



# MODEL 65 PERCENT OXYGEN PROBE



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## Operator Manual

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# MODEL 65 OPERATOR MANUAL

Special Message from Advanced Micro Instruments (AMI):

Thank you for purchasing this **MODEL 65** for your Percent Oxygen measurement needs. This Percent Oxygen Probe is designed for OEM applications, requiring measurement of percent oxygen levels in inert gases. You will find that it delivers the highest levels of performance and reliability and can be mounted virtually anywhere in a NON-FLAMMABLE environment.

Note: Read this manual carefully prior to installation.

If you have any questions, contact AMI at 714.848.5533 or [www.amio2.com](http://www.amio2.com).

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# ANALYZER OVERVIEW



# METHOD OF MEASUREMENT: ZIRCONIUM OXIDE SENSORS

The **MODEL 65** utilizes zirconium oxide sensors, which provides reliable, accurate percent oxygen measurements for a general purpose environment.

- These sensors have a 10-year product life. This eliminates the need to replace sensors every 6 months and the need to perform monthly calibrations, which drastically lowers maintenance costs.



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## SAFETY, WARNINGS & CAUTIONS



Make sure no hazardous gas is present in the area before and during installation.

Violation of the National Electrical Code requirements (especially Article 500 that deals with hazardous areas) may cause a fire or explosion with the potential for serious injury or loss of life.



Do not mount the unit in a hazardous area. If explosive gases are present, they can be ignited by the zirconium oxide sensor.

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# OXYGEN PROBE INSTALLATION

## Part I: Mounting the Analyzer

### Key Points:

- The Percent Oxygen Probe is designed to be mounted in a general-purpose area. Do not install it in a hazardous area containing flammable gases.

1. Mount the Percent Oxygen Probe in the location, where the measurements will be taken.
2. The included Mounting Bracket accessory, scan be used to assist in the installation of the Probe.



Pictured: The Oxygen Probe with the 3 different gas connection options installed with the Mounting Bracket.



### CAUTION:

The **MODEL 65** is designed for operation between  $-4^{\circ}\text{F}$  and  $122^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  and  $50^{\circ}\text{C}$ ).

## Part II: Electrical Connections for the Analyzer

### OPTION 1: CONNECTION FOR VOLTAGE OUTPUT

#### Key Point(s):

- Use the included 6-ft yellow cord provided with the Percent Oxygen Probe.



1. Connect the proper end of the 6-ft yellow cord to the Percent Oxygen Probe.
2. With the other end, make the following wire connections as shown below.

WIRE COLOR	CONNECTION
Brown	7 to 28 VDC, 100 to 500 mA
Black	Ground / Return
White	Voltage output
Blue	Signal Ground

### OPTION 2: CONNECTION FOR CURRENT OUTPUT

#### Key Point(s):

- Contact AML to purchase the white cord designed for this type of connection.



1. Properly connect the proper end of the white cord to the Percent Oxygen Probe.
2. With the other end, make the following wire connections as shown below.

WIRE COLOR	CONNECTION
Red	7 to 28 VDC, 100 to 500 mA
Black	Ground / Return
White	+(4 to 20 mA) Output
Green	-(4 to 20 mA) Output

## Part III: Gas Connections

### Key Points:

- The Percent Oxygen Probe has 3 gas connection options, which must be specified at time of purchase.



**Diffusion Screen**



**Compression Fittings**



**Barbed Fittings**

1. Connect the source of the gas to be measured to the gas connection of the Percent Oxygen Probe.
  2. The Percent Oxygen Probe is now ready to perform measurements.
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## CALIBRATION

Note: The **MODEL 65** Percent Oxygen Probe has already been calibrated at the factory and is ready for use upon arrival. No initial calibration is required from the operator.

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# SENSOR REPLACEMENT



The MODEL 65 is shipped from our factory with the zirconium oxide sensor already installed inside.

The zirconium oxide sensor has a product life of 10 years.

To replace the sensor near the end of its product life, contact AMI to make arrangements. The sensor can only be replaced inside the MODEL 65 at our factory.

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## TROUBLESHOOTING/SERVICE

The MODEL 65 has no serviceable parts inside. If you encounter an issue with your unit, contact AMI for support and to obtain a Return Material Authorization (RMA).

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# ACCESSORIES

The MODEL 65 comes with 2 included accessories.

## 6-FT CORD



The yellow cord is connected to the MODEL 65 to supply power to the unit.

## MOUNTING BRACKET



The Mounting Bracket can be used to assist in the mounting of the Percent Oxygen Probe.

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# SPECIFICATIONS

## PHYSICAL

Dimensions \_\_\_\_\_ 2.0"L x 2.2"D (51 mm x 56 mm)

Weight \_\_\_\_\_ < 1.0 lbs (0.5 kg)

Installation \_\_\_\_\_ Integrated as a Standalone Oxygen Sensor

Gas Connections Options \_\_\_\_\_ Diffusion screen, 1/4" ID tubing for Barbed Fittings  
or 1/4" Compression Fittings

## TECHNOLOGY

Method of Measurement \_\_\_\_\_ Zirconium Oxide Sensor (Up to 10-year life expectancy)

## PERFORMANCE

Repeatability \_\_\_\_\_  $\pm 1\%$  of range or  $\pm 0.2\%$  ppm of oxygen, whichever is greater

Operational Conditions \_\_\_\_\_ Pollution degree 2, Installation Category II

## OPERATION

Measurement Range & Analog Output \_\_\_\_\_ 0.0% – 25.0% (0 – 2.5 VDC or 4 – 20 mA),  
0.0% – 50.0% (0 – 2.5 VDC or 4 – 20 mA),  
or 0.0% – 95.0% (0 – 4.0 VDC or 4 – 20 mA)

Operating Temperature Range \_\_\_\_\_ -4°F to 122°F (-20°C to 50°C)

Recommended Flow Rate \_\_\_\_\_ 0.1 to 5.0 SCFH (0.05 – 2.3 Lpm)

## AREA CLASSIFICATION

Area Classification \_\_\_\_\_ Designed for General Purpose / NON-FLAMMABLE GAS  
Environments

## ACCESSORIES

Included \_\_\_\_\_ 6-ft Cable,  
Mounting Bracket

## POWER

Requirements \_\_\_\_\_ 12 – 24 VDC, 500 mA max

# AMI<sup>®</sup> WARRANTY & SUPPORT

## LIMITED WARRANTY/DISCLAIMER

The warranty period is **TWO YEARS** for the Analyzer. Any failure of material or workmanship will be repaired free of charge for that specified period from the original purchase (shipping date) of the instrument. AMI will also pay for 1-way ground shipment back to the customer.

The warranty period for the electrochemical oxygen sensor is 6 months.

The warranty period for the electrochemical H<sub>2</sub>S sensor is 6 months.

The warranty period for the zirconium oxide sensor is 2 years.

Any indication of abuse or tampering of the instrument will void the warranty.

### Receiving the Analyzer

When you receive the instrument, check the package for evidence of damage and if any is found contact the shipper. Although every effort has been made to assure that the Analyzer meets all performance specifications, AMI takes no responsibility for any losses incurred by reason of the failure of this analyzer or associated components. AMI's obligation is expressly limited to the Analyzer itself.

EXCEPT FOR THE FOREGOING LIMITED WARRANTY, AMI MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE NON-INFRINGEMENT OF THIRD-PARTY RIGHTS, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. IF APPLICABLE LAW REQUIRES ANY WARRANTIES WITH RESPECT TO THE SYSTEM, ALL SUCH WARRANTIES ARE LIMITED IN DURATION TO TWO (2) YEARS FROM THE DATE OF DELIVERY.

## LIMITATION OF LIABILITY

IN NO EVENT WILL AMI BE LIABLE TO YOU FOR ANY SPECIAL DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY.

## LIMITATION OF REMEDIES

AMI's entire liability and your exclusive remedy under the Limited Warranty (see above) shall be the replacement of any Analyzer that is returned to the Company and does not meet the Company's Limited Warranty.

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**HIGH PERFORMANCE**

**RELIABILITY**

**INTUITIVE DESIGN**

[www.amio2.com](http://www.amio2.com)

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