SECTION 230923 – GAS DETECTION MONITORING SYSTEM

The manufacturer shall warrant all components for a period of 5 years from the date of production and shall have a 1 year calibration warranty.

* 1. Manufactured, brand labeled or distributed by Belimo.
  2. All sensing elements must be capable of field calibration or field replacement with a factory calibrated sensing element.
  3. Sensing elements shall be mounted per the manufacturer’s recommended height.
  4. Carbon Monoxide
     1. Element Type: Electrochemical
     2. Ranges:
        1. Measurement: 0-250 ppm full scale
        2. Detection Range: **50 ft** **(15 m)**
        3. Operating Temperature: **-4 to 104 ℉** **(-20 to 40 ℃)**
        4. Humidity:
           1. 15-90% rH continuous
           2. 0-99% rH intermittent, non-condensing
     3. Performance:
        1. Accuracy: +/- 3% full scale (0-75 ppm)
        2. Drift: <5% (annual)
        3. Repeatability: <+3%
        4. Response Time: <30 seconds (T90)
  5. Nitrogen Dioxide
     1. Element Type: Electromechanical
     2. Ranges:
        1. Measurement: 0-10 ppm full scale
        2. Detection Range: 50 ft (15 m)
        3. Operating Temperature: **-4 to 104 ℉** **(-20 to 40 ℃)**
        4. Humidity:
           1. 15-90% rH maximum continuous
           2. 0-99% rH intermittent, non-condensing
     3. Performance:
        1. Accuracy: + 6.5% full scale (0-2 ppm)
        2. Drift: <+2% (monthly)
        3. Repeatability: <+2%
        4. Response Time: <30 seconds (T90)

* 1. Power Supply:
     1. Voltage: 24VAC
     2. Frequency: 50/60 hz
     3. Apparent Power: 5VA (210 mA)
  2. Outputs:
     1. Type A
        + 1. Binary: (1) SPDT 5A @ 125VAC relay
          2. Analog: (2), 4-20mA or 2-10 VDC
     2. Type B
        + 1. Binary: (2) SPDT 5A@ 125VAC relays
  3. User Interface
     1. Backlit LCD display of gas concentration, user settings and calibration controls.
     2. LED alarm indicators for 3 levels of alarm: Red for gas level 1 and 2; high intensity white strobe for gas level 3.
     3. Audible alarm, 80db at **3.3 feet (1 meter)**.
  4. Agency Listings:
     1. UL 2075 and ULC-S588 assemblies for CO single, NO2 single, and CO/NO2 dual monitors; CSA C22.2.No. 61010-1-12, UL94 5VA enclosure.
  5. Communication:
     1. CAN network operation as addressable nodes.
     2. BTL listed BACnet MS/TP RS485 for integration to the building automation system.