Name _____ Bench _____ Date _____

LESSON 3 · STRAIN GAUGE

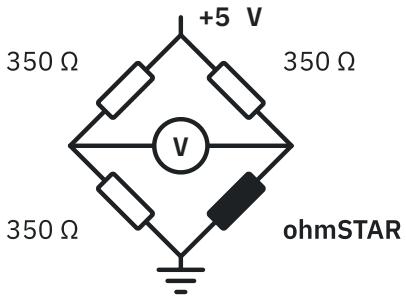
A quarter bridge you build

Build a strain gauge bridge and find the gauge factor from your own plot.

YOU NEED Three 350 Ω resistors, 5 V excitation, a meter for the output, and a box.

STEPS

1. **BUILD**
   Wire three 350 Ω resistors with the box as the fourth arm. Set 350.00 Ω and null the bridge.
2. **MEASURE**
   Step through the test points. Record the output at 5 V excitation.
3. **HAND IN**
   Plot output against strain. The slope gives the gauge factor.



350 Ω gauge, GF 2.0: R = R0 × (1 + GF × ε)

με	Ω	Output
0	350.00	
500	350.35	
1000	350.70	
2000	351.40	

Values are calculated from the standard curve. They aren't an accuracy spec.

GOOD TO KNOW

- In the Companion, Sweeps has a Strain gauge mode: enter R0, gauge factor, leads and με.
- An ohmSTAR+ steps in 0.01 Ω and sets these values exactly. An ohmSTAR steps in 0.1 Ω.

YOUR NOTES AND PLOT