



KEY FEATURES

DUAL OUTPUT

Modbus RTU RS485 and analog 0–5 V

ANALOG OUTPUT

Proportional to the PPM concentration

COMPATIBLE WITH SENSOR IREF-P SF6

ACQUISITION PARAMETERS

Temperature & Concentration acquisition

POWER SUPPLY

12–28 Vdc board supply with on-board 5 V supply for the sensor

STATUS INDICATION

Local status indication through LEDs for operation, warm-up and fault conditions

COMPATABILITY

Designed for industrial applications with protection on the main electrical lines

SECURITY

Electrical protections direct integrated on the main lines

PRODUCT APPLICATIONS

- ❑ SF6 gas monitoring systems
- ❑ PLC-based control panels and equipment
- ❑ Industrial Modbus RTU networks
- ❑ Retrofit applications requiring both serial and analog outputs

DESCRIPTION

This electronic interface board is designed to integrate the IREF-P SF6 sensor into industrial control systems, providing a simple and reliable interface to PLCs and supervisory equipment.

The board acquires SF6 concentration and temperature data from the sensor and makes them available through Modbus RTU communication over RS485 and through a 0–5 V analog output proportional to the detected ppm value.

The solution is intended for retrofit or new designs, enabling easy integration into existing industrial architectures while maintaining functional compatibility with installed control systems.

TECHNICAL SPECIFICATIONS

sensor characteristics

detected gas	SF6
compatible sensor	IREF-P SF6
sensing technology	NDIR dual beam
measurement range	0-1000 ppm 0-2000 ppm depending on the version
sensor power supply	5 Vdc
operating temperature	from -20°C to +50°C
operating humidity	from 0 to 95% UR non condensante
operating pressure	from 800 to 1200 mbar
response time	$T_{50} \leq 15s$, $T_{90} \leq 30s$
warm-up	60s for full operation; Up to 1h for full specifications at 25°C
repeatability	$\pm 1\%$ FS
resolution	0,2% FS
offset long-term drift	$\pm 2\%$ FS/year
expected lifetime	MTBF > 5 years
mounting	Socket

board characteristics

power supply	12 – 28 Vdc
PLC comunication	RS485 Modbus RU, 9600 baud, 8N1
sensor interface	serial / Modbus, 4800 baud, 8N1
analog output	0-5V proportional to the PPM
pin-out connector	+V, 0-5V, GND, A, B
PCB dimensions	83 x 59 x 1,6 mm
mounting	4 holes M4
LED	green: normal operation / start-up yellow: special condition / service red: fault / HW error