TELEDYNE ANALYTICAL INSTRUMENTS

MODEL 3020P

Explosion Proof Percent Oxygen Analyzer

Teledyne's Model 3020P Percent Oxygen Analyzer is a versatile microprocessor-based instrument for detecting oxygen at the percent (%) level in a variety of gases. This instrument serves as the explosion-proof, bulkhead-mount version of the 3000P, and is designed to make the task of percent oxygen analysis easier, faster and more precise than ever before. Simple menu choices, externally accessible 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 3020P will provide years of service.

Convenient Outputs For Data

Two standard 0-1 VDC outputs provide 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.

Operator Interface

All controls and displays on the standard 3020P are accessible from the front of the instruments. The instrument has two simple operator controls. A digital meter, an alphanumeric display, and a sample flowmeter give the operator constant feedback from the instrument.

3020P ADVANTAGES

- Linearity of analysis across three user-selectable 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 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 percent levels through 100%.
- Advanced Micro-Fuel Cell designed for percent analysis, with a six month warranty and an expected life of eight months
- 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 0-1% through 0-100%) 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
- Two analog outputs measurement and 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 3020P PERCENT OXYGEN ANALYZER

Specifications

Ranges:	3 customer programmable ranges (minimum 0-1%) with AutoRanging; if option with flame arrestors is requested, maximum range is 25% O2
Calibration range:	0-25%
Accuracy:	±2% of FS at a constant temperature; ±5% of FS over operating temperature range (once temperature equilibrium has been reached)
Sensitivity:	0.5% of FS
Response:	(B-1) 90% of FS at 77°F (25°C) in less than 10 seconds
Operating temperature:	32°F to 122°F (0°C to 50°C)
Signal output:	Analytical measurement - 0-1 VDC
Range ID output:	0-1 VDC
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:	115 / 230 VAC, 50-60 Hz
Oxygen sensor:	Teledyne Micro-fuel Cell, Class B-1 Optional: A3, A5, B-3, C-3
Wetted parts:	316 stainless steel, nylon cell block
Sample connections:	1/4" fittings
Area classifications:	Explosion proof enclosure is U/L and CSA listed for Class I, Division 1, Group B, C, D service NEMA 4/7 rated
Mounting:	Bulkhead mounting
Dimensions:	25.63" H x 15.25" W x 11" D

Options

- C	Integrally mounted cal/zero valves
- M	Isolated 4-20mADC signal and range ID output
- 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
- S	Stainless steel cell holder

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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.