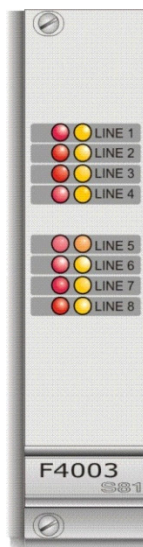


F4003 8-Analog Input Device Control Card

Eight 4-21 mA analog input card, with two thresholds that can be set through the panel keyboard.

It can control all the 4-20 mA output transducers normally used for EXPLOSIVE and TOXIC GAS, OXYGEN, TEMPERATURE and LEVEL sensors.



Main Characteristics

- Redundant (note 1)
- Can be hot swapped (note 2)
- Suitable for applications fault-tolerant SIL2 and SIL3 in accordance with IEC 61508
- Eight separate and independent detection channels
- Values can be expressed in ppm, LEL%, O₂%, mA, °C
- Eight 4-21 mA inputs
- Repetition of 4-20 mA inputs on Modbus RTU
- Two separately settable alarm thresholds per channel
- Communication management by FPGA
- Internal logic management by micro-controller
- SMD technology multilayer circuit
- Front plug-in on 19" rack, with locking screws

LED Indications

Status	Alarm	Fault
	Red LED	Yellow LED
Normal	-	-
Pre-alarm	∅	-
Alarm	⊗	-
Channel disabled	-	⊗
Card not configured	-	∅
Fault for line opening	-	∅
Fault for exceeded range	-	∅
Trouble for internal test failure	-	∅
Atypical or out-of-range current	-	∅
Data error in EEPROM	-	∅
Threshold value not valid	-	∅
Range not supported by card	-	∅
Detector being calibrated	-	-
<i>LED status legend</i> ⊗ = on - = off ∅ = blinking		

Parameter Configuration Via Software

Parameter	Mode
Normal operating mode	Increasing or decreasing value (up/down)
Channel logic status	Latching/Non-latching (note 3)
Alarm modality	Normal/Silent/Buzzer only
Analog value repetition on Modbus	Yes/No
Measurement expressed in:	Range:
ppm	0~5; 0~10; 0~15; 0~20; 0~50; 0~100; 0~200; 0~500; 0~999
LEL %	0~100
O ₂ %	0~25; 15~25
mA	4~20
°C	0~100; 0~150; 0~220; 0~300

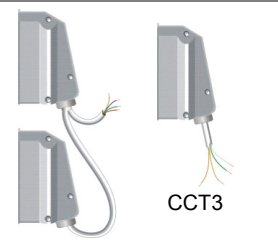
Calibration

Card calibration can be made directly from panel keyboard, at access level 3. At this level, it is possible to set pre-alarm and alarm thresholds, as well as zero and full scale values, applying a known value sample to sensor input.

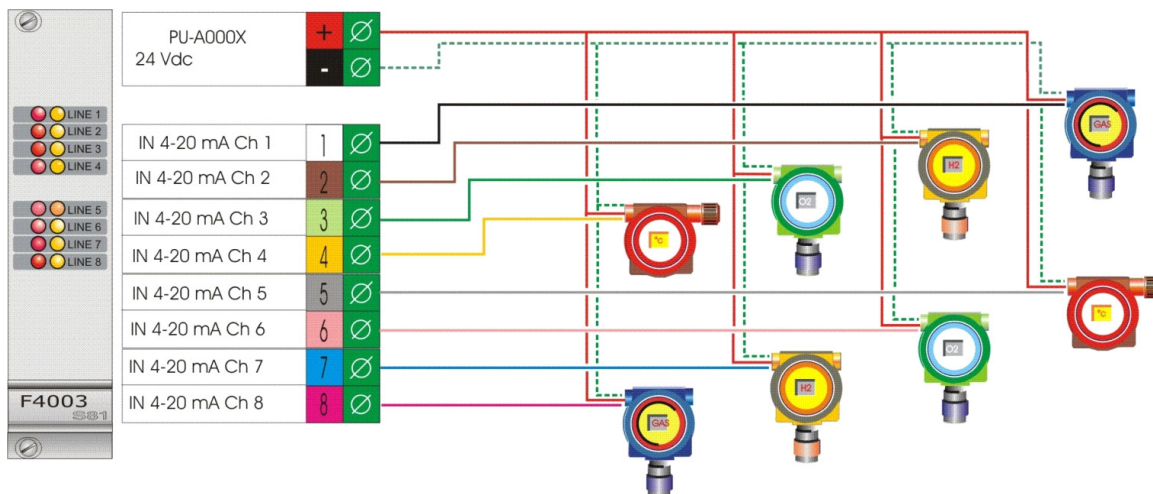
Connection Via a Cable Plug

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	
Input signal 1	+	1	White
Input signal 2	+	2	Brown
Input signal 3	+	3	Green
Input signal 4	+	4	Yellow
Input signal 5	+	5	Grey
Input signal 6	+	6	Pink
Input signal 7	+	7	Blue
Input signal 8	+	8	Red



Connection example of a sensor and a repeater



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.