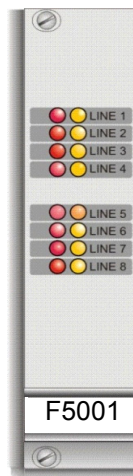


F5001 8-Monitored Line Control Card

This card has eight 500 mA outputs. It is particularly suitable for handling automatic fire extinguishing systems, where it can be utilized to control extinguishing agent release and directional valves, or to activate visual-audible alarm devices.



Main Characteristics

- Redundant (note 1)
- Can be hot-swapped (note 2)
- Suitable for applications fault-tolerant SIL2 and SIL3 in accordance with IEC 61508
 - Temperature testing of DMOS and electronic components
- Functional control of command lines each 2 seconds
 - 500 mA per output
- The card is protected against short circuit, so it is suitable to protect capacitive loads with peak current higher than the nominal value
- Software-configurable output behavior
- Communication management by FPGA
- Internal logic management by micro-controller
- SMD technology multilayer circuit
- Front plug-in on 19" rack, with locking screws

LED Indication on Cards

Status	LEDs	
	Yellow	Red
Normal	–	–
Output disabled	∅	–
Card fault	⊗	–
Line fault	⊗	–
Voltage out of range	⊗	–
Output activated	–	⊗

LED status legend: ⊗ = active; ∅ = blinking; – = off;

Operation

The card performs the tests on individual channels cyclically inverting the signal on the output for a time of about 200 microseconds. In case of a discrepancy between the set signal and the input signal, the system indicates a fault condition. The following fault conditions will be monitored for each output: Open Line, Short to positive, negative to Short, Failure of DMOS device driver, Temperature of the DMOS device drive, power supply outside the allowed limits. All channels are tested during operation every 2 seconds.

Parameter Configuration Via Software

Status	Output	Non-energized	Energized	Period
Normal	Stable a)	⊗		Fixed
	Stable b)		⊗	Fixed
Activated	Stable a)		⊗	(x)
	Stable b)	⊗		(x)
	Delayed		⊗	0-255 s
	Periodical		⊗	0-255 s
	ISA logics (repeaters, lamps)		⊗	(z)
	Sounder logics		⊗	(z)

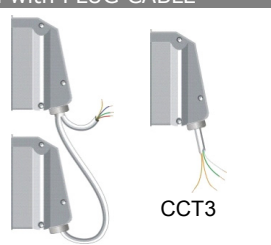
(x): These statuses persist until logic or operator's reset.

(z): These statuses persist until reset by operator.

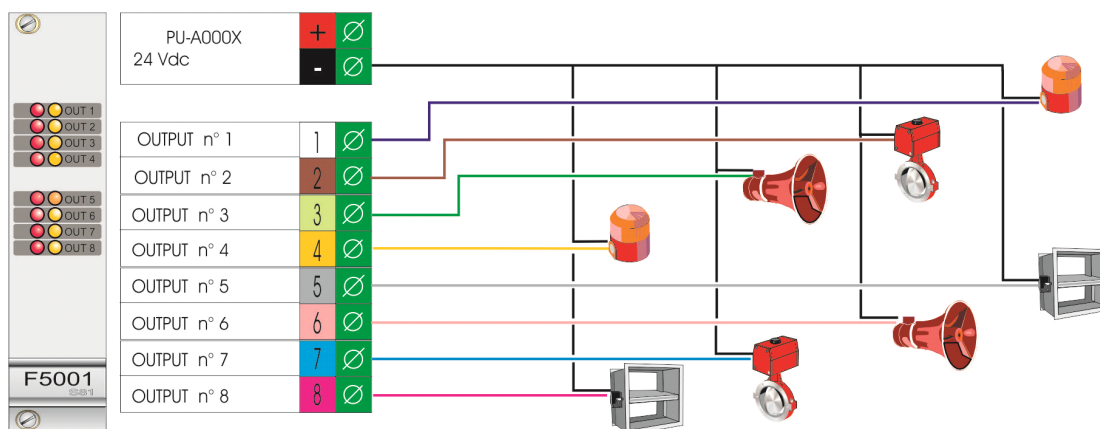
Connection Via Cable Plug CCT3 or CCT3R

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 of the rack.

Function		Connection with PLUG CABLE	
Output 1	+	1	White
Output 2	+	2	Brown
Output 3	+	3	Green
Output 4	+	4	Yellow
Output 5	+	5	Grey
Output 6	+	6	Pink
Output 7	+	7	Blue
Output 8	+	8	Red



Connection Example of Some Actuators



Maximum current

The card is capable of driving resistive or inductive loads with a maximum current of 500mA at 24 VDC. In the case where the card is used to drive filament lamps the maximum power of the load should not exceed 4W.



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.