



## **Critical Environment Technologies**

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### **ENGINEERING SPECIFICATION SAMPLE # PDC-4**

#### **ANALOG Multichannel Gas Detection System for CO and NO2**

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 8 analog transmitters with 4-20 mA inputs. The controller shall have 8 on board relays. System shall provide 24 VDC power for the transmitters (daisy-chained) and accept one signal wire back from each transmitter. System power requirement is 100 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 4-20 mA VDC output signal to the control panel. Install the CO sensor at approximately 4' to 6' from the floor. **Model AST-MCO**. Supply one sensor / transmitter for every 5000 to 7000 SF of exposure area. The electrochemical CO sensor shall be capable of meeting government Occupational Health and Safety measurement standards for workplace exposure to toxic gases and vapours.

Provide remote mount sensor / transmitters for Nitrogen Dioxide with an electrochemical sensor with a range of 0 - 10 ppm. The sensor / transmitter for NO2 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 NO2 sensor / transmitter shall operate on power supplied by the control panel, and shall provide a 4-20 mA VDC output signal to the control panel. Install the NO2 sensor at approximately 4' to 6' from the floor. **Model AST-END**. Supply one sensor / transmitter for every 5000 to 7000 SF of exposure area. The NO2 gas sensor shall be capable of meeting government Occupational Health and Safety measurement standards for workplace exposure to toxic gases and vapours.

System operation shall be as follows: Upon detection of 25 ppm CO in air or 0.7 ppm NO2, 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 in air or 1.0 ppm NO2, the system shall illuminate the Mid alarm LED and the Mid alarm relays will be activated. The system shall keep the Mid relays active for a minimum of 10 minutes. Upon detection of 100 ppm CO in air or 1.5 ppm NO2, 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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