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.