

SECTION 15980 CARBON MONOXIDE DETECTING AND VENTILATION FAN CONTROL SYSTEM

PART 1 -GENERAL

1.1 WORK INCLUDED

- A. The Carbon Monoxide Detecting and Ventilation Fan Control System (C.O. System) shall be furnished and installed by the equipment supplier to provide a complete operational system. Furnish all labor, materials, equipment, tools and necessary incidentals.
- B. All start-up and checkout labor and materials shall be provided.
- C. The quantity of C.O. System sensors shall be located according to the manufacturer's recommendations and shall be positioned at least 5 feet above the garage floor level.

1.2 RELATED WORK

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. All of Division 15 is applicable.

1.3 SUBMITTALS

- A. Submit Product Data, Materials List, and Manufacturer's literature in accordance with Sections 01300 and 15050.
- B. All substitutions shall be submitted in accordance with Section 01630.

1.4 WARRANTY

- A. Provide a written warranty in accordance with Sections 01780 and 15050.

PART 2 -PRODUCTS

2.1 GENERAL

- A. C.O. system shall be a microprocessor based measuring system) electrochemical sensor(s) as manufactured by Greystone. Contact: AC Energy Systems, Inc. or an approved equal.
- B. Each sensor shall be factory pre-calibrated and no field adjustments shall be necessary upon installation.
- C. Units shall provide dry relay contacts to allow for inter-connecting of multiple monitoring points in the control loop.
- D. Each unit in the system shall have panel lights to indicate Power ON, Fan ON, and Alarm. An 85-dB audible alarm shall be included at each sensor location to alarm if that sensor exceeds alarm limits.
- E. Unit shall have self-test diagnostics and shall signal a fault at the sensor location and turn on fans if a malfunction is detected.

- F. Unit shall automatically compensate for temperature and humidity over the range of 32-125 F and 10-90 percent relative humidity.
- G. Unit shall monitor and alarm in accordance with the 1989 OSHA Air Contaminants - Permissible Exposure Limits (Title 29 Code of Federal Regulations Part 1910.1000).
- H. Unit shall turn fans ON when CO level exceeds 35 ppm for approximately 3 minutes.
- I. Units shall prevent short cycling of fans by having a minimum fan ON time of 2.5 minutes.
- J. Unit shall alarm if CO concentration exceeds 100 PPM for 15 minutes.
- K. Unit shall alarm differently if CO concentration exceeds 200-PPM.
- L. Alarms shall automatically reset when CO concentration levels fall below the alarm level.
- M. The Unit shall have a two-year limited factory warranty from date of shipment from factory.

2.2 MOTOR STARTER

- A. Provide and install all required motor starters in accordance with Section 15500.

PART 3 -EXECUTION

3.1 INSTALLATION:

- A. Equipment supplier shall install items in accordance with the manufacturer's printed instructions.

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- A. Provide a complete operational system. All wiring, conduit and terminations required shall be in accordance with the manufacturer's printed instructions and as noted below.
- B. CO System to control the fan contactor to provide fail-safe (fans running) operation if control wires are broken, sensor fails, or power is lost to controller.
- C. Motor Starter
 - 1. The motor starter shall be installed per the manufacturer's installation instructions.
 - 2. A standard wiring diagram shall be included for making the appropriate electrical connections.