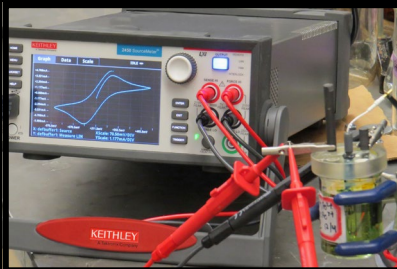


2450-ECHEM



- For use with Keithley's Model 2450 or 2460 SourceMeter® Source Measure Unit (SMU) Instruments
- Perform cyclic voltammetry on electrochemical cells
- Real-time plotting of voltammograms on the front panel
- Screen capture function allows copying voltammograms from the display to reports

Ordering Information

2450-ECHEM Electrochemical Test Suite

The 2450-ECHEM option is available only for Model 2450 or Model 2460 SourceMeter Instruments. This option is available when purchasing a Model 2450 or 2460 SourceMeter Instrument.

Components Supplied

USB Flash Drive containing:

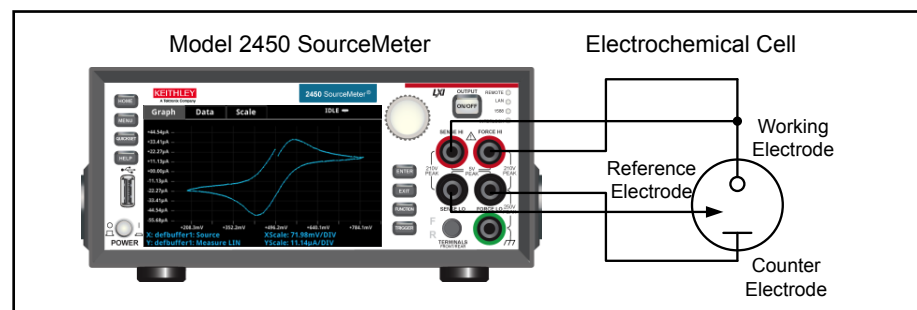
- Cyclic Voltammetry (CV) Test Script
- LabVIEW CV Executable
- LabVIEW VIs
- Documentation

Electrochemical Test Suite

Chemists use electrical measurement techniques to study chemical reactions and dynamics. Cyclic voltammetry (CV), a type of potential sweep method, is the most commonly used measurement technique in electrochemistry. A CV measurement sweeps an electrode's voltage as a function of time and measures the current that flows through the solution. The resulting I-V data provides important electrochemical properties about the solution (or analyte: a substance whose chemical ingredients are being identified and measured) under investigation. CV is used not only in the field of electrochemistry but in inorganic chemistry, organic chemistry, and biochemistry.

Cyclic voltammetry measurements are typically performed using a common instrument called a potentiostat. Potentiostats are electronic instruments designed to control the voltage difference between two electrodes. They often lack front panel displays and control knobs, have limited current and voltage source output capacity, and typically have a high list price.

SourceMeter® SMU Instruments: Lower-Cost Alternatives to Potentiostats

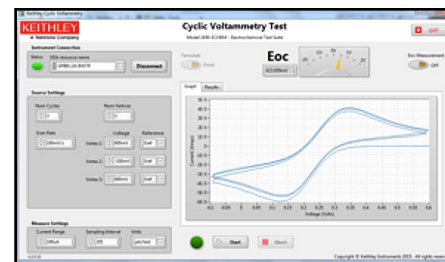
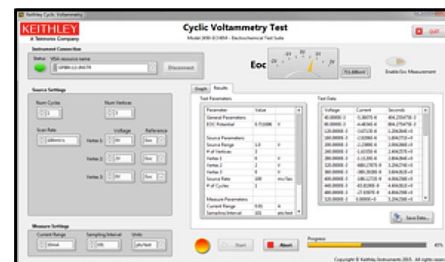


SourceMeter Source Measure Unit (SMU) Instruments offer lower-cost alternatives to potentiostats. SMUs are programmable instruments that source and measure both current and voltage and have the ability to graph voltammogram results immediately and save data without the need for a computer. They can be easily connected to 3-terminal electrochemical cells.

A Keithley Model 2450 or Model 2460 SourceMeter Source Measure Unit (SMU) Instrument can be used to perform cyclic voltammetry and other electrochemistry tests using Keithley's new 2450-ECHEM Electrochemical Test Suite at a lower cost of investment. The 2450-ECHEM option includes an open source test script to perform CV right on the instrument without the need for a PC. For PC users, the option also includes a LabVIEW CV Executable along with the source code to run the test on the Model 2450 or 2460.

The Cyclic Voltammetry Test allows setting parameters within the following ranges:

- Potential Range: $\pm 5V$
- Voltage Step Size During Ramping:
 - $100\mu V$ ($0.1mV/s \leq \text{scan rate} < 35mV/s$)
 - $1mV$ ($35mV/s \leq \text{scan rate} < 350mV/s$)
 - $10mV$ ($350mV/s \leq \text{scan rate} \leq 3500mV/s$)
- Scan Rate: $0.1mV/s$ to $3500mV/s$
- Current Measurement Range (full scale):
 - Model 2450: $100\mu A$, $1mA$, $10mA$, $100mA$, $1A$
 - Model 2460: $1mA$, $10mA$, $100mA$, $1A$, $4A$, $5A$, $7A$
- Number of Cycles: 1 to 100
- User Selectable Sampling Interval Units: Points/Test, Points/Cycle, Seconds/Point, Points/Second, mV/Point, Points/mV, mA/Point, Points/mA
- Maximum Number of Points: Up to 100,000 readings



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