Using the Model 2450 SourceMeter:
Sweep I Measure V Example

A GREATER MEASURE OF CONFIDENCE

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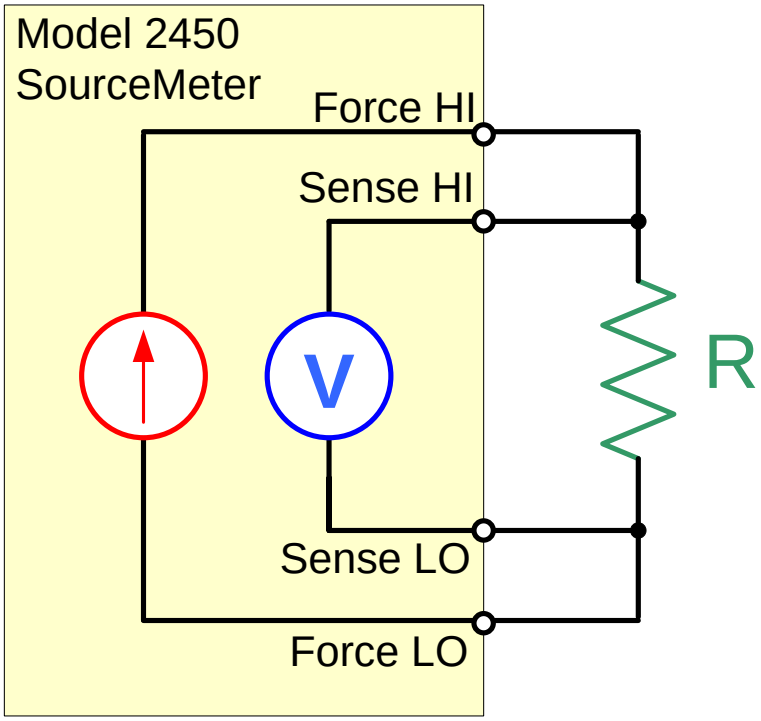
Circuit Diagram For Sweep I Measure V for a Low Resistance Device

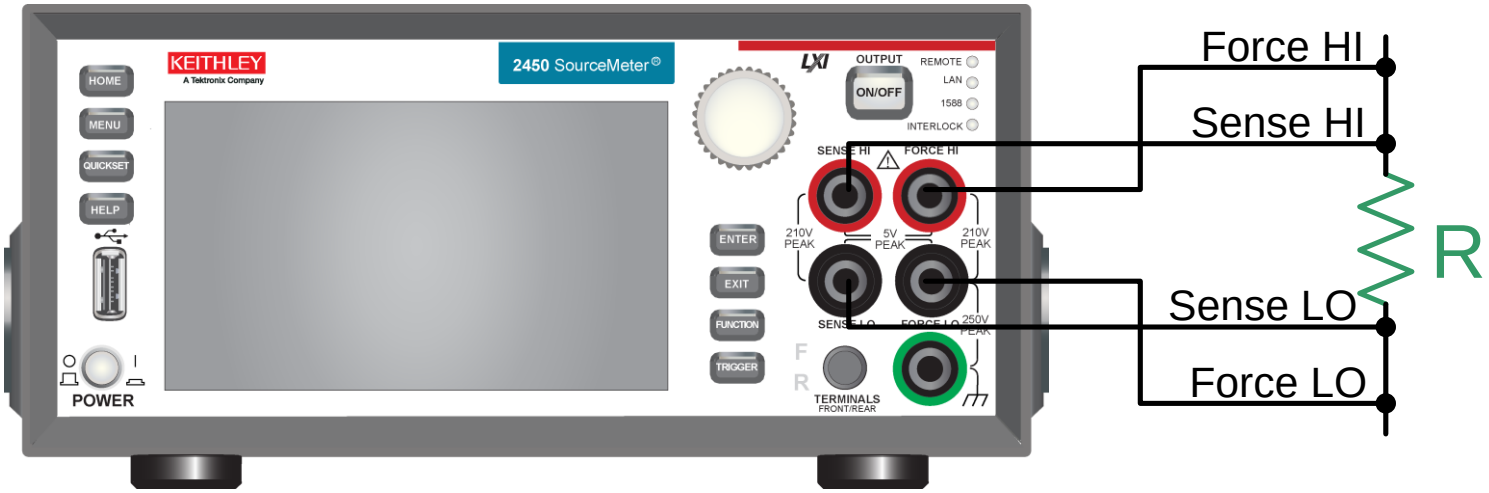


Model 2450 SourceMeter set up for sourcing current and measuring voltage in a four-wire configuration

This test sweeps the test current and measures the resulting voltage drop of a low resistance device.

In particular, a linear current source sweep of 101 points is generated and executed while the voltage is measured. The readings are displayed in the Instrument Console of Test Script Builder.

Model 2450 Front Panel Connections for Low R DUT



As shown, one end of the low resistance device, R, is connected to the Force HI and Sense HI terminals. The other end of the device is connected to Sense LO and Force LO.

A four-wire, or Remote Sense, measurement is made to eliminate the effect of lead resistance on measurement accuracy.

Using the 2450_SweepI_MeasV.tsp file

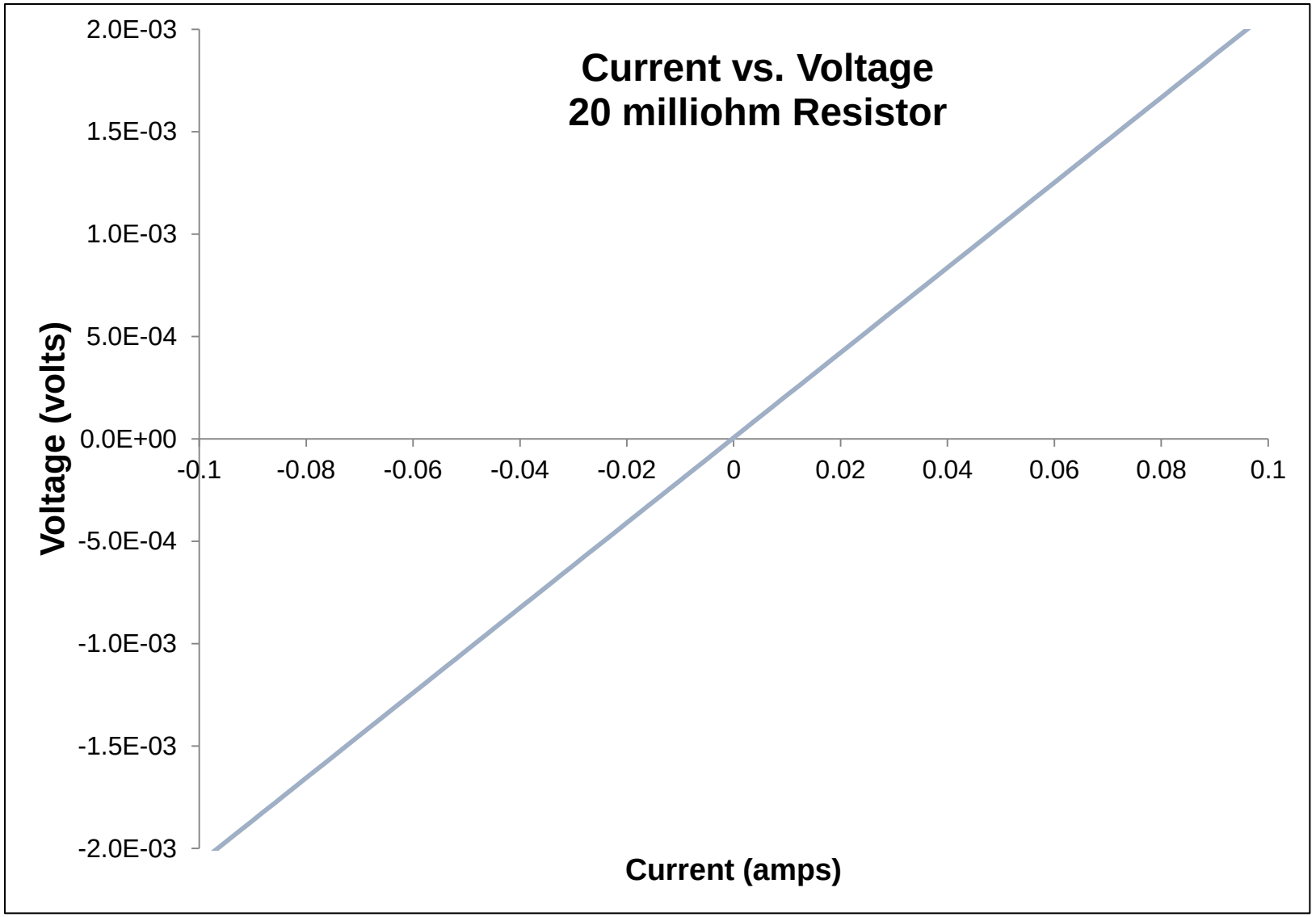
Based on your test requirements, you can change the test parameters that are programmed in the code. Here is a list of some of the default test parameters:

Test Parameter	Command	Default
Current Sweep Parameters	smu.source.sweeplinear (name, start, stop, points)	'LowR', -100e-3, 100e-3, 101
Source Delay Time	smu.source.delay	0.1 s
Voltage Limit	smu.source.vlimit.level	1 V

Make sure the Model 2450 is using the TSP command set before running the code.

After the code is executed, the measurement results are displayed in the Instrument Console. The data can be copied and pasted into a spreadsheet for graphing.

Microsoft Excel Graph of Test Results



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