

Ch. 13: Sensors

13.7)

Design a strain gage interface circuit based on a Wheatstone bridge. The strain gage has a nominal (unstrained) resistance of $120\ \Omega$ and a gage factor of 2. The interface circuit's output should be $0\ \text{V}$ when the gage is not subjected to strain, and sensitivity of $0.5\ \text{mV}/\mu\epsilon$.

13.10)

If R_1 in Figure 13.82 is a sensor whose resistance varies from $8\ \text{k}\Omega$ to $12\ \text{k}\Omega$,

- a) what is the range of output voltages for the op-amp on the left (U_{1A})?
- b) what are the output voltages for the op-amp on the right (U_{1B})?

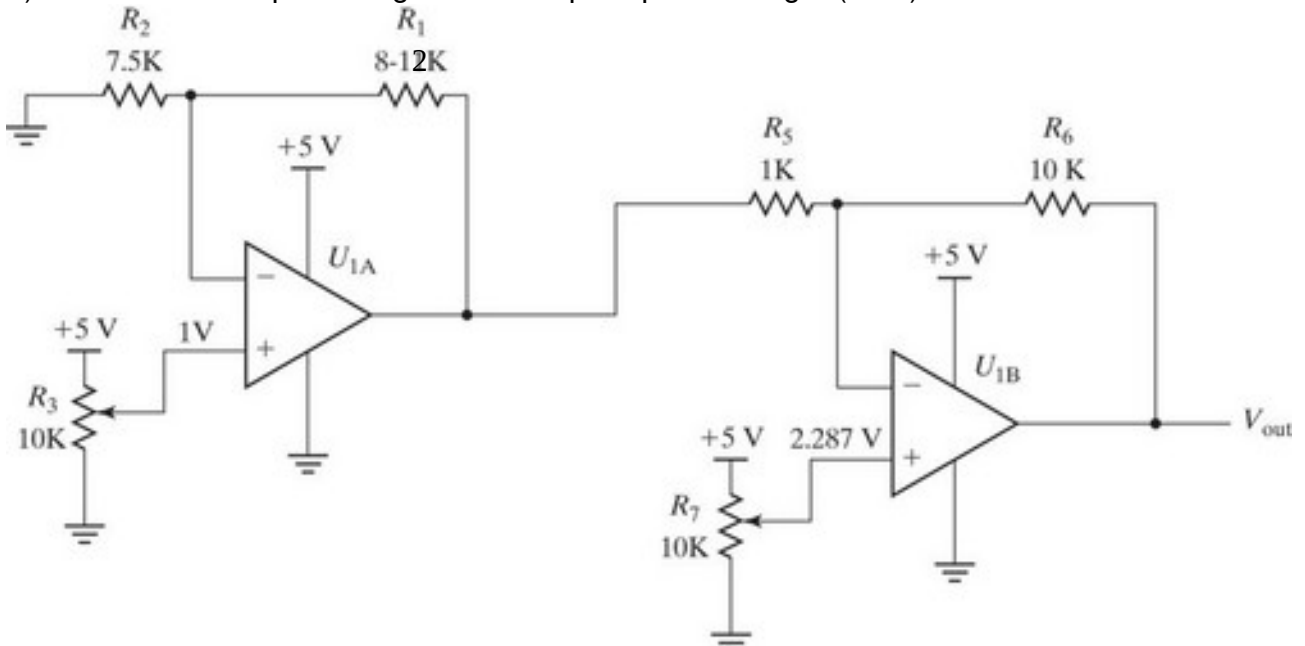


Figure 13.82