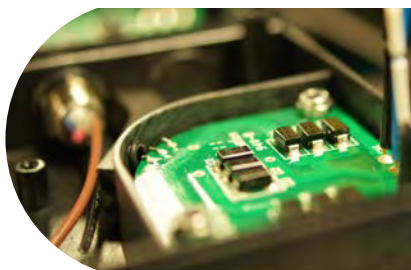


# MODEL 5100



**Neutronics**  
Gas Analysis Solutions

## Percent Oxygen Analyzer Compact Series/High Purity



### Highly Accurate. Small. Reliable.

- 0 to 100% measurement range
- mini-zirconia oxide ZR-500 sensor
- $\pm 0.5\%$  accuracy
- internal or remote sensor mounting
- $T_{90} < 15$  seconds

#### Description

The Neutronics Model 5100 is a compact analyzer designed for percent oxygen gas measurement. This analyzer features a rapid-response mini-zirconia sensor with a measurement range of 0 to 100% oxygen. Extremely high accuracy and single point calibration make this analyzer a low-maintenance solution that delivers reliable performance for critical process control applications.

#### Reliable Performance

The mini-zirconia oxygen sensor is accurate to within  $\pm 0.5\%$  of the measurement range. The response time is 15 seconds. Operating service life is 2 to 3 years, and it has an unlimited shelf life. It is not affected by position and can be exposed to high atmospheric pressures with no impact on performance. This robust sensor is unaffected by dry atmospheres or by extremely cold storage temperatures.

#### Low Maintenance

The sensor is designed to have a small profile. It contains a zirconia ceramic solid-electrolyte and a built-in heater with low electrical consumption. Since it's a limiting current type, it does not require the use of standard comparison gas for calibration. No periodic calibration is required.

#### Internal or Remote Sensor Mounting

The Model 5100 is available in two configurations – with the sensor mounted inside the analyzer housing in a flow-through chamber or with the sensor installed in a Stainless Steel housing designed for remote mounting.

#### Compact Modular Design

The Compact Series analyzers are easy to install. With a small footprint, the analyzers are designed to be flush mounted onto the surface of a control panel and integrated into a wide variety of equipment components.

#### Easy to Operate

The Model 5100 is shipped ready to install and operate with the complete configuration already programmed and tested by the factory. Setup parameters may be changed by the user by accessing the setup menu by pressing the buttons on the keypad. All parameters may be changed by using the RS-232 service port interface.

#### Communication Options

The user has a choice of options for communicating between the Model 5100 analyzer and the operating system controller. Two analog outputs are available: 4-20 mA and 0-1, 0-5, or 0-10 VDC. The RS-232 digital interface gives the user access to all settings including the option to restore the analyzer to its factory delivered settings.

#### Large Bright LED display

The easy to read 7-segment large alphanumeric display shows the oxygen concentration and guides the user through system setup, calibration, and maintenance procedures.

#### Two Adjustable Alarms

Alarms with configurable relay outputs initiate active modes and light indicator LEDs based on user defined settings. The alarm status clears automatically when the measured oxygen concentration is within the set threshold value.

#### Auto or Fixed Range Measurement

The Model 5100 can be configured to automatically change the measurement range based on the concentration of oxygen in the process. System control devices require a continuous indication of the analyzer's selected range for accurate scaling. The Model 5100 analyzer features a 0-10 VDC auto-range identification output. Used in conjunction with the analog voltage and analog current outputs when auto-ranging is used, the auto-range ID provides an indication of the analog outputs' selected full-scale.



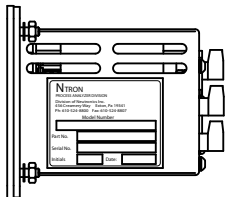
# MODEL 5100

## Percent Oxygen Analyzer

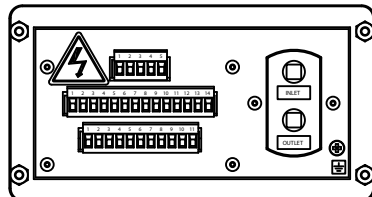
### Specifications

Type	Percent oxygen analyzer
Operating range	0-1%, 0-10%, 0-25%, 0-50%, 0-100%, auto
Sensor	mini-Zirconia, limiting current type, ZR-500
Accuracy	within $\pm 0.5\%$ of measurement range
Response time	$T_{90} < 15$ seconds
Warm up time	60 seconds to operation; 35 minutes for temperature equilibrium
Sensor expected service life	2 years
Relative humidity (analyzer)	0 - 95% non-condensing
Operating temperature	-10 - 50° C (14 - 122° F)
Sample pressure (internal sensor)	1-10 psig; not to exceed 20 psig
Sample pressure (external sensor)	15" Hg cacuum to 7 PSIG (0.5 to 1.5 Bar)
Display	7-segment, 0.75" alphanumeric LED, 4 characters LEDs for system status: run, fault, alarm-1, alarm-2
Power supply	90 - 264 VAC or 24 VDC
Analog current output	4 - 20 mA, 12 VDC, negative ground, powered by the analyzer
Analog voltage output	0-1, 0-5, 0-10 VDC
Relay outputs	two alarm relays, field adjustable Form C (SPDT) one system fault relay, non-adjustable Form B (SPST)
Serial service port	RS-232
Control panel rating	weatherproof NEMA 4, IP66
Rear electronics chassis rating	NEMA 1, IP20
Warranty	Analyzer: 12 months, Sensor: 12 months
Analyzer dimensions (LxWxH)	7.00" (117.80mm) x 4.125" (104.78mm) x 3.75" (95.25mm)
External sensor dimensions	1.5" diameter x 3.25" long (NEMA 1, IP20)
Weight	3 lbs (1.4 kg)

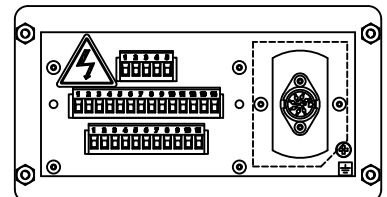
Specifications are subject to change without notice.



Side View



Oxygen Analyzer  
with internal sensor



Oxygen Analyzer with  
remote sensor connection

### Order Information

#### Part

5100B-N1 Analyzer, 90-264VAC, with internal mini Zirconia Oxide sensor  
 5100BE-N1, 90-264VAC, 1,2, or 3 meter cable  
 5124B-N1 Analyzer, 20-30 VDC, with internal mini Zirconia Oxide sensor  
 5124BE-N1, 20-30VDC, 1,2, or 3 meter cable

#### Part Number

C7-01-5100-00-0  
 C7-01-5100-03-x  
 C7-01-5124-00-0  
 C7-01-5124-01-x



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