



Teledyne Analytical Instruments

3010TA



Trace Oxygen Analyzer

Teledyne's Model 3010TA Trace Oxygen Analyzer is a versatile microprocessor-based instrument for detecting oxygen at the parts-per-million (ppm) level in a variety of gases. The 3010TA is designed as a "split architecture" instrument, meaning that a general purpose Control Unit for non-hazardous areas controls a specially designed Analysis Unit or "remote probe" that can operate in hazardous areas. Simple menu choices, membrane command switches and dual LCD and LED displays make set-up and operation clear and quick.

Three User-Configurable Analysis Ranges

Three user-configurable ranges are standard, with an excellent linearity precluding the need to recalibrate when changing ranges. Two fully programmable concentration alarms provide the versatility to satisfy nearly any requirement. All features offer a sophistication that assures the 3010TA will provide years of service.

Convenient Outputs For Data

Two standard 0-1 VDC outputs and two 4-20 mA isolated outputs provide both concentration and range identification. A bi-directional RS-232 serial interface is incorporated to relay information to a host computer for remote monitoring of critical functions.

3010TA ADVANTAGES

- Linearity of analysis across three user-programmable ranges
- AutoRanging capabilities
- Digital interface allows monitoring from a remote station
- Extended-life, maintenance-free sensor
- Comprehensive self testing function

STANDARD FEATURES

- An explosion proof NEMA 4/7 rated analysis unit enclosure
- A 2-line alphanumeric display screen, driven by microprocessor electronics continuously prompting and informing the operator
- High resolution, accurate readings of oxygen content from low ppm levels through 25%
- Stainless steel cell block
- Advanced Micro-Fuel Cell designed for trace analysis
- Versatile analysis over a wide range of applications
- Microprocessor based electronics: 8-bit CMOS microprocessor with 32kB RAM and 128kB ROM
- Three user-definable output ranges (from 0-10 ppm through 0-250,000 ppm) assuring a perfect match for the user's process and equipment
- Air-calibration range for convenient spanning at 20.9%
- Auto-Ranging automatically selects the proper preset range for a given measurement. Manual override allows the user to lock onto a specific range of interest.
- Two adjustable concentration alarms and a system failure alarm
- Extensive self-diagnostic testing at start-up and on demand with continuous power-supply monitoring
- Two way RS-232 serial digital port for use with a computer or other digital communication device
- Four analog outputs; two for measurement (0-1 VDC and Isolated 4-20 mA) and two for range identification

APPLICATIONS

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

MODEL 3010TA TRACE OXYGEN ANALYZER

SPECIFICATIONS:

Ranges: 3 customer programmable ranges
(minimum 0-10 ppm) with AutoRanging

Calibration
Range: 0-25%

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) in less than 65
seconds

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

Signal
Output: Analytical measurement: 0-1 VDC and
4-20 mADC (isolated)

Range ID
Output: 0-1 VDC and 4-20 mADC (isolated)

Analysis
Display: 5 digit red LED, 3/5" high numerals

Menu
Display: 20 character, 2 line LCD

Data Lines: Bi-directional RS-232C serial interface, baud
rate 2400 - remote monitoring of all critical
functions

Alarm: One system failure alarm contact to detect
power failure. Two fully programmable
concentration alarm set points and
corresponding form C 3 amp contacts.

Power
Requirements: Universal AC input ranges -
Control unit: 85 / 230 VAC, 50-60 Hz
Analysis unit: 115 / 230 VAC, 50-60 Hz

Oxygen
Sensor: Teledyne Micro-Fuel cell,
Class L-2 (2 year life expectancy with most
applications)

Wetted
Parts: 316 stainless steel

Sample
Connections: 1/4" with conversion to 6mm available

Area
Classifications:
Analysis Unit: Explosion proof enclosure is
U/L and CSA listed for Class I,
Division 1, Group B, C, D service
NEMA 4/7 rated

Control Unit: General purpose flush panel
mounted

Dimensions: 6.96" H x 8.7" W x 12.2" L

OPTIONS:

- C Integrally mounted cal/zero valves
- V Plumbed for vacuum service
- F Flame arrestors for Class I, Div 1, Group C/D
service
- G Flame arrestors for Class I, Div 1, Group C/D
service with cal valves
- H Flame arrestors for Group B (hydrogen) service
- I Flame arrestors for hydrogen service with cal valves
- K 19" Rack Mount available with either one or two
analyzer Control Units installed and ready to mount
in a standard rack.

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.

