

# pSENSE RH

Portable CO<sub>2</sub>-, Temperature- and RH instrument



Model **pSENSE RH** is a very flexible and easy to use hand-held, instrument designed to measure the carbon dioxide concentration, temperature and humidity in surrounding air. The large illuminated display presents the 3 values simultaneously, as well optional Air/Wet and Bulb temp by selection.

Built-in data output (RS232) makes it simple to log data for longer time. Audible alarm, Max/Min Average as well as TWA and STEL measurements are possible.

The carbon dioxide sensor's infrared waveguide and diffusion membrane filter provides you great reliability, accuracy and longterm stability.

## APPLICATIONS

With a battery capacity covering more than 24 hours, the instrument works perfectly for diagnosing ventilation using carbon dioxide as the surrogate ventilation index.

The instrument works perfect for measuring the indoor air quality parameters CO<sub>2</sub>, Temp and %RH. Carbon dioxide has been acknowledged as a good indicator that adequate "fresh" outside air is being supplied to the occupants for acceptable indoor air quality. Adequate ventilation reduces temporary sickness, downtime and lost productivity.

The **pSENSE RH** is also ideal for measuring carbon dioxide concentration and humidity in incubators, greenhouses, mushroom farms, etc., where correct levels are essential for the process outcome.

## STANDARD SPECIFICATION

Art.No	00-0-0016
Measured gas	Carbon dioxide (CO <sub>2</sub> )
Operating principle	Non-dispersive infrared (NDIR)
Measurement range CO <sub>2</sub>	0 – 5000ppm
Accuracy <sup>1</sup>	±30ppm ±5% of reading
Measurement range Temp	0 ~ 50°C
Accuracy	±0.6°C/±0.9°F (@ 25°C)
Measurement range RH	0% ~ 99.9%RH
Accuracy	±3%RH (@ 25°C, 10~90%) ±5% for other RH ranges
Dimensions	209.4 x 70 x 57.7mm (L x W x H)
Power supply	AA type (UM-3) x 4 pcs

## KEY BENEFITS

- State-of-the-art non-dispersive infrared (NDIR) technology to measure carbon dioxide gas in parts-per-million (ppm)
- IP30 Classification
- Data output RS232
- Displays the current carbon dioxide, temperature and RH% on a large LCD
- Displays TWA (8 hours) STEL (15 minutes) Min, Max and average values
- Internal automatic self-diagnostic function
- Audible alarm
- Easy to calibrate

<sup>1</sup>Accuracy is specified over operating temperature range at normal pressure 101.3kPa. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures (±1%) is added to the specified accuracy for absolute measurements.

**General Performance:**

Storage Temperature Range ..... -20 ~ 60°C  
 Sensor Life Expectancy <sup>1</sup> ..... >15 years  
 Maintenance Interval..... Manual calibration with fresh air  
 Display..... Numerical Liquid Crystal  
 Warm-up Time ..... 30seconds  
 Operating Temperature Range ..... 0 – 50°C  
 Operating Humidity Range..... 0 – 95%RH, non-condensing humidity environment  
 Alarm sound level ..... 80dB  
 Dimensions..... 209.4L\*70W\*57.7H (mm)  
 Weight ..... ~180g (battery excluded)  
 Power-up Time ..... <30sec. (full specs <15minutes)  
 Battery-time ..... 24hours  
 Housing Material..... ABS/PC blend  
 Operating Environment ..... Residential, commercial

**Electrical / Mechanical:**

External supply ..... Plug in transformer 9V, 1.0A  
 Internal Battery ..... 4 pcs AA batteries 24 hours capacity

**CO<sub>2</sub> Measurement:**

Sensing Method..... Non-dispersive infrared (NDIR) waveguide technology  
 Sampling Method..... Diffusion  
 Response Time (T<sub>1/e</sub>) ..... ~30sec  
 Measurement Range ..... 0 – 5000ppm<sub>vol</sub>.  
 Accuracy <sup>2</sup>..... ±30ppm ±5% of reading  
 Pressure Dependence ..... +1.6% reading per kPa deviation from normal pressure, 101.3kPa

**Temperature Measurement:**

Measurement Range (T)..... 0 ~ 50°C  
 Accuracy <sup>2</sup>..... ±0.6°C/±0.9°F (@ 25°C)  
 DP (Dew Point Temp)..... -73.4 ~ 60°C  
 WB (Wet Bulb Temp)..... -13.3 ~ 60°C  
 Response Time..... ~30sec

**Relative Humidity Measurement:**

Measurement Range ..... 0 ~ 99.9%RH  
 Accuracy <sup>2</sup>..... ±3%RH (@ 25°C, 10 ~ 90 %)  
 Response Time..... ~30sec

**Data Output:**

Digital Interface RS232 ..... Special cable  
 PC software ..... Windows 95/98/NT/ME/2000/XP Software and cable sold as option

**pSENSE RH**

Art.No.	Product
00-0-0016	pSENSE RH
00-0-0017	Calibration KIT RH for pSENSE RH
00-0-0024	Communication cable and software
100534	Power supply, net adaptor 9V/100–240VAC

<sup>1</sup> SO<sub>2</sub> enriched environments are excluded.

<sup>2</sup> Accuracy is specified over operating temperature range. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures (±1% currently) is to be added to the specified accuracy for absolute measurements. Art.No: 00-0-0017 RH Calibration Kit pSENSE can be ordered from [SenseAir®](#).