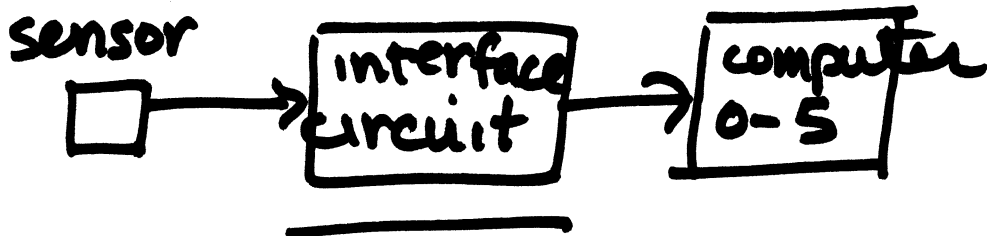
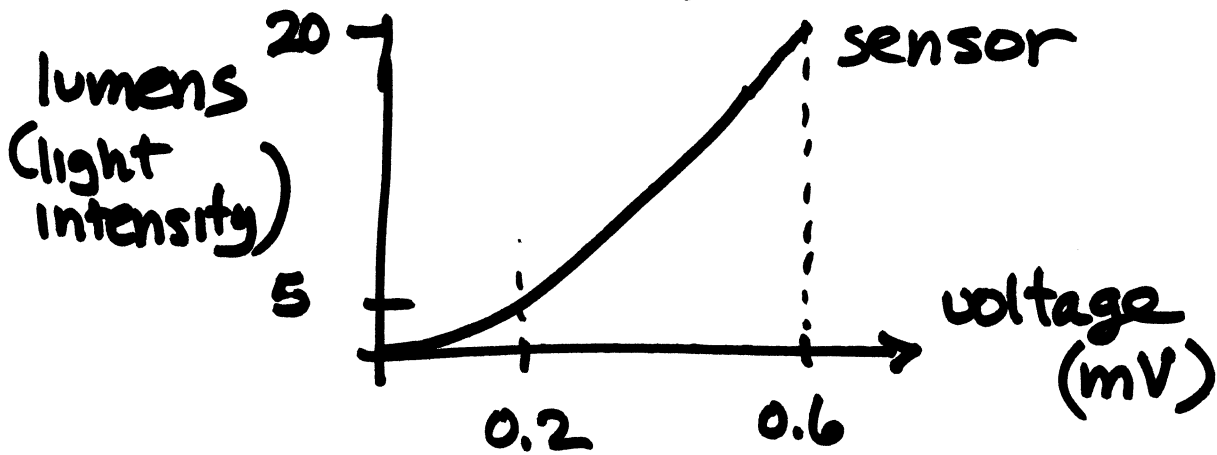


Design Problem



match the voltage range

$$0.2 - 0.6 \text{ mV}$$

$$0.4 \text{ mV}$$

$$K = \frac{\Delta U_{out}}{\Delta U_{in}}$$

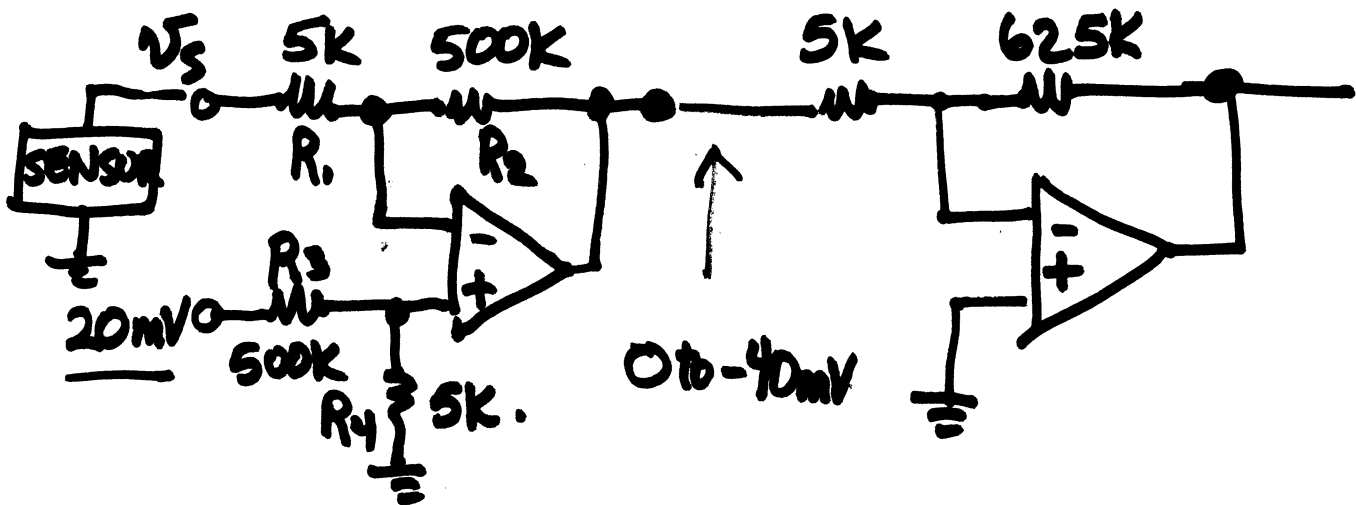
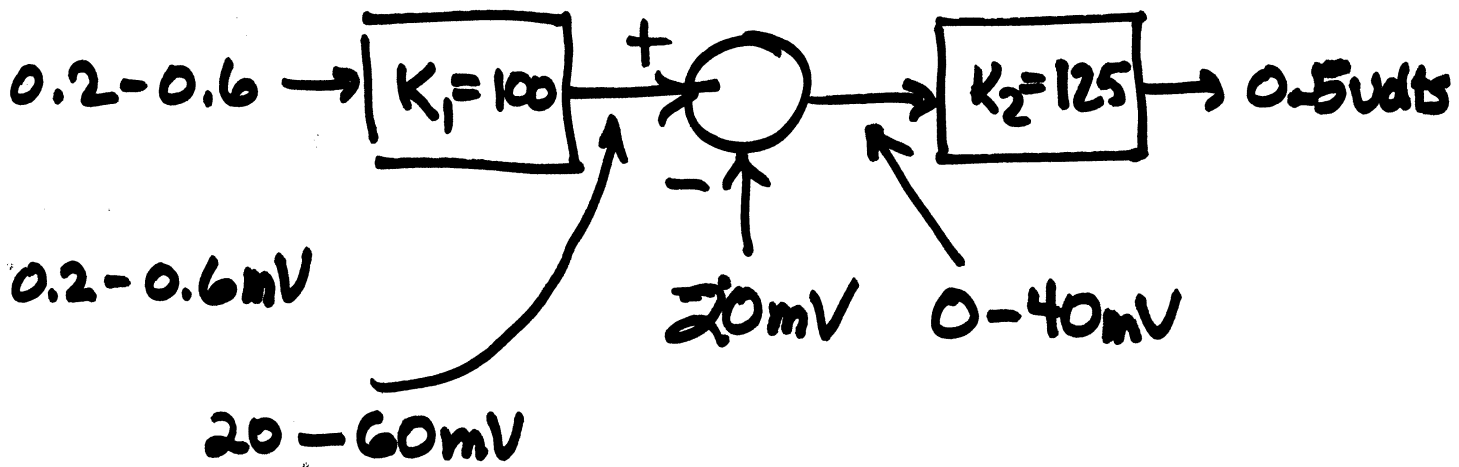
$$= \frac{0-5}{0.4 \times 10^{-3} \text{ volts}}$$

$$K = 1250$$

$$0.2 - 0.6 \text{ mV}$$

$$\times 1250$$

$$2.5 \text{ volt} - 7.5 \text{ volts}$$



SUBTRACTOR

$$K_1 = -\frac{R_2}{R_1} = -\frac{500\text{K}}{5\text{K}} = -100$$

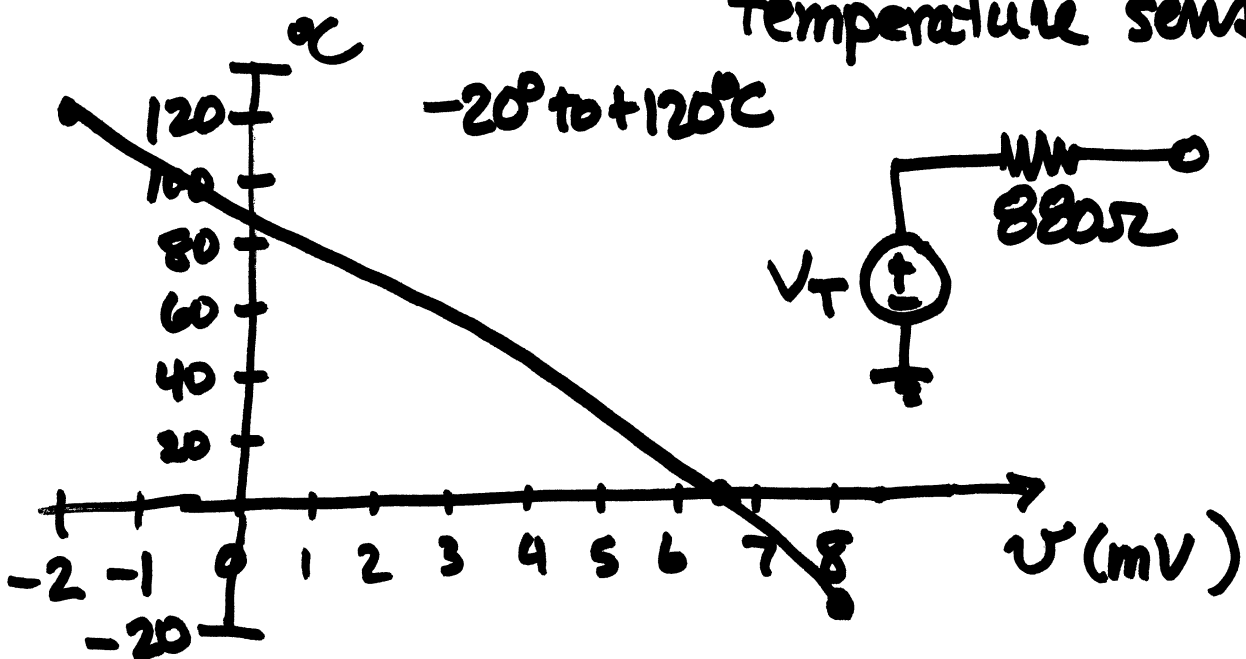
$$K_2 = \frac{R_1+R_2}{R_1} \cdot \frac{R_4}{R_3+R_4} = 1$$

INVERTING AMPLIFIER.

$$K = -\frac{R_2}{R_1} = -\frac{625\text{K}}{5\text{K}}$$

$$= -125$$

temperature sensor



input range -2 to $+8$ mV

output range 0 - 1 volt

$$K_{\text{overall}} = \frac{\Delta V_{\text{out}}}{\Delta V_{\text{in}}} = \frac{1 \text{ volt}}{10 \text{ mV}} = 100$$

