

# Handheld Monitor

- ▶ Compact, lightweight, durable
- ▶ High reliability
- ▶ Fits in a shirt pocket or on the belt
- ▶ LCD display with battery status indicator
- ▶ Fixed system installation available
- ▶ Audible alarm; adjustable between 0-100 ppm

The AN2700 Ethylene Oxide Meter is a pocket sized instrument that can measure the ethylene oxide concentration in air in the 0-100 ppm range. It is used in hospitals, medical product manufacturing and in the chemical processing industry. Personnel monitoring for OSHA compliance and area monitoring are easy and low cost.

The instrument has a LCD display giving concentrations in ppm, a low battery indicator and an audible alarm that can be set at any level in range of the sensor. There is a clip that permits the instrument to be worn on the belt or in a pocket. The instrument can easily be checked for calibration, with optional equipment, at the beginning of a work shift. The low cost 9 volt battery has an operational life in excess of 1000 hours. Operation on AC power is an available option.

## OPERATION

The sensing element is an electrochemical cell. The working electrode of the cell is maintained at a fixed potential versus a reference electrode. The electrode is a gas diffusion type in which Ethylene Oxide diffusing through a porous membrane is electrochemically oxidized. A porous Teflon membrane serves as a physical support for the electrode structure and as a diffusion barrier. An active catalyst is bonded to the membrane. The current output is governed by Faraday's Law and mass transport of Ethylene Oxide to the reaction surface. The response is linear with the concentration of Ethylene Oxide in the air. The design advantages include simplicity in construction, a large output signal, long life, and high reliability.



## Specifications

### PERFORMANCE DATA

|                              |                                      |
|------------------------------|--------------------------------------|
| <b>Sensor Technology</b>     | Electrochemical                      |
| <b>Range</b>                 | 0-100 ppm                            |
| <b>Minimum Detectable</b>    | 0.1 ppm                              |
| <b>Response Time</b>         |                                      |
| <b>1 ppm (TLV)</b>           | <5 sec.                              |
| <b>90% peak</b>              | <140 sec.                            |
| <b>Recovery Time</b>         |                                      |
| <b>10% peak</b>              | <270 sec.                            |
| <b>Repeatability</b>         | +/-0.2 ppm                           |
| <b>Linearity</b>             | R.C. = 0.98                          |
| <b>Zero Drift</b>            | <0.1 ppm/day                         |
| <b>Sensitivity Draft</b>     | <+/-2%/day                           |
| <b>Operating Temperature</b> | 20-35°C                              |
| <b>Alarm</b>                 | Audible                              |
| <b>Alarm Settings</b>        | 0-100 ppm                            |
| <b>Dimensions</b>            | H x D x W<br>4.75 x 2.5 x 1.5 inches |
| <b>Weight</b>                | 170 gms                              |
| <b>Power Source</b>          | 9V alkaline battery                  |
| <b>Sensor Life</b>           | 2+ years                             |

### INTERFERENCES

Concentrations of gases sometimes encountered in facilities where Ethylene oxide is used are given below. The concentrations are those required to indicate 1 ppm Ethylene oxide.

| <b>Gas</b>     | <b>Concentration,ppm</b> |
|----------------|--------------------------|
| Acetone        | 109                      |
| Isopropanol    | 6                        |
| Freon          | no response              |
| Carbon Dioxide | no response              |

### SAFETY

The instrument is an extremely safe device when the recommended low cost, low discharge rate 9 volt carbon cell is used. Under most circumstances there is insufficient energy to ignite a combustible gas mixture.

The unit is being certified by the Canadian Standards Association as a Division II device.

### Applications

- Measure personal exposure for OSHA compliance testing.
- Measure short term exposures during Ethylene oxide tank charges.
- Measure residual Ethylene oxide in aerated materials.
- Detection of Ethylene oxide leaks.
- Fixed system installation continuously monitoring a given area.

### ORDERING INFORMATION

For additional information contact us at:

**800-524-3455**

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