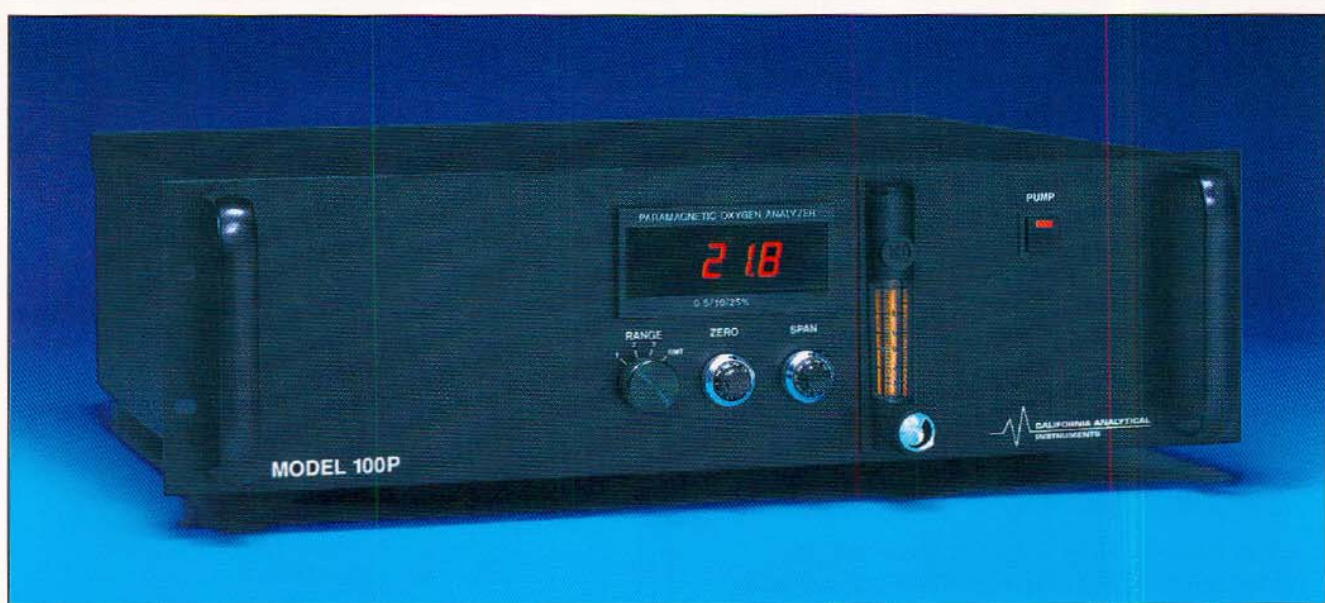


PARAMAGNETIC and GALVANIC FUEL CELL OXYGEN ANALYZERS



Model 100P (Paramagnetic)

FEATURES

- Multiple ranges
- Remote range change
- Temperature controlled
- Sensitivity less than 10 ppm
- High stability
- Low interference to other gases
- Fast response
- Linear output
- Digital concentration display
- No routine cell maintenance
- Internal pump option

Model 100F (Galvanic Fuel Cell)

FEATURES

- Low cost
- Reliable
- Linear output
- Multiple ranges
- Remote range change
- Rapid response
- Digital concentration display
- Internal pump option

APPLICATIONS (Models 100P & 100F)

- Combustion efficiency boilers, furnaces incinerators, and commercial ovens
- EPA Compliance
- Process chemical analysis
- Controlled atmospheres
- Stack gases CEM
- Vehicle emissions

 **California Analytical Instruments, Inc.**

Model 100P and 100F OXYGEN ANALYZERS

DESCRIPTION

CAI offers two oxygen analyzer options:

- A. Low cost, reliable galvanic fuel cell (Model 100F)
- B. High performance compact paramagnetic sensor (Model 100P)

Both read directly in percent oxygen. Both have multiple ranges and multiple linear outputs. They may be configured as stand-alone analyzers or teamed with our NDIR Series 200 or 300 to deliver a multicomponent solution to your gas analysis requirements. (See our "Configure-your-own" GAS ANALYZERS brochure.)

METHOD OF OPERATION

Paramagnetic

The Model 100P CAI oxygen analyzer measures the paramagnetic susceptibility of the sample gas by means of a magneto-dynamic type measuring cell.

The CAI measuring cell consists of a dumbbell of diamagnetic material, which is temperature controlled electronically at 50°C. The higher the oxygen concentration, the greater the dumbbell is deflected from its rest position. This deflection is detected by an optical system connected to an amplifier. Surrounding the dumbbell is a coil of wire. A current is passed through this coil to return the dumbbell to its original position. The current applied is linearly proportional to the percent oxygen concentration in the sample gas. This concentration is displayed on a digital panel meter.

Galvanic Fuel Cell

The Model 100F CAI oxygen analyzer utilizes a low cost fuel cell to determine the percent level of oxygen contained in the sample gas. The oxygen level is displayed on a digital panel meter.

SPECIFICATIONS

Model 100P (Paramagnetic Detector)

SAMPLE CONTACT MATERIAL: Platinum, glass, stainless steel, viton

RANGES: Standard fixed ranges, choose A, B, or C

- A) Range 1: 0 to 1%, Range 2: 0 to 15%, Range 3: 0 to 25%
- B) Range 1: 0 to 5%, Range 2: 0 to 10%, Range 3: 0 to 25%
- C) Range 1: 0 to 25%, Range 2: 0 to 40%, Range 3: 0 to 100%

RESPONSE TIME: 90% Full scale in 2 seconds

WEIGHT: 15 lbs (6.8kg)

Model 100F (Galvanic Fuel Cell Detector)

SAMPLE CONTACT MATERIAL: Stainless steel and Tygon

RANGES: Standard fixed ranges, choose A or B

- A) Range 1: 0 to 5%, Range 2: 0 to 10%, Range 3: 0 to 25%
- B) Range 1: 0 to 25%, Range 2: 0 to 40%, Range 3: 0 to 100%

RESPONSE TIME: 90% Full scale in 5 seconds

WEIGHT: 10 lbs (4.8kg)

Common Specifications (Models 100P & 100F)

LINEARITY: Better than 1% full scale

REPEATABILITY: Better than 1% full scale

SAMPLE FLOW RATE: 1 liter/min.

NOISE: Less than 1% full scale

ZERO SPIN DRIFT: Less than 1% full scale in 24 hours

ZERO & SPAN ADJUSTMENT: Ten turn potentiometer

DISPLAY: 3 1/2 digit panel meter

OUTPUTS: 0 to 10 VDC and 4 to 20mA (0 to 20mA)

AMBIENT TEMPERATURE: 5-45°C

SAMPLE TEMPERATURE: 0-50°C

SAMPLE CONDITION: Clean, dry gas

FITTINGS: 1/4" tube

POWER REQUIREMENTS: 115/230 ($\pm 10\%$) VAC, 50/60 Hz, 70 watts/channel

RELATIVE HUMIDITY: Less than 90% RH (non-condensing)

DIMENSIONS: 5-1/4"H x 19" W x 15" D

(133mmH x 483mmW x 381mmD)

*Tygon is a registered trademark of the Norton Performance Plastics Corporation. Specifications subject to change without notice.



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