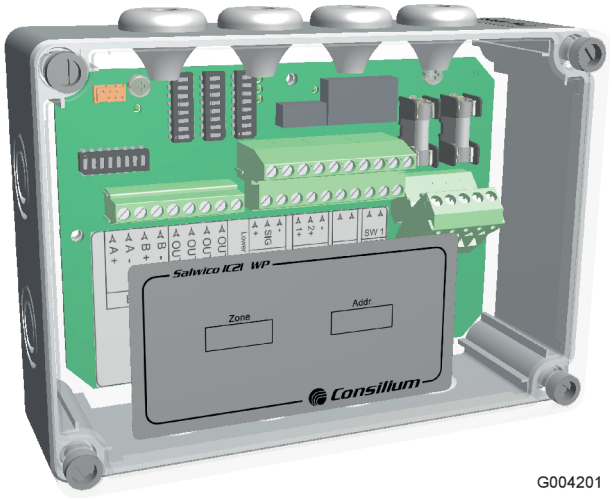


G004201

Indication Control Unit
IC21 WP

Part no. 5200270-00A

System: CS3000, CS4000, TERRA FIRE

General Description

The IC21 WP is an addressable unit used for control and indication of fire doors, fire dampers etc. in a fire alarm system.

This unit has been designed for use in damp spaces.

IC21 WP can control and supervise both single and double doors. The unit includes two inputs, one programmable output and one secondary output controlled by an external switch.

The loop address of the IC21 WP is set by a DIP-switch.

NOTE!
External 24 VDC supply is mandatory.

Data

Common data

Inputs	2 inputs for closing contacts and/or proximity switches (NPN/PNP), 2- or 3-wire. Local indication available.
Outputs	Control of single and double doors.
Loop nominal voltage	35 VDC
Loop working voltage	22 - 38 VDC
Loop working current	0.3 mA
Input end of line resistor	30kΩ (Included)
Ingress protection	IP66
Relative Humidity	At low temperature 95% At high temperature 93% ± 3%
Ambient temperature	-40°C to +70°C
Cable gland	TET M20 for cable Ø8-13mm
Cable terminals	2.5 mm^2
Material	PC/ABS
Colour	Transparent/RAL7035
Weight	~530 g
Certified according to	CE 12 2531-CPR-232.1738 DOP no. 6301908

Data for external 24 VDC

Nominal voltage	24 VDC
Working voltage	19 - 30 VDC
Max current	100 mA
Max load on inputs	15 mA per input. Pulsed.
Pulse length	100 ms

IC21 as a Replacement Unit

Table 1. IC21 replaces the following discontinued products

Part no.	Product	Note	SW2 DIP 1-3	SW2 DIP8
046434	DM-21 Control and Indication unit		ID 1	ON
046435	DM-21Control unit, wall mounting		ID 1	ON
046436	DM-21 LLL Control unit		ID 1	ON
046437	PCB for DM-21	*	ID 1	ON
046458	CM-21 Control module		ID 0	ON
046459	CM-21 Control module for DIN rail	**	ID 0	ON
046459-6561	CM-21 Control module for rail mounting	**	ID 0	ON

* Casing to be discarded.

** No replacement available. Please contact your supplier.

NOTE!
Physical dimensions will differ between IC21 and the replaced products.

DIP-Switches

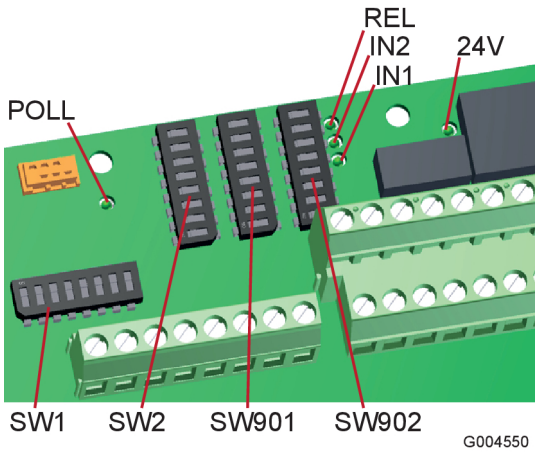


Figure 1. Location of DIP-switches and LEDs on the PCB

The following functions are set by the DIP-switches. (Use a pointed tool of suitable size.)

Address switch SW1

The loop address of the control unit is set by DIP-switch SW1.

Function switch SW2

The following functions are set by the switch SW2:

Dip **1** to **5** are used to select different operation modes.

Table 2. ID set by SW2 DIP 1 to 3

SW 2 DIP 1	Function	Example
OFF	2 inputs and 1 output	Emulates control module CM-21
ON	2 inputs and 1 output	Emulates control unit DM-21

Table 3. Watchdog timeout set by SW2 DIP 4 to 5

SW2 DIP 4	SW2 DIP 5	Watchdog timeout
OFF	OFF	100 sec
ON	OFF	5 min
OFF	ON	15 min
ON	ON	No Timeout

The watchdog function is used for fire door closing (via OUT1 and OUT2). For more information, see section Fire door closing function.

Dip **6** and Dip **7** are not used.

CAUTION!
SW2 DIP **8** must always be ON!

Detector range switch SW901 (Address from)

Set start of detector range.

Detector range switch SW902 (Address to)

Set end of detector range.

NOTE!
SW901 and SW902 are only needed when unit IC21 is used as a replacement for control module CM-21.

For more information, see section Fire door closing function.

Terminals

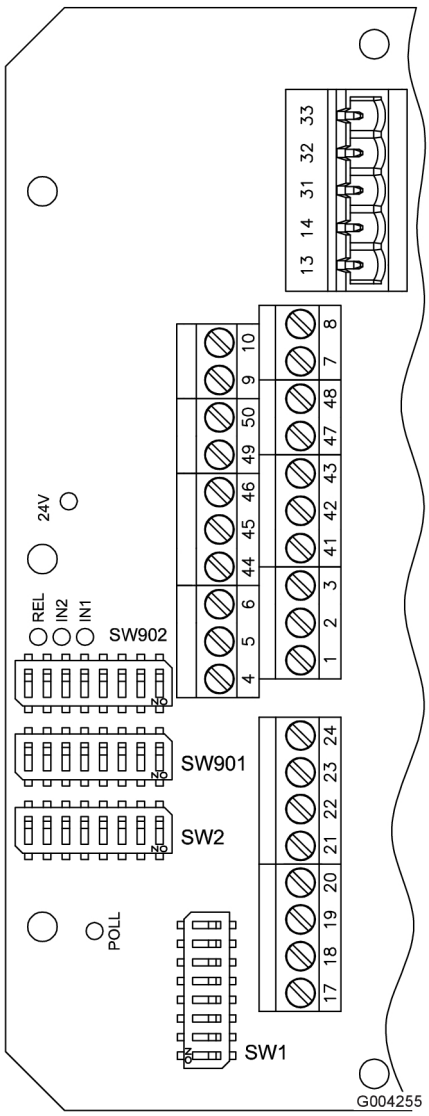
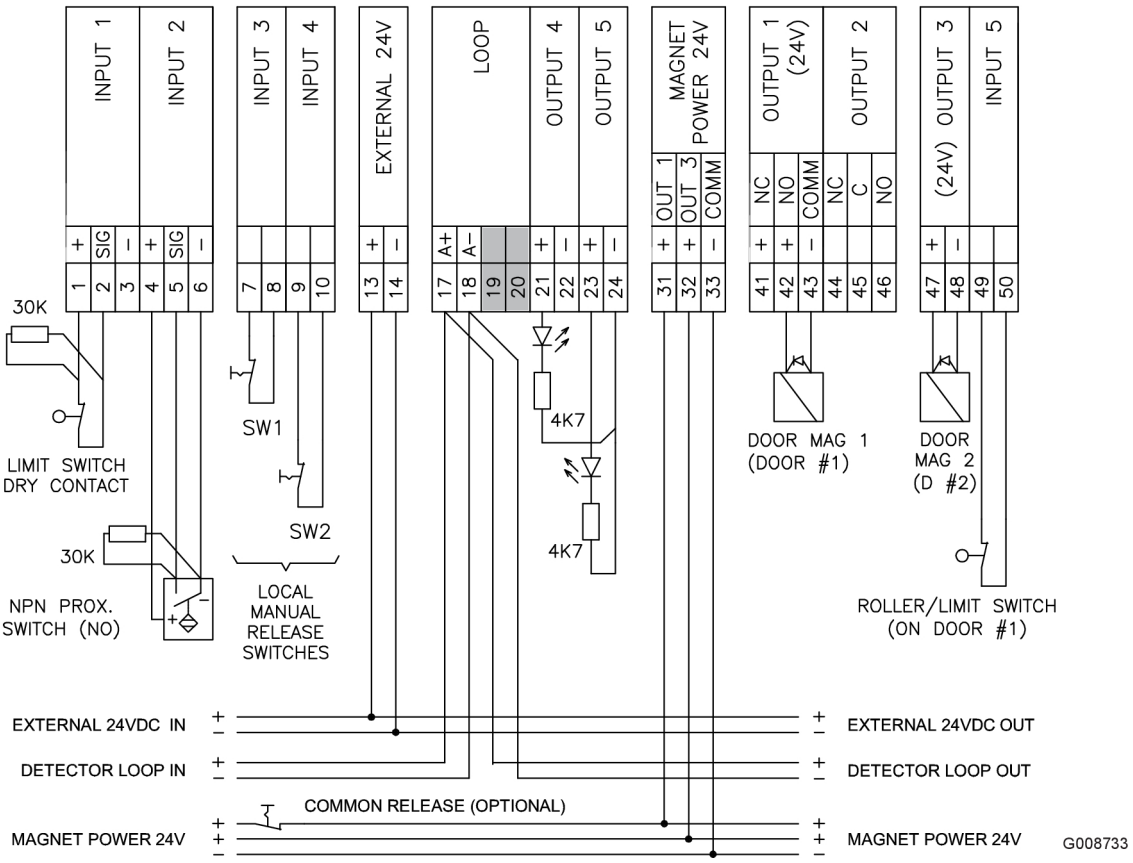
Terminal			Connection
	1 +	INP 1	Door switch sensor input (Open door) - EOL: 30 kOhm
	2 SIG		
	3 -		
	4 +	INP 2	Door switch sensor input (Closed door) - EOL: 30 kOhm If not used, see note[1] below.
	5 SIG		
	6 -		
	7	INP 3	Door local release switch input. (Fit jumper if not used.)
	8		
	9	INP 4	Door local release switch input. (Fit jumper if not used.)
	10		
	13 +	EXT 24V	Control power input (EXT). - 19 to 30VDC - Max 100mA
	14 -		
	17 A +	LOOP IN & LOOP OUT	Loop
	18 A -		
	21 +	OUT 4	Local output indication with external resistor. Max 5 mA.
	22 -		
	23 +	OUT 5	Local output indication with external resistor. Max 5 mA.
	24 -		
	31 +	MAGN PWR	Magnet power input (EXT). - 19 to 30VDC - Max 2A
	32 +		
	33 -		
	41 + (NC)	OUT 1	Output to magnet 1 - Max 30V/1A
	42 + (NO)		
	43 -		
	44 NC	OUT 2	Voltage free auxiliary switch (In parallel with OUT 1) - Max contact ratings 30VDC/1A
	45 C		
	46 NO		
	47 +	OUT 3	Output to magnet 2 - Max 30V/1A
	48 -		
	49	INP 5	Roller switch input
	50		

Figure 2. Partial view of PCB

NOTE!

1. If no door supervision (door position info) shall be used, INP 2 should be fitted with a jumper between terminals 4-5. EOL resistor not necessary in this case.
2. All door magnets to be fitted with individual freewheeling diodes. Observe correct polarity! See connection example.

Connection Example

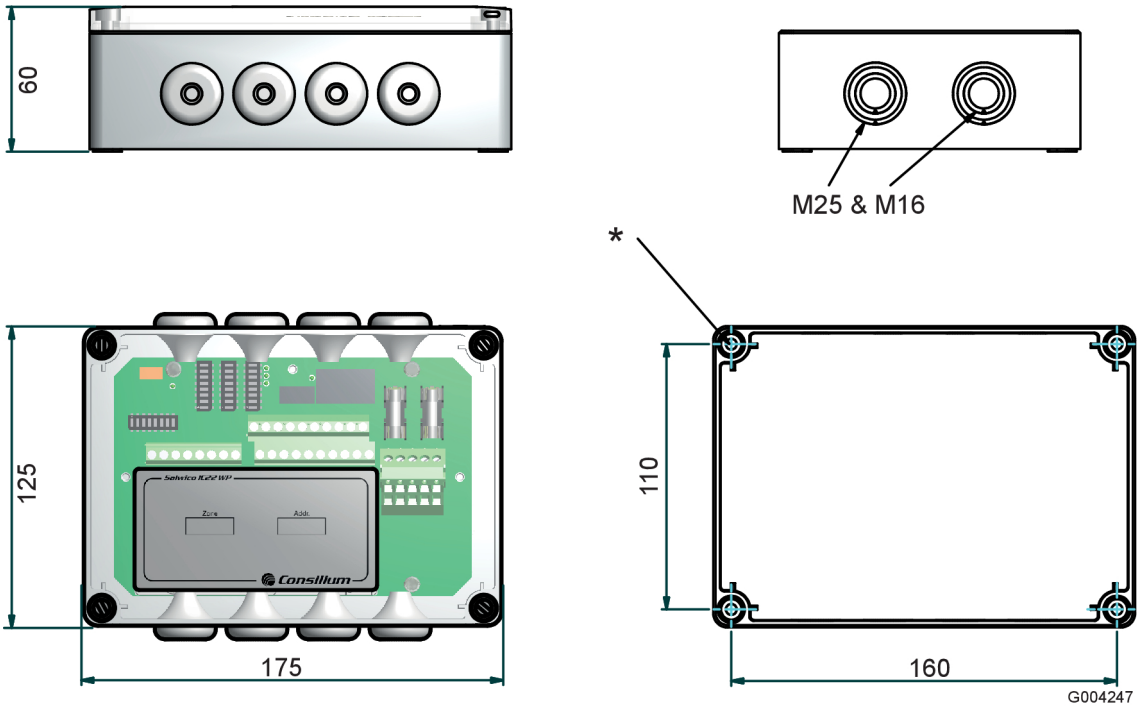


Outputs

OUTPUT 1 is controlled by a monostable relay with its own 24VDC supply, normally connected to a door magnet (MAG 1).

If OUTPUT 3 is used for a double door, an external roller/limit switch (fitted on 1st door blade) has to be connected to INPUT 5 so MAG 2 (2nd door blade) will be released only after the roller/limit switch has opened (1st door blade has been closed).

Dimensions (mm)



* **Wall mounting holes (4x)**: Seat distance from wall = 10 mm. Max screw thread = 4.5 mm. Max screw head = 8.5 mm.

Fire door closing function

Hint!
This section contains information in case IC21 is used as a replacement unit for CM-21

The control module IC21 is designed to control the function of the fire doors connected to a detector loop in the Fire Alarm System.

IC21 supports fail-safe control of fire doors within the programmed detector range (set by switches SW901 and SW902). IC21 also supports control from cause/effect.

Fail-safe functionality covers the following situations:

- A fire alarm from any detector within the detector range.
- A fault indication from any detector within the detector range.
- If any disconnected detector within the detector range exceeds the pre-set alarm level.

If the IC21 loses communication with the fire alarm system, an internal watchdog will automatically close the fire doors after a pre-set time according to SW2 DIP settings of table Table 3 .

Installation example Fire door