

# Process Trace Oxygen Analyzers

Models 3000TB/3010TB

**T**eledyne's Model 3000TB and 3010TB Bulkhead Mount Process Trace Oxygen Analyzers are versatile, microprocessor-based instruments for detecting oxygen in a variety of gases. These units are designed to make the task of trace oxygen analysis easier, faster and more precise than ever before. The 3000TB serves as a general purpose unit. The 3010TB 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 this instrument clear and quick.

## 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 and isolated 4-20 mA DC 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.

## Extended Life, Maintenance Free Oxygen Sensor

The Models 3000TB and 3010TB use a long life Class L-2C Micro-Fuel Cell to measure traces of O<sub>2</sub> in the sample gas. The L-2C (L-2LC for CO<sub>2</sub>) sensor sets industry standards for accuracy, sensitivity, and ease of use and comes with a 1 year warranty. Expected life for the sensor is two years. And because every L-2C sensor undergoes stringent quality control procedures, the user is assured of outstanding reliability and optimum performance. The sensor is specific to oxygen and accurately monitors gas streams containing up to 100% hydrocarbons.

The Micro-Fuel Cell produces an output that is linear from 0 ppm to 100% O<sub>2</sub> enabling the use of ambient air for calibration. These units can also



accommodate the use of a certified ppm O<sub>2</sub> span or zero gas which speed calibration when necessary. The 3000TB and 3010TB incorporate a 316 stainless steel gas handling system that includes a panel-mounted flowmeter.

## Advantages

- Linearity of analysis across three user-selectable ranges
- Remote operations capability
- Extended-life, maintenance free sensor

## Standard Features

- NEMA 4/7 rated enclosure
- RFI hardened
- Security code protection
- Microprocessor based electronics
- Signal output: 0-1VDC & 4-20 mA DC
- Programmable Auto Ranging
- Two fully-adjustable concentration alarms and a system failure alarm
- Self diagnostics
- 316 stainless steel sampling system

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# MODELS 3000TB / 3010TB PROCESS TRACE OXYGEN ANALYZERS

## Options

- C Electrically operated cal/zero valves
- V Vacuum service
- F Flame arrestors for Group C&D service (3010TB only)
- H Flame arrestors for Group B service (3010TB only)

## 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:

- (3000TB) General purpose bulkhead mount
- (3010TB) Analysis unit: explosion proof enclosure  
Control unit: general purpose bulkhead mount

Sensor: Class L-2C, two year life expectancy with most applications

Ranges: Three user-definable ranges (Min: 0-10ppm full scale)

Sample Connections: User specified 1/4" or 6mm fittings

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: +/-2% of full scale at constant temperature or +/-5% of full scale over operating temperature ranges (once temperature equilibrium has been reached) (except 0-10ppm range which is +/-1ppm)

Sensitivity: 0.5% of FS

Displays: One LCD screen for setup, one five-digit LED for O<sub>2</sub> value

Digital interface: RS-232C

Power: 110 or 220V (user specified), 50/60 Hz

Operating Temperature: 32° to 122°F (0-50°C)

Signal output: Analytical measurement: 0-1VDC and 4-20maDC isolated

Range ID output: 0-1VDC and 4-20maDC isolated

Response time: 99% of FS at 77°F (25°C) < 61 sec.

Wetted parts: 316 stainless steel

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

Enclosure: (3000TB and 3010TB Control Unit) sheet steel, NEMA 4/7 (3010TB Analysis Unit) - Explosion proof. U/L and CSA listed for Class I, Division 1, Groups B, C, and D service, NEMA 4/7 rated

If you would like to meet with a member of the Teledyne team to discuss the Models 3000TB/3010TB or arrange a demonstration, please don't hesitate to contact your local representative.

## TELEDYNE ANALYTICAL INSTRUMENTS

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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.

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