

Document Title: Description, AN, Field portability of WP4C		Part # and Rev. 13383	
		Release Date: 1-12-07	
Rev.	Description	Revision By	Date
-01	Updated to WP4C	DDH	11/12/10

Production Filename: 13383 (In Product Library)

Path to Working Files: DecaDoc\Application Notes\Master

Dimensions: 8.5 inch wide, 11 inch tall

Material: Paper, 92 Bright White or better, 75g/m² or heavier

Colors: Color Print on White

Printer: HP Color LaserJet 8550-PS

Finish: None

Adhesive: None

Special Notes: Illustrations are Ref Only ** Not to Scale ** (Page 1 of 2)



Application Note

Field Portability for the WP4 PotentiaMeter

On occasion, a researcher may require water potential measurements in the field where sampling and returning to the lab is not feasible. The following is a procedure for powering the WP4 using your vehicle as a power source at sites where AC power is not readily available.

Required Adapter

Purchase a portable power inverter that plugs into the 12-volt output (cigarette lighter) of a car. We strongly recommend that this inverter have a continuous output of at least 140 watts.

Procedure

- Place the WP4 on a secure level surface. Care should be taken to minimize temperature gradients that will affect the instrument while in the field. A Styrofoam box will help minimize temperature effects.
- Plug the power inverter into the 12-volt output port of the vehicle or connect the inverter directly to the 12-volt car battery.
- Plug the WP4 into the power inverter, and then turn it on. When the instrument is on, it draws one amp. Check your car battery's rating to find the length of time it can power the instrument; for example, if the battery is rated to for 60 amp-hours, then the battery will power

the WP4 for 60 hours when the car is not running.

- Allow 20 to 30 minutes for the WP4 to warm up before using it, as you would do in the lab. Check the calibration as outlined in Chapter 5 of the WP4 user's manual.
- Empty a vial of 0.5m KCl solution into a sample cup and place it the WP4's sample drawer. Turn the drawer knob to the READ position to take a reading. Take two readings. The second reading should be within ± 0.1 of 2.19 MPa. If your WP4 is reading within 0.1 MPa of the 0.5m KCl solution, proceed with sampling. If the reading is not within 0.1 MPa, a change in calibration may have occurred, or the sensor chamber may be contaminated. For cleaning instructions, see Chapter 10 of the WP4 user's manual. After cleaning, repeat the calibration check.
- Taking a reading:**
 - Prepare your sample, and place the sample in a disposable sample cup, completely covering the bottom of the cup if possible.
 - Turn the sample drawer knob to the OPEN/LOAD position and pull the drawer open.