



Paramagnetic oxygen analyser

PAROX 2000*Plus*

precise and maintenance-free

Plus auto-calibration

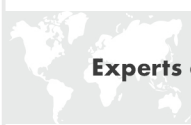


Brief description

The **PAROX 2000*Plus*** is a precise oxygen analyser for continuous monitoring purposes at an amazing price. Build in a modular housing system, with a modern micro-controller technology, it is specially designed for process and ambient air measurements. The analyser is equipped with an auto-calibration functionality and a self-diagnosis capability and has an RS232 interface. With the programmable auto calibration function it is capable to fulfil a fully automatic calibration by means of the integrated relays. The measuring unit is thermostat temperature controlled to 55°C. The operation and parameterisation is carried out by means of a user friendly 4 keys and a 16-digit LCD display and also through RS232 interface.

Measuring principle

The measurement is based on the paramagnetic characteristic of oxygen. It generates a partial pressure within a strong and non-homogeneous magnetic field which moves a rotatable glass dumbbell within the measuring cell. This small rotation is measured by the projection of a light source on a photodiode via a small mirror on the dumbbell. A small current through a wire around the dumbbell forces the dumbbell to its initial position. This current is amplified and is directly proportional the oxygen concentration.



Housings



PAROX 2000Plus

19" 3 HU rack or table model with or without sample test gas filter and flow display on the front panel (option).

Single or multiple channel versions (MULTI 2000Plus).

WxHxD: 482 x 133 x 245 mm

IP protection class: 20



PAROX 2100Plus

1/2 19" portable model optional with filter on the rear.

WxHxD: 235 x 155 x 280 mm

IP protection class: 52



PAROX 2200Plus

wall-mounted housing Rittal,

Single or multiple channel versions (MULTI 2200Plus).

WxHxD: 380 x 410 x 210 mm

IP protection class: 52

Specifications

Measurement range output

free settable by input of parameters between 0- 100% O₂

Measurement range

Standard range 0-25%, 0-100%,
others on request

Measurement signal

4-20mA or 0-20mA (max. apparent ohmic resistance 500 Ohm)

Status output

2 alarm relays, 1 malfunction relay

Output connection

pump relay, maintenance
sample gas relay, zero gas relay, test gas relay
for the autocalibration

Display

LCD digital multifunction display, indication of measured value:
100.0 %O₂; Flow 99l/h, alarms, malfunction, parameters,
total 16 digits

Options

- pressure compensation (electronic or backpressure regulator)
- test gas pump
- sample gas filter
- external flow display (rotameter)
- flow sensor with alarm setting
- NDIR sensors for CO₂, CH₄ and CO (MULTI 2000Plus).

Design

Materials of gas conducting parts	PVDF, glass, steel 1.4571, gold, viton, platinum-iridium, epoxy resin, nickel
Gas connections	PVDF bulkhead connection, for hose with inside $\varnothing$ 4mm

Power supply

Voltage	100 - 240VAC 50/60Hz
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Operating conditions

Flow	10-90 l/h
Gas conditioning	necessary for humid and/or corrosive gases, pre-filter required
Operating gas pressure	10-1000 hPa (0.01-1bar)
Operating temperature	5-45°C
Calibration	2-point calibration: with gases as desired, menu-controlled, time controlled. fully automatic AUTOCAL or semiautomatic calibration
Storage and transport temperature	-25°C to +65°C
Relative humidity	0-75% RH
Background gas influence	slight (for guideline data see operating instructions)

Measuring details

PAROX 2000*Plus*

Detection limit	0,01 % O ₂
Repeatability	$\leq \pm 0,03$ % O ₂ (time base for gas switch ≥ 5 min)
Zero point drift	$\leq \pm 0,1$ % O ₂ / week (offset) may be higher during the first days after putting into operation or after longer period of storage or transport
Temperature influence at zero	$< \pm 0,05$ % O ₂ / °C
Temperature influence span	$< \pm 0,20$ % of measured value / °C
Pressure influence on zero	no influence
Pressure influence span	1% air pressure change causes 1% change in reading without backpressure regulator (option) or pressure compensation (option)
Flow error	$\leq 0,1$ Vol.-% O ₂ within 10...90 l/h with the in-build flow regulator (option)
T90-time	≤ 6 s at 90 l/h and gas change from nitrogen to air



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