

## Is it time to recalibrate your AccuPAR LP-80 External Quantum Sensor

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The question of sensor calibration is never far from the mind of an experienced scientist when making measurements in the field. Inaccurate sensor calibrations can cause headaches like hours of data adjustment in the lab, or complete loss of information from an experiment. As it says in the manual, the LP-80 Ceptometer is calibrated by matching the output of its 80 sensors to the external quantum sensor, made by Apogee Instruments Inc., which has been calibrated to a NIST traceable standard. Under standard field conditions, Apogee recommends the quantum sensors be sent in every two years for recalibration. Since the quantum sensor attached to the LP-80 will not experience the same continuous, harsh field conditions, we recommend calibrating the external quantum sensor every three years.

Sending the external quantum sensor in for recalibration is simple and relatively inexpensive. Apogee has agreed to handle the entire calibration procedure so the sensors can be sent directly to them. Please note that you will only need to send your external quantum sensor and not the LP-80 to Apogee for calibration. To get your sensor recalibrated, call Apogee ((435) 792-4700) to obtain a return material authorization (RMA) number and a quote for the calibration.

When you receive your newly recalibrated quantum sensor back from Apogee, you will need to recalibrate your LP-80. This process is explained fully in the manual in Chapter 7: Setup Menu: Calibrate Probe. First you will need to go to the external sensor constant calibration

screen in your Setup menu. There you will input the calibration constant. Next, go to the calibration screen in your Setup menu and follow the steps on the screen by leveling your probe and quantum sensors (a flat surface will work too if both quantum sensor and LP-80 are at the same angle), ensuring PAR is over 00  $\mu\text{mol m}^{-2} \text{s}^{-1}$ , and pressing Enter on the LP-80. Once you have completed these steps, your LP-80 and external sensor are ready to be used again.

### ***Updating LP-80 Firmware and Software***

As with any firmware or software, Decagon is regularly updating the code in the LP-80 to ensure it is functioning well and free from bugs. If your LP-80 is running firmware earlier than 1.34 (i.e. 1.33 and older), you need to get an RMA# and send your instrument in to have the latest code loaded on your instrument. You can check your firmware version by moving to the Setup tab using the Menu button, scrolling down to "About", and pressing Enter. The Firmware version will show on the screen along with other information. Please call Decagon's Technical Support Department and they can help you through this process.

In addition to running the latest LP-80 firmware, please be sure you have the latest data retrieval software program running on your computer. AccuLink version 2.2 is now available and can be downloaded online at <http://www.decagon.com/instruments/agdownload.html/AccuPAR>. You may also get this program on a CD from Decagon upon request.

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