu\text{H}/\text{Ohm}$
IC	77	4.3		55
IB	640	17.0		189
IIA	2140	35.0		431

I. Example of load calculation for 60 detectors in group IIB, 1000m cable:

Loop Unit Load	Cable Load	Total Load	Allowed Load	Calculation
U ₀ = 28.0V	0.70mH	0.70mH	17mH	4%
I ₀ = 93mA	120nF	120nF	151.92nF	24%
P ₀ = 653mW	(0.00552pF)	(120nF/1000m)		

J. A durable label, as shown below, to be affixed at the interface of the IS and non IS circuits.



SCHEDULE DRAWING.
NO MODIFICATIONS PERMITTED WITHOUT REFERENCE TO THE NOTIFIED BODY.

Item no.	Part no.	Quantity	Description
Project: Control Drawing CS-MCP WP EX			
File: Consilium			
		Size	Scale
		A4	Approved
		Design	SL
		Design	TBS
		Date:	2016.01.28
		Drawing no.	DOC-001443
Rev.	Revision note	Date	Sign. / Appr.
A			

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