

## Air Quality Sensors

Rev. 01/20/11

### Features & Options

- Air Quality Alone or Air Quality, Temperature and Humidity Combination
- Corresponds to ASHRAE's Demand Controlled Ventilation algorithm
- Detects Human Metabolic VOC Emissions for Occupancy Beyond CO<sub>2</sub>
- 0-5, 0-10 or 2-10 VDC Analog Outputs

The IEQ Sensor is an accurate and reliable way of incorporating Demand Controlled Ventilation into a building's HVAC strategy. It measures the Total Volatile Organic Compounds — which are as good an indicator of space occupancy as CO<sub>2</sub> — while also measuring the other contaminants which affect human comfort and health.

Most system designers use CO<sub>2</sub> sensors to indicate room occupancy as part of their DCV setup. The problem with this method is that it ignores the offensive odors and VOCs that may be present even when the CO<sub>2</sub> levels are low. BAPI's IEQ Sensor offers the best of both worlds. It measures all the contaminants in the air but outputs a signal that corresponds to a CO<sub>2</sub> level of 0-2,000 ppm, allowing system designers to use their existing DCV algorithms.



The VOC measurement range is the optimum value for demand controlled ventilation of any commercial, school or public building. The optional display alternates between the measured values and is field adjustable between °F or °C.

### Demand Controlled Ventilation with Confidence!



IEQ Sensors with Temp. Setpoint and Override with Gray and Off White Logo Plates

### Specifications

#### Power:

9-35 VDC @ 50 mA Max  
(9-24VDC recommended) for 0-5 VDC Outputs  
15-35 VDC @ 50mA Max  
(15-24VDC recommended) for 0-10 VDC Output  
No AC Power

#### Sensing Elements:

Humidity – Capacitive Polymer, ±1.8% RH Accuracy  
Air Quality – Micro-machined Metal Oxide

#### Temperature Sensor

Thermistor, RTD or Semiconductor

**Mounting:** 2"x4" J-Box or drywall mount – screws provided

**VOC Detection Range:** 0 – 100%

**Response Time:** Less Than 60 Seconds (after Start-Up Time)

**Start-Up Time:** 15 minutes

#### Operating Environment:

32-122°F (0-50°C)  
0-95% RH non-condensing

#### LCD Display

Main Display 3.5 digit numeric (% Contaminant, Temp & Humidity)  
Occ/Un-occ BAPI Man Icon (Blk=Occupied)  
Units F, C, %RH

#### Measurement Offsets (field adjustable)

±5° (F or C) in 0.1° increments  
±5% RH in 0.1% RH increments  
±5% Contaminants in 0.1% increments

#### Analog Outputs

(0-5, 0-10 or 2-10VDC (%RH only), >10KΩ impedance)  
VOC Contaminants 0-100%  
%RH 0-100% or 35-70% RH

#### Override Output

Contact SPST  
Sensor Shorts out direct Temperature sensor (Temp)  
Setpoint Contact in parallel, resistive setpoint only

**Material:** ABS Plastic, Material Rated UL94V-0

**Certifications:** RoHS

**Warranty Period:** Two years from manufacture date



