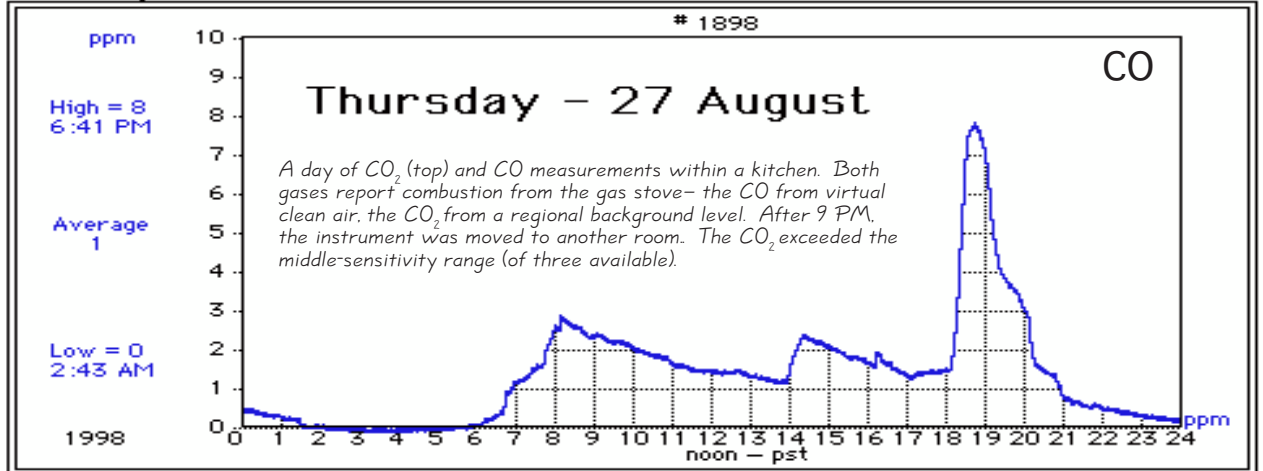
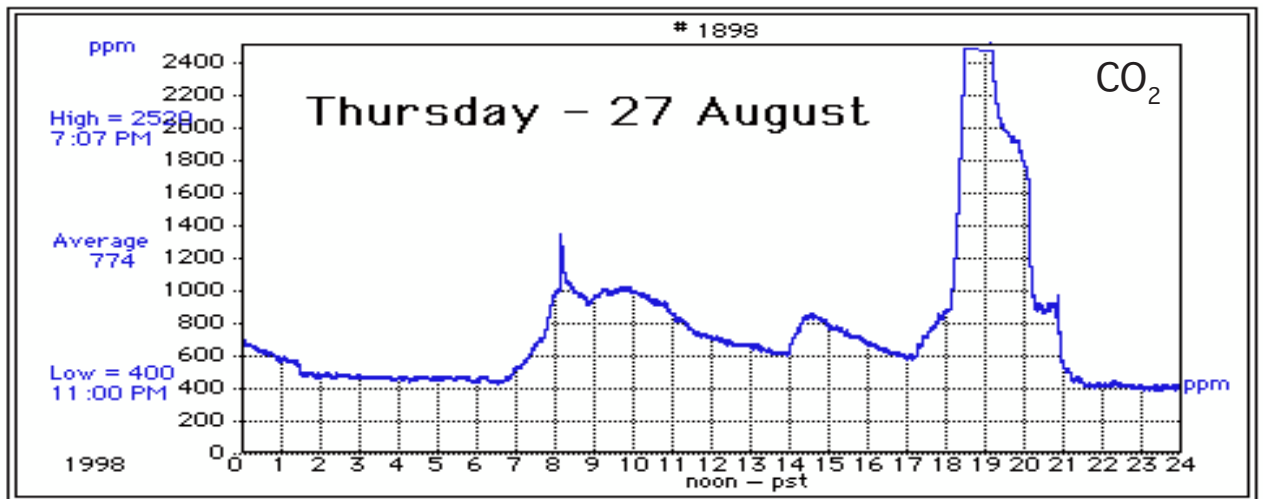


NEWS!



CO₂ and CO too

Bear Facts -- #96

The advent of portable carbon dioxide sensors allows indoor environmental monitoring with a new sense of freedom from house power. Langan Products has designed a handy, secure case which includes data acquisition and both CO₂ and CO sensors; humidity can be added as well!



Langan Products, Inc.
2660 California Street
San Francisco, California 94115
(415) 567-8089 (voice & fax)
email: langan@sirius.com



the DataBear

Bear Facts are published to provide useful insights into the operation and applications for the DataBear™ Measurer and associated complete instruments.

Keeping
in
Touch!

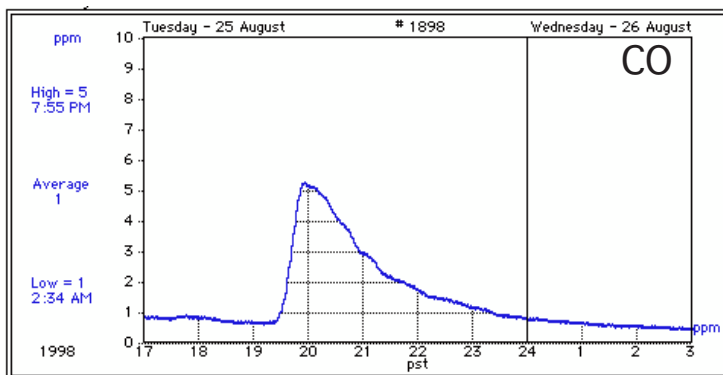
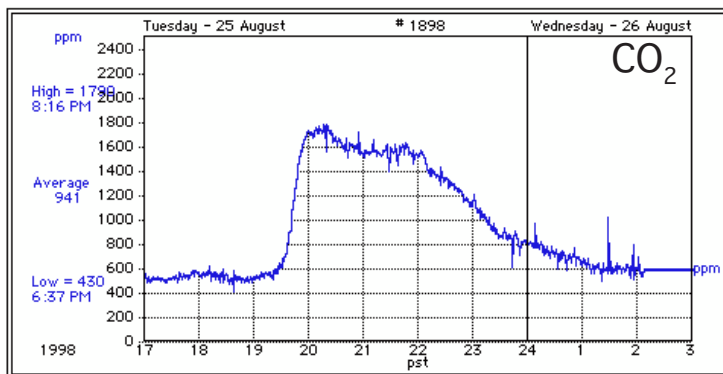
The problem of measuring carbon dioxide (CO₂) has never been the lack of sensors; based upon the absorption of this gas in the infrared band, rugged sensor technologies have been reliable for years. However, they have demanded power and, therefore, lacked portability and freedom from an AC connection. Engelhard Sensor Technologies, Inc. changed this with the introduction of their Telaire 7000 series of hand-held, AA-battery operated, digitally displayed CO₂ instruments. Langan Products has packaged this tool in a small fiberglass-reinforced polyester case with reliable data acquisition and sufficient battery support to last for months of remote data gathering almost anywhere. It can be purchased as an extended CO₂-only Measurer or combined with carbon monoxide (CO) and/or relative humidity. In all configurations temperature is provided.

The package is a 4 by 6 by 8-inch rugged nonmetallic NEMA-12 case which has two holes drilled to let air pass freely. The clear cover allows the CO₂ value to be observed. The case can be padlocked, and it can be chain-connected for security from theft. It is small enough to be unobtrusive. If set to save measurements each minute, a week of CO₂, CO and temperature can be gathered before the most recent are replaced by the oldest values.

The electronics, sensors and batteries are securely fastened inside with a custom mounting. Two 6-volt lantern cells* provide all power for over two months. If left alone, data could be obtained every ten minutes for this period.

Between measurement programs, the miniature system can be switched off by simply unplugging the batteries at a single connection. To retrieve the data, a modular jack is accessible to connect a Wintel or MacOS PC; software is provided for both worlds.

Take it anywhere a crowd may assemble, where ventilation is questioned, where air quality may be marginal. Test the air over time. CO₂, the gas we exhale, and CO, a key combustion product—as is CO₂, can provide an understanding of the indoors at an affordable price.



A close look at the results of measuring with two gases related to combustion confirms that the CO₂ also responds to the people present. Data measured in a kitchen reflect the decay of combustion (CO) and the exhalation from several people at dinner.

Langan CO₂ Models

T16: Telaire + DataBear
+ packaging/batteries

L36: T16 with humidity
L56: T16 with CO

L76: T16 with CO and humidity
L16: Telaire+DataBear (interconnected)

* AA cells installed in the Telaire result in only four days of constant measurements. Nevertheless, this independence allows spot measurements using the hand-held device. Or, when cable-connected to an equally stand-alone data acquisition instrument an easily carried package results. Langan Products offers the connections, software and DataBear Measurer in this Model L16 configuration.

© 1998 Langan Products, Inc. DataBear, the DataBear logo, XerIC, Sense-Your-World! and IBearM are trademarks of Langan Products, Inc. Macintosh is a registered trademark of Apple Computer, Inc. CiTiceL by City Technology Ltd. Telaire by Engelhard Environmental Ltd. October 1998

cut inside dotted line for small size

The Langan CO₂ Measurer includes an accurate infrared sensor in a small handheld configuration. Attached to reliable data acquisition electronics, the results are retrieved by MacOS or DOS software. The field system allows students and professionals to expand their research in ways not previously practical (or affordable!)