



**Environmental Sensors Co.**

## **Chlorine Monoxide Meter**

Model Z-400XP

### **FEATURES**

- Portable
- Internal Pump
- Rechargeable Battery
- Remote Sampling
- Simple to Use
- TWA, STEL and Peak
- Audible Adjustable Alarm
- Data Logging



### **INTRODUCTION**

#### **Z-400XP Chlorine Monoxide Meter**

Environmental Sensors Co.'s Chlorine Meter is a portable desktop instrument that measures chlorine concentration in a range of 0-20 ppm and a resolution of 0.1 ppm

The instrument makes it possible to monitor chlorine vapor in air. The instrument has a LCD display giving concentrations in ppm every 10 seconds, a low battery indicator, and an audible alarm that can be set at any level from 0-20 ppm.

With the touch of a button, the meter displays STEL (average of every 15 min.), TWA (average of every hour) and Peak.

The internal pump makes it possible to sample from hard-to-reach areas or confined spaces by attaching a flexible tube to the meter.

### **Data Logging**

The meter stores all of the exposure points for up to 14,400 at 10 sec. interval in 5 logs (a log is created in the instrument's internal memory each time it is used). A log contains: date, time, number of exposure points. All of the log files can be easily uploaded to PC using components available within the Microsoft Windows Operating System or the terminal software included with the instrument.



# Chlorine Meter

Model Z-400XP

## SPECIFICATIONS

|                         |   |
|-------------------------|---|
| Sensor Type             | Electrochemical                             |
| Measuring Range         | 0-20 ppm                                    |
| Maximum Overload        | 250 ppm                                     |
| Resolution              | 0.1 ppm                                     |
| Sensor Life             | >2 years                                    |
| Response Time           | < 60 sec.                                   |
| Operating Temp.         | -20 C° to +50 C°                            |
| Relative Humidity Range | 15-90% non-condensing                       |
| Alarm                   | Audible, 80 db                              |
| Dimensions: HxDxW       | 7.5"x5.75"x2.75"                            |
| Weight                  | 900 gms                                     |
| Power Source            | Internal Rechargeable Battery or AC Adaptor |
| Warranty                | 1 year                                      |

## THEORY OF OPERATION

The sensing element of the instrument is an electrochemical cell. The cell is a four-electrode type, which contains a working and an active auxiliary electrode. The signal from the auxiliary electrode is used for temperature compensation and to improve the selectivity of the entire sensor. The sensor response is linear with the concentration of chlorine in air.

## INTERFERENCES

Some representative examples of the common compounds and the corresponding signals they are shown below. Care needs to be exercised when using this instrument in the presence of large concentrations of interfering gases. Contact the manufacturer if difficulties are suspected with other gases, or with other usage problems. In addition variations in the baseline, as a result of variations in concentrations of compounds other than the target gas, during the course of the measurement, can impact the reading.

### Cross-Sensitivity Data

The actual concentration of interfering gases and the corresponding signals they give are shown below.

| Gas               | Concentration | Meter Output     |
|-------------------|---------------|------------------|
| Carbon Monoxide   | 300 ppm       | 0 ppm            |
| Hydrogen Sulfide  | 15 ppm        | -3.8 ppm<x<0 ppm |
| Sulfur Dioxide    | 5 ppm         | -0.05 ppm        |
| Nitric Oxide      | 35 ppm        | 0 ppm            |
| Nitrogen Dioxide  | 5 ppm         | 5 ppm            |
| Hydrogen          | 100 ppm       | 0 ppm            |
| Hydrogen Cyanide  | 10 ppm        | 0 ppm            |
| Hydrogen Chloride | 5 ppm         | 0 ppm            |
| Ethylene          | 100 ppm       | 0 ppm            |

