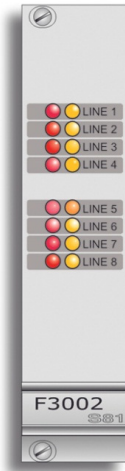# SF3002 8-Input Card for Conventional Detection

The F3002 card can manage conventional (non-addressable) detection lines. It is particularly suitable for systems where detection lines are already in place, for cross-line logic control of automatic fire extinguishing systems (for NFPA), or in intrinsic safety systems.

Main Characteristics

- Redundant (note 1)
- Can be hot-swapped (note 2)
- Suitable for applications fault-tolerant up to SIL3 level according to the standards IEC61508
- Double programmable alarm threshold for each line
- Automatic verification and confirmation of the alarm status
- Suitable to various detectors (types and brands)
- Programmable for SAFETY or SECURITY operating mode
- Can manage and control eight lines
- Line inclusion/exclusion through panel keyboard
- Automatic testing of each line every thirty seconds
- Communication management by FPGA
- Internal logic management by micro-controller
- SMD technology multilayer circuit
- Front plug-in on 19" rack, with locking screws

Status	SAFETY Mode		SECURITY Mode	
	Yellow LED	Red LED	Yellow LED	Red LED
Normal	–	–	–	–
Excluded	⊗	–	⊗	–
Fault	∅	–	∅	–
Tampering	----	----	–	∅
Pre-alarm	–	∅	----	----
Alarm	–	⊗	–	⊗
LED status legend	⊗ = on – = off		∅ = blinking --- = not available	

Operation

The F3002 card can monitor eight input lines, checking their current variations to get status information. Line status is individually signaled and signaling can be different, depending on selected SAFETY or SECURITY operating mode.

It can be configured to indicate two different alarm thresholds for each line and to apply or not a verification algorithm for alarms. With the configuration, it is possible to define each alarm threshold to adapt it to the actuation threshold (current) of the detector installed.
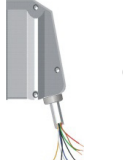
Through the detection lines, alarm buttons, or voltage-free contacts belonging to the devices that need to monitor, the status can be monitored.

Programmable Parameters Via Software

Status	SAFETY	SECURITY
Normal operating mode	NO/NC	NC
Logic status of the latching/non latching line (note 3)	Latching/Non-latching	Latching
Alarm verification (note 4)	Enabled/Disabled	Disabled
Alarm threshold programmable on 256 levels	Pre-alarm/Alarm	Fixed thresholds
Indication of line short-circuit	Fault/Alarm	Tampering
Audible alarm modalities	Normal/Silent/Buzzer	Normal/Silent

Connection via Cable Plug CCT1 or CCT1R

Connection between the card and the field is carried out by means of a special cable, provided with a plug-in connector at one of its ends. Cable conductors are wired directly onto a marshaling terminal block, while the connector is plugged into the back side of the rack.

Function			Connection with PLUG CABLE	
Detection line 1	+	1	White	
	-	2	Brown	
Detection line 2	+	3	Green	
	-	4	Yellow	
Detection line 3	+	5	Grey	
	-	6	Pink	CCT1R
Detection line 4	+	7	Blue	
	-	8	Red	
Detection line 5	+	9	Black	
	-	10	Purple	
Detection line 6	+	11	Grey/pink	
	-	12	Red/blue	
Detection line 7	+	13	White/green	CCT1
	-	14	Brown/green	
Detection line 8	+	15	White/yellow	
	-	16	Yellow/brown	

Connection Example of Detectors to the Card
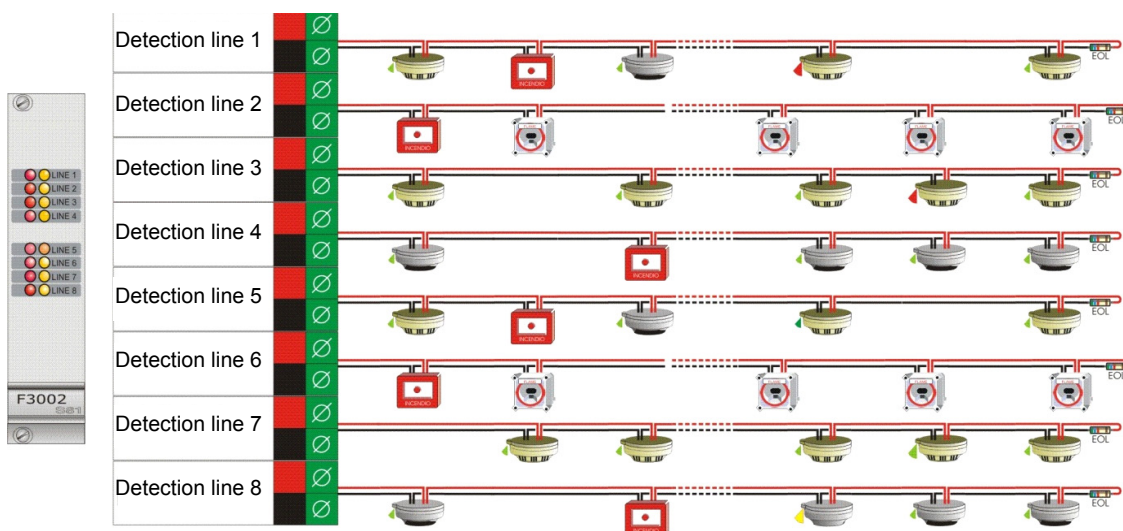
NOTE:

1. Redundancy - In fault-tolerant systems, this card has to be duplicated, i.e. two cards are to be used, which must be installed in two contiguous racks. Each input line from the field has to be connected to both cards and its exclusion is only possible from both of them.

2. Hot Swap - The card can be removed and replaced without switching off the panel.

3. Latching Mode - An alarm status persists until reset.

4. Alarm Verification - Pre-alarm and alarm statuses are taken into consideration only if they are validated by a verification procedure consisting of activated detector voltage drop-down and new checking after 7 seconds.

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