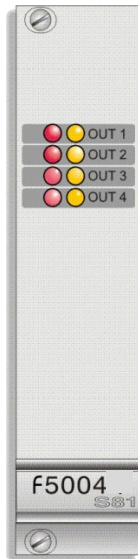


F5004 4-Monitored Line Control Card

The four 2A output lines of the card are mainly utilized to control solenoids and heavy loads. The card is particularly suitable to manage automatic fire fighting systems, where it can be used to operate extinguishing agent release solenoid valves, or visual-audible evacuation and alarm devices.



Main Characteristics

- Redundant (note 1)
- Can be hot-swapped (note 2)
- Suitable for application fault-tolerant up to level SIL3 of the standard IEC61508
- Outputs can be paralleled (note 1)
- Line self-testing every 2 seconds
- Continuous monitoring of short/opening/fault condition of pilot circuit
- Internal temperature monitoring of the command device and of the electronic supply
- 2mA per output available for resistive loads
- Can pilot electrically explosive cartridge actuators
- Software-configurable operating mode
- Communication management by FPGA
- Internal logic management by micro-controller
- SMD technology multilayer circuit
- Front plug-in on 19" rack, with locking screws

Status	Outputs 1-4	
	Yellow LED	Red LED
Line in normal condition	–	–
Line excluded or disabled	⊗	–
Line in trouble condition	∅	–
Line activated	–	⊗

LED status legend ⊗ = on ∅ = blinking – = off

Operation

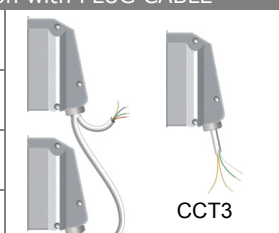
The card cyclically tests each line, by reversing the output signal for about 200 microseconds. In case of discrepancy between setting and reading, the panel provides a fault signal. For each output, the following conditions are monitored: Line opening, Short-circuit towards positive, Short-circuit towards negative, DMOS fault, DMOS overheating, Supply voltage out of range. All lines are automatically tested every 2 seconds.

Parameter Configuration Via Software

Parameter	
Activation mode	<ul style="list-style-type: none"> • Steady, normally energized • Steady, normally de-energized • Periodical • Pulsing mode 1 • Pulsing mode 2 • ISA 1A logics • Delayed after activation • Delayed after deactivation • Delayed after enabling
Period	1 to 255 seconds, in pulsing and periodical mode only
Type of output	normal or sounder

Connection

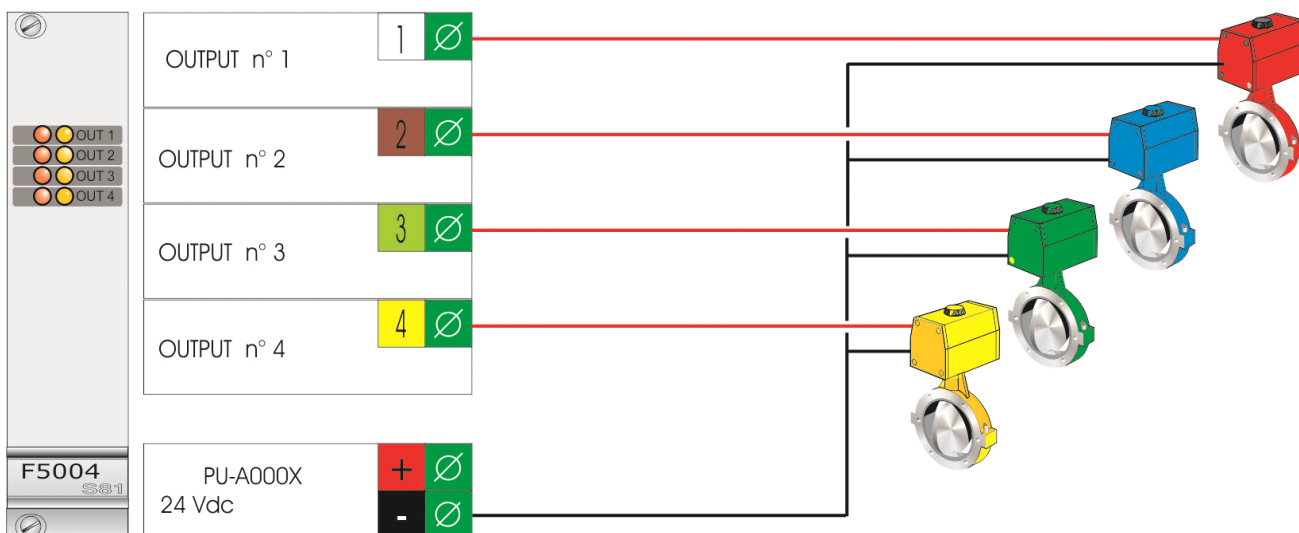
Function		Connection with PLUG CABLE	
Output 1	+	1	White
Output 2	+	2	Brown
Output 3	+	3	Green1
Output 4	+	4	Yellow




WARNING: Due to required current, only cable plug connection is possible.

Connection between the card and the field is carried out by means of a cable, provided with a plug-in connector at one of its ends. The other end can be connected to a terminal block to be placed on the back of the rack.

Connection Example of Actuators with Heavy Loads



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.

Current per line is limited to 10 W, in case of connection with filament bulbs.



WARNING: In case of normally energized outputs, configure the system to enable hot swap without undesired consequences.