

# SERIES 500 OXYGEN MONITOR



## The Series 500 Breathing Air Monitor

The Delta F Series 500 eliminates the problems of inaccurate oxygen readings due to drift or low false readings. These types of problems can cause personnel to ignore or turn off the monitor. With Delta F's non-depleting sensor technology and unique Sentry Circuit, every Series 500 monitor provides years of consistent, reliable and accurate operation.

Most oxygen sensors experience a relatively short life span due to sensor degradation. Conventional sensors are used up as they measure the oxygen and therefore require periodic or frequent replacement. As they age and lose sensitivity, they tend to exhibit low readings and must be more frequently calibrated to eliminate these false low readings. High maintenance, frequent sensor calibrations and sensor replacements can quickly more than double the cost of your oxygen monitor. Also, the false low readings associated with other oxygen sensors can lead personnel to disregard an actual low oxygen warning as well as cost you time and money by disrupting personnel and impacting productivity.

For more information about Delta F sensor Technology and the thousands of companies that use Delta F oxygen analyzers, ask for the Delta F Difference brochure.

### The Series 500 offers:

- **Reliability** – The Sensor does not decay over time. There are NO FALSE LOW READINGS.
- **Stability** – The non-depleting sensor REQUIRES LITTLE OR NO RECALIBRATION OVER TIME.
- **Environmental Sensitivity** – The Sentry Circuit technology automatically adjusts to minor changes in relative humidity and barometric pressure WITHOUT AFFECTING TRUE OXYGEN DEFICIENCY response.
- **Failsafe Operation** – The battery backup picks up where AC power stops so that you WILL ALWAYS BE SAFE.

### Series 500 Specifications

#### Range

0-25% Oxygen

#### Accuracy (at constant temperature)

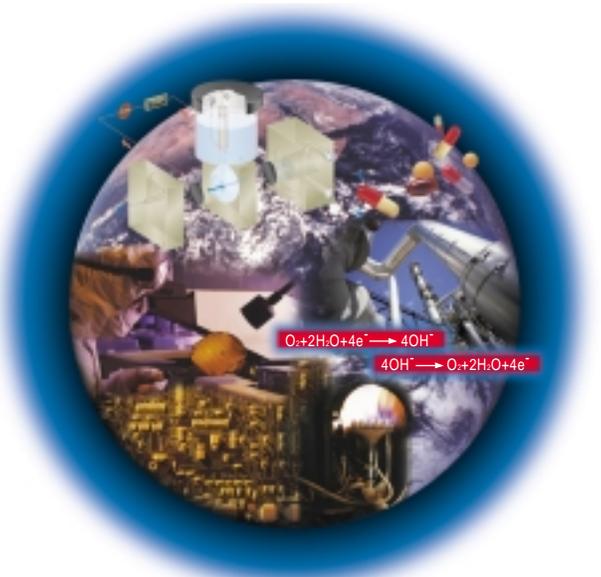
+/- 1% of Full Scale

#### Response Time

Responds instantaneously to O<sub>2</sub> change. Equilibrium depends on specific conditions Typically <30 seconds to read 90% of a step change.

#### Miscellaneous

15.19 cm W x 20.9 H x 12.2D 4.52 kg. (6.25"W x 8.25"H x 4.81"D, 10 lbs.) Operate between 0°C and 50°C ambient (32° and 122°F) 90-125 VAC, 220-250 VAC or 24 VDC input power  
3-year Full Sensor Warranty: 1-year Full Monitor Warranty.  
Optional 5-year Full Sensor Warranty.



### Configuration and Installation

Delta F provides comprehensive assistance for a broad variety of application problems including measurements of semiconductor specialty gases. Depending on the model, Delta F analyzers can be configured to provide a wide choice of outputs for data collection and process control systems. Most Delta F analyzers can be configured for remote operation and all can be ordered with classified area enclosures. Contact your Delta F rep for an Applications Data Sheet and pricing information.





# DELTA F CORPORATION

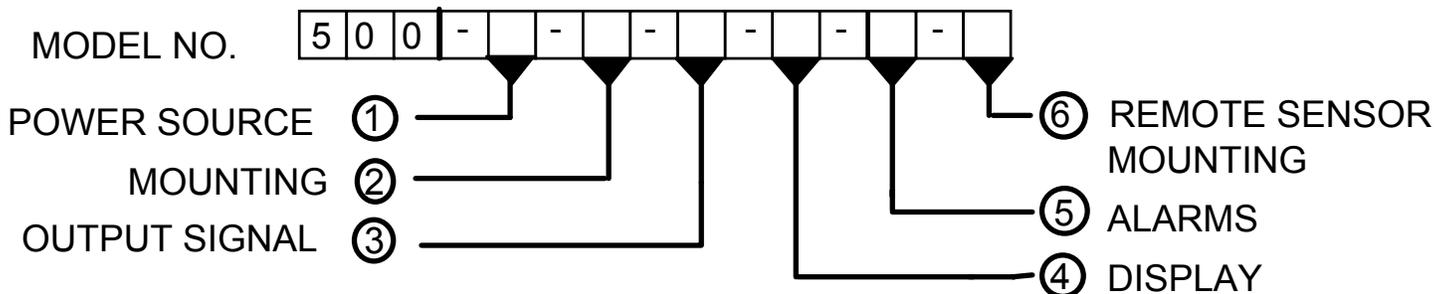
4 Constitution Way Woburn, Massachusetts 01801-1087  
 Telephone (781) 935-4600 FAX (781) 938-0531

## SERIES 500 OXYGEN MONITOR ORDERING AND PRICE INFORMATION

EFFECTIVE March 1, 2002

### How to Order a Monitor

To determine the model number of the oxygen analyzer desired, fill in the following blank form making the appropriate choice of Identification Code from the (6) parameter lists below:



### SERIES 500 OXYGEN MONITOR

① **POWER SOURCE**  
 90-125 VAC, 50-60 Hz  
 220-250 VAC, 50-60 Hz

CODE
1
2

② **MOUNTING**  
 Wall  
 Panel  
 Benchtop/Portable

W
P
B

③ **OUTPUT SIGNAL**  
 0-10 VDC  
 4-20 mADC  
 RS232/Current Loop  
 4-20 mADC plus  
 RS232/Current Loop

1
2
3
4

④ **DISPLAY**  
 LCD

L
---

⑤ **ALARMS**  
 Lo-Lo (User Adjustable)  
 Lo-Lo (Fixed Values)  
 Lo-Hi  
 Hi-Hi

1
2
3
4

⑥ **REMOTE SENSOR MOUNTING**  
 -With Open Diffuser Sensor  
 (No gas inlet & outlet fittings)

R
---

-With Extractive Sample  
 Sensor (With gas inlet &  
 outlet fittings)

RB
----

-With Extractive Sample  
 Sensor, and Flowmeter with  
 Integral Flow Control Valve

RBFC
------

-With Extractive Sample  
 Sensor, Flowmeter with  
 Integral Flow Control Valve  
 and AC Pump

RBP
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[Note: No battery backup is supplied on units using AC Pump]

**500-EW 5-Year Full Sensor Warranty**



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### Performance

**Range:** 0-25%

**Accuracy:** +/- 1% of Full Scale

**Response Time:** 30 seconds for a 90% Response

**Sensor Type:** Non-depleting coulometric

**Sensor Warranty:** 3-Year Full Warranty  
5-Year Full Warranty (Optional)

**Monitor Warranty** 1-Year Full Warranty

**Electronics:** Microprocessor-based

**Display:** 3.5 digit LCD  
Resolution: 0.1% Oxygen

**Power Requirements:** 90-125 VAC, 50/60 Hz  
220-250 VAC, 50/60 Hz

**Weight:** 8 lbs. (3.62 kg)

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

**Enclosure:**

General purpose NEMA 1 suitable for wall mounting  
Optional panel mounting or portable versions available

**Oxygen Alarm Relays:**

Two fully adjustable setpoints with Form C relay contacts (SPDT) rated 0.3 amp at 125 VAC/110 VDC, 1 amp at 30 VDC.

**Built-in Audible Alarm:**

Activates on the following alarm conditions:

- Oxygen alarm (sounds continuously)
- Low battery (sounds intermittently)
- Check battery (sounds intermittently)
- Check electrolyte (sounds intermittently)
- Sentry Circuit alert (sounds intermittently)

**Instrument Condition Alarm Relay:**

Third Form C relay contact output for either Low battery; Check battery; Check electrolyte, or Sentry Circuit alert

**Oxygen Alarm Status Indicators:**

Two front panel LEDs for Alarm 1 and Alarm 2

**Power Management and Sentry Alert Status Indicators:**

Front panel LEDs indicate Battery operation, Low battery, Check battery, and Sentry Circuit alert.

TTL or open collector output signal is available when monitor is on battery power

**Sensor Status Indicator:**

Check electrolyte

Front panel LED alerts user if sensor maintenance is required

**Battery Backup:**

Built in NiCd batteries are maintained on trickle charge

**Battery Recharge Time:**

20 hours from a full discharge

Battery charging starts automatically during AC operation

**Output Signals:**

0-10 VDC standard

4-20 mADC and RS232/20 mA current loop optional (compliance voltage for the optional 20 mA current loop provided by the user)

**Remote Sensor**

(Bracket Mounting)

Open diffuser sensor (no gas inlet and outlet fittings)

Extractive sample sensor (with gas inlet and outlet fittings)

Extractive sample sensor with flowmeter with integral flow control valve

Extractive sample sensor with flowmeter, integral control valve, and AC pump