



Specification GD-1000 Hazardous Gas Detector

1.0 General

The (chlorine) (sulfur dioxide) gas detector shall be the Premier Series Gas Detector Model GD-1000 as manufactured by Eagle Microsystems, Inc. The unit shall consist of a microprocessor-based Alarm Indicator Unit with one or two remotely mounted Gas Sensor(s) and interconnecting cable.

2.0 Components

2.1 Gas Sensor

Each Gas Sensor shall be a three-electrode, micro fuel cell-type device mounted in a NEMA 4X enclosure. Each sensor shall be capable of responding to levels of the target gas from 0.1 to 30.0 PPM. Each sensor shall provide an 80% response to a 10 PPM leak of gas in air within 30 seconds. Recovery time shall be 30 seconds for an 80% recovery from a 10 PPM peak. An LED shall be mounted on the Gas Sensor enclosure to indicate when the sensor is powered.

2.2 Alarm Indicator Unit

The Alarm Indicator Unit shall be housed in an NEMA 4X (IP65) -rated, weather resistant enclosure. A clear, hinged, gasketed door shall provide access to the pushbutton controls. The unit shall be equipped with a two-line by 16-character back lit LCD display. The first line of the operational display shall register gas concentration or, when in alarm, the words "Critical" or "Danger" are displayed and the display flashes. The second line shall show the measured gas concentration as a percent of full scale bar graph, or the charge level of the optional backup battery. The unit shall provide an isolated 4-20 mAdc output signal proportional to the full scale calibrated range. The Alarm Indicator Unit shall be capable of single or dual channel operation.

2.3 Alarms

Three programmable relays shall be provided to permit actuation of alarms for Danger and Critical alarm conditions and to alert the operator to a sensor fault condition. When the optional battery backup function is provided, the third relay shall also alert the operator to a low battery condition. All alarms shall be displayed on the alphanumeric display and annunciated via the 103 dB integral audible alarm horn. All alarm contacts shall be gold plated and be rated 1.2 A at 120 Vac. The alarm set point values shall be

entered via the instrument keypad and stored in non-volatile EEPROM memory. All programming, including alarm set-point values shall be retained regardless of main power or backup battery condition. Each Gas Sensor shall be furnished with a 10 foot cable for interconnection to the Alarm Indicator Unit. The Gas Detector shall operate on (120) (240) Vac, (50) (60) Hz, single phase power.

3.0 Backup Battery (Optional)

A battery backup system shall be built into the Alarm Indicator Unit to provide power in the event of loss of AC power. The battery backup shall be capable of maintaining operation of the unit for approximately 45 minutes. The battery shall be continuously charged by a trickle charging circuit.