



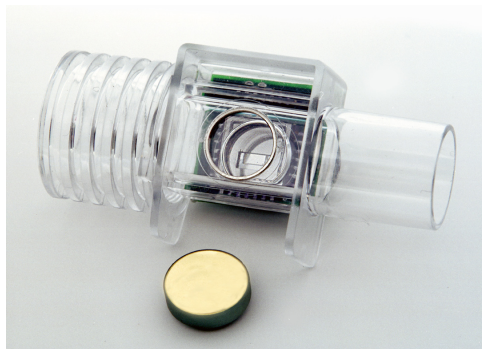
SensorChip™ CO₂ Sensor

BENEFITS:

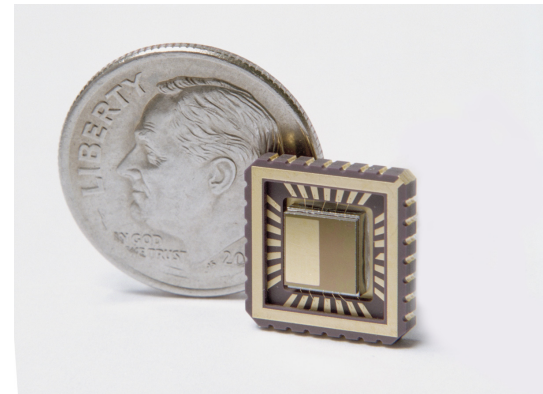
- A patented, highly integrated single component MEMS device
- Contains source, detector, and sensor in one
- Low power consumption, <120 mW
- Large inband optical power (2mW)
- Very Low system cost
- Fast response time (<100 msec)
- Capable of analog thermal compensation
- Low water crosstalk
- On board Temperature Reference

DESCRIPTION:

The SensorChip CO₂ sensor is a highly integrated single component IR sensor containing all elements of an NDIR optical bench on a single discrete silicon chip. The device generates tuned narrowband infrared radiation, eliminating the need for optical filters. This is achieved through Ion Optics' patented PCE (photonic crystal enhanced) emitter technology. When designed into a retro-reflecting optical cell the hot filament source also acts as a narrowband infrared bolometer detector.



Prototype CO₂ Capnometer.



CO₂ SensorChip.

The device has two elements for use in thermal compensation algorithms. The emitter provides tuned output with 85% of the blackbody power at the CO₂ wavelength and suppresses power at other bands for high CO₂ selectivity and overall sensor efficiency.

APPLICATIONS:

The highly integrated SensorChip CO₂ sensor system is ideal for many carbon dioxide sensing applications due to its low power consumption, small footprint and ability to be battery powered. These applications include:

- HVAC indoor air quality
- Medical Capnometry
- Industrial Safety
- Automotive
- Incubators