

TELEDYNE ANALYTICAL INSTRUMENTS



MODEL 3000TA *Process Trace Oxygen Analyzer*

Teledyne's Model 3000TA makes the task of trace oxygen analysis easier, faster and more precise than ever before. Simple menu choices, membrane command switches and a large LED display make setup and operation clear and quick.

Three User-Configurable Ranges

Three user-configurable ranges are standard, with excellent linearity of analysis precluding recalibration when changing ranges. Two programmable concentration alarms provide the versatility to satisfy nearly any requirement.

Convenient Outputs For Data

Standard 0-1 VDC and isolated 4-20 mADC outputs are provided for oxygen measurements and range identification. For 2-way communication, an RS-232C serial interface is incorporated to converse with a host computer for remote monitoring and control of zero and span calibration.

Maintenance-Free Oxygen Sensor

The 3000TA uses a specially qualified fast recovery Insta Trace Micro-fuel Cell to measure trace levels of O₂ in the sample gas. The Insta Trace (Insta Trace-CO₂ for CO₂ applications) sensor sets industry standards for accuracy, sensitivity, and ease of use. This sensor also allows recovery to below 1 ppm oxygen within 30 minutes of sensor installation.

Because every Insta Trace sensor undergoes stringent quality control procedures, the user is assured of outstanding reliability and optimum performance. The Insta Trace is a sealed electrochemical device with no electrolyte to change or electrodes to clean, making it maintenance free. The sensor is specific to oxygen and accurately monitors gas streams containing up to 100% hydrocarbons.

Ambient Air Calibration

The high-accuracy and fast response of the 3000TA 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 ppm to 100% O₂, enabling the use of ambient air for calibration.

This instrument can also accommodate the use of a certified ppm O₂ span or zero gas which speeds calibration when necessary and confirms the system is leak free.

Custom Engineering

The 3000TA can be ordered as a standard unit or as part of a larger analytical system. Teledyne can also supply special sensors, custom engineered analyzers and complete monitoring systems to satisfy unique applications.

Advantages

- Linearity of analysis across 3 user-selectable ranges
- Remote access to all functions from computer
- Extended-life, maintenance-free sensor
- Ambient air calibration
- AutoRanging to follow process upsets



3000TA with sample system

Built for Reliability and Performance

MODEL 3000TA TRACE OXYGEN ANALYZER

Standard Features

- Fast recovery Insta Trace Micro-fuel Cell sensor
- Three user-selectable ranges plus cal range (0-25%)
- Signal output: 0-1 VDC & 4-20 mADC
- Programmable Auto Ranging
- Range ID contacts (Quantity 4); Form A normally open contacts, 3A resistive
- Two fully-adjustable concentration alarm points with programmable relay function; Form C contacts, 3A resistive
- Programmable auto cal/zero; Form A normally open contact relay signals
- Remotely initiated cal/zero via customer supplied 24 VDC signal
- Self diagnostics with Form C failure alarm contacts
- Full duplex RS232 communication link
- Five digit oxygen concentration LED display
- Backlit 2 x 20 line alphanumeric liquid crystal display for set up and diagnostics
- Sample flow indicator
- Universal power supply: 85-230 VAC 50-60 Hz

Options

- C Auto cal/zero with integrally mounted control valves
- V Vacuum service
- K 19" rack mount with either one or two control units
- S Stainless steel cell block

Applications

- Air separation and liquefaction
- Pure, gaseous hydrocarbon stream monitoring
- Semiconductor manufacturing
- Protective atmosphere blanketing of primary liquid feedstocks and flammable liquids
- Process monitoring of gaseous monomers-vinyl chloride, propylene, butadiene, isoprene or ethylene
- Gas purity certification

Specifications

- Ranges: 3 range customer selectable (minimum 0-10 ppm FS) plus 0-25% cal range
- Accuracy: $\pm 2\%$ of FS at a constant temperature
 $\pm 5\%$ of FS over operating temperature range (once temperature equilibrium has been reached; except 0-10 ppm scale which is ± 1 ppm)
- Sensitivity: 0.5% of FS
- Response: 90% of FS at 77°F (25°C)
<10 seconds for 1000 ppm or higher ranges
90% of FS at 77°F (25°C)
< 60 seconds for 0-10 ppm range
- Operating temp: 32°F to 122°F (0°C to 50°C)
- Signal output: Analytical measurement - 0-1 VDC, and 4-20 mADC (isolated)
- Max. load impedance: 4-20 mA isolated output 1000 ohms
- Analysis display: 5 digit red LED, 3/5" high numerals
- Data lines: Bi-directional RS-232C serial interface
- Power requirements: Universal AC input ranges
85 to 230 VAC, 50/60 Hz
- Max. power consumption: 20 VA
- Oxygen sensor: Fast recovery Insta Trace
Class A-2C, B-2C or L-2C can also be utilized in place of the Insta Trace; specify at time of order
- Sample connections: User specified 1/4" or 6mm fittings
- Area classifications: General purpose
- Mounting: Flush panel mount
- Dimensions: 8.70" W x 6.96" H x 12.2" D (case)
10.79" W x 7.46" H (panel)

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.

