# Z-Gard® Combo Controller - Product Specifications

| PHYSICAL CHARACTERISTICS | |
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| Size | The standard monitor unit shall not exceed 8.25” H x 8.25" W x 4.0" D in total size. |
| Enclosure Type | The enclosure shall be a NEMA 1 General Purpose painted steel enclosure with welded-hinged door. The door is secured to the enclosure using industry standard nominal size 8-32 screws. |
| Enclosure Entries | Enclosure shall have multiple entries to accept connections to 3/4" conduit. . |
| Mounting Provisions | Monitor shall have available mounting holes for attaching the unit to a flat surface or panel. |
| Sensor | Monitor shall have an integrated CO sensor. |

| ENVIRONMENTAL | |
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| Temperature | The controller shall have a temperature range of 0° to 40°C (4° to 104°F) |
| Humidity | Operating humidity range shall be 0-95% RH, non-condensing. |

| SENSOR REQUIREMENTS | |
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| Temperature | MOS solid state CO sensor operating temperature range shall be 0° to 40°C (4° to 104°F) |
| Humidity | MOS solid state sensor's operating humidity range shall be 25-95% RH, non-condensing. |
| Accuracy | The MOS solid state sensor must have a linear response to the selected target gas with an accuracy of ±5% full scale. |

| CONTROLLER OPERATION REQUIREMENTS | |
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| Sensor Transmitter Input Requirements | The controller shall have an integrated CO sensor as well as the ability to connect to a maximum of 7 remotely located Z-Gard S Sensors. The sensors are linked by a RS485 2-wire network communication system. The controller and associated sensors shall continuously monitor for excessive levels of specific target gases and provide the necessary notification controls if gas levels rise above preset limits. |
| Operating Voltage | The controller operating voltage shall be 100 VAC, 50/60 Hz at 0.5 A or 220 VAC, 50/60 Hz at 0.25 A or 24 VDC at 1.5 A. |

| WARNING and ALARM CONTROL REQUIREMENTS | |
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| Delay Function | The controller shall have a selectable ON delay for alarm and a selectable OFF delay for warning. |
| Output Capability | The controller shall have a 4-20 mA output signal exhibiting the highest reading derived from all sensors associated with the controller. |

| USER INTERFACES | |
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| Visual Status | The controller shall include an LED display for visual indication of gas readings from all associated sensors. |

| APPROVALS | |
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| Certification | The controller shall include an LED display for visual indication of gas readings from all associated sensors. |

| WARRANTY | |
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| Full Replacement Warranty | Instrument shall have a one-year parts and labor standard warranty with optional extended one-year warranty. |

| MAINTENANCE REQUIREMENTS | |
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| Maximum System Maintenance | The system shall require no periodic maintenance other than the checking of sensor response to a known concentration of gas. |

| MANUFACTURER | |
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| Instrument Supply | The manufacturer must be capable of supplying all equipment used to check or calibrate the sensor/transmitter units. |
| Product Service | The manufacturer must be capable of providing on-site service with factory-trained personnel. |
| On-site Training | The manufacturer must be capable of providing on-site training for owner/operator. |

| COMMISSIONING | |
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| Commissioning | After installation and wiring is complete, set-up and start-up of the sensor/transmitter will be such that the enclosure need not be opened during these processes. The commissioning of the unit consists of 3 steps:<br>1. Insure that the sensor local status LED is illuminated.<br>2. Verify that the sensor is communicating with the Z-Gard Controller by observing a reading on the controller display, or verify that the commercial BAS, DCS or PLC system is receiving the analog input signal.<br>3. Verify the gas response of each sensor, or a sample set of sensors, by delivering a known concentration of the target gas to the sensor and observing the corresponding output signal to ensure that they are in agreement. During this step, any relay activity or other output function of the system that initiates third-party control equipment should also be activated. |