



**QUATROSENSE  
ENVIRONMENTAL  
LTD.**

## **QAS-120/121 SERIES SINGLE CHANNEL OXYGEN DEFICIENCY CONTROLLERS**

### **DESCRIPTION**

The QAS-120/121 Series is an economical, general purpose, stand alone Oxygen (O<sub>2</sub>) detection and control unit. Designed for wall mounting, it electronically senses the amount of oxygen in the surrounding air and alarms when the level falls below factory preset values. Relay contacts are provided for remote control and alarm.

### **APPLICATIONS**

-Chiller Rooms                    -Freezers  
-Refrigeration Plants        -Control Rooms

### **FEATURES**

- Economical sensing of oxygen deficiency
- Extremely long life sensor
- Front visible status LEDs
- Internal 85dB audible device
- Dual audible modes for warning and alarm
- Two factory preset alarm setpoints
- Multiple relay contact output for remote control
- Internal buzzer enable/disable function switch
- Easy calibration using internal LEDs
- Only clean room air needed for calibration
- CSA approval (Pending)

### **OPERATION**

The QAS-120/121 series provides two factory calibrated preset levels of oxygen deficiency. When the percentage of available oxygen in the surrounding air drops to the first warning level of 19%, a relay actuates and the audible device operates intermittently (pulse mode). When the oxygen level continues to drop and reaches the second alarm level of 17%, the second relay actuates and the audible device operates continuously (steady on mode). The audible device may be disabled by an internal switch. Front mounted LEDs show when each level is reached.

The oxygen sensor cell contains a highly accurate, repeatable, electrochemical element with a 10 year life expectancy. The sensor is similar to a small fuel cell behind a diffusion barrier. When gas enters the sensor cell a chemical reaction occurs and an electrical current is produced which is linear within the sensor range. The sensor is internally mounted in the QAS-120. With the QAS-121, the sensor is provided in a separate enclosure which may be remotely located up to 25 feet away.

Both the QAS-120 and the QAS-121 operate from standard 120VAC power and include a front mounted power on LED. The wall mounted enclosure housing is ABS flame proof Plastic with two covered, standard conduit cable entries located at the top and the rear.



**QAS-121 REMOTE SENSOR**

Mount with Oxygen Sensor Element Horizontal



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27050-001-000-RA



**PRODUCTION PART NUMBER** QAS-120 Internal Sensor  
QAS-121 Remote Sensor

**SPECIFICATIONS**

**SENSOR**

- Element Electrochemical oxygen cell
- Life 10 years typical
- Range Operating 0-100 % oxygen
- Accuracy ± 2%
- Repeatability ± 0.1%
- Output drift < 1% of full scale per month
- Response 60 secs to 90 % of step change
- Coverage 2,500 to 7,500 square feet
- Calibration Using internal trim pot and LEDs
- Mounting QAS-120 Horizontal (hole in front)  
QAS-121 Horizontal (hole in side)
- Separation QAS-121 Up to 25 feet (8m)

**SETPOINTS**

- Type Fixed, non adjustable
- Warning 19% oxygen in air
- Alarm 17% oxygen in air
- Special Specify at time of order

**CALIBRATION**

In clean air, turn Adjustment Potentiometer;  
If "CAL HIGH" LED lamp is ON turn clockwise  
If "CAL LOW" LED lamp is ON turn counter clockwise  
Unit is calibrated when both CAL LEDs are OFF.

**STATUS LEDs**

- Power On -Green
- Warning -Yellow
- Alarm -Red

**AUDIBLE DEVICE**

- Internal -85 dB at 1 ft.
- Warning -Intermittent (Pulse)
- Alarm -Continuous (Steady on)

**RELAY**

- Approval UL recognized
- Rating 5 Amps 240 VAC/30 VDC Res.
- Operation Energized below setpoint

**POWER**

- Supply 120 VAC + 10% - 15% 50-60 Hz
- Load 2 Watts maximum

**FUSE**

- Internal Type 3AG 1 Amp 250V

**WIRING**

- Size Min 24 AWG to Max 14 AWG
- Connection Screw type removeable terminals
- Cable Entry Two 0.5 inch conduit - covered

**HOUSING**

- Material ABS flame proof plastic
- Rating Nema 1 standard
- Approval UL 94-V-0
- Installation Wall mounted

**RANGE**

- Humidity 0-95% non-condensing
- Temperature -30°C to +40°C

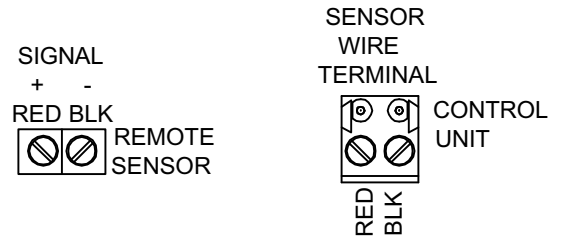
**SHIPPING WEIGHT** 5 lbs (2.3 kg)

**INTERNAL SWITCH CONTROL CODES**

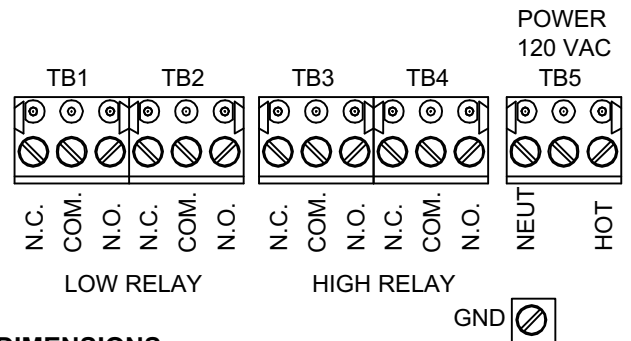
Test mode active (off = normal mode)

Audible device enable (off = disabled)

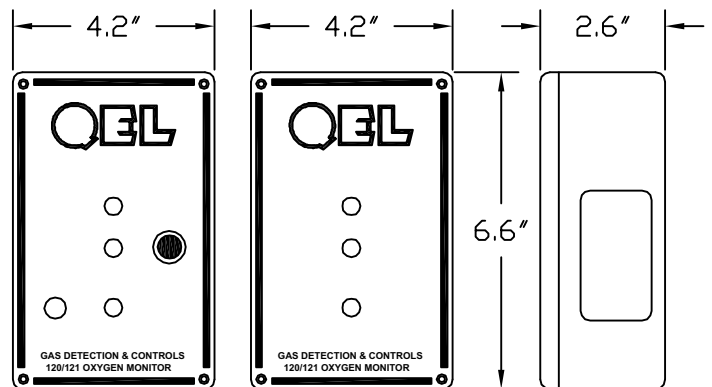
**SENSOR TERMINALS - QAS-121 ONLY**



**POWER TERMINALS - QAS 120 AND 121**



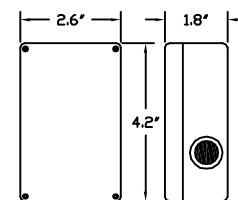
**DIMENSIONS**



QAS-120

QAS-121

REMOTE SENSOR  
FOR  
QAS-121 ONLY



THIS BROCHURE INCLUDES GENERAL SPECIFICATIONS WHICH ARE SUBJECT TO CHANGE WITHOUT NOTICE. ENSURE A COMPLETE UNDERSTANDING OF ALL APPLICABLE FEDERAL, STATE, PROVINCIAL AND LOCAL HEALTH AND SAFETY LAWS AND REGULATIONS, INCLUDING OSHA AND ENSURE COMPLETE COMPLIANCE WITH SAID LAWS AND REGULATIONS BEFORE USING THESE PRODUCTS. READ AND UNDERSTAND FULLY ALL INSTRUCTIONS BEFORE USING THESE PRODUCTS.