

**Purchase Specification:       ISA-RAL-M**

A continuous compressed air line monitor for carbon monoxide (CO) shall be provided. The instrument shall provide an analog display to indicate CO concentration present. It shall also provide audio, visual and relay contact alarms if the level of carbon monoxide exceeds a preset limit. The device shall have the following specifications:

**A.     Power**

1.       The instrument shall have 110 VAC (60Hz) power input.
2.       The instrument will be provided with a standard US 110 VAC power cord.
3.       Power consumption shall be limited to less than 25 Watts.
4.       The instrument shall be capable of being powered by 12 VDC.

**B.     Enclosure**

1.       The instrument enclosure shall be NEMA-12 painted steel.
2.       The enclosure shall be no larger than 7 x 9 x 5 inches.
3.       The instrument shall weigh no more than 11 pounds.

**C.     Display**

1.       The display shall be an analog meter.
2.       The display shall show the CO concentration between 0-50 ppm.
3.       The display shall show alarm set points.

**D.     Alarms**

1.       The instrument shall have two levels of alarm. The low alarm shall be preset at 10 ppm CO and the high alarm preset at 20 ppm CO.
2.       The instrument shall provide an audio alarm, at least 90 dB at 2 feet.
3.       The instrument shall have a dedicated indicating lamp that activates at each alarm point.

**E.     Outputs**

1.       Each alarm point shall activate a Form C relay contact rated for at least 2 A at 110 VAC, non-resistive load.

**F.     Sensor**

1.       The sensing element shall be a metallic oxide semiconductor (MOS) gas sensor.
2.       A humidifier bowl shall be included with the instrument to humidify the air sample to the sensor.
3.       T90 response time shall be 30 seconds to 20 ppm CO.

**G.     Operation**

1.       The instrument shall incorporate a purge function to clean the sensor prior to calibration or for infrequently used instruments.
2.       The instrument shall have an audio defeat function that includes a visual indicator.