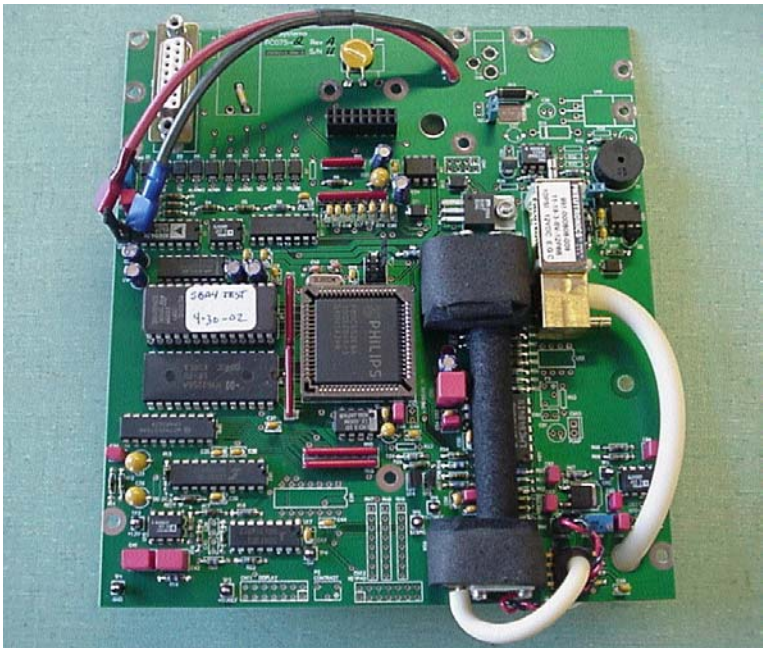
SBA-4
OEM CO_2 Analyzer



For Users Who Demand Accuracy, Reliability And Long Term Stability

For over 20 years, PP Systems has been manufacturing high quality CO_2 infrared gas analyzers for researchers worldwide. The SBA-4 is designed for OEM applications that demand a high degree of accuracy and control with minimal maintenance. The SBA-4 employs a non-dispersive, infrared measurement technique, coupled with microprocessor-based signal processing, to achieve good stability and specificity to CO_2. Our innovative "Auto-Zero" technology ensures fast warm-up, long term stability, accuracy and analyzer calibration. It also minimizes the effects on span (gas sensitivity) of sample cell contamination, source aging, changes in detector sensitivity and changes in pre-amplifier gain.

The SBA-4 is supplied as a calibrated CO_2 optical bench (to a specified range) fitted to an FR4 type printed circuit board (PCB).

Optional Humidity Sensor

A digital humidity sensor can be fitted to the SBA-4 to accurately measure humidity of the gas stream in addition to CO_2 concentration. The measurements are expressed as H_2O vapor pressure (mb).

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System Features

- High precision CO_2 analyzer
- Accuracy: < 1% of span concentration over calibrated range
- Automatic temperature and pressure compensation
- Simple calibration
- Multiple ranges available
- Voltage, current (4-20 mA) and digital (RS232) output
- Inputs for external sensors (PAR, %RH, Temperature)
- Interface to commercially available PID controllers for control of CO_2

For Use In:

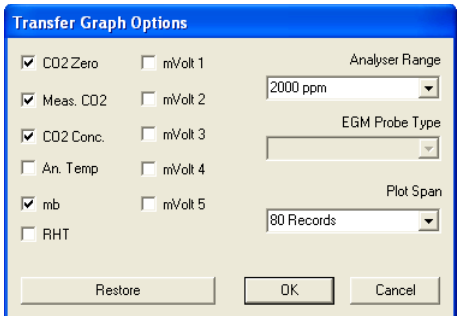
- Growth chambers
- Environmental control rooms
- Incubators
- Animal/insect respiration
- Breweries
- Ambient air monitoring
- CO_2 leakage monitoring
- Indoor air quality and safety
- Industrial monitoring

A 12V, +/- 1V power supply (user supplied), pump and zero column are required for normal operation.

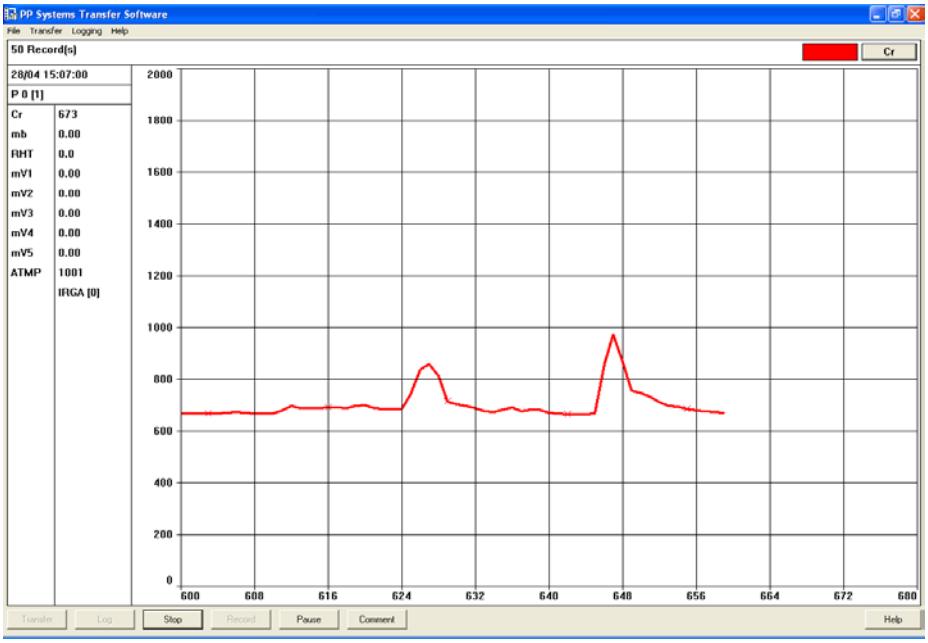
Data Sheet

The SBA-4 is supplied with a Windows® based software program for transferring and logging sensor data. The sensor data may be recorded manually or automatically depending on user specified settings. Store records (ASCII) can be later imported into your favorite spreadsheet program for further analysis.

On-line help is available to guide you every step of the way.



Up to 4 variables can be plotted at any given time (depending on the instrument)



Technical Specifications

Analysis Method
Non-dispersive infrared, configured as an absolute absorptiometer with microprocessor control of linearization.

Measurement Range
CO_2: 0-1,000 ppm (µmol mol^{-1})
0-2,000 ppm (µmol mol^{-1})
0-5,000 ppm (µmol mol^{-1})
0-10,000 ppm (µmol mol^{-1})
0-20,000 ppm (µmol mol^{-1})
0-30,000 ppm (µmol mol^{-1})
0-50,000 ppm (µmol mol^{-1})
0-100,000 ppm (µmol mol^{-1})

Custom ranges up to 100,000 ppm upon request.

Measurements are automatically corrected for temperature and pressure.

Accuracy
< 1% of span concentration over the calibrated range, but limited by the accuracy of the calibration gas mixture.

Linearity
< 1.0% throughout the range.

Stability
Automatic Zero at regular intervals, corrects for sample cell contamination, source and detector ageing and pre-amplifier gain changes.

Gas Sampling
Dynamic: User supplied pump (Recommended flow rate of 200-500 ml/min).
Static: User controls gas supply (i.e. syringe).

Calibration
Default value preset in factory (built-in initialization). Calibration by potentiometer if required.

Environmental Sensor Inputs
5 input channels are available for use with external sensors (%RH, Temperature, PAR, etc.).

Analog Output
4-20 mA, 0-5V (Linear).

Digital (RS232) Output
9600 baud/8 data bits, 1 start bit/2 stop bits/ no parity. ASCII format.

Power Supply
12V DC, +/- 1V (User supplied).

Power Consumption
0.7A (initial warm-up)
0.4A (normal operation)

Gas Connections
Inlet and exhaust ports for use with 1/8" (.125") ID tubing.

PCBType
FR4.

Dimensions
15.5 cm (W) x 17 cm (H)

Weight
0.3 kg

Optional Accessories
- Humidity Sensor
- Absorber Column (For ZERO)
- Sampling Pump

PP Systems is continuously updating its products and reserves the right to amend product specifications without notice.

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