

# Z Gard® S Sensor

## Economical and Reliable Gas Sensor



The Z Gard S Sensor is designed to detect the presence of carbon monoxide and nitrogen dioxide gases in air. These sensors employ solid state or electrochemical sensors which generate a representative output signal proportional to the calibrated operating range. All Z Gard S Sensors are available with 2 output versions, a 4-20mA analog output, or an addressable RS-485 digital signal. The Z Gard S Sensor with RS-485 digital output is specifically designed to operate with any Z Gard C 485 Controller, operating as a system. The Z Gard S Sensor with 4-20mA can be installed as a stand-alone sensor typically integrated with the Z Gard C Controller, or common commercial equipment including PLC, DCS, or building automation systems.

### Features

- ▶ 2 sensor output options: 4-20mA analog output or RS-485 digital signal.
- ▶ Standard housing is a 4" x 4" tamper-resistant commercial electrical PVC box with 3/4" PVC conduit opening. Sensor and electronics are housed in a steel cover plate box-mounted with 4 screws.
- ▶ Sensor status is shown by green OK LED, indicating proper device operation.
- ▶ Jumpers drive output to percentages of full-scale. This feature is useful for testing remote devices which may be connected to the sensor output.

## Specifications

| Solid State Sensor  |  |
|---|--|
| <b>Detection Range</b>  | CO 0-100 or 0-200 ppm. Other gases are available.  |
| <b>Sensor</b>   | Metal oxide sensing element  |
| <b>Accuracy</b>   | ± 5% , full scale (FS) at 50% relative humidity  |
| <b>Humidity</b>   | 0 - 95% RH   |
| <b>Operating Temperature Range</b>                            | 0° to 40°C (32° to 104°F)  |
| <b>Storage Temperature Range</b>                              | -10° to 50°C (14° to 122°F)  |
| Electrochemical Sensor  |  |
| <b>Detection Range</b><br>Carbon Monoxide<br>Nitrogen dioxide | Standard (0-100 ppm), Optional (0-200 ppm)<br>Standard (0-100 ppm)   |
| <b>Sensors</b>  | Plug-in, electrochemical sensing elements  |
| <b>Accuracy</b>   | ± 5% , full scale (FS)   |
| <b>Humidity</b>   | 0 - 95% RH   |
| <b>Operating Temperature Range</b>                            | 0° to 40°C (32° to 104°F)  |
| <b>Storage Temperature Range</b>                              | -10° to 50°C (14° to 122°F)  |
| All Z Gard Sensors  |  |
| <b>Calibration</b>  | Factory-calibrated. Sensors can also be field-calibrated.  |
| <b>Standard Enclosure</b>                                     | Plastic double-gang connection box. Metal front plate secures sensor and circuit board                                       |
| <b>Dimensions</b>   | 5.5" H x 5.5" W x 2.2" D   |
| <b>Certification</b>  | ENTELA (to CSA Standards)  |
| Z Gard S 4-20 mA Sensors                                      |  |
| <b>Operating Power</b><br>24 VAC or DC<br>24 VAC              | 100 mA used with MSA Z Gard Controllers or commercial DCS and PLC devices<br>100 mA used with commercial DCS and PLC devices |
| <b>Signal Output</b>  | 4-20 mA analog, 3-wire, point-to-point connection  |
| Z Gard S RS-485 Sensors                                       |  |
| <b>Operating Power</b>  | 24 VDC, 100 mA used with MSA Z Gard C Controllers  |
| <b>Standard Enclosure</b>                                     | RS-485, 4-wire network connection  |
| <b>Dimensions</b>   | Network address jumpers, 1 to 127  |

## Ordering Information

A Z Gard S Controller ATO order form is available from the MSA Preferred Products Catalog. Call 1-800-MSA-INST (1-800-672-4678) to obtain a copy of the Preferred Products Catalog CD.

**Note:** This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.

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