

LAI instructions

Instructions for LAI-2000 vertical profiles

Sensor Setup

1. Grab the "A" sensor and control unit. Plug sensor into "X" port on the control unit.
2. Ensure that the sensor head is clean and the 270° view-cap is correctly oriented (such that it blocks the user). *If the sensor head is dusty or has fingerprints, use the cleaning supplies in the box to clean (brush, puffer, lens wipes + fluid).*
3. Push **ON** key.
4. Push **LOG**.
5. Push **ENTER** to confirm "WHERE" as AABC.
6. Use keys to enter the next increment for the "WHAT" identifier (V1, V2, V3, etc. for vertical profiles). Remember that the ? key must be pushed to enter a letter.

Measurements

1. Gear up. Don't forget to stretch!
2. Climb to 38 m.
3. Hold the sensor out from the tower. Orient it such that it is not exposed to direct sunlight (e.g. W if morning, E in evening). Note compass direction.
4. Level the sensor (roughly is OK).
5. Push and release the button on the handle to take a measurement. You will hear 2 beeps. *If you don't, it is likely that the sensor is disconnected. Reconnect and try again.*
6. Repeat steps 3 – 5 at every flux level. Point sensor in the same compass orientation every time.
7. When done, push **BREAK**.
8. Push **FCT 09** to turn off the control unit.
9. Please log the time, V# and direction in which measurements were taken in a spreadsheet.

Downloading Data

Note: This can wait until the end of the campaign.

1. Install FV2200 software on your computer.
2. Attach the RS-232 port on the LAI-2000 control unit to a computer serial or USB port.
3. LAI-2000: push **ON**.
4. LAI-2000: push **FCT 21**. Note number of files.
5. Run the FV2200 executable and click "Acquire". Follow the on-screen prompts.
6. LAI-2000: when prompted to print files (after **FCT 32**), enter:
 - a. **FROM:** 1
 - b. **THRU:** [total number of files]
 - c. Make sure that data is saved on your computer. If not, you will have to use "saveAs" in FV2200.
 - d. Send the data to Glenn Wolfe: gwolfe@umbc.edu, along with the log-book spreadsheet.
 - e. Thanks!

Notes

- Measurements are best done when the sun is low: before 9 AM or after 6 PM. Optimal conditions are a uniform sky (i.e. all blue or all grey), but this is not essential given that vertical profile does not take long to acquire.
- Avoid taking measurements in direct sunlight. You can shade the sensor (e.g. with your hand) from directly behind it. The view-cap prevents this region from being included in the measurement.
- It would be nice to have measurements from multiple directions.
- If you ever mis-enter a command on the LAI 2000, just push **BREAK** to start over.