

LI-7000 CO₂/H₂O Gas Analyzer: Features and Benefits for Eddy Covariance Studies

Now Available:
LI-7000 Digital
Board Upgrade



High flow rates with minimal pressure drop, **lightning fast** data output rates (USB, RS-232) and support for a new **digital input trigger** are some of the key features of the LI-7000 for use in eddy covariance studies.

A new 400 MHz microprocessor allows for even more flexibility when integrating the LI-7000 into **carbon cycle measurement systems**, with important new features that include:

- Increased **auxiliary input bandwidth** allows fast response analog data (such as from a sonic anemometer) to be input to the LI-7000 and then output along with analyzer data as a single data string to the USB or RS-232 interface.
- An **external trigger signal input** is now available via the RS-232 port. This is a tool that allows an external host computer or datalogger to poll the LI-7000 for the nearest 1/600 Hz measurement (e.g. CO₂, H₂O, Temperature, Pressure, Diagnostics) in order to synchronize with data from another device such as a sonic anemometer. The serial data request is then transmitted to both the RS-232 and USB interfaces.
- A choice of **multiple baud rates** (9600-115,200 bps) allows flexibility for custom data acquisition programs. High data transfer speeds are important when synchronizing data from multiple high speed devices on the host computer.

For example, at 115,200 baud, as many as 20 variables logged at 40 Hz can be output with no missed data points.*

- A **data checksum** feature ensures the integrity of data (RS-232 and USB) transmitted between the LI-7000 and a computer. This is important in electrically noisy environments where high flow rate pumps can induce noise into data cables.
- Four 14-bit user-scalable **Digital-to-Analog Converters (DAC) with update rates** that have been increased from 300 to 600 Hz. Analog representation of LI-7000 measurements such as concentration, temperature and pressure can be fed into high speed dataloggers or sonic anemometers supporting an analog-to-digital conversion.

* Assumes minimum computer configuration as follows: 850 MHz Pentium III processor, 256 MB RAM, Windows® 2000/XP, no charting.

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