



## **Critical Environment Technologies**

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### **ENGINEERING SPECIFICATION SAMPLE # PDC-2**

#### ***Digital Multichannel Gas Detection System for CO, NO<sub>2</sub> & Propane***

Provide a wall mount, self-contained, field programmable control panel with digital display, LED alarm indication, and door mounted 90 dB audible alarm with silence / acknowledge switch. There shall be a scrolling LCD display of gas, concentration, and alarm status. System controller shall be capable of supporting up to 128 digital transmitters on a RS-485 communication bus. System shall support analog output modules (eight 4-20 mA outputs per module) and relay output modules (eight 5 A SPDT relays per module). The controller shall have 8 on board relays. System wiring shall be 4 wire digital network (2 low voltage power wires and a shielded twisted pair for the communication bus). System power requirement is 90 to 240 VAC, 47 to 63 Hz. The system shall be CSA/UL tested for electrical safety.

##### ***Model PDC series***

Provide remote mount sensor / transmitters for Carbon Monoxide, with an HVAC electrochemical sensor for CO with a detection range of 0 - 200 ppm. The sensor / transmitter for CO shall be housed in a wall mount, rugged, break resistant, PVC junction box with a secured, hinged door. An optional watertight Polycarbonate enclosure shall be available. The remote mount CO sensor / transmitter shall operate on power supplied by the control panel, and shall provide a digital output signal to the control panel. Install the CO sensor at approximately 4' to 6' from the floor. ***Model DST-MCO.***

Provide remote mount sensor / transmitters for Nitrogen Dioxide with an electrochemical sensor with a range of 0 - 10 ppm. The sensor / transmitter for NO<sub>2</sub> shall be housed in a wall mount, rugged, break resistant, PVC junction box with a secured, hinged door. An optional watertight Polycarbonate enclosure shall be available. The remote mount NO<sub>2</sub> sensor / transmitter shall operate on power supplied by the control panel, and shall provide a digital output signal to the control panel. Install the NO<sub>2</sub> sensor at approximately 4' to 6' from the floor. ***Model DST-END.***

Provide remote mount sensor / transmitters for Combustible gases, with a temperature compensated solid state sensor for Propane / Gasoline Vapours with a detection range of 0 - 50% LEL. The sensor / transmitter for Combustibles shall be housed in a wall mount, rugged, break resistant, PVC junction box with a secured, hinged door. An optional watertight Polycarbonate enclosure shall be available. The remote mount Combustibles sensor / transmitter shall operate on power supplied by the control panel, and shall provide a digital output signal to the control panel. Install the Combustibles sensor at approximately 6" from the floor. ***Model DST-SCB.***

System operation shall be as follows: Upon detection of 25 ppm CO, or 0.7 ppm NO<sub>2</sub>, or 10% LEL Propane the system shall illuminate the Low alarm LED, the Low alarm relays (exhaust fans) will be activated immediately. The system shall keep the fans running for a minimum of 10 minutes to avoid cycling. Upon detection of 50 ppm CO, or 1.0 ppm NO<sub>2</sub>, or 15% LEL Propane the system shall illuminate the Mid alarm LED and the Mid alarm relays will be activated, (Mid alarm only available with LCD display). The system shall keep the Mid relays active for a minimum of 10 minutes. Upon detection of 100 ppm CO, or 1.5 ppm NO<sub>2</sub>, or 20% LEL Propane the system shall illuminate the High alarm LED, the High alarm relays and audible alarm will be activated. The system shall keep the High relays active for a minimum of 10 minutes. Audible alarm can be silenced from the front panel push button.

The contractor shall provide all wiring, conduit and interconnection required for a successful installation.

##### **Approved manufacturer:**

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