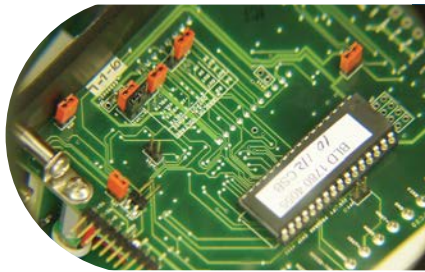


# MODEL 1100



**Neutronics**  
Gas Analysis Solutions

## Percent oxygen analyzer Compact series/ high purity



### Small. Durable. Reliable.

- 0 to 100% measurement range
- Remote mounted electrochemical sensor
- Auto-range or fixed range O<sub>2</sub> measurement
- Two adjustable alarms with configurable relay outputs
- Fast single-gas or two-gas calibration

### Description

The Model 1100 is a compact analyzer for oxygen gas measurement and process control applications. Designed for a measurement range of zero to 100% oxygen, the unit features a reliable electrochemical sensor that can be mounted remotely at the sampling point to ensure a fast response time. A flow-through mounting head allows the sensor to be horizontally or vertically mounted directly into the sampled process gas stream.

### Reliable low cost sensor

The CAG-250E electrochemical sensor ensures reliable performance and fast response for critical measurements. Utilizing a patented weak-acid based technology for a more stable signal and longer sensor life, this sensor can withstand high levels of CO<sub>2</sub>, CO, and other acidic gases. The CAG-250E sensor measures the partial pressure of oxygen in the gas sample. As the sample gas passes by the sensor, the oxygen is electrochemically reduced at the cathode. The current generated is directly proportional to the partial pressure of oxygen at the sensing surface of the cell. The sensor is a sealed disposable device that does not require periodic maintenance.

### Compact modular design

The compact series analyzers are easy to install. With a small footprint, they are designed to be flush mounted onto the surface of a control panel and integrated into a wide variety of equipment components. In addition to the analyzer module, the unit is supplied with a sensor, a flow-through sensor mounting base, a sensor interface cable, and a protective sensor cover.

### Simple operation

The Model 1100 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 1100 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 "out-of-box" or 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

To provide the most accurate and highest resolution outputs at all times, the Model 1100 can be configured to automatically switch the measurement range based on the concentration of oxygen in the process. Remote system control devices require a continuous indication of the analyzer's selected range for accurate scaling. The Model 1100 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.

### Single-point calibration

To maintain the highest accuracy and performance, the model 1100 requires single-point calibration with ambient level oxygen (20.9%) at system commissioning and at regular monthly intervals. This simple calibration procedure requires the user to apply the gas to the sensor and then adjust the reading on the analyzer control panel. The model 1100 does the rest. During the initial factory set-up, two-gas calibration using 20.9% oxygen and 1 to 4% oxygen is used to properly configure the analyzer and ensure full range accuracy.



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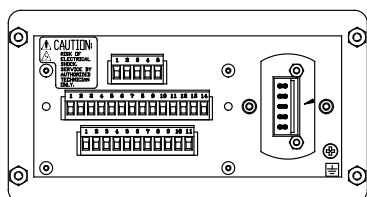
## Percent oxygen analyzer

### Specifications

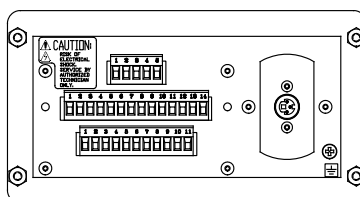
Type	Percent oxygen analyzer
Operating range	0-1%, 0-10%, 0-25%, 0-50%, 0-100%, auto-ranging or fixed
Sensor	Electrochemical, CAG-250E*
Accuracy	± 2.0% of range @ STP or ± 0.3% absolute
Response time	T <sub>90</sub> < 20 seconds
Warm up time	None
Sensor expected life, % hours	>1,500,000% oxygen hours
Sensor expected operating life	> 2 years
Relative humidity (analyzer)	0 to 95%, non-condensing
Operating temperature (sensor)	5 to 40° C (41 to 104° F)
Operating temperature (analyzer)	0 to 65° C (32 to 149° F)
Sample pressure	1 to 3 psig nominal, 7 psig maximum
Display	7-segment, 0.75" alphanumeric LED, 4 characters LEDs for system status: run, fault, alarm-1, alarm-2
Power supply	90 to 264VAC or 24VDC
Analog current output	4 to 20mA, 12VDC, powered by the analyzer
Analog voltage output	0 to 1, 0 to 5, 0 to 10VDC
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	12 months from date of shipment
Enclosure dimensions (LxWxH)	7.00" (119mm) x 4.125" (105mm) x 3.75" (95mm)
Sensor mounting base	1.25" diameter x 1.00" OAH, FNPT inlet and outlet connections
Weight	2 lbs.

Specifications are subject to change without notice.

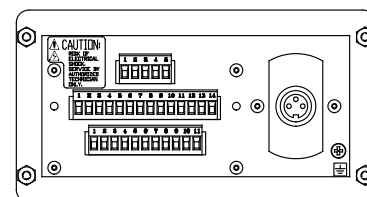
\*Alternate sensors available upon request; service life may vary.



Terminal block connector



Mini-DIN 3-pin connector



Locking right angle connector

### Order information

Part	Part number
1100BE-N1, 90-264 VAC (3-pin connector)	C7-01-1100-03-0
1100BEL-N1, 90-264 VAC (locking right angle connector)	C7-01-1100-03-1
1100BE-N1S, 90-264 VAC (terminal block connector)	C7-01-1100-03-3
1124BE-N1, 24 VDC (3-pin connector)	C7-01-1124-02-0
1124BEL-N1, 24 VDC (locking right angle connector)	C7-01-1124-02-1
1124BEL-N1, 24 VDC (locking right angle connector)	C7-01-1124-02-3*
1124BE-N1S, 24 VDC (terminal block connector)	C7-01-1124-02-2
CAG-250E sensor	C1-16-1000-01-0
Interface cable, 2m, locking connector	C6-02-1000-44-2
Interface cable, 2m, locking connector, alternate sensor	C6-02-1000-50-2



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