

# SIEMENS

## QPA20... Series Room Air Quality Sensors

### Description

The QPA20... series room air quality sensors optimize room comfort by enabling demand-controlled ventilation. The sensors can acquire: CO<sub>2</sub> and volatile organic compound (VOC) concentrations, relative humidity, and temperature. Models are available for CO<sub>2</sub>, CO<sub>2</sub>/VOC, CO<sub>2</sub>/T, and CO<sub>2</sub>/T/RH.

The sensor evaluates the CO<sub>2</sub>/VOC concentrations and transforms it to a 0 to 10 Vdc linear proportional output signal.

For models with humidity, a capacitive humidity sensing element changes capacitance as a function of the relative humidity. An electronic measuring circuit converts the humidity signal to a continuous 0 to 10 Vdc signal that corresponds to a relative humidity range of 0 to 100%. For models with temperature, the sensor acquires room temperature with a sensing element that changes electrical resistance as a function of the temperature. The resistance is converted to an active 0 to 10 Vdc output signal that corresponds to a temperature range of 32°F to 122°F (0°C to 50°C) or -31°F to 95°F (-35°C to 35°C).

Sensors with an LCD window display the following measured values:

- CO<sub>2</sub> in ppm
- CO<sub>2</sub> and VOC as a bar chart (4 bars ≈ 2V, 20 bars ≈ 10V)
- Temperature in °C or °F
- Relative humidity in %

The wall-mounted sensors are suited for use with all systems and devices capable of acquiring and handling a 0 to 10 Vdc output signal.

### Features

- Multisensor for CO<sub>2</sub>/VOC, temperature, and humidity-temperature
- Maintenance-free infrared CO<sub>2</sub> sensing element, VOC sensing element based on a heated tin dioxide semiconductor
- 24 Vac operating voltage, 0 to 10 Vdc output signals



**QPA20... Series Room Air Quality Sensor.**



**QPA20... Series Room Air Quality Sensor with Display.**

## General Specifications

### Power Supply:

Operating voltage (SELV): 24 Vac  $\pm$ 20%  
 Frequency: 50/60 Hz  
 Power consumption:  $\leq$ 2 VA

### Electrical:

Screw terminals: 2  $\times$  16 AWG or 1  $\times$  14 AWG

### Environmental:

#### Temperature

Operating: 23°F to 113°F (-5° to 45°C)  
 Storage: -13°F to 158°F (-25° to 70°C)

#### Humidity:

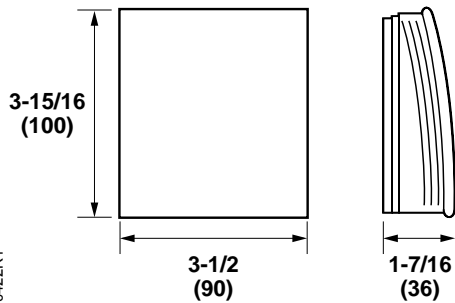
Operating: 0 to 95% rh (noncondensing)  
 Storage: <95% rh

### Physical:

Mounting: In 2  $\times$  4 inch (5  $\times$  10 cm) electrical conduit box

#### Weight in lb (kg):

Without display: 0.22 lb (0.10 kg)  
 With display: 0.26 lb (0.12 kg)



Dimensions in Inches (mm).

## Product Numbers and Specifications

Product Number	Specification						
	QPA2000	QPA2002	QPA2002D	QPA2060	QPA2060D	QPA2062	QPA2062D
CO <sub>2</sub> measuring range: 0 to 2000 ppm Accuracy: $\leq$ ±50 ppm +2% of measured value Output signal: 0 to 10 Vdc, linear Recalibration free: 8 years	•	•	•	•	•	•	•
VOC sensitivity: Low (R1), Normal (R2), High (R3)		•	•				
Temperature measuring range (slope and intercept): R2 and R3: 32°F to 122°F (0°C to 50°C) R1: -31°F to 95°F (-35°C to 35°C) Temperature measuring element: QPA2060: PT1000 QPA2062: NTC 10 k $\Omega$ Measuring accuracy in the range of: -31°F to 59°F (-35°C to 15°C): $\pm$ 1K 59°F to 95°F (15°C to 35°C): $\pm$ 0.8K 95°F to 122°F (35°C to 50°C): $\pm$ 1K				•	•	•	•
Humidity range of use: 0 to 95% rh (noncondensing) Humidity measuring range: (slope and intercept) 0 to 100% rh Measuring accuracy at 73°F (23°C), 24 Vac: 0 to 30% rh: $\pm$ 5% rh 30 to 70% rh: $\pm$ 3% rh 70 to 95% rh: $\pm$ 5% rh						•	•
Display (LCD) of measured value			•	•			•

## Ordering Information

UNIVERSAL SENSOR PROGRAM			Q	P	A	2	0	x	x	x
TYPE	SENSOR	Q								
MEASURING FAMILY	CO <sub>2</sub> /VOC	P								
APPLICATION/LOCATION	ROOM	A								
SENSOR TYPE	CO <sub>2</sub>	2								
HOUSING TYPE	CO <sub>2</sub> HOUSING	0								
TEMPERATURE OUTPUT SIGNAL	NONE	0								
	0 TO 10 VOLT	6								
RH SIGNAL PRESENT										
CO <sub>2</sub> OR VOC ONLY:	0 TO 10 VOLT	0								
CO <sub>2</sub> /VOC AND RH:	0 TO 10 VOLT	2								
SEPARATOR										
FEATURE DESCRIPTION - ROOM TYPES										
	WITHOUT DISPLAY	<BLANK>								
	WITH LCD DISPLAY	D								

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