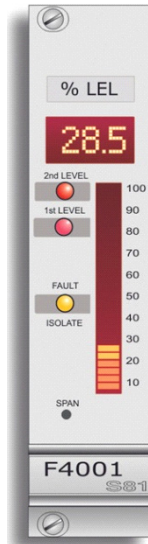


F4001 Analog Input Device Control Card

One 4-21 mA analog input card, with two thresholds that can be set through the panel keyboard. It can manage gas detection systems, as well as level and temperature signal systems. 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 or SIL3 according to the norm IEC61508
- 0-999 display reads engineered values
- Values can be expressed in ppm, LEL%, O2%, mA, °C
- LED bar shows signal trend
- Plastic pocket contains label indicating selected measuring scale
- 4-24 mA input (for fault indication of the sensor)
- Input repetition on 4-20 mA output in terminal block and serial modbus separately settable alarm thresholds
- Automatic self-testing every 10 seconds
- Communication management by FPGA
- Internal logic management by micro-controller
- Front plug-in on 19" rack, with locking screws

LED Indications

Status	2nd Level	1st Level	Fault	They indicate status
	Red LED	Red LED	Yellow LED	Display
Normal	–	–	–	000 ÷ 999
Line excluded	–	–	⊗	000 ÷ 999
Calibration (span)	⊕	⊕	∅	000 ÷ 3FFF
Fault	–	–	∅	fault code
Pre-alarm	⊗	⊗	–	read value
Alarm	⊗	–	–	read value
LED status legend	⊕ = based on calibration; ⊗ = active; ∅ = blinking; – = off;			

Parameter Configuration Via Software

Parameter	Mode
Normal operating mode	Increasing or decreasing value (up/down)
Logic status of the channel	Latching/Non-latching (Note 3)
Alarm signaling	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

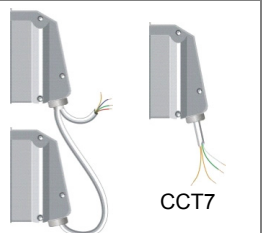
Calibration

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.

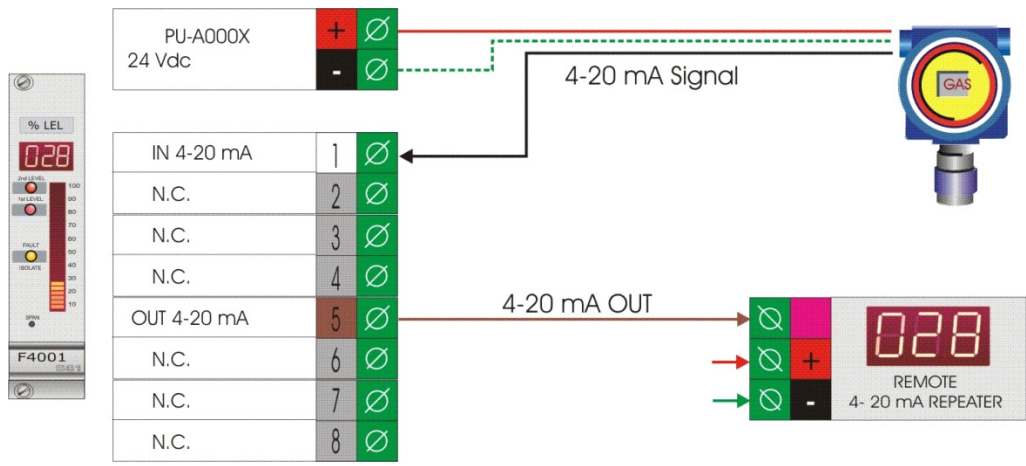
Connection Via Cable Plug

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	White
---		2	---
---		3	---
---		4	---
Output Signal	+	5	Brown
---		6	---
---		7	---
---		8	---



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.