



Multi-Parameter Fiber Optic Gas Sensor for Non-Invasive Monitoring of Respiratory Activity

ResHealth™



ROI's ResHealth™ system monitors the respiratory behavior and environment of infants, children, and personnel potentially exposed to life threatening situations using minimally invasive fluorescence lifetime fiber optic sensors for the real time measurement of oxygen, carbon dioxide, moisture, and toxic chemical gases, with built-in all optical temperature and pressure sensing compensation

Key Features

- Non-intrusive monitor system
- Multi-parameter detection
- Wireless remote alarm warning
- No false alarms
- Microsecond response times
- Lightweight, compact, battery powered

Applications

- Sleep Apnea, SIDS
- Respiratory Disorders
- First Responders
- Military and Government Personnel
- Pilots, Divers, and Astronauts
- Home Care and Hospitals

ResHealth™ System Series Specifications

PARAMETER	O2	CO2	H2O	T	P
RANGE	5 - 25%	0.01 - 10%	0-100%	0-120 °F	0.1-1.2 atm
RESPONSE TIME	< 0.1 second	< 0.1 second	< 0.1 seconds	< 0.1 second	< 0.1 second
ACCURACY	+/- 0.1%	+/- 0.1%	+/- 0.1%	+/- 0.1%	+/- 0.1%
SENSITIVITY	0.10%	0.01%	0.10%	0.1 °F	0.1 atm
RESOLUTION	0.10%	0.01%	0.50%	1%	1%
SELECTIVITY	0% -100% RH	0% -100% RH	0% -100% O2	NA	NA
TEMPERATURE	<0.01%/°F	<0.01%/°F	<0.01%/°F	<0.01%/°F	<0.01%/atm
SENSITIVITY	(compensated)	(compensated)	(compensated)		
DRIFT	<0.01%/day	<0.01%/day	<0.01%/day	<0.01%/day	<0.01%/day
FALSE ALARMS	<<1%	<<1%	<<1%	<<1%	<<1%

Model No.	M500
Monitoring Mode	Frequency vs. Time
Fluorescence Lifetime Range	140 μsec - 100 nsec
Modulation Frequency Range	20 kHz to 200 kHz
Modulation Frequency Resolution	0.1 kHz
Excitation Source Type	LED or LD
Excitation Source Wavelength	250-nm to 850-nm
Detector	Photodiode
Emission Wavelength Selection	Optical Filter
Remote Sensing	Fiber Bundle
Fiber Optic Connector	Multimode-SMA
Data Display	LabView Graphical Interface
Data Communication	RS-232/USB
Power Supply	12V/500 mA

* Engineering specifications subject to change without prior notice

Key Features

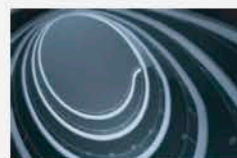
- Fluorescence/Phosphorescence lifetime
- Fiber optic excitation and emission collection
- Point and remote detection
- Microsecond response times

Redondo Optics' ResHealth™ system is based on measuring the light induced fluorescence lifetime of target fluorophores in response to a spatially and temporally modulated light excitation signal. The fluorescence lifetime is measured using the principle of "frequency-domain" or "phase-locked" detection.



Contact Information

For further information on this or other products, please contact our sales department at (310) 406-1295 or e-mail sales@redondooptics.com.



Redondo Optics