

TELEDYNE ANALYTICAL INSTRUMENTS



MODEL 3000PB Process Percent Oxygen Analyzer

Teledyne's Model 3000PB and 3010PB Bulkhead Mount Percent Oxygen Analyzers are versatile, microprocessor-based instruments for detecting percent oxygen in a variety of gases.

The 3000PB serves as a general purpose unit. The 3010PB is designed as a "split architecture" instrument, meaning that a general purpose, wall mounted Control Unit for non-hazardous areas controls a remote Analysis Unit that can operate in hazardous areas.

Simple menu choices, membrane command switches and a large LED display make setup and operation of these instruments simple and fast.

Three Analysis Ranges

Three user-configurable ranges are standard, with excellent linearity precluding recalibration when changing ranges. Two fully programmable concentration alarms and relay functions provide the versatility to satisfy nearly any requirement. All features offer a sophistication that assure these instruments will provide years of service.

Convenient Outputs for Data

Standard 0-1 VDC outputs are provided for oxygen measurements and range identification. An RS-232C serial port interface allows the user to introduce span and zero gases through a host computer.

Ambient Air Calibration

The high accuracy and fast response of Models 3000PB and 3010PB is only surpassed by its ability to calibrate without the assistance of support gases. The Micro-fuel Cell produces an output that is linear from 0% to 100% O₂ enabling the use of ambient air for calibration. These units can also accommodate the use of span or zero gas when necessary. The 3000PB and 3010PB offer stainless steel sample tubing and a nylon cell holder.

Advantages

- Linearity of analysis across three user-selectable ranges
- Remote access to all functions from computer
- Extended-life, maintenance free sensor
- Ambient air calibration

Standard Features

- NEMA 4 enclosure
- RFI hardened
- Security code protection
- Versatile analysis over a wide range of applications
- Microprocessor based electronics
- Programmable Auto Ranging
- Two fully-adjustable concentration alarms and a system failure alarm
- Air calibration range for convenient spanning at 20.9%
- Self diagnostics

Options

- C Electrically operated cal/zero valves
- V Vacuum service
- S Stainless steel cell holder
- M Isolated 4-20 mADC signal output and range ID
- F Flame arrestors for Group C&D service (3010PB only)
- H Flame arrestors for Group B service (3010PB only)



Model 3010PB
Split Architecture

Built for Reliability and Performance

MODEL 3000PB & 3010PB PERCENT OXYGEN ANALYZER

Applications

- Monitoring inert gas blanketing
- Air separation and liquefaction
- Chemical reaction monitoring
- Semiconductor manufacturing
- Petrochemical process control
- Quality assurance
- Gas analysis certification

Specifications

Area classification: (3000PB) General purpose bulkhead mount
(3010PB) Analysis unit:
explosion proof enclosure

Control unit: General purpose bulkhead mount

Sensor: Class B-1, optional A3, A5, B3, C3

Ranges: Three user-definable ranges from 0-1% to 0-100% plus air calibration range of 0-25%

Sample system: Visible flow indicator; positive pressure service; vacuum service (optional), autocal/auto zero (optional internal electrically operated solenoid valves)

Alarms:

- One system failure alarm contact to detect power, calibration, zero and sensor failure
- Two adjustable concentration threshold alarms with fully programmable set points

Diagnostics: Comprehensive self testing function

Accuracy: $\pm 2\%$ of full scale at constant temperature or $\pm 5\%$ of full scale over operating temperature ranges (once temperature equilibrium has been reached)

Sensitivity: 0.5% of FS

Displays: One LCD screen for setup, one five-digit LED for O₂ value

Digital interface: RS-232C

Power: 85 - 240VAC, 50/60 Hz

Operating temp: 32° to 122°F (0-50°C)

Analog outputs: 0-1 VDC percent of range and range ID (optional) 4-20maDC isolated percent of range and isolated range ID

Response time: (B-1) 90% of full scale in 10 seconds

Dimensions: 11.81" W x 20.28" H x 8.9" D
(3000PB and 3010PB Control Unit)

Enclosure: (3000PB and 3010TB Control Unit) sheet steel, NEMA 4/7

(3010PB Analysis Unit) - Explosion proof. U/L and CSA listed for Class I, Division 1, Groups B, C, and D service, NEMA 4/7 rated

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Warranty

Instrument is warranted for 1 year against defects in material or workmanship

NOTE: Specifications and features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. All specifications and features are subject to change without notice.

